

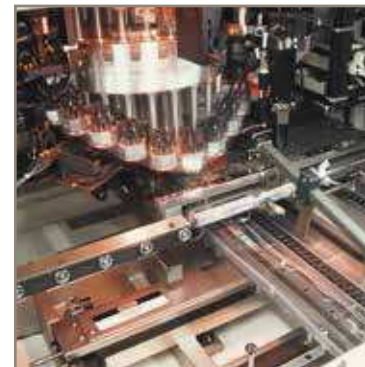
aerospace  
climate control  
electromechanical  
filtration  
fluid & gas handling  
hydraulics  
**pneumatics**  
process control  
sealing & shielding



# Parker Pneumatic

A complete range of system components

Catalogue PDE2600PNUK September 2015



ENGINEERING YOUR SUCCESS.

# Parker Hannifin

Parker Hannifin is one of the world's leading suppliers of products and solutions in Motion and Control. Using innovative product development and an acquisition strategy to increase our range of pneumatic products and solutions, we now have one of the broadest product offerings available in the market.

Our range now extends from the compressor to the point at which the air is used. This could be supplying power take off on a vehicle, moving a cylinder or

gripper to milking cows. The design and manufacture of bespoke integrated solutions for air, gas and fluid control is one of our core specialisation.

The Parker network of distributors is the most comprehensive in the world, which means our products are available from specialist pneumatic distributors wherever you are located.

In the following pages are listed the core first choice products from across Parker which are aimed at the pneumatic market. From valves, actuators and air preparation to push in fittings quick connectors and tubing to customized systems. In this catalogue you will find products from Pneumatic Division Europe, Legris, Rectus Tema, Fluidconnectors, KV and Fluid Controls, presenting an unrivalled choice of products and solutions to suit virtually any application.

- aerospace
- climate control
- electromechanical
- filtration
- fluid & gas handling
- hydraulics
- pneumatics
- process control
- sealing & shielding



## WARNING

FAILURE OR IMPROPER SELECTION OR IMPROPER USE OF THE PRODUCTS AND/OR SYSTEMS DESCRIBED HEREIN OR RELATED ITEMS CAN CAUSE DEATH, PERSONAL INJURY AND PROPERTY DAMAGE.

This document and other information from Parker Hannifin Corporation, its subsidiaries and authorized distributors provide product and/or system options for further investigation by users having technical expertise. It is important that you analyze all aspects of your application and review the information concerning the product or system in the current product catalog. Due to the variety of operating conditions and applications for these products or systems, the user, through its own analysis and testing, is solely responsible for making the final selection of the products and systems and assuring that all performance, safety and warning requirements of the application are met. The products described herein, including without limitation, product features, specifications, designs, availability and pricing, are subject to change by Parker Hannifin Corporation and its subsidiaries at any time without notice.

## SALE CONDITIONS

The items described in this document are available for sale by Parker Hannifin Corporation, its subsidiaries or its authorized distributors. Any sale contract entered into by Parker will be governed by the provisions stated in Parker's standard terms and conditions of sale (copy available upon request).

<b>Linear Actuators</b>	<b>Catalogue No.</b>	<b>Page no.</b>
ISO 15552 Cylinders (Premier Line) - P1D-S .....	PDE2570TCUK .....	24
ISO 15552 Cylinders (Basic Line) - P1D-B .....	PDE2659TCUK .....	37
ISO 15552 Cylinders (Ultra Clean Line) - P1D-C .....	PDE2642TCUK .....	48
ISO 15552 Cylinders (Pro Clean Line) - P1D-C .....	PDE2642TCUK .....	51
ISO 15552 Cylinders (Tie Rod line) - P1D-T .....	PDE2667TCUK .....	54
ISO 15552 Cylinders (Extreme Line) - P1D-X .....	PDE2662TCUK .....	64
ISO 15552 Cylinders with Rod Lock - P1D-L / P1D-H .....	PDE2570TCUK .....	69
Rod Guidance Modules for ISO Cylinders - P1E-4 .....	PDE2570TCUK .....	73
Sensors - P8S-G .....	PDE2570TCUK .....	77
ISO 6432 Mini Cylinders - P1A-S .....	PDE2564TCUK .....	80
All Round Cylinders R Series bores 32 to 63mm .....	Upon Request .....	86
ISO 6431 / 6432 Stainless Steel Cylinders bores 10 to 125 - P1S .....	PDE2535TCUK .....	90
ISO 21287 Compact Cylinders - P1P .....	PDE2660TCUK .....	101
ISO 15524 Compact Cylinders - P1Q .....	PDE2663TCUK .....	114
Cartridge Cylinders - P1G .....	PDE2571TCUK .....	118
Short Stroke Cylinders - C05 .....	PDE2560TCUK .....	119

<b>Rodless Cylinders</b>	<b>Catalogue No.</b>	<b>Page no.</b>
Rodless Cylinders - OSP-P .....	P-A4P011GB .....	120
Rodless Cylinders - OSP-L .....	P-A4P012GB .....	160
Rodless Magnetic Cylinders - P1Z .....	P-A4P019GB .....	177

<b>Handling Products</b>	<b>Catalogue No.</b>	<b>Page no.</b>
Grippers - P5G .....	PDE2669TCUK .....	193
Rotating Tables - P5RS .....	PDE2669TCUK .....	201
Slide Tables - P5SS .....	PDE2669TCUK .....	203
Stopper Cylinders - STV / STVR .....	Upon Request .....	212
Compact Guided Cylinders - P5T .....	PDE2557TCUK .....	220
Twin Rod Cylinders - RDV and AZV .....	Upon Request .....	224
Shock Absorbers - SA .....	P-A4P018GB .....	231
Shock Absorbers - MC-SC .....	PDE2524TCUK .....	235

<b>Air Motors</b>	<b>Catalogue No.</b>	<b>Page no.</b>
Stainless Steel Air Motors - P1V-S .....	PDE2554TCUK .....	238
Robust Air Motors - P1V-M .....	PDE2539TCUK .....	244
Vane Air Motors - P1V-A & B .....	PDE2541TCUK .....	249
Radial Piston Air Motors - P1V-P .....	PDE2538TCUK .....	267

<b>Rotary Actuators</b>	<b>Catalogue No.</b>	<b>Page no.</b>
Rotary Vane Actuators - PRO / PRN .....	PDE2502TCUK .....	276
Rotary Vane Actuators - PV .....	PDE2648TCUK .....	278
Rotary Rack and Pinion Actuators - RA .....	PDE2556TCUK .....	279
Rotary Rack and Pinion Actuators - VRS / VRA .....	PDE2655TCUK .....	280

<b>Thrust Drives</b>	<b>Catalogue No.</b>	<b>Page no.</b>
Air Bellows - 9109 .....	PDE2576TCUK .....	286
Air Bellows - SP .....	Upon Request .....	289
Thrust Cylinders - C0D / C0P .....	PDE2563TCUK .....	291
Hydraulic Clamp Cylinders - VB .....	PDE2636TCUK .....	294
Hydrochecks - B181 .....	2117-GB .....	295

<b>Electromechanical Drives</b>	<b>Catalogue No.</b>	<b>Page no.</b>
Electric Linear Actuators - OSP-E / BHD .....	P-A4P017GB .....	298
Electric Linear Actuators - HMR .....	P-A4P024GB .....	340

<b>Valves</b>	<b>Catalogue No.</b>	<b>Page no.</b>
Metal Spool Valves - Viking Lite .....	PDE2658TCUK .....	353
Metal Spool Valves - Viking Xtreme .....	PDE2659TCUK .....	365
Adex Directional Control Valves - A05/A12 .....	PDE2622TCUK .....	381
Manual & Mechanically Operated Valves - B45/53 .....	PDE2623TCUK .....	386
Directional Control Valves - VA .....	PDE2617TCUK .....	396
Heavy Duty Poppet Valves .....	PDE2630TCUK .....	398
DX - ISO 15407-1 ISOMAX .....	PDE2589TCUK .....	403
DX - ISO 5599-1 ISOMAX .....	PDE2589TCUK .....	406
Isys ISO 15407-1 .....	PDE2589TCUK .....	413
Isys ISO 5599-2 .....	PDE2589TCUK .....	423
Isys Micro Valves .....	PDE2597TCUK .....	438
Moduflex Valve System - P2M .....	PDE2536TCUK .....	455
Industrial Communication Isysnet, Moduflex & Turck BL67 .....	PDE2635TCUK .....	479
Interface - PS1 .....	PDE2626TCUK .....	504
PVL-B2 Stackable and Stand-alone Inline Valves .....	PDE2682TCUK .....	507
Compact Valves - PVL .....	PDE2628TCUK .....	521
Logic Processing .....	PDE2619TCUK .....	525
Air Saver Unit .....	PDE2672TCUK .....	528
Control and Process Duty - P XB .....	PDE2587TCUK .....	533
Limit Switches - PXC .....	PDE2629TCUK .....	535
Two Hand Control Units - PXP .....	PDE2627TCUK .....	536
Microfix Solenoids - P2D .....	Upon Request .....	537
Solenoid Operators - 15mm - P2E .....	Upon Request .....	538
Solenoid Valves - Lucifer .....	Upon Request .....	541
Flat Slide Valves - DRS .....	Upon Request .....	565
Pedal Actuated Valves - F .....	Upon Request .....	567
Stop Valves - ARKV .....	Upon Request .....	569
Valves - K9 .....	Upon Request .....	571
Directional Control Valves - S9 .....	Upon Request .....	577
Solenoid Poppet Valves - EV .....	Upon Request .....	606
Solenoid Poppet Valves - V9 .....	Upon Request .....	607

<b>Air Preparation &amp; Airline Accessories</b>	<b>Catalogue No.</b>	<b>Page no.</b>
Parker Global Air Preparation System .....	0750-UK .....	612
Lite Series Air Preparation System - P3L .....	PDE2661TCUK .....	636
Lite Air Preparation System - P3X .....	PDE2620TCUK .....	638
Modular Membrane Dryers - P3X .....	PDE2640TCUK .....	644
Air Preparation System - P3Y .....	PDE2631TCUK .....	646
Air Preparation System - P3Z .....	PDE2641TCUK .....	651
Global Proportional Technology .....	PDE2611TCUK .....	654
Proportional Pressure Regulators - P3X .....	PDE2620TCUK .....	656
Proportional Pressure Regulators - P3Y .....	PDE2631TCUK .....	657
Proportional Pressure Regulators - P3Z .....	PDE2641TCUK .....	658
Precision Pressure Regulators - Lucifer .....	Upon Request .....	659
Parker Angle Seat Valves .....	Upon Request .....	678
Precision Pressure Regulators .....	PDE2611TCUK .....	689
Prep-Air II® Miniature FRLs .....	PDE2591TCUK .....	691
Stainless Steel FRLs .....	PDE2504TCUK .....	693
Compressed Air Filters - P3T .....	PDE2603TCUK .....	696
Dry Air System - P3TJ .....	PDE2602TCUK .....	704
Pressure Switches .....	Upon Request .....	707
AirGuard Protection System .....	PDE2604TCUK .....	713
Cylinder Controls .....	PDE2566TCUK .....	715
Micrometer & Heavy Duty Inline Flow Control Valves .....	PDE2566TCUK .....	717
Shuttle Valve and Quick Exhaust Valves .....	PDE2566TCUK .....	718
Exhaust Silencers .....	PDE2566TCUK .....	720

<b>Fittings, Tubing and Couplers</b>	<b>Catalogue No.</b>	<b>Page no.</b>
Legris Fittings and Tubing .....	CAT/0540/UK .....	724
Rectus Couplers .....	CAT3800-PNEU-GB .....	765

# Linear Actuators

## ISO 15552 Cylinders - P1D-S



p24

- Premier Line
- Available in Ø32 to 125 mm bores
- PUR seals for long service life
- Drop-in sensors
- Corrosion resistant design
- Magnetic piston as standard
- Lubricated with food grade grease

## ISO 15552 Cylinders - P1D-B



p37

- Basic Line
- Available in Ø32 to 125 mm bores
- PUR seals for long service life
- Drop-in sensors
- Corrosion resistant design
- Magnetic piston as standard
- Lubricated with food grade grease

## ISO 15552 Cylinders - P1D-C



p48

- Ultra Clean Line
- Available in Ø32 to 125 mm bores
- PUR seals for long service life
- Corrosion resistant design
- Lubricated with food grade grease

## ISO 15552 Cylinders - P1D-C



p51

- Pro Clean Line
- Available in Ø32 to 125 mm bores
- PUR seals for long service life
- Drop-in sensors
- Corrosion resistant design
- Magnetic piston as standard
- Lubricated with food grade grease

## ISO 15552 Cylinders - P1D-T



p54

- Tie Rod Line
- Available in Ø32 to 320 mm bores
- PUR seals for long service life
- Magnetic piston as standard
- Adjustable cushioning as standard
- High and Low temperature versions
- ATEX certified on option

## ISO 15552 Cylinders - P1D-X



p64

- Extreme Line
- Available in Ø32 to 125 mm bores
- PUR seals for long service life
- Drop-in sensors
- Corrosion resistant design
- Magnetic piston as standard
- High and Low temperature versions

## Rod Lock Cylinders - P1D-L / P1D-H



p69

- Available in Ø32 to 125 mm bores
- PUR seals for long service life
- Drop-in sensors
- Corrosion resistant design
- Magnetic piston as standard
- Lubricated with food grade grease

## ISO 6432 Mini Cylinders - P1A-S



p80

- Available in Ø10 to 25 mm bores
- Corrosion resistant design and low weight construction
- Magnetic piston as standard
- End stroke buffers for long service life
- Available with adjustable cushioning

# Linear Actuators

## All Round Cylinders R Series



p86

- Available in Ø32 to 63 mm bores
- Double acting without cushioning
- Double acting with adjustable cushioning
- Pivot mounted on the front and rear cylinder covers
- Magnetic piston as standard, non magnetic on option

## ISO 6432 Stainless steel - P1S



p90

- Available in Ø10 to 25 mm bores
- Magnetic piston as standard
- Double and single acting
- End stroke buffers for long service life
- Available with adjustable cushioning

## ISO 6431 Stainless steel - P1S



p95

- Available in Ø32 to 125 mm bores
- Clean, smooth washdown design
- Magnetic piston as standard
- Adjustable cushioning for long service life

## ISO 21287 Compact Cylinders - P1P



p101

- Available in Ø20 to 100 mm bores
- Corrosion resistant design and low weight construction
- PUR seals for long service life
- Drop-in sensors
- Magnetic piston as standard
- High and Low temperature versions

## ISO 15524 Compact Cylinders - P1Q



p114

- Available in Ø12 to 100 mm bores
- Magnetic or non magnetic versions
- Flush fit sensors
- Buffer cushioning as standard
- Piston wear ring on Ø32 to 100 mm
- Tapped both ends

## Cartridge Cylinders - P1G



p118

- Non - lube operation
- Corrosion resistant design
- Integral mounting
- Compact construction
- Single acting as standard

## Short Stroke Cylinders - C05



p119

- Short stroke cylinders providing high clamping forces
- Compact dimensions for confined spaces
- Single and double acting versions
- Simple installation and mounting

# Rodless Cylinders

## Rodless Cylinders - OSP-P



p120

- Completely modular design
- Compact design
- Service intervals up to 8,000km
- Widest capability for speed, load and movement profiles
- High loads and moments
- Wipersystem with automatic re-adjustment

## Rodless Cylinders - OSP-L



p160

- Completely modular design
- Compatible with the comprehensive ORIGA OSP system component range
- High loads and moments
- Space saving
- For a wide range of loads, speeds and motion profiles

## Rodless Magnetic Cylinders - P1Z



p177

- Double acting with guide
- Magnetically coupled without mechanical connection
- Mechanical protection in case of occasional overload due to magnetic uncoupling
- Piston chamber and Slide are pressure tight
- Pressure tight and leak free system



# Handling Products

## Grippers - P5G



p193

- Available with range of bore sizes Ø10 to 32 mm
- Highly accurate air driven device for holding work-piece.
- Magnetic as standard
- Reference points on gripping fingers are standard

## Rotating Tables - P5RS



p201

- Bores Ø16, 20, 25 and 32 mm
- Twin rack and pinion
- Adjustable between 0° to 190°
- Magnetic piston standard
- Stroke adjusters standard
- Available with shock absorbers

## Slide Tables - P5SS



p203

- High precision
- Bores Ø6, 8, 12, 16, 20 and 25mm
- Combination of dual bore cylinder and linear rail
- Magnetic piston standard
- Rubber bumper standard
- Stroke adjusters available
- Shock absorbers available

## Stopper Cylinders - STV / STVR



p212

- Available with hydraulic Industrial shock absorbers
- Vertical and horizontal versions
- Integrated shock absorber for heavy conveyed loads
- Roller for lower conveyed load weights
- Direct stopping piston rod for heavy conveyed loads

## Compact Guided Cylinders - P5T



p220

- Available in Ø16 to 100 mm bores
- Stainless steel guide rods
- Wide range of standard strokes
- Flexible porting as standard
- Buffer cushioning as standard

## Twin Rod Cylinders - RDV / AZ



p224

- RDV Series**
- Available in Ø25 mm bore
- AZ Series**
- Available in Ø32 to 100 mm bores
- Non rotating
- Double acting
- Adjustable cushioning
- Magnetic piston as standard

## Shock Absorbers - SA



p231

- Integral stop collar
- Soft pad
- Rectangular flange
- Foot mounting
- Adjustable without return spring, for use with external air-oil tank

## Shock Absorbers - MC-SC



p235

- Compact and heavy duty versions
- High energy absorption
- Low return force
- Long service life
- Increases productivity
- Reduces maintenance

# Air Motors

## Stainless Steel Air Motors - P1V-S



p238

- Power from 0,02kW to 1,2kW
- All stainless steel design
- ATEX approved
- No-lube intermittent operation as standard
- External seals in fluor rubber (FPM)
- 0,2, 0,3 and 1,2kW Brake option
- Drilling, milling and grinding motors
- Power from 0,08 to 1,0kW
- Drill check and collet versions

## Robust Air Motors - P1V-M



p244

- Power 0,2, 0,4, 0,6, 0,9 and 1,2 kW
- Robust design
- ATEX approved
- Ideal for industrial applications
- Gear less version and integrated gear boxes version
- Patented vane change system
- Free speeds from 32 up to 10500 rpm
- Torque from 0,38 Nm up to 120Nm
- Foot and flanges mountings

## Vane Air Motors - P1V-A & B



p249

- Power 1600, 2600 and 3600 watts
- For heavy duty applications
- Free speed of 9000 rpm
- Torque from 40 Nm to 4000 Nm
- Standard equipped with flange mounting
- Power 5,1 kW, 9 kW and 18 kW
- For the very heavy duty applications
- Free speed of 6000 rpm
- High torque from 16.2 Nm to 57 Nm

## Radial Piston Air Motors - P1V-P



p267

- Power 0,73 kW, 0,125kW and 0,228kW
- Low speed and high torque
- Available as base and brake motors
- Free speed from 2200 down to 7,4 rpm
- High torque from 0,637Nm up to 500Nm

# Rotary Actuators

## Rotary Vane Actuators - PRO / PRN



p276

- Compact design
- Durable construction
- Long maintenance-free life
- High output torque/weight ratio
- Wide choice of torques available (up to 247 Nm)
- Vane type

## Rotary Vane Actuators - PV



p278

- Double acting actuators
- Single or double vane
- Compact smooth design
- Uniform torque in both directions
- Angle adjustment and sensors available.
- Vane type

## Rotary Rack and Pinion Actuators - RA



p279

- 5 unit sizes
- Torque from 20 to 200 Nm
- Turning angles of 90° or 180°
- Keyway output shaft
- Direct Namur valve connection
- Rack and pinion

## Rotary Rack and Pinion Actuators - VRS/VRA



p280

- Bores from Ø32 to 125mm with rotative angles of 96°, 186° and 366°
- Magnetic piston versions can be fitted with P8S sensors and brackets
- Operates with dry, lubricated or non lubricated air

## Thrust Drives

### Air Bellows - 9109 / SP



p286

- 10 sizes, diameters 70 to 660 mm, Strokes from 20 to 410 mm, single, double or triple convolutions (removable type)
- 7 sizes, diameters 82 to 288 mm, Strokes from 55 to 170 mm, single or double convolutions (crimped type)
- High thrust and frictionless movement
- Maintenance free

### Thrust Cylinders - C0D / C0P



p291

- Thrust cylinders provide large forces
- Compact dimensions
- C0D, diaphragm type
- C0P, piston type
- Available in single and double acting versions

### Hydraulic Clamp Cylinders - VB



p294

- Single acting cylinders with built-in hydro-pneumatic intensifier
- Compact size with large clamping forces up to 2700 daN (depending on air pressure)
- Operated using a compressed air supply, no special installation required

### Hydrochecks - B181



p295

- Range of imperial sizes
- Gives smooth control feeds
- Strokes up to 450 mm.

## Electromechanical Drives

### Electric Linear Actuators - OSP-E / BHD



p298

- For particularly high requirements regarding loads and forces
- For high-speed applications and highly dynamic motion profiles
- BHD with toothed belt and integrated heavy duty guide: roller guide or re-circulating ball bearing guide

### Electric Linear Actuators - HMR



p340

- Three alternative drive technologies in one profile
- Unique flexibility and reliability
- High speed and precision
- Two profile versions, four profile sizes
- Optional IP54 snap-in covers

# Valves

## Metal Spool Valves - Viking Lite



p353

- 3 sizes: G1/8, G1/4 and G3/8.
- Large flow capacity with short change-over times.
- Low change over pressure.
- Dynamic bi-directional spool seals.
- Do not require lubrication in operation but can also be installed in systems that are lubricated.

## Metal Spool Valves - Viking Xtreme



p365

- 4 sizes: G1/8, G1/4, G3/8 and G1/2.
- Compact design with good corrosion resistance.
- Wide range of 5/2 and 5/3 versions.
- High and low temperature versions available for transport applications.

## Adex Directional Control Valves



p381

- 2 sizes: M5 and 1/8"
- Compact body with large flow
- Quick response time, faster than 10ms
- Expected life time more than 50,000,000 cycles
- Low power consumption only 0.6W

## Manual & Mechanically Operated Valves



p386

- G1/8, G1/4 body ported
- Rugged die cast body
- 3/2, 5/2 & 5/3 configurations
- Stainless steel spool
- Viton body seals as standard
- Integral mounting holes
- Manual, mechanical and automatic actuators.

## Directional Control Valves - VA



p396

- Rugged valves for heavy duty applications
- Large and robust actuators for easy operation
- Excellent corrosion resistance
- Integral mounting holes
- Panel mounting versions

## Heavy Duty Poppet Valves



p398

- G3/8 & G1/2 body ported
- 2/2 & 3/2 NC spring return as standard
- High flow poppet design
- Manual and mechanical and solenoid actuators
- Light actuation forces
- Integral mounting holes.

## DX ISO Valves - ISOMAX



p403

- ISO sizes 02, 01, 1, 2 & 3 sub base & manifold mounted valves
- ISO 5599-1 & ISO 15470-1
- Excellent reliability, in excess of 100 million cycles
- Ceramic slide technology operates on Lubricated or non-lube air

## Isys ISO Valves



p411

- ISO sizes 02, 01, 1, 2 & 3 sub base mounted valves
- ISO 5599-1, ISO 5599-2, ISO 15470-1 & ISO15470-2
- Stable long lasting performance
- Heavy duty metal bodies
- Wear compensating seal technology

# Valves

## Isys Micro Valves



p438

- Up to 8 pneumatic functions on a 42mm width metal sub base
- 4 valve modules back to back for compact dimensions
- High performance
- Optimized flow for 6mm tubes
- Side or bottom mounted manifolds available.

## Moduflex Valves System - P2M



p455

- High flow, compact size.
- Mixable valve sizes.
- Stand alone valves, modular islands with individual, multi connector or bus connections.
- Integrated selectable internal or external pilot supply and exhaust.

## Industrial Communication



p479

- A complete field bus communication offering for valve islands
- Extremely fast I/O back plane uses change of state connections to maximise performance
- UL, C-UL and CE certifications

## Interface - PS1



p504

- High speed poppet valve
- Push-in connection
- Built-in terminal block
- Pneumatic output indicator
- DIN rail mounting

## Inline Valves - PVL-B2



p507

- High flow – Compact size with a 18 mm width body
- Push-in fitting diameter 6mm, 8mm or threaded G1/8"
- DIN rail or surface mounting
- Economic clip connector (IP40) or DIN Form C connection (IP65)
- Light weight construction

## Compact Valves - PVL



p521

- High flow, compact size
- Push-in or threaded connection
- DIN rail or block mounting
- Light weight construction

## Logic Processing



p525

- Complete range of logic processing modules
- Stand alone or stackable and combinable units
- Ultra fast response times
- Visual indication
- DIN rail mounting.

## Air Saver Unit



p528

- Large reductions in plant air consumption.
- Savings in plant compressor power consumption.
- Reduction in plant CO<sub>2</sub> emissions.
- Big contribution to energy-saving activities.

# Valves

## Control & Process Duty - PXB



p533

- Facia mounted operators
- 3/2 NO or NC versions
- Pneumatic valves combinable with electrical switches
- Modular construction
- Wide choice of actuators.

## Limit Switches - PXC



p535

- 3/2 Nc spring return as standard
- Ø4mm, M5 & G1/8 ported versions
- Miniature and Compact designs
- Wide choice of actuators include levers, rollers & ultra light whisker types.

## Two Hand Control Units - PXP



p536

- Ergonomic design
- Robust polymer or metal enclosure
- Meets requirements for protection against accidental operation and tampering
- Conforms to EN574 and EN954-1 requirements

## Microfix Solenoids - P2D



p537

- 12 mm solenoids sub-base mounting type
- Instant push-in fittings for inlet (Ø 8 mm) and outlets (Ø 4 mm)
- Brass silencer
- Quick response time
- Multi-functional manual override

## Flat Slide Valves - DRS



p565

- Rotary lever
- Rotary switch

## Stop Valves - ARKV



p569

- Pneumatic 2 way valve
- Poppet valve normally closed
- Mounting - Direct piping

## 3/2 Way Valves - K9



p571

- Rotary lever, indexed
- Rotary lever, spring return
- Rotary lever, indexed, secured in two positions
- Pushbutton
- Cam operation
- Toggle cam operation
- Plunger operated
- Cam operated, free cam left or free cam right
- Pivoted lever

## Directional Control Valves - S9



p577

- Hand lever
- Pneumatic
- Electrical pilot operated
- Electrical pilot operated with external pilot air
- Panel mounting actuators for mounting diameter to DIN 43696

# Vacuum Products

## Vacuum Pads



- Flat & Bellow Pads
- Male & Female Connections
- Different Materials
- Range of Diameters

## Vacuum Ejectors



- Basic Ejectors
- Basic Ejectors with electro-mechanical Switch
- In-line Ejectors
- Integrated Ejectors small & large

## Vacuum Sensors



- -1 to +10 bar
- Analog and/or Digital Outputs
- With display

## Vacuum Accessories



- High performance silencers and vacuum filters
- Electronic cables with M8 connector 4 pin



# Air Preparation & Airline Accessories

## Global Air Preparation System



- Space saving integral gauge (P31 size only)
- Manifold style regulators available
- OSHA compliant shut-off valves
- Soft-Start & Quick Dump valves
- Electronic Proportional Regulator

p612

## Lite Series Air Preparation System - P3L



- Compact body ported units
- Port size G1/4
- Unique deflector plate ensuring maximum water and particulate removal
- Solid control piston with lip seal for extended life.
- Proportional oil delivery over a wide range of air flows.

p636

## Lite Air Preparation Series - P3X



- Integral 1/2 or 3/4 ports
- High efficiency 5 micron element as standard
- Excellent water removal efficiency
- Secondary pressure ranges 8 and 16 bar
- Rolling diaphragm for extended life
- Membrane dryers

p638

## Modular Membrane Dryers - P3X



- Removes water vapour & lowers the PDP
- Compact design
- No electrical connections necessary
- Suitable for hazardous environments
- No moving parts
- Maintenance & wear free
- No change in air consumption
- Low pressure drop less than 0.1 bar

p644

## Air Preparation System - P3Y



- Integral 3/4 or 1" ports (BSPP or NPT)
- High efficiency element as standard
- Excellent water removal efficiency
- Secondary pressure ranges 12 and 16 bar

p646

## Air Preparation System - P3Z



- Self relieving feature plus balanced poppet provides quick response and accurate pressure regulation.
- Port flanges G1 1/2" & 2" to a 2" body.
- Proportional oil delivery over a wide range of air flows.

p651

## Global Proportional Technology



- Very fast response times
- Accurate output pressure
- Micro parameter settings
- Selectable I/O parameters
- Quick, full flow exhaust
- LED display indicates output pressure
- No air consumption in steady state
- Multiple mounting options
- Protection to IP65

p654

## Precision Pressure Regulators



- High repeatability
- High relief capacity on R220 model
- High flow capacity on R230 model

p689

# Air Preparation & Airline Accessories

## Prep-Air II® Miniature FRLs



p691

- Compact body ported units.
- Port sizes G<sup>1</sup>/<sub>8</sub> and G<sup>1</sup>/<sub>4</sub>.
- Unique deflector plate ensuring maximum water and particulate removal.
- Solid control piston with lip seal for extended life.
- Proportional oil delivery over a wide range of air flows.

## Stainless Steel FRLs



p693

- Suitable for Marine & Offshore applications
- Chemical / Petroleum and process industries
- Coalescing filters are designed for removing oil and water aerosols down to 0.01µ
- Suitable for food industry applications

## Compressed Air Filters - P3T



p696

- Tested in accordance with ISO 8573.9
- High liquid removal efficiencies at all flow conditions
- Low pressure losses for low operational costs
- Multiple port sizes for a given flow rate provides increased flexibility during installation

## Dry Air System - P3TJ



p704

- Designed in accordance with ASME VIII Div.1, approved to CSA/UL/CRN and fully CE Marked (PED, EMC, LVD) as standard.
- Flexible installation utilising the multiple in-line inlet & outlet connection ports.
- Can be Floor, Bench or Wall/Canopy mounted.

## Pressure Switches



p707

- Suited for intrinsically safe operation
- Especially compact design
- High switching frequency
- Attractive design
- Shock proof up to 30 g

## AirGuard Protection System



p713

- Maintenance friendly, Repair possible while plant is still operating.
- Reliable and tamperproof, No adjustment necessary.
- Complies with EU current standard
- Complies with the 2009 ISO4414 (5.4.5.11.1)

## Cylinder Controls



p715

- "Push-in" or threaded connection
- Multifunction options
- Fit directly to cylinder ports
- Swivelling pilot banjo
- Pneumatic, Electric or Electronic back pressure sensor

## Micrometer Flow Control Valves



p717

- Micrometer type adjustment
- Fine control
- Non-return and needle valves

# Air Preparation & Airline Accessories

## Heavy Duty Inline Control Valves



p717

- Screw driver adjustment
- Rugged bodies
- High flow rate
- High flow by-pass
- Wide range of sizes

## Shuttle Valve & Quick Exhaust Valves



p718

- Increases piston speeds, super sensitive diaphragm.
- May be used as differential shuttle valve.
- Allows two separate signals to be applied to the air pilot.
- 0,6 bar differential, Viton seals as standard.
- Aluminium or polymer bodies

## Exhaust Silencers



p720

- All plastic ultra light weight versions
- Sintered metal
- All metal versions for heavy duty applications
- Versions with push-in connections
- High noise level reduction
- Low back pressure generation

## Restrictors - Silencers



p721

- Metal, stainless steel or plastic versions
- Screwdriver adjustment
- Simple control of cylinder speeds
- High noise level reduction

## Reclassifier - Silencers



p722

- Removes oil mist from exhaust airs
- Efficiently silences exhaust air
- Improves working conditions

# Fluid Controls

## 2/2 / 3/2 - Way Valves for Air



p541

- 1/8", 1/4" & 2" pipe mount and flange version
- Pressure range up to 40 bar
- Normally open and normally closed
- Direct or servo-acting
- Long life expectancy, highest reliability
- Manual override optional
- Excellent response time
- Can be mounted with Lucifer® coil families

## 3/2 - 5/2 NAMUR Valves



p547

- 1/4" - 1/2" NAMUR interface
- Patented NAMUR conversion plate
- Highflow Qn: 3000 L/min
- Solenoid or pneumatic version
- High resistance aluminium
- ATEX zone 22 certified products
- Fast switching application

## Precision Pressure Regulators



p657

- 1/4" - 2" pipe mount
- Lucifer® Programmable EPP4 all parameters fully adjustable through the PC software calys
- Low power consumption (2.2W), energy savings
- High responsiveness and low hysteresis (0.5%)
- Flexible remote display
- Compact design and light
- Easy to use software

## Standard, ATEX and IECEx Coils



p559

- Modular concept for dedicated valves
- D / B Terminal Standard
- Various AC / DC voltages
- Various IP65-IP67, 100% ED
- Meet latest international & national codes
- ATEX zone 0, 1, 2, 20, 21, 22 protected ia, ib, dm, d, e, m, me, n

## Solenoid Valves for Fluid Control Applications



p541

Fluid control products have been designed to offer customers the ultimate in performance. Every valve is engineered for optimal operation, is constructed with modern machinery that use stringent processes, and provides standard features not necessarily offered in any competitive line. The Fluid Control Series portfolio offers a broad range of 2/2, 3/2 and 5/2 solenoid valves. Sizes range from 1/8" to 3", with Kv as high as 1385 L/min. Pressure capabilities range up to 200 bar; the whole range is available with various seal materials, such as NBR, FKM, EPDM, PTFE, PCTFE, PUR and Ruby. Brass, Aluminium, Stainless steel and Plastic Valves are available to control a wide variety of air, neutral gases and liquids, water, oils, process fluids and steam.

For further information see: [www.parker.com/fcde](http://www.parker.com/fcde)

# CONNECTIC Solutions for Compressed Air

## Legris LF3000 Push-in Fittings



p724

- Brass / polymer fittings for standard applications.
- Instant connection/disconnection.
- Full flow, automatic sealing.
- Vacuum capability.
- Compact & aesthetic, lightweight.
- Very extensive range.
- -20°C to 80°C, maximum 20 bar (depending on fitting type and OD).

## Legris Function Fittings



p731

- Flow control regulators, blocking fittings, mini-ball valves, non-return valves, silencers...
- Used on pneumatic devices in many industrial applications: factory automation, packaging, multi-purpose robots, material handling, textile, printing, auto process, machine tools.
- 0°C to 70°C, from 1 to 10 bars (depending on fitting type).

## Legris Universal Compression Fittings



p738

- Brass or stainless steel (316L).
- Withstand high temperatures and pressures (max. 80 bars, 250°C).
- Resistant to aggressive and corrosive environments.
- A large range for many applications.
- Many accessories.

## Legris LF3600 Push-in Fittings



p739

- Nickel-plated brass instant fittings for demanding applications.
- For air and fluid transportation.
- FDA, 1935/2004/CE.
- -20°C to 150°C at 30 bars.
- Wide range.
- Compact & robust design.

## Legris LF3900/3800 Push-in Fittings



p745

- Stainless steel 316L fittings for severe conditions.
- Hygienic design.
- Extreme chemical and mechanical resistance.
- Fittings suitable for permanent food contact (FKM seals in accordance with FDA and 1935/2004/CE directives).
- Wide range: 21 shapes, diameters 4 to 12 mm.

## Legris Tubing



p748

- Standard tubing made of PA, PU, FEP 140, and PE.
- PA and PU hoses in 7 colours.
- Multi, twin and spiral; anti-spark, anti-static.
- 25 or 100 m rolls in Tubepack® box.
- Large pack on drum.
- Hoses made of braided PVC.
- Self-fastening hoses.

## Safety Couplers / Blowguns / Accessories



p756

- Couplers:**
- Comply with ISO 4414 and EN983 safety standards 0 - 16 bar, -20°C to 60°C.
- Blowguns:**
- Two connection points. Comply with OSHA and EU regulation for safe use. Up to 10 bar, -15°C to +60°C.
- Accessories:**
- Full nickel-plated range.

## Legris Ball Valves / Axial Valves



p762

- Nickel-plated brass.
- Optimum sealing & excellent resistance.
- -20°C to 80°C, 20 to 40 bar (depending on the model).

# Quick connect couplings

## Industrial Interchange couplings



p765

- Single handed operation
- Nominal diameter 5 to 11 mm
- Conforms to various profiles (European standard, MIL, etc. )
- Working pressure up to 35 bar
- Low pressure drop
- Temp. range -40°C up to 200°C
- Choice of material: steel/brass/stainless steel/thermoplastics
- Variety of different threads available on request

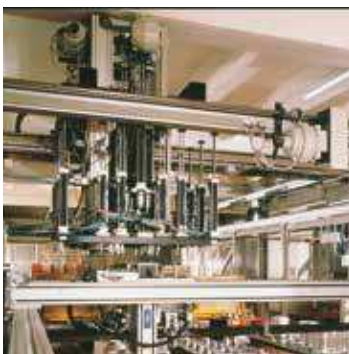
## Safety couplings



p777

- Operated with two hands
- Conforms to ISO 4414
- Increased safety in the work place
- Working pressure up to 12 bar
- Low pressure drop
- Temp. range -40°C up to 80°C
- The design allows disconnection without rebound

For further information see: [www.rectus.de](http://www.rectus.de)



# Linear Actuators

# P1D Pneumatic Cylinders

According to ISO 15552

The innovative P1D, a **future-proof** generation of **ISO** cylinders.



## P1D ISO Cylinder family

The P1D series is a future-proof generation of ISO cylinders. P1D complies with the current ISO 15552 previous standard ISO 6431, VDMA 24562 installation dimension standards.

The cylinders are double-acting, magnetic as standard for use with sensors and feature a new design of air cushioning. Available in Ø32mm – Ø125mm bore size the full P1D range includes:-

**P1D-S series.** This series is the ultimate in ISO pneumatic cylinders and is suitable for virtually any application. Options include the tie rod design, smooth profile, ultra clean cylinders for use in the food industry and all the variants including through rod and piston rod locking versions.

**P1D-B series.** This series features a profile design and is the basic ISO cylinder for simple applications where no special options are required. This series is suitable for general industrial applications

All mounting and sensor options are common to all P1D cylinders.



## Design Variants

### P1D-S Premier Cylinders

The P1D-S series is the premier in ISO pneumatic cylinders. With various piston rod materials, seal options and supported by a full range of ISO mountings the P1D-S series is suitable for a wide range of applications.



### P1D-B Basic Cylinders

The P1D-B series features a profile design and is the value line ISO cylinder for basic applications where no special options are required. This series is suitable for general industrial applications and is supported by a full range of ISO mountings.



### P1D-C Ultra Clean Cylinders

This series offers an ultra clean external design of cylinders that are suitable for applications that require a clean profile. With particular design features for the food and packaging industries this product can also be used for applications on vehicles, in sawmills and bag-filling industries where a clean design is important.



### P1D-C Pro Clean Cylinders

This series of clean design cylinders offers two T slots within one face of the tube allowing the possibility to add sensors. The position of the T slots can be specified on any single face using the order code key. These cylinders have a clean design but are intended for applications where sensors are required.



### P1D-T Tie Rod Cylinders

The P1D-T range of tie rod cylinders is intended for use in a wide range of applications. Careful design and high quality manufacture throughout ensure long service life and optimum economy. Mounting dimensions fully in accordance with ISO 15552 (ISO 6431 and CETOP RP52P) greatly simplifies installation and world-wide interchangeability.



### P1D-X High and Low Temperature Cylinders

For extreme conditions these cylinders for high and low temperatures have materials and sealing systems specially designed for their particular temperature ranges. End covers and pistons are made entirely from metal, to give optimum function at **high** or **low** temperature in combination with seals made from specially tested materials and special grease.



### P1D-L Rod Locking Cylinders

P1D-L is a series of extremely compact rod lock cylinders for demanding applications. This version allows the piston rod to be locked in any position but can also be used as a brake (limits apply) thanks to the rigid design. With helical grooves on the precision clamping sleeves the locking function allows for applications where the piston rod is exposed to liquids and contamination.



## Design Variants

### Through Piston Rod Cylinders

All P1D cylinders in all bores, Ø32-125 mm, are available with a through rod. Cylinders with a through rod can take higher side forces thanks to the double support for the piston rod. In addition, this design makes it easier to install external position sensors.



### P1D-T 3 and 4 Position Cylinders

By installing two cylinders with the same or different stroke, it is possible to build a working unit with three or four positions. This type of unit is available as factory-fitted P1D tie-rod cylinders (P1D-T) in all bores, Ø32-125 mm. Other P1D cylinders can be flange mounted back-to-back with a standard mounting



### P1D-T Tandem Cylinders

The P1D is also available as a tandem cylinder, i.e. two cylinders connected in series. This cylinder unit has almost twice the force, which is a great advantage in restricted spaces. Tandem cylinders are available as tie-rod cylinders, P1D-T, in all bores Ø32-125 mm.



### P1D-V with valve built on

P1D Standard can be ordered with a factory-fitted valve and piping. The valve is the robust and compact Viking series, with product code P2L-A (for cylinder bores 32-63), P2L-B (for cylinder bores 80-100) and P2L-D (for cylinder bore 125).



### Alternative Piston Rod Materials

All P1D cylinders in all bores, Ø32-125 mm, can be ordered with the following piston rod materials:

- Steel, hard chromed
- Stainless steel, roller polished (standard)
- Acid-proof steel, roller polished
- Stainless steel, hard chromed



### Operation with Dry Piston Rod

In many applications, primarily in the food industry, the cylinders are cleaned frequently. This means that the film of grease on the piston rod is washed off, which puts special demands on the materials and the design of the piston rod seal system (scraper ring and piston rod seal). A piston rod seal system specially designed for dry rod operation is available as an option for this type of application, for all bores of P1D cylinders. The system has a specially designed L-shaped seal and the material is self-lubricating, high molecular weight plastics (HDPE).



## P1D-S Standard Cylinders

The P1D-S series is the premier in ISO pneumatic cylinders. With various piston rod materials, seal options and supported by a full range of ISO mountings the P1D-S series is suitable for a wide range of applications.



- Available in 32 to 125 mm bores
- PUR seals for long service life
- Drop-in sensors
- Corrosion resistant design
- Magnetic piston as standard
- Lubricated with food grade grease

### Operating information

Working pressure:	Max 10 bar
Seals / Temperature options	
Standard:	-20°C to +80°C
Cylinders for low pressure hydraulic operation:	Ø32-125mm
ATEX approval:	CE Ex IIGD c T4 120°C

For more information see [www.parker.com/euro\\_pneumatic](http://www.parker.com/euro_pneumatic)

## P1D Standard

### Ø32mm - (G<sup>1</sup>/<sub>8</sub>)

Stroke mm	Order code
25	P1D-S032MS-0025
40	P1D-S032MS-0040
50	P1D-S032MS-0050
80	P1D-S032MS-0080
100	P1D-S032MS-0100
125	P1D-S032MS-0125
160	P1D-S032MS-0160
200	P1D-S032MS-0200
250	P1D-S032MS-0250
320	P1D-S032MS-0320
400	P1D-S032MS-0400
500	P1D-S032MS-0500

### Ø40mm - (G<sup>1</sup>/<sub>4</sub>)

Stroke mm	Order code
25	P1D-S040MS-0025
40	P1D-S040MS-0040
50	P1D-S040MS-0050
80	P1D-S040MS-0080
100	P1D-S040MS-0100
125	P1D-S040MS-0125
160	P1D-S040MS-0160
200	P1D-S040MS-0200
250	P1D-S040MS-0250
320	P1D-S040MS-0320
400	P1D-S040MS-0400
500	P1D-S040MS-0500

### Ø50mm - (G<sup>1</sup>/<sub>4</sub>)

Stroke mm	Order code
25	P1D-S050MS-0025
40	P1D-S050MS-0040
50	P1D-S050MS-0050
80	P1D-S050MS-0080
100	P1D-S050MS-0100
125	P1D-S050MS-0125
160	P1D-S050MS-0160
200	P1D-S050MS-0200
250	P1D-S050MS-0250
320	P1D-S050MS-0320
400	P1D-S050MS-0400
500	P1D-S050MS-0500

### Ø63mm - (G<sup>3</sup>/<sub>8</sub>)

Stroke mm	Order code
25	P1D-S063MS-0025
40	P1D-S063MS-0040
50	P1D-S063MS-0050
80	P1D-S063MS-0080
100	P1D-S063MS-0100
125	P1D-S063MS-0125
160	P1D-S063MS-0160
200	P1D-S063MS-0200
250	P1D-S063MS-0250
320	P1D-S063MS-0320
400	P1D-S063MS-0400
500	P1D-S063MS-0500

### Ø80mm - (G<sup>3</sup>/<sub>8</sub>)

Stroke mm	Order code
25	P1D-S080MS-0025
40	P1D-S080MS-0040
50	P1D-S080MS-0050
80	P1D-S080MS-0080
100	P1D-S080MS-0100
125	P1D-S080MS-0125
160	P1D-S080MS-0160
200	P1D-S080MS-0200
250	P1D-S080MS-0250
320	P1D-S080MS-0320
400	P1D-S080MS-0400
500	P1D-S080MS-0500

### Ø100mm - (G<sup>1</sup>/<sub>2</sub>)

Stroke mm	Order code
25	P1D-S100MS-0025
40	P1D-S100MS-0040
50	P1D-S100MS-0050
80	P1D-S100MS-0080
100	P1D-S100MS-0100
125	P1D-S100MS-0125
160	P1D-S100MS-0160
200	P1D-S100MS-0200
250	P1D-S100MS-0250
320	P1D-S100MS-0320
400	P1D-S100MS-0400
500	P1D-S100MS-0500

### Ø125mm - (G<sup>1</sup>/<sub>2</sub>)

Stroke mm	Order code
25	P1D-S125MS-0025
40	P1D-S125MS-0040
50	P1D-S125MS-0050
80	P1D-S125MS-0080
100	P1D-S125MS-0100
125	P1D-S125MS-0125
160	P1D-S125MS-0160
200	P1D-S125MS-0200
250	P1D-S125MS-0250
320	P1D-S125MS-0320
400	P1D-S125MS-0400
500	P1D-S125MS-0500

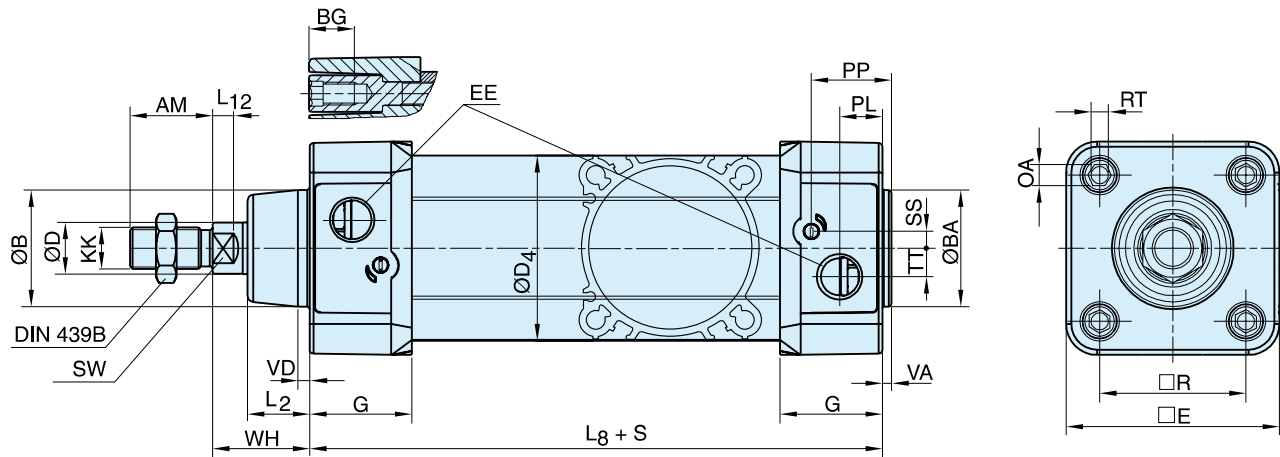
The cylinders are supplied complete with a zinc plated steel piston rod nut.

### Sensors



For sensors see page 77.

## P1D-S Series



## Dimensions

Cylinder bore mm	AM mm	B mm	BA mm	BG mm	D mm	D4 mm	E mm	EE mm	G mm	KK	L2 mm	L8 mm	L12 mm
32	22	30	30	16	12	45,0	50,0	G1/8	28,5	M10x1,25	16,0	94	6,0
40	24	35	35	16	16	52,0	57,4	G1/4	33,0	M12x1,25	19,0	105	6,5
50	32	40	40	16	20	60,7	69,4	G1/4	33,5	M16x1,5	24,0	106	8,0
63	32	45	45	16	20	71,5	82,4	G3/8	39,5	M16x1,5	24,0	121	8,0
80	40	45	45	17	25	86,7	99,4	G3/8	39,5	M20x1,5	30,0	128	10,0
100	40	55	55	17	25	106,7	116,0	G1/2	44,5	M20x1,5	32,4	138	14,0
125	54	60	60	20	32	134,0	139,0	G1/2	51,0	M27x2	45,0	160	18,0

Cylinder bore mm	OA mm	PL mm	PP mm	R mm	RT mm	SS mm	SW mm	TT mm	VA mm	VD mm	WH mm
32	6,0	13,0	21,8	32,5	M6	4,0	10	4,5	3,5	4,5	26
40	6,0	14,0	21,9	38,0	M6	8,0	13	5,5	3,5	4,5	30
50	8,0	14,0	23,0	46,5	M8	4,0	17	7,5	3,5	5,0	37
63	8,0	16,4	27,4	56,5	M8	6,5	17	11,0	3,5	5,0	37
80	6,0	16,0	30,5	72,0	M10	0	22	15,0	3,5	4,0	46
100	6,0	18,0	35,8	89,0	M10	0	22	20,0	3,5	4,0	51
125	8,0	28,0	40,5	110,0	M12	0	27	17,5	5,5	6,0	65

S=Stroke

## Tolerances

Cylinder bore mm	B	BA	L <sub>8</sub> mm	L <sub>9</sub> mm	R mm	Stroke tolerance up to stroke 500 mm	Stroke tolerance for stroke over 500 mm
32	d11	d11	±0,4	±2	±0,5	+0,3/+2,0	+0,3/+3,0
40	d11	d11	±0,7	±2	±0,5	+0,3/+2,0	+0,3/+3,0
50	d11	d11	±0,7	±2	±0,6	+0,3/+2,0	+0,3/+3,0
63	d11	d11	±0,8	±2	±0,7	+0,3/+2,0	+0,3/+3,0
80	d11	d11	±0,8	±3	±0,7	+0,3/+2,0	+0,3/+3,0
100	d11	d11	±1,0	±3	±0,7	+0,3/+2,0	+0,3/+3,0
125	d11	d11	±1,0	±3	±1,1	+0,3/+2,0	+0,3/+3,0

**Cylinder mountings**

**Flange MF1/MF2**



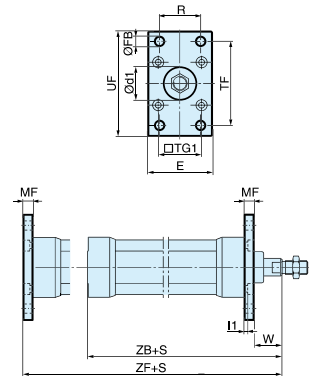
Intended for fixed mounting of cylinder. Flange can be fitted to front or rear end cover of cylinder.

**Materials**

Flange: Surface-treated steel

Mounting screws acc. to DIN 6912: Zinc-plated steel 8.8

Supplied complete with mounting screws for attachment to cylinder.



Cyl. bore mm	d1 mm	FB mm	TG1 mm	E mm	R mm	MF mm	TF mm	UF mm	I1 mm	W* mm	ZF* mm	ZB* mm	Weight Kg	Order code
32	30	7	32,5	45	32	10	64	80	5,0	16	130	123,5	0,23	<b>P1C-4KMB</b>
40	35	9	38,0	52	36	10	72	90	5,0	20	145	138,5	0,28	<b>P1C-4LMB</b>
50	40	9	46,5	65	45	12	90	110	6,5	25	155	146,5	0,53	<b>P1C-4MMB</b>
63	45	9	56,5	75	50	12	100	120	6,5	25	170	161,5	0,71	<b>P1C-4NMB</b>
80	45	12	72,0	95	63	16	126	150	8,0	30	190	177,5	1,59	<b>P1C-4PMB</b>
100	55	14	89,0	115	75	16	150	170	8,0	35	205	192,5	2,19	<b>P1C-4QMB</b>
125	60	16	110,0	140	90	20	180	205	10,5	45	245	230,5	3,78	<b>P1C-4RMB</b>

S = Stroke length \* Does not apply to cylinders with lock unit.

**Foot brackets MS1**



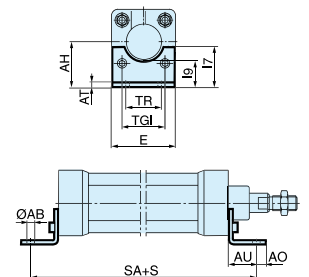
Intended for fixed mounting of cylinder. Foot bracket can be fitted to front and rear end covers of cylinder.

**Material:**

Foot bracket: Surface treated steel

Mounting screws acc. to DIN 912: Zinc-plated steel 8.8

Supplied in pairs with mounting screws for attachment to cylinder.



Cyl. bore mm	AB mm	TG1 mm	E mm	TR mm	AO mm	AU mm	AH mm	I7 mm	AT mm	I9 mm	SA* mm	Weight Kg	Order code
32	7	32,5	45	32	10	24	32	30	4,5	17,0	142	0,06	<b>P1C-4KMF</b>
40	9	38,0	52	36	8	28	36	30	4,5	18,5	161	0,08	<b>P1C-4LMF</b>
50	9	46,5	65	45	13	32	45	36	5,5	25,0	170	0,16	<b>P1C-4MMF</b>
63	9	56,5	75	50	13	32	50	35	5,5	27,5	185	0,25	<b>P1C-4NMF</b>
80	12	72,0	95	63	14	41	63	49	6,5	40,5	210	0,50	<b>P1C-4PMF</b>
100	14	89,0	115	75	15	41	71	54	6,5	43,5	220	0,85	<b>P1C-4QMF</b>
125	16	110,0	140	90	22	45	90	71	8,0	60,0	250	1,48	<b>P1C-4RMF</b>

S = Stroke length \* Does not apply to cylinders with lock unit.

**Pivot bracket with rigid bearing AB7**

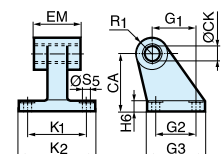


Intended for flexible mounting of cylinder. The pivot bracket can be combined with clevis bracket MP2.

**Materials**

Pivot bracket: Surface-treated aluminium, black

Bearing: Sintered oil-bronze bushing



Cyl. bore mm	CK mm	S5 mm	K1 mm	K2 mm	G1 mm	G2 mm	EM mm	G3 mm	CA mm	H6 mm	R1 mm	Weight Kg	Order code
32	10	6,6	38	51	21	18	25,5	31	32	8	10,0	0,06	<b>P1C-4KMD</b>
40	12	6,6	41	54	24	22	27,0	35	36	10	11,0	0,08	<b>P1C-4LMD</b>
50	12	9,0	50	65	33	30	31,0	45	45	12	13,0	0,15	<b>P1C-4MMD</b>
63	16	9,0	52	67	37	35	39,0	50	50	12	15,0	0,20	<b>P1C-4NMD</b>
80	16	11,0	66	86	47	40	49,0	60	63	14	15,0	0,33	<b>P1C-4PMD</b>
100	20	11,0	76	96	55	50	59,0	70	71	15	19,0	0,49	<b>P1C-4QMD</b>
125	25	14,0	94	124	70	60	69,0	90	90	20	22,5	1,02	<b>P1C-4RMD</b>

Cylinder mountings

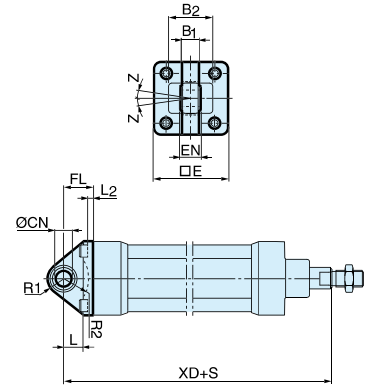
Swivel eye bracket MP6

Intended for use together with clevis bracket GA



Material  
Bracket: Surface-treated aluminium, black  
Swivel bearing acc. to DIN 648K: Hardened steel

Supplied complete with mounting screws for attachment to cylinder.



Cyl. bore mm	E mm	B1 mm	B2 mm	EN mm	R1 mm	R2 mm	FL mm	I2 mm	L mm	CN H7 mm	XD* mm	Z mm	Weight Kg	Order code
32	45	10,5	-	14	16	-	22	5,5	12	10	142	4°	0,08	<b>P1C-4KMSA</b>
40	52	12,0	-	16	18	-	25	5,5	15	12	160	4°	0,11	<b>P1C-4LMSA</b>
50	65	15,0	51	21	21	19	27	6,5	15	16	170	4°	0,20	<b>P1C-4MMSA</b>
63	75	15,0	-	21	23	-	32	6,5	20	16	190	4°	0,27	<b>P1C-4NMSA</b>
80	95	18,0	-	25	29	-	36	10,0	20	20	210	4°	0,52	<b>P1C-4PMSA</b>
100	115	18,0	-	25	31	-	41	10,0	25	20	230	4°	0,72	<b>P1C-4QMSA</b>
125	140	25,0	-	37	40	-	50	10,0	30	30	275	4°	1,53	<b>P1C-4RMSA</b>

S = Stroke length \* Does not apply to cylinders with lock unit.

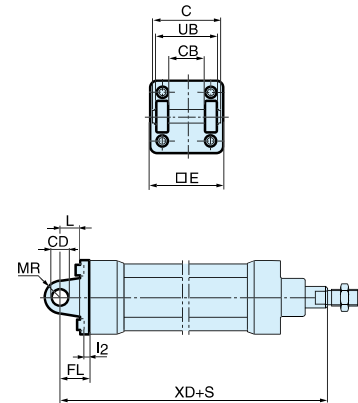
Clevis bracket MP2

Intended for flexible mounting of cylinder. Clevis bracket MP2 can be combined with clevis bracket MP4.



Materials  
Clevis bracket: Surface-treated aluminium, black  
Pin: Surface hardened steel  
Circlips according to DIN 471: Spring steel  
Mounting screws acc. to DIN 912: Zinc-plated steel 8.8

Supplied complete with mounting screws for attachment to cylinder.



Cyl. bore mm	C mm	E mm	UB h14 mm	CB H14 mm	FL ±0,2 mm	L mm	I2 mm	CD H9 mm	MR mm	XD* mm	Weight Kg	Order code
32	53	45	45	26	22	13	5,5	10	10	142	0,08	<b>P1C-4KMT</b>
40	60	52	52	28	25	16	5,5	12	12	160	0,11	<b>P1C-4LMT</b>
50	68	65	60	32	27	16	6,5	12	12	170	0,14	<b>P1C-4MMT</b>
63	78	75	70	40	32	21	6,5	16	16	190	0,29	<b>P1C-4NMT</b>
80	98	95	90	50	36	22	10,0	16	16	210	0,36	<b>P1C-4PMT</b>
100	118	115	110	60	41	27	10,0	20	20	230	0,64	<b>P1C-4QMT</b>
125	139	140	130	70	50	30	10,0	25	25	275	1,17	<b>P1C-4RMT</b>

S = Stroke length \* Does not apply to cylinders with lock unit

**Cylinder mountings**

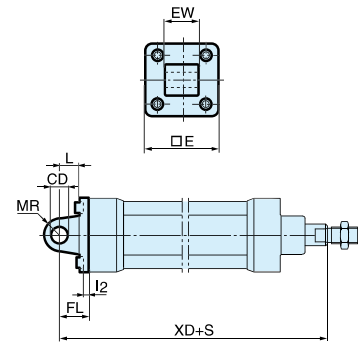
**Clevis bracket MP4**



Intended for flexible mounting of cylinder. Clevis bracket MP4 can be combined with clevis bracket MP2.

Materials  
 Clevis bracket: Surface-treated aluminium, black  
 Mounting screws acc. to DIN 912: Zinc-plated steel 8.8

Supplied complete with mounting screws for attachment to cylinder.



Cyl. bore mm	E mm	EW mm	FL mm	L mm	I2 mm	CD mm	MR mm	XD* mm	Weight Kg	Order code
32	45	26	22	13	5,5	10	10	142	0,09	<b>P1C-4KME</b>
40	52	28	25	16	5,5	12	12	160	0,13	<b>P1C-4LME</b>
50	65	32	27	16	6,5	12	12	170	0,17	<b>P1C-4MME</b>
63	75	40	32	21	6,5	16	16	190	0,36	<b>P1C-4NME</b>
80	95	50	36	22	10,0	16	16	210	0,46	<b>P1C-4PME</b>
100	115	60	41	27	10,0	20	20	230	0,83	<b>P1C-4QME</b>
125	140	70	50	30	10,0	25	25	275	1,53	<b>P1C-4RME</b>

S = Stroke length \* Does not apply to cylinders with lock unit.

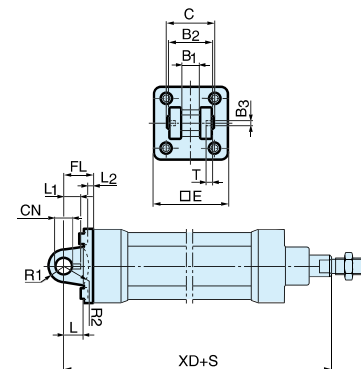
**Clevis bracket AB6**



Intended for flexible mounting of cylinder. Clevis bracket GA can be combined with pivot bracket with swivel bearing, swivel eye bracket and swivel rod eye.

Materials  
 Clevis bracket: Surface-treated aluminium  
 Pin: Surface hardened steel  
 Locking pin: Spring steel  
 Circlips according to DIN 471: Spring steel  
 Mounting screws acc. to DIN 912: Zinc-plated steel 8.8

Supplied complete with mounting screws for attachment to cylinder.



Cyl. bore mm	C mm	E mm	B2 mm	B1 mm	T mm	B3 mm	R2 mm	L1 mm	FL mm	I2 mm	L mm	CN mm	R1 mm	XD* mm	Weight Kg	Order code
32	41	45	34	14	3	3,3	17	11,5	22	5,5	12	10	11	142	0,09	<b>P1C-4KMCA</b>
40	48	52	40	16	4	4,3	20	12,0	25	5,5	15	12	13	160	0,13	<b>P1C-4LMCA</b>
50	54	65	45	21	4	4,3	22	14,0	27	6,5	17	16	18	170	0,17	<b>P1C-4MMCA</b>
63	60	75	51	21	4	4,3	25	14,0	32	6,5	20	16	18	190	0,36	<b>P1C-4NMCA</b>
80	75	95	65	25	4	4,3	30	16,0	36	10,0	20	20	22	210	0,58	<b>P1C-4PMCA</b>
100	85	115	75	25	4	4,3	32	16,0	41	10,0	25	20	22	230	0,89	<b>P1C-4QMCA</b>
125	110	140	97	37	6	6,3	42	24,0	50	10,0	30	30	30	275	1,75	<b>P1C-4RMCA</b>

S = Stroke length \* Does not apply to cylinders with lock unit.

**Stainless steel Pin Set AB6**

Cyl. bore mm	Weight Kg	Order code
32	0,05	<b>9301054311</b>
40	0,06	<b>9301054312</b>
50	0,07	<b>9301054313</b>
63	0,07	<b>9301054314</b>
80	0,17	<b>9301054315</b>
100	0,31	<b>9301054316</b>
125	0,54	<b>9301054317</b>

Materials  
 Pin: Stainless steel  
 Locking pin: Stainless steel  
 Circlips according to DIN 471: Stainless steel

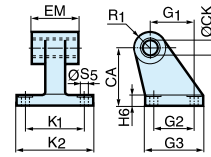
**Cylinder mountings**

**Pivot bracket with swivel bearing CS7**



Intended for use together with clevis bracket GA.

Material  
 Pivot bracket: Surface-treated steel, black  
 Swivel bearing acc. to DIN 648K: Hardened steel

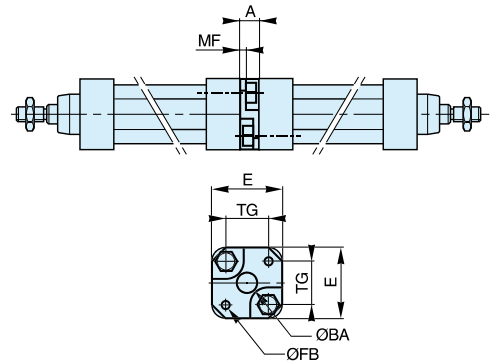


Cyl. bore mm	CN H7 mm	S5 H13 mm	K1 JS14 mm	K2 mm	EU mm	G1 JS14 mm	G2 JS14 mm	EN mm	G3 mm	CH JS15 mm	H6 mm	ER mm	Z mm	Weight Kg	Order code
32	10	6,6	38	51	10,5	21	18	14	31	32	10	16	4°	0,18	<b>P1C-4KMA</b>
40	12	6,6	41	54	12,0	24	22	16	35	36	10	18	4°	0,25	<b>P1C-4LMA</b>
50	16	9,0	50	65	15,0	33	30	21	45	45	12	21	4°	0,47	<b>P1C-4MMA</b>
63	16	9,0	52	67	15,0	37	35	21	50	50	12	23	4°	0,57	<b>P1C-4NMA</b>
80	20	11,0	66	86	18,0	47	40	25	60	63	14	28	4°	1,05	<b>P1C-4PMA</b>
100	20	11,0	76	96	18,0	55	50	25	70	71	15	30	4°	1,42	<b>P1C-4QMA</b>
125	30	14,0	94	124	25,0	70	60	37	90	90	20	40	4°	3,10	<b>P1C-4RMA</b>

**3 and 4 positions flange JP1** Mounting kit for back to back mounted cylinders, 3 and 4 position cylinders.



Material:  
 Mounting: Aluminium  
 Mounting screws: Zinc-plated steel 8.8

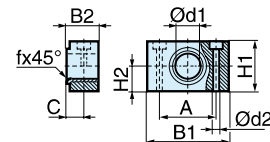


Cyl. bore mm	E mm	TG mm	ØFB mm	MF mm	A mm	ØBA mm	Weight Kg	Order code
32	50	32,5	6,5	5	16	30	0,060	<b>P1E-6KB0</b>
40	60	38,0	6,5	5	16	35	0,078	<b>P1E-6LB0</b>
50	66	46,5	8,5	6	20	40	0,162	<b>P1E-6MB0</b>
63	80	56,5	8,5	6	20	45	0,194	<b>P1E-6NB0</b>
80	100	72,0	10,5	8	25	45	0,450	<b>P1E-6PB0</b>
100	118	89,0	10,5	8	25	55	0,672	<b>P1E-6QB0</b>

**Pivot brackets AT4 for MT\*** Intended for use together with trunnion MT4, MT5 and MT6.



Material  
 Pivot bracket: Surface-treated aluminium  
 Bearing acc. to DIN 1850 C: Sintered oil-bronze bushing  
 Supplied in pairs.



Cyl. bore mm	B1 mm	B2 mm	A mm	C mm	d1 mm	d2 H13 mm	H1 mm	H2 mm	fx45° min	Weight Kg	Order code
32	46	18,0	32	10,5	12	6,6	30	15	1,0	0,04*	<b>9301054261</b>
40	55	21,0	36	12,0	16	9,0	36	18	1,6	0,07*	<b>9301054262</b>
50	55	21,0	36	12,0	16	9,0	36	18	1,6	0,07*	<b>9301054262</b>
63	65	23,0	42	13,0	20	11,0	40	20	1,6	0,12*	<b>9301054264</b>
80	65	23,0	42	13,0	20	11,0	40	20	1,6	0,12*	<b>9301054264</b>
100	75	28,5	50	16,0	25	14,0	50	25	2,0	0,21*	<b>9301054266</b>
125	75	28,5	50	16,0	25	14,0	50	25	2,0	0,21*	<b>9301054266</b>

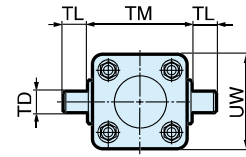


Cylinder mountings

Intermediate trunnion MT4 for P1D-S



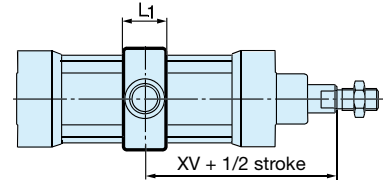
Intended for articulated mounting of cylinder. This mounting is available for P1D-S and P1D-T.  
The trunnion is factory-fitted in the centre of the cylinder or at an optional location specified by the XV-measure – Combined with pivot brackets AT4.  
Material:  
Trunnion: zinc plated steel



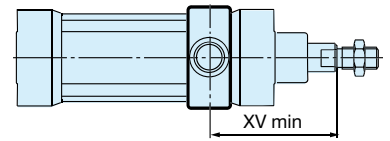
Intermediate trunnion MT4 for P1D-T



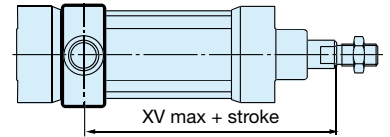
**Trunnion centred**  
The central trunnion for the P1D-S and P1D-T is ordered with letter D in position 17 and NNN in positions 18-20.



**Trunnion with optional location**  
The trunnion for the P1D-S and P1D-T is ordered with letter G in position 17 and desired XV-measure (3-digit measure in mm) in positions 18-20.



**Free trunnion**  
P1D-S can also be ordered with the trunnion loosely fitted to the cylinder (not fixed in position). This allows the position to be established at the time of installation.  
Ordered with letter G in position 17 and 000 in positions 18-20.



Cyl. bore mm	L1		TL	TM	Ø TD	UW	XV min				XV				XV max			
	P1D-S/L/H mm	P1D-T mm	h14 mm	h14 mm	e9 mm	P1D-S/L/H mm	P1D-S mm	P1D-T mm	P1D-L mm	P1D-H mm	P1D-S mm	P1D-T mm	P1D-L mm	P1D-H mm	P1D-S mm	P1D-T mm	P1D-L mm	P1D-H mm
32	18	15	12	50	12	52	63,5	62,0	119,5	111,5	73,0	73,0	129,0	121,0	82,5	84,0	138,5	130,5
40	20	20	16	63	16	59	73,0	73,0	133,5	128,0	82,5	82,5	143,0	137,5	92,0	92,0	152,5	147,0
50	20	20	16	75	16	71	80,5	80,5	143,5	150,5	90,0	90,0	153,0	160,0	99,5	99,5	162,5	169,5
63	26	25	20	90	20	84	89,5	89,0	168,5	159,5	97,5	97,5	176,5	167,5	106,0	105,5	184,5	175,5
80	26	25	20	110	20	105	98,5	98,0	188,5	188,5	110,0	110,0	200,0	200,0	122,0	121,5	211,5	211,5
100	32	30	25	132	25	129	111,5	110,5	223,5	203,5	120,0	120,0	232,0	212,0	129,5	128,5	240,5	220,5
125	33	32	25	180	25	159	132,5	132,0	250,0	254,5	145,0	145,0	262,5	267,0	158,0	157,5	275,0	279,5

**Important:** If the cylinder is ordered with a piston rod protusion (WH dimension), please add this extra length to XVmin, XV and XVmax.

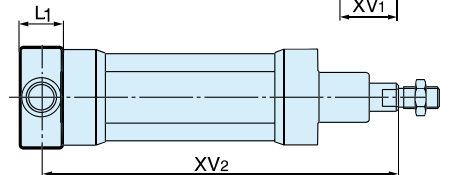
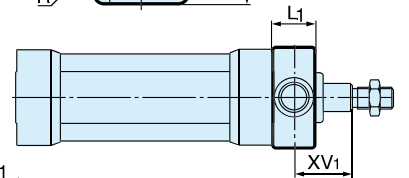
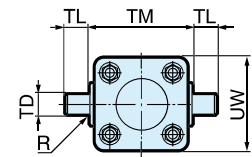
Flange mounted trunnion MT5/MT6



Intended for articulated mounting of cylinder. This trunnion can be flange mounted on the front or rear end cover of all P1D cylinders. At your choice, you can order a complete cylinder with factory-fitted flange mounted trunnion  
Individual trunnions have order code as shown below.

Material:  
Trunnion: zinc plated steel  
Screws: zinc plated steel, 8.8

Delivered complete with mounting screws for attachment to the cylinder



Cyl. bore mm	TM h14 mm	TL h14 mm	TD e9 mm	R mm	UW mm	L1 mm	XV <sub>1</sub> * mm	X* mm	Y mm	Weight Kg	Order code
32	50	12	12	1,0	46	14	19,5	126,5	11	0,17	<b>P1D-4KMYF</b>
40	63	16	16	1,6	59	19	21,0	144,0	14	0,43	<b>P1D-4LMYF</b>
50	75	16	16	1,6	69	19	28,0	152,0	20	0,55	<b>P1D-4MMYF</b>
63	90	20	20	1,6	84	24	25,5	169,5	20	1,10	<b>P1D-4NMYF</b>
80	110	20	20	1,6	102	24	34,5	185,5	26	1,66	<b>P1D-4PMYF</b>
100	132	25	25	2,0	125	29	37,0	203,0	31	3,00	<b>P1D-4QMYF</b>

XV<sub>2</sub> = X + Stroke length \* Does not apply to cylinders with lock unit.

To fit a flange mounted trunnion at the front end cover of a P1D cylinder with lock unit, the piston rod must be extended. This is to provide the same WH dimensions as for the P1D base cylinder with dimension Y.

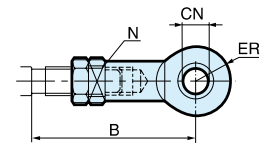
Piston rod mountings

Swivel rod eye AP6

Intended for articulated mounting of the cylinder.



Material:  
Swivel rod eye, nut: galvanized steel.  
Swivel bearing according to DIN 648K: Hardened steel.

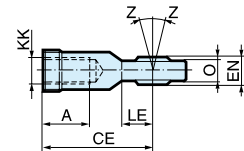


Stainless steel swivel rod eye AP6

Stainless-steel swivel rod eye for articulated mounting of eye cylinder.



Materials  
Swivel rod eye: Stainless steel  
Swivel bearing according to DIN 648K: Stainless steel  
Use stainless steel nut with stainless steel swivel rod eye.



Cyl.- dia. mm	A mm	B min mm	B max mm	CE mm	CN H9 mm	EN h12 mm	ER mm	KK	LE	N* min mm	O mm	Z mm	Weight kg	Order code	Order code
														Galvanised Steel	Stainless Steel
32	20	48,0	55	43	10	14	14	M10x1,25	15	17	10,5	12°	0,08	<b>P1C-4KRS</b>	<b>P1S-4JRT</b>
40	22	56,0	62	50	12	16	16	M12x1,25	17	19	12,0	12°	0,12	<b>P1C-4LRS</b>	<b>P1S-4LRT</b>
50	28	72,0	80	64	16	21	21	M16x1,5	22	22	15,0	15°	0,25	<b>P1C-4MRS</b>	<b>P1S-4MRT</b>
63	28	72,0	80	64	16	21	21	M16x1,5	22	22	15,0	15°	0,25	<b>P1C-4MRS</b>	<b>P1S-4MRT</b>
80	33	87,0	97	77	20	25	25	M20x1,5	26	32	18,0	15°	0,46	<b>P1C-4PRS</b>	<b>P1S-4PRT</b>
100	33	87,0	97	77	20	25	25	M20x1,5	26	32	18,0	15°	0,46	<b>P1C-4PRS</b>	<b>P1S-4PRT</b>
125	51	123,5	137	110	30	37	35	M27x2	36	41	25,0	15°	1,28	<b>P1C-4RRS</b>	<b>P1S-4RRT</b>

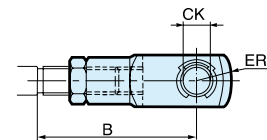
Clevis AP2

Intended for articulated mounting of the cylinder.



Material:  
Clevis and clip galvanized steel.  
Pin: Hardened steel

Supplied complete with axle.

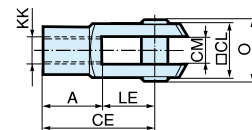


Stainless steel Clevis AP2

Stainless-steel clevis for articulated mounting of cylinder.



Material  
Clevis: Stainless steel  
Pin: Stainless steel  
Circlips according to DIN 471: Stainless steel  
Use stainless steel nut with stainless steel swivel rod eye.



Cyl.- dia. mm	A mm	B min mm	B max mm	CE mm	CK mm	CL h11/E9 mm	CM mm	ER mm	KK	LE mm	O mm	Weight kg	Order code	Order code
													Galvanised Steel	Stainless Steel
32	20	45,0	52	40	10	20	10	16	M10x1,25	20	28,0	0,09	<b>P1C-4KRC</b>	<b>P1S-4JRD</b>
40	24	54,0	60	48	12	24	12	19	M12x1,25	24	32,0	0,15	<b>P1C-4LRC</b>	<b>P1S-4LRD</b>
50	32	72,0	80	64	16	32	16	25	M16x1,5	32	41,5	0,35	<b>P1C-4MRC</b>	<b>P1S-4MRD</b>
63	32	72,0	80	64	16	32	16	25	M16x1,5	32	41,5	0,35	<b>P1C-4MRC</b>	<b>P1S-4MRD</b>
80	40	90,0	100	80	20	40	20	32	M20x1,5	40	50,0	0,75	<b>P1C-4PRC</b>	<b>P1S-4PRD</b>
100	40	90,0	100	80	20	40	20	32	M20x1,5	40	50,0	0,75	<b>P1C-4PRC</b>	<b>P1S-4PRD</b>
125	56	123,5	137	110	30	55	30	45	M27x2,0	54,0	72,0	2,10	<b>P1C-4RRC</b>	<b>P1S-4RRD</b>

Piston rod mountings

Flexo coupling PM5



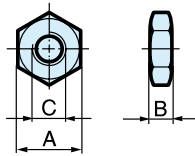
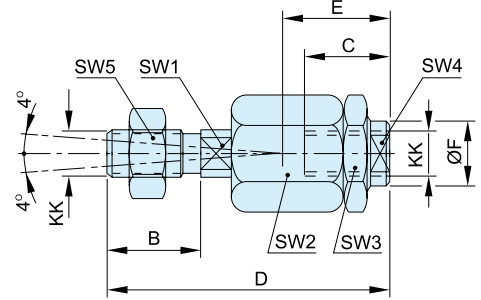
Flexo coupling for articulated mounting of piston rod. Flexo fitting is intended to take up axial angle errors within a range of ±4°.

Material  
Flexo coupling, nut: Zinc-plated steel

Supplied complete with galvanized adjustment nut.

Cyl. bore Ø mm	Weight kg	Order code
32	0,23	<b>P1C-4KRF</b>
40	0,23	<b>P1C-4LRF</b>
50	0,65	<b>P1C-4MRF</b>
63	0,65	<b>P1C-4MRF</b>
80	0,71	<b>P1C-4PRF</b>
100	0,71	<b>P1C-4PRF</b>
125	1,60	<b>P1C-4RRF</b>

Cyl. bore mm	KK mm	B mm	C mm	D mm	E mm	ØF mm	SW1 mm	SW2 mm	SW3 mm	SW4 mm	SW5 mm
32	M10x1.25	20	23	73	31	21	12	30	30	19	17
40	M12x1.25	24	23	77	31	21	12	30	30	19	19
50	M16x1.5	32	32	108	45	33.5	19	41	41	30	24
63	M16x1.5	32	32	108	45	33.5	19	41	41	30	24
80	M20x1.5	40	42	122	56	33.5	19	41	41	30	30
100	M20x1.5	40	42	122	56	33.5	19	41	41	30	30
125	M27x2	54	48	147	51	39	24	55	55	32	41



Nut MR9



Intended for fixed mounting of accessories to the piston rod.  
Material: Zinc-plated steel

All P1D cylinders are delivered with a zinc-plated steel piston rod nut, except P1D Ultra Clean, which is delivered with a stainless steel piston rod nut instead.

Stainless steel nut MR9



Intended for fixed mounting of accessories to the piston rod.

Material: Stainless steel A2

All P1D cylinders are delivered with a zinc-plated steel piston rod nut, except P1D Ultra Clean, which is delivered with a stainless steel piston rod nut instead.

Acid-proof nut MR9



Intended for fixed mounting of accessories to the piston rod.

Material: Acid-proof steel A4

Cylinders with acid-proof piston rod are supplied with nut of acid-proof steel

Cyl. bore mm	A mm	B mm	C	Weight Kg	Order code
32	17	5,0	M10x1,25	0,007	<b>P14-4KRPZ</b>
40	19	6,0	M12x1,25	0,010	<b>P14-4LRPZ</b>
50	24	8,0	M16x1,5	0,021	<b>P14-4MRPZ</b>
63	24	8,0	M16x1,5	0,021	<b>P14-4MRPZ</b>
80	30	10,0	M20x1,5	0,040	<b>P14-4PRPZ</b>
100	30	10,0	M20x1,5	0,040	<b>P14-4PRPZ</b>
125	30	10,0	M27x2	0,100	<b>P14-4RRPZ</b>
32	17	5,0	M10x1,25	0,007	<b>P14-4KRPS</b>
40	19	6,0	M12x1,25	0,010	<b>P14-4LRPS</b>
50	24	8,0	M16x1,5	0,021	<b>P14-4MRPS</b>
63	24	8,0	M16x1,5	0,021	<b>P14-4MRPS</b>
80	30	10,0	M20x1,5	0,040	<b>P14-4PRPS</b>
100	30	10,0	M20x1,5	0,040	<b>P14-4PRPS</b>
125	30	10,0	M27x2	0,100	<b>P14-4RRPS</b>
32	17	5,0	M10x1,25	0,007	<b>P14-4KRPX</b>
40	19	6,0	M12x1,25	0,010	<b>P14-4LRPX</b>
50	24	8,0	M16x1,5	0,021	<b>P14-4MRPX</b>
63	24	8,0	M16x1,5	0,021	<b>P14-4MRPX</b>
80	30	10,0	M20x1,5	0,040	<b>P14-4PRPX</b>
100	30	10,0	M20x1,5	0,040	<b>P14-4PRPX</b>
125	30	10,0	M27x2	0,100	<b>P14-4RRPX</b>

Supplied as pack of 10 off, Weight per item

Sealing plugs



Set of 4 threaded plugs to be fitted in unused end cover screws. A rubber gasket is supplied with every plug. The seal off function is equal to IP67. The plugs can be used for all P1D cylinders to avoid collecting dirt and fluids in the end cover screw recesses.

Material:  
Plug Polyamid PA  
Gasket Nitrile rubber

Supplied as pack of 4 off, Weight per item

Cyl.	Weight Kg	Order code
32	0,01	<b>460104801</b>
40	0,01	<b>460104801</b>
50	0,02	<b>460104802</b>
63	0,02	<b>460104802</b>
80	0,02	<b>460104803</b>
100	0,02	<b>460104803</b>
125	0,03	<b>460104804</b>

	Flange MF1/MF2 <sup>1</sup>	Foot brackets MS1 <sup>2</sup>	Pivot bracket with rigid bearing AB7 <sup>3</sup>	Swivel eye <sup>4</sup> bracket MP6	Clevis bracket MP2 <sup>5</sup>
Ø 32	P1C-4KMB	P1C-4KMF	P1C-4KMD	P1C-4KMSA	P1C-4KMT
Ø 40	P1C-4LMB	P1C-4LMF	P1C-4LMD	P1C-4LMSA	P1C-4LMT
Ø 50	P1C-4MMB	P1C-4MMF	P1C-4MMD	P1C-4MMSA	P1C-4MMT
Ø 63	P1C-4NMB	P1C-4NMF	P1C-4NMD	P1C-4NMSA	P1C-4NMT
Ø 80	P1C-4PMB	P1C-4PMF	P1C-4PMD	P1C-4PMSA	P1C-4PMT
Ø 100	P1C-4QMB	P1C-4QMF	P1C-4QMD	P1C-4QMSA	P1C-4QMT
Ø 125	P1C-4RMB	P1C-4RMF	P1C-4RMD	P1C-4RMSA	P1C-4RMT

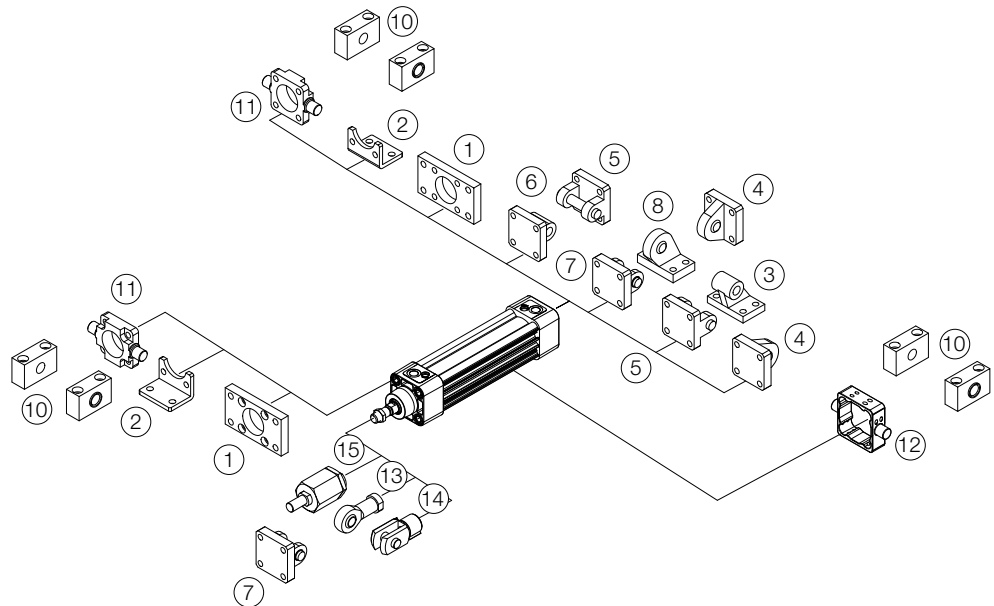
	Clevis bracket MP4 <sup>6</sup>	Clevis bracket AB6 <sup>7</sup>	Pivot bracket with swivel bearing CS7 <sup>8</sup>	3 and 4 positions flange JP1	Pivot brackets AT4 <sup>10</sup> for MT* trunnion
Ø 32	P1C-4KME	P1C-4KMCA	P1C-4KMA	P1E-6KB0	9301054261
Ø 40	P1C-4LME	P1C-4LMCA	P1C-4LMA	P1E-6LB0	9301054262
Ø 50	P1C-4MME	P1C-4MMCA	P1C-4MMA	P1E-6MB0	9301054262
Ø 63	P1C-4NME	P1C-4NMCA	P1C-4NMA	P1E-6NB0	9301054264
Ø 80	P1C-4PME	P1C-4PMCA	P1C-4PMA	P1E-6PB0	9301054264
Ø 100	P1C-4QME	P1C-4QMCA	P1C-4QMA	P1E-6QB0	9301054266
Ø 125	P1C-4RME	P1C-4RMCA	P1C-4RMA	P1E-6QB0	9301054266

	Flange trunnion <sup>11</sup> MT5/MT6	Trunnion MT4 <sup>12</sup>	Swivel rod eye AP6 <sup>13</sup>	Clevis AP2 <sup>14</sup>	Flexo coupling PM5 <sup>15</sup>
Ø 32	P1D-4KMYF	Factory fitted	P1C-4KRS	P1C-4KRC	P1C-4KRF
Ø 40	P1D-4LMYF	Factory fitted	P1C-4LRS	P1C-4LRC	P1C-4LRF
Ø 50	P1D-4MMYF	Factory fitted	P1C-4MRS	P1C-4MRC	P1C-4MRF
Ø 63	P1D-4NMYF	Factory fitted	P1C-4MRS	P1C-4MRC	P1C-4MRF
Ø 80	P1D-4PMYF	Factory fitted	P1C-4PRS	P1C-4PRC	P1C-4PRF
Ø 100	P1D-4QMYF	Factory fitted	P1C-4PRS	P1C-4PRC	P1C-4PRF
Ø 125	P1D-4QMYF	Factory fitted	P1C-4RRS	P1C-4RRC	P1C-4RRF

Zinc-plated steel nut MR9 (pack of 10)



Ø 32	P14-4KRPZ
Ø 40	P14-4LRPZ
Ø 50	P14-4MRPZ
Ø 63	P14-4MRPZ
Ø 80	P14-4PRPZ
Ø 100	P14-4PRPZ
Ø 125	P14-4RRPZ



# P1D-B Pneumatic Cylinders

According to ISO 15552



**P1D-B series.** This series features a profile design and is the basic ISO cylinder for simple applications where no special options are required. This series is suitable for general industrial applications

- Available in 32 to 125 mm bores
- PUR seals for long service life
- Drop-in sensors
- Corrosion resistant design
- Magnetic piston as standard
- Lubricated with food grade grease

**P1D-B Basic Cylinders**

The P1D-B series features a profile design and is the value line ISO cylinder for basic applications where no special options are required. This series is suitable for general industrial applications and is supported by a full range of ISO mountings.



- Available in 32 to 125 mm bores
- PUR seals for long service life
- Drop-in sensors
- Corrosion resistant design
- Magnetic piston as standard
- Lubricated with food grade grease

**Operating information**

Working pressure: Max 10 bar  
 Standard Temperature: -20°C to +80°C

For more information see [www.parker.com/euro\\_pneumatic](http://www.parker.com/euro_pneumatic)

**P1D-B Basic**

**Ø32mm - (G<sup>1/8</sup>)**

Stroke mm	Order code
25	P1D-B032MS-0025
40	P1D-B032MS-0040
50	P1D-B032MS-0050
80	P1D-B032MS-0080
100	P1D-B032MS-0100
125	P1D-B032MS-0125
160	P1D-B032MS-0160
200	P1D-B032MS-0200
250	P1D-B032MS-0250
320	P1D-B032MS-0320
400	P1D-B032MS-0400
500	P1D-B032MS-0500

**Ø63mm - (G<sup>3/8</sup>)**

Stroke mm	Order code
25	P1D-B063MS-0025
40	P1D-B063MS-0040
50	P1D-B063MS-0050
80	P1D-B063MS-0080
100	P1D-B063MS-0100
125	P1D-B063MS-0125
160	P1D-B063MS-0160
200	P1D-B063MS-0200
250	P1D-B063MS-0250
320	P1D-B063MS-0320
400	P1D-B063MS-0400
500	P1D-B063MS-0500

**Ø100mm - (G<sup>1/2</sup>)**

Stroke mm	Order code
25	P1D-B100MS-0025
40	P1D-B100MS-0040
50	P1D-B100MS-0050
80	P1D-B100MS-0080
100	P1D-B100MS-0100
125	P1D-B100MS-0125
160	P1D-B100MS-0160
200	P1D-B100MS-0200
250	P1D-B100MS-0250
320	P1D-B100MS-0320
400	P1D-B100MS-0400
500	P1D-B100MS-0500

**Ø40mm - (G<sup>1/4</sup>)**

Stroke mm	Order code
25	P1D-B040MS-0025
40	P1D-B040MS-0040
50	P1D-B040MS-0050
80	P1D-B040MS-0080
100	P1D-B040MS-0100
125	P1D-B040MS-0125
160	P1D-B040MS-0160
200	P1D-B040MS-0200
250	P1D-B040MS-0250
320	P1D-B040MS-0320
400	P1D-B040MS-0400
500	P1D-B040MS-0500

**Ø80mm - (G<sup>3/4</sup>)**

Stroke mm	Order code
25	P1D-B080MS-0025
40	P1D-B080MS-0040
50	P1D-B080MS-0050
80	P1D-B080MS-0080
100	P1D-B080MS-0100
125	P1D-B080MS-0125
160	P1D-B080MS-0160
200	P1D-B080MS-0200
250	P1D-B080MS-0250
320	P1D-B080MS-0320
400	P1D-B080MS-0400
500	P1D-B080MS-0500

**Ø125mm - (G<sup>1/2</sup>)**

Stroke mm	Order code
25	P1D-B125MS-0025
40	P1D-B125MS-0040
50	P1D-B125MS-0050
80	P1D-B125MS-0080
100	P1D-B125MS-0100
125	P1D-B125MS-0125
160	P1D-B125MS-0160
200	P1D-B125MS-0200
250	P1D-B125MS-0250
320	P1D-B125MS-0320
400	P1D-B125MS-0400
500	P1D-B125MS-0500

**Ø50mm - (G<sup>1/4</sup>)**

Stroke mm	Order code
25	P1D-B050MS-0025
40	P1D-B050MS-0040
50	P1D-B050MS-0050
80	P1D-B050MS-0080
100	P1D-B050MS-0100
125	P1D-B050MS-0125
160	P1D-B050MS-0160
200	P1D-B050MS-0200
250	P1D-B050MS-0250
320	P1D-B050MS-0320
400	P1D-B050MS-0400
500	P1D-B050MS-0500

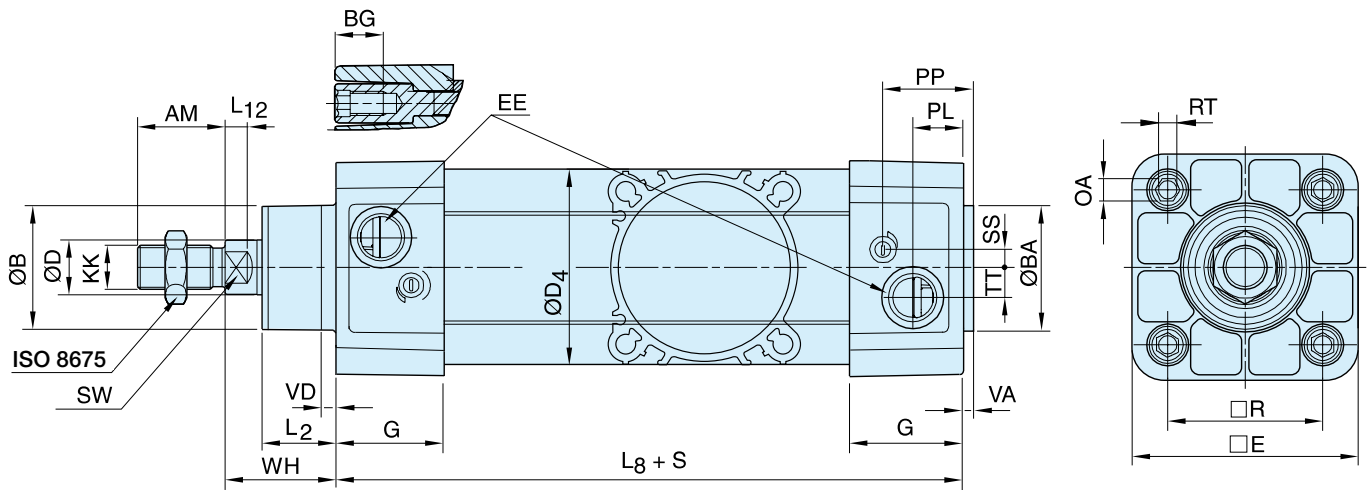
The cylinders are supplied complete with a zinc plated steel piston rod nut.

**Sensors**



For sensors see page 77.

P1D-B Series



Dimensions

Cylinder bore mm	AM mm	B mm	BA mm	BG mm	D mm	D4 mm	E mm	EE mm	G mm	KK	L2 mm	L8 mm	L12 mm
32	22	30	30	16	12	45,0	48,0	G1/8	28,5	M10x1,25	16,8	94	6,0
40	24	35	35	16	16	52,0	53,5	G1/4	33,0	M12x1,25	19,0	105	6,5
50	32	40	40	16	20	60,7	65,2	G1/4	33,5	M16x1,5	24,0	106	8,0
63	32	45	45	16	20	71,5	75,5	G3/8	39,5	M16x1,5	24,3	121	8,0
80	40	45	45	17	25	86,7	95,0	G3/8	39,5	M20x1,5	30,0	128	10,0
100	40	55	55	17	25	106,7	114,0	G1/2	44,5	M20x1,5	34,0	138	14,0
125	54	60	60	20	32	134,0	139,0	G1/2	51,0	M27x2	45,0	160	18,0

Cylinder bore mm	OA mm	PL mm	PP mm	R mm	RT mm	SS mm	SW mm	TT mm	VA mm	VD mm	WH mm
32	6,0	14,0	24,2	32,5	M6	5,5	10	4,2	3,5	4,5	26
40	6,0	16,0	27,5	38,0	M6	8,0	13	5,5	3,5	4,5	30
50	8,0	14,0	29,3	46,5	M8	9,0	17	7,5	3,5	4,5	37
63	8,0	16,6	30,8	56,5	M8	6,5	17	10,0	3,5	4,5	37
80	6,0	16,8	33,5	72,0	M10	0	22	11,5	3,5	4,5	46
100	6,0	20,5	37,5	89,0	M10	0	22	14,5	3,5	4,5	51
125	8,0	23,3	45,8	110,0	M12	0	27	15,0	5,5	6,5	65

S=Stroke

Tolerances

Cylinder bore mm	B	BA	L <sub>8</sub> mm	L <sub>9</sub> mm	R mm	Stroke tolerance up to stroke 500 mm	Stroke tolerance for stroke over 500 mm
32	d11	d11	±0,4	±2	±0,5	+0,3/+2,0	+0,3/+3,0
40	d11	d11	±0,7	±2	±0,5	+0,3/+2,0	+0,3/+3,0
50	d11	d11	±0,7	±2	±0,6	+0,3/+2,0	+0,3/+3,0
63	d11	d11	±0,8	±2	±0,7	+0,3/+2,0	+0,3/+3,0
80	d11	d11	±0,8	±3	±0,7	+0,3/+2,0	+0,3/+3,0
100	d11	d11	±1,0	±3	±0,7	+0,3/+2,0	+0,3/+3,0
125	d11	d11	±1,0	±3	±1,1	+0,3/+2,0	+0,3/+3,0

**Cylinder mountings**

**Flange MF1/MF2**



Intended for fixed mounting of cylinder. Flange can be fitted to front or rear end cover of cylinder.

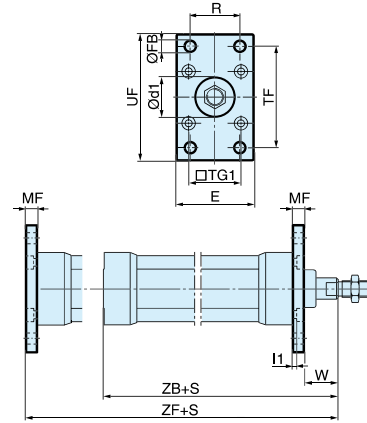
Materials  
Flange: Surface-treated steel  
Mounting screws acc. to DIN 6912: Zinc-plated steel 8.8

Supplied complete with mounting screws for attachment to cylinder.

Cyl. bore mm	d1 mm	FB mm	TG1 mm	E mm	R mm	MF mm	TF mm	UF mm	I1 mm	W mm	ZF mm	ZB mm
	H11	H13			JS14	JS14	JS14		-0,5			
32	30	7	32,5	45	32	10	64	80	5,0	16	130	123,5
40	35	9	38,0	52	36	10	72	90	5,0	20	145	138,5
50	40	9	46,5	65	45	12	90	110	6,5	25	155	146,5
63	45	9	56,5	75	50	12	100	120	6,5	25	170	161,5
80	45	12	72,0	95	63	16	126	150	8,0	30	190	177,5
100	55	14	89,0	115	75	16	150	170	8,0	35	205	192,5
125	60	16	110,0	140	90	20	180	205	10,5	45	245	230,5

S = Stroke length

Cyl. bore Ø mm	Weight kg	Order code
32	0,23	<b>P1C-4KMB</b>
40	0,28	<b>P1C-4LMB</b>
50	0,53	<b>P1C-4MMB</b>
63	0,71	<b>P1C-4NMB</b>
80	1,59	<b>P1C-4PMB</b>
100	2,19	<b>P1C-4QMB</b>
125	3,78	<b>P1C-4RMB</b>



**Foot brackets MS1**



Intended for fixed mounting of cylinder. Foot bracket can be fitted to front and rear end covers of cylinder.

Material:  
Foot bracket: Surface treated steel  
Mounting screws acc. to DIN 912: Zinc-plated steel 8.8

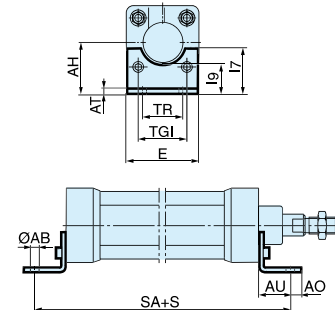
Supplied in pairs with mounting screws for attachment to cylinder.

Cyl. bore mm	AB mm	TG1 mm	E mm	TR mm	AO mm	AU mm	AH mm	I7 mm	AT mm	I9 mm	SA mm
	H14			JS14			JS15			JS14	
32	7	32,5	47	32	8	24	32	30	4,5	17,0	142
40	9	38,0	53	36	10	28	36	30	4,5	18,5	161
50	9	46,5	65	45	10	32	45	36	5,5	25,0	170
63	9	56,5	75	50	10	32	50	35	5,5	27,5	185
80	12	72,0	95	63	14	41	63	49	6,5	40,5	210
100	14	89,0	115	75	15	41	71	54	6,5	43,5	220
125	16	110,0	140	90	20	45	90	71	8,0	60,0	250

S = Stroke length

Cyl. bore Ø mm	Weight kg	Order code
32	0,06**	<b>P1C-4KMF</b>
40	0,08**	<b>P1C-4LMF</b>
50	0,16**	<b>P1C-4MMF</b>
63	0,25**	<b>P1C-4NMF</b>
80	0,50**	<b>P1C-4PMF</b>
100	0,85**	<b>P1C-4QMF</b>
125	1,48**	<b>P1C-4RMF</b>

\*\* Weight per item



**Pivot bracket with rigid bearing AB7**

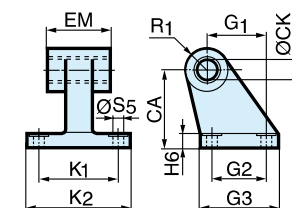


Intended for flexible mounting of cylinder. The pivot bracket can be combined with clevis bracket MP2.

Material:  
Pivot bracket: Aluminium  
Bearing: Sintered oil-bronze bushing

Cyl. bore mm	CK mm	S5 mm	K1 mm	K2 mm	G1 mm	G2 mm	EM mm	G3 mm	CA mm	H6 mm	R1 mm
	H9	H13	JS14		JS14	JS14			JS15		
32	10	6,6	38	51	21	18	25,5	31	32	8	10,0
40	12	6,6	41	54	24	22	27,0	35	36	10	11,0
50	12	9,0	50	65	33	30	31,0	45	45	12	13,0
63	16	9,0	52	67	37	35	39,0	50	50	12	15,0
80	16	11,0	66	86	47	40	49,0	60	63	14	15,0
100	20	11,0	76	96	55	50	59,0	70	71	15	19,0
125	25	14,0	94	124	70	60	69,0	90	90	20	22,5

Cyl. bore Ø mm	Weight kg	Order code
32	0,06	<b>P1C-4KMDB</b>
40	0,08	<b>P1C-4LMDB</b>
50	0,15	<b>P1C-4MMDB</b>
63	0,20	<b>P1C-4NMDB</b>
80	0,33	<b>P1C-4PMDB</b>
100	0,49	<b>P1C-4QMDB</b>
125	1,02	<b>P1C-4RMDB</b>





**Cylinder mountings**

**Swivel eye bracket MP6**

Intended for use together with clevis bracket GA

Material:  
Bracket: Aluminium  
Swivel bearing acc. to DIN 648K: Hardened steel

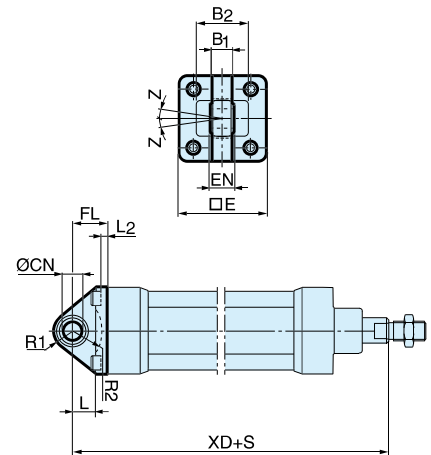
Supplied complete with mounting screws for attachment to cylinder.



Cyl. bore Ø mm	Weight kg	Order code
32	0,08	<b>PD23843</b>
40	0,11	<b>PD23844</b>
50	0,20	<b>PD23845</b>
63	0,27	<b>PD23846</b>
80	0,52	<b>PD23847</b>
100	0,72	<b>PD23848</b>
125	1,53	<b>PD23849</b>

Cyl. bore mm	E	B1	B2	EN	R1	R2	FL	I2	L	CN H7	XD	Z
32	47	10,5	-	14	16	12	22	6,0	12	10	142	4°
40	55	12,0	-	16	21	14	25	6,0	15	12	160	4°
50	65	12,0	51	16	23	16	27	7,0	15	12	170	4°
63	78	15,0	-	21	27	19	32	7,0	20	16	190	4°
80	95	15,0	-	21	29	21	36	10,0	20	16	210	4°
100	115	18,0	-	25	34	24	41	10,0	25	20	230	4°
125	140	22,0	-	31	40	30	50	10,5	30	25	275	4°

S = Stroke length



**Clevis bracket MP2**

Intended for flexible mounting of cylinder. Clevis bracket MP2 can be combined with clevis bracket MP4.

Material:  
Clevis bracket: Aluminium  
Pin: Surface hardened steel  
Circlips according to DIN 471: Spring steel  
Mounting screws acc. to DIN 912: Zinc-plated steel 8.8

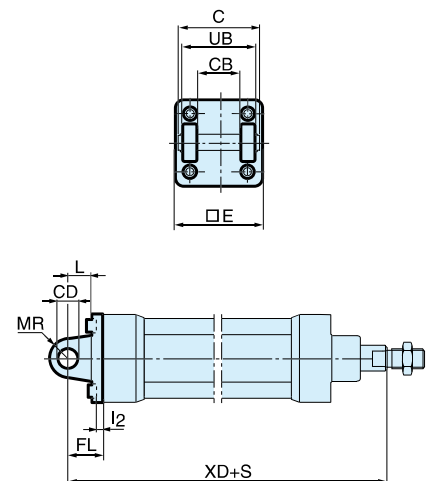
Supplied complete with mounting screws for attachment to cylinder.



Cyl. bore Ø mm	Weight kg	Order code
32	0,08	<b>P1C-4KMTB</b>
40	0,11	<b>P1C-4LMTB</b>
50	0,14	<b>P1C-4MMTB</b>
63	0,29	<b>P1C-4NMTB</b>
80	0,36	<b>P1C-4PMTB</b>
100	0,64	<b>P1C-4QMTB</b>
125	1,17	<b>P1C-4RMTB</b>

Cyl. bore mm	C	E	UB h14	CB H14	FL ±0,2	L	I2	CD H9	MR	XD
32	53	47	45	26	22	13	6,0	10	10	142
40	60	55	52	28	25	16	6,0	12	12	160
50	68	65	60	32	27	16	7,0	12	12	170
63	78	78	70	40	32	21	7,0	16	16	190
80	98	95	90	50	36	22	10,0	16	16	210
100	118	115	110	60	41	27	10,5	20	20	230
125	139	140	130	70	50	30	10,5	25	25	275

S = Stroke length



**Cylinder mountings**

**Clevis bracket MP4**



Intended for flexible mounting of cylinder. Clevis bracket MP4 can be combined with clevis bracket MP2.

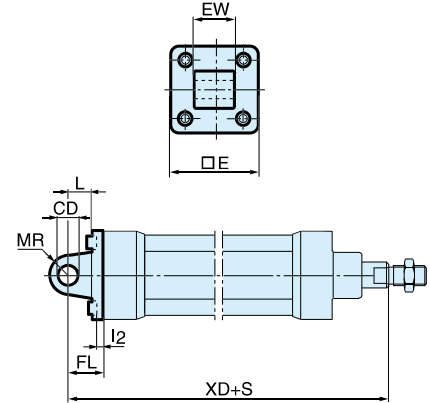
Material:  
Clevis bracket: Aluminium  
Mounting screws acc. to DIN 912: Zinc-plated steel 8.8

Supplied complete with mounting screws for attachment to cylinder.

Cyl. bore Ø mm	Weight kg	Order code
32	0,09	<b>PD23412</b>
40	0,13	<b>PD23413</b>
50	0,17	<b>PD23414</b>
63	0,36	<b>PD23415</b>
80	0,46	<b>PD23416</b>
100	0,83	<b>PD23417</b>
125	1,53	<b>PD23418</b>

Cyl. bore mm	E mm	EW mm	FL mm	L ±0,2 mm	I2 mm	CD mm	MR H9 mm	XD mm
32	47	26	22	13	6,0	10	10	142
40	55	28	25	16	6,0	12	12	160
50	65	32	27	16	7,0	12	12	170
63	78	40	32	21	7,0	16	16	190
80	95	50	36	22	10,0	16	16	210
100	115	60	41	27	10,5	20	20	230
125	140	70	50	30	10,5	25	25	275

S = Stroke length



**Clevis bracket AB6**



Intended for flexible mounting of cylinder. Clevis bracket GA can be combined with pivot bracket with swivel bearing, swivel eye bracket and swivel rod eye.

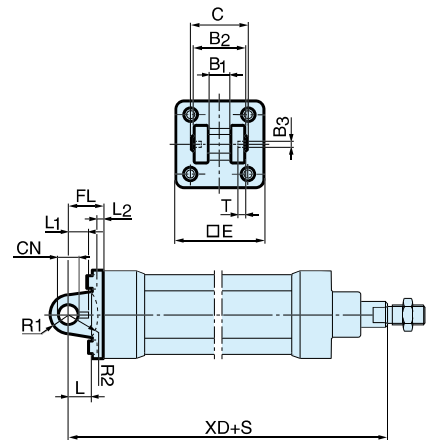
Material:  
Clevis bracket: Surface-treated aluminium  
Pin: Surface hardened steel  
Locking pin: Spring steel  
Circlips according to DIN 471: Spring steel  
Mounting screws acc. to DIN 912: Zinc-plated steel 8.8

Supplied complete with mounting screws for attachment to cylinder.

Cyl. bore Ø mm	Weight kg	Order code
32	0,09	<b>P1C-4KMCB</b>
40	0,13	<b>P1C-4LMCB</b>
50	0,17	<b>P1C-4MMCB</b>
63	0,36	<b>P1C-4NMCB</b>
80	0,58	<b>P1C-4PMCB</b>
100	0,89	<b>P1C-4QMCB</b>
125	1,75	<b>P1C-4RMCB</b>

Cyl. bore mm	C mm	E mm	B2 d12 mm	B1 H14 mm	T mm	B3 mm	R2 mm	L1 mm	FL ±0,2 mm	I2 mm	L mm	CN F7 mm	R1 mm	XD mm
32	41	45	34	14	3	3,3	17	11,5	22	5,5	12	10	11	142
40	48	55	40	16	4	4,3	20	12,0	25	5,5	15	12	13	160
50	54	65	45	21	4	4,3	22	14,0	27	6,5	17	16	18	170
63	60	75	51	21	4	4,3	25	14,0	32	6,5	20	16	18	190
80	75	95	65	25	4	4,3	30	16,0	36	10,0	20	20	22	210
100	85	115	75	25	4	4,3	32	16,0	41	10,0	25	20	22	230
125	110	140	97	37	6	6,3	42	24,0	50	10,0	30	30	30	275

S = Stroke length



**Cylinder mountings**

**Pivot bracket with swivel bearing CS7**

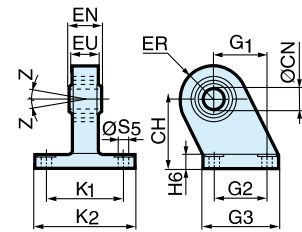


Intended for use together with clevis bracket GA.

Material:  
Pivot bracket: Surface-treated steel  
Swivel bearing acc. to DIN 648K: Hardened steel

Cyl. bore Ø mm	Weight kg	Order code
32	0,18	<b>KC5130</b>
40	0,25	<b>KC5131</b>
50	0,47	<b>KC5132</b>
63	0,57	<b>KC5133</b>
80	1,05	<b>KC5134</b>
100	1,42	<b>KC5135</b>
125	3,10	<b>KC5136</b>

Cyl. bore mm	CN H7 mm	S5 H13 mm	K1 JS14 mm	K2 mm	EU mm	G1 JS14 mm	G2 JS14 mm	EN mm	G3 mm	CH JS15 mm	H6 mm	ER mm	Z mm
32	10	6,6	38	51	10,5	21	18	14	31	32	10	16	4°
40	12	6,6	41	54	12,0	24	22	16	35	36	10	18	4°
50	16	9,0	50	65	15,0	33	30	21	45	45	12	21	4°
63	16	9,0	52	67	15,0	37	35	21	50	50	12	23	4°
80	20	11,0	66	86	18,0	47	40	25	60	63	14	28	4°
100	20	11,0	76	96	18,0	55	50	25	70	71	15	30	4°
125	30	14,0	94	124	25,0	70	60	37	90	90	20	40	4°



**3 and 4 positions flange JP1**

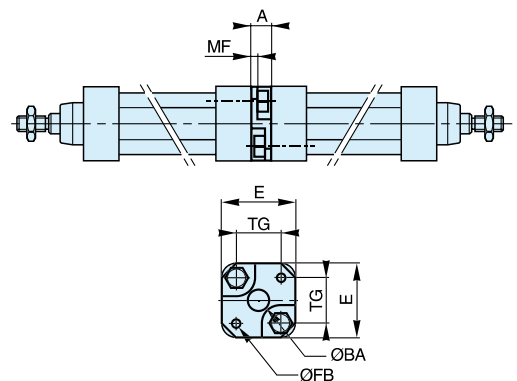
Mounting kit for back to back mounted cylinders, 3 and 4 position cylinders.



Material:  
Mounting: Aluminium  
Mounting screws: Zinc-plated steel 8.8

Cyl. bore Ø mm	Weight kg	Order code
32	0,09	<b>P1E-6KB0</b>
40	0,13	<b>P1E-6LB0</b>
50	0,17	<b>P1E-6MB0</b>
63	0,36	<b>P1E-6NB0</b>
80	0,46	<b>P1E-6PB0</b>
100	0,83	<b>P1E-6QB0</b>

Cyl. bore mm	E mm	TG mm	ØFB mm	MF mm	A mm	ØBA mm
32	50	32,5	6,5	5	16	30
40	60	38,0	6,5	5	16	35
50	66	46,5	8,5	6	20	40
63	80	56,5	8,5	6	20	45
80	100	72,0	10,5	8	25	45
100	118	89,0	10,5	8	25	55



**Pivot brackets AT4 for MT\***

Intended for use together with trunnion MT4.

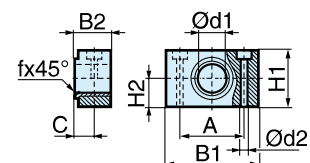


Material:  
Pivot bracket: Aluminium  
Bearing: Composite

Supplied in pairs.

Cyl. bore Ø mm	Weight kg	Order code
32	0,06	<b>PD23381</b>
40	0,06	<b>PD23382</b>
50	0,06	<b>PD23382</b>
63	0,10	<b>PD23383</b>
80	0,10	<b>PD23383</b>
100	0,175	<b>PD23384</b>
125	0,175	<b>PD23384</b>

Cyl. bore mm	B1 mm	B2 mm	A mm	C mm	d1 mm	d2 H13 mm	H1 mm	H2 mm	fx45° min
32	55	20	36	10,5	12	8,4	26	13	1,0
40	55	20	36	12,0	16	8,4	26	13	1,6
50	55	20	36	12,0	16	8,4	26	13	1,6
63	65	25	42	13,0	20	10,5	30	15	1,6
80	65	25	42	13,0	20	10,5	30	15	1,6
100	75	28	50	16,0	25	13,0	40	20	2,0
125	75	28	50	16,0	25	13,0	40	20	2,0



Cylinder mountings

Intermediate trunnion MT4



Intended for articulated mounting of cylinder. The trunnion is factory-fitted in the centre of the cylinder or at an optional location specified by the XV-measure - Combined with pivot brackets AT4.

Material:  
Trunnion: Zinc plated steel

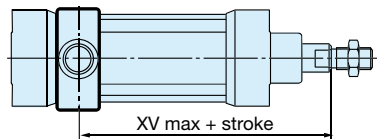
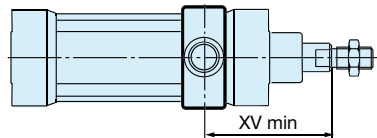
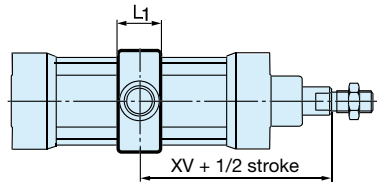
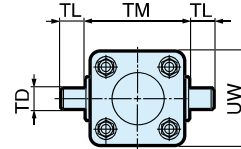
Trunnion centred

The central trunnion for the P1D-B is ordered with letter D in position 17 (no dimension specified in positions 18-20). e.g. P1D-B100MS-0500NDNNN

Trunnion with optional location

The trunnion for the P1D-B is ordered with letter G in position 17 and desired XV-measure (3-digit measure in mm) in positions 18-20. e.g. P1D-B100MS-0500NG300

Cyl. bore Ø mm	Weight kg
32	0,13
40	0,31
50	0,37
63	0,69
80	0,89
100	1,58
125	2,60



Cyl. bore mm	L1	TL	TM	Ø TD	UW	XV min	XV	XV max
	P1D-B mm	h14 mm	h14 mm	e9 mm	P1D-B mm	P1D-B mm	P1D-B mm	P1D-B mm
32	18	12	50	12	52	63,5	73,0	82,5
40	20	16	63	16	59	73,0	82,5	92,0
50	20	16	75	16	71	80,5	90,0	99,5
63	26	20	90	20	84	89,5	97,5	105,5
80	26	20	110	20	105	98,5	110,0	121,5
100	32	25	132	25	129	111,5	120,0	128,5
125	33	25	180	25	159	132,5	145,0	157,5

**Important:** If the cylinder is ordered with a piston rod protusion (WH dimension), please add this extra length to XVmin, XV and XVmax.

Flange mounted trunnion MT5/MT6

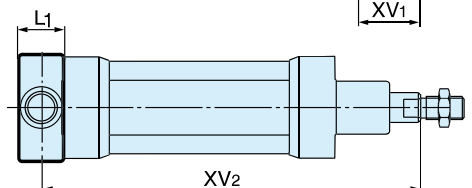
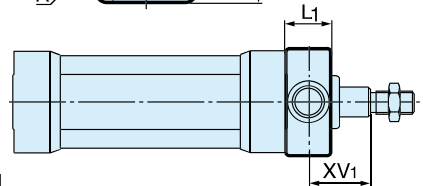
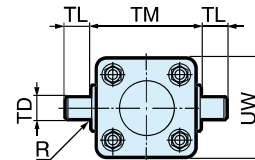


Intended for articulated mounting of cylinder. This trunnion can be flange mounted on the front or rear end cover of all P1D cylinders. Individual trunnions have order code as shown to the right.

Material:  
Trunnion: zinc plated steel  
Screws: zinc plated steel, 8.8

Delivered complete with mounting screws for attachment to the cylinder

Cyl. bore Ø mm	Weight kg	Order code
32	0,17	<b>P1D-4KMYF</b>
40	0,43	<b>P1D-4LMYF</b>
50	0,55	<b>P1D-4MMYF</b>
63	1,10	<b>P1D-4NMYF</b>
80	1,66	<b>P1D-4PMYF</b>
100	3,00	<b>P1D-4QMYF</b>



Cyl. bore mm	TM h14 mm	TL h14 mm	TD e9 mm	R mm	UW mm	L1 mm	XV <sub>1</sub> mm	X mm	Y mm
32	50	12	12	1,0	46	14	19,5	126,5	11
40	63	16	16	1,6	59	19	21,0	144,0	14
50	75	16	16	1,6	69	19	28,0	152,0	20
63	90	20	20	1,6	84	24	25,5	169,5	20
80	110	20	20	1,6	102	24	34,5	185,5	26
100	132	25	25	2,0	125	29	37,0	203,0	31

XV<sub>2</sub> = X + Stroke length

**Piston rod mountings**

**Swivel rod eye AP6**

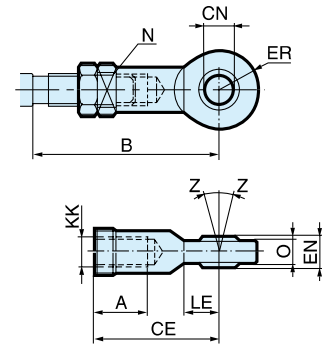


Swivel rod eye for articulated mounting of cylinder.  
Swivel rod eye can be combined with clevis bracket GA.  
Maintenance-free.

Material:  
Swivel rod eye: Zinc-plated steel  
Swivel bearing according to DIN 648K: Hardened steel

Cyl. bore Ø mm	Weight kg	Order code
32	0,08	<b>P1C-4KRS</b>
40	0,12	<b>P1C-4LRS</b>
50	0,25	<b>P1C-4MRS</b>
63	0,25	<b>P1C-4MRS</b>
80	0,46	<b>P1C-4PRS</b>
100	0,46	<b>P1C-4PRS</b>
125	1,28	<b>P1C-4RRS</b>

Cyl. bore mm	A mm	B min mm	B max mm	CE mm	CN H9 mm	EN h12 mm	ER mm	KK mm	LE min mm	N mm	O mm	Z °
32	20	48,0	55	43	10	14	14	M10x1,25	15	17	10,5	12°
40	22	56,0	62	50	12	16	16	M12x1,25	17	19	12,0	12°
50	28	72,0	80	64	16	21	21	M16x1,5	22	22	15,0	15°
63	28	72,0	80	64	16	21	21	M16x1,5	22	22	15,0	15°
80	33	87,0	97	77	20	25	25	M20x1,5	26	32	18,0	15°
100	33	87,0	97	77	20	25	25	M20x1,5	26	32	18,0	15°
125	51	123,5	137	110	30	37	35	M27x2	36	41	25,0	15°



**Clevis AP2**

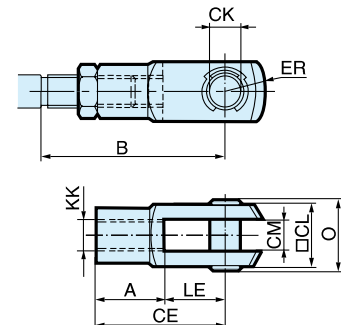


Clevis for articulated mounting of cylinder.

Material:  
Clevis, clip: Galvanized steel  
Pin: Hardened steel

Cyl. bore Ø mm	Weight kg	Order code
32	0,09	<b>P1C-4KRC</b>
40	0,15	<b>P1C-4LRC</b>
50	0,35	<b>P1C-4MRC</b>
63	0,35	<b>P1C-4MRC</b>
80	0,75	<b>P1C-4PRC</b>
100	0,75	<b>P1C-4PRC</b>
125	2,10	<b>P1C-4RRC</b>

Cyl. bore mm	A mm	B min mm	B max mm	CE mm	CK h11/E9 mm	CL mm	CM mm	ER mm	KK mm	LE mm	O mm
32	20	45,0	52	40	10	20	10	16	M10x1,25	20	28,0
40	24	54,0	60	48	12	24	12	19	M12x1,25	24	32,0
50	32	72,0	80	64	16	32	16	25	M16x1,5	32	41,5
63	32	72,0	80	64	16	32	16	25	M16x1,5	32	41,5
80	40	90,0	100	80	20	40	20	32	M20x1,5	40	50,0
100	40	90,0	100	80	20	40	20	32	M20x1,5	40	50,0
125	56	123,5	137	110	30	55	30	45	M27x2	54	72,0



**Piston rod mountings**

**Flexo coupling PM5**



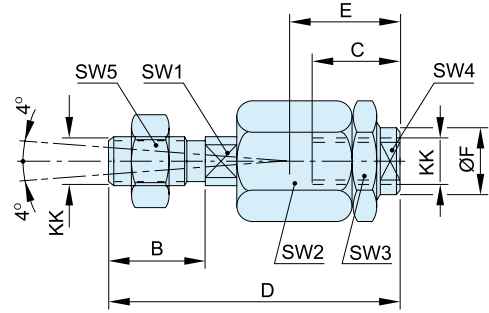
Flexo coupling for articulated mounting of piston rod. Flexo fitting is intended to take up axial angle errors within a range of  $\pm 4^\circ$ .

Material  
Flexo coupling, nut: Zinc-plated steel

Supplied complete with galvanized adjustment nut.

Cyl. bore Ø mm	Weight kg	Order code
32	0,23	<b>P1C-4KRF</b>
40	0,23	<b>P1C-4LRF</b>
50	0,65	<b>P1C-4MRF</b>
63	0,65	<b>P1C-4MRF</b>
80	0,71	<b>P1C-4PRF</b>
100	0,71	<b>P1C-4PRF</b>
125	1,60	<b>P1C-4RRF</b>

Cyl. bore mm	KK mm	B mm	C mm	D mm	E mm	ØF mm	SW1 mm	SW2 mm	SW3 mm	SW4 mm	SW5 mm
32	M10x1.25	20	23	73	31	21	12	30	30	19	17
40	M12x1.25	24	23	77	31	21	12	30	30	19	19
50	M16x1.5	32	32	108	45	33.5	19	41	41	30	24
63	M16x1.5	32	32	108	45	33.5	19	41	41	30	24
80	M20x1.5	40	42	122	56	33.5	19	41	41	30	30
100	M20x1.5	40	42	122	56	33.5	19	41	41	30	30
125	M27x2	54	48	147	51	39	24	55	55	32	41



**Nut MR9 \***



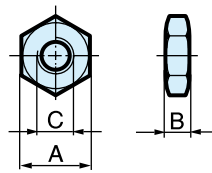
Intended for fixed mounting of accessories to the piston rod.  
Material: Zinc-plated steel  
Supplied as pack of 10 off

All P1D cylinders are delivered with a zinc-plated steel piston rod nut.

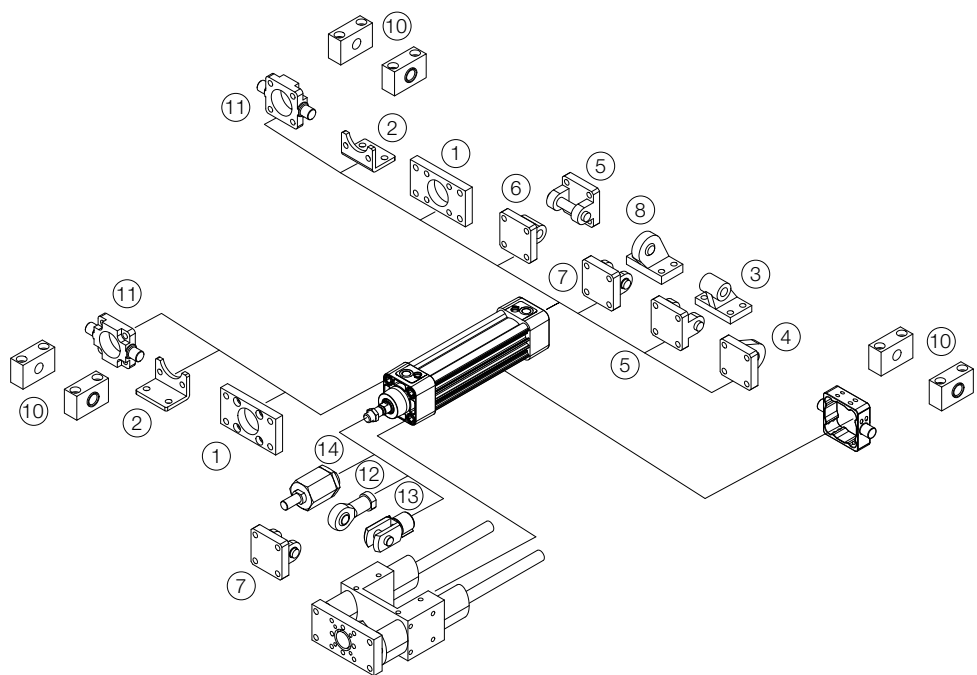
Cyl. bore Ø mm	Weight** kg	Order code
32	0,007	<b>P14-4KRPZ</b>
40	0,010	<b>P14-4LRPZ</b>
50	0,021	<b>P14-4MRPZ</b>
63	0,021	<b>P14-4MRPZ</b>
80	0,040	<b>P14-4PRPZ</b>
100	0,040	<b>P14-4PRPZ</b>
125	0,100	<b>P14-4RRPZ</b>

\* Supplied as pack of 10 off  
\*\* Weight per item

Cyl. bore mm	A mm	B mm	C
32	17	5,0	M10x1,25
40	19	6,0	M12x1,25
50	24	8,0	M16x1,5
63	24	8,0	M16x1,5
80	30	10,0	M20x1,5
100	30	10,0	M20x1,5
125	41	13,5	M27x2



	Flange MF1/MF2 <sup>1</sup>	Foot brackets MS1 <sup>2</sup>	Pivot bracket with rigid bearing AB7 <sup>3</sup>	Swivel eye bracket <sup>4</sup> MP6	Clevis bracket MP2 <sup>5</sup>
Ø 32	P1C-4KMB	P1C-4KMF	P1C-4KMDB	PD23843	P1C-4KMTB
Ø 40	P1C-4LMB	P1C-4LMF	P1C-4LMDB	PD23844	P1C-4LMTB
Ø 50	P1C-4MMB	P1C-4MMF	P1C-4MMDB	PD23845	P1C-4MMTB
Ø 63	P1C-4NMB	P1C-4NMF	P1C-4NMDB	PD23846	P1C-4NMTB
Ø 80	P1C-4PMB	P1C-4PMF	P1C-4PMDB	PD23847	P1C-4PMTB
Ø 100	P1C-4QMB	P1C-4QMF	P1C-4QMDB	PD23848	P1C-4QMTB
Ø 125	P1C-4RMB	P1C-4RMF	P1C-4RMDB	PD23849	P1C-4RMTB
	Clevis bracket MP4 <sup>6</sup>	Clevis bracket AB6 <sup>7</sup>	Pivot bracket with swivel bearing CS7 <sup>8</sup>	3 and 4 positions flange JP1	Pivot brackets AT4 <sup>10</sup> for MT*
Ø 32	PD23412	P1C-4KMCB	KC5130	P1E-6KB0	PD23381
Ø 40	PD23413	P1C-4LMCB	KC5131	P1E-6LB0	PD23382
Ø 50	PD23414	P1C-4MMCB	KC5132	P1E-6MB0	PD23382
Ø 63	PD23415	P1C-4NMCB	KC5133	P1E-6NB0	PD23383
Ø 80	PD23416	P1C-4PMC	KC5134	P1E-6PB0	PD23383
Ø 100	PD23417	P1C-4QMCB	KC5135	P1E-6QB0	PD23384
Ø 125	PD23418	P1C-4RMCB	KC5136		PD23384
	Flange mounting <sup>11</sup> trunnion MT5/MT6	Swivel rod eye AP6 <sup>12</sup>	Clevis AP2 <sup>13</sup>	Flexo coupling PM5 <sup>14</sup>	Nut MR9
Ø 32	P1D-4KMYF	P1C-4KRS	P1C-4KRC	P1C-4KRF	P14-4KRPZ
Ø 40	P1D-4LMYF	P1C-4LRS	P1C-4LRC	P1C-4LRF	P14-4LRPZ
Ø 50	P1D-4MMYF	P1C-4MRS	P1C-4MRC	P1C-4MRF	P14-4MRPZ
Ø 63	P1D-4NMYF	P1C-4MRS	P1C-4MRC	P1C-4MRF	P14-4MRPZ
Ø 80	P1D-4PMYF	P1C-4PRS	P1C-4PRC	P1C-4PRF	P14-4PRPZ
Ø 100	P1D-4QMYF	P1C-4PRS	P1C-4PRC	P1C-4PRF	P14-4PRPZ
Ø 125		P1C-4RRS	P1C-4RRC	P1C-4RRF	P14-4RRPZ



**P1D Ultra Clean without sensor function**

This version is a permanently sealed P1D Ultra Clean with no facility for installing sensors. The cylinder has a very clean design and is intended for applications where no sensors are used.

The P1D without the sensor function can of course be combined with other equipment and functions.



1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
<b>P</b>	<b>1</b>	<b>D</b>	<b>-</b>	<b>C</b>	<b>0</b>	<b>4</b>	<b>0</b>	<b>H</b>	<b>S</b>	<b>N</b>	<b>0</b>	<b>2</b>	<b>5</b>	<b>0</b>

<b>Cylinder version</b>	P1D Ultra Clean without sensor function is defined by the letter C in position 5, N in position 11 and the 15-digit order code.
<b>C</b> Ultra Clean	

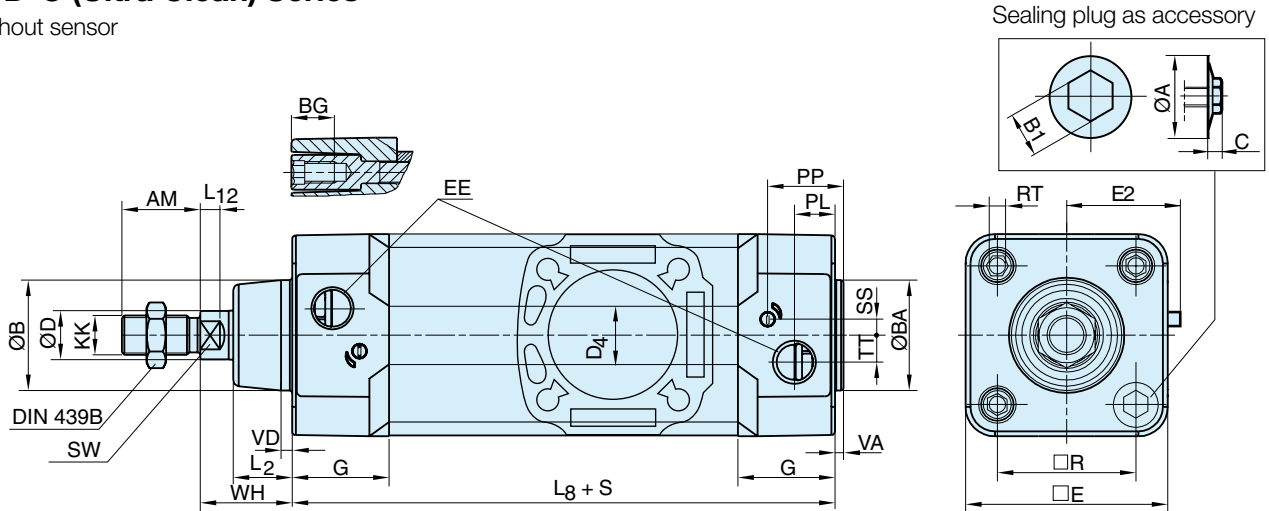
**Without sensor function - HDPE scraper, stainless steel end covers screws**

Cyl. bore mm	Stroke mm	Order code	Cyl. bore mm	Stroke mm	Order code	Cyl. bore mm	Stroke mm	Order code
<b>32</b> Conn. G1/8	25	<b>P1D-C032HSN0025</b>	<b>63</b> Conn. G3/8	25	<b>P1D-C063HSN0025</b>	<b>125</b> Conn. G1/2	25	<b>P1D-C125HSN0025</b>
	40	<b>P1D-C032HSN0040</b>		40	<b>P1D-C063HSN0040</b>		40	<b>P1D-C125HSN0040</b>
	50	<b>P1D-C032HSN0050</b>		50	<b>P1D-C063HSN0050</b>		50	<b>P1D-C125HSN0050</b>
	80	<b>P1D-C032HSN0080</b>		80	<b>P1D-C063HSN0080</b>		80	<b>P1D-C125HSN0080</b>
	100	<b>P1D-C032HSN0100</b>		100	<b>P1D-C063HSN0100</b>		100	<b>P1D-C125HSN0100</b>
	125	<b>P1D-C032HSN0125</b>		125	<b>P1D-C063HSN0125</b>		125	<b>P1D-C125HSN0125</b>
	160	<b>P1D-C032HSN0160</b>		160	<b>P1D-C063HSN0160</b>		160	<b>P1D-C125HSN0160</b>
	200	<b>P1D-C032HSN0200</b>		200	<b>P1D-C063HSN0200</b>		200	<b>P1D-C125HSN0200</b>
	250	<b>P1D-C032HSN0250</b>		250	<b>P1D-C063HSN0250</b>		250	<b>P1D-C125HSN0250</b>
	320	<b>P1D-C032HSN0320</b>		320	<b>P1D-C063HSN0320</b>		320	<b>P1D-C125HSN0320</b>
400	<b>P1D-C032HSN0400</b>	400	<b>P1D-C063HSN0400</b>	400	<b>P1D-C125HSN0400</b>			
500	<b>P1D-C032HSN0500</b>	500	<b>P1D-C063HSN0500</b>	500	<b>P1D-C125HSN0500</b>			
<b>40</b> Conn. G1/4	25	<b>P1D-C040HSN0025</b>	<b>80</b> Conn. G3/8	25	<b>P1D-C080HSN0025</b>	The cylinders are supplied complete with one stainless steel piston rod nut as standard.		
	40	<b>P1D-C040HSN0040</b>		40	<b>P1D-C080HSN0040</b>			
	50	<b>P1D-C040HSN0050</b>		50	<b>P1D-C080HSN0050</b>			
	80	<b>P1D-C040HSN0080</b>		80	<b>P1D-C080HSN0080</b>			
	100	<b>P1D-C040HSN0100</b>		100	<b>P1D-C080HSN0100</b>			
	125	<b>P1D-C040HSN0125</b>		125	<b>P1D-C080HSN0125</b>			
	160	<b>P1D-C040HSN0160</b>		160	<b>P1D-C080HSN0160</b>			
	200	<b>P1D-C040HSN0200</b>		200	<b>P1D-C080HSN0200</b>			
	250	<b>P1D-C040HSN0250</b>		250	<b>P1D-C080HSN0250</b>			
	320	<b>P1D-C040HSN0320</b>		320	<b>P1D-C080HSN0320</b>			
400	<b>P1D-C040HSN0400</b>	400	<b>P1D-C080HSN0400</b>					
500	<b>P1D-C040HSN0500</b>	500	<b>P1D-C080HSN0500</b>					
<b>50</b> Conn. G1/4	25	<b>P1D-C050HSN0025</b>	<b>100</b> Conn. G1/2	25	<b>P1D-C100HSN0025</b>	<div style="border: 1px solid black; padding: 5px; text-align: center;"> <p>Sealing plugs for end cover screws</p> <p>See page 35.</p> </div>		
	40	<b>P1D-C050HSN0040</b>		40	<b>P1D-C100HSN0040</b>			
	50	<b>P1D-C050HSN0050</b>		50	<b>P1D-C100HSN0050</b>			
	80	<b>P1D-C050HSN0080</b>		80	<b>P1D-C100HSN0080</b>			
	100	<b>P1D-C050HSN0100</b>		100	<b>P1D-C100HSN0100</b>			
	125	<b>P1D-C050HSN0125</b>		125	<b>P1D-C100HSN0125</b>			
	160	<b>P1D-C050HSN0160</b>		160	<b>P1D-C100HSN0160</b>			
	200	<b>P1D-C050HSN0200</b>		200	<b>P1D-C100HSN0200</b>			
	250	<b>P1D-C050HSN0250</b>		250	<b>P1D-C100HSN0250</b>			
	320	<b>P1D-C050HSN0320</b>		320	<b>P1D-C100HSN0320</b>			
400	<b>P1D-C050HSN0400</b>	400	<b>P1D-C100HSN0400</b>					
500	<b>P1D-C050HSN0500</b>	500	<b>P1D-C100HSN0500</b>					

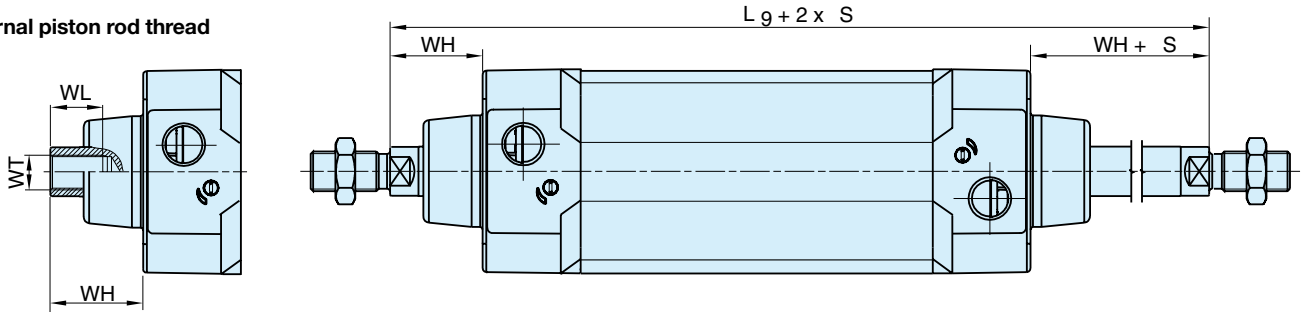


**P1D-C (Ultra Clean) Series**

Without sensor



**Internal piston rod thread**



**Dimensions**

Cylinder bore mm	A mm	AM mm	B mm	B1 mm	BA mm	BG mm	C mm	D mm	D4 mm	E mm	EE mm	G mm	KK	L2 mm
32	15	22	30	8	30	16	5,2	12	45,0	50,0	G1/8	28,5	M10x1,25	16,0
40	15	24	35	8	35	16	5,2	16	52,0	57,4	G1/4	33,0	M12x1,25	19,0
50	18,5	32	40	10	40	16	6,7	20	60,7	69,4	G1/4	33,5	M16x1,5	24,0
63	18,5	32	45	10	45	16	6,7	20	71,5	82,4	G3/8	39,5	M16x1,5	24,0
80	21,5	40	45	11	45	17	7,8	25	86,7	99,4	G3/8	39,5	M20x1,5	30,0
100	21,5	40	55	11	55	17	7,8	25	106,7	116,0	G1/2	44,5	M20x1,5	32,4
125	24	54	60	13	60	20	9,3	32	134,0	139,0	G1/2	51,0	M27x2	45,0

Cylinder bore mm	L8 mm	L9 mm	L12 mm	PL mm	PP mm	R mm	RT	SS mm	SW mm	TT mm	VA mm	VD mm	WH mm	WL mm	WT
32	94	146	6,0	13,0	21,8	32,5	M6	4,0	10	4,5	3,5	4,5	26	21	M8x1
40	105	165	6,5	14,0	21,9	38,0	M6	8,0	13	5,5	3,5	4,5	30	23	M10x1,25
50	106	180	8,0	14,0	23,0	46,5	M8	4,0	17	7,5	3,5	5,0	37	31	M14x1,5
63	121	195	8,0	16,4	27,4	56,5	M8	6,5	17	11,0	3,5	5,0	37	31	M14x1,5
80	128	220	10,0	16,0	30,5	72,0	M10	0	22	15,0	3,5	4,0	46	39	M18x1,5
100	138	240	14,0	18,0	35,8	89,0	M10	0	22	20,0	3,5	4,0	51	39	M18x1,5
125	160	290	18,0	28,0	40,5	110,0	M12	0	27	17,5	5,5	6,0	65	53	M24x2

S=Stroke

**Tolerances**

Cylinder bore mm	B	BA	L <sub>g</sub> mm	L <sub>g</sub> mm	R mm	Stroke tolerance up to stroke 500 mm	Stroke tolerance for stroke over 500 mm
32	d11	d11	±0,4	±2	±0,5	+0,3/+2,0	+0,3/+3,0
40	d11	d11	±0,7	±2	±0,5	+0,3/+2,0	+0,3/+3,0
50	d11	d11	±0,7	±2	±0,6	+0,3/+2,0	+0,3/+3,0
63	d11	d11	±0,8	±2	±0,7	+0,3/+2,0	+0,3/+3,0
80	d11	d11	±0,8	±3	±0,7	+0,3/+2,0	+0,3/+3,0
100	d11	d11	±1,0	±3	±0,7	+0,3/+2,0	+0,3/+3,0
125	d11	d11	±1,0	±3	±1,1	+0,3/+2,0	+0,3/+3,0

## Cylinder mountings

## Intermediate trunnion MT4 for P1D-C Ultra Clean



Not for the P1D-C Pro Clean version.

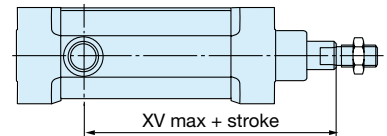
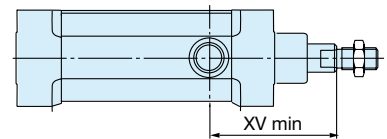
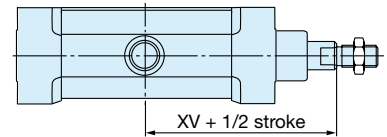
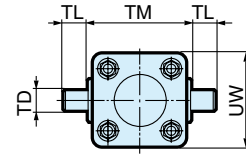
P1D-C Ultra Clean in bore sizes 32 to 80 mm and strokes up to 700 mm. Longer stroke length on request. Shaft square to 90° with air ports only.  
Material: stainless steel

**Trunnion centred**

The centred trunnion for the P1D-C is ordered with letter D in position 17 (no dimension specified in positions 18-20, letters are NNN).

**Trunnion with optional position XV measure**

The intermediate trunnion for the P1D-C is ordered with a letter in position 17 and desired XV-measure (3 digit measure in mm in positions 18-20).



Cyl. bore mm	L1	TL	TM	Ø TD	UW	XV min	XV	XV max
	<b>P1D-C mm</b>	<b>h14 mm</b>	<b>h14 mm</b>	<b>e9 mm</b>	<b>P1D-C mm</b>	<b>P1D-C mm</b>	<b>P1D-C mm</b>	<b>P1D-C mm</b>
32	12	12	50	12	0	69,5	73,0	76,0
40	16	16	63	16	0	78,0	82,5	86,5
50	16	16	75	16	0	85,5	90,0	94,5
63	20	20	90	20	0	103,5	97,5	91,0
80	20	20	110	20	0	112,5	110,0	107,0

**Important:** If the cylinder is ordered with a piston rod protusion (WH dimension), please add this extra length to XVmin, XV and XVmax.

### P1D Pro Clean with sensor function

This version is a P1D Pro Clean design with 2 T slots on one face of the tube giving then the possibility to add sensors. The cylinder has a clean design and is intended for applications where sensors still need to be used.

The P1D with the sensor function can of course be combined with other equipment and functions.

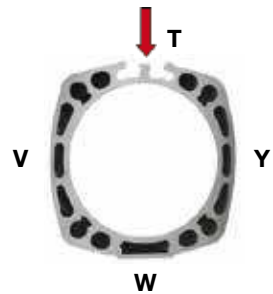


1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
P	1	D	-	C	0	4	0	W	S	T*	0	2	5	0

Cylinder version	
<b>C</b>	Pro Clean

P1D Pro Clean with sensor function is defined by the letter C in position 5, and in position 11 by the position of the 2 T slots.  
\* T on the top, - Y on the right, W on the bottom, V on the left side and the 15-digit order code.  
Note: cylinder is showed piston rod in the front and air ports on the top to determine face position.

T slots position for ordering



**With 2 T slots on the top - FPM scraper, stainless steel end covers screws**

Cyl. bore mm	Stroke mm	Order code
<b>32</b>	25	<b>P1D-C032WST0025</b>
Conn. G1/8	40	<b>P1D-C032WST0040</b>
	50	<b>P1D-C032WST0050</b>
	80	<b>P1D-C032WST0080</b>
	100	<b>P1D-C032WST0100</b>
	125	<b>P1D-C032WST0125</b>
	160	<b>P1D-C032WST0160</b>
	200	<b>P1D-C032WST0200</b>
	250	<b>P1D-C032WST0250</b>
	320	<b>P1D-C032WST0320</b>
	400	<b>P1D-C032WST0400</b>
	500	<b>P1D-C032WST0500</b>

Cyl. bore mm	Stroke mm	Order code
<b>63</b>	25	<b>P1D-C063WST0025</b>
Conn. G3/8	40	<b>P1D-C063WST0040</b>
	50	<b>P1D-C063WST0050</b>
	80	<b>P1D-C063WST0080</b>
	100	<b>P1D-C063WST0100</b>
	125	<b>P1D-C063WST0125</b>
	160	<b>P1D-C063WST0160</b>
	200	<b>P1D-C063WST0200</b>
	250	<b>P1D-C063WST0250</b>
	320	<b>P1D-C063WST0320</b>
	400	<b>P1D-C063WST0400</b>
	500	<b>P1D-C063WST0500</b>

Cyl. bore mm	Stroke mm	Order code
<b>125</b>	25	<b>P1D-C125WST0025</b>
Conn. G1/2	40	<b>P1D-C125WST0040</b>
	50	<b>P1D-C125WST0050</b>
	80	<b>P1D-C125WST0080</b>
	100	<b>P1D-C125WST0100</b>
	125	<b>P1D-C125WST0125</b>
	160	<b>P1D-C125WST0160</b>
	200	<b>P1D-C125WST0200</b>
	250	<b>P1D-C125WST0250</b>
	320	<b>P1D-C125WST0320</b>
	400	<b>P1D-C125WST0400</b>
	500	<b>P1D-C125WST0500</b>

Cyl. bore mm	Stroke mm	Order code
<b>40</b>	25	<b>P1D-C040WST0025</b>
Conn. G1/4	40	<b>P1D-C040WST0040</b>
	50	<b>P1D-C040WST0050</b>
	80	<b>P1D-C040WST0080</b>
	100	<b>P1D-C040WST0100</b>
	125	<b>P1D-C040WST0125</b>
	160	<b>P1D-C040WST0160</b>
	200	<b>P1D-C040WST0200</b>
	250	<b>P1D-C040WST0250</b>
	320	<b>P1D-C040WST0320</b>
	400	<b>P1D-C040WST0400</b>
	500	<b>P1D-C040WST0500</b>

Cyl. bore mm	Stroke mm	Order code
<b>80</b>	25	<b>P1D-C080WST0025</b>
Conn. G3/8	40	<b>P1D-C080WST0040</b>
	50	<b>P1D-C080WST0050</b>
	80	<b>P1D-C080WST0080</b>
	100	<b>P1D-C080WST0100</b>
	125	<b>P1D-C080WST0125</b>
	160	<b>P1D-C080WST0160</b>
	200	<b>P1D-C080WST0200</b>
	250	<b>P1D-C080WST0250</b>
	320	<b>P1D-C080WST0320</b>
	400	<b>P1D-C080WST0400</b>
	500	<b>P1D-C080WST0500</b>

Cyl. bore mm	Stroke mm	Order code
<b>50</b>	25	<b>P1D-C050WST0025</b>
Conn. G1/4	40	<b>P1D-C050WST0040</b>
	50	<b>P1D-C050WST0050</b>
	80	<b>P1D-C050WST0080</b>
	100	<b>P1D-C050WST0100</b>
	125	<b>P1D-C050WST0125</b>
	160	<b>P1D-C050WST0160</b>
	200	<b>P1D-C050WST0200</b>
	250	<b>P1D-C050WST0250</b>
	320	<b>P1D-C050WST0320</b>
	400	<b>P1D-C050WST0400</b>
	500	<b>P1D-C050WST0500</b>

Cyl. bore mm	Stroke mm	Order code
<b>100</b>	25	<b>P1D-C100WST0025</b>
Conn. G1/2	40	<b>P1D-C100WST0040</b>
	50	<b>P1D-C100WST0050</b>
	80	<b>P1D-C100WST0080</b>
	100	<b>P1D-C100WST0100</b>
	125	<b>P1D-C100WST0125</b>
	160	<b>P1D-C100WST0160</b>
	200	<b>P1D-C100WST0200</b>
	250	<b>P1D-C100WST0250</b>
	320	<b>P1D-C100WST0320</b>
	400	<b>P1D-C100WST0400</b>
	500	<b>P1D-C100WST0500</b>

The cylinders are supplied complete with one stainless steel piston rod nut as standard.

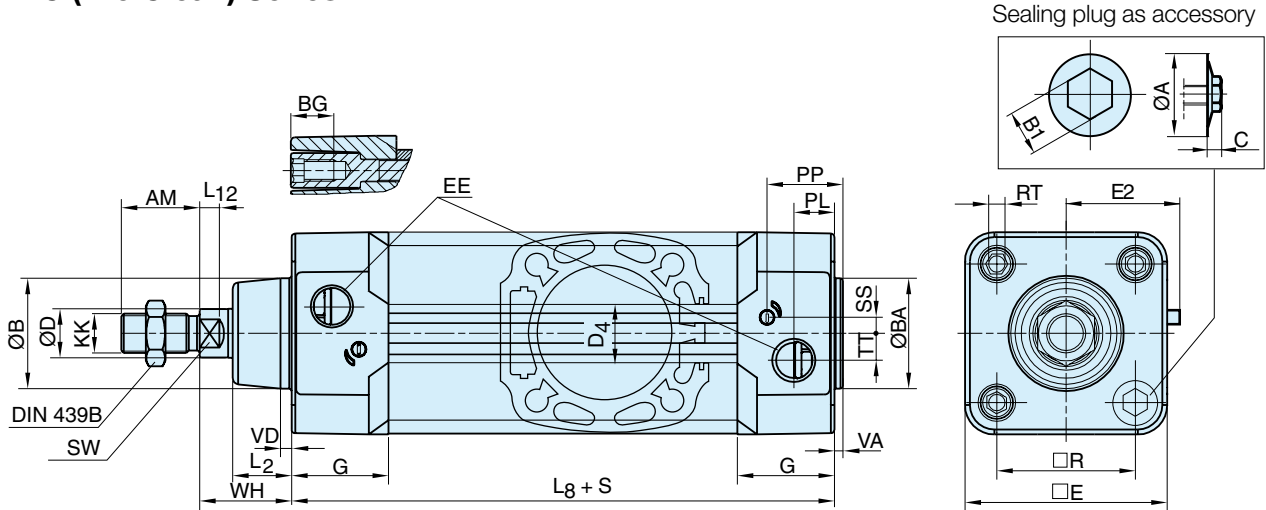
Sealing plugs for end cover screws

See page 35.

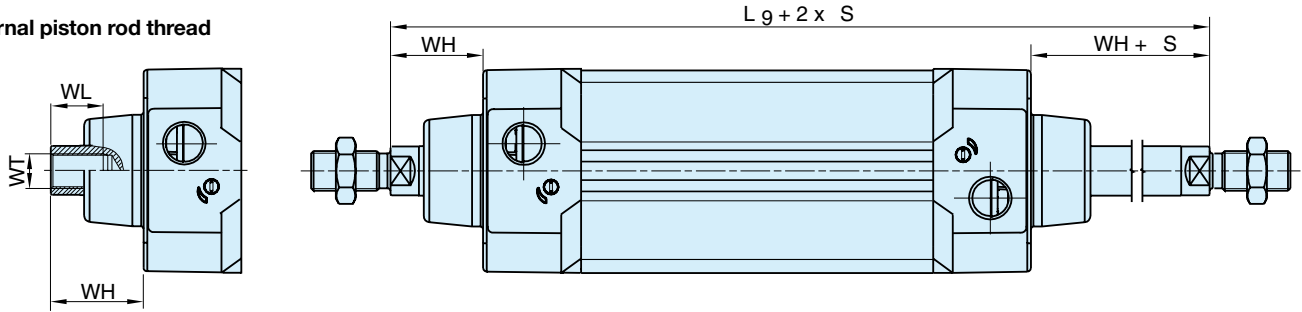
Sensors

For sensors see page 77.

P1D-C (Pro Clean) Series



Internal piston rod thread



Dimensions

Cylinder bore mm	A mm	AM mm	B mm	B1 mm	BA mm	BG mm	C mm	D mm	D4 mm	E mm	EE mm	G mm	KK	L2 mm
32	15	22	30	8	30	16	5,2	12	45,0	50,0	G1/8	28,5	M10x1,25	16,0
40	15	24	35	8	35	16	5,2	16	52,0	57,4	G1/4	33,0	M12x1,25	19,0
50	18,5	32	40	10	40	16	6,7	20	60,7	69,4	G1/4	33,5	M16x1,5	24,0
63	18,5	32	45	10	45	16	6,7	20	71,5	82,4	G3/8	39,5	M16x1,5	24,0
80	21,5	40	45	11	45	17	7,8	25	86,7	99,4	G3/8	39,5	M20x1,5	30,0
100	21,5	40	55	11	55	17	7,8	25	106,7	116,0	G1/2	44,5	M20x1,5	32,4
125	24	54	60	13	60	20	9,3	32	134,0	139,0	G1/2	51,0	M27x2	45,0

Cylinder bore mm	L8 mm	L9 mm	L12 mm	PL mm	PP mm	R mm	RT	SS mm	SW mm	TT mm	VA mm	VD mm	WH mm	WL mm	WT
32	94	146	6,0	13,0	21,8	32,5	M6	4,0	10	4,5	3,5	4,5	26	21	M8x1
40	105	165	6,5	14,0	21,9	38,0	M6	8,0	13	5,5	3,5	4,5	30	23	M10x1,25
50	106	180	8,0	14,0	23,0	46,5	M8	4,0	17	7,5	3,5	5,0	37	31	M14x1,5
63	121	195	8,0	16,4	27,4	56,5	M8	6,5	17	11,0	3,5	5,0	37	31	M14x1,5
80	128	220	10,0	16,0	30,5	72,0	M10	0	22	15,0	3,5	4,0	46	39	M18x1,5
100	138	240	14,0	18,0	35,8	89,0	M10	0	22	20,0	3,5	4,0	51	39	M18x1,5
125	160	290	18,0	28,0	40,5	110,0	M12	0	27	17,5	5,5	6,0	65	53	M24x2

S=Stroke

Tolerances

Cylinder bore mm	B	BA	L <sub>8</sub> mm	L <sub>9</sub> mm	R mm	Stroke tolerance up to stroke 500 mm	Stroke tolerance for stroke over 500 mm
32	d11	d11	±0,4	±2	±0,5	+0,3/+2,0	+0,3/+3,0
40	d11	d11	±0,7	±2	±0,5	+0,3/+2,0	+0,3/+3,0
50	d11	d11	±0,7	±2	±0,6	+0,3/+2,0	+0,3/+3,0
63	d11	d11	±0,8	±2	±0,7	+0,3/+2,0	+0,3/+3,0
80	d11	d11	±0,8	±3	±0,7	+0,3/+2,0	+0,3/+3,0
100	d11	d11	±1,0	±3	±0,7	+0,3/+2,0	+0,3/+3,0
125	d11	d11	±1,0	±3	±1,1	+0,3/+2,0	+0,3/+3,0

## Design Variants for all P1D Series

### Alternative piston rod materials

All P1D cylinders in all bores, Ø32-125 mm, can be ordered with the following piston rod materials:

- Steel, chromed-plated
- Stainless steel, roller polished (standard)
- Acid-proof steel, roller polished
- Stainless steel, chromed-plated



### Through piston rod

All P1D cylinders in all bores, Ø32-125 mm, are available with a through rod. Cylinders with a through rod can take higher side forces thanks to the double support for the piston rod.



### Operation with dry piston rod

In many applications, primarily in the foodstuffs industry, the cylinders are cleaned frequently. This means that the film of grease on the piston rod is washed off, which puts special demands on the materials and the design of the piston rod seal system (scraper ring and piston rod seal). Parker Hannifin has developed a piston rod seal system specially designed for dry rod operation. This is available as options for this type of applications, for all bores of P1D cylinders. The system has a specially designed L-shaped seal and the material is self-lubricating, high molecular weight plastics (HDPE) – the same system as in our P1S stainless steel cylinders.



### Alternative scraper materials

For use in applications where chemicals may affect the scraper in the front end cover, an option with a scraper in FPM rubber for better chemical resistance is available.

On request there is also a scraper in food approved polyurethane material.



# P1D-T Pneumatic Cylinders

According to  
ISO 15552



The P1D-T range of cylinders is intended for use in a wide range of applications. Careful design and high quality manufacture throughout ensure long service life and optimum economy. Mounting dimensions fully in accordance with ISO 15552 (ISO 6431 and CETOP RP52P) greatly simplifies installation and world-wide interchangeability.

- Bore sizes Ø32 - Ø320mm
- Stroke lengths 5 to 2800 mm
- Magnetic piston as standard
- Adjustable cushioning as standard
- High and Low temperature versions
- ATEX version
- Special version on request

## P1D Tie Rod

The P1D is available in a tie-rod version, based on the same high level technology. This future-proof cylinder is the perfect choice wherever a tie-rod cylinder is needed. Mounting dimensions fully in accordance with ISO 15552 (ISO 6431 and CETOP RP52P) greatly simplifies installation and world-wide interchangeability.

- Bore sizes Ø32 - Ø125mm
- Stroke lengths 5mm - 2800mm
- Magnetic piston as standard
- Adjustable cushioning as standard
- High and low temperature versions



Cyl. bore mm	Stroke mm	Order code
<b>32</b> Conn. G1/8	25	P1D-T032MS-0025
	40	P1D-T032MS-0040
	50	P1D-T032MS-0050
	80	P1D-T032MS-0080
	100	P1D-T032MS-0100
	125	P1D-T032MS-0125
	160	P1D-T032MS-0160
	200	P1D-T032MS-0200
	250	P1D-T032MS-0250
	320	P1D-T032MS-0320
	400	P1D-T032MS-0400
500	P1D-T032MS-0500	
<b>40</b> Conn. G1/4	25	P1D-T040MS-0025
	40	P1D-T040MS-0040
	50	P1D-T040MS-0050
	80	P1D-T040MS-0080
	100	P1D-T040MS-0100
	125	P1D-T040MS-0125
	160	P1D-T040MS-0160
	200	P1D-T040MS-0200
	250	P1D-T040MS-0250
	320	P1D-T040MS-0320
	400	P1D-T040MS-0400
500	P1D-T040MS-0500	
<b>50</b> Conn. G1/4	25	P1D-T050MS-0025
	40	P1D-T050MS-0040
	50	P1D-T050MS-0050
	80	P1D-T050MS-0080
	100	P1D-T050MS-0100
	125	P1D-T050MS-0125
	160	P1D-T050MS-0160
	200	P1D-T050MS-0200
	250	P1D-T050MS-0250
	320	P1D-T050MS-0320
	400	P1D-T050MS-0400
500	P1D-T050MS-0500	
<b>63</b> Conn. G3/8	25	P1D-T063MS-0025
	40	P1D-T063MS-0040
	50	P1D-T063MS-0050
	80	P1D-T063MS-0080
	100	P1D-T063MS-0100
	125	P1D-T063MS-0125
	160	P1D-T063MS-0160
	200	P1D-T063MS-0200
	250	P1D-T063MS-0250
	320	P1D-T063MS-0320
	400	P1D-T063MS-0400
500	P1D-T063MS-0500	

Cyl. bore mm	Stroke mm	Order code
<b>80</b> Conn. G3/8	25	P1D-T080MS-0025
	40	P1D-T080MS-0040
	50	P1D-T080MS-0050
	80	P1D-T080MS-0080
	100	P1D-T080MS-0100
	125	P1D-T080MS-0125
	160	P1D-T080MS-0160
	200	P1D-T080MS-0200
	250	P1D-T080MS-0250
	320	P1D-T080MS-0320
	400	P1D-T080MS-0400
500	P1D-T080MS-0500	
<b>100</b> Conn. G1/2	25	P1D-T100MS-0025
	40	P1D-T100MS-0040
	50	P1D-T100MS-0050
	80	P1D-T100MS-0080
	100	P1D-T100MS-0100
	125	P1D-T100MS-0125
	160	P1D-T100MS-0160
	200	P1D-T100MS-0200
	250	P1D-T100MS-0250
	320	P1D-T100MS-0320
	400	P1D-T100MS-0400
500	P1D-T100MS-0500	
<b>125</b> Conn. G1/2	25	P1D-T125MS-0025
	40	P1D-T125MS-0040
	50	P1D-T125MS-0050
	80	P1D-T125MS-0080
	100	P1D-T125MS-0100
	125	P1D-T125MS-0125
	160	P1D-T125MS-0160
	200	P1D-T125MS-0200
	250	P1D-T125MS-0250
	320	P1D-T125MS-0320
	400	P1D-T125MS-0400
500	P1D-T125MS-0500	

The cylinders are supplied complete with one zinc plated steel piston rod nut.

For mountings see pages 29 to 36.

### Sensors



For sensors see page 77.

## P1D-T Large Bore Cylinders

The P1D-T range of tie rod cylinders is intended for use in a wide range of applications. Careful design and high quality manufacture throughout ensure long service life and optimum economy. Mounting dimensions fully in accordance with ISO 15552 (ISO 6431 and CETOP RP52P) greatly simplifies installation and world-wide interchangeability.



- Bore sizes Ø160 - Ø320mm
- Stroke lengths 10mm - 2000mm
- Magnetic piston as standard
- Adjustable cushioning as standard
- High temperature version
- ATEX certified (add -EXNN on order code)

### Operating information

Working pressure:	Max 10 bar
Seals / Temperature options	
Standard:	-20°C to +80°C
High temperature:	-10°C to +150°C
ATEX approval:	CE Ex IIGD c T4 120°C

For more information see [www.parker.com/euro\\_pneumatic](http://www.parker.com/euro_pneumatic)

## P1D-T - Tie Rod

### Ø160mm

Stroke mm	Order code
50	P1D-T160MS-0050
80	P1D-T160MS-0080
100	P1D-T160MS-0100
125	P1D-T160MS-0125
160	P1D-T160MS-0160
200	P1D-T160MS-0200
250	P1D-T160MS-0250
320	P1D-T160MS-0320
400	P1D-T160MS-0400
500	P1D-T160MS-0500
800	P1D-T160MS-0800
1000	P1D-T160MS-1000

### Ø200mm

Stroke mm	Order code
50	P1D-T200MS-0050
80	P1D-T200MS-0080
100	P1D-T200MS-0100
125	P1D-T200MS-0125
160	P1D-T200MS-0160
200	P1D-T200MS-0200
250	P1D-T200MS-0250
320	P1D-T200MS-0320
400	P1D-T200MS-0400
500	P1D-T200MS-0500
800	P1D-T200MS-0800
1000	P1D-T200MS-1000

### Ø250mm

Stroke mm	Order code
50	P1D-T250MS-0050
80	P1D-T250MS-0080
100	P1D-T250MS-0100
125	P1D-T250MS-0125
160	P1D-T250MS-0160
200	P1D-T250MS-0200
250	P1D-T250MS-0250
320	P1D-T250MS-0320
400	P1D-T250MS-0400
500	P1D-T250MS-0500
800	P1D-T250MS-0800
1000	P1D-T250MS-1000

### Ø320mm

Stroke mm	Order code
50	P1D-T320MS-0050
80	P1D-T320MS-0080
100	P1D-T320MS-0100
125	P1D-T320MS-0125
160	P1D-T320MS-0160
200	P1D-T320MS-0200
250	P1D-T320MS-0250
320	P1D-T320MS-0320
400	P1D-T320MS-0400
500	P1D-T320MS-0500
800	P1D-T320MS-0800
1000	P1D-T320MS-1000

The cylinders are supplied complete with a zinc plated steel piston rod nut.

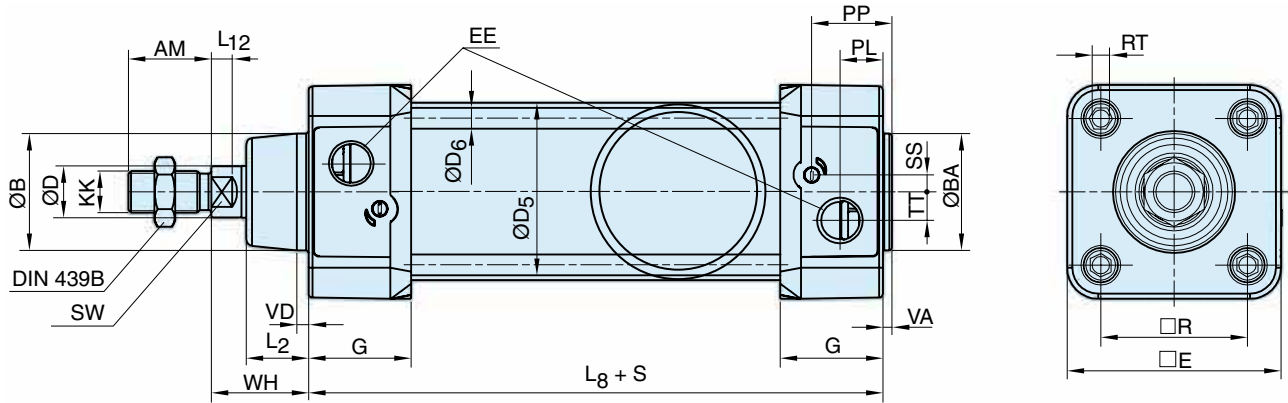
### Sensors



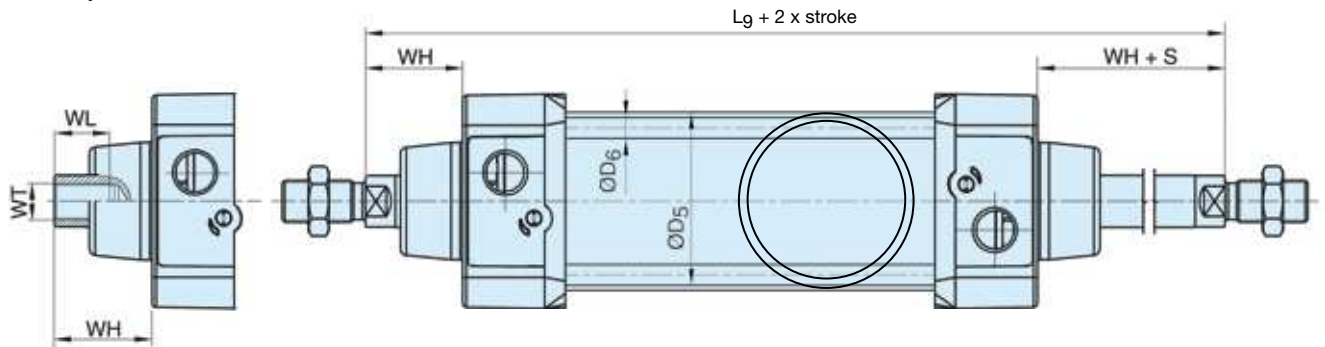
For sensors see page 77.



P1D-T Tie rod Standard temperature



Internal piston rod thread



Dimensions

Cylinder bore mm	AM mm	B mm	BA mm	BG mm	D mm	D4 mm	E mm	EE mm	G mm	KK	L2 mm	L8 mm	L9 mm	L12 mm
32	22	30	30	16	12	45,0	50,0	G1/8	28,5	M10x1,25	16,0	94	146	6,0
40	24	35	35	16	16	52,0	57,4	G1/4	33,0	M12x1,25	19,0	105	165	6,5
50	32	40	40	16	20	60,7	69,4	G1/4	33,5	M16x1,5	24,0	106	180	8,0
63	32	45	45	16	20	71,5	82,4	G3/8	39,5	M16x1,5	24,0	121	195	8,0
80	40	45	45	17	25	86,7	99,4	G3/8	39,5	M20x1,5	30,0	128	220	10,0
100	40	55	55	17	25	106,7	116,0	G1/2	44,5	M20x1,5	32,4	138	240	14,0
125	54	60	60	20	32	134,0	139,0	G1/2	51,0	M27x2	45,0	160	290	18,0

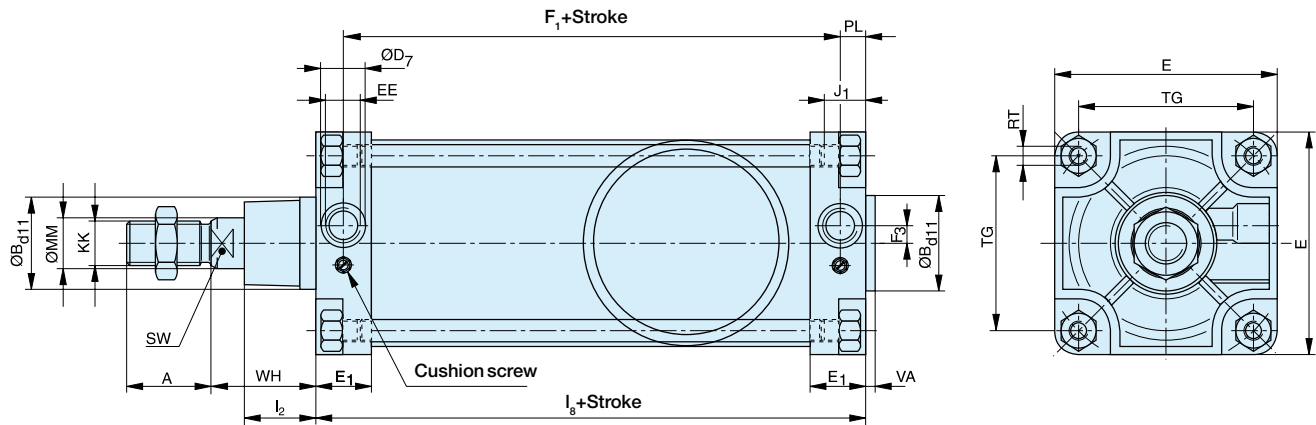
Cylinder bore mm	OA mm	PL mm	PP mm	R mm	RT	SS mm	SW mm	TT mm	VA mm	VD mm	WH mm	WL mm	WT mm
32	6,0	13,0	21,8	32,5	M6	4,0	10	4,5	3,5	4,5	26	21	M8x1
40	6,0	14,0	21,9	38,0	M6	8,0	13	5,5	3,5	4,5	30	23	M10x1,25
50	8,0	14,0	23,0	46,5	M8	4,0	17	7,5	3,5	5,0	37	31	M14x1,5
63	8,0	16,4	27,4	56,5	M8	6,5	17	11,0	3,5	5,0	37	31	M14x1,5
80	6,0	16,0	30,5	72,0	M10	0	22	15,0	3,5	4,0	46	39	M18x1,5
100	6,0	18,0	35,8	89,0	M10	0	22	20,0	3,5	4,0	51	39	M18x1,5
125	8,0	28,0	40,5	110,0	M12	0	27	17,5	5,5	6,0	65	53	M24x2

S=Stroke

Tolerances

Cylinder bore mm	B	BA	L <sub>3</sub> mm	L <sub>9</sub> mm	R mm	Stroke tolerance up to stroke 500 mm	Stroke tolerance for stroke over 500 mm
32	d11	d11	±0,4	±2	±0,5	+0,3/+2,0	+0,3/+3,0
40	d11	d11	±0,7	±2	±0,5	+0,3/+2,0	+0,3/+3,0
50	d11	d11	±0,7	±2	±0,6	+0,3/+2,0	+0,3/+3,0
63	d11	d11	±0,8	±2	±0,7	+0,3/+2,0	+0,3/+3,0
80	d11	d11	±0,8	±3	±0,7	+0,3/+2,0	+0,3/+3,0
100	d11	d11	±1,0	±3	±0,7	+0,3/+2,0	+0,3/+3,0
125	d11	d11	±1,0	±3	±1,1	+0,3/+2,0	+0,3/+3,0

## P1D-T Series



**Note:** for bore size 320mm, front air port in on the bottom of the axis of the cylinder and the cushioning screw on the top

## Dimension Table (mm)

Cyl. Ø	A	ØB <sub>d11</sub>	ØD <sub>7</sub>	E	E <sub>1</sub>	F <sub>1</sub> + Stroke	F <sub>3</sub>	J <sub>1</sub> max.	I <sub>2</sub>	I <sub>8</sub> + Stroke	EE	KK	MM	PL	RT	SW	TG	VA	WH
160	72	65	33	180	45	130	11	23	50	180	G3/4	M36x2	40	25	M16	36	140	6	80
200	72	75	33	220	45	130	15	23	60	180	G3/4	M36x2	40	25	M16	36	175	6	95
250	84	90	40	280	64	136	21	27	70	200	G1	M42x2	50	32	M20	46	280	10	105
320	96	110	-	340	56	164	-20*/20	28	89,5	220	G1	M48x2	63	28	M24	55	340	10	120

## Weight (mass) kg

Cylinder version	Cylinder Diameter							
	Ø160		Ø200		Ø250		Ø320	
	1*	2*	1*	2*	1*	2*	1*	2*
Standard Type P1D-T	12.500	2.050	20.000	2.200	35.000	4.000	66.000	6.000

\* 1 = Weight for cylinder with 100 mm stroke

2 = Weight for further 100 mm stroke length

## Tolerances

Cylinder bore mm	L <sub>8</sub> mm	TG mm	Stroke tolerance up to stroke 500 mm	Stroke tolerance for stroke over 500 mm
160	±1,1	±1,1	+0,3/+2,0	+0,3/+3,0
200	±1,6	±1,1	+0,3/+2,0	+0,3/+3,0
250	±1,6	±1,5	+0,3/+2,0	+0,3/+3,0
320	±2,2	±1,5	+0,3/+2,0	+0,3/+3,0

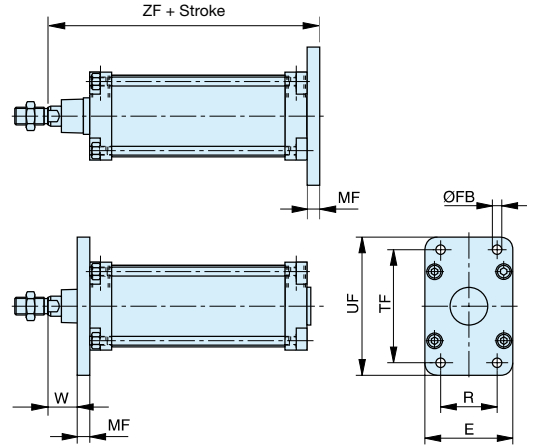
Cylinder mountings

Flange MF1/MF2



Intended for fixed mounting of cylinder. Flange can be fitted to front or rear end cover of cylinder.

Materials  
 Flange: Passivated steel  
 Mounting screws acc. to DIN 6912:  
 Zinc-plated steel 8.8  
 Supplied complete with mounting screws for attachment to cylinder.



Bore mm	ZF mm	MF mm	W mm	UF mm	E mm	TF mm	R mm	ØFB mm	Weight kg	Order code
32	130,0	10,0	16,0	80,0	45,0	64,0	32,0	7,0	0,23	P1C-4KMB
40	145,0	10,0	20,0	80,0	52,0	72,0	36,0	9,0	0,28	P1C-4LMB
50	155,0	12,0	25,0	80,0	65,0	90,0	45,0	9,0	0,53	P1C-4MMB
63	170,0	12,0	25,0	80,0	75,0	100,0	50,0	9,0	0,71	P1C-4NMB
80	190,0	16,0	30,0	80,0	95,0	126,0	63,0	12,0	1,59	P1C-4PMB
100	205,0	16,0	35,0	80,0	115,0	150,0	75,0	14,0	2,19	P1C-4QMB
125	245,0	20,0	45,0	80,0	140,0	180,0	90,0	16,0	3,78	P1C-4RMB
160	180,0	20,0	60,0	80,0	180,0	230,0	115,0	18,0	7,20	PD23410
200	300,0	25,0	70,0	80,0	220,0	270,0	135,0	22,0	12,20	PD24924
250	330,0	25,0	80,0	80,0	280,0	330,0	165,0	26,0	19,20	PD25761
320	370,0	30,0	90,0	80,0	340,0	400,0	200,0	33,0	38,00	KL9140

Dimensions for cylinders without piston rod protusion or with rod lock unit

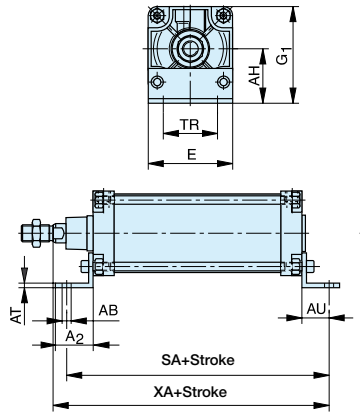
Foot brackets MS1



Intended for fixed mounting of cylinder. Foot bracket can be fitted to front and rear end covers of cylinder.

Materials  
 Foot bracket: Passivated steel  
 Mounting screws acc. to DIN 912: Zinc-plated steel 8.8

Supplied in pairs with mounting screws for attachment to cylinder.



Bore mm	E mm	TR mm	AH mm	G1 mm	AT mm	A2 mm	ØAB mm	SA mm	XA mm	AU mm	Weight kg	Order code
32	45,0	32,0	32,0	56,0	4,5	34,0	7,0	142,0	144,0	24,0	0,06	P1C-4KMF
40	52,0	36,0	36,0	62,8	4,5	36,0	9,0	161,0	163,0	28,0	0,08	P1C-4LMF
50	65,0	45,0	45,0	77,6	5,5	45,0	9,0	170,0	175,0	32,0	0,16	P1C-4MMF
63	75,0	50,0	50,0	87,8	5,5	45,0	9,0	185,0	190,0	32,0	0,25	P1C-4NMF
80	95,0	63,0	63,0	110,5	6,5	55,0	12,0	210,0	215,0	41,0	0,50	P1C-4PMF
100	115,0	75,0	71,0	128,0	6,5	56,0	14,0	220,0	230,0	41,0	0,85	P1C-4QMF
125	140,0	90,0	90,0	159,5	8,0	67,0	16,0	250,0	270,0	45,0	1,48	P1C-4RMF
160	180,0	115,0	115,0	205,0	8,0	80,0	18,0	300,0	320,0	60,0	3,80	PD70512
200	220,0	135,0	135,0	245,0	9,0	100,0	22,0	320,0	345,0	70,0	5,00	PD24792
250	280,0	165,0	165,0	305,0	10,0	110,0	26,0	350,0	380,0	75,0	9,70	PD25758
320	340,0	200,0	200,0	370,0	23,0	125,0	33,0	390,0	470,0	85,0	17,00	KL9139

Weight per item

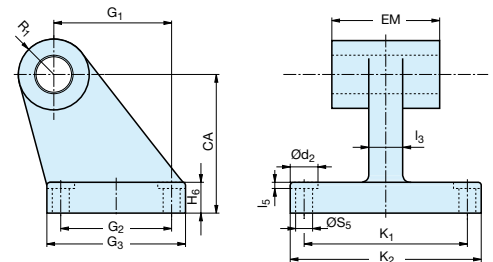
Dimensions for cylinders without piston rod protusion or with rod lock unit

Pivot bracket with rigid bearing AB7



Intended for flexible mounting of cylinder. The pivot bracket can be combined with clevis bracket MP2.

Materials  
 Pivot bracket: Ø 160-200: cast aluminium  
 Ø 250-320: cast steel



Bore mm	R1 mm	ØCX H7 mm	G1 mm	CA mm	H6 mm	G2 mm	G3 mm	EM mm	I3 mm	Ød2 mm	I5 mm	ØS5 mm	K1 mm	K2 mm	Weight kg	Order code Not anodised	Order code Black anodised
32	10,0	10,0	21,0	32,0	8,0	18,0	31,0	25,5	10,0	-	-	6,6	38,0	51,0	0,06	P1C-4KMDB	P1C-4KMD
40	11,0	12,0	24,0	36,0	10,0	22,0	35,0	27,0	15,0	-	-	6,6	41,0	54,0	0,08	P1C-4LMDB	P1C-4LMD
50	13,0	12,0	33,0	45,0	12,0	30,0	45,0	31,0	16,0	-	-	9,0	50,0	65,0	0,15	P1C-4MMDB	P1C-4MMD
63	15,0	16,0	37,0	50,0	12,0	35,0	50,0	39,0	16,0	-	-	9,0	52,0	67,0	0,20	P1C-4NMDB	P1C-4NMD
80	15,0	16,0	47,0	63,0	14,0	40,0	60,0	49,0	20,0	-	-	11,0	66,0	86,0	0,33	P1C-4PMDB	P1C-4PMD
100	19,0	20,0	55,0	71,0	15,0	50,0	70,0	59,0	20,0	-	-	11,0	76,0	96,0	0,49	P1C-4QMDB	P1C-4QMD
125	22,5	25,0	70,0	90,0	20,0	60,0	90,0	69,0	30,0	-	-	14,0	94,0	124,0	1,02	P1C-4RMDB	P1C-4RMD
160	31,5	30,0	97,0	115,0	25,0	88,0	126,0	90,0	36,0	20,0	4,0	14,0	118,0	156,0	6,50	P1C-4SMDB	-
200	31,5	30,0	105,0	135,0	30,0	90,0	130,0	90,0	40,0	26,0	4,0	18,0	122,0	162,0	8,00	P1C-4TMDB	-
250	40,0	40,0	128,0	165,0	35,0	110,0	160,0	110,0	45,0	33,0	4,5	22,0	150,0	200,0	13,50	P1C-4UMDB	-
320	45,0	45,0	150,0	200,0	40,0	122,0	186,0	120,0	55,0	-	-	26,0	170,0	234,0	21,90	P1C-4VMDC	-

Cylinder mountings

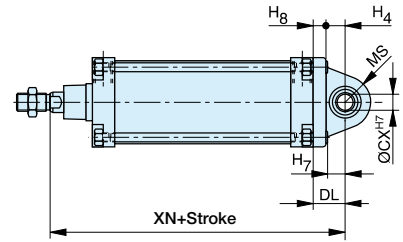
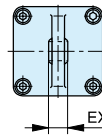
Swivel eye bracket MP6

Intended for use together with clevis bracket GA



Material  
Bracket: Cast aluminium  
Swivel bearing acc. to DIN 648K: Hardened steel

Supplied complete with mounting screws for attachment to cylinder.



Bore mm	EX mm	XN mm	H8 mm	H4 mm	MS mm	ØCX H7 mm	Weight kg	Order code Not anodised	Order code Black anodised
32	14,0	142,0	10,0	12,0	16,0	10,0	0,10	PD23843	P1C-4KMSA
40	16,0	160,0	10,0	15,0	21,0	12,0	0,11	PD23844	P1C-4LMSA
50	16,0	170,0	11,0	16,0	23,0	12,0	0,20	PD23845	P1C-4MMSA
63	21,0	190,0	11,0	21,0	27,0	16,0	0,27	PD23846	P1C-4NMSA
80	21,0	210,0	15,0	21,0	29,0	16,0	0,52	PD23847	P1C-4PMSA
100	25,0	230,0	16,0	25,0	34,0	20,0	0,72	PD23848	P1C-4QMSA
125	31,0	275,0	20,0	30,0	40,0	25,0	1,53	PD23849	P1C-4RMSA
160	37,0	315,0	20,0	35,0	48,0	30,0	2,60	PD23850	-
200	43,0	335,0	24,0	36,0	47,0	30,0	11,30	PD25766	-
250	49,0	375,0	28,0	42,0	53,0	40,0	19,00	PD25760	-
320	60,0	420,0	30,0	50,0	63,0	45,0	30,30	KL9136	-

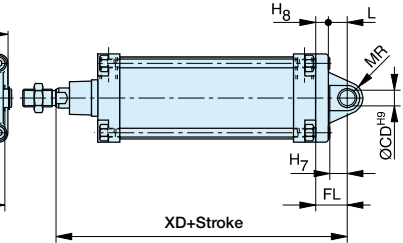
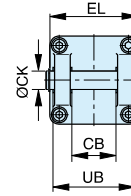
Dimensions for cylinders without piston rod protusion or with rod lock unit

Clevis bracket MP2

Intended for flexible mounting of cylinder. Clevis bracket MP2 can be combined with clevis bracket MP4.



Materials  
Clevis bracket: Cast aluminium  
Pin: Hardened steel  
Circlips according to DIN 471: Spring steel  
Mounting screws acc. to DIN 912: Zinc-plated steel 8.8  
Supplied complete with mounting screws for attachment to cylinder



Bore mm	EL mm	XD mm	ØCD H9 mm	CB H14 mm	UB mm	H8 mm	L mm	MR mm	Weight kg	Order code Not anodised	Order code Black anodised
32	53,0	142,0	10,0	26,0	45,0	10,0	12,0	11,0	0,08	P1C-4KMTB	P1C-4KMT
40	60,0	160,0	12,0	28,0	52,0	10,0	15,0	13,0	0,11	P1C-4LMTB	P1C-4LMT
50	68,0	170,0	12,0	32,0	60,0	11,0	16,0	18,0	0,14	P1C-4MMTB	P1C-4MMT
63	78,0	190,0	16,0	40,0	70,0	11,0	21,0	18,0	0,29	P1C-4NMTB	P1C-4NMT
80	98,0	210,0	16,0	50,0	90,0	15,0	21,0	22,0	0,36	P1C-4PMTB	P1C-4PMT
100	118,0	230,0	20,0	60,0	110,0	16,0	25,0	22,0	0,64	P1C-4QMTB	P1C-4QMT
125	139,0	275,0	25,0	70,0	130,0	20,0	30,0	30,0	1,17	P1C-4RMTB	P1C-4RMT
160	172,0	315,0	30,0	90,0	170,0	20,0	35,0	30,0	2,60	P1C-4SMTB	-
200	172,0	335,0	30,0	90,0	170,0	25,0	35,0	31,0	4,10	P1C-4TMTB	-
250	280,0	375,0	40,0	110,0	200,0	25,0	45,0	41,0	7,10	P1C-4UMTB	-
320	340,0	420,0	45,0	120,0	220,0	30,0	50,0	54,0	31,0	P1C-4VMTB	-

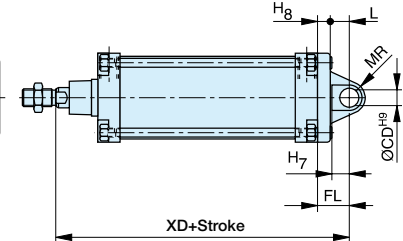
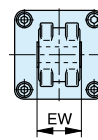
Dimensions for cylinders without piston rod protusion or with rod lock unit

Clevis bracket MP4

Intended for flexible mounting of cylinder. Clevis bracket MP4 can be combined with clevis bracket MP2.



Materials  
Clevis bracket: Cast aluminium  
Mounting screws acc. to DIN 912: Zinc-plated steel 8.8  
Supplied complete with mounting screws for attachment to cylinder.



Bore mm	EW mm	XD mm	H8 mm	L mm	MR mm	ØCD mm	Weight kg	Order code Not anodised	Order code Black anodised
32	26,0	142,0	10,0	12,0	11,0	10,0	0,09	PD23412	PD23412
40	28,0	160,0	10,0	15,0	13,0	12,0	0,13	PD23413	PD23413
50	32,0	170,0	11,0	16,0	18,0	12,0	0,17	PD23414	PD23414
63	40,0	190,0	11,0	21,0	18,0	16,0	0,36	PD23415	PD23415
80	50,0	210,0	15,0	21,0	22,0	16,0	0,58	PD23416	PD23416
100	60,0	230,0	16,0	25,0	22,0	20,0	0,89	PD23417	PD23417
125	70,0	275,0	20,0	30,0	30,0	25,0	1,75	PD23418	PD23418
160	90,0	315,0	20,0	35,0	30,0	30,0	2,70	PD22628	PD22628
200	90,0	335,0	25,0	35,0	31,0	30,0	4,20	PD24999	PD24999
250	110,0	375,0	25,0	45,0	41,0	40,0	15,70	PD25759	PD25759
320	120,0	420,0	30,0	50,0	46,0	45,0	33,00	KL9135	KL9135

Dimensions for cylinders without piston rod protusion or with rod lock unit

Cylinder mountings

Pivot brackets AT4 for MT\* mounting trunnion

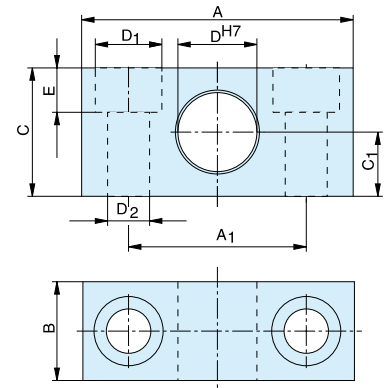


Intended for use together with intermediate trunnion MT4 or MT5 / MT6.

Material:  
 Pivot bracket:  
 Ø32-125 mm – Aluminium  
 Ø160-250 mm – Anodised aluminium  
 Ø 320 mm – steel

Bearing acc. to DIN 1850 C

Supplied in pairs.



Bore mm	A mm	A1 mm	B mm	C mm	C1 mm	ØD H7 mm	ØD1 mm	ØD2 mm	E mm	Weight kg	Order code Not anodised
32	55	36	20	26	13	12	13,5	8,4	9,0	0,06	PD23381
40	55	36	20	26	13	16	13,5	8,4	9,0	0,06	PD23382
50	55	36	20	26	13	16	13,5	8,4	9,0	0,06	PD23382
63	65	42	25	30	15	20	16,5	10,5	11,0	0,10	PD23383
80	65	42	25	30	15	20	16,5	10,5	11,0	0,10	PD23383
100	75	50	28	40	20	25	19,0	13,0	13,0	0,18	PD23384
125	75	50	28	40	20	25	19,0	13,0	13,0	0,18	PD23384
160	92	60	35	60	30	32	26,0	18,0	17,0	0,35	PD24425
200	92	60	35	60	30	32	26,0	18,0	17,0	0,35	PD24425
250	140	90	40	70	35	40	33,0	22,0	21,5	0,50	PD25763
320	150	100	60	80	40	50	40,0	26,0	25,5	6,70	KL9130

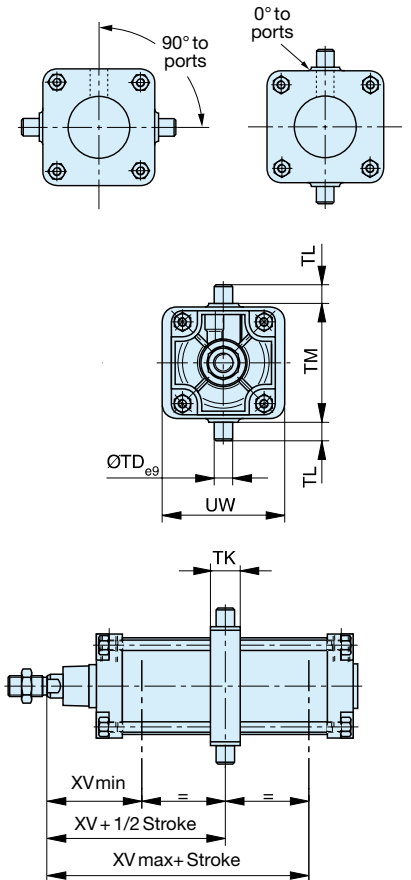
Intermediate trunnion MT4



The trunnion is MT4 for P1D-T factory-fitted in the centre of the cylinder or at an optional location specified by the XV-measure - Combined with pivot brackets AT4.

Material:  
 Trunnion: Zinc plated steel  
 Trunnion centred  
 The central trunnion for the P1D-T is ordered with letter D in position 17 (no dimension specified in positions 18-20). e.g. P1D-T160MS-0500NDNNN  
 Trunnion with optional location

The trunnion for the P1D-T is ordered with letter G in position 17 and desired XV-measure (3-digit measure in mm) in positions 18-20. e.g. P1D-T160MS-0500NG300



Bore mm	TK mm	TL h14 mm	TM h14 mm	ØTD e9 mm	XV min mm	XV mm	XV max mm	Weight kg
32	15	12	50	12	62,0	73,0	84,0	0,13
40	20	16	63	16	73,0	82,5	92,0	0,31
50	20	16	75	16	80,5	90,0	99,5	0,37
63	25	20	90	20	89,0	97,5	106,0	0,69
80	25	20	110	20	98,0	110,0	122,0	0,89
100	30	25	132	25	110,5	120,0	129,5	1,58
125	32	25	180	25	132,0	145,0	158,0	2,60
160	45	32	200	32	150,0	170,0	190,0	6,10
200	50	32	250	32	165,0	185,0	205,0	8,10
250	55	40	320	40	195,0	205,0	210,0	14,8
320	65	50	400	50	210,0	230,0	250,0	16,0

**Important:** If the cylinder is ordered with a piston rod protusion (WH dimension), please add this extra length to XVmin, XV and XVmax.

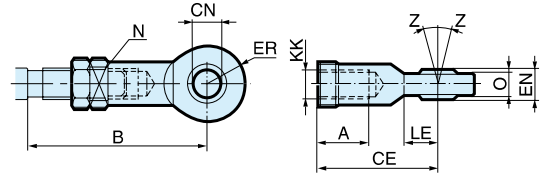
Piston rod mountings

Swivel rod eye AP6



Swivel rod eye for articulated mounting of cylinder. Swivel rod eye can be combined with clevis bracket GA. Maintenance-free.

Material:  
Swivel rod eye: Zinc-plated steel  
Swivel bearing according to DIN 648K: Hardened steel  
  
Swivel rod eye: Stainless steel  
Swivel bearing according to DIN 648K: Hardened steel



According to ISO 8139

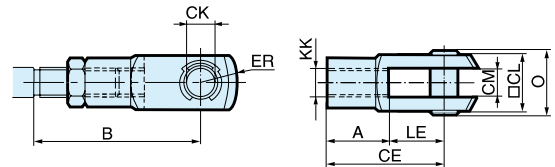
Bore mm	A mm	B min mm	B max mm	CE mm	ØCN H9 mm	h12 mm	ER mm	KK mm	LE min mm	N mm	O mm	Z mm	Weight kg	Order code	Order code Stainless steel
32	20	48,0	55	43	10	14	14	M10x1,25	15	17	10,5	12°	0,08	P1C-4KRS	P1S-4JRT
40	22	56,0	62	50	12	16	16	M12x1,25	17	19	12,0	12°	0,12	P1C-4LRS	P1S-4LRT
50	28	72,0	80	64	16	21	21	M16x1,5	22	22	15,0	15°	0,25	P1C-4MRS	P1S-4MRT
63	28	72,0	80	64	16	21	21	M16x1,5	22	22	15,0	15°	0,25	P1C-4MRS	P1S-4MRT
80	33	87,0	97	77	20	25	25	M20x1,5	26	32	18,0	15°	0,46	P1C-4PRS	P1S-4PRT
100	33	87,0	97	77	20	25	25	M20x1,5	26	32	18,0	15°	0,46	P1C-4PRS	P1S-4PRT
125	51	123,5	137	110	30	37	35	M27x2	36	41	25,0	15°	1,28	P1C-4RRS	P1S-4RRT
160	56			125	35	43	40	M36x2	41	50	28,0		1,60	KY6863	-
200	56			125	35	43	40	M36x2	41	50	28,0		1,60	KY6863	-
250	60			142	40	49	45	M42x2	46	55	33,0		3,50	KY6864	-
320	65			160	50	60	58	M48x2	59	65	45,0		5,20	KY9132	-

Clevis AP2



Clevis for articulated mounting of cylinder.

Material:  
Clevis, clip: Galvanized steel  
Pin: Hardened steel  
  
Clevis, clip: Stainless steel  
Pin: Stainless steel



According to ISO 8140

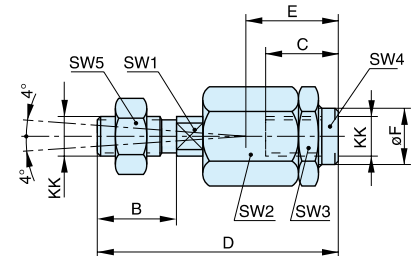
Bore mm	A mm	B min mm	B max mm	CE mm	CK h11/e9 mm	CL mm	CM mm	ER mm	KK mm	LE mm	O mm	Weight kg	Order code	Order code Stainless steel
32	20	45,0	52	40	10	20	10	16	M10x1,25	20	28,0	0,09	P1C-4KRC	P1S-4JRD
40	24	54,0	60	48	12	24	12	19	M12x1,25	24	32,0	0,15	P1C-4LRC	P1S-4LRD
50	32	72,0	80	64	16	32	16	25	M16x1,5	32	41,5	0,35	P1C-4MRC	P1S-4MRD
63	32	72,0	80	64	16	32	16	25	M16x1,5	32	41,5	0,35	P1C-4MRC	P1S-4MRD
80	40	90,0	100	80	20	40	20	32	M20x1,5	40	50,0	0,75	P1C-4PRC	P1S-4PRD
100	40	90,0	100	80	20	40	20	32	M20x1,5	40	50,0	0,75	P1C-4PRC	P1S-4PRD
125	56	123,5	137	110	30	55	30	45	M27x2	54	72,0	2,10	P1C-4RRC	P1S-4RRD
160	72			144	35	70	36		M36x2	72		2,90	KY6867	-
200	72			144	35	70	36		M36x2	72		2,90	KY6867	-
250	84			168	40	85	40		M42x2	84		6,00	KY6868	-
320	96			192	50	90	50		M48x2	96		7,90	KY9131	-

Flexo coupling PM5



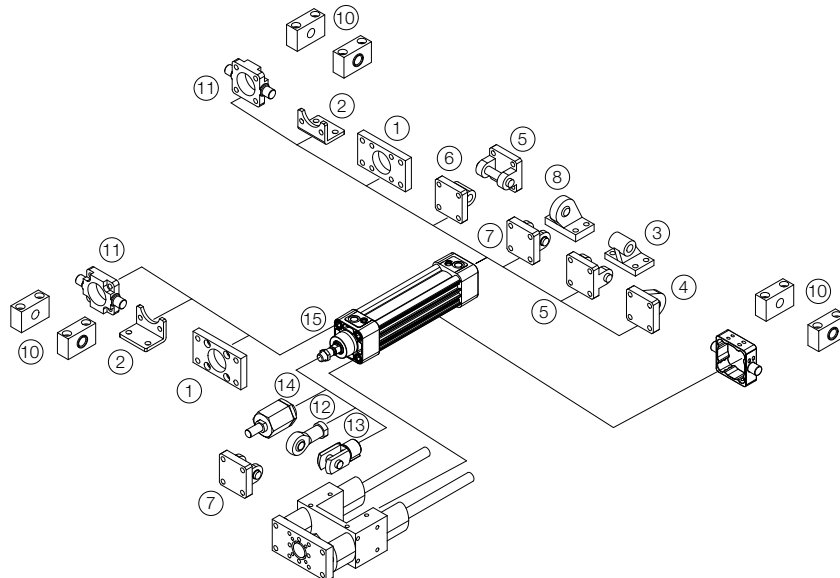
Flexo coupling for articulated mounting of piston rod. Flexo fitting is intended to take up axial angle errors within a range of ±4°.

Material:  
Flexo coupling, nut: Zinc-plated steel  
  
Supplied complete with galvanized adjustment nut.



Bore mm	KK mm	B mm	C mm	D mm	E mm	ØF mm	SW1 mm	SW2 mm	SW3 mm	SW4 mm	SW5 mm	Weight kg	Order code
32	M10x1,25	20	23	73	31	21,0	12	30	30	19	17	0,21	P1C-4KRF
40	M12x1,25	24	23	77	31	21,0	12	30	30	19	19	0,22	P1C-4LRF
50	M16x1,5	32	32	108	45	33,5	19	41	41	30	24	0,67	P1C-4MRF
63	M16x1,5	32	32	108	45	33,5	19	41	41	30	24	0,67	P1C-4MRF
80	M20x1,5	40	42	122	56	33,5	19	41	41	30	30	0,72	P1C-4PRF
100	M20x1,5	40	42	122	56	33,5	19	41	41	30	30	0,72	P1C-4PRF
125	M27x2	54	48	147	51	39,0	24	55	55	32	41	1,80	P1C-4RRF
160	M36x2	72	50	241	110	56,0	36	75	75	50	55	5,10	KY1139
200	M36x2	72	50	241	110	56,0	36	75	75	50	55	5,10	KY1139
250	M42x2	82	88	271	120	-	36	80	80	60	65	7,90	KY1140
320	M48x2	82	88	271	120	-	42	80	80	60	75	7,90	KY9133

	Flange MF1/MF2 <sup>1</sup>	Foot brackets MS1 <sup>2</sup>	Pivot bracket with rigid bearing AB7 <sup>3</sup>	Swivel eye bracket MP6 <sup>4</sup>	Clevis bracket MP2 <sup>5</sup>
Ø 32	P1C-4KMB	P1C-4KMF	P1C-4KMDB	PD23843	P1C-4KMTB
Ø 40	P1C-4LMB	P1C-4LMF	P1C-4LMDB	PD23844	P1C-4LMTB
Ø 50	P1C-4MMB	P1C-4MMF	P1C-4MMDB	PD23845	P1C-4MMTB
Ø 63	P1C-4NMB	P1C-4NMF	P1C-4NMDB	PD23846	P1C-4NMTB
Ø 80	P1C-4PMB	P1C-4PMF	P1C-4PMDB	PD23847	P1C-4PMTB
Ø 100	P1C-4QMB	P1C-4QMF	P1C-4QMDB	PD23848	P1C-4QMTB
Ø 125	P1C-4RMB	P1C-4RMF	P1C-4RMDB	PD23849	P1C-4RMTB
Ø 160	PD23410	PD70512	P1C-4SMDB	PD23850	P1C-4SMTB
Ø 200	PD24924	PD24792	P1C-4TMDB	PD25766	P1C-4TMTB
Ø 250	PD25761	PD25758	P1C-4UMDC	PD25760	P1C-4UMTB
Ø 320	KL9140	KL9139	P1C-4VMDC	KL9136	P1C-4VMTB
	Clevis bracket MP4 <sup>6</sup>	Clevis bracket AB6 <sup>7</sup>	Pivot bracket with swivel bearing CS7 <sup>8</sup>	3 and 4 positions flange JP1	Pivot brackets AT4 <sup>10</sup> for MT* trunnion
Ø 32	PD23412	P1C-4KMCB	KC5130	P1E-6KB0	PD23381
Ø 40	PD23413	P1C-4LMCB	KC5131	P1E-6LB0	PD23382
Ø 50	PD23414	P1C-4MMCB	KC5132	P1E-6MB0	PD23382
Ø 63	PD23415	P1C-4NMCB	KC5133	P1E-6NB0	PD23383
Ø 80	PD23416	P1C-4PMCB	KC5134	P1E-6PB0	PD23383
Ø 100	PD23417	P1C-4QMCB	KC5135	P1E-6QB0	PD23384
Ø 125	PD23418	P1C-4RMCB	KC5136		PD23384
Ø 160	PD22628				PD24425
Ø 200	PD24999				PD24425
Ø 250	PD25759				PD25763
Ø 320	KL9135				KL9130
	Flange trunnion MT5/MT6 <sup>11</sup>	Swivel rod eye AP6 <sup>12</sup>	Clevis AP2 <sup>13</sup>	Flexo coupling PM5 <sup>14</sup>	Zinc-plated nut MR9 <sup>15</sup>
Ø 32	P1D-4KMYF	P1C-4KRS	P1C-4KRC	P1C-4KRF	P14-4KRPZ
Ø 40	P1D-4LMYF	P1C-4LRS	P1C-4LRC	P1C-4LRF	P14-4LRPZ
Ø 50	P1D-4MMYF	P1C-4MRS	P1C-4MRC	P1C-4MRF	P14-4MRPZ
Ø 63	P1D-4NMYF	P1C-4MRS	P1C-4MRC	P1C-4MRF	P14-4MRPZ
Ø 80	P1D-4PMYF	P1C-4PRS	P1C-4PRC	P1C-4PRF	P14-4PRPZ
Ø 100	P1D-4QMYF	P1C-4PRS	P1C-4PRC	P1C-4PRF	P14-4PRPZ
Ø 125		P1C-4RRS	P1C-4RRC	P1C-4RRF	P14-4RRPZ
Ø 160		KY6863	KY6867	KY1139	
Ø 200		KY6863	KY6867	KY1139	
Ø 250		KY6864	KY6868	KY1140	
Ø 320		KL9132	KL9131	KL9133	





# P1D-X Pneumatic Cylinders

According to  
ISO 15552



## High and Low Temperature Cylinders

**P1D-X series** contains cylinder versions for high and low temperature. These versions have material and sealing systems specially designed for their particular temperature ranges. End covers and pistons are made entirely from metal, to give optimum function at **high** or **low** temperature in combination with seals made from specially tested materials and special grease.

- Bore sizes 32-125 mm.
- Double acting.
- Stainless steel piston rod.
- Robust and corrosion resistant.
- Adjustable air cushioning.
- Retained stainless steel cushioning screws.
- Wide range of mountings and drop-in sensors



## P1D-X High Temperature Cylinders

All seals in the high temperature version of P1D-X are developed and validated for continuous operation up to +150° C. The combination of the seal geometry and the FKM (DIN ISO 16299) material ensures reliable and long service life. Certain restrictions apply when choosing sensors due to the temperature range. High temperature cylinders have no magnetic piston and cannot be fitted with sensors (the magnetic field strength in high temperatures is too low to ensure correct reliable sensor function).

- Conforms to ISO 15552.
- Bore 32-125 mm.
- Double acting.
- Stainless steel piston rod.
- Adjustable air cushioning.
- Wide range of mountings.



### Operating information

Working pressure:	Max 10 bar
Working temperature:	
High temp. version	<b>-10°C to +150°C</b>

For more information see [www.parker.com/euro\\_pneumatic](http://www.parker.com/euro_pneumatic)

## P1D-X - High temperature (no magnetic)

### Ø32mm - (G<sup>1</sup>/<sub>8</sub>)

Stroke mm	Order code
25	P1D-X032MF-0025
50	P1D-X032MF-0050
80	P1D-X032MF-0080
100	P1D-X032MF-0100
125	P1D-X032MF-0125
160	P1D-X032MF-0160
200	P1D-X032MF-0200
250	P1D-X032MF-0250
320	P1D-X032MF-0320
400	P1D-X032MF-0400
500	P1D-X032MF-0500

### Ø63mm - (G<sup>3</sup>/<sub>8</sub>)

Stroke mm	Order code
25	P1D-X063MF-0025
50	P1D-X063MF-0050
80	P1D-X063MF-0080
100	P1D-X063MF-0100
125	P1D-X063MF-0125
160	P1D-X063MF-0160
200	P1D-X063MF-0200
250	P1D-X063MF-0250
320	P1D-X063MF-0320
400	P1D-X063MF-0400
500	P1D-X063MF-0500

### Ø100mm - (G<sup>1</sup>/<sub>2</sub>)

Stroke mm	Order code
25	P1D-X100MF-0025
50	P1D-X100MF-0050
80	P1D-X100MF-0080
100	P1D-X100MF-0100
125	P1D-X100MF-0125
160	P1D-X100MF-0160
200	P1D-X100MF-0200
250	P1D-X100MF-0250
320	P1D-X100MF-0320
400	P1D-X100MF-0400
500	P1D-X100MF-0500

### Ø40mm - (G<sup>1</sup>/<sub>4</sub>)

Stroke mm	Order code
25	P1D-X040MF-0025
50	P1D-X040MF-0050
80	P1D-X040MF-0080
100	P1D-X040MF-0100
125	P1D-X040MF-0125
160	P1D-X040MF-0160
200	P1D-X040MF-0200
250	P1D-X040MF-0250
320	P1D-X040MF-0320
400	P1D-X040MF-0400
500	P1D-X040MF-0500

### Ø80mm - (G<sup>3</sup>/<sub>8</sub>)

Stroke mm	Order code
25	P1D-X080MF-0025
50	P1D-X080MF-0050
80	P1D-X080MF-0080
100	P1D-X080MF-0100
125	P1D-X080MF-0125
160	P1D-X080MF-0160
200	P1D-X080MF-0200
250	P1D-X080MF-0250
320	P1D-X080MF-0320
400	P1D-X080MF-0400
500	P1D-X080MF-0500

### Ø125mm - (G<sup>1</sup>/<sub>2</sub>)

Stroke mm	Order code
25	P1D-X125MF-0025
50	P1D-X125MF-0050
80	P1D-X125MF-0080
100	P1D-X125MF-0100
125	P1D-X125MF-0125
160	P1D-X125MF-0160
200	P1D-X125MF-0200
250	P1D-X125MF-0250
320	P1D-X125MF-0320
400	P1D-X125MF-0400
500	P1D-X125MF-0500

### Ø50mm - (G<sup>1</sup>/<sub>4</sub>)

Stroke mm	Order code
25	P1D-X050MF-0025
50	P1D-X050MF-0050
80	P1D-X050MF-0080
100	P1D-X050MF-0100
125	P1D-X050MF-0125
160	P1D-X050MF-0160
200	P1D-X050MF-0200
250	P1D-X050MF-0250
320	P1D-X050MF-0320
400	P1D-X050MF-0400
500	P1D-X050MF-0500

The cylinders are supplied complete with a zinc plated steel piston rod nut.

**P1D-X Low Temperature Cylinders**

All seals in the low temperature version of P1D-X are developed and validated for continuous operation down to -40° C. Polyurethane PUR seal technology and specifically formulated grease support performance and reliability for low temperature applications. As standard supplied with a magnetic ring in the piston for proximity sensing but please note that the sensors are normally specified for full performance to -25° C only.



- Conforms to ISO 15552.
- Bore 32-125 mm.
- Double acting.
- Stainless steel piston rod.
- Adjustable air cushioning.
- Wide range of mountings and drop-in sensors.

**Operating information**

Working pressure: Max 10 bar  
 Working temperature:  
 Low temp. version **-40°C to +80°C**

**P1D-X - Low temperature**

**Ø32mm - (G<sup>1/8</sup>)**

Stroke mm	Order code
25	P1D-X032ML-0025
50	P1D-X032ML-0050
80	P1D-X032ML-0080
100	P1D-X032ML-0100
125	P1D-X032ML-0125
160	P1D-X032ML-0160
200	P1D-X032ML-0200
250	P1D-X032ML-0250
320	P1D-X032ML-0320
400	P1D-X032ML-0400
500	P1D-X032ML-0500

**Ø63mm - (G<sup>3/8</sup>)**

Stroke mm	Order code
25	P1D-X063ML-0025
50	P1D-X063ML-0050
80	P1D-X063ML-0080
100	P1D-X063ML-0100
125	P1D-X063ML-0125
160	P1D-X063ML-0160
200	P1D-X063ML-0200
250	P1D-X063ML-0250
320	P1D-X063ML-0320
400	P1D-X063ML-0400
500	P1D-X063ML-0500

**Ø100mm - (G<sup>1/2</sup>)**

Stroke mm	Order code
25	P1D-X100ML-0025
50	P1D-X100ML-0050
80	P1D-X100ML-0080
100	P1D-X100ML-0100
125	P1D-X100ML-0125
160	P1D-X100ML-0160
200	P1D-X100ML-0200
250	P1D-X100ML-0250
320	P1D-X100ML-0320
400	P1D-X100ML-0400
500	P1D-X100ML-0500

**Ø40mm - (G<sup>1/4</sup>)**

Stroke mm	Order code
25	P1D-X040ML-0025
50	P1D-X040ML-0050
80	P1D-X040ML-0080
100	P1D-X040ML-0100
125	P1D-X040ML-0125
160	P1D-X040ML-0160
200	P1D-X040ML-0200
250	P1D-X040ML-0250
320	P1D-X040ML-0320
400	P1D-X040ML-0400
500	P1D-X040ML-0500

**Ø80mm - (G<sup>3/4</sup>)**

Stroke mm	Order code
25	P1D-X080ML-0025
50	P1D-X080ML-0050
80	P1D-X080ML-0080
100	P1D-X080ML-0100
125	P1D-X080ML-0125
160	P1D-X080ML-0160
200	P1D-X080ML-0200
250	P1D-X080ML-0250
320	P1D-X080ML-0320
400	P1D-X080ML-0400
500	P1D-X080ML-0500

**Ø125mm - (G<sup>1/2</sup>)**

Stroke mm	Order code
25	P1D-X125ML-0025
50	P1D-X125ML-0050
80	P1D-X125ML-0080
100	P1D-X125ML-0100
125	P1D-X125ML-0125
160	P1D-X125ML-0160
200	P1D-X125ML-0200
250	P1D-X125ML-0250
320	P1D-X125ML-0320
400	P1D-X125ML-0400
500	P1D-X125ML-0500

**Ø50mm - (G<sup>1/4</sup>)**

Stroke mm	Order code
25	P1D-X050ML-0025
50	P1D-X050ML-0050
80	P1D-X050ML-0080
100	P1D-X050ML-0100
125	P1D-X050ML-0125
160	P1D-X050ML-0160
200	P1D-X050ML-0200
250	P1D-X050ML-0250
320	P1D-X050ML-0320
400	P1D-X050ML-0400
500	P1D-X050ML-0500

The cylinders are supplied complete with a zinc plated steel piston rod nut.

## P1D-X Metallic Scraper Cylinders

All seals in the metallic version of P1D-X are developed and validated for continuous operation down to  $-30^{\circ}\text{C}$ . Polyurethane PUR seal technology and specifically formulated grease support performance and reliability for external applications. As standard supplied with a magnetic ring in the piston for proximity sensing but please note that the sensors are normally specified for full performance to  $-25^{\circ}\text{C}$  only.



- Conforms to ISO 15552.
- Bore 32-125 mm.
- Double acting.
- Chromed plated steel piston rod.
- Adjustable air cushioning.
- Wide range of mountings and drop-in sensors.

### Operating information

Working pressure:	Max 10 bar
Working temperature:	
Low temp. version	<b><math>-30^{\circ}\text{C}</math> to <math>+80^{\circ}\text{C}</math></b>

For more information see [www.parker.com/euro\\_pneumatic](http://www.parker.com/euro_pneumatic)

## P1D-X - Low temperature, Metallic scraper

### Ø32mm - (G<sup>1/8</sup>)

Stroke mm	Order code
25	P1D-X032QK-0025
50	P1D-X032QK-0050
80	P1D-X032QK-0080
100	P1D-X032QK-0100
125	P1D-X032QK-0125
160	P1D-X032QK-0160
200	P1D-X032QK-0200
250	P1D-X032QK-0250
320	P1D-X032QK-0320
400	P1D-X032QK-0400
500	P1D-X032QK-0500

### Ø63mm - (G<sup>3/8</sup>)

Stroke mm	Order code
25	P1D-X063QK-0025
50	P1D-X063QK-0050
80	P1D-X063QK-0080
100	P1D-X063QK-0100
125	P1D-X063QK-0125
160	P1D-X063QK-0160
200	P1D-X063QK-0200
250	P1D-X063QK-0250
320	P1D-X063QK-0320
400	P1D-X063QK-0400
500	P1D-X063QK-0500

### Ø100mm - (G<sup>1/2</sup>)

Stroke mm	Order code
25	P1D-X100QK-0025
50	P1D-X100QK-0050
80	P1D-X100QK-0080
100	P1D-X100QK-0100
125	P1D-X100QK-0125
160	P1D-X100QK-0160
200	P1D-X100QK-0200
250	P1D-X100QK-0250
320	P1D-X100QK-0320
400	P1D-X100QK-0400
500	P1D-X100QK-0500

### Ø40mm - (G<sup>1/4</sup>)

Stroke mm	Order code
25	P1D-X040QK-0025
50	P1D-X040QK-0050
80	P1D-X040QK-0080
100	P1D-X040QK-0100
125	P1D-X040QK-0125
160	P1D-X040QK-0160
200	P1D-X040QK-0200
250	P1D-X040QK-0250
320	P1D-X040QK-0320
400	P1D-X040QK-0400
500	P1D-X040QK-0500

### Ø80mm - (G<sup>3/8</sup>)

Stroke mm	Order code
25	P1D-X080QK-0025
50	P1D-X080QK-0050
80	P1D-X080QK-0080
100	P1D-X080QK-0100
125	P1D-X080QK-0125
160	P1D-X080QK-0160
200	P1D-X080QK-0200
250	P1D-X080QK-0250
320	P1D-X080QK-0320
400	P1D-X080QK-0400
500	P1D-X080QK-0500

### Ø125mm - (G<sup>1/2</sup>)

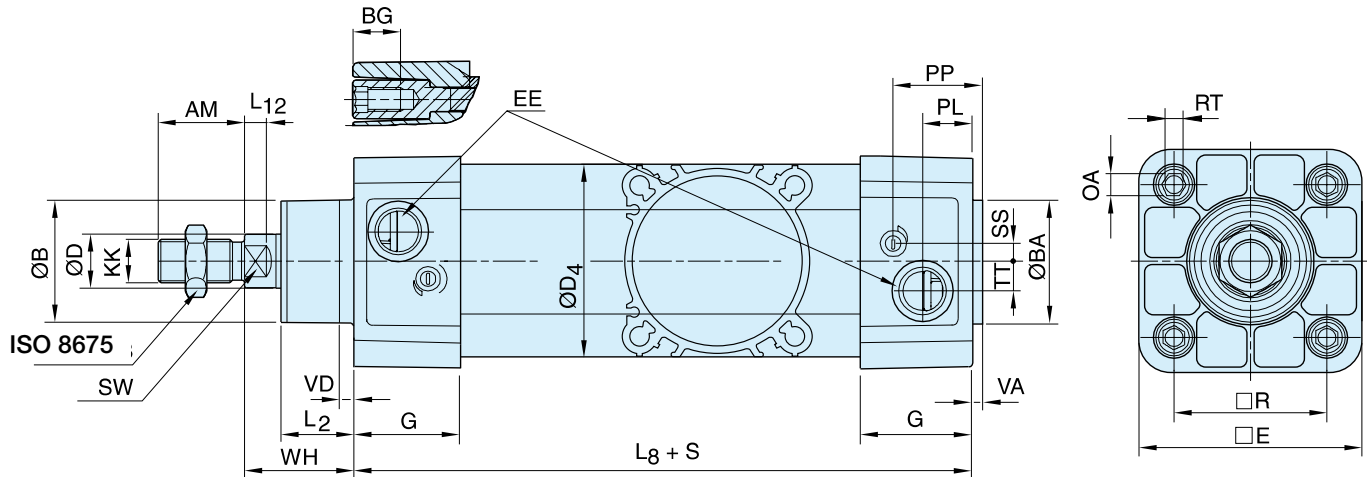
Stroke mm	Order code
25	P1D-X125QK-0025
50	P1D-X125QK-0050
80	P1D-X125QK-0080
100	P1D-X125QK-0100
125	P1D-X125QK-0125
160	P1D-X125QK-0160
200	P1D-X125QK-0200
250	P1D-X125QK-0250
320	P1D-X125QK-0320
400	P1D-X125QK-0400
500	P1D-X125QK-0500

### Ø50mm - (G<sup>1/4</sup>)

Stroke mm	Order code
25	P1D-X050QK-0025
50	P1D-X050QK-0050
80	P1D-X050QK-0080
100	P1D-X050QK-0100
125	P1D-X050QK-0125
160	P1D-X050QK-0160
200	P1D-X050QK-0200
250	P1D-X050QK-0250
320	P1D-X050QK-0320
400	P1D-X050QK-0400
500	P1D-X050QK-0500

The cylinders are supplied complete with a zinc plated steel piston rod nut.

P1D-X Series



Dimensions

Cylinder bore mm	AM mm	B mm	BA mm	BG mm	D mm	D4 mm	E mm	EE mm	G mm	KK mm	L2 mm	L8 mm	L12 mm
32	22	30	30	16	12	45,0	48,0	G1/8	28,5	M10x1,25	16,8	94	6,0
40	24	35	35	16	16	52,0	53,5	G1/4	33,0	M12x1,25	19,0	105	6,5
50	32	40	40	16	20	60,7	65,2	G1/4	33,5	M16x1,5	24,0	106	8,0
63	32	45	45	16	20	71,5	75,5	G3/8	39,5	M16x1,5	24,3	121	8,0
80	40	45	45	17	25	86,7	95,0	G3/8	39,5	M20x1,5	30,0	128	10,0
100	40	55	55	17	25	106,7	114,0	G1/2	44,5	M20x1,5	34,0	138	14,0
125	54	60	60	20	32	134,0	139,0	G1/2	51,0	M27x2	45,0	160	18,0

Cylinder bore mm	OA mm	PL mm	PP mm	R mm	RT mm	SS mm	SW mm	TT mm	VA mm	VD mm	WH mm
32	6,0	14,0	24,2	32,5	M6	5,5	10	4,2	3,5	4,5	26
40	6,0	16,0	27,5	38,0	M6	8,0	13	5,5	3,5	4,5	30
50	8,0	14,0	29,3	46,5	M8	9,0	17	7,5	3,5	4,5	37
63	8,0	16,6	30,8	56,5	M8	6,5	17	10,0	3,5	4,5	37
80	6,0	16,8	33,5	72,0	M10	0	22	11,5	3,5	4,5	46
100	6,0	20,5	37,5	89,0	M10	0	22	14,5	3,5	4,5	51
125	8,0	23,3	45,8	110,0	M12	0	27	15,0	5,5	6,5	65

S=Stroke

Tolerances

Cylinder bore mm	B	BA	L <sub>8</sub> mm	L <sub>9</sub> mm	R mm	Stroke tolerance up to stroke 500 mm	Stroke tolerance for stroke over 500 mm
32	d11	d11	±0,4	±2	±0,5	+0,3/+2,0	+0,3/+3,0
40	d11	d11	±0,7	±2	±0,5	+0,3/+2,0	+0,3/+3,0
50	d11	d11	±0,7	±2	±0,6	+0,3/+2,0	+0,3/+3,0
63	d11	d11	±0,8	±2	±0,7	+0,3/+2,0	+0,3/+3,0
80	d11	d11	±0,8	±3	±0,7	+0,3/+2,0	+0,3/+3,0
100	d11	d11	±1,0	±3	±0,7	+0,3/+2,0	+0,3/+3,0
125	d11	d11	±1,0	±3	±1,1	+0,3/+2,0	+0,3/+3,0

For mountings refer to page 29.

## P1D-L Rod Locking Cylinders

P1D-L is a series of extremely compact rod lock cylinders for demanding applications. This version allows the piston rod to be locked in any position but can also be used as a brake (limits apply) thanks to the rigid design. With helical grooves on the precision clamping sleeves the locking function allows for applications where the piston rod is exposed to liquids and contamination.

- Available in 32 to 125 mm bores
- PUR seals for long service life
- Drop-in sensors
- Corrosion resistant design
- Magnetic piston as standard
- Full range of ISO mountings
- Lubricated with food grade grease



### Operating information

Working pressure:	Max 10 bar
Working temperature:	-20°C to +80°C
Release pressure <sup>1)</sup>	Min 4 bar

<sup>1)</sup> Signal pressure to inlet port of lock unit

For more information see [www.parker.com/euro\\_pneumatic](http://www.parker.com/euro_pneumatic)

## P1D-L - Dynamic Rod Lock

### Ø32mm - (G<sup>1</sup>/<sub>8</sub>)

Stroke mm	Order code
25	P1D-L032MC-0025
40	P1D-L032MC-0040
50	P1D-L032MC-0050
80	P1D-L032MC-0080
100	P1D-L032MC-0100
125	P1D-L032MC-0125
160	P1D-L032MC-0160
200	P1D-L032MC-0200
250	P1D-L032MC-0250
320	P1D-L032MC-0320
400	P1D-L032MC-0400
500	P1D-L032MC-0500

### Ø40mm - (G<sup>1</sup>/<sub>4</sub>)

Stroke mm	Order code
25	P1D-L040MC-0025
40	P1D-L040MC-0040
50	P1D-L040MC-0050
80	P1D-L040MC-0080
100	P1D-L040MC-0100
125	P1D-L040MC-0125
160	P1D-L040MC-0160
200	P1D-L040MC-0200
250	P1D-L040MC-0250
320	P1D-L040MC-0320
400	P1D-L040MC-0400
500	P1D-L040MC-0500

### Ø50mm - (G<sup>1</sup>/<sub>4</sub>)

Stroke mm	Order code
25	P1D-L050MC-0025
40	P1D-L050MC-0040
50	P1D-L050MC-0050
80	P1D-L050MC-0080
100	P1D-L050MC-0100
125	P1D-L050MC-0125
160	P1D-L050MC-0160
200	P1D-L050MC-0200
250	P1D-L050MC-0250
320	P1D-L050MC-0320
400	P1D-L050MC-0400
500	P1D-L050MC-0500

### Ø63mm - (G<sup>3</sup>/<sub>8</sub>)

Stroke mm	Order code
25	P1D-L063MC-0025
40	P1D-L063MC-0040
50	P1D-L063MC-0050
80	P1D-L063MC-0080
100	P1D-L063MC-0100
125	P1D-L063MC-0125
160	P1D-L063MC-0160
200	P1D-L063MC-0200
250	P1D-L063MC-0250
320	P1D-L063MC-0320
400	P1D-L063MC-0400
500	P1D-L063MC-0500

### Ø80mm - (G<sup>3</sup>/<sub>8</sub>)

Stroke mm	Order code
25	P1D-L080MS-0025
40	P1D-L080MC-0040
50	P1D-L080MC-0050
80	P1D-L080MC-0080
100	P1D-L080MC-0100
125	P1D-L080MC-0125
160	P1D-L080MC-0160
200	P1D-L080MC-0200
250	P1D-L080MC-0250
320	P1D-L080MC-0320
400	P1D-L080MC-0400
500	P1D-L080MC-0500

### Ø100mm - (G<sup>1</sup>/<sub>2</sub>)

Stroke mm	Order code
25	P1D-L100MC-0025
40	P1D-L100MC-0040
50	P1D-L100MC-0050
80	P1D-L100MC-0080
100	P1D-L100MC-0100
125	P1D-L100MC-0125
160	P1D-L100MC-0160
200	P1D-L100MC-0200
250	P1D-L100MC-0250
320	P1D-L100MC-0320
400	P1D-L100MC-0400
500	P1D-L100MC-0500

### Ø125mm - (G<sup>1</sup>/<sub>2</sub>)

Stroke mm	Order code
25	P1D-L125MC-0025
40	P1D-L125MC-0040
50	P1D-L125MC-0050
80	P1D-L125MC-0080
100	P1D-L125MC-0100
125	P1D-L125MC-0125
160	P1D-L125MC-0160
200	P1D-L125MC-0200
250	P1D-L125MC-0250
320	P1D-L125MC-0320
400	P1D-L125MC-0400
500	P1D-L125MC-0500

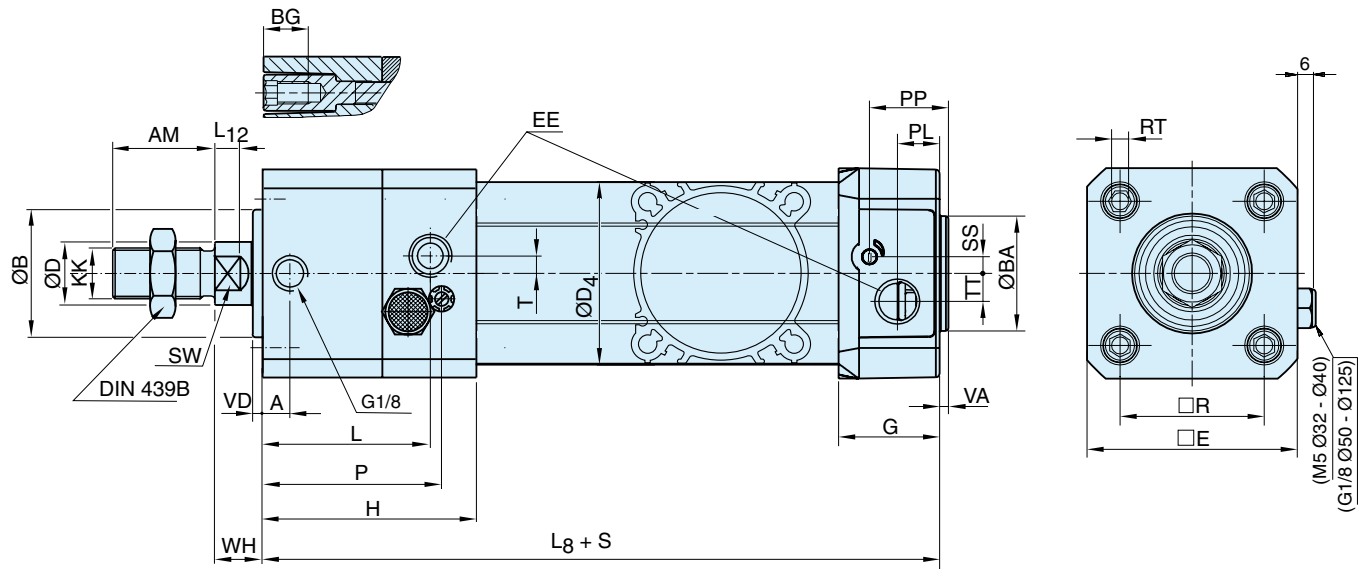
The cylinders are supplied complete with a zinc plated steel piston rod nut.

### Sensors



For sensors see page 77.

P1D-L Series



Dimensions

Cylinder bore mm	A mm	AM mm	B mm	BA mm	BG mm	D mm	D4 mm	E mm	EE mm	G mm	H mm	KK mm	L mm
32	18,5	22	30	30	16	12	45,0	50,0	G1/8	28,5	71,0	M10x1,25	53,0
40	20,0	24	35	35	16	16	52,0	57,4	G1/4	33,0	76,5	M12x1,25	56,0
50	21,0	32	40	40	16	20	60,7	69,4	G1/4	33,5	80,0	M16x1,5	65,0
63	30,0	32	45	45	16	20	71,5	82,4	G3/8	39,5	96,0	M16x1,5	76,5
80	35,0	40	45	45	17	25	86,7	99,4	G3/8	39,5	110,0	M20x1,5	89,0
100	54,0	40	55	55	17	25	106,7	116,0	G1/2	44,5	132,0	M20x1,5	112,0
125	65,5	54	60	60	20	32	134,0	139,0	G1/2	51,0	144,5	M27x2	124,5

Cylinder bore mm	L8 mm	L12 mm	P mm	PL mm	PP mm	R mm	RT mm	SS mm	SW mm	T mm	TT mm	VA mm	VD mm	WH mm
32	137	6,0	63,0	13,0	21,8	32,5	M6	4,0	10	4,5	4,5	3,5	4,5	15
40	149	6,5	67,5	14,0	21,9	38,0	M6	8,0	13	3,0	5,5	3,5	4,5	16
50	153	8,0	71,0	14,0	23,0	46,5	M8	4,0	17	5,5	7,5	3,5	5,0	17
63	178	8,0	87,0	16,4	27,4	56,5	M8	6,5	17	3,0	11,0	3,5	5,0	17
80	199	10,0	101,0	16,0	30,5	72,0	M10	0	22	6,0	15,0	3,5	4,0	20
100	226	14,0	122,0	18,0	35,8	89,0	M10	0	22	6,0	20,0	3,5	4,0	20
125	254	18,0	134,5	28,0	40,5	110,0	M12	0	27	6,0	17,5	5,5	6,0	27

S=Stroke

Tolerances

Cylinder bore mm	B mm	BA mm	L <sub>8</sub> mm	L <sub>9</sub> mm	R mm	Stroke tolerance up to stroke 500 mm	Stroke tolerance for stroke over 500 mm
32	d11	d11	±0,4	±2	±0,5	+0,3/+2,0	+0,3/+3,0
40	d11	d11	±0,7	±2	±0,5	+0,3/+2,0	+0,3/+3,0
50	d11	d11	±0,7	±2	±0,6	+0,3/+2,0	+0,3/+3,0
63	d11	d11	±0,8	±2	±0,7	+0,3/+2,0	+0,3/+3,0
80	d11	d11	±0,8	±3	±0,7	+0,3/+2,0	+0,3/+3,0
100	d11	d11	±1,0	±3	±0,7	+0,3/+2,0	+0,3/+3,0
125	d11	d11	±1,0	±3	±1,1	+0,3/+2,0	+0,3/+3,0

For mountings refer to page 29.

## P1D cylinder with static piston rod locking

The P1D cylinder is available in a version with piston rod locking, allowing the piston rod to be locked in any position. The lock unit, of the air/spring actuated type. With no signal pressure, the full force of the lock is applied to the piston rod. Lock units are available for P1D Standard, in bores 32-125 mm. Of course, the entire range of P1D accessories can also be used for the locking cylinder, which can be ordered with factory fitted accessories, sensors. However, the lock unit increases the overall length of the cylinder. Not certified for used in safety systems.

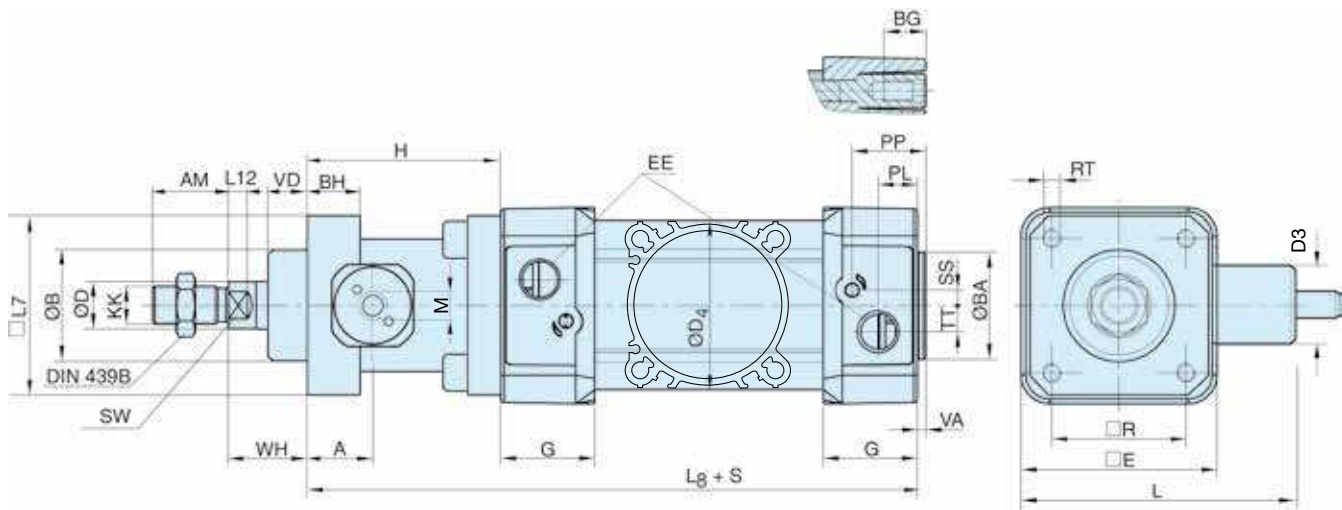


Cyl. bore mm	Stroke mm	Order code
<b>32</b> Conn. G1/8	25	P1D-H032MC-0025
	40	P1D-H032MC-0040
	50	P1D-H032MC-0050
	80	P1D-H032MC-0080
	100	P1D-H032MC-0100
	125	P1D-H032MC-0125
	160	P1D-H032MC-0160
	200	P1D-H032MC-0200
	250	P1D-H032MC-0250
	320	P1D-H032MC-0320
<b>40</b> Conn. G1/4	25	P1D-H040MC-0025
	40	P1D-H040MC-0040
	50	P1D-H040MC-0050
	80	P1D-H040MC-0080
	100	P1D-H040MC-0100
	125	P1D-H040MC-0125
	160	P1D-H040MC-0160
	200	P1D-H040MC-0200
	250	P1D-H040MC-0250
	320	P1D-H040MC-0320
<b>50</b> Conn. G1/4	25	P1D-H050MC-0025
	40	P1D-H050MC-0040
	50	P1D-H050MC-0050
	80	P1D-H050MC-0080
	100	P1D-H050MC-0100
	125	P1D-H050MC-0125
	160	P1D-H050MC-0160
	200	P1D-H050MC-0200
	250	P1D-H050MC-0250
	320	P1D-H050MC-0320
<b>63</b> Conn. G3/8	25	P1D-H063MC-0025
	40	P1D-H063MC-0040
	50	P1D-H063MC-0050
	80	P1D-H063MC-0080
	100	P1D-H063MC-0100
	125	P1D-H063MC-0125
	160	P1D-H063MC-0160
	200	P1D-H063MC-0200
	250	P1D-H063MC-0250
	320	P1D-H063MC-0320

Cyl. bore mm	Stroke mm	Order code
<b>80</b> Conn. G3/8	25	P1D-H080MC-0025
	40	P1D-H080MC-0040
	50	P1D-H080MC-0050
	80	P1D-H080MC-0080
	100	P1D-H080MC-0100
	125	P1D-H080MC-0125
	160	P1D-H080MC-0160
	200	P1D-H080MC-0200
	250	P1D-H080MC-0250
	320	P1D-H080MC-0320
<b>100</b> Conn. G1/2	25	P1D-H100MC-0025
	40	P1D-H100MC-0040
	50	P1D-H100MC-0050
	80	P1D-H100MC-0080
	100	P1D-H100MC-0100
	125	P1D-H100MC-0125
	160	P1D-H100MC-0160
	200	P1D-H100MC-0200
	250	P1D-H100MC-0250
	320	P1D-H100MC-0320
<b>125</b> Conn. G1/2	25	P1D-H125MC-0025
	40	P1D-H125MC-0040
	50	P1D-H125MC-0050
	80	P1D-H125MC-0080
	100	P1D-H125MC-0100
	125	P1D-H125MC-0125
	160	P1D-H125MC-0160
	200	P1D-H125MC-0200
	250	P1D-H125MC-0250
	320	P1D-H125MC-0320

The cylinders are supplied complete with one zinc plated steel piston rod nut.

P1D-H Series



Dimensions (mm)

Cylinder bore mm	A	AM	B	BA	BG	BH	D	D3	D4	E	EE	G	H	KK
32	16,0	22	30	30	16	12	12	22,5	45,0	50,0	G1/8	28,5	48,0	M10x1,25
40	19,5	24	35	35	16	12	16	27,5	52,0	57,4	G1/4	33,0	55,0	M12x1,25
50	21,0	32	40	40	16	16	20	32,5	60,7	69,4	G1/4	33,5	70,0	M16x1,5
63	21,0	32	45	45	16	15	20	41,0	71,5	82,4	G3/8	39,5	70,0	M16x1,5
80	28,0	40	45	45	17	16	25	49,0	86,7	99,4	G3/8	39,5	90,0	M20x1,5
100	27,0	40	55	55	17	18	25	53,0	106,7	116,0	G1/2	44,5	92,0	M20x1,5
125	37,0	54	60	60	20	27	32	65,0	134,0	139,0	G1/2	51,0	122,0	M27x2

Cylinder bore mm	L	L7	L8	L12	M	PL	PP	R	RT	SS	SW	TT	VA	VD	WH
32	94,0	48	142	6,0	M5	13,0	21,8	32,5	M6	4,0	10	4,5	3,5	10	26
40	102,5	56	160	6,5	G1/8	14,0	21,9	38,0	M6	8,0	13	5,5	3,5	10	30
50	119,5	68	176	8,0	G1/8	14,0	23,0	46,5	M8	4,0	17	7,5	3,5	12	37
63	138,0	82	203	8,0	G1/8	16,4	27,4	56,5	M8	6,5	17	11,0	3,5	12	37
80	152,0	100	218	10,0	G1/8	16,0	30,5	72,0	M10	0	22	15,0	3,5	20	46
100	193,5	120	230	14,0	G1/8	18,0	35,8	89,0	M10	0	22	20,0	3,5	23	51
125	223,5	140	282	18,0	G1/8	28,0	40,5	110,0	M12	0	27	17,5	5,5	32	65

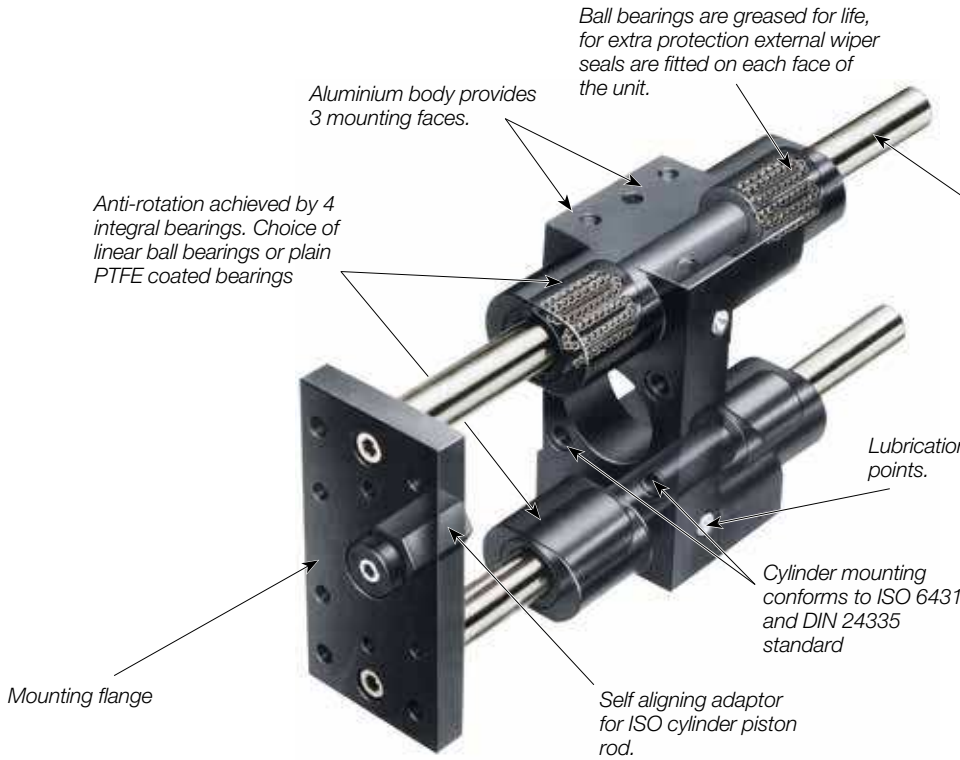
S=Stroke

Tolerances (mm)

Cylinder bore mm	B	BA	L <sub>8</sub>	L <sub>9</sub>	R	Stroke tolerance up to stroke 500 mm	Stroke tolerance for stroke over 500 mm
32	d11	d11	±0,4	±2	±0,5	+0,3/+2,0	+0,3/+3,0
40	d11	d11	±0,7	±2	±0,5	+0,3/+2,0	+0,3/+3,0
50	d11	d11	±0,7	±2	±0,6	+0,3/+2,0	+0,3/+3,0
63	d11	d11	±0,8	±2	±0,7	+0,3/+2,0	+0,3/+3,0
80	d11	d11	±0,8	±3	±0,7	+0,3/+2,0	+0,3/+3,0
100	d11	d11	±1,0	±3	±0,7	+0,3/+2,0	+0,3/+3,0
125	d11	d11	±1,0	±3	±1,1	+0,3/+2,0	+0,3/+3,0



**P1E Rod Guidance Module**



**Installation on P1D-L with lock unit**

If rotary control is to be retrofitted to a P1D-L with lock unit, the piston rod must be extended to provide the same WH dimensions as for the P1D base cylinder, as shown in the table below.

Cyl. dim mm	Piston rod extension on P1D-L with lock unit mm
32	11
40	14
50	20
63	20
80	26
100	31

**P1E with rod guidance modules**

The P1D series cylinders can be equipped with an external guiding device to prevent the piston rod from turning. The factory fitted guide gives a guided piston movement and enables the cylinder to take up turning moments on the piston rod, as well as greater transverse forces. The rod guidance is available with plain bearings or linear ball bearings and with H or U style. The bracket, which has pre-drilled mounting holes, is connected to the piston rod by means of a flexo coupling, which prevents the build-up of stresses in the cylinder. P1D cylinders with guiding devices are available with bores from 32 to 100 mm, and standard stroke lengths from 25 to 250 mm. Special stroke lengths up to 500 mm can also be obtained. Separate guiding device kits can be supplied on request according to the order key below.

**Technical data**

Working temperature -20 °C to +80 °C

**Material specifications, guidance modules**

Body	Anodised aluminium
Guide bars, H style	Stainless steel for ball bearing chrome plated for plain bearing
Front plate	Anodised aluminium
Guide bars, U style	Stainless steel
Front plate	Zinc-plated steel
Bearings	Plain bearings Linear ball bearings

**Order key for separate guidance module**

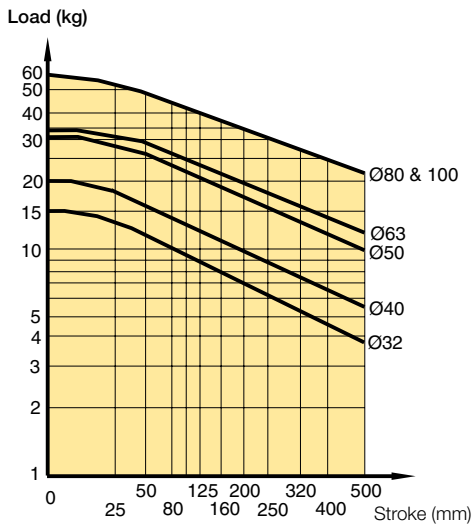
**P1E - 4KRH - 0100**

Bore size mm	Guide module type	Stroke length (mm)
<b>K</b> 32	<b>H</b> H style, ball bearings	Same as for the cylinder e.g. <b>0100</b> = 100 mm.
<b>L</b> 40	<b>J</b> H style, plain bearings	
<b>M</b> 50	<b>K</b> U style, plain bearings	
<b>N</b> 63		
<b>P</b> 80		
<b>Q</b> 100		

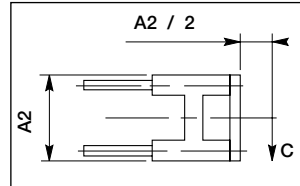
Technical information 'H style'

Rod guide with ball bearings

Maximum load carried

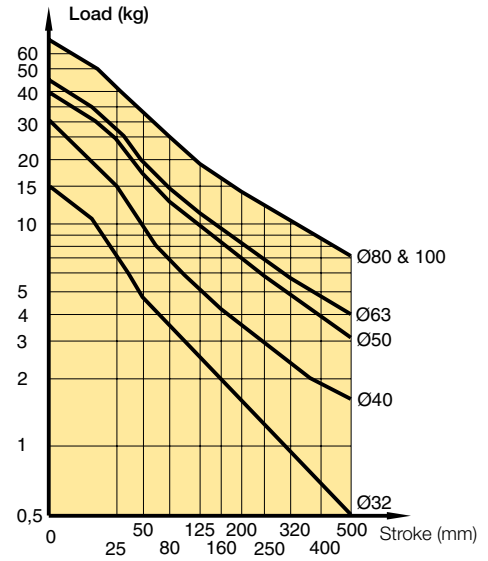


Graphs established at mid point of stroke

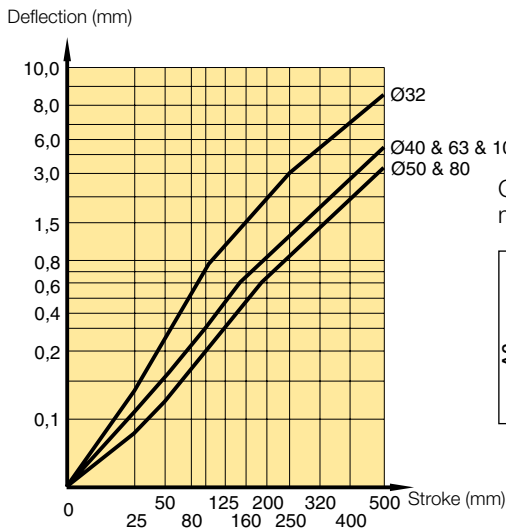


Rod guide with plain bearings

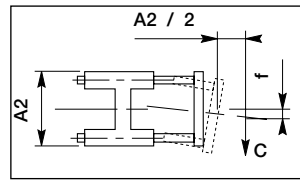
Maximum load carried



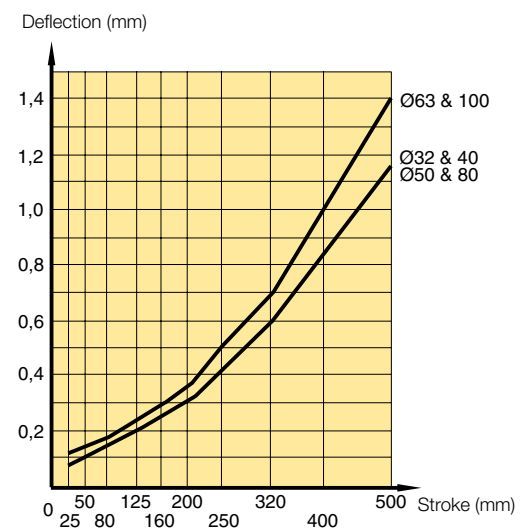
Maximum deflection/max load



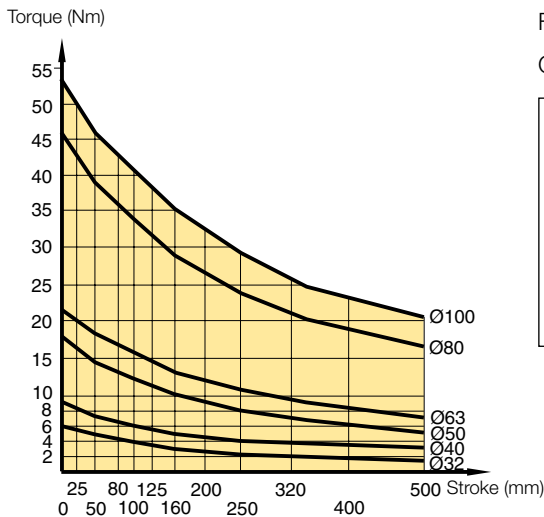
Graphs established at mid point of stroke



Maximum deflection/max load

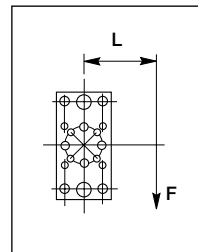


Maximum permissible torque (Nm)

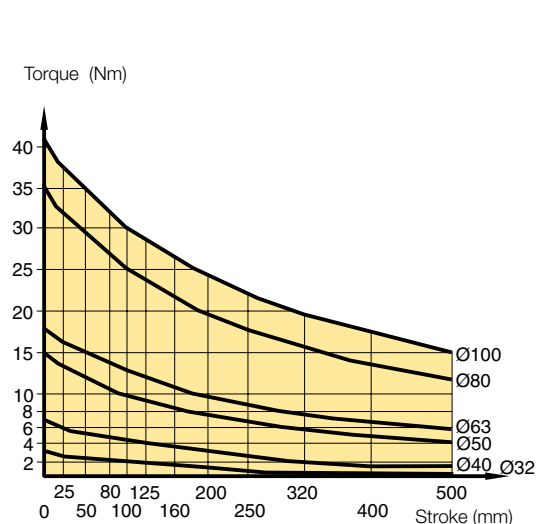


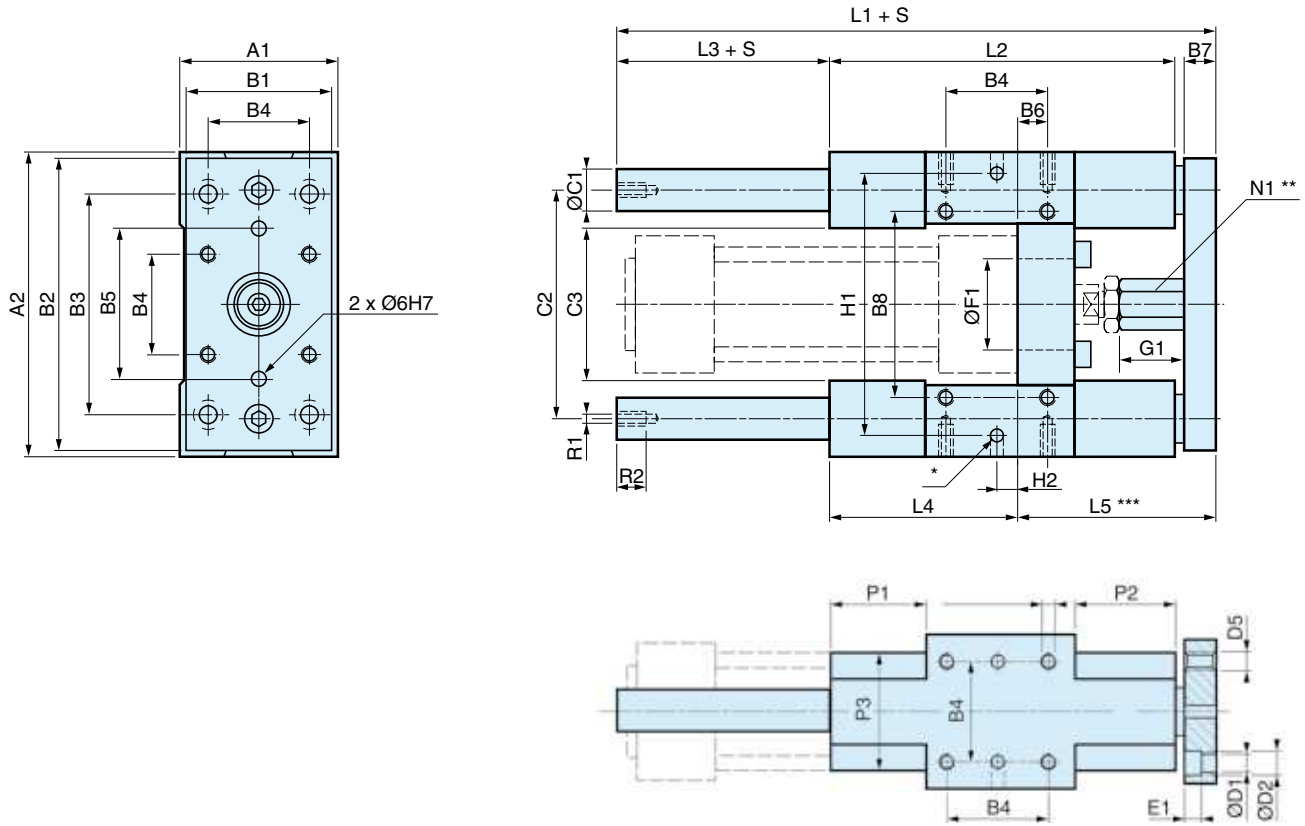
Formula:

$$C(Nm) = F(N) \times L(m)$$



Maximum permissible torque (Nm)





**Dimensions, H style guidance modules**

Cyl. bore mm	A <sub>1</sub> mm	A <sub>2</sub> mm	B <sub>1</sub> mm	B <sub>2</sub> mm	B <sub>3</sub> mm	B <sub>4</sub> mm	B <sub>5</sub> mm	B <sub>6</sub> mm	B <sub>7</sub> mm	B <sub>8</sub> mm	ØC <sub>1</sub> mm	C <sub>2</sub> mm	C <sub>3</sub> mm	ØD <sub>1</sub> mm	ØD <sub>2</sub> mm	D <sub>5</sub>
32	50	97	45	90	78	32,5	50	4,2	12	61	12	73,5	50	6,6	11	M6
40	58	115	54	110	84	38,0	54	11,0	12	69	16	86,5	58	6,6	11	M6
50	70	137	63	130	100	46,5	72	18,8	15	85	20	103,5	70	8,4	15	M8
63	85	152	80	145	105	56,5	82	15,0	15	100	20	118,5	83	8,4	15	M8
80	105	189	100	180	130	72,0	106	21,0	20	130	25	147,0	102	10,5	18	M10
100	130	213	120	200	150	89,0	131	24,5	20	150	25	171,5	125	10,5	18	M10

Cyl. bore mm	E <sub>1</sub> mm	Ø F <sub>1</sub> <sup>+0,1/0</sup> G <sub>1</sub> mm	L <sub>1</sub> mm	L <sub>2</sub> mm	L <sub>3</sub> mm	L <sub>4</sub> mm	L <sub>5</sub> mm	N <sub>1</sub> mm	P <sub>1</sub> ±1 mm	P <sub>2</sub> ±1 mm	P <sub>3</sub> mm	R <sub>1</sub> mm	R <sub>2</sub> mm	W mm	mm
32	7	30	17	150	120	15	71	64	17	36	31	40	M6	11	5
40	7	35	24	170	130	25	71	74	17	36	36	44	M6	11	6
50	9	40	27	197	150	24	79	89	24	42	44	50	M8	16	8
63	9	45	27	222	180	24	109	89	24	58	44	60	M8	16	8
80	11	45	32	247	200	24	113	110	30	50	52	70	M10	16	10
100	11	55	32	267	220	24	128	115	30	49	51	70	M10	16	10

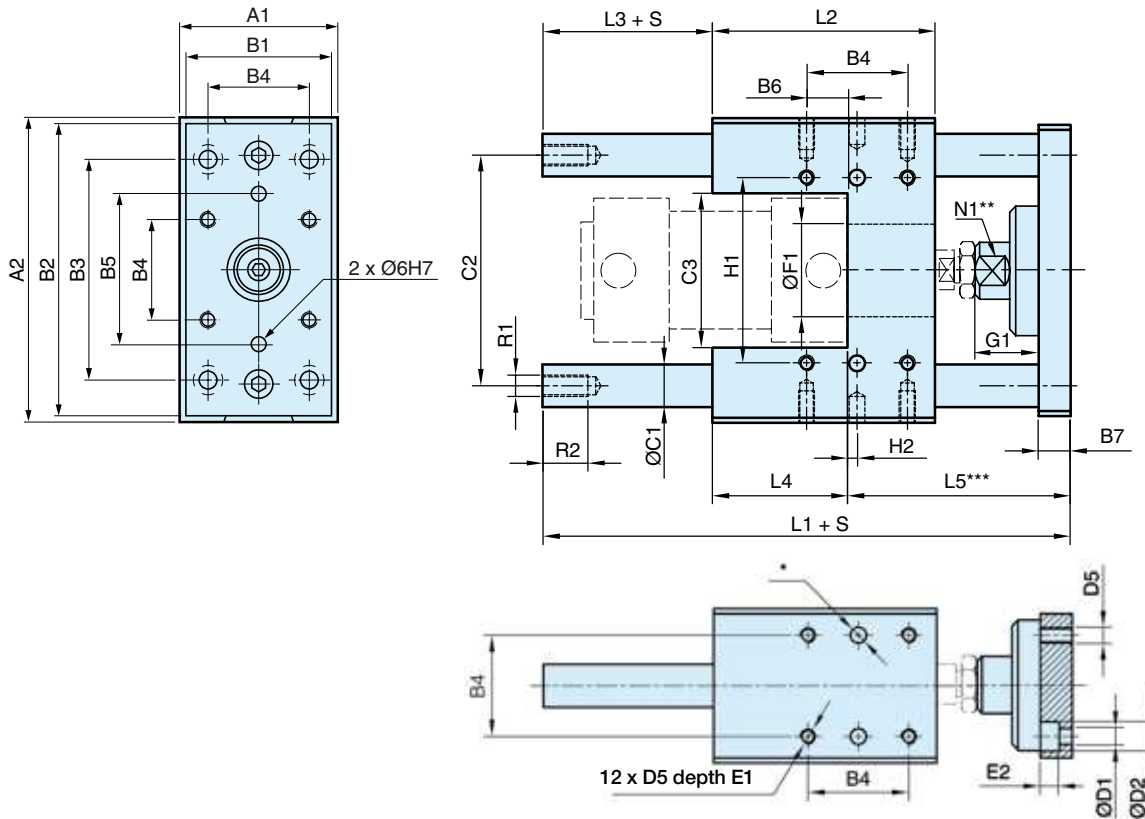
Cyl. bore mm	H <sub>1</sub> <sup>+0,05</sup> mm	H <sub>2</sub> mm	T mm	Weight at 0 mm stroke kg	Supplement weight per 10 mm stroke kg
32	81	11,7	12	0,970	0,018
40	99	8,0	12	1,550	0,032
50	119	4,2	16	2,560	0,050
63	132	13,0	16	3,570	0,050
80	166	15,0	20	6,530	0,078
100	190	20,5	20	8,760	0,078

S = Stroke length

\* 6 hole Ø6<sup>H7</sup>, depth 10<sup>+1/0</sup>

\*\* Hexagon profile

\*\*\* Min adjustment=0, max.=W



**Dimensions, U style guidance modules**

Cyl. bore. mm	A <sub>1</sub> mm	A <sub>2</sub> mm	B <sub>1</sub> mm	B <sub>2</sub> mm	B <sub>3</sub> mm	B <sub>4</sub> mm	B <sub>5</sub> mm	B <sub>6</sub> mm	B <sub>7</sub> mm	C <sub>1</sub> mm	C <sub>2</sub> mm	C <sub>3</sub> mm	D <sub>1</sub> mm	D <sub>2</sub> mm	D <sub>5</sub>
32	50	97	45	90	78	32,5	50	18,0	12	12	74	50	6,6	11	M6
40	58	115	54	110	84	38,0	54	15,5	12	16	87	58	6,6	11	M6
50	70	137	63	130	100	46,5	72	19,5	15	20	104	70	9,0	15	M8
63	85	152	80	145	105	56,5	82	29,5	15	20	119	85	9,0	15	M8
80	105	189	100	180	130	72,0	106	39,0	20	25	148	105	11,0	18	M10
100	130	213	120	200	150	89,0	131	53,5	20	25	172	130	11,0	18	M10

Cyl. bore. mm	E <sub>1</sub> mm	E <sub>2</sub> mm	Ø F <sub>1</sub> <sup>+0,1/0</sup> mm	G <sub>1</sub>	L <sub>1</sub> mm	L <sub>2</sub> mm	L <sub>3</sub> mm	L <sub>4</sub> mm	L <sub>5</sub> mm	N <sub>1</sub> mm	R <sub>1</sub> mm	R <sub>2</sub>	H <sub>1</sub> <sup>±0,05</sup> mm	H <sub>2</sub> mm	W <sup>***</sup> mm
32	10	6,5	30	30	133	72	14	44	75	13	M6	11	61	1,75	5
40	10	6,5	35	36	149	84	12	51	86	15	M8	12	69	3,50	5
50	13	9,0	40	42	175	100	12	60	103	22	M8	12	85	3,75	5
63	13	9,0	45	42	190	115	12	75	103	22	M8	12	100	1,25	5
80	16	11,0	45	49	238	162	0	112	126	27	M10	16	130	3,00	6
100	16	11,0	55	49	249	167	6	112	131	27	M10	16	150	8,50	6

Cyl. bore mm	Weight at 0 mm stroke kg	Supplement weight per 10 mm stroke kg
32	0,970	0,018
40	1,550	0,315
50	2,560	0,493
63	3,570	0,493
80	6,530	0,770
100	8,760	0,770

S = Stroke length

\* 6 hole Ø6<sup>H7</sup>, depth 10<sup>+1/0</sup>

\*\* Width of jaw

\*\*\* Min adjustment=0, max.=W

# P8S-G sensors



The P1D sensors can easily be installed from the side in the sensor groove, at any position along the piston stroke. The sensors are completely recessed and thus mechanically protected. Choose between electronic or reed sensors and several cable lengths and 8 mm and M12 connectors. The same standard sensors are used for all P1D versions.

## Electronic sensors

The electronic sensors are "Solid State", i.e. they have no moving parts at all. They are provided with short-circuit protection and transient protection as standard. The built-in electronics make the sensors suitable for applications with high on and off switching frequency, and where very long service life is required.

## Reed sensors

The sensors are based on proven reed switches, which offer reliable function in many applications. Simple installation, a protected position on the cylinder and clear LED indication are important advantages of this range of sensors.

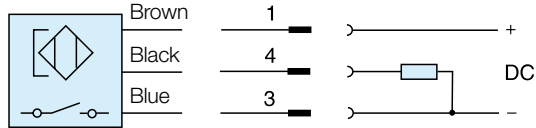
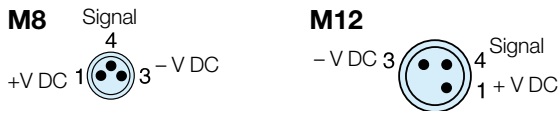
### Technical data

Design	GMR (Giant Magnetic Resistance) magneto-resistive function
Installation	From side, down into the sensor groove, so-called drop-in
Outputs	PNP, normally open (also available in NPN design, normally closed, on request)
Voltage range	10-30 VDC 10-18 V DC, ATEX sensor
Ripple	max 10%
Voltage drop	max 2,5 V
Load current	max 100 mA
Internal consumption	max 10 mA
Actuating distance	min 9 mm
Hysteresis	max 1,5 mm
Repeatability accuracy	max 0,2 mm
On/off switching frequency	max 5 kHz
On switching time	max 2 ms
Off switching time	max 2 ms
Encapsulation	IP 67 (EN 60529)
Temperature range	-25 °C to +75 °C -20 °C to +45 °C, ATEX sensor
Indication	LED, yellow
Material housing	PA 12
Material screw	Stainless steel
Cable	PVC or PUR 3x0.25 mm <sup>2</sup> see order code respectively

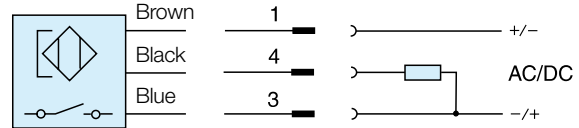
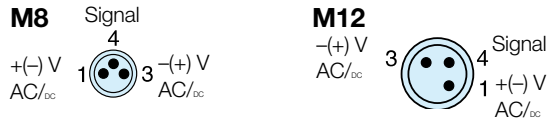
### Technical data

Design	Reed element
Mounting	From side, down into the sensor groove, so-called drop-in
Output	Normally open , or normally closed
Voltage range	10-30 V AC/DC or 10-120 V AC/DC 24-230 V AC/DC
Load current	max 500 mA for 10-30 V or max 100 mA for 10-120 V max 30 mA for 24-230 V
Breaking power (resistive)	max 6 W/VA
Actuating distance	min 9 mm
Hysteresis	max 1,5 mm
Repeatability accuracy	0,2 mm
On/off switching frequency	max 400 Hz
On switching time	max 1,5 ms
Off switching time	max 0,5 ms
Encapsulation	IP 67 (EN 60529)
Temperature range	-25 °C to +75 °C
Indication	LED, yellow
Material housing	PA12
Material screw	Stainless steel
Cable	PVC or PUR 3x0.14 mm <sup>2</sup> see order code respectively

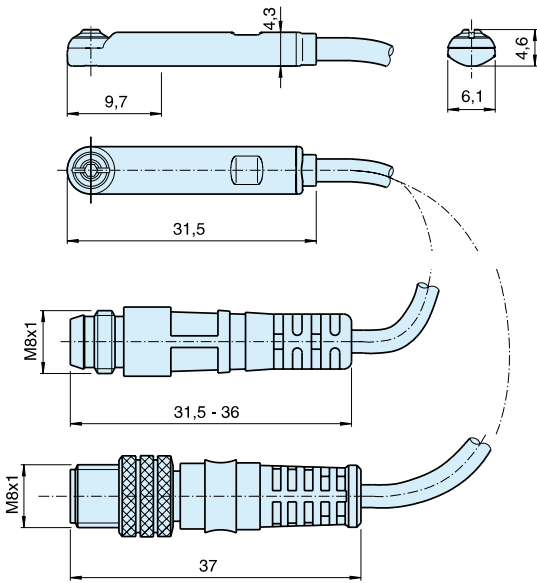
Electronic sensors



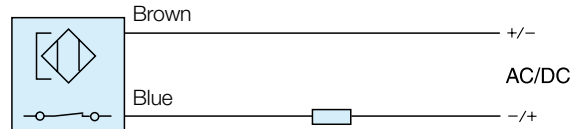
Reed sensors



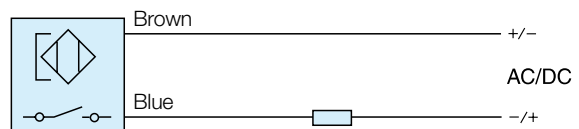
Sensor Dimensions



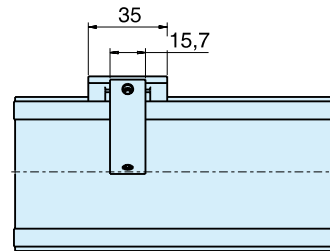
P8S-GCFPX



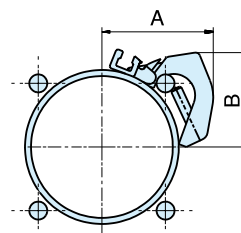
P8S-GRFLX / P8S-GRFLX2



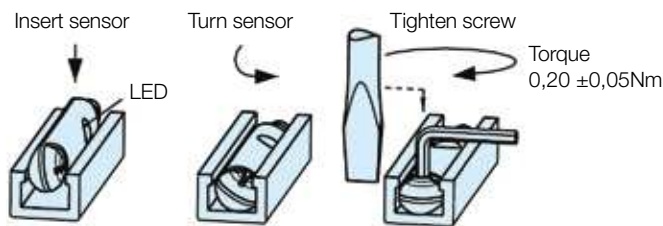
Sensor mounting - P1D-T 32 - 125mm  
 P8S-TMA0X



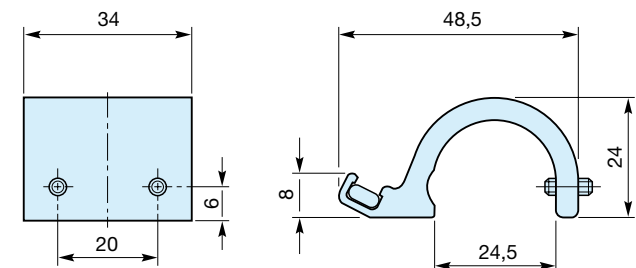
Cyl. bore mm	A mm	B mm
32	35	26
40	39	30
50	44	30
63	50	42
80	54	52
100	62	60
125	74	69



Sensor Installation - P1D-S / B / C / X  
 P1Q / P1P



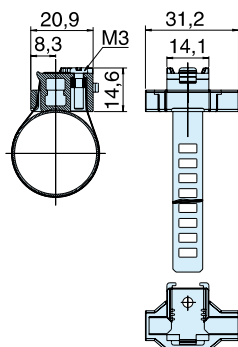
Sensor mounting - P1D-T 160 - 320mm  
 PD48956



Order code

**PD48956**

Sensor mounting - P1A-S 10 - 25mm - P8S-TMC01



## Ordering data

Output/function	Cable/connector	Weight kg	Order code
<b>Electronic sensors , 10-30 V DC</b>			
PNP type, normally open	0,27 m PUR-cable and 8 mm snap-in male connector	0,007	<b>P8S-GPSHX</b>
PNP type, normally open	0,27 m PUR-cable and M12 screw male connector	0,015	<b>P8S-GPMHX</b>
PNP type, normally open	3 m PVC-cable without connector	0,030	<b>P8S-GPFLX</b>
PNP type, normally open	10 m PVC-cable without connector	0,110	<b>P8S-GPFTX</b>
<b>Reed sensors , 10-30 V AC/DC</b>			
Normally open	0,27 m PUR-cable and 8 mm snap-in male connector	0,007	<b>P8S-GSSHX</b>
Normally open	0,27 m PUR-cable and M12 screw male connector	0,015	<b>P8S-GSMHX</b>
Normally open	3 m PVC-cable without connector	0,030	<b>P8S-GSFLX</b>
Normally open	10 m PVC-cable without connector	0,110	<b>P8S-GSFTX</b>
Normally closed	5m PVC-cable without connector <sup>(1)</sup>	0,050	<b>P8S-GCFPX</b>
<b>Reed sensors, 10-120 V AC/DC</b>			
Normally open	3 m PVC-cable without connector	0,030	<b>P8S-GRFLX</b>
<b>Reed sensorer, 24-230 V AC/DC</b>			
Normally open	3 m PVC-cable without connector	0,030	<b>P8S-GRFLX2</b>

1) Without LED

## Sensor mounting

Description	Weight kg	Order code
Sensor mounting for cylinder P1A cylinder bore Ø10 to Ø25 mm	0,07	<b>P8S-TMC01</b>
Double jointed adapter for cylinder P1D-T cylinder bore Ø32 to Ø125 mm	0,07	<b>P8S-TMA0X</b>
Sensor mounting for P1D-T 160 - 320mm	0,040	<b>PD48956</b>

## Connecting cables with one connector

The cables have an integral snap-in female connector.



Type of cable	Cable/connector	Weight kg	Order code
<b>Cables for sensors, complete with one female connector</b>			
Cable, Flex PVC	3 m, 8 mm Snap-in connector	0,07	<b>9126344341</b>
Cable, Flex PVC	10 m, 8 mm Snap-in connector	0,21	<b>9126344342</b>
Cable, Polyurethane	3 m, 8 mm Snap-in connector	0,01	<b>9126344345</b>
Cable, Polyurethane	10 m, 8 mm Snap-in connector	0,20	<b>9126344346</b>
Cable, Polyurethane	5 m, M12 screw connector	0,07	<b>9126344348</b>
Cable, Polyurethane	10 m, M12 screw connector	0,20	<b>9126344349</b>

## Male connectors for connecting cables

Cable connectors for producing your own connecting cables. The connectors can be quickly attached to the cable without special tools. Only the outer sheath of the cable is removed. The connectors are available for M8 and M12 screw connectors and meet protection class IP 65.



Connector	Weight kg	Order code
M8 screw connector	0,017	<b>P8CS0803J</b>
M12 screw connector	0,022	<b>P8CS1204J</b>



**For ATEX specific products  
contact Sales Office**

# P1A Pneumatic Mini ISO Cylinders

According to ISO 6432



The P1A range of cylinders is intended for use in a wide range of applications. The cylinders are particularly suitable for lighter duties in the packaging, food and textile industries.

Hygienic design, the use of corrosion-resistant materials and initial lubrication with our food-grade grease makes the cylinders suitable for food industry applications.

- **Mini cylinder according to ISO 6432**
- **Available in 10 to 25 mm bores**
- **Corrosion resistant design and low weight construction**
- **Magnetic piston as standard**
- **End stroke buffers for long service life**



Careful design and high quality manufacture throughout ensure long service life and optimum economy.

Mounting dimensions fully in accordance with ISO 6432 and CETOP RP52P greatly simplifies installation and world-wide interchangeability.



- Mini cylinder according to ISO 6432
- Available in 10 to 25 mm bores
- Corrosion resistant design and low weight construction
- Magnetic piston as standard
- End stroke buffers for long service life

### Operating information

Working pressure: Max 10 bar  
Temperature range: -20°C to +80°C Ø10-25mm

### Design variants

#### High temperature

Ø12 and 16mm -10°C to +120°C Non-magnetic piston  
Ø20 and 25mm -10°C to +150°C Non-magnetic piston

#### External seals

fluorinated rubber -20°C to +80°C Magnetic piston

Prelubricated, further lubrication is not normally necessary.  
If additional lubrication is introduced it must be continued.

## Double acting buffer cushioning

### Ø10mm - (M5)

Stroke mm	Order code
10	P1A-S010DS-0010
15	P1A-S010DS-0015
25	P1A-S010DS-0025
30	P1A-S010DS-0030
40	P1A-S010DS-0040
50	P1A-S010DS-0050
80	P1A-S010DS-0080
100	P1A-S010DS-0100
125	P1A-S010DS-0125

### Ø12mm - (M5)

Stroke mm	Order code
10	P1A-S012DS-0010
15	P1A-S012DS-0015
25	P1A-S012DS-0025
30	P1A-S012DS-0030
40	P1A-S012DS-0040
50	P1A-S012DS-0050
80	P1A-S012DS-0080
100	P1A-S012DS-0100
125	P1A-S012DS-0125
160	P1A-S012DS-0160
200	P1A-S012DS-0200

### Ø16mm - (M5)

Stroke mm	Order code
10	P1A-S016DS-0010
15	P1A-S016DS-0015
25	P1A-S016DS-0025
30	P1A-S016DS-0030
40	P1A-S016DS-0040
50	P1A-S016DS-0050
80	P1A-S016DS-0080
100	P1A-S016DS-0100
125	P1A-S016DS-0125
160	P1A-S016DS-0160
200	P1A-S016DS-0200

### Ø20mm - (G1/8)

Stroke mm	Order code
10	P1A-S020DS-0010
15	P1A-S020DS-0015
25	P1A-S020DS-0025
30	P1A-S020DS-0030
40	P1A-S020DS-0040
50	P1A-S020DS-0050
80	P1A-S020DS-0080
100	P1A-S020DS-0100
125	P1A-S020DS-0125
160	P1A-S020DS-0160
200	P1A-S020DS-0200
250	P1A-S020DS-0250
320	P1A-S020DS-0320

### Ø25mm - (G1/8)

Stroke mm	Order code
10	P1A-S025DS-0010
15	P1A-S025DS-0015
25	P1A-S025DS-0025
30	P1A-S025DS-0030
40	P1A-S025DS-0040
50	P1A-S025DS-0050
80	P1A-S025DS-0080
100	P1A-S025DS-0100
125	P1A-S025DS-0125
160	P1A-S025DS-0160
200	P1A-S025DS-0200
250	P1A-S025DS-0250
320	P1A-S025DS-0320

Cylinders are supplied complete with neck mounting and piston rod nuts.  
Cylinders with Through piston rods are supplied with two piston rod nuts and one neck mounting nut.

### Sensors



For sensors see page 77.

## Double acting adjustable cushioning

### Ø16mm - (M5)

Stroke mm	Order code
20	P1A-S016MS-0020
25	P1A-S016MS-0025
30	P1A-S016MS-0030
40	P1A-S016MS-0040
50	P1A-S016MS-0050
80	P1A-S016MS-0080
100	P1A-S016MS-0100
125	P1A-S016MS-0125
160	P1A-S016MS-0160
200	P1A-S016MS-0200

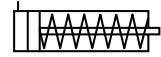
### Ø20mm - (G1/8)

Stroke mm	Order code
20	P1A-S020MS-0020
25	P1A-S020MS-0025
30	P1A-S020MS-0030
50	P1A-S020MS-0050
80	P1A-S020MS-0080
100	P1A-S020MS-0100
125	P1A-S020MS-0125
160	P1A-S020MS-0160
200	P1A-S020MS-0200
250	P1A-S020MS-0250
320	P1A-S020MS-0320

### Ø25mm - (G1/8)

Stroke mm	Order code
20	P1A-S025MS-0020
25	P1A-S025MS-0025
30	P1A-S025MS-0030
40	P1A-S025MS-0040
50	P1A-S025MS-0050
80	P1A-S025MS-0080
100	P1A-S025MS-0100
125	P1A-S025MS-0125
160	P1A-S025MS-0160
200	P1A-S025MS-0200
250	P1A-S025MS-0250
320	P1A-S025MS-0320

Single acting push type (Spring return for retracted stroke)



Ø10mm - (M5)

Stroke mm	Order code
10	P1A-S010SS-0010
15	P1A-S010SS-0015
25	P1A-S010SS-0025
40	P1A-S010SS-0040
50	P1A-S010SS-0050
80	P1A-S010SS-0080

Ø16mm - (M5)

Stroke mm	Order code
10	P1A-S016SS-0010
15	P1A-S016SS-0015
25	P1A-S016SS-0025
40	P1A-S016SS-0040
50	P1A-S016SS-0050
80	P1A-S016SS-0080

Ø25mm - (G1/8)

Stroke mm	Order code
10	P1A-S025SS-0010
15	P1A-S025SS-0015
25	P1A-S025SS-0025
40	P1A-S025SS-0040
50	P1A-S025SS-0050
80	P1A-S025SS-0080

Ø12mm - (M5)

Stroke mm	Order code
10	P1A-S012SS-0010
15	P1A-S012SS-0015
25	P1A-S012SS-0025
40	P1A-S012SS-0040
50	P1A-S012SS-0050
80	P1A-S012SS-0080

Ø20mm - (G1/8)

Stroke mm	Order code
10	P1A-S020SS-0010
15	P1A-S020SS-0015
25	P1A-S020SS-0025
50	P1A-S020SS-0050
80	P1A-S020SS-0080

Single acting pull type (Spring extended for advanced stroke)



Ø16mm - (M5)

Stroke mm	Order code
10	P1A-S016TS-0010
15	P1A-S016TS-0015
25	P1A-S016TS-0025
40	P1A-S016TS-0040
50	P1A-S016TS-0050

Ø20mm - (G1/8)

Stroke mm	Order code
10	P1A-S020TS-0010
15	P1A-S020TS-0015
25	P1A-S020TS-0025
50	P1A-S020TS-0050
80	P1A-S020TS-0080

Ø25mm - (G1/8)

Stroke mm	Order code
10	P1A-S025TS-0010
15	P1A-S025TS-0015
25	P1A-S025TS-0025
40	P1A-S025TS-0040
50	P1A-S025TS-0050
80	P1A-S025TS-0080

Design Variants

Double acting options



Double-acting adjustable cushioning Ø16 - Ø25 (not for seal material type F)

Double-acting non-adjustable cushioning Ø10 - Ø25



Double-acting, adjustable cushioning through rod Ø16 - Ø25 (not for seal material type F)

Double-acting, non-adjustable cushioning through rod Ø10 - Ø25

Single acting options



Single-acting, Spring return for retracted stroke. Non-adjustable cushioning Ø10 - Ø25

Single-acting, Spring extended for advanced stroke. Non-adjustable cushioning Ø16 - Ø25

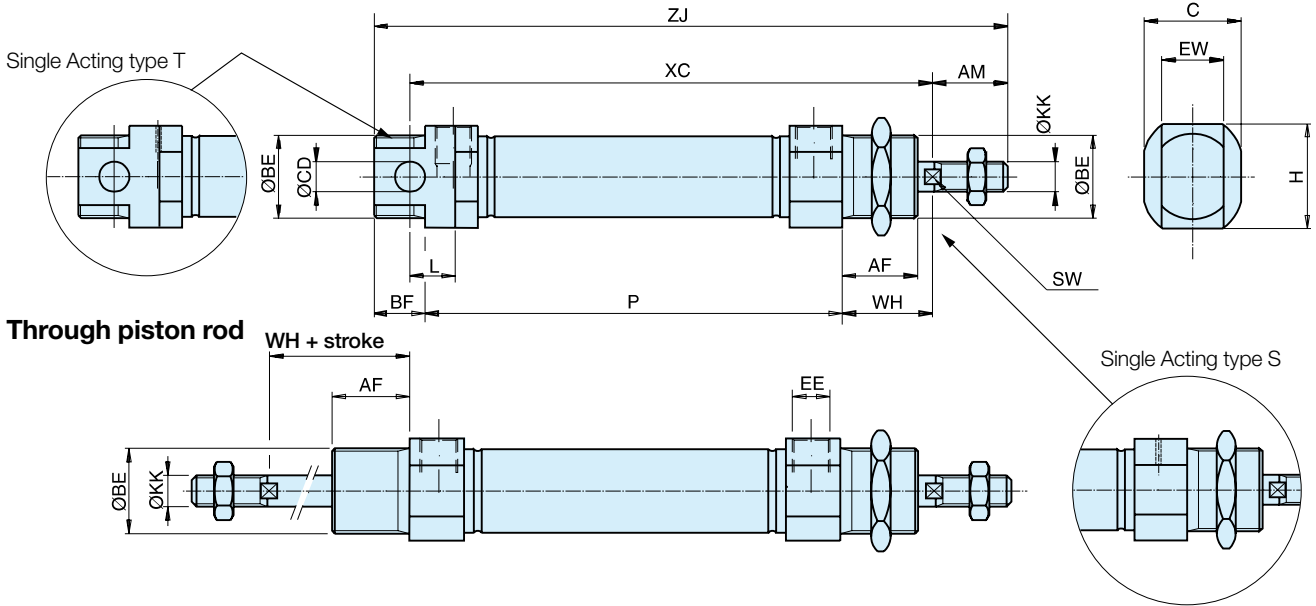
"U" style rod guidance modules, plain bearings

The P1A series cylinders can be equipped with an external guiding device to prevent the piston rod from turning. When fitted the guide provides a guided piston movement enabling the cylinder to resist turning moments on the piston rod, as well as greater transverse forces.



**Dimensions**

**Double and single acting cylinders**



Cylinder bore mm	AM 0/-2 mm	BE	AF mm	BF mm	C mm	CDH9 mm	EE	EW mm	H mm	KK	L mm	SW mm	WH±1,2 mm
10	12	M12x1,25	12	10	13,0	4	M5	8	13,0	M4	6	-	16
12	16	M16x1,5	18	13	17,8	6	M5	12	17,8	M6	9	5	22
16 <sup>1)</sup>	16	M16x1,5	18	13	17,8	6	M5	12	17,8	M6	9	5	22
16 <sup>2)</sup>	16	M16x1,5	18	13	23,8	6	M5	12	23,8	M6	9	5	22
20	20	M22x1,5	20	14	23,8	8	G1/8	16	23,8	M8	12	7	24
25	22	M22x1,5	22	14	26,8	8	G1/8	16	26,8	M10x1,25	12	9	28

1) P1A-S016DS/SS/TS

2) P1A-S016MS

**Double acting cylinders**

Cylinder bore mm	XC mm	ZJ mm	P mm
10	64 + stroke	84 + stroke	46 + stroke
12	75 + stroke	99 + stroke	48 + stroke
16	82 + stroke	104 + stroke	53 + stroke
20	95 + stroke	125 + stroke	67 + stroke
25	104 + stroke	132 + stroke	68 + stroke

**Single-acting, spring return, type SS**

Stroke/ Cylinder bore mm	10 XC mm	15 XC mm	25 XC mm	40 XC mm	50 XC mm	80 XC mm	10 ZJ mm	15 ZJ mm	25 ZJ mm	40 ZJ mm	50 ZJ mm	80 ZJ mm	10 P mm	15 P mm	25 P mm	40 P mm	50 P mm	80 P mm
10	74	79	89	126	136	174	94	99	109	146	156	194	56	61	71	108	118	156
12	85	90	100	132	142	185	109	114	124	156	166	209	58	63	73	105	115	158
16	92	97	107	122	132	184	114	119	129	144	154	206	63	68	78	93	103	155
20	105	110	120	135	145	191	135	140	150	165	175	221	77	82	92	107	117	163
25	114	119	129	144	154	201	142	147	157	172	182	229	78	83	93	108	118	165

**Single-acting, spring-extended, type TS**

Stroke/ Cylinder bore mm	10 XC <sup>3)</sup> mm	15 XC <sup>3)</sup> mm	25 XC <sup>3)</sup> mm	40 XC <sup>3)</sup> mm	50 XC <sup>3)</sup> mm	80 XC <sup>3)</sup> mm	10 ZJ <sup>3)</sup> mm	15 ZJ <sup>3)</sup> mm	25 ZJ <sup>3)</sup> mm	40 ZJ <sup>3)</sup> mm	50 ZJ <sup>3)</sup> mm	80 ZJ <sup>3)</sup> mm	10 P mm	15 P mm	25 P mm	40 P mm	50 P mm	80 P mm
16	107	112	122	137	147	-	129	134	144	159	169	-	78	83	93	108	118	-
20	120	125	135	150	160	195	150	155	165	180	190	225	92	97	107	122	132	167
25	129	134	144	159	169	205	157	162	172	187	197	233	93	98	108	123	133	169

3) With piston rod retracted, as shown in the dimension drawing

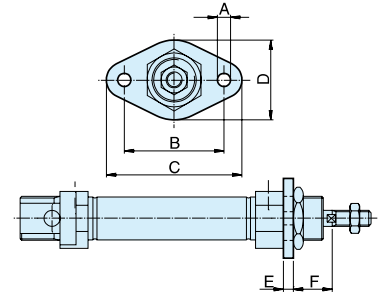
Length tolerances ±1 mm

Stroke length tolerances +1,5/0 mm

**Cylinder Mountings**

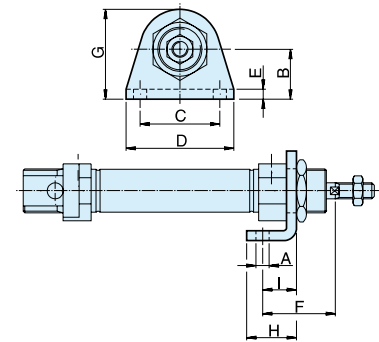
**Flange-MF8**

Cylinder Ø mm	A mm	B mm	C mm	D mm	E mm	F mm	Order code
10	4,5	30	40	22	3	13	<b>P1A-4CMB</b>
12	5,5	40	52	30	4	18	<b>P1A-4DMB</b>
16	5,5	40	52	30	4	18	<b>P1A-4DMB</b>
20	6,6	50	66	40	5	19	<b>P1A-4HMB</b>
25	6,6	50	66	40	5	23	<b>P1A-4HMB</b>



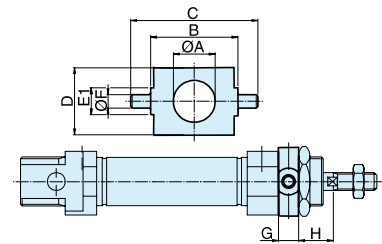
**Foot-MS3**

Cylinder Ø mm	A mm	B mm	C mm	D mm	E mm	F mm	G mm	H mm	I mm	Order code
10	4,5	16	25	35	3	24	26,0	16	11	<b>P1A-4CMF</b>
12	5,5	20	32	42	4	32	32,5	20	14	<b>P1A-4DMF</b>
16	5,5	20	32	42	4	32	32,5	20	14	<b>P1A-4DMF</b>
20	6,5	25	40	54	5	36	45,0	25	17	<b>P1A-4HMF</b>
25	6,5	25	40	54	5	40	45,0	25	17	<b>P1A-4HMF</b>



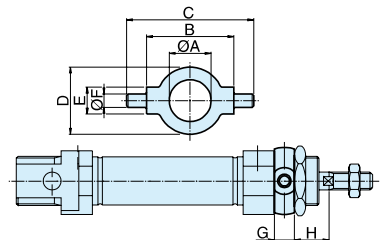
**Cover trunnion**

Cylinder Ø mm	A mm	B h14 mm	C mm	D mm	E1 mm	F e9 mm	G mm	H mm	Order code
10	12,5	26	38	20	9	4	6	10	<b>P1A-4CMJZ</b>
12	16,5	38	58	25	13	6	8	14	<b>P1A-4DMJZ</b>
16	16,5	38	58	25	13	6	8	14	<b>P1A-4DMJZ</b>
20	22,5	46	66	30	13	6	8	16	<b>P1A-4HMJZ</b>
25	22,5	46	66	30	13	6	8	20	<b>P1A-4HMJZ</b>



**Cover trunnion  
Stainless steel**

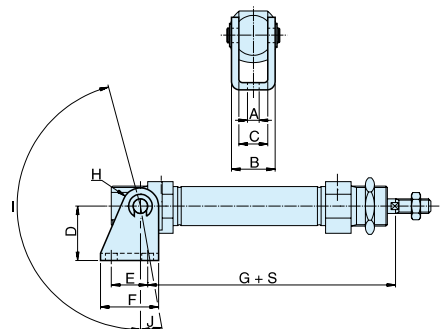
Cylinder Ø mm	A mm	B h14 mm	C mm	D mm	E mm	F e9 mm	G mm	H mm	Order code
10	12,5	26	38	20	8	4	6	10	<b>P1A-4CMJ</b>
12	16,5	38	58	25	10	6	8	14	<b>P1A-4DMJ</b>
16	16,5	38	58	25	10	6	8	14	<b>P1A-4DMJ</b>
20	22,5	46	66	30	10	6	8	16	<b>P1A-4HMJ</b>
25	22,5	46	66	30	10	6	8	20	<b>P1A-4HMJ</b>



**Clevis bracket AB3**

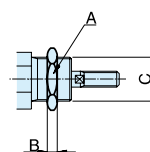
Cylinder Ø mm	A mm	B mm	C mm	D mm	E mm	F mm	G mm	H mm	I °	J °	Order code
10	4,5	13	8	24	12,5	20	65,3	5	160	17	<b>P1A-4CMT</b>
12	5,5	18	12	27	15,0	25	73,0	7	170	15	<b>P1A-4DMT</b>
16	5,5	18	12	27	15,0	25	80,0	7	170	15	<b>P1A-4DMT</b>
20	6,5	24	16	30	20,0	32	91,0	10	165	10	<b>P1A-4HMT</b>
25	6,5	24	16	30	20,0	32	100,0	10	165	10	<b>P1A-4HMT</b>

S=stroke



**Stainless Mounting nut**

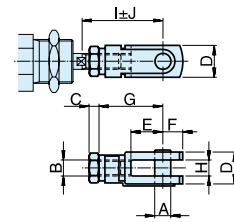
Cylinder Ø mm	A mm	B mm	C	Order code
10	17	5	M12x1,25	<b>9126725405</b>
12	24	8	M16x1,50	<b>9126725406</b>
16	24	8	M16x1,50	<b>9126725406</b>
20	27	5	M22x1,50	<b>9126725407</b>
25	27	5	M22x1,50	<b>9126725407</b>



**Cylinder Mountings**

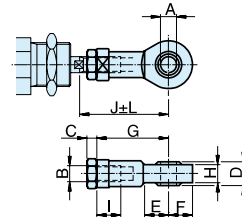
**Clevis AP2**

Cylinder Ø mm	A mm	B	C mm	D mm	E mm	F mm	G mm	H mm	I mm	J mm	Order code
10	4	M4	2,2	8	8	5	16	4	22,0	2,0	<b>P1A-4CRC</b>
12	6	M6	3,2	12	12	7	24	6	31,0	3,0	<b>P1A-4DRC</b>
16	6	M6	3,2	12	12	7	24	6	31,0	3,0	<b>P1A-4DRC</b>
20	8	M8	4,0	16	16	10	32	8	40,5	3,5	<b>P1A-4HRC</b>
25	10	M10x1,25	5,0	20	20	12	40	10	49,0	3,0	<b>P1A-4JRC</b>



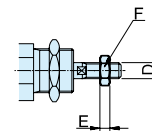
**Swivel rod eye AP6**

Cylinder Ø mm	A mm	B	C mm	D mm	E mm	F mm	G mm	H mm	I mm	J mm	K mm	L mm	Order code
10	5	M4	2,2	8	10	9	27	6,0	8	33,0	9	2,0	<b>P1A-4CRS</b>
12	6	M6	3,2	9	10	10	30	6,8	9	38,5	11	1,5	<b>P1A-4DRS</b>
16	6	M6	3,2	9	10	10	30	6,8	9	38,5	11	1,5	<b>P1A-4DRS</b>
20	8	M8	4,0	12	12	12	36	9,0	12	46,0	14	2,0	<b>P1A-4HRS</b>
25	10	M10x1,25	5,0	14	14	14	43	10,5	15	52,5	17	2,5	<b>P1A-4JRS</b>



**Stainless Rod nut**

Cylinder Ø mm	D	F mm	E mm	Order code
10	M4	7	2,2	<b>9127385121</b>
12	M6	10	3,2	<b>9127385122</b>
16	M6	10	3,2	<b>9127385122</b>
20	M8	13	4,0	<b>9127385123</b>
25	M10x1,25	17	5,0	<b>9126725404</b>



**Flange MF8**



**Foot bracket MS3**



**Cover trunnion**



**Cover trunnion  
Stainless steel**



**Stainless steel  
mounting nut**



Ø 10	<b>P1A-4CMB</b>	<b>P1A-4CMF</b>	<b>P1A-4CMJZ</b>	<b>P1A-4CMJ</b>	<b>9126725405</b>
Ø 12	<b>P1A-4DMB</b>	<b>P1A-4DMF</b>	<b>P1A-4DMJZ</b>	<b>P1A-4DMJ</b>	<b>9126725406</b>
Ø 16	<b>P1A-4DMB</b>	<b>P1A-4DMF</b>	<b>P1A-4DMJZ</b>	<b>P1A-4DMJ</b>	<b>9126725406</b>
Ø 20	<b>P1A-4HMB</b>	<b>P1A-4HMF</b>	<b>P1A-4HMJZ</b>	<b>P1A-4HMJ</b>	<b>9126725407</b>
Ø 25	<b>P1A-4HMB</b>	<b>P1A-4HMF</b>	<b>P1A-4HMJZ</b>	<b>P1A-4HMJ</b>	<b>9126725407</b>

**Clevis bracket AB3**



**Clevis AP2**



**Swivel rod eye AP6**



**Stainless steel  
Rod nut**



Ø 10	<b>P1A-4CMT</b>	<b>P1A-4CRC</b>	<b>P1A-4CRS</b>	<b>9127385121</b>
Ø 12	<b>P1A-4DMT</b>	<b>P1A-4DRC</b>	<b>P1A-4DRS</b>	<b>9127385122</b>
Ø 16	<b>P1A-4DMT</b>	<b>P1A-4DRC</b>	<b>P1A-4DRS</b>	<b>9127385122</b>
Ø 20	<b>P1A-4HMT</b>	<b>P1A-4HRC</b>	<b>P1A-4HRS</b>	<b>9127385123</b>
Ø 25	<b>P1A-4HMT</b>	<b>P1A-4JRC</b>	<b>P1A-4JRS</b>	<b>9126725404</b>

# All Round Cylinders 32 to 63 R Series



With its aluminium body construction and integral pivot mounting points the R32 - 63mm round cylinder series offers a lightweight versatile cylinder for a variety of applications. Designed and manufactured for quality and long service life while giving an economical package of options to compete in the competitive market environment.

- Available in bores  $\text{Ø}32$ ,  $\text{Ø}40$ ,  $\text{Ø}50$  and  $\text{Ø}63$
- Double acting
- Adjustable cushioning
- Magnetic piston as standard
- Range of mounting options
- Other options available

With its aluminium body construction and integral pivot mounting points the R32 - 63mm round cylinder series offers a lightweight versatile cylinder for a variety of applications. Designed and manufactured for quality and long service life while giving an economical package of options to compete in the competitive market environment.



- Available in bores Ø32, Ø40, Ø50 and Ø63
- Double acting
- Adjustable cushioning
- Magnetic piston as standard
- Range of mounting options
- Other options available

#### Operating information

Working pressure: Max 10 bar  
 Temperature range: -10°C to +70°C

For more information see [www.parker.com/euro\\_pneumatic](http://www.parker.com/euro_pneumatic)

### R32 - 63mm

#### Ø32mm - (G1/8)

Stroke mm	Order code
25	PD46443-0025
50	PD46443-0050
80	PD46443-0080
100	PD46443-0100
125	PD46443-0125
160	PD46443-0160
200	PD46443-0200
250	PD46443-0250
320	PD46443-0320
400	PD46443-0400
500	PD46443-0500

#### Ø50mm - (G1/4)

Stroke mm	Order code
25	PD46447-0025
50	PD46447-0050
80	PD46447-0080
100	PD46447-0100
125	PD46447-0125
160	PD46447-0160
200	PD46447-0200
250	PD46447-0250
320	PD46447-0320
400	PD46447-0400
500	PD46447-0500

#### Ø40mm - (G1/4)

Stroke mm	Order code
25	PD46445-0025
50	PD46445-0050
80	PD46445-0080
100	PD46445-0100
125	PD46445-0125
160	PD46445-0160
200	PD46445-0200
250	PD46445-0250
320	PD46445-0320
400	PD46445-0400
500	PD46445-0500

#### Ø63mm - (G3/8)

Stroke mm	Order code
25	PD46449-0025
50	PD46449-0050
80	PD46449-0080
100	PD46449-0100
125	PD46449-0125
160	PD46449-0160
200	PD46449-0200
250	PD46449-0250
320	PD46449-0320
400	PD46449-0400
500	PD46449-0500

## Characteristics

General features		Description
Type		Round cylinder
Series		R.... , RK....
System		Piston rod cylinder
R6..., RK6....		Double acting without cushioning
R5....		Double acting with cushioning
RDU6...		With through piston rod Double acting without cushioning
Ambient temperature range	T <sub>min</sub>	-10 °C
	T <sub>max</sub>	+70 °C
Medium temperature range	T <sub>max</sub>	+70 °C
Medium		Filtered and lubricated or filtered and unlubricated compressed air
Lubrication		Oil mist lubrication compatible with NBR and PU

Note:  
When using below freezing point (°C)  
please contact as for advice

## Material

Cylinder barrel	Aluminium, anodised
Front/rear end caps	Aluminium
Piston rod	Steel, high-alloy

## Pneumatic Characteristics

Nominal pressure	P <sub>n</sub>	6 bar			
Piston diameter		32	40	50	63
Operating pressure range	P <sub>min</sub>	1 bar			
	P <sub>max</sub>	10 bar			
Port size		G1/8	G1/4	G1/4	G3/8
Piston rod diameter		12mm	16mm	20mm	20mm
Stroke length (mm)		For standard stroke lengths see order instructions, max. 500, longer strokes on request			
Cushioned stroke		At both ends progressively adjustable			
Cushioned stroke		22mm	27mm	28mm	28mm

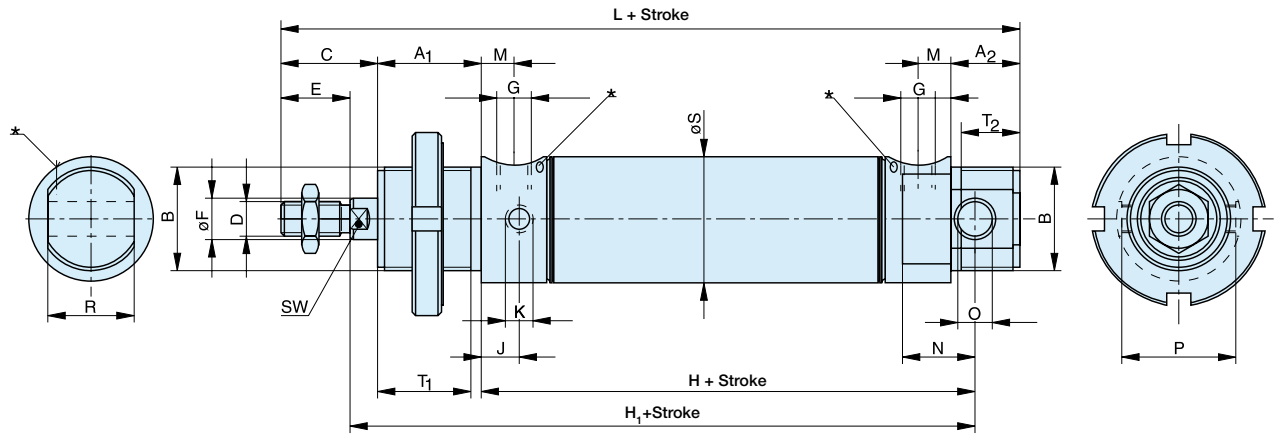
## Weight (mass) kg

Cylinder version	Cylinder diameter							
	Ø32		Ø40		Ø50		Ø63	
	1*	2*	1*	2*	1*	2*	1*	2*
Basic cylinder Typ R....	0.550	0.150	0.940	0.250	1.400	0.300	1.900	0.400
With through piston rod Typ RDU....	1.100	0.340	1.480	0.560	2.560	0.850	3.260	0.950

\* 1 = Weight for cylinder with 100 mm stroke  
2 = Weight for every additional 100 mm stroke length

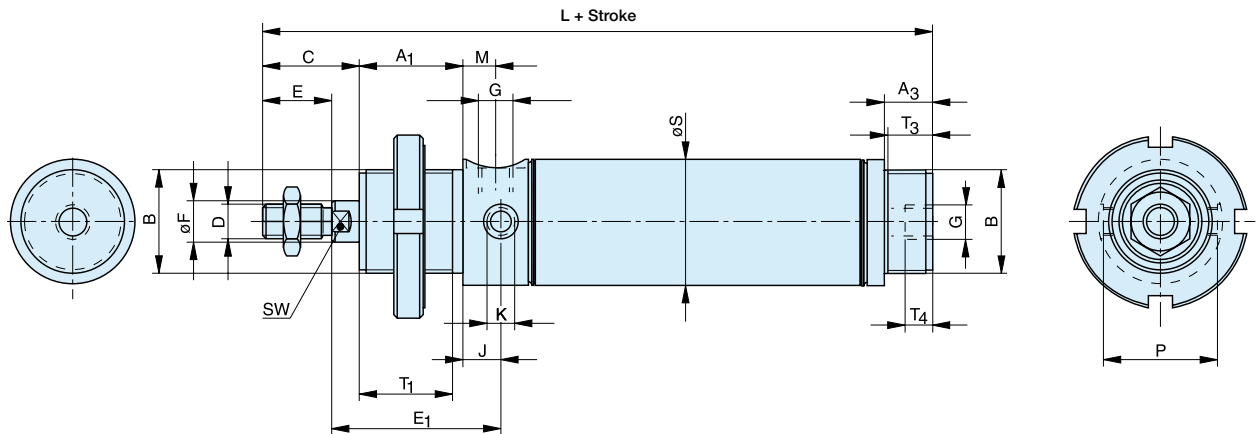


Dimensions – Basic Cylinder, Series R..., Ø 32 – 63 mm



\* adjustable end cushioning only for series R 5000

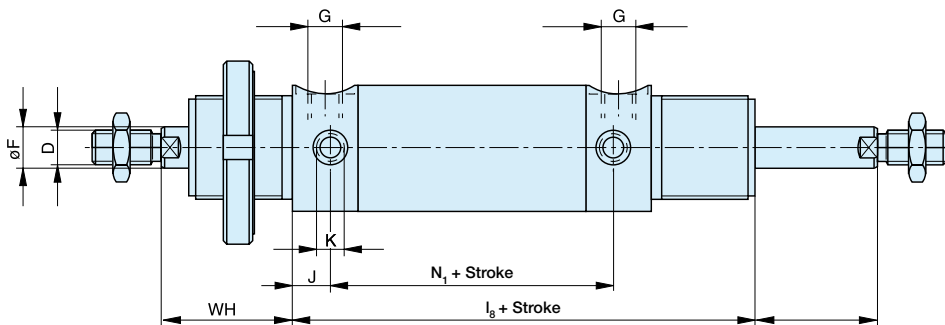
Dimensions – Basic Cylinder, Series RK..., Ø 32 – 63 mm



Dimension Table (mm) – Basic Cylinder, Series R..., RK..., RDU...

Cyl. Ø	A <sub>1</sub>	A <sub>2</sub>	A <sub>3</sub>	B	C	D	E	E <sub>1</sub>	ØF	G	H	H <sub>1</sub> +Stroke	J	K	l <sub>3</sub> +Stroke
32	30	19.5	14	M30x1.5	28	M10	20	49	12	G1/8	90.5	128.5	11	M8x1	83.5
40	35	21.5	16	M38x1.5	34	M12	24	57	16	G1/4	99.5	144.5	12	M10x1	89
50	38	25	18	M45x1.5	44	M16	32	63	20	G1/4	109.5	159.5	13	M12x1.5	93.5
63	38	24.5	18	M45x1.5	45	M16	32	64.5	20	G3/8	116.5	167.5	13.5	M14x1.5	101

Dimensions – Basic Cylinder with Through Piston Rod, Series RDU..., Ø 32 – 63 mm



Cyl. Ø	L + Stroke R...	L + Stroke RK...	M	N	N <sub>1</sub> +Stroke	O	P	R <sub>h12</sub>	ØS	T <sub>1</sub>	T <sub>2</sub>	T <sub>3</sub>	T <sub>4</sub>	SW	WH	WH + Stroke
32	160.5	138.5	9.5	21	61.5	10	33	25	35	27	16.5	12	8	10	38	38
40	181.5	156.5	11	24	65	12	42	30	43	32	17.5	14	12	14	45	45
50	205.5	179.5	11	27	67.5	14	52	35	54	35	21	16	12	17	50	50
63	215.5	186.5	12.5	28	74	16	62	35	67	35	20.5	16	12	17	51	51

This range of stainless steel cylinders has been specially designed for use in difficult environments. Hygienic design, external seals of flouriated rubber and prelubrication with our food-industry-approved grease according to USDA-H1 make the cylinders particularly suitable for food industry use. All cylinders have magnetic pistons for proximity position sensing. Fixing dimensions to ISO 6432 simplify installation and make the cylinders physically interchangeable throughout the world.



- Mini - cylinders according to ISO 6432
- All stainless in 10 to 25 mm bores
- Magnetic piston as standard
- Double and single acting
- End stroke buffers for long service life
- Available with adjustable cushioning

### Operating information

Working pressure: Max 10 bar  
 Temperature range: -20°C to +80°C Ø10-25mm

Prelubricated, further lubrication is not normally necessary. If additional lubrication is introduced it must be continued.

For more information see [www.parker.com/euro\\_pneumatic](http://www.parker.com/euro_pneumatic)

### Double acting buffer cushioning

#### Ø10mm - (M5)

Stroke mm	Order code
10	P1S-S010DS-0010
15	P1S-S010DS-0015
25	P1S-S010DS-0025
40	P1S-S010DS-0040
50	P1S-S010DS-0050
80	P1S-S010DS-0080
100	P1S-S010DS-0100
125	P1S-S010DS-0125

#### Ø12mm - (M5)

Stroke mm	Order code
10	P1S-S012DS-0010
15	P1S-S012DS-0015
25	P1S-S012DS-0025
40	P1S-S012DS-0040
50	P1S-S012DS-0050
80	P1S-S012DS-0080
100	P1S-S012DS-0100
125	P1S-S012DS-0125
160	P1S-S012DS-0160
200	P1S-S012DS-0200

#### Ø16mm - (M5)

Stroke mm	Order code
10	P1S-S016DS-0010
15	P1S-S016DS-0015
25	P1S-S016DS-0025
40	P1S-S016DS-0040
50	P1S-S016DS-0050
80	P1S-S016DS-0080
100	P1S-S016DS-0100
125	P1S-S016DS-0125
160	P1S-S016DS-0160
200	P1S-S016DS-0200

#### Ø20mm - (G1/8)

Stroke mm	Order code
10	P1S-S020DS-0010
15	P1S-S020DS-0015
25	P1S-S020DS-0025
40	P1S-S020DS-0040
50	P1S-S020DS-0050
80	P1S-S020DS-0080
100	P1S-S020DS-0100
125	P1S-S020DS-0125
160	P1S-S020DS-0160
200	P1S-S020DS-0200
250	P1S-S020DS-0250
320	P1S-S020DS-0320

#### Ø25mm - (G1/8)

Stroke mm	Order code
10	P1S-S025DS-0010
15	P1S-S025DS-0015
25	P1S-S025DS-0025
40	P1S-S025DS-0040
50	P1S-S025DS-0050
80	P1S-S025DS-0080
100	P1S-S025DS-0100
125	P1S-S025DS-0125
160	P1S-S025DS-0160
200	P1S-S025DS-0200
250	P1S-S025DS-0250
320	P1S-S025DS-0320

### Double acting adjustable cushioning

#### Ø20mm - (G1/8)

Stroke mm	Order code
15	P1S-S020MS-0015
25	P1S-S020MS-0025
40	P1S-S020MS-0040
50	P1S-S020MS-0050
80	P1S-S020MS-0080
100	P1S-S020MS-0100
125	P1S-S020MS-0125
160	P1S-S020MS-0160
200	P1S-S020MS-0200
250	P1S-S020MS-0250
320	P1S-S020MS-0320

#### Ø25mm - (G1/8)

Stroke mm	Order code
15	P1S-S025MS-0015
25	P1S-S025MS-0025
40	P1S-S025MS-0040
50	P1S-S025MS-0050
80	P1S-S025MS-0080
100	P1S-S025MS-0100
125	P1S-S025MS-0125
160	P1S-S025MS-0160
200	P1S-S025MS-0200
250	P1S-S025MS-0250
320	P1S-S025MS-0320

## Design Variants

### Working temperatures

#### High temperature

Ø10 and Ø16mm      -10°C to +120°C Non-magnetic piston  
 Ø20 and Ø25mm      -10°C to +150°C Non-magnetic piston

#### Low temperature

Ø10, 12 and 16mm      -40°C to +60°C Non-magnetic piston



### Double acting options

#### Effective end-cushioning

A version of ISO 6432 Ø10-Ø25 incorporates fixed end-cushioning, while the cylinders Ø20-Ø125 have pneumatic end-cushioning with adjusting screws for exact setting, permitting heavier loads and higher speeds for short cycle times.

Double-acting adjustable cushioning	Ø20 - Ø25 (not for seal material type F and L)
Double-acting non-adjustable cushioning	Ø10 - Ø25



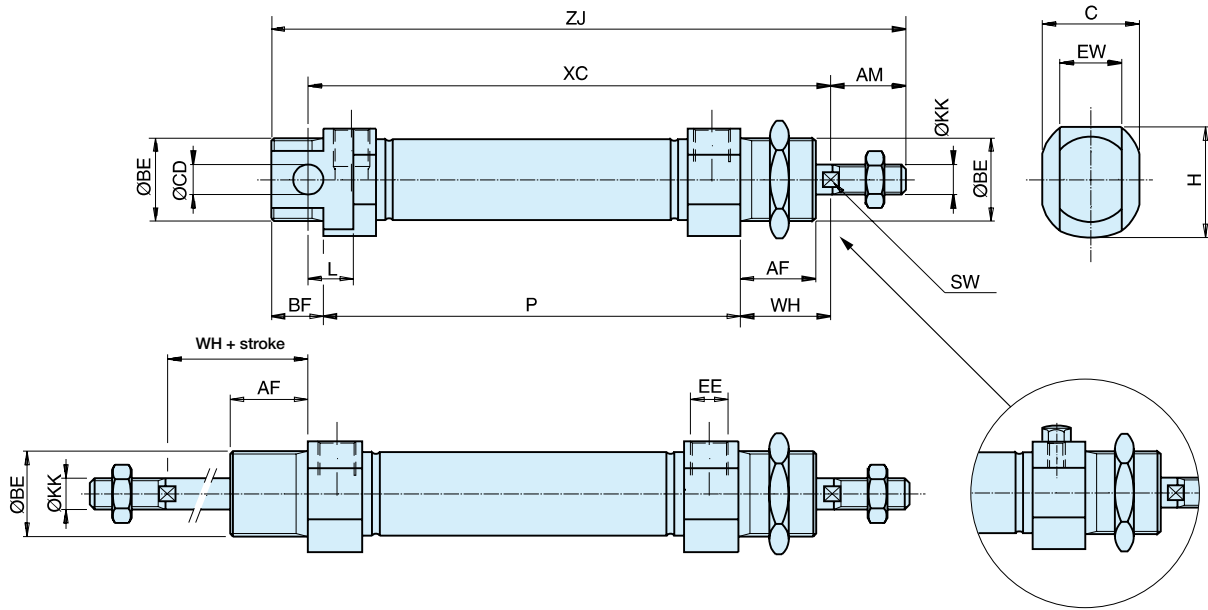
Double-acting, adjustable cushioning through rod	Ø20 - Ø25 (not for seal material type F and L)
Double-acting, non-adjustable cushioning through rod	Ø10 - Ø25
Double-acting, adjustable cushioning through rod, hollow	Ø20 - Ø25 (not for seal material type F and L)
Double-acting, non-adjustable cushioning through rod, hollow	Ø20 - Ø25 max stroke 125mm



### Single acting options

Single-acting, Spring return for retracted stroke. Non-adjustable cushioning	Ø10 - Ø25
Single-acting, Spring extended for advanced stroke. Non-adjustable cushioning	Ø20 - Ø25





**Dimensions**

Cyl. bore mm	AM 0/-2 mm	BE	AF mm	BF mm	C mm	CDH9 mm	EE	EW mm	H mm	KK	L mm	SW mm	WH±1,2 mm
10	12	M12x1,25	12	10	14	4	M5	8	19	M4	6	-	16
12	16	M16x1,5	18	13	18	6	M5	12	19	M6	9	5	22
16	16	M16x1,5	18	13	18	6	M5	12	19	M6	9	5	22
20	20	M22x1,5	20	14	24	8	G1/8	16	29	M8	12	7	24
25	22	M22x1,5	22	14	28	8	G1/8	16	32	M10x1,25	12	9	28

**Double acting cylinders**

Cyl. bore mm	XC mm	ZJ mm	P mm
10	64 + stroke	84 + stroke	46 + stroke
12	75 + stroke	99 + stroke	48 + stroke
16	82 + stroke	104 + stroke	53 + stroke
20	95 + stroke	125 + stroke	67 + stroke
25	104 + stroke	132 + stroke	68 + stroke

**Single acting with spring return, type SS**

Stroke/ Cyl. bore mm	10 mm	15 mm	25 mm	40 mm	50 mm	80 mm	10 mm	15 mm	25 mm	40 mm	50 mm	80 mm	10 mm	15 mm	25 mm	40 mm	50 mm	80 mm
	XC	XC	XC	XC	XC	XC	ZJ	ZJ	ZJ	ZJ	ZJ	ZJ	P	P	P	P	P	P
10	74	79	89	126	136	174	94	99	109	146	156	194	56	61	71	108	118	156
12	85	90	100	132	142	185	109	114	124	156	166	209	58	63	73	105	115	158
16	92	97	107	122	132	184	114	119	129	144	154	206	63	68	78	93	103	155
20	105	110	120	135	145	191	135	140	150	165	175	221	77	82	92	107	117	163
25	114	119	129	144	154	201	142	147	157	172	182	229	78	83	93	108	118	165

Length tolerances ±1 mm  
 Stroke length tolerances +1,5/0 mm

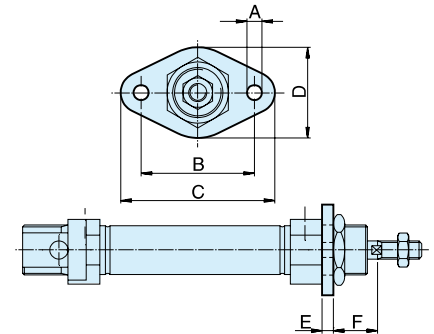
Cylinders are supplied complete with mounting and adjusting nuts.  
 Cylinders with through piston rod are supplied complete with two adjusting nuts and one mounting nut.

**Cylinder mountings**

**Flange-MF8**

Intended for fixed attachment of the cylinder. The flange is designed for mounting on the front or rear end-covers.

Material:  
Stainless steel, DIN X 10 CrNiS 18 9

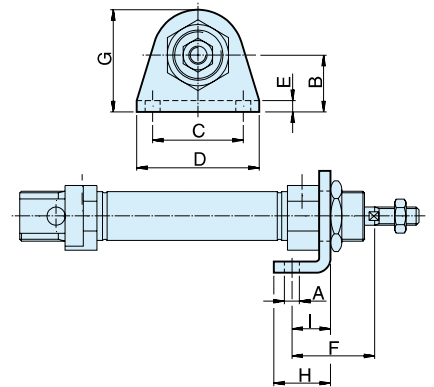


Cylinder Ø mm	A mm	B mm	C mm	D mm	E mm	F mm	Weight Kg	Order code
10	4,5	30	40	22	3	13	0,012	<b>P1S-4CMB</b>
12-16	5,5	40	52	30	4	18	0,025	<b>P1S-4DMB</b>
20	6,6	50	66	40	5	19	0,045	<b>P1S-4HMB</b>
25	6,6	50	66	40	5	23	0,045	<b>P1S-4HMB</b>

**Foot-MS3**

Intended for fixed attachment of the cylinder. The bracket is designed for mounting on the front or rear end-covers.

Material:  
Stainless steel, DIN X 10 CrNiS 18 9

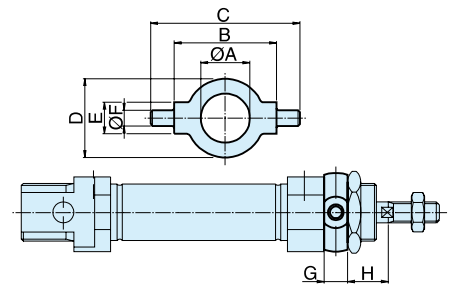


Cylinder Ø mm	A mm	B mm	C mm	D mm	E mm	F mm	G mm	H mm	I mm	Weight Kg	Order code
10	4,5	16	25	35	3	24	26	16	11	0,020	<b>P1S-4CMF</b>
12-16	5,5	20	32	42	4	32	32,5	20	14	0,040	<b>P1S-4DMF</b>
20	6,5	25	40	54	5	36	45	25	17	0,080	<b>P1S-4HMF</b>
25	6,5	25	40	54	5	40	45	25	17	0,080	<b>P1S-4HMF</b>

**Cover trunnion**

Intended for articulated mounting of the cylinder. The flange is designed for mounting on the front or rear end-covers.

Material:  
Stainless steel, DIN X 10 CrNiS 18 9

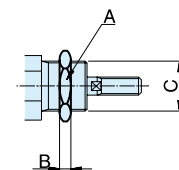


Cylinder Ø	A mm	B h14 mm	C mm	D mm	E e9 mm	F mm	G mm	H mm	Weight Kg	Order code
10	12,5	26	38	20	8	4	6	10	0,014	<b>P1A-4CMJ</b>
12-16	16,5	38	58	25	10	6	8	14	0,033	<b>P1A-4DMJ</b>
20	22,5	46	66	30	10	6	8	16	0,037	<b>P1A-4HMJ</b>
25	22,5	46	66	30	10	6	8	20	0,037	<b>P1A-4HMJ</b>

**Mounting nut**

Intended for fixed mounting of the cylinder. Cylinders are supplied complete with one mounting nut.

Material:  
Stainless steel, DIN X 5 CrNi 18 10



Cylinder Ø mm	A mm	B mm	C	Weight Kg	Order code
10	19	6	M12x1,25	0,009	<b>9126725405</b>
12-16	24	8	M16x1,50	0,018	<b>9126725406</b>
20-25	27	5	M22x1,50	0,042	<b>9126725407</b>

Cylinder mountings

**Clevis bracket AB3**

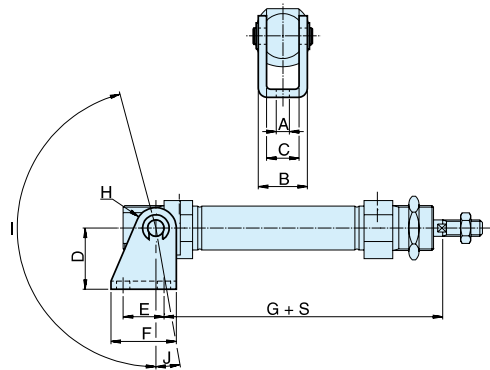


Intended for articulated mounting of the cylinder.  
Supplied with shaft for mounting on the rear end cover.

Material:  
Bracket: stainless steel, DIN X 5 CrNi 18 10  
Pin: tempered stainless steel, DIN X 20 Cr 13  
Locking rings: stainless steel, DIN X 5 CrNi 18 10

Cylinder Ø mm	A mm	B mm	C mm	D mm	E mm	F mm	G mm	H mm	I °	J °	Weight Kg	Order code
10	4,5	13	8	24	12,5	20	65,3	5	160	17	0,020	<b>P1S-4CMT</b>
12	5,5	18	12	27	15	25	73	7	170	15	0,040	<b>P1S-4DMT</b>
16	5,5	18	12	27	15	25	80	7	170	15	0,040	<b>P1S-4DMT</b>
20	6,5	24	16	30	20	32	91	10	165	10	0,080	<b>P1S-4HMT</b>
25	6,5	24	16	30	20	32	100	10	165	10	0,080	<b>P1S-4HMT</b>

S=stroke



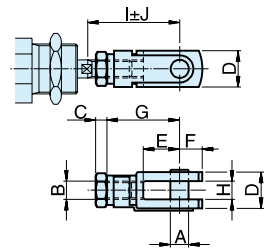
**Clevis AP2**



According to ISO 8140  
Intended for articulated mounting of the cylinder.  
This mounting is adjustable in the axial direction.  
Supplied complete with pin.

Material:  
Stainless steel, DIN X 5 CrNi 18 10

Cylinder Ø mm	A mm	B	C mm	D mm	E mm	F mm	G mm	H mm	I mm	J mm	Weight	Order code
10	4	M4	2,2	8	8	5	16	4	22	2	0,007	<b>P1S-4CRD</b>
12-16	6	M6	3,2	12	12	7	24	6	31	3	0,022	<b>P1S-4DRD</b>
20	8	M8	4	16	16	10	32	8	40,5	3,5	0,045	<b>P1S-4HRD</b>
25	10	M10x1,25	5	20	20	12	40	10	49	3	0,095	<b>P1S-4JRD</b>



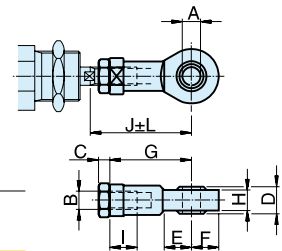
**Swivel rod eye AP6**



According to ISO 8139  
Intended for articulated mounting of the cylinder.  
This mounting is adjustable in the axial direction.

Material:  
Swivel rod eye: stainless steel, DIN X 5 CrNi 18 10  
Ball: hardened stainless steel, DIN X 5 CrNi 18 10

Cylinder Ø mm	A mm	B mm	C mm	D mm	E mm	F mm	G mm	H mm	I mm	J mm	K mm	L mm	Weight	Order code
10	5	M4	2,2	8	10	9	27	6	8	33	9	2	0,017	<b>P1S-4CRT</b>
12-16	6	M6	3,2	9	10	10	30	6,8	9	38,5	11	1,5	0,025	<b>P1S-4DRT</b>
20	8	M8	4	12	12	12	36	9	12	46	14	2	0,045	<b>P1S-4HRT</b>
25	10	M10x1,25	5	14	14	14	43	10,5	15	52,5	17	2,5	0,085	<b>P1S-4JRT</b>



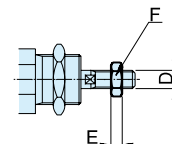
**Rod nut**



Intended for fixed mounting on the piston rod. Cylinders are supplied complete with one rod nut. (cylinders with through piston rod are supplied with two rod nuts.)

Material:  
Stainless steel, DIN X 5 CrNi 18 10

Cylinder Ø mm	D	F mm	E mm	Weight	Order code
10	M4	7	2,2	0,001	<b>9127385121</b>
12-16	M6	10	3,2	0,002	<b>9127385122</b>
20	M8	13	4	0,005	<b>9127385123</b>
25	M10x1,25	17	5	0,007	<b>9126725404</b>



This range of stainless steel cylinders has been specially designed for use in difficult environments. Hygienic design, external seals of flouriated rubber and prelubrication with our food-industry-approved grease according to USDA-H1 make the cylinders particularly suitable for food industry use. All cylinders have magnetic pistons for proximity position sensing. Fixing dimensions to ISO 6431 simplify installation and make the cylinders physically interchangeable throughout the world.



- Round cylinder to ISO 6431
- All stainless steel
- Clean, smooth washdown design
- Magnetic piston as standard
- Adjustable cushioning for long service life
- Complete range of mountings and sensors

 **ATEX certified**  
(add -EXNN end of order code)

### Operating information

Working pressure: Max 10 bar  
 Temperature range: -20°C to +70°C  
 ATEX approval: CE Ex IIGD c T4 120°C

Prelubricated, further lubrication is not normally necessary. If additional lubrication is introduced it must be continued.

For more information see [www.parker.com/euro\\_pneumatic](http://www.parker.com/euro_pneumatic)

### Standard stroke lengths

#### Ø32mm - (G1/8)

Stroke mm	Order code
25	P1S-D032MS-0025
50	P1S-D032MS-0050
80	P1S-D032MS-0080
100	P1S-D032MS-0100
125	P1S-D032MS-0125
160	P1S-D032MS-0160
200	P1S-D032MS-0200
250	P1S-D032MS-0250
320	P1S-D032MS-0320
400	P1S-D032MS-0400
500	P1S-D032MS-0500

#### Ø63mm - (G3/8)

Stroke mm	Order code
25	P1S-D063MS-0025
50	P1S-D063MS-0050
80	P1S-D063MS-0080
100	P1S-D063MS-0100
125	P1S-D063MS-0125
160	P1S-D063MS-0160
200	P1S-D063MS-0200
250	P1S-D063MS-0250
320	P1S-D063MS-0320
400	P1S-D063MS-0400
500	P1S-D063MS-0500

#### Ø100mm - (G1/2)

Stroke mm	Order code
25	P1S-L100MS-0025
50	P1S-L100MS-0050
80	P1S-L100MS-0080
100	P1S-L100MS-0100
125	P1S-L100MS-0125
160	P1S-L100MS-0160
200	P1S-L100MS-0200
250	P1S-L100MS-0250
320	P1S-L100MS-0320
400	P1S-L100MS-0400
500	P1S-L100MS-0500

#### Ø40mm - (G1/4)

Stroke mm	Order code
25	P1S-D040MS-0025
50	P1S-D040MS-0050
80	P1S-D040MS-0080
100	P1S-D040MS-0100
125	P1S-D040MS-0125
160	P1S-D040MS-0160
200	P1S-D040MS-0200
250	P1S-D040MS-0250
320	P1S-D040MS-0320
400	P1S-D040MS-0400
500	P1S-D040MS-0500

#### Ø80mm - (G3/8)

Stroke mm	Order code
25	P1S-L080MS-0025
50	P1S-L080MS-0050
80	P1S-L080MS-0080
100	P1S-L080MS-0100
125	P1S-L080MS-0125
160	P1S-L080MS-0160
200	P1S-L080MS-0200
250	P1S-L080MS-0250
320	P1S-L080MS-0320
400	P1S-L080MS-0400
500	P1S-L080MS-0500

#### Ø125mm - (G1/2)

Stroke mm	Order code
25	P1S-L125MS-0025
50	P1S-L125MS-0050
80	P1S-L125MS-0080
100	P1S-L125MS-0100
125	P1S-L125MS-0125
160	P1S-L125MS-0160
200	P1S-L125MS-0200
250	P1S-L125MS-0250
320	P1S-L125MS-0320
400	P1S-L125MS-0400
500	P1S-L125MS-0500

#### Ø50mm - (G1/4)

Stroke mm	Order code
25	P1S-D050MS-0025
50	P1S-D050MS-0050
80	P1S-D050MS-0080
100	P1S-D050MS-0100
125	P1S-D050MS-0125
160	P1S-D050MS-0160
200	P1S-D050MS-0200
250	P1S-D050MS-0250
320	P1S-D050MS-0320
400	P1S-D050MS-0400
500	P1S-D050MS-0500

Design Variants

Working temperatures

**High temperature** -10°C to +150°C Non-magnetic piston

**Low temperature**

Ø10 and Ø125mm -40°C to +40°C Non-magnetic piston

**Stainless steel scraper for piston rod**

-20°C to +80°C Magnetic piston

Mounting options

ISO 6431 Stainless Steel Cylinders are available with a variety of integral threaded mounting holes or trunnion pegs.

Double acting options

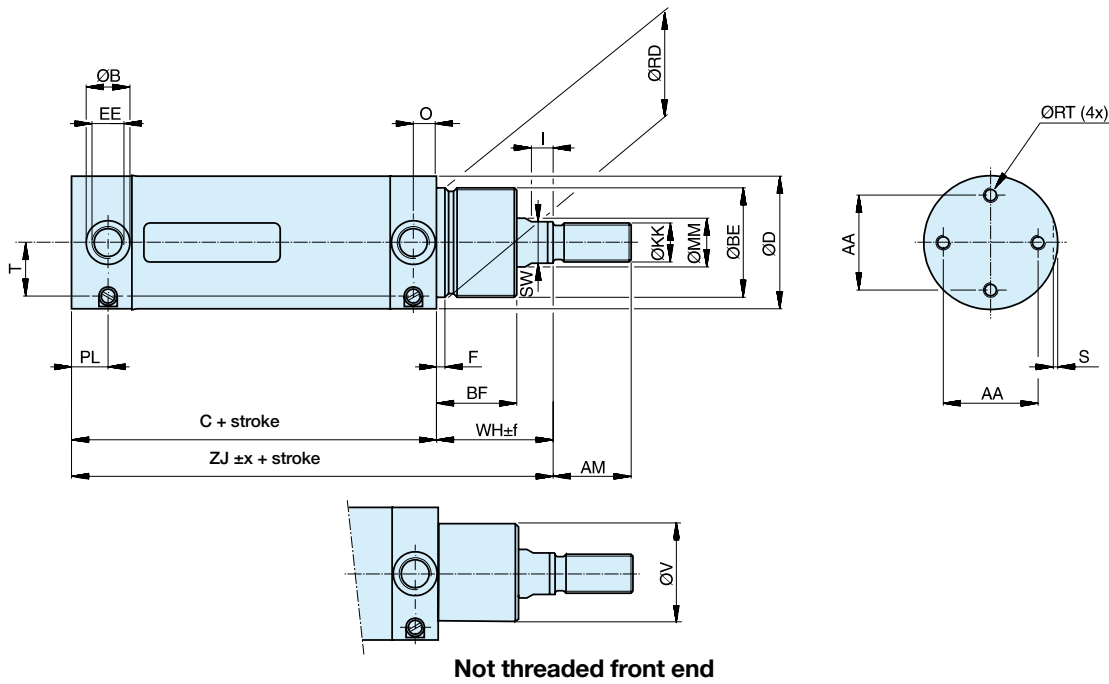
Double-acting adjustable cushioning Ø80 - Ø125



Double-acting adjustable cushioning through rod only Ø80 - Ø125



Dimensions Ø32-Ø63

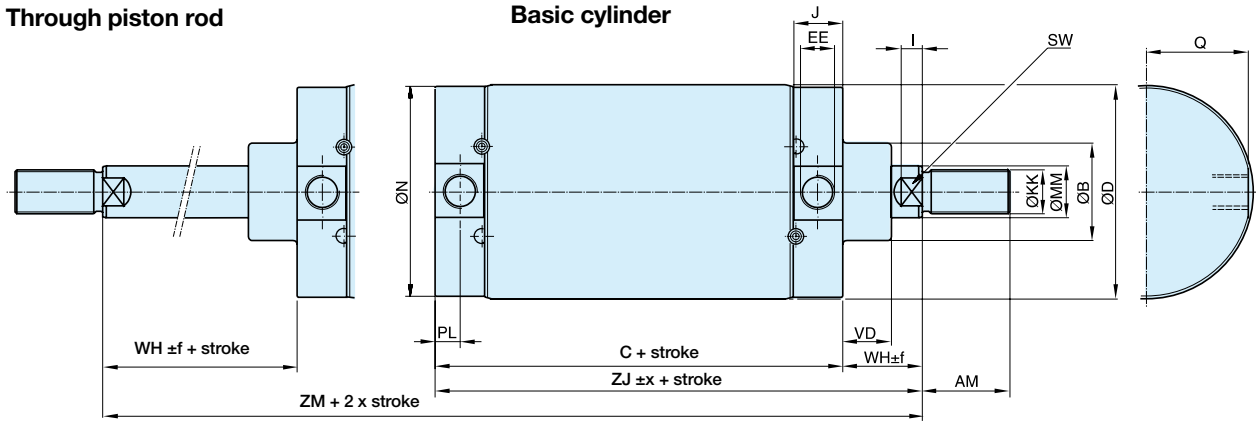


Cylinder designation	AA mm	AM mm	B mm	BF mm	BE	C mm	D mm	EE mm	F mm	I mm	KK	MM mm	O mm	PL mm	RD mm	RT mm
P1S-D032M	24,5	22	15	25	M30x1,5	88	36	G1/8	4,2	6	M10x1,25	12	8	13	30	M5
P1S-D040M	30	24	18	30	M38x1,5	97	44	G1/4	4,5	9	M12x1,25	16	9,5	15	38	M6
P1S-D050M	39	32	18	33	M45x1,5	101	55	G1/4	4,5	9	M16x1,5	20	9,5	15	45	M6
P1S-D063M	49	32	25	33	M45x1,5	117	68	G3/8	4,5	9	M16x1,5	20	13,3	20,5	45	M8
Cylinder designation	S mm	SW mm	T mm	V mm	WH mm	ZJ mm	Mounting tolerances		Stroke length							
							x mm	f mm	0-500 mm							
									mm							
P1S-D032M	1,5	10	12,2	26	35,5	123,5	1,2	2,5	+2,0							
P1S-D040M	1,5	14	16,5	35	44	141	1,0	2,2	+2,0							
P1S-D050M	1,5	17	22	41	47	148	0,9	2,3	+2,0							
P1S-D063M	1,5	17	26	41	47	164	1,4	2,3	+2,5							

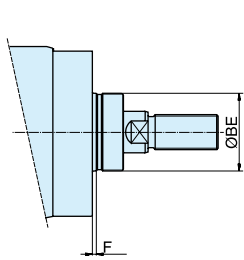


Dimensions Ø32-Ø63

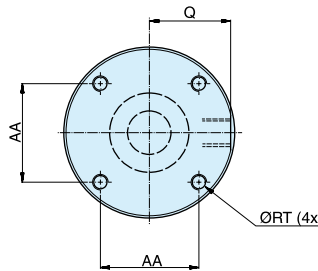
Through piston rod



Threaded front end



Mounting holes in the end covers



Cylinder designation	AA mm	AM mm	B mm	BE	C mm	D mm	EE	F mm	KK	I mm	J mm	MM mm	N mm	PL mm	Q mm
P1S-•Ø80M	46	40	50	M50x1,5	141	86	G3/8	4	M20x1,5	10	24,5	25	84	12,5	40
P1S-•100M	60	40	50	M50x1,5	158	106	G1/2	4	M20x1,5	8	30	25	104	15,5	49,5
P1S-•125M	76	54	60	M60x2	183	133	G1/2	4	M27x2	13	30	32	129	15,5	62,5

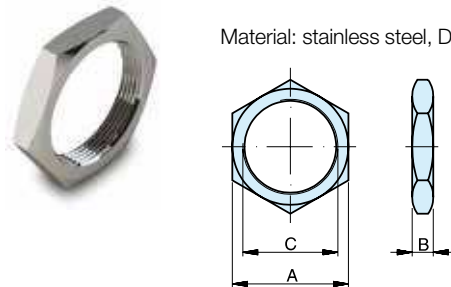
Cylinder designation	RT mm	SW mm	VD mm	WH mm	ZJ mm	ZM mm	Mounting tol. x mm	Stroke length f mm	Stroke length 0-500 mm
P1S-•Ø80M	M8	21	19	37	178	215	1,5	2,5	+2,5
P1S-•100M	M10	21	19	35	193	228	1,5	2,5	+2,5
P1S-•125M	M12	27	24	47	230	277	2,0	2,5	+4,0

Cylinder mountings Ø32 - Ø63

Mounting nut

Intended for fixed mounting of the cylinder via the neck.

Material: stainless steel, DIN X 5 CrNi 18 10



Cylinder Ø mm	A mm	B mm	C	Weight Kg	Order code
32	36	8	M30x1,5	0,03	<b>9127294401</b>
40	46	10	M38x1,5	0,06	<b>9127294402</b>
50	55	10	M45x1,5	0,08	<b>9127294403</b>
63	55	10	M45x1,5	0,08	<b>9127294403</b>

Cylinder mountings Ø32 - Ø125

Rod nut

Intended for fixed mounting on the piston rod. Cylinders are supplied complete with one rod nut. (cylinders with through piston rods are supplied with two rod nuts.)

Material: Stainless steel, DIN X 5 CrNi 18 10



Cylinder Ø	A mm	B mm	C mm	Weight Kg	Order code
32	17	5	M10x1,25	0,01	<b>9126725404</b>
40	19	6	M12x1,25	0,01	<b>9126725405</b>
50	24	8	M16x1,5	0,02	<b>9126725406</b>
63	24	8	M16x1,5	0,02	<b>9126725406</b>
80	30	10	M20x1,5	0,04	<b>0261109921</b>
100	30	10	M20x1,5	0,04	<b>0261109921</b>
125	41	13,5	M27x2	0,10	<b>0261109922</b>

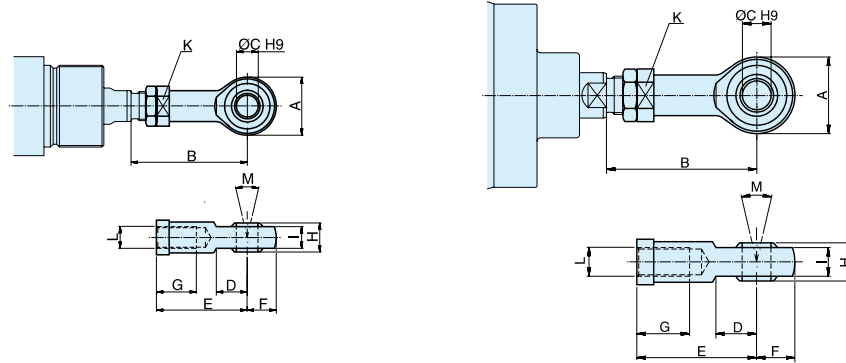
Cylinder mountings Ø32 - Ø125

Swivel rod eye AP6



According to ISO 8139  
Intended for articulated mounting of the cylinder. This mounting is adjustable in the axial direction.

Material:  
Swivel rod eye: stainless steel, DIN X 5 CrNi 18 10  
Ball: hardened stainless steel, DIN X 5 CrNi 18 10



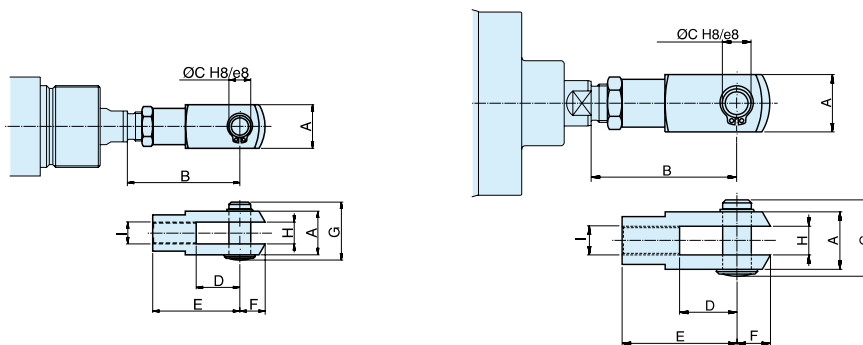
Cyl. Ø mm	A mm	B <sub>min</sub> mm	B <sub>max</sub> mm	C mm	D mm	E mm	F mm	G mm	H mm	I mm	K mm	L	M	Weight Kg	Order code
32	28	50	55	10	15	43	14	15	14	10,5	17	M10x1,25	24°	0,08	<b>P1S-4JRT</b>
40	32	56	62	12	17	50	16	22	16	12	19	M12x1,25	24°	0,12	<b>P1S-4LRT</b>
50	42	72	80	16	22	64	21	28	21	15	22	M16x1,5	30°	0,25	<b>P1S-4MRT</b>
63	42	72	80	16	22	64	21	28	21	15	22	M16x1,5	30°	0,25	<b>P1S-4MRT</b>
80	50	87	97	20	26	77	25	33	25	18	32	M20x1,5	30°	0,46	<b>P1S-4PRT</b>
100	50	87	97	20	26	77	25	33	25	18	32	M20x1,5	30°	0,46	<b>P1S-4PRT</b>
125	70	123,5	137	30	36	110	35	51	37	25	41	M27x2	30°	1,28	<b>P1S-4RRT</b>

Clevis Clevis AP2



According to ISO 8140  
Intended for articulated mounting of the cylinder. This mounting is adjustable in the axial direction. Supplied complete with pin.

Material:  
Clevis: stainless steel, DIN X 10 CrNiS 18 9  
Pin: stainless steel, DIN X 5 CrNi 18 10  
Locking rings according to DIN 471



Cyl. Ø mm	A mm	B <sub>min</sub> mm	B <sub>max</sub> mm	C mm	D mm	E mm	F mm	G mm	H mm	I mm	Weight Kg	Order code
32	20	46	52	10	20	40	12	28	10	M10x1,25	0,09	<b>P1S-4JRD</b>
40	24	54	60	12	24	48	19	32	12	M12x1,25	0,15	<b>P1S-4LRD</b>
50	32	72	80	16	32	64	25	42	16	M16x1,5	0,35	<b>P1S-4MRD</b>
63	32	72	80	16	32	64	25	42	16	M16x1,5	0,35	<b>P1S-4MRD</b>
80	40	90	100	20	40	80	32	50	20	M20x1,5	0,75	<b>P1S-4PRD</b>
100	40	90	100	20	40	80	32	50	20	M20x1,5	0,75	<b>P1S-4PRD</b>
125	55	123,5	137	30	54	110	45	72	30	M27x2	2,10	<b>P1S-4RRD</b>

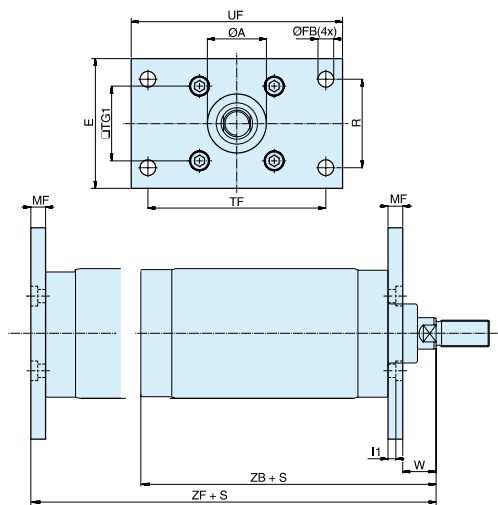
Cylinder mountings

Flange MF1/MF2



Intended for fixed attachment of cylinder version D, E, F or L. The flange is designed for mounting on the front or rear end covers.

Material:  
Stainless steel, DIN X 5 CrNiMo 17 13 3



Cylinder Ø mm	A mm	FB mm	E mm	R mm	TF mm	TG1 mm	UF mm	MF mm	I1 mm	W mm	ZB mm	ZF mm	Weight Kg	Order code
80	50,2	12	86	63	126	46	150	12	6	25	178	190	0,97	<b>P1S-4PMB</b>
100	51	14	106	75	150	60	170	12	6	23	193	205	1,42	<b>P1S-4QMB</b>
125	61	16	132	90	180	76	205	15	8	32	230	245	1,55	<b>P1S-4RMB</b>

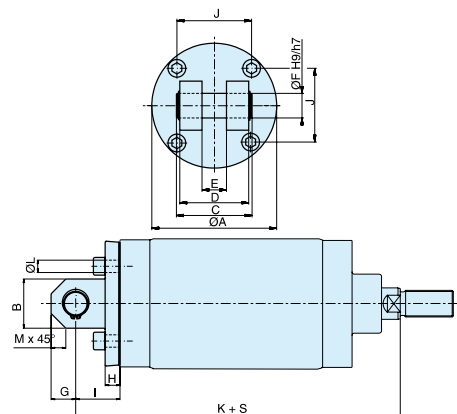
S = Stroke

Clevis bracket MP4



Intended for articulated mounting of cylinder versions D, F, or L. The bracket is mounted on the rear end cover and is supplied complete with shaft, mounting screw and O-ring for a clean joint between end cover and bracket.

Material:  
Bracket: stainless steel, DIN X 5 CrNi 18 10  
Pin: stainless steel, DIN X 5 CrNiMo 17 13 3



Cylinder Ø mm	A mm	B mm	C mm	D mm	E mm	F mm	G mm	H mm	I mm	J mm	K mm	L mm	M mm	Weight Kg	Order code
80	80	30	57	50	16	16	15	12	32	46	210	8,6	9	0,78	<b>P1S-4PME</b>
100	103	42	67	60	20	20	21	12	37	60	230	10,6	12	1,42	<b>P1S-4QME</b>
125	127	50	77	70	25	25	25	15	45	76	275	12,6	15	2,06	<b>P1S-4RME</b>

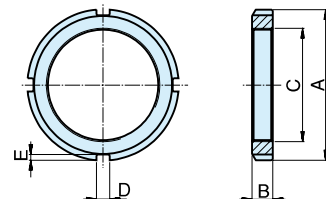
S = Stroke

Mounting nut



Intended for fixed mounting on the front end cover of cylinders according to cylinder version C or D.

Material:  
Stainless steel, DIN X 5 CrNi 18 10



Cylinder Ø mm	A mm	B mm	C mm	D mm	E mm	Weight Kg	Order code
80	70	11	M50x1,5	6	2,5	0,16	<b>9126461304</b>
100	70	11	M50x1,5	6	2,5	0,16	<b>9126461304</b>
125	80	11	M60x2	7	3	0,19	<b>9126461305</b>

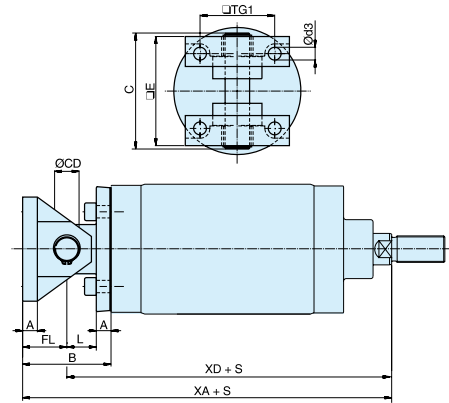
### Cylinder mountings

#### Cylinder mountings

Type	Description	Cyl. bore Ø mm	Weight kg	Order code
<b>Combinated mounting MP2/MP4</b>	Intended for articulated mounting of cylinder versions D, F or L. The unit is mounted on the rear end cover and is combined with bearing brackets MP2 and is supplied complete with shaft, mounting screw and O-ring for a clean joint between end cover and bracket.	80	1,29	<b>P1S-4PML</b>
		100	2,33	<b>P1S-4QML</b>
		125	3,30	<b>P1S-4RML</b>



Material:  
 Bearing brackets: stainless steel, DIN X 5 CrNi 18 10  
 Journal bearing: stainless steel,  
 Journal bearing: DIN X 5 CrNiMo 17 13 3/PTFE  
 Bracket: stainless steel, DIN X 5 CrNi 18 10  
 Pin: stainless steel, DIN X 5 CrNiMo 17 13 3



Cylinder Ø mm	A mm	B mm	C mm	CD mm	d3 mm	E mm	FL mm	L mm	TG1 mm	XA mm	XD mm
80	12	64	82	16	9	74	32	20	46	242	210
100	12	74	98	20	11	90	37	25	60	267	230
125	15	90	118	25	13	110	45	30	76	320	275

S = Stroke

# P1P Short Build Compact Cylinders

According to ISO 21287



The P1P Series is a complete range of ISO 21287 compact cylinders developed to meet the highest requirements for quality and performance. The careful design in every detail provides first class function and service life properties.

Reliability and long service life are key qualities of any pneumatic cylinder. Therefore we have given P1P highest possible quality in every detail based on our 40 years of experience and extensive testing. The design is based on the following important principles.

- **Proven seal design and materials throughout the cylinder. The expertise for seal technology within Parker Hannifin is the basis for leading and proven tribology solutions for all our pneumatic actuators.**
- **Body extrusion in anodised aluminium with extra fine and hard internal surface for optimum operational conditions.**
- **End covers and body extrusion with external anodisation for excellent corrosion resistance.**
- **Stainless steel piston rod for versatile use in corrosive environment.**

## Double acting

The versatile high quality ISO compact cylinder range, P1P cylinders are up to 50% shorter than ISO15552 cylinders for the same stroke. Suitable for a wide range of applications.

## Double acting - Guided

This cylinder version feature twin guide rods connected to the piston rod by a large flange plate. These cylinders are ideal for clamping an moving applications where turning of the piston rod must be avoided.

- Bore 20 - 100 mm
- ISO 21287 conformity
- Corrosion resistant design and low weight construction
- Magnetic piston as standard
- Elastic cushioning
- Flexible direct mounting
- ISO 15552 mountings and global sensor range common with P1D



### Operating information

Working pressure:	Max 10 bar
Permissible fluid:	Air, with or without lubrication
Seals / Temperature options	
Standard:	-20°C to +80°C
High temperature:	-10°C to +120°C
Low temperature:	-40°C to +80°C
Prelubricated, further lubrication is not normally necessary. If additional lubrication is introduced it must be continued.	
For more information see <a href="http://www.parker.com/euro_pneumatic">www.parker.com/euro_pneumatic</a>	

### \* Double acting - Guided order code.

Place **G** in position **4** of the order code

Example: P1P**G**020DS7G0025

## Double acting - Female threaded piston rod

### Ø20mm - (M5)

Stroke mm	Order code
5	P1PS020DS7G0005
10	P1PS020DS7G0010
15	P1PS020DS7G0015
20	P1PS020DS7G0020
25	P1PS020DS7G0025
30	P1PS020DS7G0030
40	P1PS020DS7G0040
50	P1PS020DS7G0050
60	P1PS020DS7G0060

### Ø25mm - (M5)

Stroke mm	Order code
5	P1PS025DS7G0005
10	P1PS025DS7G0010
15	P1PS025DS7G0015
20	P1PS025DS7G0020
25	P1PS025DS7G0025
30	P1PS025DS7G0030
40	P1PS025DS7G0040
50	P1PS025DS7G0050
60	P1PS025DS7G0060

### Ø32mm - (G1/8)

Stroke mm	Order code
5	P1PS032DS7G0005
10	P1PS032DS7G0010
15	P1PS032DS7G0015
20	P1PS032DS7G0020
25	P1PS032DS7G0025
30	P1PS032DS7G0030
40	P1PS032DS7G0040
50	P1PS032DS7G0050
60	P1PS032DS7G0060
80	P1PS032DS7G0080

### Ø40mm - (G1/8)

Stroke mm	Order code
5	P1PS040DS7G0005
10	P1PS040DS7G0010
15	P1PS040DS7G0015
20	P1PS040DS7G0020
25	P1PS040DS7G0025
30	P1PS040DS7G0030
40	P1PS040DS7G0040
50	P1PS040DS7G0050
60	P1PS040DS7G0060
80	P1PS040DS7G0080

### Ø50mm - (G1/8)

Stroke mm	Order code
5	P1PS050DS7G0005
10	P1PS050DS7G0010
15	P1PS050DS7G0015
20	P1PS050DS7G0020
25	P1PS050DS7G0025
30	P1PS050DS7G0030
40	P1PS050DS7G0040
50	P1PS050DS7G0050
60	P1PS050DS7G0060
80	P1PS050DS7G0080

### Ø63mm - (G1/8)

Stroke mm	Order code
5	P1PS063DS7G0005
10	P1PS063DS7G0010
15	P1PS063DS7G0015
20	P1PS063DS7G0020
25	P1PS063DS7G0025
30	P1PS063DS7G0030
40	P1PS063DS7G0040
50	P1PS063DS7G0050
60	P1PS063DS7G0060
80	P1PS063DS7G0080

### Ø80mm - (G1/8)

Stroke mm	Order code
5	P1PS080DS7G0005
10	P1PS080DS7G0010
15	P1PS080DS7G0015
20	P1PS080DS7G0020
25	P1PS080DS7G0025
30	P1PS080DS7G0030
40	P1PS080DS7G0040
50	P1PS080DS7G0050
60	P1PS080DS7G0060
80	P1PS080DS7G0080
100	P1PS080DS7G0100

### Ø100mm - (G1/8)

Stroke mm	Order code
10	P1PS100DS7G0010
15	P1PS100DS7G0015
20	P1PS100DS7G0020
25	P1PS100DS7G0025
30	P1PS100DS7G0030
40	P1PS100DS7G0040
50	P1PS100DS7G0050
60	P1PS100DS7G0060
80	P1PS100DS7G0080
100	P1PS100DS7G0100

### Sensors



For sensors see page 77.

**Single acting**

Single acting P1P cylinders are available in bore sizes 20 - 63 mm and in two versions to suit a wide range of applications. Choose between the spring return (SS) and the spring extended (TS) versions.



**\* Spring return order code.**  
Place **S** in position **8** of the order code  
Example: P1PS020**S**S7G0025



**\* Spring extended order code.**  
Place **T** in position **8** of the order code  
Example: P1PS020**T**S7G0025

**Single acting - Female threaded piston rod**

**Ø20mm - (M5)**

Stroke mm	Order code
25	<b>P1PS020 * S7G0025</b>

**Ø25mm - (M5)**

Stroke mm	Order code
25	<b>P1PS025 * S7G0025</b>

**Ø32mm - (G1/8)**

Stroke mm	Order code
25	<b>P1PS032 * S7G0025</b>

**Ø40mm - (G1/8)**

Stroke mm	Order code
25	<b>P1PS040 * S7G0025</b>

**Ø50mm - (G1/8)**

Stroke mm	Order code
25	<b>P1PS050 * S7G0025</b>

**Ø63mm - (G1/8)**

Stroke mm	Order code
25	<b>P1PS063 * S7G0025</b>

**Double acting - Through piston rod**

The P1P through rod cylinder version is available in bore sizes 20 - 100 mm. This cylinder type is used in many ways e.g. in applications with higher lateral forces or when performing a movement on both sides of the cylinder.



**Double acting - Through piston rod - Female threaded piston rod**

**Ø20mm - (M5)**

Stroke mm	Order code
5	<b>P1PS020KS7G0005</b>
10	<b>P1PS020KS7G0010</b>
15	<b>P1PS020KS7G0015</b>
20	<b>P1PS020KS7G0020</b>
25	<b>P1PS020KS7G0025</b>
30	<b>P1PS020KS7G0030</b>
40	<b>P1PS020KS7G0040</b>
50	<b>P1PS020KS7G0050</b>
60	<b>P1PS020KS7G0060</b>

**Ø25mm - (M5)**

Stroke mm	Order code
5	<b>P1PS025KS7G0005</b>
10	<b>P1PS025KS7G0010</b>
15	<b>P1PS025KS7G0015</b>
20	<b>P1PS025KS7G0020</b>
25	<b>P1PS025KS7G0025</b>
30	<b>P1PS025KS7G0030</b>
40	<b>P1PS025KS7G0040</b>
50	<b>P1PS025KS7G0050</b>
60	<b>P1PS025KS7G0060</b>

**Ø32mm - (G1/8)**

Stroke mm	Order code
5	<b>P1PS032KS7G0005</b>
10	<b>P1PS032KS7G0010</b>
15	<b>P1PS032KS7G0015</b>
20	<b>P1PS032KS7G0020</b>
25	<b>P1PS032KS7G0025</b>
30	<b>P1PS032KS7G0030</b>
40	<b>P1PS032KS7G0040</b>
50	<b>P1PS032KS7G0050</b>
60	<b>P1PS032KS7G0060</b>
80	<b>P1PS032KS7G0080</b>

**Ø40mm - (G1/8)**

Stroke mm	Order code
5	<b>P1PS040KS7G0005</b>
10	<b>P1PS040KS7G0010</b>
15	<b>P1PS040KS7G0015</b>
20	<b>P1PS040KS7G0020</b>
25	<b>P1PS040KS7G0025</b>
30	<b>P1PS040KS7G0030</b>
40	<b>P1PS040KS7G0040</b>
50	<b>P1PS040KS7G0050</b>
60	<b>P1PS040KS7G0060</b>
80	<b>P1PS040KS7G0080</b>

**Ø50mm - (G1/8)**

Stroke mm	Order code
5	<b>P1PS050KS7G0005</b>
10	<b>P1PS050KS7G0010</b>
15	<b>P1PS050KS7G0015</b>
20	<b>P1PS050KS7G0020</b>
25	<b>P1PS050KS7G0025</b>
30	<b>P1PS050KS7G0030</b>
40	<b>P1PS050KS7G0040</b>
50	<b>P1PS050KS7G0050</b>
60	<b>P1PS050KS7G0060</b>
80	<b>P1PS050KS7G0080</b>

**Ø63mm - (G1/8)**

Stroke mm	Order code
5	<b>P1PS063KS7G0005</b>
10	<b>P1PS063KS7G0010</b>
15	<b>P1PS063KS7G0015</b>
20	<b>P1PS063KS7G0020</b>
25	<b>P1PS063KS7G0025</b>
30	<b>P1PS063KS7G0030</b>
40	<b>P1PS063KS7G0040</b>
50	<b>P1PS063KS7G0050</b>
60	<b>P1PS063KS7G0060</b>
80	<b>P1PS063KS7G0080</b>

**Ø80mm - (G1/8)**

Stroke mm	Order code
5	<b>P1PS080KS7G0005</b>
10	<b>P1PS080KS7G0010</b>
15	<b>P1PS080KS7G0015</b>
20	<b>P1PS080KS7G0020</b>
25	<b>P1PS080KS7G0025</b>
30	<b>P1PS080KS7G0030</b>
40	<b>P1PS080KS7G0040</b>
50	<b>P1PS080KS7G0050</b>
60	<b>P1PS080KS7G0060</b>
80	<b>P1PS080KS7G0080</b>
100	<b>P1PS080KS7G0100</b>

**Ø100mm - (G1/8)**

Stroke mm	Order code
10	<b>P1PS100KS7G0010</b>
15	<b>P1PS100KS7G0015</b>
20	<b>P1PS100KS7G0020</b>
25	<b>P1PS100KS7G0025</b>
30	<b>P1PS100KS7G0030</b>
40	<b>P1PS100KS7G0040</b>
50	<b>P1PS100KS7G0050</b>
60	<b>P1PS100KS7G0060</b>
80	<b>P1PS100KS7G0080</b>
100	<b>P1PS100KS7G0100</b>

**Sensors**



For sensors see page 77.

**Double acting - Low temperature**

This P1P cylinder version is developed for use in temperatures down to -40°C. It is available in bore sizes 20 - 100 mm. With the combination of compactness and corrosion resistance the P1P low temperature version can be used in many industries e.g. Bus, Truck and Rail applications.

**\* Low temperature order code.**

Place **L** in position **9** of the order code

**Example:** P1PS020D**L**7G0005

**Double acting - High temperature**

Use this P1P cylinder version, available in bore sizes 20 - 100 mm, for high temperature applications with temperatures up to +120°C. The chemical resistance thanks to the design in anodised aluminium is an advantage in many high temperature applications.

**\* High temperature order code.**

Place **F** in position **9** of the order code

**Example:** P1PS020D**F**7G0005

**Double acting - Female threaded piston rod****Ø20mm - (M5)**

Stroke mm	Order code
5	P1PS020D * 7G0005
10	P1PS020D * 7G0010
15	P1PS020D * 7G0015
20	P1PS020D * 7G0020
25	P1PS020D * 7G0025
30	P1PS020D * 7G0030
40	P1PS020D * 7G0040
50	P1PS020D * 7G0050
60	P1PS020D * 7G0060

**Ø25mm - (M5)**

Stroke mm	Order code
5	P1PS025D * 7G0005
10	P1PS025D * 7G0010
15	P1PS025D * 7G0015
20	P1PS025D * 7G0020
25	P1PS025D * 7G0025
30	P1PS025D * 7G0030
40	P1PS025D * 7G0040
50	P1PS025D * 7G0050
60	P1PS025D * 7G0060

**Ø32mm - (G1/8)**

Stroke mm	Order code
5	P1PS032D * 7G0005
10	P1PS032D * 7G0010
15	P1PS032D * 7G0015
20	P1PS032D * 7G0020
25	P1PS032D * 7G0025
30	P1PS032D * 7G0030
40	P1PS032D * 7G0040
50	P1PS032D * 7G0050
60	P1PS032D * 7G0060
80	P1PS032D * 7G0080

**Ø40mm - (G1/8)**

Stroke mm	Order code
5	P1PS040D * 7G0005
10	P1PS040D * 7G0010
15	P1PS040D * 7G0015
20	P1PS040D * 7G0020
25	P1PS040D * 7G0025
30	P1PS040D * 7G0030
40	P1PS040D * 7G0040
50	P1PS040D * 7G0050
60	P1PS040D * 7G0040
80	P1PS040D * 7G0050

**Ø50mm - (G1/8)**

Stroke mm	Order code
5	P1PS050D * 7G0005
10	P1PS050D * 7G0010
15	P1PS050D * 7G0015
20	P1PS050D * 7G0020
25	P1PS050D * 7G0025
30	P1PS050D * 7G0030
40	P1PS050D * 7G0040
50	P1PS050D * 7G0050
60	P1PS050D * 7G0060
80	P1PS050D * 7G0080

**Ø63mm - (G1/8)**

Stroke mm	Order code
5	P1PS063D * 7G0005
10	P1PS063D * 7G0010
15	P1PS063D * 7G0015
20	P1PS063D * 7G0020
25	P1PS063D * 7G0025
30	P1PS063D * 7G0030
40	P1PS063D * 7G0040
50	P1PS063D * 7G0050
60	P1PS063D * 7G0060
80	P1PS063D * 7G0080

**Ø80mm - (G1/8)**

Stroke mm	Order code
5	P1PS080D * 7G0005
10	P1PS080D * 7G0010
15	P1PS080D * 7G0015
20	P1PS080D * 7G0020
25	P1PS080D * 7G0025
30	P1PS080D * 7G0030
40	P1PS080D * 7G0040
50	P1PS080D * 7G0050
60	P1PS080D * 7G0060
80	P1PS080D * 7G0080
100	P1PS080D * 7G0100

**Ø100mm - (G1/8)**

Stroke mm	Order code
10	P1PS100D * 7G0010
15	P1PS100D * 7G0015
20	P1PS100D * 7G0020
25	P1PS100D * 7G0025
30	P1PS100D * 7G0030
40	P1PS100D * 7G0040
50	P1PS100D * 7G0050
60	P1PS100D * 7G0060
80	P1PS100D * 7G0080
100	P1PS100D * 7G0100

**Sensors**  
Low temperature only

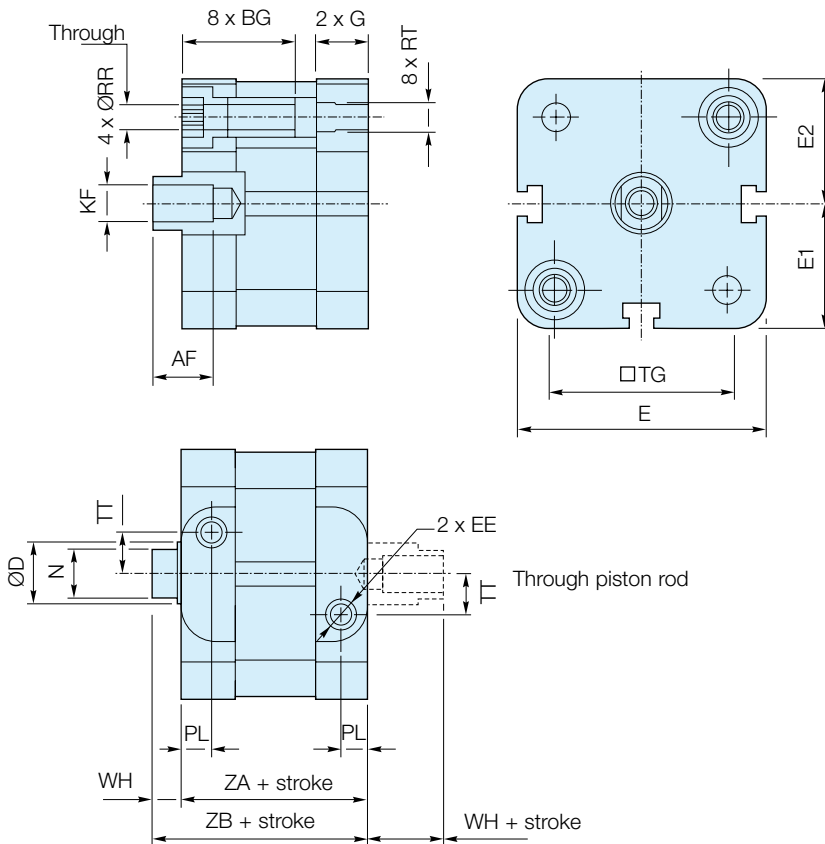


For sensors see page 77.

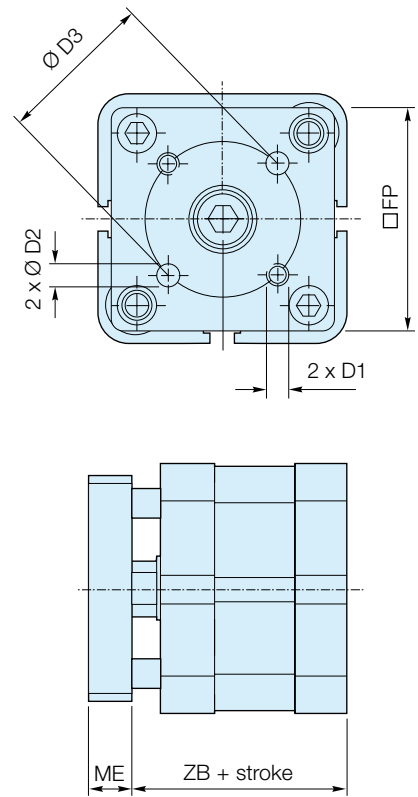


Dimensions - Bore 20 - 63mm

P1PS...DS7G Double acting with female piston rod thread

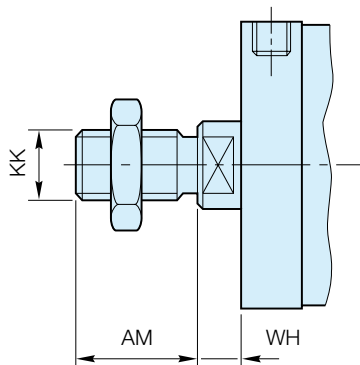


P1PG...DS Double acting with guided piston rod



Bore size	AF min	BG min	ØD	D1	ØD2 H8	ØD3	EE	E	E1	E2	FP	G	KF	ME	N h14	PL	ØRR min	RT	TG	TT	WH	ZA ± 0,3	ZB ± 0,6
Ø20	10	15	10	M4	4	17	M5	38,0	19,0	19,1	35	11,60	M6	8	8	7,6	4,1	M5	22,0	4,0	6	37	43
Ø25	10	15	10	M5	5	22	M5	41,0	20,5	20,6	38	11,90	M6	8	8	7,5	4,1	M5	26,0	5,5	6	39	45
Ø32	12	16	12	M5	5	28	G1/8	49,4	24,7	24,9	45	15,25	M8	10	10	7,8	5,1	M6	32,5	6,5	7	44	51
Ø40	12	16	12	M5	5	33	G1/8	56,0	28,0	28,5	50	15,25	M8	10	10	8,0	5,1	M6	38,0	8,0	7	45	52
Ø50	16	16	16	M6	6	42	G1/8	67,0	33,5	33,7	60	14,30	M10	12	13	7,7	6,4	M8	46,5	11,0	8	45	53
Ø63	16	16	16	M6	6	50	G1/8	79,0	39,5	39,8	70	16,30	M10	12	13	8,0	6,4	M8	56,5	16,0	8	49	57

P1PS...DS8G Double acting with male piston rod thread

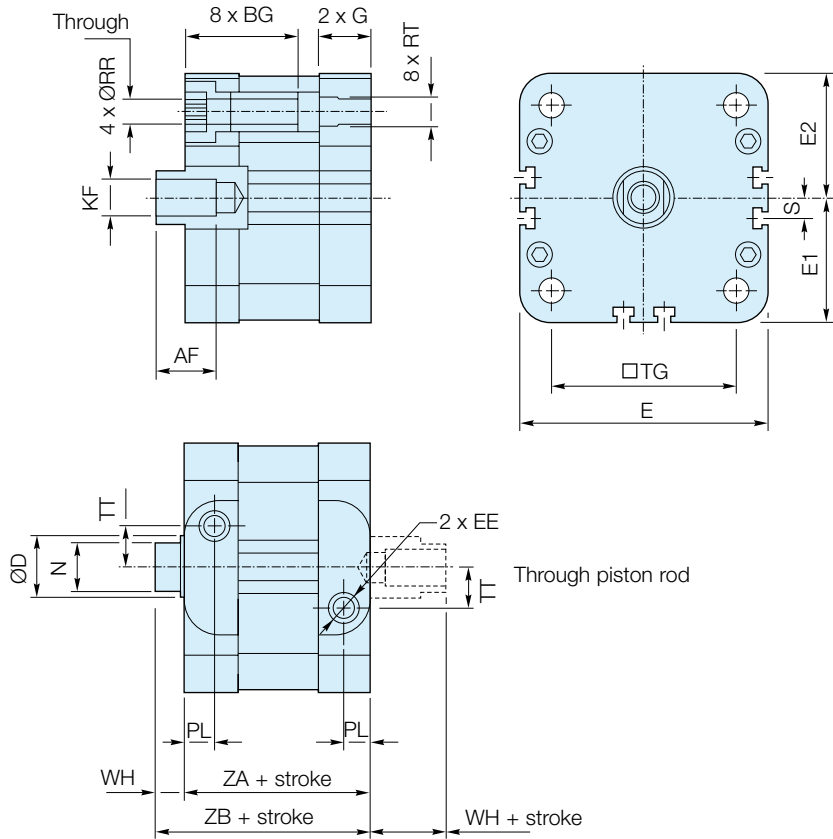


Bore size	AM +0 -0.5	WH		KK
		nom.	tol.	
Ø20	16	6	± 1,6	M8 x 1,25
Ø25	16	6	± 1,6	M8 x 1,25
Ø32	19	7	± 1,6	M10 x 1,25
Ø40	19	7	± 1,6	M10 x 1,25
Ø50	22	8	± 1,6	M12 x 1,25
Ø63	22	8	± 1,6	M12 x 1,25

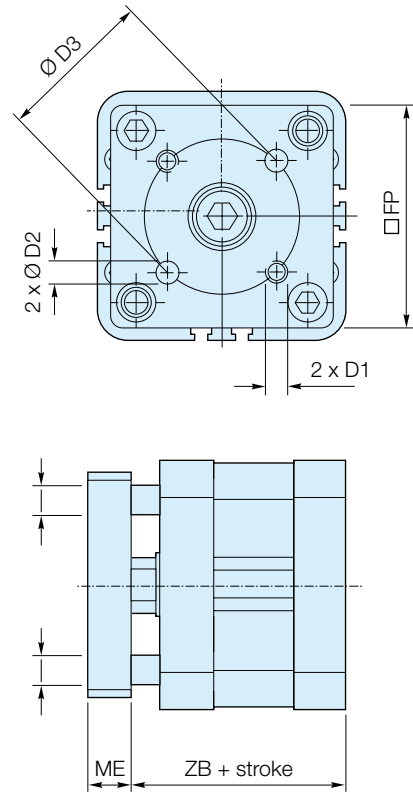
Note: Cylinders with male piston rod thread are delivered with one piston rod nut in zinc plated steel

Dimensions - Bore 80 - 100mm

P1PS...DS7G Double acting with female piston rod thread

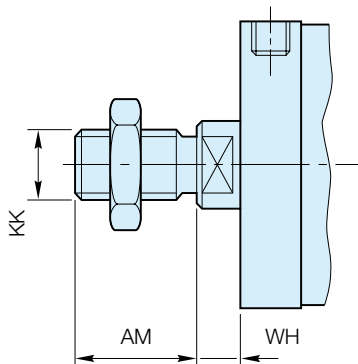


P1PG...DS Double acting with guided piston rod



Bore size	AF min	BG min	ØD	D1	ØD2 H8	ØD3	EE	E	E1	E2	FP	G	KF	ME	N h14	PL	ØRR min	RT	S	TG	TT	WH ±0,3	ZA ±0,6	ZB
Ø80	20	17	20	M8	8	65	G1/8	96	48,0	48,2	90	17,7	M12	14	17	10,5	8,4	M10	8	72	20	10	54	64
Ø100	20	17	25	M10	10	80	G1/8	115	57,5	57,7	110	23,0	M12	14	21	12,0	8,4	M10	18,5	89	24	10	67	77

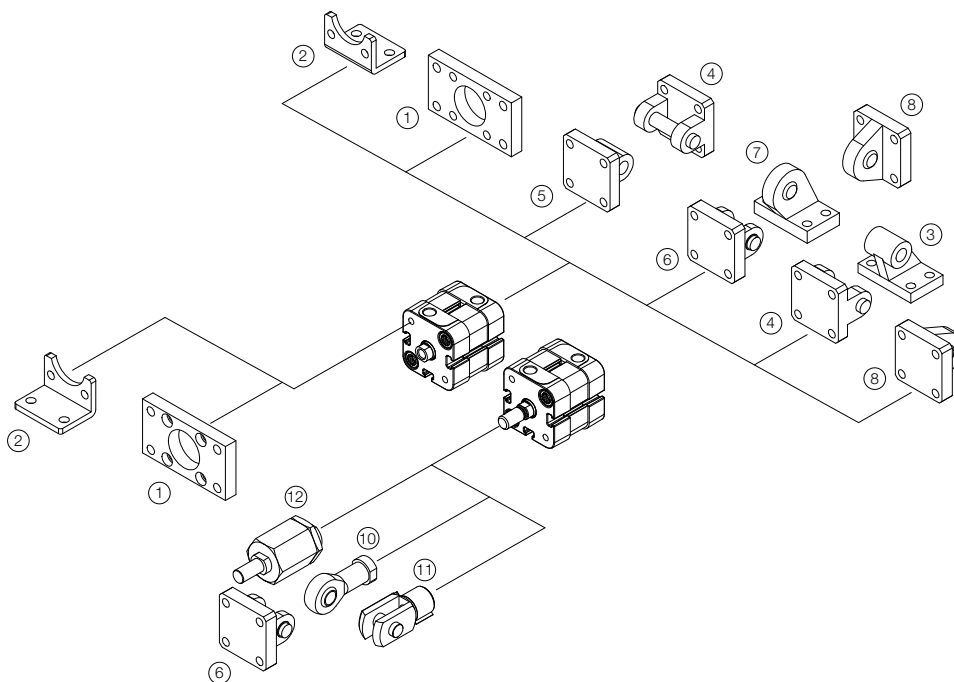
P1PS...DS8G Double acting with male piston rod thread



Bore size	AM	WH		KK
		nom.	tol.	
Ø80	28	10	± 1,6	M16 x 1,5
Ø100	28	10	± 1,6	M16 x 1,5

**Note:** Cylinders with male piston rod thread are delivered with one piston rod nut in zinc plated steel

	Flange MF1 / MF2 <sup>1</sup>	Foot brackets MS1 <sup>2</sup>	Pivot bracket with rigid bearing AB7 <sup>3</sup>	Clevis bracket MP2 <sup>4</sup>	Clevis bracket MP4 <sup>5</sup>
Ø 20	<b>P1P-4HMB</b>	<b>P1P-4HMF</b>			<b>P1P-4HME</b>
Ø 25	<b>P1P-4JMB</b>	<b>P1P-4JMF</b>			<b>P1P-4JME</b>
Ø 32	<b>P1C-4KMB</b>	<b>P1C-4KMF</b>	<b>P1C-4KMD</b>	<b>P1C-4KMT</b>	<b>P1C-4KME</b>
Ø 40	<b>P1C-4LMB</b>	<b>P1C-4LMF</b>	<b>P1C-4LMD</b>	<b>P1C-4LMT</b>	<b>P1C-4LME</b>
Ø 50	<b>P1C-4MMB</b>	<b>P1C-4MMF</b>	<b>P1C-4MMD</b>	<b>P1C-4MMT</b>	<b>P1C-4MME</b>
Ø 63	<b>P1C-4NMB</b>	<b>P1C-4NMF</b>	<b>P1C-4NMD</b>	<b>P1C-4NMT</b>	<b>P1C-4NME</b>
Ø 80	<b>P1C-4PMB</b>	<b>P1C-4PMF</b>	<b>P1C-4PMD</b>	<b>P1C-4PMT</b>	<b>P1C-4PME</b>
Ø 100	<b>P1C-4QMB</b>	<b>P1C-4QMF</b>	<b>P1C-4QMD</b>	<b>P1C-4QMT</b>	<b>P1C-4QME</b>
	Clevis bracket AB6 <sup>6</sup>	Pivot bracket with swivel bearing CS7 <sup>7</sup>	Swivel eye <sup>8</sup> bracket MP6	3 and 4 positions flange JP1	Swivel rod eye AP6 <sup>10</sup>
Ø 20					<b>P1A-4HRS</b>
Ø 25					<b>P1A-4HRS</b>
Ø 32	<b>P1C-4KMCA</b>	<b>P1C-4KMA</b>	<b>P1C-4KMSA</b>	<b>P1E-6KB0</b>	<b>P1C-4KRS</b>
Ø 40	<b>P1C-4LMCA</b>	<b>P1C-4LMA</b>	<b>P1C-4LMSA</b>	<b>P1E-6LB0</b>	<b>P1C-4KRS</b>
Ø 50	<b>P1C-4MMCA</b>	<b>P1C-4MMA</b>	<b>P1C-4MMSA</b>	<b>P1E-6MB0</b>	<b>P1C-4LRS</b>
Ø 63	<b>P1C-4NMCA</b>	<b>P1C-4NMA</b>	<b>P1C-4NMSA</b>	<b>P1E-6NB0</b>	<b>P1C-4LRS</b>
Ø 80	<b>P1C-4PMCA</b>	<b>P1C-4PMA</b>	<b>P1C-4PMSA</b>	<b>P1E-6PB0</b>	<b>P1C-4MRS</b>
Ø 100	<b>P1C-4QMCA</b>	<b>P1C-4QMA</b>	<b>P1C-4QMSA</b>	<b>P1E-6QB0</b>	<b>P1C-4MRS</b>
	Clevis AP2 <sup>11</sup>	Flexo coupling <sup>12</sup> PM5	Zinc-plated nut MR9 (Pack of 10 off)		
Ø 20	<b>P1A-4HRC</b>	<b>P1C-4HRF</b>	<b>P14-4HRPZ</b>		
Ø 25	<b>P1A-4HRC</b>	<b>P1C-4HRF</b>	<b>P14-4HRPZ</b>		
Ø 32	<b>P1C-4KRC</b>	<b>P1C-4KRF</b>	<b>P14-4KRPZ</b>		
Ø 40	<b>P1C-4KRC</b>	<b>P1C-4KRF</b>	<b>P14-4KRPZ</b>		
Ø 50	<b>P1C-4LRC</b>	<b>P1C-4LRF</b>	<b>P14-4LRPZ</b>		
Ø 63	<b>P1C-4LRC</b>	<b>P1C-4LRF</b>	<b>P14-4LRPZ</b>		
Ø 80	<b>P1C-4MRC</b>	<b>P1C-4MRF</b>	<b>P14-4MRPZ</b>		
Ø 100	<b>P1C-4MRC</b>	<b>P1C-4MRF</b>	<b>P14-4MRPZ</b>		



Cylinder mountings

Flange MF1/MF2



Intended for fixed mounting of cylinder. Flange can be fitted to front- or rear end-plates of cylinder.

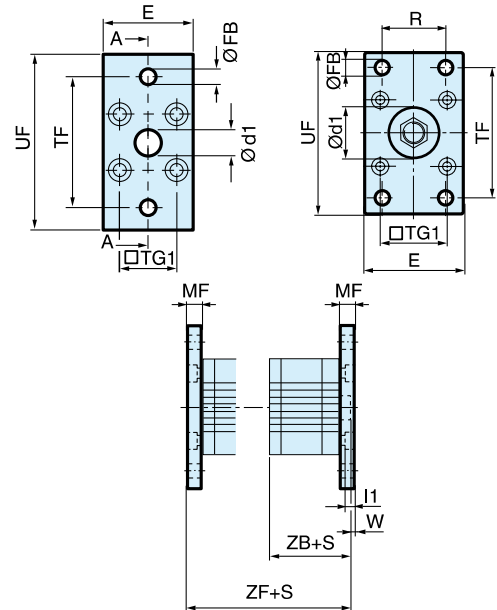
Materials  
Flange: Surface-treated steel  
Mounting screws according to DIN 6912: Zinc-plated steel 8.8

Supplied complete with mounting screws for attachment to cylinder.

Cyl. bore Ø mm	Weight kg	Order code
20	0,17	<b>P1P-4HMB</b>
25	0,20	<b>P1P-4JMB</b>
32	0,23	<b>P1C-4KMB</b>
40	0,28	<b>P1C-4LMB</b>
50	0,53	<b>P1C-4MMB</b>
63	0,71	<b>P1C-4NMB</b>
80	1,59	<b>P1C-4PMB</b>
100	2,19	<b>P1C-4QMB</b>

Cyl. bore mm	d1 mm	FB mm	TG1 mm	E mm	R mm	MF JS14	TF JS14	UF mm	I1 mm	W mm	ZF* mm	ZB* mm
20	12,0	6,6	22,0	36	-	10,0	55,0	70	5,4	4,0	53,0	43,0
25	12,0	6,6	26,0	40	-	10,0	60,0	76	5,4	4,0	55,0	45,0
32	30,0	7,0	32,5	45	32	10,0	64,0	80	5,0	3,0	61,0	41,0
40	35,0	9,0	38,0	52	36	10,0	72,0	90	5,0	3,0	52,0	52,0
50	40,0	9,0	46,5	65	45	12,0	90,0	110	6,5	4,0	65,0	53,0
63	45,0	9,0	56,5	75	50	12,0	100,0	120	6,5	4,0	69,0	57,0
80	45,0	12,0	72,0	95	63	16,0	126,0	150	8,0	6,0	80,0	64,0
100	55,0	14,0	89,0	115	75	16,0	150,0	170	8,0	6,0	93,0	77,0

S = Stroke length



Foot brackets MS1



Intended for fixed mounting of cylinder. Angle bracket can be fitted to front- and rear end-plates of cylinder.

Materials  
Foot bracket: Surface-treated steel, black  
Mounting screws according to DIN 912: Zinc-plated steel 8.8

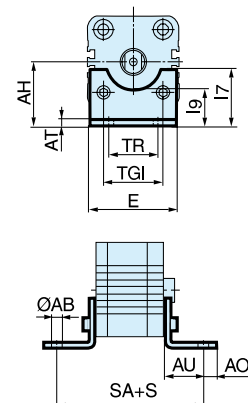
Supplied in pairs with mounting screws for attachment to cylinder.

Cyl. bore Ø mm	Weight kg	Order code
20	0,04**	<b>P1P-4HMF</b>
25	0,05**	<b>P1P-4JMF</b>
32	0,06**	<b>P1C-4KMF</b>
40	0,08**	<b>P1C-4LMF</b>
50	0,16**	<b>P1C-4MMF</b>
63	0,25**	<b>P1C-4NMF*</b>
80	0,50**	<b>P1C-4PMF</b>
100	0,85**	<b>P1C-4QMF*</b>

\*\* Weight per item

Cyl. bore mm	AB mm	TG1 mm	E mm	TR JS14	AO mm	AU mm	AH JS15	I7 mm	AT mm	I9 JS14	SA** mm
20	6,6	22,0	36	26	6,0	16,0	27	22,0	4,0	17,0	69,0
25	6,6	26,0	40	26	6,0	16,0	30	23,0	4,0	19,0	71,0
32	7,0	32,5	45	32	10,0	24,0	32	30,0	4,5	17,5	92,0
40	9,0	38,0	52	36	8,0	28,0	36	30,0	4,5	18,5	101,0
50	9,0	46,5	65	45	13,0	32,0	45	36,0	5,5	25,0	109,0
63	9,0	56,5	75	50	13,0	32,0	50	35,0	5,5	27,5	113,0
80	12,0	72,0	95	63	14,0	41,0	63	49,0	6,5	40,5	136,0
100	14,0	89,0	115	75	15,0	41,0	71	54,0	6,5	43,5	149,0

S = Stroke length



**Cylinder mountings**

**Pivot bracket with rigid bearing AB7**

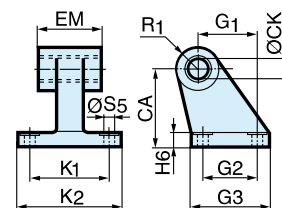


Intended for flexible mounting of cylinder. The pivot bracket can be combined with clevis bracket MP2.

Materials  
 Pivot bracket: Surface-treated aluminium, black  
 Bearing: Sintered oil-bronze bushing

Cyl. bore Ø mm	Weight kg	Order code
32	0,06	<b>P1C-4KMD</b>
40	0,08	<b>P1C-4LMD</b>
50	0,15	<b>P1C-4MMD</b>
63	0,20	<b>P1C-4NMD</b>
80	0,33	<b>P1C-4PMD</b>
100	0,49	<b>P1C-4QMD</b>

Cyl. bore mm	CK mm	S5 mm	K1 mm	K2 mm	G1 mm	G2 mm	EM mm	G3 mm	CA mm	H6 mm	R1 mm
32	10	6,6	38	51	21	18	25,5	31	32	8	10
40	12	6,6	41	54	24	22	27,0	35	36	10	11
50	12	9,0	50	65	33	30	31,0	45	45	12	13
63	16	9,0	52	67	37	35	39,0	50	50	12	15
80	16	11,0	66	86	47	40	49,0	60	63	14	15
100	20	11,0	76	96	55	50	59,0	70	71	15	19



**Clevis bracket MP2**



Intended for flexible mounting of cylinder. Clevis bracket MP2 can be combined with clevis bracket MP4.

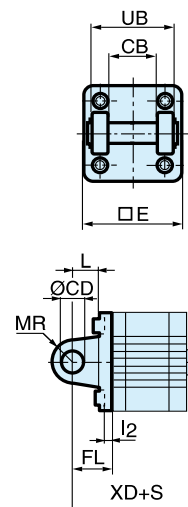
Materials  
 Clevis bracket: Surface-treated aluminium, black  
 Mounting screws according to DIN 912:  
 Zinc-plated steel 8.8  
 Pin: surface treated steel

Supplied complete with mounting screws for attachment to cylinder.

Cyl. bore Ø mm	Weight kg	Order code
32	0,08	<b>P1C-4KMT</b>
40	0,11	<b>P1C-4LMT</b>
50	0,14	<b>P1C-4MMT</b>
63	0,29	<b>P1C-4NMT</b>
80	0,36	<b>P1C-4PMT</b>
100	0,64	<b>P1C-4QMT</b>

Cyl. bore mm	E mm	UB mm	CB mm	FL mm	L mm	l2 mm	CD mm	MR mm	XD* mm
32	45,0	45	26,0	22	13	5,5	10	10	73,0
40	52,0	52	28,0	25	16	5,5	12	12	77,0
50	65,0	60	32,0	27	16	6,5	12	12	80,0
63	75,0	70	40,0	32	21	6,5	16	16	89,0
80	95,0	90	50,0	36	22	10,0	16	16	100,0
100	115,0	110	60,0	41	27	10,0	20	20	118,0

S = Stroke length



Cylinder mountings

**Clevis bracket MP4**



Intended for flexible mounting of cylinder. Clevis bracket MP4 can be combined with clevis bracket MP2.

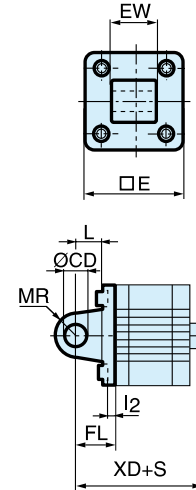
**Materials**  
 Clevis bracket: Surface-treated aluminium, black  
 Mounting screws according to DIN 912: Zinc-plated steel 8.8

Supplied complete with mounting screws for attachment to cylinder.

Cyl. bore Ø mm	Weight kg	Order code
20	0,04	<b>P1P-4HME</b>
25	0,05	<b>P1P-4JME</b>
32	0,09	<b>P1C-4KME</b>
40	0,13	<b>P1C-4LME</b>
50	0,17	<b>P1C-4MME</b>
63	0,36	<b>P1C-4NME</b>
80	0,46	<b>P1C-4PME</b>
100	0,83	<b>P1C-4QME</b>

Cyl. bore mm	E mm	EW mm	FL ±0,2 mm	L mm	l2 mm	CD H9 mm	MR mm	XD* mm
20	34,0	16,0	20	14	2,6	8	8	63,0
25	38,0	16,0	20	14	2,6	8	8	65,0
32	45,0	26,0	22	13	5,5	10	10	73,0
40	52,0	28,0	25	16	5,5	12	12	77,0
50	65,0	32,0	27	16	6,5	12	12	80,0
63	75,0	40,0	32	21	6,5	16	16	89,0
80	95,0	50,0	36	22	10,0	16	16	100,0
100	115,0	60,0	41	27	10,0	20	20	118,0

S = Stroke length



**Clevis bracket AB6**



Intended for flexible mounting of cylinder. Clevis bracket GA can be combined with pivot bracket with swivel bearing, swivel eye bracket and swivel rod eye.

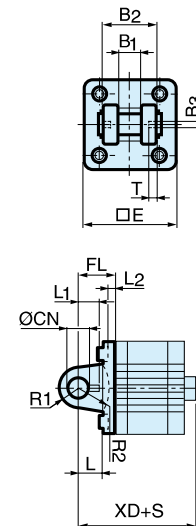
**Materials**  
 Clevis bracket: Surface-treated aluminium, black  
 Pin: Surface hardened steel  
 Locking pin: Spring steel  
 Circlips according to DIN 471: Spring steel  
 Mounting screws acc. to DIN 912: Zinc-plated steel 8.8

Supplied complete with mounting screws for attachment to cylinder.

Cyl. bore Ø mm	Weight kg	Order code
32	0,09	<b>P1C-4KMCA</b>
40	0,13	<b>P1C-4LMCA</b>
50	0,17	<b>P1C-4MMCA</b>
63	0,36	<b>P1C-4NMCA</b>
80	0,58	<b>P1C-4PMCA</b>
100	0,89	<b>P1C-4QMCA</b>

Cyl. bore mm	E mm	B2 d12 mm	B1 H14 mm	T mm	B3 mm	R2 mm	L1 mm	FL ±0,2 mm	l2 mm	L mm	CN F7 mm	R1 mm	XD* mm
32	45	34	14	3	3,3	17	11,5	22	5,5	12	10	11	73,0
40	52	40	16	4	4,3	20	12,0	25	5,5	15	12	13	77,0
50	65	45	21	4	4,3	22	14,0	27	6,5	17	16	18	80,0
63	75	51	21	4	4,3	25	14,0	32	6,5	20	16	18	89,0
80	95	65	25	4	4,3	30	16,0	36	10,0	20	20	22	100,0
100	115	75	25	4	4,3	32	16,0	41	10,0	25	20	22	118,0

S = Stroke length



**Stainless steel Pin Set AB6**

**Materials**  
 Pin: Stainless steel  
 Locking pin: Stainless steel  
 Circlips according to DIN 471: Stainless steel

Cyl. bore Ø mm	Weight kg	Order code
32	0,05	<b>9301054311</b>
40	0,06	<b>9301054312</b>
50	0,07	<b>9301054313</b>
63	0,07	<b>9301054314</b>
80	0,17	<b>9301054315</b>
100	0,31	<b>9301054316</b>

**Cylinder mountings**

**Pivot bracket with swivel bearing CS7**

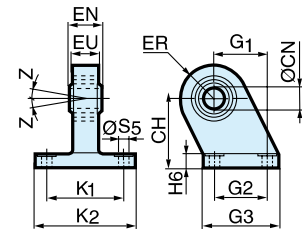


Intended for use together with clevis bracket GA.

Material  
 Pivot bracket: Surface-treated steel, black  
 Swivel bearing according to DIN 648K: Hardened steel

Cyl. bore Ø mm	Weight kg	Order code
32	0,18	<b>P1C-4KMA</b>
40	0,25	<b>P1C-4LMA</b>
50	0,47	<b>P1C-4MMA</b>
63	0,57	<b>P1C-4NMA</b>
80	1,05	<b>P1C-4PMA</b>
100	1,42	<b>P1C-4QMA</b>

Cyl. bore mm	CN H7	S5 H13	K1 JS14	K2	EU mm	G1 JS14	G2 JS14	EN mm	G3	CH JS15	H6	ER	Z
32	10	6,6	38	51	10,5	21	18	14	31	32	10	16	4°
40	12	6,6	41	54	12,0	24	22	16	35	36	10	18	4°
50	16	9,0	50	65	15,0	33	30	21	45	45	12	21	4°
63	16	9,0	52	67	15,0	37	35	21	50	50	12	23	4°
80	20	11,0	66	86	18,0	47	40	25	60	63	14	28	4°
100	20	11,0	76	96	18,0	55	50	25	70	71	15	30	4°



**Swivel eye bracket MP6**



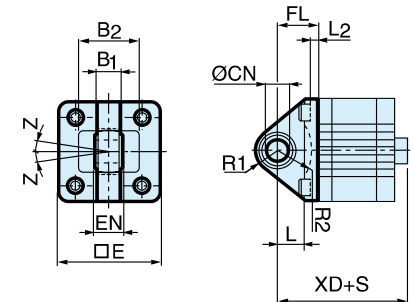
Intended for use together with clevis bracket GA

Material  
 Bracket: Surface-treated aluminium, black  
 Swivel bearing acc. to DIN 648K: Hardened steel

Supplied complete with mounting screws for attachment to cylinder.

Cyl. bore Ø mm	Weight kg	Order code
32	0,08	<b>P1C-4KMSA</b>
40	0,11	<b>P1C-4LMSA</b>
50	0,20	<b>P1C-4MMSA</b>
63	0,27	<b>P1C-4NMSA</b>
80	0,52	<b>P1C-4PMSA</b>
100	0,72	<b>P1C-4QMSA</b>

Cyl. bore mm	E	B1	B2	EN	R1	R2	FL	I2	L	CN H7	XD*	XD2*	Z
32	45	10,5	38	14	16	14	22	5,5	12	10	70,5	79,0	4°
40	52	12,0	44	16	18	16	25	5,5	15	12	75,5	83,5	4°
50	65	15,0	51	21	21	19	27	6,5	15	16	79,5	86,0	4°
63	75	15,0	56	21	23	22	32	6,5	20	16	90,0	95,5	4°
80	95	18,0	-	25	29	-	36	10,0	20	20	210,0	-	4°
100	115	18,0	-	25	31	-	41	10,0	25	20	230,0	-	4°



S=Stroke length

**3 and 4 positions flange JP1**

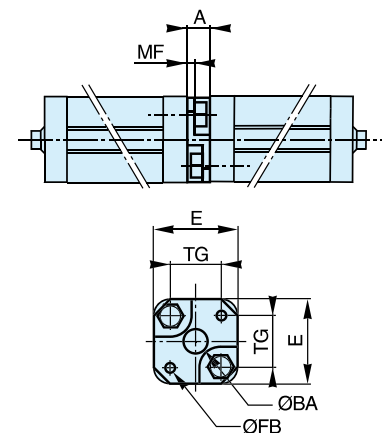


Mounting kit for back to back mounted cylinders, 3 and 4 position cylinders.

Material:  
 Mounting: Aluminium  
 Mounting screws: Zinc-plated steel 8.8

Cyl. bore Ø mm	Weight kg	Order code
32	0,060	<b>P1E-6KB0</b>
40	0,078	<b>P1E-6LB0</b>
50	0,162	<b>P1E-6MB0</b>
63	0,194	<b>P1E-6NB0</b>
80	0,450	<b>P1E-6PB0</b>
100	0,672	<b>P1E-6QB0</b>

Cyl. bore mm	E	TG	ØFB	MF	A	ØBA
32	50	32,5	6,5	5	16	30
40	60	38,0	6,5	5	16	35
50	66	46,5	8,5	6	20	40
63	80	56,5	8,5	6	20	45
80	100	72,0	10,5	8	25	45
100	118	89,0	10,5	8	25	55



Piston rod mountings

Swivel rod eye AP6



Swivel rod eye for articulated mounting of cylinder. Swivel rod eye can be combined with clevis bracket GA. Maintenance-free.

Materials  
Swivel rod eye: Zinc-plated steel  
Swivel bearing according to DIN 648K: Hardened steel

Stainless steel swivel rod eye AP6



Stainless-steel swivel rod eye for articulated mounting of cylinder. Swivel rod eye can be combined with clevis bracket GA. Maintenance-free.

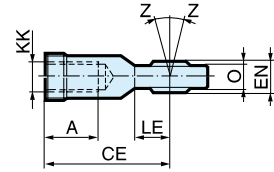
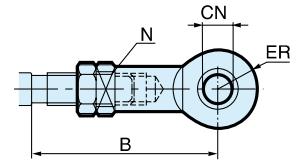
Materials  
Swivel rod eye: Stainless steel  
Swivel bearing according to DIN 648K: Stainless steel

Use stainless steel nut with stainless steel swivel rod eye.

Cyl. bore mm	A mm	B min mm	B max mm	CE mm	CN H9 mm	EN h12 mm	ER mm	KK	LE mm	N min mm	O mm	Z
20 / 25	12	40,0	45	36	8	12	12	M8x1,25	12	13	9,0	12°
32 / 40	20	48,0	55	43	10	14	14	M10x1,25	15	17	10,5	12°
50 / 63	22	56,0	62	50	12	16	16	M12x1,25	17	19	12,0	12°
80 / 100	28	72,0	80	64	16	21	21	M16x1,5	22	22	15,0	15°

Cyl. bore Ø mm	Weight kg	Order code
20 / 25	0,045	<b>P1A-4HRS</b>
32 / 40	0,08	<b>P1C-4KRS</b>
50 / 63	0,12	<b>P1C-4LRS</b>
80 / 100	0,25	<b>P1C-4MRS</b>

Cyl. bore Ø mm	Weight kg	Order code
20 / 25	0,045	<b>P1S-4HRT</b>
32 / 40	0,08	<b>P1S-4JRT</b>
50 / 63	0,12	<b>P1S-4LRT</b>
80 / 100	0,25	<b>P1S-4MRT</b>



Clevis AP2



Clevis for articulated mounting of cylinder.

Material  
Clevis, clip: Galvanized steel  
Pin: Hardened steel

Stainless steel clevis AP2



Stainless-steel clevis for articulated mounting of cylinder.

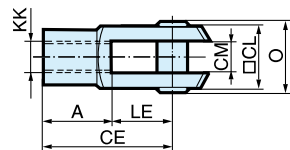
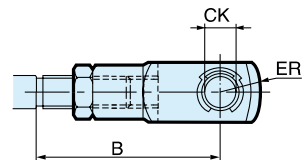
Material  
Clevis: Stainless steel  
Pin: Stainless steel  
Circlips according to DIN 471: Stainless steel

Use stainless steel nut with stainless steel swivel rod eye.

Cyl. bore mm	A mm	B min mm	B max mm	CE mm	CK h11/E9 mm	CL mm	CM mm	ER mm	KK	LE mm	O mm
20 / 25	16	36,0	41	32	8	16	8	-	M8x1,25	16	24,0
32 / 40	20	45,0	52	40	10	20	10	16	M10x1,25	20	28,0
50 / 63	24	54,0	60	48	12	24	12	19	M12x1,25	24	32,0
80 / 100	32	72,0	80	64	16	32	16	25	M16x1,5	32	41,5

Cyl. bore Ø mm	Weight kg	Order code
20 / 25	0,045	<b>P1A-4HRC</b>
32 / 40	0,09	<b>P1C-4KRC</b>
50 / 63	0,15	<b>P1C-4LRC</b>
80 / 100	0,35	<b>P1C-4MRC</b>

Cyl. bore Ø mm	Weight kg	Order code
20 / 25	0,045	<b>P1S-4HRD</b>
32 / 40	0,09	<b>P1S-4JRD</b>
50 / 63	0,15	<b>P1S-4LRD</b>
80 / 100	0,35	<b>P1S-4MRD</b>





**Piston rod mountings**

**Flexo coupling PM5**



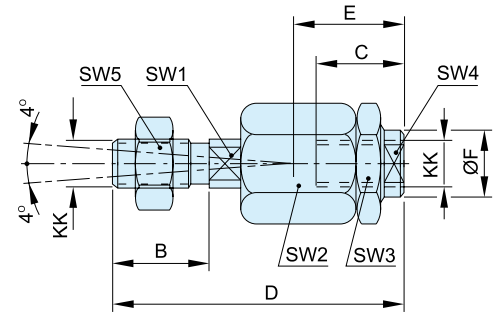
Flexo coupling for articulated mounting of piston rod. Flexo fitting is intended to take up axial angle errors within a range of ±4°.

Material  
Flexo coupling, nut: Zinc-plated steel

Supplied complete with galvanized adjustment nut.

Cyl. bore Ø mm	Weight kg	Order code
20 / 25	0,06	<b>P1C-4HRF</b>
32 / 40	0,23	<b>P1C-4KRF</b>
50 / 63	0,23	<b>P1C-4LRF</b>
80 / 100	0,65	<b>P1C-4MRF</b>

Cyl. bore mm	KK mm	B mm	C mm	D mm	E mm	ØF mm	SW1 mm	SW2 mm	SW3 mm	SW4 mm	SW5 mm
20 / 25	M8x1.25	16	14	55	20	12.4	7	17	17	10	13
32 / 40	M10x1.25	20	23	73	31	21	12	30	30	19	17
50 / 63	M12x1.5	24	23	77	31	21	12	30	30	19	19
80 / 100	M16x1.5	32	32	108	45	33.5	19	41	41	30	24



**Nut MR9**



Intended for fixed mounting of accessories to the piston rod. Material: Zinc-plated steel

All P1D cylinders are delivered with a zinc-plated steel piston rod nut.

Supplied as pack of 10 off

Cyl. bore Ø mm	Weight * kg	Order code
20 / 25	0,005	<b>P14-4HRPZ</b>
32 / 40	0,007	<b>P14-4KRPZ</b>
50 / 63	0,021	<b>P14-4LRPZ</b>
80 / 100	0,040	<b>P14-4MRPZ</b>

\* Weight per item

**Stainless steel nut MR9**



Intended for fixed mounting of accessories to the piston rod.

Material: Stainless steel A2

All P1D cylinders are delivered with a zinc-plated steel piston rod nut.

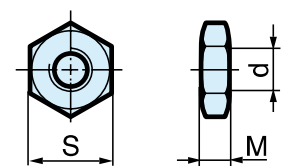
Supplied as pack of 10 off

Cyl. bore Ø mm	Weight * kg	Order code
20 / 25	0,005	<b>P14-4HRPS</b>
32 / 40	0,007	<b>P14-4KRPS</b>
50 / 63	0,021	<b>P14-4LRPS</b>
80 / 100	0,040	<b>P14-4MRPS</b>

\* Weight per item

According to DIN 439 B

Cyl. bore mm	d	M	S
20 / 25	M8x1,25		
32 / 40	M10x1,25	5,0	17
50 / 63	M12x1,25	6,0	19
80 / 100	M16x1,5	10,0	30



# P1Q Series Compact Cylinders

According to ISO 15524



Parker's P1Q series cylinders provide an economical, compact design suited for a variety of applications. With its modular flexibility, the P1Q will provide the ideal solution machine builders need today. The P1Q series is available in 10 bore sizes from 12 mm to 100 mm and standard strokes from 5 mm to 100 mm. The cylinder is supplied in a choice of magnetic or non-magnetic function, the non-magnetic version offers very short axial dimensions. For optimum compactness the P1Q range is supplied with female piston rod thread.

The P1Q provides quieter operation due to its built in buffer cushioning, which is standard on all bore sizes. Included in bore sizes 40 mm – 100 mm is a piston wear ring providing superior life.

The P1Q compact cylinder is ideal for applications where you need compact dimensions and high over-all performance. The versatile P1Q cylinder range provides a long trouble-free operation in a variety of applications.

- ISO 15524 conformity
- Compact and versatile
- Magnetic or non magnetic options
- Flush fit sensor range
- Buffer cushioning as standard
- Piston wear ring on Ø32 - Ø100mm
- Tapped both ends as standard

**\* Non-magnetic cylinder order code.**

Place **B** in position **11** of the order code

**Example: P1QS012DC7B0005**



**Operating information**

Working pressure: Max 10 bar  
 Permissible fluid: Air, with or without lubrication

Standard working temperature: -5°C to +60°C

Prelubricated, further lubrication is not normally necessary. If additional lubrication is introduced it must be continued.

For more information see [www.parker.com/euro\\_pneumatic](http://www.parker.com/euro_pneumatic)

**Double acting - Magnetic - Female threaded piston rod**

**Ø12mm**

Stroke mm	Order code
5	P1QS012DC7G0005
10	P1QS012DC7G0010
15	P1QS012DC7G0015
20	P1QS012DC7G0020
25	P1QS012DC7G0025
30	P1QS012DC7G0030

**Ø16mm**

Stroke mm	Order code
5	P1QS016DC7G0005
10	P1QS016DC7G0010
15	P1QS016DC7G0015
20	P1QS016DC7G0020
25	P1QS016DC7G0025
30	P1QS016DC7G0030

**Ø20mm**

Stroke mm	Order code
10	P1QS020DC7G0010
15	P1QS020DC7G0015
20	P1QS020DC7G0020
25	P1QS020DC7G0025
30	P1QS020DC7G0030
40	P1QS020DC7G0040
50	P1QS020DC7G0050

**Ø25mm**

Stroke mm	Order code
10	P1QS025DC7G0010
15	P1QS025DC7G0015
20	P1QS025DC7G0020
25	P1QS025DC7G0025
30	P1QS025DC7G0030
40	P1QS025DC7G0040
50	P1QS025DC7G0050

**Ø32mm**

Stroke mm	Order code
10	P1QS032DC7G0010
15	P1QS032DC7G0015
20	P1QS032DC7G0020
25	P1QS032DC7G0025
30	P1QS032DC7G0030
40	P1QS032DC7G0040
50	P1QS032DC7G0050
75	P1QS032DC7G0075
100	P1QS032DC7G0100

**Ø40mm**

Stroke mm	Order code
15	P1QS040DC7G0015
20	P1QS040DC7G0020
25	P1QS040DC7G0025
30	P1QS040DC7G0030
40	P1QS040DC7G0040
50	P1QS040DC7G0050
75	P1QS040DC7G0075
100	P1QS040DC7G0100

**Ø50mm**

Stroke mm	Order code
15	P1QS050DC7G0015
20	P1QS050DC7G0020
25	P1QS050DC7G0025
30	P1QS050DC7G0030
40	P1QS050DC7G0040
50	P1QS050DC7G0050
75	P1QS050DC7G0075
100	P1QS050DC7G0100

**Ø63mm**

Stroke mm	Order code
15	P1QS063DC7G0015
20	P1QS063DC7G0020
25	P1QS063DC7G0025
30	P1QS063DC7G0030
40	P1QS063DC7G0040
50	P1QS063DC7G0050
75	P1QS063DC7G0075

**Ø80mm**

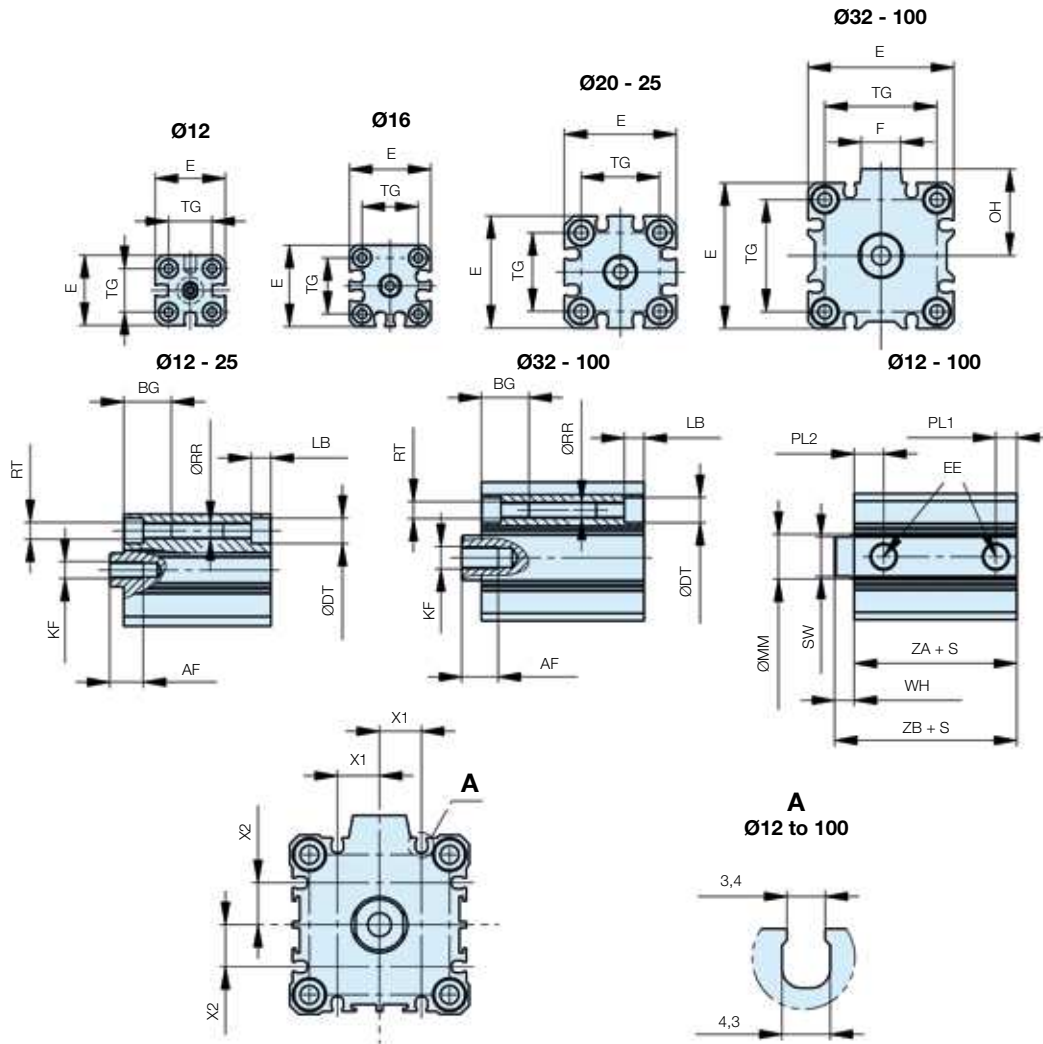
Stroke mm	Order code
15	P1QS080DC7G0015
20	P1QS080DC7G0020
25	P1QS080DC7G0025
30	P1QS080DC7G0030
40	P1QS080DC7G0040
50	P1QS080DC7G0050
75	P1QS080DC7G0075

**Ø100mm**

Stroke mm	Order code
15	P1QS100DC7G0015
20	P1QS100DC7G0020
25	P1QS100DC7G0025
30	P1QS100DC7G0030
40	P1QS100DC7G0040
50	P1QS100DC7G0050
75	P1QS100DC7G0075

Dimensions (mm)

Double acting, magnetic and non magnetic piston, elastic cushioning, piston rod with internal thread



Dimensions - Non-magnetic

The non magnetic version is not in the ISO standard, ZA and ZB could be different depending on the cylinder's manufacturer WH and ZB are without pressure in the cylinder, deformation of elastic bumpers under pressure gives different dimensions

Bore size Ø (mm)	E	TG	F	OH	RT 6H	BG	K	AF	ØRR	LB	ØDT	ØMM	SW	PL1	PL2	EE	X1	X2	WH	ZA		ZB	
																				5 to 50mm	75 to 100mm	5 to 50mm	75 to 100mm
12	25	15,5 ±0,3	-	12,5	M4	11,0	M3	6	3,5	4,0	6,5	6	5	5,0	7,5	M5	0	0	3,5 ±1,5	17,0	-	20,5	-
16	29	20 ±0,3	-	14,5	M4	11,0	M4	8	3,5	4,0	6,5	8	6	5,0	7,5	M5	3,5	3,5	3,5 ±1,5	17,0	-	20,5	-
20	36	25,5 ±0,3	7,6	18,0	M6	17,0	M5	7	5,4	7,0	9,0	10	8	5,5	9,0	M5	5,5	5,5	4,5 ±1,5	19,5	-	24,0	-
25	40	28 ±0,3	16,4	20,0	M6	17,0	M6	12	5,4	7,0	9,0	12	10	5,5	11,0	M5	6,5	6,5	5 ±1,5	22,5	-	27,5	-
32	45	34 ±0,3	14,0	27,0	M6	17,0	M8	13	5,5	7,0	9,0	16	14	7,5	10,5	G1/8	10,0	10,0	7 ±2	23,0	33,0	30,0	40,0
40	52	40 ±0,3	14,0	31,0	M6	17,0	M8	13	5,5	7,0	9,0	16	14	8,0	11,0	G1/8	11,0	11,0	7 ±2	29,5	39,5	36,5	46,5
50	64	50 ±0,5	26,0	39,0	M8	22,0	M10	15	6,6	8,0	11,0	20	17	10,5	10,5	G1/4	15,0	15,0	8 ±2	30,5	40,5	38,5	48,5
63	77	60 ±0,5	19,0	44,5	M10	28,5	M10	15	9,0	10,5	14,0	20	17	10,5	15,0	G1/4	18,0	18,0	8 ±2	36,0	46,0	44,0	54,0
80	98	77 ±0,5	26,0	55,0	M12	35,5	M16	21	11,0	13,5	17,5	25	22	12,5	16,0	G3/8	22,0	22,0	10 ±2	43,5	53,5	53,5	63,5
100	117	94 ±0,5	26,0	65,0	M12	35,5	M20	27	11,0	13,5	17,5	30	27	13,0	23,0	G3/8	22,0	22,0	12 ±2,5	53,0	63,0	65,0	75,0

Dimensions - Magnetic

WH and ZB are without pressure in the cylinder, deformation of elastic bumpers under pressure gives different dimensions

Bore size Ø (mm)	E	TG	F	OH	RT 6H	BG	K	AF	ØRR	LB	ØDT	ØMM	SW	PL1	PL2	EE	X1	X2	WH	ZA	ZB
16	29	20 ±0,3	-	14,5	M4	11,0	M4	8	3,5	4,0	6,5	8	6	5,0	7,5	M5	3,5	3,5	3,5 ±1,5	22,0	25,5
20	36	25,5 ±0,3	7,6	18,0	M6	17,0	M5	7	5,4	7,0	9,0	10	8	5,5	9,0	M5	5,5	5,5	4,5 ±1,5	29,5	34,0
25	40	28 ±0,3	16,4	20,0	M6	17,0	M6	12	5,4	7,0	9,0	12	10	5,5	11,0	M5	6,5	6,5	5 ±1,5	32,5	37,5
32	45	34 ±0,3	14,0	27,0	M6	17,0	M8	13	5,5	7,0	9,0	16	14	7,5	10,5	G1/8	10,0	10,0	7 ±2	33,0	40,0
40	52	40 ±0,3	14,0	31,0	M6	17,0	M8	13	5,5	7,0	9,0	16	14	8,0	11,0	G1/8	11,0	11,0	7 ±2	39,5	46,5
50	64	50 ±0,5	26,0	39,0	M8	22,0	M10	15	6,6	8,0	11,0	20	17	10,5	10,5	G1/4	15,0	15,0	8 ±2	40,5	48,5
63	77	60 ±0,5	19,0	44,5	M10	28,5	M10	15	9,0	10,5	14,0	20	17	10,5	15,0	G1/4	18,0	18,0	8 ±2	46,0	54,0
80	98	77 ±0,5	26,0	55,0	M12	35,5	M16	21	11,0	13,5	17,5	25	22	12,5	16,0	G3/8	22,0	22,0	10 ±2	53,5	63,5
100	117	94 ±0,5	26,0	65,0	M12	35,5	M20	27	11,0	13,5	17,5	30	27	13,0	23,0	G3/8	22,0	22,0	12 ±2,5	63,0	75,0

S = stroke, following ISO tolerance on ZB is ±2, bore sizes 12 and 16 mm are not in the ISO standard



## Cylinder mountings

### Flange MF1

Surface treated steel

Cyl. dia.	Order code
12	<b>P1Q-4DMB</b>
16	<b>P1Q-4FMB</b>
20	<b>P1Q-4HMB</b>
25	<b>P1Q-4JMB</b>
32	<b>P1Q-4KMB</b>
40	<b>P1Q-4LMB</b>
50	<b>P1Q-4MMB</b>
63	<b>P1Q-4NMB</b>
80	<b>P1Q-4PMB</b>
100	<b>P1Q-4QMB</b>



### Foot brackets MS9

Surface treated steel

Cyl. dia.	Order code
12	<b>P1Q-4DMF</b>
16	<b>P1Q-4FMF</b>
20	<b>P1Q-4HMF</b>
25	<b>P1Q-4JMF</b>
32	<b>P1Q-4KMF</b>
40	<b>P1Q-4LMF</b>
50	<b>P1Q-4MMF</b>
63	<b>P1Q-4NMF</b>
80	<b>P1Q-4PMF</b>
100	<b>P1Q-4QMF</b>



### Clevis mounting

Surface treated steel, black

Cyl. dia.	Order code
12	<b>P1Q-4DMT</b>
16	<b>P1Q-4FMT</b>
20	<b>P1Q-4HMT</b>
25	<b>P1Q-4JMT</b>
32	<b>P1Q-4KMT</b>
40	<b>P1Q-4LMT</b>
50	<b>P1Q-4MMT</b>
63	<b>P1Q-4NMT</b>
80	<b>P1Q-4PMT</b>
100	<b>P1Q-4QMT</b>



## Electronic and Reed Sensors

Size	Description	Order code
<b>Flush mount style</b>		
PNP Type, normally open	0.165 m cable and M8 screw male connector	<b>P8S-EPSUS</b>
PNP Type, normally open	2 m PUR cable without connector	<b>P8S-EPFSX</b>
NPN Type, normally open	0.165 m cable and M8 screw male connector	<b>P8S-ENSUS</b>
NPN Type, normally open	2 m PUR cable without connector	<b>P8S-ENFXS</b>
Reed Type, normally open	0.15 m cable and M8 screw male connector	<b>P8S-ERSUS</b>
Reed Type, normally open	2 m PUR cable without connector	<b>P8S-ERFXS</b>

Single acting, spring return cylinders ideal for applications where space is at a premium. The threaded body makes installation simple.

- Non - lube operation
- Corrosion resistant design
- Integral mounting
- Compact construction
- Single acting as standard



**Operating information**

Working pressure 2 - 7 bar  
 working temperature -20 °C to +80 °C  
 Supplied complete with 1 rod nut and 2 fixing nuts

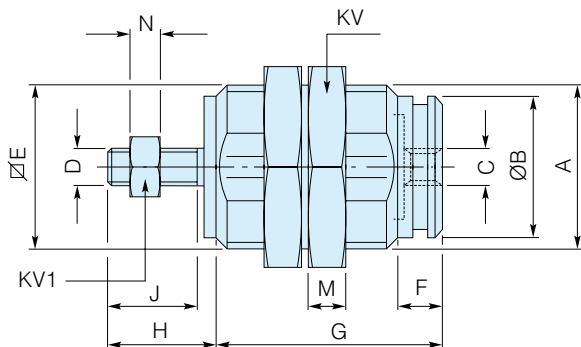
For more information see [www.parker.com/euro\\_pneumatic](http://www.parker.com/euro_pneumatic)

**Single acting push type**

Symbol	Cyl. bore mm	Rod thread mm	Body thread mm	Spring force		Port size	Stroke mm	Order code
				Max N	Min N			
	6	M3	M10x1,0	3,8	1,2	M5	5	<b>P1G-S006SS-0005</b>
							10	<b>P1G-S006SS-0010</b>
							15	<b>P1G-S006SS-0015</b>
	10	M4	M15x1,5	7,3	2,7	M5	5	<b>P1G-S010SS-0005</b>
							10	<b>P1G-S010SS-0010</b>
							15	<b>P1G-S010SS-0015</b>
	16	M5	M22x1,5	6,6	3,3	M5	5	<b>P1G-S016SS-0005</b>
							10	<b>P1G-S016SS-0010</b>
							15	<b>P1G-S016SS-0015</b>

The spring forces in single acting cylinders are sufficient to return the piston without load.

**Dimensions (mm)**



**Caution**  
 Avoid side loads on the piston rod  
 Avoid loading the piston rod during retraction  
 Do not operate the cylinders with excessive inertia.

Cylinder bore	A	ØB	C	D	E	F	5 <sup>1)</sup> 10 <sup>1)</sup> 15 <sup>1)</sup>			H	J	KV	KV1	M	N
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
6	M10x1	8,5	M5	M3x0,5	9	5	19,5	26,5	33,5	8	8	14	5,5	3	2,4
10	M15x1,5	12	M5	M4x0,7	14	7	23	29,5	36,5	10,5	10,5	19	7	4	3,2
16	M22x1,5	19	M5	M5x0,8	20	6	27	32	37	13	12	27	8	5	4

1) Stroke length in mm

Compact short stroke cylinders available in single as well as double acting versions. Ideally suited for clamping and locking operations. The compact design with mounting holes through the cylinder body makes the unit easy to install in confined spaces. The main body is machined from one piece thus providing an easy to clean unit. Fitted with stainless steel piston rod as standard for corrosion resistance.



- Short stroke cylinders providing high clamping forces
- Compact dimensions for confined spaces
- Single and double acting versions
- Simple installation and mounting

**Operating information**

Working pressure: Max 10 bar  
 Working temperature: -20°C to +70°C  
 Prelubricated, further lubrication is not normally necessary. If additional lubrication is introduced it must be continued.  
 For more information see [www.parker.com/euro\\_pneumatic](http://www.parker.com/euro_pneumatic)

**C05 Double acting cylinders**

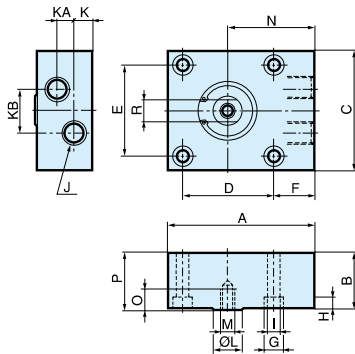
Cyl. bore mm	Stroke mm	Port	Order code
12	10	M5	<b>C05-12-5-10</b>
20	10	M5	<b>C05-20-10-10</b>
32	10	G1/8	<b>C05-32-12-10</b>
32	25	G1/8	<b>C05-32-12-25</b>
50	25	G1/4	<b>C05-50-16-25</b>
63	25	G1/4	<b>C05-63-16-25</b>

**C05S Single acting cylinders**

Cyl. bore mm	Stroke mm	Port	Order code
8	4	M5	<b>C05S-8-4-4</b>
12	4	M5	<b>C05S-12-5-4</b>
20	4	G1/8	<b>C05S-20-10-4</b>
32	5	G1/8	<b>C05S-32-12-5</b>
50	10	G1/4	<b>C05S-50-16-10</b>
63	10	G1/4	<b>C05S-63-16-10</b>

The spring forces in single acting cylinders are sufficient to return the piston without load.

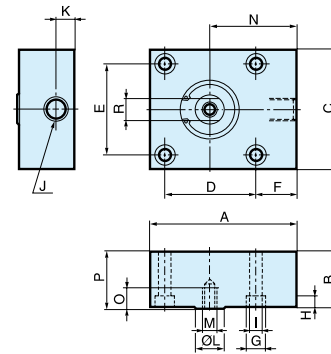
**Double acting dimensions (mm)**



Type	A	B	C	D	E	F	G	H	I	J
<b>C05-12-5-10</b>	25	27	20	0*	13	7,0	6	3,4	3,4	M5
<b>C05-20-10-10</b>	40	30	32	0*	20	9,0	10	5,0	5,5	M5
<b>C05-32-12-10</b>	55	36	45	0*	32	14,0	10	5,0	5,5	G1/8
<b>C05-32-12-25</b>	55	51	45	0*	32	14,0	10	5,0	5,5	G1/8
<b>C05-50-16-25</b>	80	50	65	50	22,5	11	6,5	6,5	G1/4	
<b>C05-63-16-25</b>	90	55	80	62	62	19,0	15	9,0	9,0	G1/4
Type	K	KA	KB	L	M	N	O	P	R	
<b>C05-12-5-10</b>	6,0	13,0	3	5	-	16,0	-	28	-	
<b>C05-20-10-10</b>	6,0	16,0	6	10	M5	24,0	8	31	-	
<b>C05-32-12-10</b>	9,5	16,5	14	12	M6	32,0	12	37	9	
<b>C05-32-12-25</b>	9,5	31,5	0**	12	M6	32,0	12	52	9	
<b>C05-50-16-25</b>	11,0	28,0	0**	16	M8	47,5	12	51	14	
<b>C05-63-16-25</b>	11,0	33,0	0**	16	M8	50,0	14	56	14	

\* Only two mounting holes (F).  
 \*\* Connections in-line.

**Single acting dimensions (mm)**

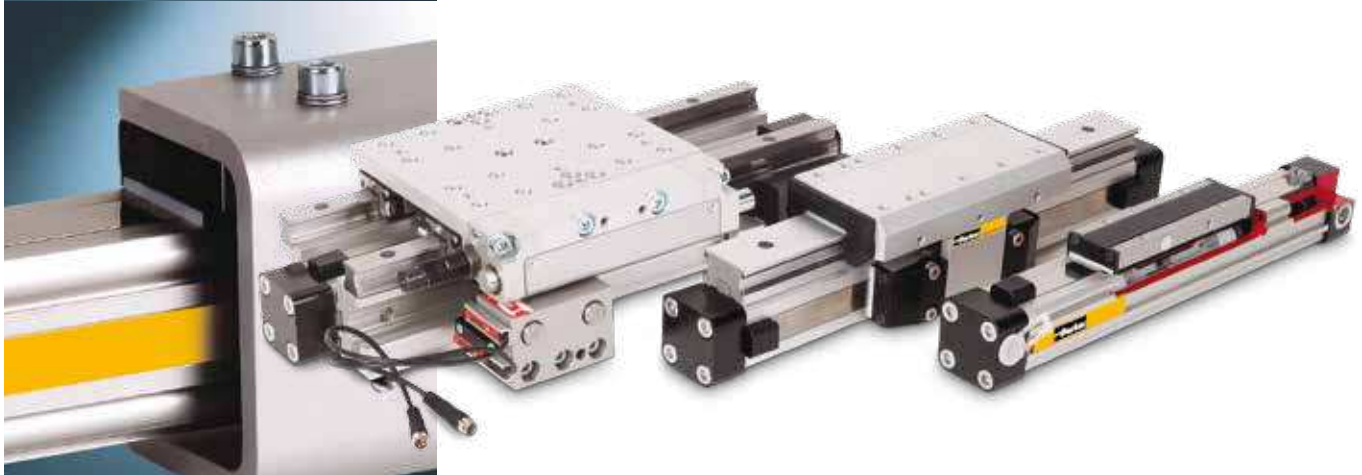


Type	A	B	C	D	E	F	G	H	I	J
<b>C05S-8-4-4</b>	20	16	18	0*	11	5,5	6	3,4	3,4	M5
<b>C05S-12-5-4</b>	25	16	20	0*	13	7,0	6	3,4	3,4	M5
<b>C05S-20-10-4</b>	40	20	32	0*	20	9,0	10	5,0	5,5	G1/8
<b>C05S-32-12-5</b>	55	26	45	0*	32	14,0	10	5,0	5,5	G1/8
<b>C05S-50-16-10</b>	80	30	65	50	22,5	11	6,5	6,5	G1/4	
<b>C05S-63-16-10</b>	90	35	80	62	62	19,0	15	9,0	9,0	G1/4
Type	K	KA	KB	L	M	N	O	P	R	
<b>C05S-8-4-4</b>	5,0	-	-	4	-	13,5	-	17	-	
<b>C05S-12-5-4</b>	6,0	-	-	5	-	15,0	-	17	-	
<b>C05S-20-10-4</b>	9,5	-	-	10	M5	24,0	8	21	-	
<b>C05S-32-12-5</b>	9,5	-	-	12	M6	32,0	12	27	9	
<b>C05S-50-16-10</b>	11,0	-	-	16	M8	47,5	12	31	14	
<b>C05S-63-16-10</b>	11,0	-	-	16	M8	50,0	14	36	14	



# ORIGA SYSTEM PLUS OSP-P

The “**ORIGINAL**” rodless pneumatic cylinders



## A **NEW** Modular Linear Drive System

With this second generation linear drive Parker Origa offers design engineers complete flexibility. The well known ORIGA cylinder has been further developed into a combined linear actuator, guidance and control package. It forms the basis for the new, versatile ORIGA SYSTEM PLUS linear drive system.

All additional functions are designed into modular system components which replace the previous series of cylinders.

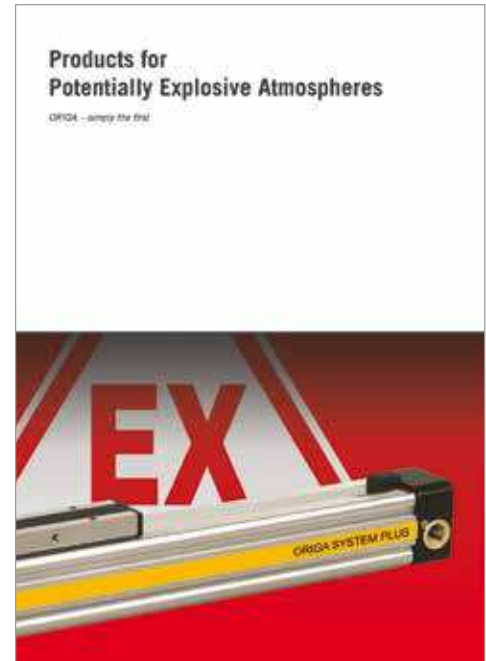
- Completely modular design
- Compact design
- Widest capability for speed, load and movement profiles
- End caps can be rotated 4 x 90°
- High loads and moments
- High service life up to 8,000km
- Low friction forces  $\geq$  high action forces
- Wide speed range ( 0.005 – 30m/s )
- Modular System – easy to mount guides, brakes and displacement measuring system



Parker Origa rodless pneumatic cylinders are the first rodless cylinders that have been approved for use in potentially explosive atmospheres in Equipment Group II, Category 2 GD.

The Cylinders are to the ATEX Certification 94/9/EG (ATEX 95) for Pneumatic Components.

For full details and information on OSP-P range of rodless cylinders please see catalogue no.: P-A4P011GB



## Special Versions



for use in Ex-Areas



Low Temperature Version  
for temperatures down to  
-40°C



for Clean Room Applications  
certified to  
DIN EN ISO 14644-1



Slow Speed Version  
 $v = 0.005 - 0.2 \text{ m/s}$



Stainless steel version  
for special applications



High Speed Version  
 $v_{\text{max.}} = 30 \text{ m/s}$



with special pneumatic  
cushioning system for cycle  
time optimization,  
for  $\varnothing 16$  to  $50 \text{ mm}$   
– on request



Cylinders with extreme long  
strokes  
Stroke length up to  $41 \text{ m}$



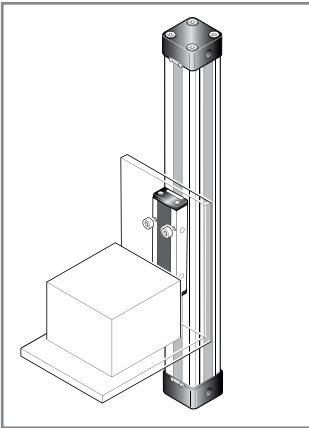
High Temperature Version  
for temperatures up to  
 $+120^\circ\text{C}$

\* Information on electrical linear drives series OSP-E, please refer to catalogue P-A4P017GB

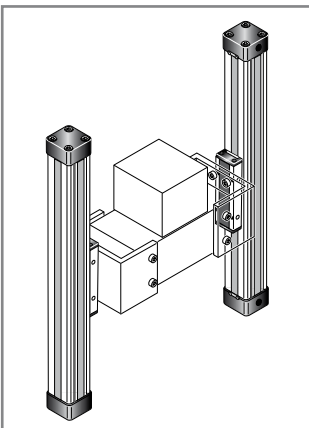
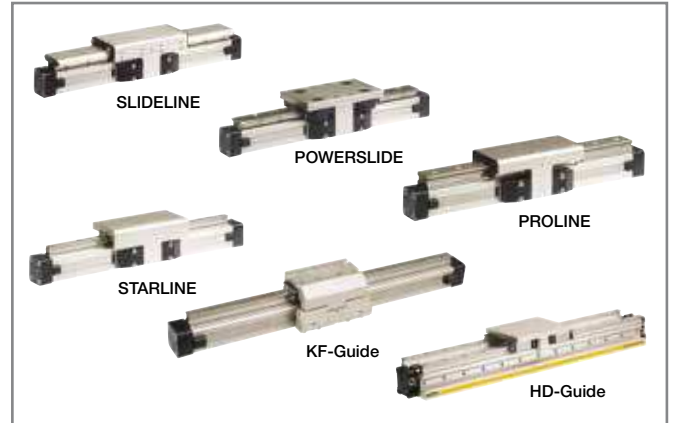
<p>Basic Linear Drive Standard Version</p> <ul style="list-style-type: none"> <li>Series OSP-P</li> <li>Series OSP-E* Belt drive Belt drive with integrated Guides Vertical belt drive with recirculating ball bearing guide</li> <li>Series OSP-E* Screw drive (Ball Screw, Trapezoidal Screw)</li> </ul>		<p>BASIC GUIDE</p> <ul style="list-style-type: none"> <li>Series OSPP-BG</li> </ul>	
<p>Air Connection on the End-face or both at One End</p> <ul style="list-style-type: none"> <li>Series OSP-P</li> </ul>		<p>Duplex Connection</p> <ul style="list-style-type: none"> <li>Series OSP-P</li> </ul>	
<p>Long-Stroke Cylinders for strokes up to 41 m</p> <ul style="list-style-type: none"> <li>Series OSP-P</li> </ul>		<p>Multiplex Connection</p> <ul style="list-style-type: none"> <li>Series OSP-P</li> </ul>	
<p>Clean Room Cylinder certified to DIN EN ISO 14644-1</p> <ul style="list-style-type: none"> <li>Series OSP-P</li> <li>Series OSP-E..SB</li> </ul>		<p>Linear Guides – SLIDELINE</p> <ul style="list-style-type: none"> <li>Series OSP-P</li> <li>Series OSP-E Screw drive*</li> </ul>	
<p>Products for ATEX Areas</p> <ul style="list-style-type: none"> <li>Series OSP-P Rodless Cylinders</li> </ul> 		<p>Linear Guides – POWERSLIDE</p> <ul style="list-style-type: none"> <li>Series OSP-P</li> <li>Series OSP-E Belt drive*</li> <li>Series OSP-E Screw drive*</li> </ul>	
<p>Products for ATEX Areas</p> <ul style="list-style-type: none"> <li>Series OSP-P Rodless Cylinders with Linear Guide BASIC GUIDE</li> </ul> 		<p>Linear Guides – PROLINE</p> <ul style="list-style-type: none"> <li>Series OSP-P</li> <li>Series OSP-E Belt drive*</li> <li>Series OSP-E Screw drive*</li> </ul>	
<p>Products for ATEX Areas</p> <ul style="list-style-type: none"> <li>Series OSP-P Rodless Cylinders with Linear Guide SLIDELINE</li> </ul> 		<p>Linear Guides – STARLINE</p> <ul style="list-style-type: none"> <li>Series OSP-P</li> </ul>	
<p>Bi-parting Version</p> <ul style="list-style-type: none"> <li>Series OSP-P</li> </ul>		<p>Linear Guides – KF</p> <ul style="list-style-type: none"> <li>Series OSP-P</li> </ul>	
<p>Integrated 3/2 Way Valves</p> <ul style="list-style-type: none"> <li>Series OSP-P</li> </ul>		<p>Heavy Duty Linear Guides – HD</p> <ul style="list-style-type: none"> <li>Series OSP-P</li> <li>Series OSP-E Screw drive*</li> </ul>	
<p>Clevis Mounting</p> <ul style="list-style-type: none"> <li>Series OSP-P</li> <li>Series OSP-E Belt drive*</li> <li>Series OSP-E Screw drive*</li> </ul>		<p>Intermediate stop module – ZSM</p> <ul style="list-style-type: none"> <li>Series OSP-P</li> </ul>	
<p>End Cap Mounting</p> <ul style="list-style-type: none"> <li>Series OSP-P</li> <li>Series OSP-E Belt drive*</li> <li>Series OSP-E Screw drive*</li> </ul>		<p>Brakes</p> <ul style="list-style-type: none"> <li>Active Brakes</li> <li>Passive Brakes</li> </ul>	
<p>Mid-Section Support</p> <ul style="list-style-type: none"> <li>Series OSP-P</li> <li>Series OSP-E Belt drive*</li> <li>Series OSP-E Screw drive*</li> </ul>		<p>Magnetic Switches</p> <ul style="list-style-type: none"> <li>Series OSP-P</li> <li>Series OSP-E Belt drive*</li> <li>Series OSP-E Screw drive*</li> <li>ATEX-Versions</li> </ul> 	
<p>Inversion Mounting</p> <ul style="list-style-type: none"> <li>Series OSP-P</li> <li>Series OSP-E Belt drive*</li> <li>Series OSP-E Screw drive*</li> </ul>		<p>SENSOFLEX-Measuring system</p> <ul style="list-style-type: none"> <li>Series SFI-plus</li> </ul>	
<p>Variable Stop VS</p> <ul style="list-style-type: none"> <li>Series OSP-P with Linear Guide STL, KF, HD</li> </ul>		<p>Variable Stop VS</p> <ul style="list-style-type: none"> <li>Series OSP-P with Linear Guide STL, KF, HD</li> </ul>	

# OSP-P Application examples

ORIGA SYSTEM PLUS – rodless linear drives offer maximum flexibility for any application.



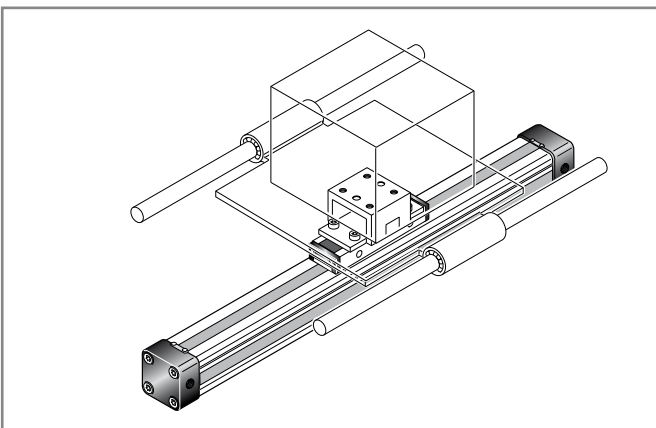
The high load capacity of the piston can cope with high bending moments without additional guides.



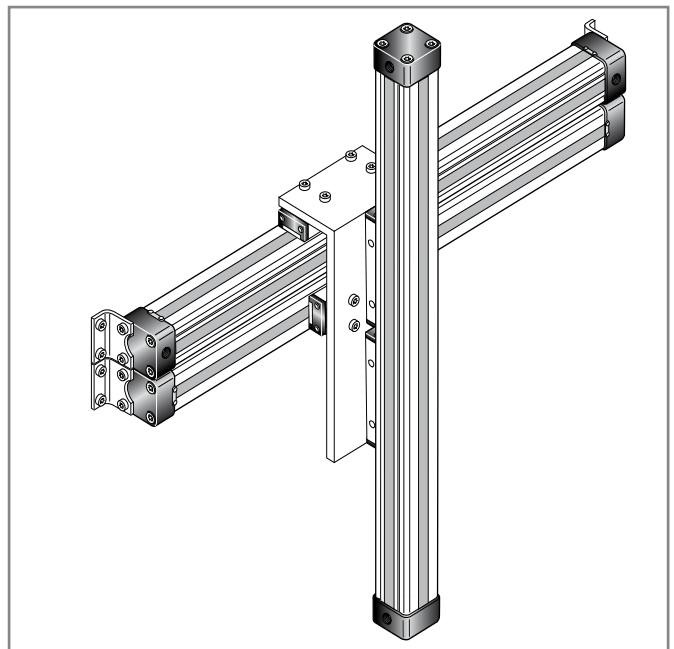
The mechanical design of the OSP-P allows synchronised movement of two cylinders.

Integrated guides offer optimal guidance for applications requiring high performance, easy assembly and maintenance free operation.

Optimal system performance by combining multi-axis cylinder combinations.



When using external guides, the clevis mounting is used to compensate for deviations in parallelism.



For further information and assembly instructions, please contact your local Parker Origa dealer.

# Origa System Plus

## - Innovation from a proven design

A completely new generation of linear drives which can be simply and neatly integrated into any machine layout.

### A NEW MODULAR LINEAR DRIVE SYSTEM

With this second generation linear drive Parker Origa offers design engineers complete flexibility. The well known ORIGA cylinder has been further developed into a combined linear actuator, guidance and control package. It forms the basis for the new, versatile ORIGA SYSTEM PLUS linear drive system.

All additional functions are designed into modular system components which replace the previous series of cylinders.

### MOUNTING RAILS ON 3 SIDES

Mounting rails on 3 sides of the cylinder enable modular components such as linear guides, brakes, valves, magnetic switches etc. to be fitted to the cylinder itself. This solves many installation problems, especially where space is limited.

The modular system concept forms an ideal basis for additional customer-specific functions.

**Magnetic piston as standard - for contactless position sensing on three sides of the cylinder.**

**Corrosion resistant steel outer sealing band and robust wiper system on the carrier for use in aggressive environments.**

**Proven corrosion resistant steel inner sealing band for optimum sealing and extremely low friction.**

**Combined clamping for inner and outer sealing band with dust cover.**

**Stainless steel screws optional.**

**Low friction piston seals for optimized running characteristics**

**Optimized cylinder profile for maximum stiffness and minimum weight. Integral air passages enable both air connections to be positioned at one end, if desired.**

**Install the OSP-P System to simplify design work! The files are compatible with all popular CAD systems and package hardware.**

**End cap can be rotated to any one of the four positions (before or after delivery) so that the air connection can be in any desired position.**

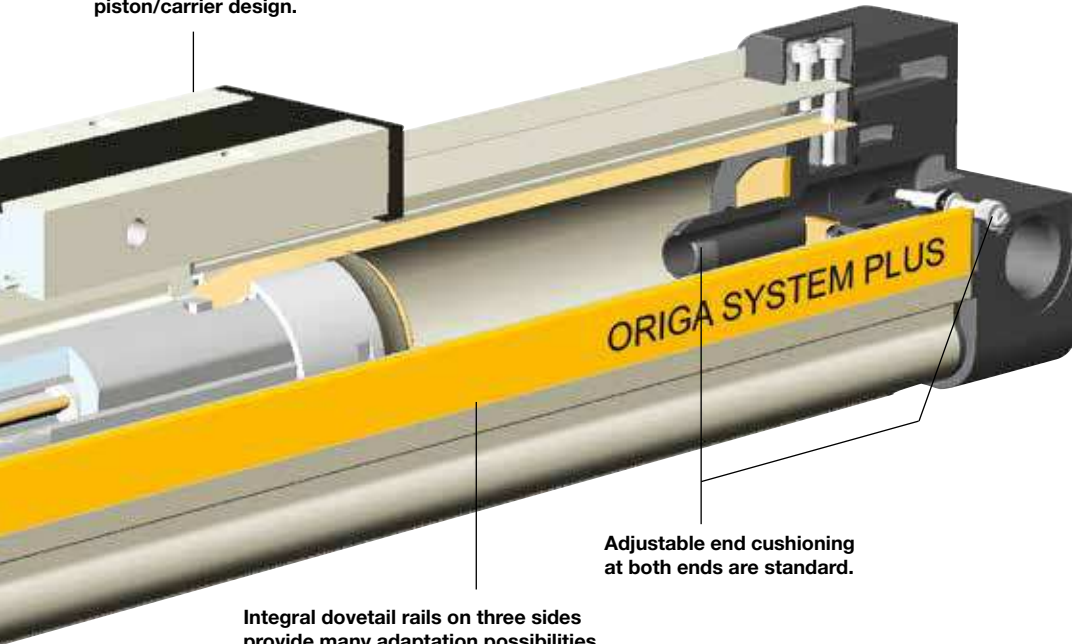
Clean Room Version  
certified to DIN EN ISO 14644-1



Rodless Cylinder  
for synchronized bi-parting movements



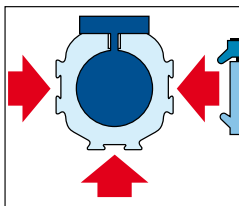
New low profile  
piston/carrier design.



Adjustable end cushioning  
at both ends are standard.

Integral dovetail rails on three sides  
provide many adaptation possibilities  
(linear guides, magnetic switches,  
etc.).

Modular system components  
are simply clamped on.



**INTEGRATED  
VOE VALVES**  
The complete  
compact solution  
for optimal cylinder  
control.



**SENSOFLEX  
SFI-plus**  
incremental  
measuring system  
with 0.1 (1.0) mm  
resolution.



**BASIC GUIDE**  
Compact, robust  
plain bearing  
guide for medium  
loads.



**SLIDELINE**  
Guide system for  
moderate loads.  
Optional with  
Active- / Passive-  
Brake.



**POWERSLIDE**  
Roller guide for  
high loads and  
rough conditions.



**PROLINE**  
The compact  
aluminium roller  
guide for high loads  
and velocities.  
Optional with  
Active- / Passive-  
Brake.



**STARLINE**  
Recirculating ball  
bearing guide for  
very high loads  
and precision.



**KF GUIDE**  
Recirculating ball  
bearing guide  
– the mounting  
dimensions  
correspond to  
FESTO Type:  
DGPL-KF



**HEAVY DUTY  
GUIDE HD**  
for heavy duty  
applications.



**VARIABLE STOP  
VS**  
The variable stop  
provides simple  
stroke limitation.



**PASSIVE BRAKE**  
reacts automatically  
to pressure failure.



**ACTIVE BRAKE**  
pneumatic brake  
for secure, positive  
stopping at any  
position.



# Options and Accessories for system versatility

## Series OSP-P

### STANDARD VERSIONS OSP-P10 to P80

Standard carrier with integral guidance. End cap can be rotated 4 x 90° to position air connection on any side.  
Magnetic piston as standard.  
Dovetail profile for mounting of accessories and the cylinder itself.



### LONG-STROKE VERSION

For extremely long strokes up to max. 41m



### BASIC CYLINDER OPTIONS

#### CLEAN ROOM CYLINDERS

For use in clean room applications, certified with the IPA-Certificate (to DIN EN ISO 14644-1).  
The special design of the linear drive enables all emissions to be led away.



#### ATEX-Version

For use in Ex-Areas



#### BOTH AIR CONNECTIONS AT ONE END

For simplified tubing connections and space saving.



#### STAINLESS VERSION

For use in constantly damp or wet environments. All screws are A2 quality stainless steel (material no.1.4301 / 1.4303)



#### INTEGRATED VOE VALVES

The complete compact solution for optimal cylinder control.



#### SLOW SPEED OPTIONS

Specially formulated grease lubrication facilitates slow, smooth and uniform piston travel in the speed range from 0.005 to 0.2 m/s. Minimum achievable speeds are dependent on several factors. Please consult our technical department.  
Slow speed lubrication in combination with Viton® on demand. Oil free operation preferred.



#### DUPLEX CONNECTION

The duplex connection combines two OSP-P cylinders of the same size into a compact unit with high performance.



#### VITON® VERSION

For use in an environment with high temperatures or in chemically aggressive areas.  
All seals are made of Viton®.  
Corrosion resistant steel sealing bands.



#### MULTIPLEX CONNECTION

The multiplex connection combines two or more OSP-P cylinders of the same size into one unit.  
The orientation of the carriers can be freely selected.



#### END-FACE AIR CONNECTION

To solve special installation problems.



## ACCESSORIES

### MAGNETIC SWITCHES TYPE RS, ES, RST, EST

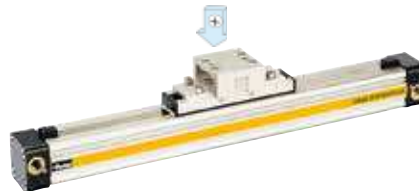
For electrical sensing of end and intermediate piston positions, also in EX-Areas.



## MOUNTING FOR OSP-P10 UP TO P80

### CLEVIS MOUNTING

Carrier with tolerance and parallelism compensation for driving loads supported by external linear guides.



### MID-SECTION SUPPORT

For supporting long cylinders or mounting the cylinder by its dovetail rails.



### END CAP MOUNTING

For end-mounting of the cylinder.



### INVERSION MOUNTING

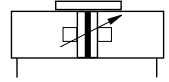
The inversion mounting transfers the driving force to the opposite side, e.g. for dirty environments.



## Rodless Pneumatic Cylinder

### Ø 10-80 mm

**OSP**  
ORIGA  
SYSTEM  
PLUS




#### Standard Versions:

- Double-acting with adjustable end cushioning
- With magnetic piston for position sensing

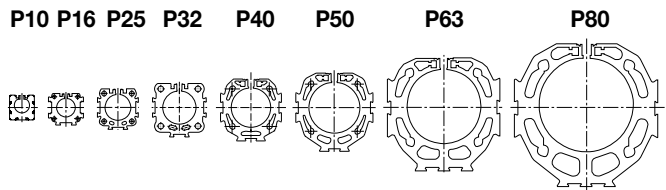
Long-Stroke Cylinders for stroke lengths up to 41 m  
See page 132

#### Special Versions:

- Cushioning system for cycle time optimization (on request)
- Clean room cylinders
- ATEX-Version 
- Stainless steel screws
- Slow speed lubrication
- Viton® seals
- Both air connections on one end
- Air connection on the end-face
- Integrated Valves

- End cap can be rotated 4 x 90° to position air connection as desired
- Free choice of stroke length up to 6000 mm, Long-Stroke version (Ø50-80mm) for stroke lengths up to 41 m

#### Size Comparison



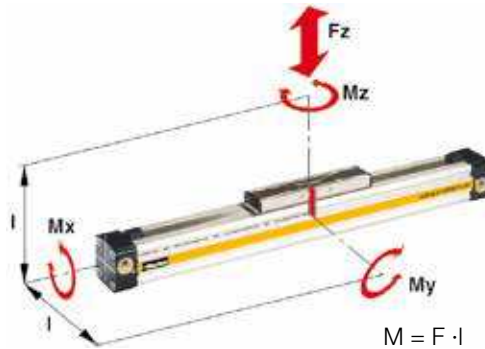
Characteristics	Description
<b>General Features</b>	
Type	Rodless cylinder
Series	OSP-P
System	Double-acting, with cushioning, position sensing capability
Mounting	See drawings
Air Connection	Threaded
Ambient temperature range	$T_{min}$ -10 °C Other temperature ranges $T_{max}$ +80 °C on request
Installation	In any position
Medium	Filtered, unlubricated compressed air (other media on request)
Lubrication	Permanent grease lubrication (additional oil mist lubrication not required) Option: special slow speed grease
<b>Material</b>	
Cylinder Profile	Anodized aluminium
Carrier (piston)	Anodized aluminium
End caps	Aluminium, lacquered / Plastic (P10)
Sealing bands	Corrosion resistant steel
Seals	NBR (Option: Viton®)
Screws	Galvanized steel Option: stainless steel
Dust covers, wipers	Plastic
Max. operating pressure $p_{max}$	8 bar



## Loads, Forces and Moments

### Choice of cylinder is decided by:

- Permissible loads, forces and moments
- Performance of the pneumatic end cushions.



$M = F \cdot l$   
Bending moments are calculated from the centre of the linear actuator

The main factors here are the mass to be cushioned and the piston speed at start of cushioning (unless external cushioning is used, e. g. hydraulic shock absorbers).

The adjacent table shows the maximum values for light, shock-free operation, which must not be exceeded even in dynamic operation. **Load and moment data are based on speeds  $v \leq 0.5$  m/s.**

When working out the action force required, it is essential to take into account the friction forces generated by the specific application or load.

Cylinder-Series Ø [mm]	Theoretical Action Force at 6 bar [N]	effektive Action Force $F_A$ at 6 bar [N]	max. Moments			max. Load F [N]	Cushion Length [mm]
			$M_x$ [Nm]	$M_y$ [Nm]	$M_z$ [Nm]		
OSP-P10	47	32	0.2	1	0.3	20	2.5 *
OSP-P16	120	78	0.45	4	0.5	120	11
OSP-P25	295	250	1.5	15	3	300	17
OSP-P32	483	420	3	30	5	450	20
OSP-P40	754	640	6	60	8	750	27
OSP-P50	1178	1000	10	115	15	1200	30
OSP-P63	1870	1550	12	200	24	1650	32
OSP-P80	3016	2600	24	360	48	2400	39

\* A rubber element (non-adjustable) is used for end cushioning. To deform the rubber element enough to reach the absolute end position would require a  $\Delta p$  of 4 bar!

## Cushioning Diagram

Work out your expected moving mass and read off the maximum permissible speed at start of cushioning. Alternatively, take your desired speed and expected mass and find the cylinder size required. Please note that piston speed at start of cushioning is typically ca. 50 % higher than the average speed, and that it is this higher speed which determines the choice of cylinder.



## Weight (mass) [kg]

Cylinder series (Basic cylinder)	Weight (Mass) [kg]	
	At 0 mm stroke	per 100 mm stroke
OSP-P10	0.087	0.052
OSP-P16	0.22	0.1
OSP-P25	0.65	0.197
OSP-P32	1.44	0.354
OSP-P40	1.95	0.415
OSP-P50	3.53	0.566
OSP-P63	6.41	0.925
OSP-P80	12.46	1.262

\* For cylinders with linear guides or brakes, please be sure to take the mass of the carriage or the brake housing into account.

If the permitted limit values are exceeded, either additional shock absorbers should be fitted in the area of the centre of gravity or you can consult us about our special cushioning system – we shall be happy to advise you on your specific application.

## Integrated 3/2 Way Valves

### VOE

#### Series OSP-P25, P32, P40 and P50

For optimal control of the OSP-P cylinder, 3/2 way valves integrated into the cylinder's end caps can be used as a compact and complete solution. They allow for easy positioning of the cylinder, smooth operation at the lowest speeds and fast response, making them ideally suited for the direct control of production and automation processes.

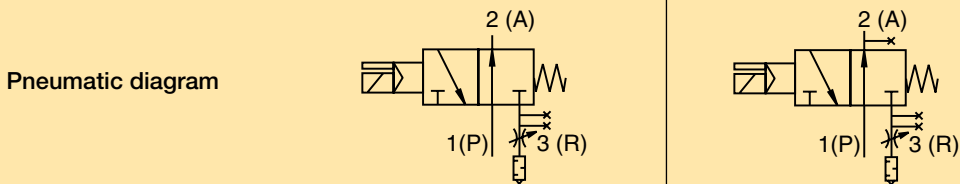


#### Features:

- Complete compact solution
- Various connection possibilities:  
Free choice of air connection with rotating end caps with VOE valves, Air connection can be rotated 4 x 90°
- Solenoid can be rotated 4 x 90°,
- Pilot valve can be rotated 180°
- High piston velocities can be achieved with max. 3 exhaust ports
- Minimal installation requirements
- Requires just one air connection per valve
- Optimal control of the OSP-P cylinder
- Excellent positioning characteristics
- Integrated operation indicator
- Integrated exhaust throttle valve
- Manual override - indexed
- Adjustable end cushioning
- Easily retrofitted – please note the increase in the overall length of the cylinder!

#### Characteristics 3/2 Way Valves VOE

##### Characteristics 3/2 Way Valves with spring return



Type	VOE-25	VOE-32	VOE-40	VOE-50
Actuation	electrical			
Basic position	P → A open, R closed			
Type	Poppet valve, non overlapping			
Mounting	integrated in end cap			
Installation	in any position			
Port size	G 1/8	G 1/4	G 3/8	G 3/8
Temperature	-10°C to +50°C *			
Operating pressure	2-8 bar			
Nominal voltage	24 V DC / 230 V AC, 50 Hz			
Power consumption	2.5 W / 6 VA			
Duty cycle	100%			
Electrical Protection	IP 65 DIN 40050			

\* other temperature ranges on request

For further technical information see catalogue P-A4P011GB

**Order Instructions - Basic Cylinder**

1-4	5+6	7	8	9	10	11	12-16	17	18	19	20	21	22	23	24	25
<b>OSPP</b>	25	0	0	0	0	0	01100	0	0	0	0	0	0	0	0	0

**Piston-Ø**

10
16
25
32
40
50
63
80

**Stroke Length**

In mm (5 digits)

**Piston Mounting**

0	without
1	clevis mounting

**add. Guide Carriage**

0	without
---	---------

**Measuring system**

0	without
X	SFI 0.1 mm
Y	SFI 1 mm

**Screws**

0	standard
1	Stainless

**Cushioning**

0	standard
1	max. length <sup>3)</sup>

**Version / Piston**

0	standard
1	Tandem

**Lubrication**

0	standard
1	slow speed <sup>2)3)</sup>

**End cap position**

0	l+r0° = in front
1	l+r90° = underneath
2	l+r180° = at the back
3	l+r270° = same side as outerband
4	l90° = underneath; r0° = in front
5	l180° = at the back; r0° = in front
6	l270° = same side as outerband; r0° = in front
7	l0° = in front; r90° = underneath
8	l180° = at the back; r90° = underneath
9	l270° = same side as outerband; r90° = underneath
A	l0° = in front; r180° = at the back
B	l90° = underneath; r180° = at the back
C	l270° = same side as outerband; r180° = at the back
D	l0° = in front; r270° = same side as outerband
E	l90° = underneath; r270° = same side as outerband
F	l180° = at the back; r270° = same side as outerband

**Guides/ Brakes/ Inversion**

0	without
A	Activebrake AB Ø25-80
M	Inversion Ø16-80
N	Duplex Ø25,32,40,50

**Cover / Cable Channel**

0	standard
1	Cable channel
2	Cable channel two-sided
X	without cover rail

**Air Connection**

0	standard
1	end face
2	both at one end
3	left stand. right end face
4	right stand. left end face
A	3/2 Way valve VOE 24V = Ø25,32,40,50
B	3/2 Way valve VOE 230V~/110V= Ø25,32,40,50
C	3/2 Way valve VOE 48V = Ø25,32,40,50
E	3/2 Way valve VOE 110V- Ø25,32,40,50

**Seals**

0	standard (NBR)
1	Viton <sup>®1)</sup>

**End cap position (air connection)**

270° same side as outerband  
 180° at the back  
 end-face  
 0° in front  
 90° underneath

**Cylinder R (right end side)**

270° same side as outerband  
 180° at the back  
 end-face  
 0° in front  
 90° underneath

**Cylinder L (left end side)**

270° same side as outerband  
 180° at the back  
 end-face  
 0° in front  
 90° underneath

1) Viton with VOE not available.

2) Slow speed lubrication in combination with Viton® seals on demand

3) „Lubrication slow speed“ in combination with „max. cushioning length“ not possible.

## Long Stroke Cylinder Ø 50-80 mm for strokes up to 41 m

### Standard Versions:

- Double-acting with adjustable end cushioning
- With magnetic piston for position sensing

### Special Versions:

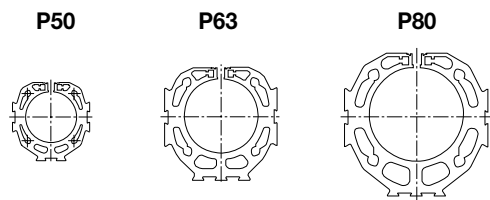
- Stainless steel screws
- Slow speed lubrication
- Viton® seals

### Options:

- Displacement measuring system SFI-plus
- Active brake AB..



### Size Comparison



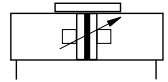
### Weight (mass) [kg]

Cylinder series (Basic cylinder)	Weight (Mass) [kg]	
	At 0 mm stroke	per 100 mm stroke
<b>OSP-P50LS</b>	3.53	0.566
<b>OSP-P63LS</b>	6.41	0.925
<b>OSP-P80LS</b>	12.46	1.262

Characteristics	Description
<b>General Features</b>	
Type	Rodless cylinder
Series	OSP-P
System	Double-acting, with cushioning, position sensing capability
Mounting	See drawings
Air Connection	Threaded
Ambient temperature range	$T_{min}$ 10 °C Other temperature ranges $T_{max}$ +40 °C on request
Installation	Vertical, horizontal (piston at top or at bottom)
Medium	Filtered, unlubricated compressed air (other media on request)
Lubrication	Permanent grease lubrication (additional oil mist lubrication not required) Option: special slow speed grease
<b>Material</b>	
Cylinder Profile	Anodized aluminium
Carrier (piston)	Anodized aluminium
End caps	Anodized aluminium
Sealing bands	Corrosion resistant steel
Seals	NBR (Option: Viton®)
Screws	Galvanized steel Option: stainless steel
Dust covers, wipers	Plastic
Max. operating pressure $p_{max}$	8 bar
Max. speed $v$	2 m/s

For further technical information see catalogue P-A4P011GB

## Clean Room Cylinder Ø 16-32 mm Certified to DIN EN ISO 14644-1



### Standard Versions:

- Double-acting with adjustable end cushioning
- With magnetic piston for position sensing
- Stainless steel screws

### Special Versions:

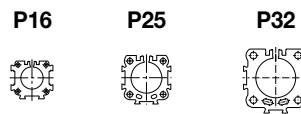
- Slow speed lubrication
- Viton® seals

### Features:

- Clean room classification  
ISO Class 4 at  $v_m = 0.14$  m/s  
ISO Class 5 at  $v_m = 0.5$  m/s
- Suitable for smooth slow speed operation down to  $v_{min} = 0.005$  m/s
- Optional stroke length up to 1200 mm (longer strokes on request)
- Low maintenance
- Compact design with equal force and velocity in both directions
- Aluminium piston with bearing rings to support high direct and cantilever loads



### Size Comparison



### Weight (mass) [kg]

Cylinder series (Basic cylinder)	Weight (Mass) [kg]	
	At 0 mm stroke	per 100 mm stroke
<b>OSP-P16</b>	0.22	0.1
<b>OSP-P25</b>	0.65	0.197
<b>OSP-P32</b>	1.44	0.354

For further technical information see catalogue P-A4P011GB

Characteristics	Description
<b>General Features</b>	
Type	Rodless cylinder
Series	OSP-P
System	Double-acting, with cushioning, position sensing capability
Mounting	See drawings
Air Connection	Threaded
Ambient temperature range $T_{min}$ to $T_{max}$	-10 °C Other temperature ranges +80 °C on request
Installation	In any position
Medium	Filtered, unlubricated compressed air (other media on request)
Lubrication	Permanent grease lubrication (additional oil mist lubrication not required) Option: special slow speed grease
<b>Material</b>	
Cylinder Profile	Anodized aluminium
Carrier (piston)	Anodized aluminium
End caps	Aluminium, lacquered
Sealing bands	Corrosion resistant steel
Seals	NBR (Option: Viton®)
Screws	Stainless steel
Covers	Anodised aluminium
Guide plate	Plastic
Max. operating pressure $p_{max}$	8 bar

Order Instructions - Clean Room Cylinder

1-4	5+6	7	8	9	10	11	12-16	17	18	19	20	21	22	23	24	25
OSPP	25	4	7	0	0	1	01100	0	0	0	0	0	0	0	0	0

**Piston-Ø**  
 16  
 25  
 32

**Stroke Length**  
 in mm  
 (5 digits)<sup>2)</sup>

**Piston Mounting**  
 0 without

**add. Guide Carriage**  
 0 without

**Measuring system**  
 0 without

**Screws**  
 1 Stainless

**Cushioning**  
 0 Standard

**Version / Piston**  
 4 Clean room

**Lubrication**  
 0 Standard  
 1 Slow speed<sup>1)</sup>

**End cap position**  
 0 L+R 0° = in front

**Guides/ Brakes/ Inversion**  
 0 without

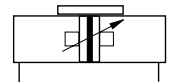
**Cover/ Cable Channel**  
 0 Standard  
 1 Cable channel  
 2 Cable channel two-sided  
 X without Cover rail

**Air Connection**  
 7 End cap  
 Clean room

**Seals**  
 0 Standard (NBR)  
 1 Viton®

<sup>1)</sup> The combination „Slow speed lubrication“ and „Viton® sealings“ are available on request.  
<sup>2)</sup> max. stroke lengths 1200 mm, longer strokes on request.

## Components for EX-Areas



### Information for ATEX-Directives

The rodless pneumatic cylinders of Parker Origa are the first linear drive unit, for that Ex range in the group of equipment II, Category 2 GD are certified.

Detail informations for use pneumatic components in Ex-Areas see leaflet PDE2584TCUK „EU Directive 94/9/EG (ATEX 95) for Pneumatic Components“.

### Rodless Cylinder Ø 10-80 mm

#### Basic Cylinder - Series: OSP-P .. ATEX



### BASIC GUIDE Ø 25-50 mm

#### Basic Guide - Series: BG .. ATEX



### Plain Bearing Guide Ø 16-80 mm

#### SLIDELINE - Series: SL .. ATEX



### Technical Data (deviant to the Standard Cylinder)

Characteristics	Description
<b>General Features</b>	
Ambient temperature range $T_{min}$ / $T_{max}$	-10 °C / +60 °C
Max. switching frequency	1 (double stroke/s) Basic cylinder 0.5 (1stroke/s) Cylinder with guide
Operating pressure range $p_{max}$	Max. 8 bar
Max. speed $v_{max}$	3 (Basic cylinder) 2 (Cylinder with guide SLIDELINE and cylinder with guide BASIC GUIDE)
Medium	Filtered, unlubricated compressed air – free from water and dirt to ISO 8573-1 Solids: Class 7 particle size < 40 µm for Gas Water content: pressure dew point +3 °C, class 4, but at least 5 °C below minimum operating temperature
Noise level	70 dB (A)
<b>Information for materials</b>	
Aluminium	See data sheet "Material"
Lubrication	See security data sheet "Grease for use in Cylinder with guides"
Sealing bands	Corrosion resistant steel

### Equipment Group II Categorie 2GD

Rodless cylinder: (Ex) II 2GD c T4 T135°C -10°C ≤ Ta ≤ +60°C

Series	Size	Stroke range	Accessories
OSP-P	Ø 10 to 80	1– 6000 mm	Mountings programme
BASIC GUIDE	Ø 25 to 50	1– 6000 mm	Mountings programme
SLIDELINE	Ø 16 to 80	1– 5500 mm	Mountings programme

For further technical information see catalogue P-A4P011GB

## Synchronised Rodless Cylinder

Ø 40 mm

For synchronised bi-parting movements

Type OSP-P40-SL-BP

### Applications:

- Opening and closing operations
- Gripping of workpieces – outside
- Gripping of hollow workpieces – inside
- Gripping underneath larger objects
- Clamping force adjustable via pressure regulator

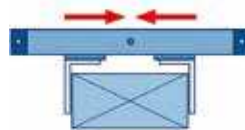
### Features:

- Accurate bi-parting movement through toothed belt synchronization
- Optimum slow speed performance
- Increased action force
- Anodized aluminium guide rail with prism-form slideway arrangement
- Adjustable polymer slide units
- Combined sealing system with polymer and felt elements to remove dirt and lubricate the slideway
- Integrated grease nipples for guide lubrication

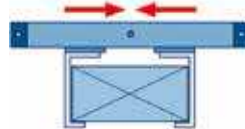
**OSP**  
ORIGA  
SYSTEM  
PLUS



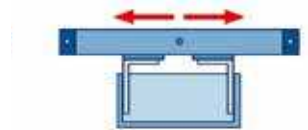
### Applications:



Gripping – outside



Gripping – underneath



Door opening and closing

Characteristics	Description	
<b>General Features</b>		
Type	Rodless cylinder for synchronised bi-parting movements	
Series	OSP-P	
System	Double-acting with end cushioning for contactless position sensing	
Guide	Slideline SL40	
Synchronisation	Toothed belt	
Mounting	See drawings	
Ambient temperature range	-10 °C to +60 °C	
Installation	In any position	
Medium	Filtered, unlubricated compressed air (other media on request)	
Lubrication	Special slow speed grease - additional oil mist lubrication not required	
Operating pressure $p_{max}$	6 bar	
Cushioning middle position	Elastic buffer	
Max. speed $v_{max}$	0.2 m/s	
Max. stroke of each stroke	500 mm	
Max . mass per guide carrier	25 kg	
<b>Max . moments on guide carrier</b>		
Lateral moment $Mx_{max}$	25 Nm	
Axial moment $My_{max}$	46 Nm	
Rotating moment $Mz_{max}$	46 Nm	
<b>Material</b>		
Toothed belt	Steel-corded polyurethane	
Belt wheel	Aluminium	

For further technical information see catalogue P-A4P011GB



# OSP

— ORIGA  
— SYSTEM  
— PLUS

## Adaptive modular system

The Origa system plus – OSP – provides a comprehensive range of linear guides for the pneumatic and electric linear drives.

### Advantages:

- Takes high loads and forces
- High precision
- Smooth operation
- Can be retrofitted
- Can be installed in any position

### Rodless Pneumatic Cylinder Series OSP - P

Piston diameters 10 – 80 mm

See page 128 (Standard)  
See page 135 (ATEX-Version)



### BASIC GUIDE

Compact, robust plain bearing guide for medium loads.

Piston diameters 25 – 50 mm

See page 138 (Standard)  
See page 135 (ATEX-Version)



## Linear Guides

### SLIDELINE

The cost-effective plain bearing guide for medium loads. Active/ Passive Brake optional.

Piston diameters 16 – 80 mm

See page 140 (Standard)  
See page 135 (ATEX-Version)



### POWERSLIDE

The roller guide for heavy loads and hard application conditions

Piston diameters 16 – 50 mm

See page 142



### PROLINE

The compact aluminium roller guide for high loads and velocities.

Active/ Passive Brake optional.  
Piston diameters 16 – 50 mm

See page 144



### STARLINE

Recirculating ball bearing guide for very high loads and precision

Piston diameters 16 – 50 mm

See page 146



### KF GUIDE

Recirculating ball bearing guide. Correspond to FESTO dimensions (Type DGPL-KF)

Piston diameters 16 – 50 mm

See page 150



### HD HEAVY DUTY GUIDE

Recirculating ball bearing guide for highest loads and greatest accuracy.

Piston diameters 25 – 50 mm

See page 152



**Plain Bearing Guide**  
**BASIC GUIDE**  
**Series BG 25 to 50 for Linear Drive**  
**Compact, robust plain bearing guide**  
**for medium loads**



**Features:**

- Compact: guide rail integrated in cylinder profile tube
- Robust: wiper system and grease nipples for long service life
- smooth operation
- simple to (re-) adjust
- Integrated grease nipples
- Any length of stroke up to 6000 mm (longer strokes on request)

**Options:**

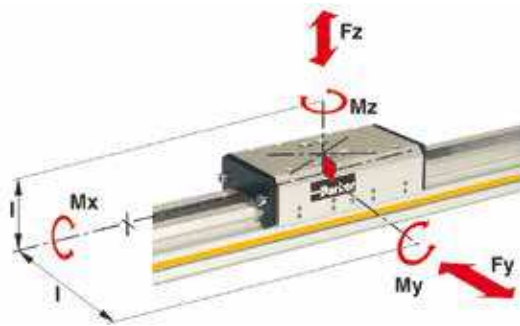
- Corrosion resistant version available on request
- VOE-Valves

**Accessories:**

- Mid-Section Support
- End Cap Mountings
- Magnetic Switches

**Loads, Forces and Moments**

**Loads, Forces and Moments**



**Technical Data**

The table shows the maximum permissible values for smooth operation, which should not be exceeded even under dynamic conditions.

The load and moment figures apply to speeds  $v < 0.2$  m/s.

For further technical information see catalogue P-A4P011GB

**\* Please note:**

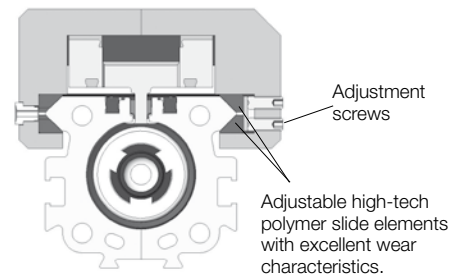
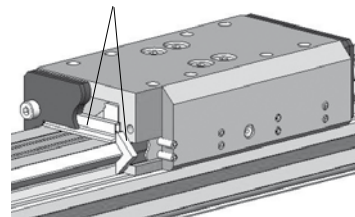
In the cushioning diagram, add the mass of the guide carriage to the mass to be cushioned.

$$\frac{M_x}{M_{x_{max}}} + \frac{M_y}{M_{y_{max}}} + \frac{M_z}{M_{z_{max}}} + \frac{F_y}{F_{y_{max}}} + \frac{F_z}{F_{z_{max}}} \leq 1$$

The sum of the loads should not exceed >1.

Series	Max. Moments [Nm]			Max. Load [Nm] F <sub>y</sub> , F <sub>z</sub>	Mass of Basic Guide [kg]		Mass* of guide carriage [kg]	Cushion Length [mm]
	M <sub>x</sub>	M <sub>y</sub>	M <sub>z</sub>		at 0mm stroke	per 100mm stroke		
<b>BG25</b>	10	28	28	590	1.09	0.22	0.29	17
<b>BG32</b>	17	43	43	850	2.26	0.38	0.69	20
<b>BG40</b>	39	110	110	1600	3.52	0.41	1.37	27
<b>BG50</b>	67	165	165	2000	5.30	0.58	1.91	30

Composite sealing system with high-tech polymer and felt wiper elements to remove dirt and lubricate the slideways.



**Order Instructions- BASIC GUIDE**

1-6	7+8	9	10	11	12	13	14-18	19	20	21	22	23	24	25
OSPPBG	25	0	0	0	0	0	01100	0	0	0	0	0	0	0

Piston-Ø	
25	
32	
40	
50	

Stroke	
Input in mm (5 digits)	

Piston Mounting	
0	without

Cover / Cable Channel	
0	standard
1	cable channel dove tail Ø32, 40, 50
2	cable channel dove tail two-sided Ø32, 40, 50

Version / Piston	
0	Standard
1	Tandem
* 6	ATEX Standard <sup>3)</sup>

Screws	
0	standard
1	stainless

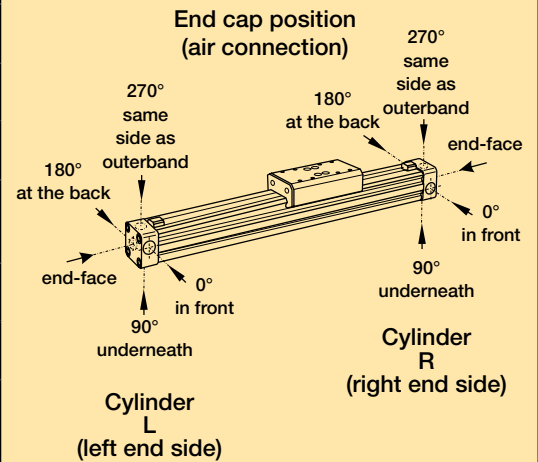
Cushioning	
0	standard

Lubrication	
0	standard
1	slow speed <sup>2)</sup>

End cap position	
0	l+r 0° = in front
1	l+r 90° = underneath
2	l+r 180° = at the back
3	l+r 270° = same side as outerband
4	l 90° = underneath; r 0° = in front
5	l 180° = at the back; r 0° = in front
6	l 270° = same side as outerband; r 0° = in front
7	l 0° = in front; r 90° = underneath
8	l 180° = at the back; r 90° = underneath
9	l 270° = same side as outerband; r 90° = underneath
A	l 0° = in front; r 180° = at the back
B	l 90° = underneath; r 180° = at the back
C	l 270° = same side as outerband; r 180° = at the back
D	l 0° = in front; r 270° = same side as outerband
E	l 90° = underneath; r 270° = same side as outerband
F	l 180° = at the back; r 270° = same side as outerband

Air Connection	
0	standard
1	on the end face
2	both at one end (not turnable)
3	left standard right end face
4	right standard left end face
A	3/2 way valve VOE 24 V = Ø 25, 32, 40, 50
B	3/2 way valve VOE 230 V~/110 V = Ø 25, 32, 40, 50
C	3/2 way valve VOE 48 V = Ø 25, 32, 40, 50
E	3/2 way valve VOE 110 V ~ Ø 25, 32, 40, 50

Seals	
0	standard (NBR)
1	Viton <sup>® 1)</sup>



<sup>1)</sup> Viton with VOE not possible.  
<sup>2)</sup> "Slow speed lubrication" in combination with „Viton<sup>®</sup>“ seals on demand.  
<sup>3)</sup> ATEX with VOE not possible.

## Plain Bearing Guide

### SLIDELINE

#### Series SL 16 to 80 for Linear Drive

##### Features:

- ATEX-version (without brake) is also available  
See page 135
- Anodised aluminium guide rail with prism-shaped sideways arrangement
- Adjustable plastic slide elements – optional with integral brake
- Composite sealing system with plastic and felt wiper elements to remove dirt and lubricate the slideways
- Corrosion resistant version available on request
- Any length of stroke up to 5500 mm (longer strokes on request)

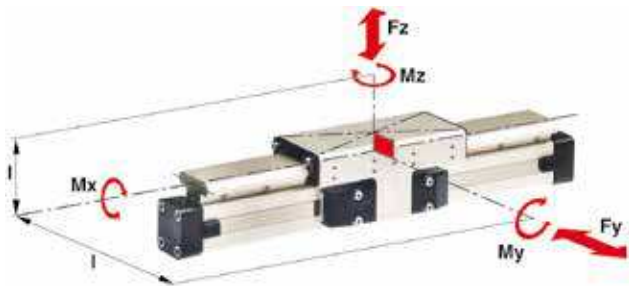


##### Integrated Brake (optional) for series OSP-P25 to OSP-P50:

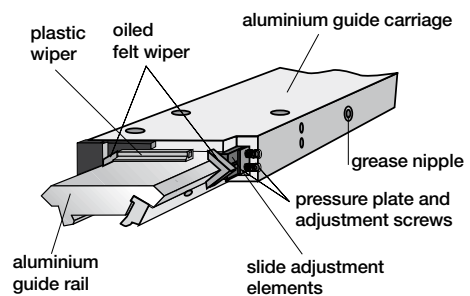
- Actuated by pressure
- Released by exhausting and spring return

For further technical information see catalogue P-A4P011GB

##### Loads, Forces and Moments



##### Carriage Without Brake



##### Technical Data

The table shows the maximum permissible values for smooth operation, which should not be exceeded even under dynamic conditions.

The load and moment figures apply to speeds  $v < 0.2$  m/s.

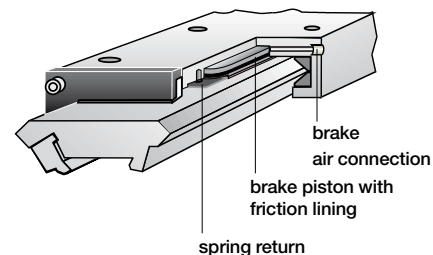
For further technical information see catalogue P-A4P011GB

##### \* Please note:

In the cushioning diagram, add the mass of the guide carriage to the mass to be cushioned.

- 1) Only with integrated brake: Braking force on dry oil-free surface. Values are decreased for lubricated slideways
- 2) Corrosion resistant fixtures available on request

##### Option - Integrated Brake



Series	For linear drive	Max. moments [Nm]			Max. loads [N] Fy, Fz	Maximum braking force at 6 bar [N] <sup>1)</sup>	Mass of linear drive with guide [kg]		Mass* of guide carriage [kg]	Order-No.** SLIDELINE <sup>2)</sup> Guide without cylinder	
		Mx	My	Mz			with 0 mm stroke	increase per 100 mm stroke		without brake	with brake
SL16	OSP-P16	6	11	11	325	-	0.57	0.22	0.23	20341	-
SL25	OSP-P25	14	34	34	675	325	1.55	0.39	0.61	20342	20409
SL32	OSP-P32	29	60	60	925	545	2.98	0.65	0.95	20196	20410
SL40	OSP-P40	50	110	110	1600	835	4.05	0.78	1.22	20343	20411
SL50	OSP-P50	77	180	180	2000	1200	6.72	0.97	2.06	20195	20412
SL63	OSP-P63	120	260	260	2500	-	11.66	1.47	3.32	20853	-
SL80	OSP-P80	120	260	260	2500	-	15.71	1.81	3.32	21000	-

\*\* Please use this order pattern: Order-No. + „stroke in mm“ (5 digits)

Example: SLIDELINE guide without brake D25 mm, stroke 1000 mm: 20342-01000

**Order Instructions- SLIDELINE**

1-4	5+6	7	8	9	10	11	12-16	17	18	19	20	21	22	23	24	25
<b>OSPP</b>	25	0	0	0	0	0	01100	0	0	0	0	0	0	0	0	0

Piston-Ø	
16	
25	
32	
40	
50	
63	
80	

Stroke	
Input in mm (5 digits)	

Piston Mounting	
0	without

Measuring system	
0	without
X	SFI 0.1 mm
Y	SFI 1 mm

Screws	
0	standard
1	stainless

Cushioning	
0	standard

Version / Piston	
0	standard
1	Tandem

Lubrication	
0	standard
1	slow speed <sup>2)</sup>

End cap position	
0	l+r0° = in front
1	l+r90° = underneath
2	l+r180° = at the back
3	l+r270° = same side as outerband
4	l90° = underneath; r0° = in front
5	l180° = at the back; r0° = in front
6	l270° = same side as outerband; r0° = in front
7	l0° = in front; r90° = underneath
8	l180° = at the back; r90° = underneath
9	l270° = same side as outerband; r90° = underneath
A	l0° = in front; r180° = at the back
B	l90° = underneath; r180° = at the back
C	l270° = same side as outerband; r180° = at the back
D	l0° = in front; r270° = same side as outerband
E	l90° = underneath; r270° = same side as outerband
F	l180° = at the back; r270° = same side as outerband

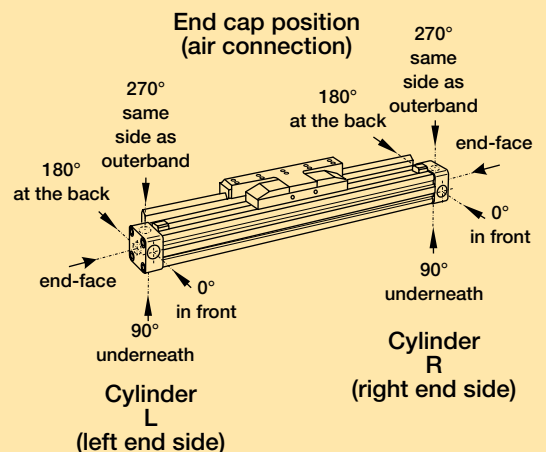
Guides/ Brakes/ Inversion	
0	without
2	Slideline SL Ø 16-80
3	Slideline with Activebrake SL-AB Ø 25-50
4	Slideline with Multibrake SL-MB Ø 25-80

Cover / Cable Channel	
0	standard
1	cable channel
2	cable channel two-sided
X	without Cover rail

Air Connection	
0	standard
1	on the end face
2	both at one end (not turnable)
3	left standard right end face
4	right standard left end face
A	3/2 way valve VOE 24 V = Ø 25,32,40,50
B	3/2 way valve VOE 230 V~/110 V = Ø 25,32,40,50
C	3/2 way valve VOE 48 V = Ø 25,32,40,50
E	3/2 way valve VOE 110 V ~ Ø 25,32,40,50

Seals	
0	standard (NBR)
1	Viton® <sup>1)</sup>

add. Guide Carriage	
0	without
2	Guide Carriage Slideline SL Ø 16-80
3	Guide Carriage Slideline Activebrake SL-AB Ø 26-50
4	Guide Carriage Slideline Multibrake SL-MB Ø 25-80
M	Guide Carriage Slideline Multibrake SL-MB without brakefunction Ø 25-80



<sup>1)</sup> Viton with VOE not possible.

<sup>2)</sup> "Slow speed lubrication" in combination with „Viton®“ seals on demand.

## Roller Guide POWERSLIDE

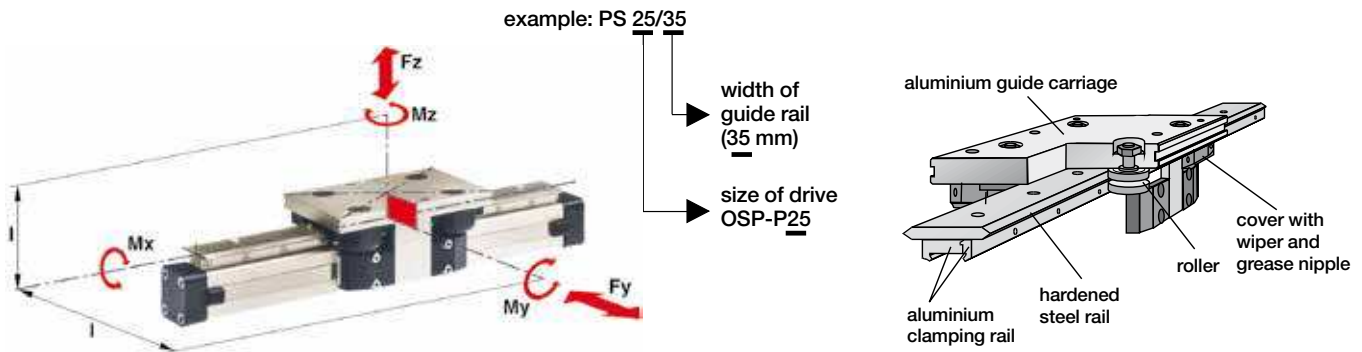
### Series PS 16 to 50 for Linear Drive



#### Features:

- Anodised aluminium guide carriage with vee rollers having 2 rows of ball bearings
- Hardened steel guide rail
- Several guide sizes can be used on the same drive
- Corrosion resistance version available on request
- Max. speed  $v = 3 \text{ m/s}$ ,
- Tough roller cover with wiper and grease nipple
- Any length of stroke up to 3500 mm, (longer strokes on request)

#### Loads, Forces and Moments



#### Technical Data

The table shows the maximum per-missible values for smooth operation, which should not be exceeded even under dynamic conditions.

**\* Please note:**

In the cushioning diagram, add the mass of the guide carriage to the mass to be cushioned.

For further technical information see catalogue P-A4P011GB

Series	For linear drive	Max. Moment [Nm]			Max. loads [N] Fy, Fz	Mass of linear drive with guide [kg]		Mass* guide carriage [kg]	Order-No** POWERSLIDE Guide without cylinder <sup>1)</sup>
		Mx	My	Mz		with 0 mm stroke	increase per 100 mm stroke		
PS 16/25	OSP-P16	14	45	45	1400	0.93	0.24	0.7	20285
PS 25/25	OSP-P25	14	63	63	1400	1.5	0.4	0.7	20015
PS 25/35	OSP-P25	20	70	70	1400	1.7	0.4	0.8	20016
PS 25/44	OSP-P25	65	175	175	3000	2.6	0.5	1.5	20017
PS 32/35	OSP-P32	20	70	70	1400	2.6	0.6	0.8	20286
PS 32/44	OSP-P32	65	175	175	3000	3.4	0.7	1.5	20287
PS 40/44	OSP-P40	65	175	175	3000	4.6	1.1	1.5	20033
PS 40/60	OSP-P40	90	250	250	3000	6	1.3	2.2	20034
PS 50/60	OSP-P50	90	250	250	3000	7.6	1.4	2.3	20288
PS 50/76	OSP-P50	140	350	350	4000	11.5	1.8	4.9	20289

<sup>1)</sup> corrosion resistance version available on request (max. loads and moments are 25% lower)

\*\* Please use this order pattern: Order-No. + „stroke in mm“ (5 digits)

Example: PS25/25 Guide D25 mm, stroke 1000 mm: 20015-01000

**Order Instructions- POWERSLIDE**

1-4	5+6	7	8	9	10	11	12-16	17	18	19	20	21	22	23	24	25
<b>OSP</b>	25	0	0	0	0	0	01100	0	0	0	0	0	0	0	0	0

<b>Piston-Ø</b>	<b>Stroke</b> Input in mm (5 digits)	<b>Piston Mounting</b>	<b>Measuring system</b>
16		0 without	0 without
25			X SFI 0.1 mm
32			Y SFI 1 mm
40			
50			

<b>Version / Piston</b>	<b>Lubrication</b>	<b>Screws</b>	<b>Cushioning</b>
0 standard	0 standard	0 standard	0 standard
1 Tandem	1 Slow speed <sup>2,3)</sup>	1 stainless	1 max. length <sup>3)</sup>

<b>Air Connection</b>	<b>Seals</b>	<b>End cap position</b>	<b>Guides/ Brakes/ Inversion</b>	<b>Cover / Cable Channel</b>
0 standard	0 standard (NBR)	0 l+r0° = in front	0 without	0 standard
1 on the end face	1 Viton <sup>® 1)</sup>	1 l+r90° = underneath	E PSXX/25 Powerslide Ø 16, 25	1 cable channel
2 both at one end (not turnable)		2 l+r180° = at the back	F PSXX/35 Powerslide Ø 25, 32	2 cable channel two-sided
3 left standard right end face		3 l+r270° = same side as outerband	G PSXX/44 Powerslide Ø 25, 32, 40	X without Cover rail
4 right standard left end face		4 190° = underneath; r0° = in front	H PSXX/60 Powerslide Ø 40, 50	
A 3/2 way valve VOE 24 V = Ø 25, 32, 40, 50		5 l180° = at the back; r0° = in front	I PSXX/76 Powerslide Ø 50	
B 3/2 way valve VOE 230 V~/110 V = Ø 25, 32, 40, 50		6 l270° = same side as outerband; r0° = in front		
C 3/2 way valve VOE 48 V = Ø 25, 32, 40, 50		7 l0° = in front; r90° = underneath		
E 3/2 way valve VOE 110 V~/ Ø 25, 32, 40, 50		8 l180° = at the back; r90° = underneath		

<b>add. Guide Carriage</b>
0 without
E Guide Carriage Powerslide PSXX/25 Ø 16, 25
F Guide Carriage Powerslide PSXX/35 Ø 25, 32
G Guide Carriage Powerslide PSXX/44 Ø 25, 32, 40
H Guide Carriage Powerslide PSXX/60 Ø 40, 50
I Guide Carriage Powerslide PSXX/76 Ø 50

**End cap position (air connection)**

**Cylinder L**  
(left end side)

**Cylinder R**  
(right end side)

<sup>1)</sup> Viton with VOE not possible.

<sup>2)</sup> „Slow speed lubrication“ in combination with „Viton<sup>®</sup>“ seals on demand.

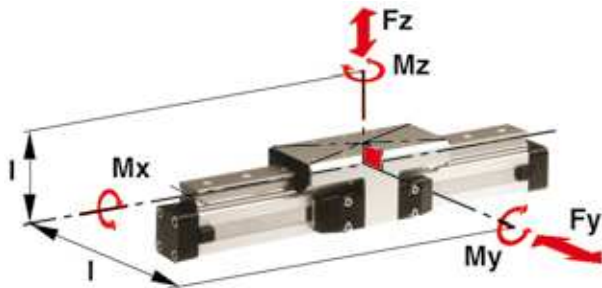
<sup>3)</sup> „Lubrication slow speed“ in combination with „max. cushioning length“ not possible.

## Aluminium Roller Guide PROLINE Series PL 16 to 50 for Linear Drive

### Features:

- High precision
- High velocities (10 m/s)
- Smooth operation - low noise
- Integrated wiper system
- Long life lubrication
- Compact dimensions - compatible to Slideline plain bearing guide
- Any length of stroke up to 3750 mm

### Loads, Forces and Moments



### Technical Data

The table shows the maximal permissible loads. If multiple moments and forces act upon the cylinder simultaneously, the following equation applies:

$$\frac{M_x}{M_{x_{max}}} + \frac{M_y}{M_{y_{max}}} + \frac{M_z}{M_{z_{max}}} + \frac{F_y}{F_{y_{max}}} + \frac{F_z}{F_{z_{max}}} \leq 1$$

The sum of the loads should not exceed >1. With a load factor of less than 1, service life is 8000 km

The table shows the maximum permissible values for light, shock-free operation, which must not be exceeded even under dynamic conditions.

For further technical information see catalogue P-A4P011GB

### \* Please note:

The mass of the carriage has to be added to the total moving mass when using the cushioning diagram

Series	For linear drive	Max. Moment [Nm]			Max. loads [N] Fy, Fz	Maximum braking force at 6 bar [N] <sup>1)</sup>	Mass of linear drive with guide [kg]		Mass* guide carriage [kg]	Order-No** PROLINE Guide without cylinder	
		Mx	My	Mz			with 0 mm stroke	increase per 100 mm stroke		without Brake	with Brake
PL 16	OSP-P16	8	12	12	542	-	0.55	0.19	0.24	20855	-
PL 25	OSP-P25	16	39	39	857	on request	1.65	0.40	0.75	20856	20860
PL 32	OSP-P32	29	73	73	1171	on request	3.24	0.62	1.18	20857	20861
PL 40	OSP-P40	57	158	158	2074	on request	4.35	0.70	1.70	20858	20862
PL 50	OSP-P50	111	249	249	3111	on request	7.03	0.95	2.50	20859	20863

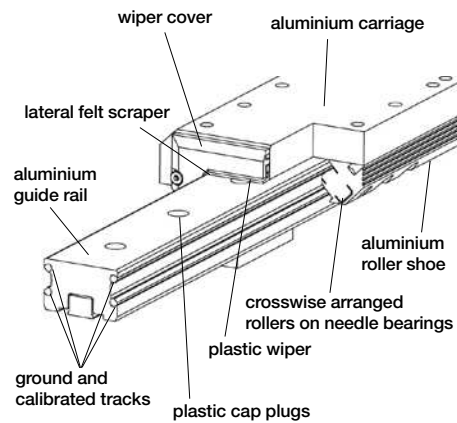
\*\* Please use this order pattern: Order-No. + „stroke in mm“ (5 digits)  
Example: PROLINE guide without brake D16 mm, stroke 1000 mm: 20855-01000



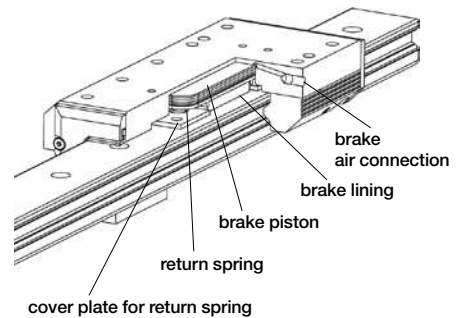
### Integrated Brake (optional) for series OSP-P25 to OSP-P50:

- Actuated by pressurisation
- Released by depressurisation and spring actuation

### Carriage Without Brake



### Option - Integrated Brake





**Order Instructions- PROLINE**

1-4	5+6	7	8	9	10	11	12-16	17	18	19	20	21	22	23	24	25
OSPP	25	0	0	0	0	0	01100	0	0	0	0	0	0	0	0	0

Piston-Ø	
16	
25	
32	
40	
50	

Stroke	
Input in mm (5 digits)	

Piston Mounting	
0	without

Measuring system	
0	without
X	SFI 0.1 mm
Y	SFI 1 mm

Screws	
0	standard

Cushioning	
0	standard
1	max. length <sup>3)</sup>

Version / Piston	
0	standard
1	Tandem

Lubrication	
0	standard
1	Slow speed <sup>2)3)</sup>

End cap position	
0	l+r 0° = in front
1	l+r 90° = underneath
2	l+r 180° = at the back
3	l+r 270° = same side as outerband
4	l 90° = underneath; r 0° = in front
5	l 180° = at the back; r 0° = in front
6	l 270° = same side as outerband; r 0° = in front
7	l 0° = in front; r 90° = underneath
8	l 180° = at the back; r 90° = underneath
9	l 270° = same side as outerband; r 90° = underneath
A	l 0° = in front; r 180° = at the back
B	l 90° = underneath; r 180° = at the back
C	l 270° = same side as outerband; r 180° = at the back
D	l 0° = in front; r 270° = same side as outerband
E	l 90° = underneath; r 270° = same side as outerband
F	l 180° = at the back; r 270° = same side as outerband

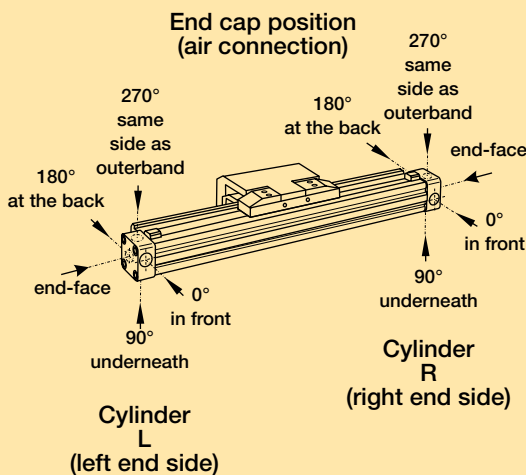
Guides/ Brakes/ Inversion	
0	without
6	Proline PL Ø 16-50
7	Proline with Activebrake PL-AB Ø 25-50
8	Proline with Multibrake PL-MB Ø 25-50

Cover / Cable Channel	
0	standard
1	cable channel
2	cable channel two-sided
X	without Cover rail

Air Connection	
0	standard
1	on the end face
2	both at one end (not turnable)
3	left standard right end face
4	right standard left end face
A	3/2 way valve VOE 24 V= Ø 25, 32, 40, 50
B	3/2 way valve VOE 230 V~/110 V= Ø 25, 32, 40, 50
C	3/2 way valve VOE 48 V= Ø 25, 32, 40, 50
E	3/2 way valve VOE 110 V~ Ø 25, 32, 40, 50

Seals	
0	standard (NBR)
1	Viton <sup>® 1)</sup>

add. Guide Carriage	
0	without
6	Guide Carriage Proline PL Ø 16-50
7	Guide Carriage Proline Activebrake PL-AB Ø 25-50
8	Guide Carriage Proline Multibrake PL-MB Ø 25-50
N	Guide Carriage Proline Multibrake PL-MB without brake function Ø 25-50



1) Viton with VOE not possible.  
 2) "Slow speed lubrication" in combination with „Viton®“ seals on demand.  
 3) „Lubrication slow speed“ in combination with „max. cushioning length“ not possible.

# Recirculating Ball Bearing Guide STARLINE

## Series STL 16 to 50 for Linear Drive

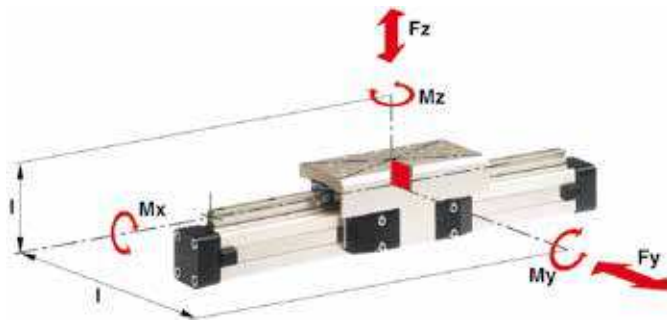


### Features:

- Polished and hardened steel guide rail
- For very high loads in all directions
- High precision
- Integrated wiper system
- Integrated grease nipples
- Any length of stroke up to 3700 mm
- Anodized aluminium guide carriage – dimensions compatible with OSP guides SLIDELINE and PROLINE
- Installation height (STL16 - 32) compatible with OSP guides SLIDELINE and PROLINE

- Maximum speed  
STL16: v = 3 m/s  
STL25 to 50: v = 5 m/s

### Loads, Forces and Moments



### Technical Data

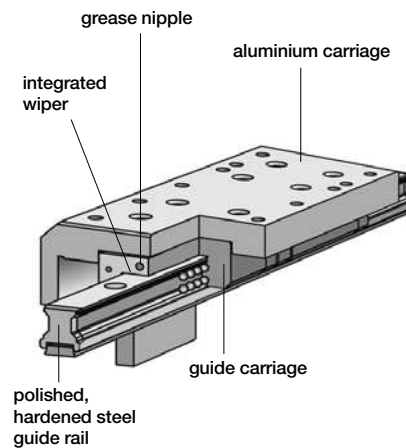
The table shows the maximal permissible loads. If multiple moments and forces act upon the cylinder simultaneously, the following equation applies:

$$\frac{M_x}{M_{x_{max}}} + \frac{M_y}{M_{y_{max}}} + \frac{M_z}{M_{z_{max}}} + \frac{F_y}{F_{y_{max}}} + \frac{F_z}{F_{z_{max}}} \leq 1$$

The sum of the loads should not exceed >1.

The table shows the maximum permissible values for light, shock-free operation, which must not be exceeded even under dynamic conditions.

For further technical information see catalogue P-A4P011GB



### \* Please note:

The mass of the carriage has to be added to the total moving mass when using the cushioning diagram

Series	For linear drive	Max. Moment [Nm]			Max. loads [N]		Mass of linear drive with guide [kg]		Mass * guide carriage [kg]	Order-No** STARLINE Guide without cylinder
		Mx	My	Mz	Fy	Fz	with 0mm stroke	increase per 100mm stroke		
STL 16	OSP-P16	15	30	30	1000	1000	0.598	0.210	0.268	21111
STL 25	OSP-P25	50	110	110	3100	3100	1.733	0.369	0.835	21112
STL 32	OSP-P32	62	160	160	3100	3100	2.934	0.526	1.181	21113
STL 40	OSP-P40	150	400	400	4000	7500	4.452	0.701	1.901	21114
STL 50	OSP-P50	210	580	580	4000	7500	7.361	0.936	2.880	21115

\*\* Please use this order pattern: Order-No. + „stroke in mm“ (5 digits)  
Example: STARLINE guide D16 mm, stroke 1000mm: 21111-01000

**Variable Stop**  
**Type VS16 to VS50**

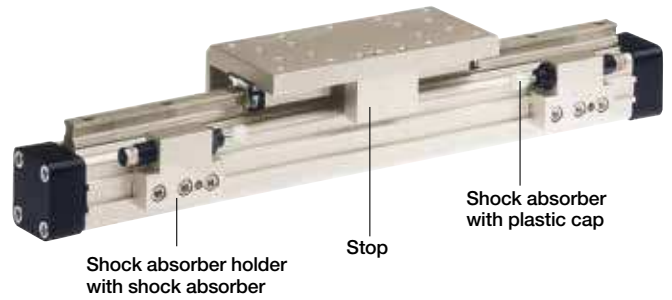
Arrangement with two variable stops

The variable stop Type VS provides simple stroke limitation. It can be retrofitted and positioned anywhere along the stroke length.

For every cylinder diameter two types of shock absorber are available – see „Shock Absorber Selection“.

Mid-section supports and magnetic switches can still be fitted on the same side as the variable stop.

Depending on the application, two variable stops can be fitted if required.

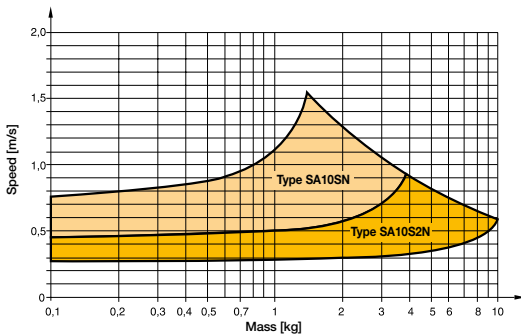


**Shock Absorber Selection**

The shock absorber is selected in dependence on the mass and speed.

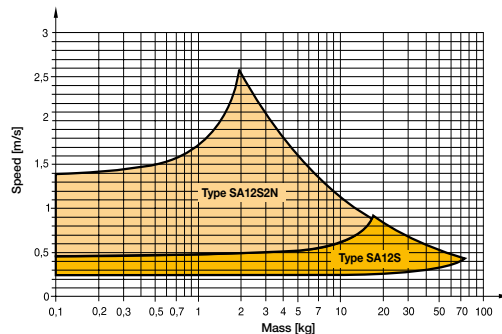
The mass of the carrier itself must be taken into account.

**Shock Absorber Selection in Dependence on Mass and Speed for Series OSP-STL16**



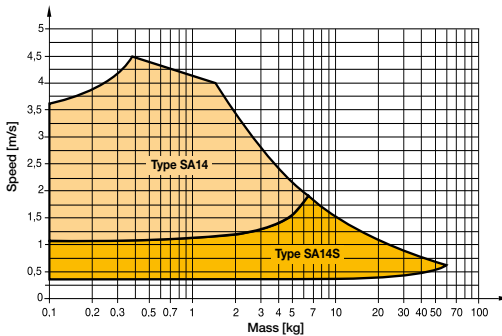
The values relate to an effective driving force of 78 N (6 bar)

**Shock Absorber Selection in Dependence on Mass and Speed for Series OSP-STL25**



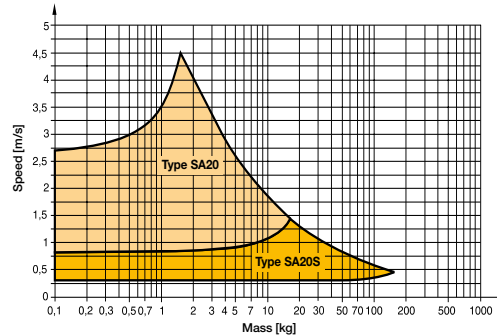
The values relate to an effective driving force of 250 N (6 bar)

**Shock Absorber Selection in Dependence on Mass and Speed for Series OSP-STL32**



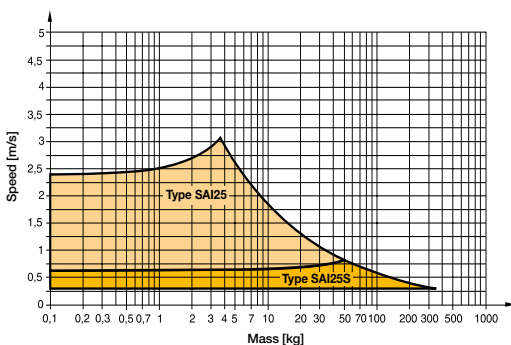
The values relate to an effective driving force of 420 N (6 bar)

**Shock Absorber Selection in Dependence on Mass and Speed for Series OSP-STL40**



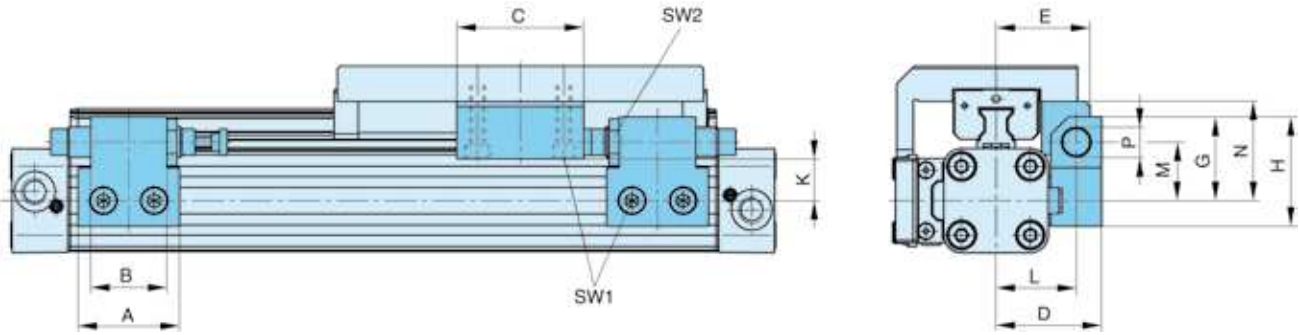
The values relate to an effective driving force of 640 N (6 bar)

**Shock Absorber Selection in Dependence on Mass and Speed for Series OSP-STL50**



The values relate to an effective driving force of 1000 N (6 bar)

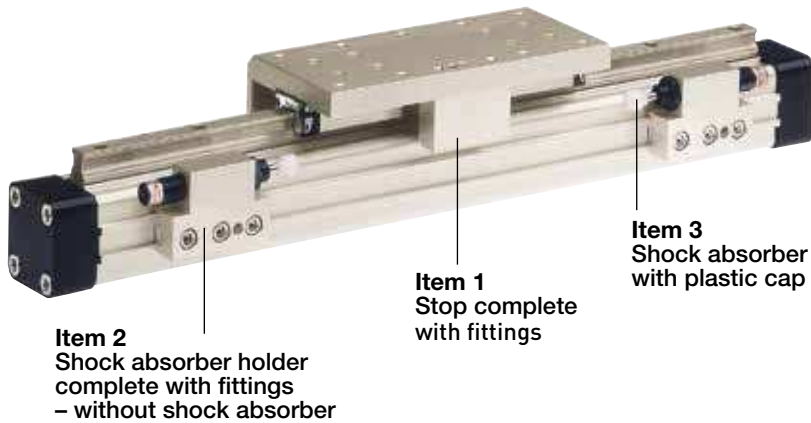
Dimensions - Variable Stop Type VS16 to VS50



Dimension Table [mm] – Variable Stop Type VS16 to VS50

Series	Type	A	B	C	D	E	G	H	K	L	M	N	P	SW1	SW2
OSP-STL16	VS16	30	14	25	33	30	28	38	16.2	25.5	20.5	30	M10x1	4	12.5
OSP-STL25	VS25	40	30	50	41.5	37	33	43	18	31.5	23	39	M12x1	5	16
OSP-STL32	VS32	60	40	50	45.5	42	35	45	19	35.5	25	48	M14x1.5	5	17
OSP-STL40	VS40	84	52	60	64	59	48	63	25.6	50	34	58.6	M20x1.5	5	24
OSP-STL50	VS50	84	-	60	75	69	55	70	26.9	57	38	66.9	M25x1.5	5	30

Order information - Variable Stop Type VS16 to VS50 - without cylinder and without guide



Item	Description	Size									
		VS16		VS25		VS32		VS40		VS50	
		Type	Order No.	Type	Order No.	Type	Order No.	Type	Order No.	Type	Order No.
1	Stop, complete	-	21196FIL	-	21197FIL	-	21198FIL	-	21199FIL	-	21200FIL
2	Shock absorber holder complete	-	21201FIL	-	21202FIL	-	21203FIL	-	21204FIL	-	21205FIL
3*	Shock absorber, soft	SA10SN	7718FIL	SA12S2N	7723FIL	SA14	7708FIL	SA20	7710FIL	SAI25	7712FIL
	Shock absorber, hard	SA10S2N	7721FIL	SA12S	7707FIL	SA14S	7709FIL	SA20S	7711FIL	SAI25S	7713FIL

\* Shock absorber with plastic cap

Note: Order instructions for VS in combination with the cylinder and guide see page 149, pos.18

**Order Instructions- STARLINE**

1-4	5+6	7	8	9	10	11	12-16	17	18	19	20	21	22	23	24	25
<b>OSPP</b>	25	0	0	0	0	0	01100	0	0	0	0	0	0	0	0	0

**Piston-Ø**  

16
25
32
40
50

**Stroke**  
 Input in mm  
 (5 digits)

**Piston Mounting**  

0	without
---	---------

**Measuring system**  

0	without
X	SF1 0.1 mm
Y	SF1 1 mm

**Screws**  

0	standard
---	----------

**Cushioning**  

0	standard
1	max. length <sup>3)</sup>
2	VS variable stop, soft left for Starline
3	VS variable stop, hard, left for Starline
4	VS variable stop, soft, right for Starline
5	VS variable stop, hard, right for Starline
6	VS variable stop, soft, both sides for Starline
7	VS variable stop, hard, both sides for Starline

**Version / Piston**  

0	standard
1	Tandem

**Lubrication**  

0	standard
1	Slow speed <sup>2)3)</sup>

**Cover / Cable Channel**  

0	standard
1	cable channel
2	cable channel two-sided
X	without Cover rail

**Air Connection**  

0	standard
1	on the end face
2	both at one end (not turnable)
3	left standard right end face
4	right standard left end face
A	3/2 way valve VOE 24 V = Ø 25, 32, 40, 50
B	3/2 way valve VOE 230 V~/110 V= Ø 25, 32, 40, 50
C	3/2 way valve VOE 48 V= Ø 25, 32, 40, 50
E	3/2 way valve VOE 110 V~ Ø 25, 32, 40, 50

**Seals**  

0	standard (NBR)
1	Viton <sup>® 1)</sup>

**End cap position**  

0	l+r0° = in front
1	l+r90° = underneath
2	l+r180° = at the back
3	l+r270° = same side as outerband
4	l90° = underneath; r0° = in front
5	l180° = at the back; r0° = in front
6	l270° = same side as outerband; r0° = in front
7	l0° = in front; r90° = underneath
8	l180° = at the back; r90° = underneath
9	l270° = same side as outerband; r90° = underneath
A	l0° = in front; r180° = at the back
B	l90° = underneath; r180° = at the back
C	l270° = same side as outerband; r180° = at the back
D	l0° = in front; r270° = same side as outerband
E	l90° = underneath; r270° = same side as outerband
F	l180° = at the back; r270° = same side as outerband

**Guides/ Brakes/ Inversion**  

0	without
B	Starline STL

**add. Guide Carriage**  

0	without
B	Guide Carriage Starline STL

**End cap position (air connection)**

Cylinder L (left end side)

Cylinder R (right end side)

<sup>1)</sup> Viton with VOE not possible.

<sup>2)</sup> "Slow speed lubrication" in combination with „Viton<sup>®</sup>“ seals on demand.

<sup>3)</sup> „Lubrication slow speed“ in combination with „max. cushioning length“ not possible.

## Recirculating Ball Bearing Guide Series KF 16 to 50 for Linear Drive

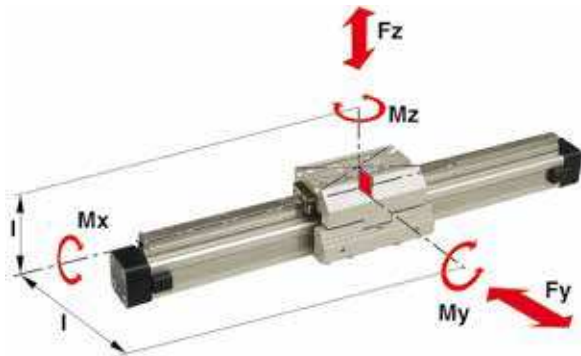
### Features:

- Anodized aluminium guide carriage, the mounting dimensions correspond to FESTO Type: DGPL-KF
- Polished and hardened steel guide rail
- For high loads in all directions
- High precision
- Integrated wiper system
- Integrated grease nipples
- Any length of stroke up to 3700 mm



- Maximum speed  
 KF16, KF40: v = 3 m/s  
 KF25, KF32, KF50: v = 5 m/s

### Loads, Forces and Moments



### Technical Data

The table shows the maximal permissible loads. If multiple moments and forces act upon the cylinder simultaneously, the following equation applies:

$$\frac{M_x}{M_{x_{max}}} + \frac{M_y}{M_{y_{max}}} + \frac{M_z}{M_{z_{max}}} + \frac{F_y}{F_{y_{max}}} + \frac{F_z}{F_{z_{max}}} \leq 1$$

The sum of the loads should not exceed >1.

The table shows the maximum permissible values for light, shock-free operation, which must not be exceeded even under dynamic conditions.

For further technical information see catalogue P-A4P011GB

Series	For linear drive	Max. moment [Nm]			Max. loads [N]		Mass of linear drive with guide [kg]		Mass* guide carriage [kg]	Groove stone Thread size	Order-No.	
		Mx	My	Mz	Fy	Fz	with 0 mm stroke	increase per 100 mm stroke			Groove Stone	Guide KF without cylinder**
<b>KF16</b>	OSP-P16	12	25	25	1000	1000	0.558	0.21	0.228	-	-	<b>21101</b>
<b>KF25</b>	OSP-P25	35	90	90	3100	3100	1.522	0.369	0.607	M5	<b>13508FIL</b>	<b>21102</b>
<b>KF32</b>	OSP-P32	44	133	133	3100	3100	2.673	0.526	0.896	M5	<b>13508FIL</b>	<b>21103</b>
<b>KF40</b>	OSP-P40	119	346	346	4000	7100	4.167	0.701	1.531	M6	<b>13509FIL</b>	<b>21104</b>
<b>KF50</b>	OSP-P50	170	480	480	4000	7500	7.328	0.936	2.760	M8	<b>13510FIL</b>	<b>21105</b>

\*\* Please use this order pattern: Order-No. + „stroke in mm“ (5 digits)  
 Example: KF guide D16 mm, stroke 1000 mm: 21101-01000

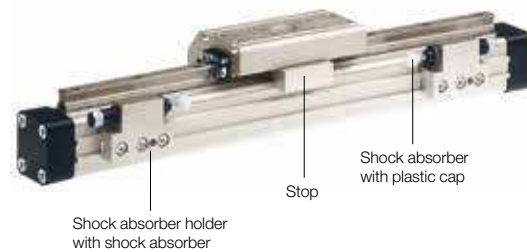
### Variable Stop

The variable stop Type VS provides simple stroke limitation. It can be retrofitted and positioned anywhere along the stroke length. For every cylinder diameter two types of shock absorber are available. Mid-section supports and magnetic switches can still be fitted on the same side as the variable stop.

Depending on the application, two variable stops can be fitted if required.

#### Variable Stop Type VS16 to VS50

Arrangement with two variable stops



For shock absorber selection in dependence on mass and speed see page 147.

\* **Please note:**

The mass of the carriage has to be added to the total moving mass when using the cushioning diagram

**Note: Order instructions for VS in combination with the cylinder and guide see page 151, pos.18**

**Order Instructions- KF**

1-4	5+6	7	8	9	10	11	12-16	17	18	19	20	21	22	23	24	25
<b>OSPP</b>	25	0	0	0	0	0	01100	0	0	0	0	0	0	0	0	0

<b>Piston-Ø</b>	<b>Stroke</b> Input in mm (5 digits)	<b>Piston Mounting</b>	<b>Measuring system</b>
16		0 without	0 without
25			X SFI 0.1 mm
32			Y SFI 1 mm
40			
50			

<b>Version / Piston</b>	<b>Screws</b>	<b>Cushioning</b>	<b>Cover / Cable Channel</b>
C Classic	0 standard	0 standard	0 standard
T Classic Tandem	1 Slow speed <sup>2)3)</sup>	1 max. length <sup>3)</sup>	1 cable channel
		2 VS variable stop, soft left for KF	2 cable channel two-sided
		3 VS variable stop, hard, left for KF	X without Cover rail
		4 VS variable stop, soft, right for KF	
		5 VS variable stop, hard, right for KF	
		6 VS variable stop, soft, both sides for KF	
		7 VS variable stop, hard, both sides for KF	

<b>Air Connection</b>	<b>Seals</b>	<b>End cap position</b>	<b>Guides/ Brakes/ Inversion</b>
0 standard	0 standard (NBR)	0 l+r0° = in front	0 without
1 on the end face	1 Viton <sup>® 1)</sup>	1 l+r90° = underneath	C KF
2 both at one end (not turnable)		2 l+r180° = at the back	
3 left standard right end face		3 l+r270° = same side as outerband	
4 right standard left end face		4 l90° = underneath; r0° = in front	
A 3/2 way valve VOE 24 V = Ø25,32,40,50		5 l180° = at the back; r0° = in front	
B 3/2 way valve VOE 230V~/110V= Ø25,32,40,50		6 l270° = same side as outerband; r0° = in front	
C 3/2 way valve VOE 48V= Ø25,32,40,50		7 l0° = in front; r90° = underneath	
E 3/2 way valve VOE 110V~ Ø25,32,40,50		8 l180° = at the back; r90° = underneath	
		9 l270° = same side as outerband; r90° = underneath	
		A l0° = in front; r180° = at the back	
		B l90° = underneath; r180° = at the back	
		C l270° = same side as outerband; r180° = at the back	
		D l0° = in front; r270° = same side as outerband	
		E l90° = underneath; r270° = same side as outerband	
		F l180° = at the back; r270° = same side as outerband	

<b>add. Guide Carriage</b>
0 without
C Guide Carriage KF

**End cap position (air connection)**

270° same side as outerband

180° at the back

end-face

0° in front

90° underneath

**Cylinder R (right end side)**

**End cap position (air connection)**

270° same side as outerband

180° at the back

end-face

0° in front

90° underneath

**Cylinder L (left end side)**

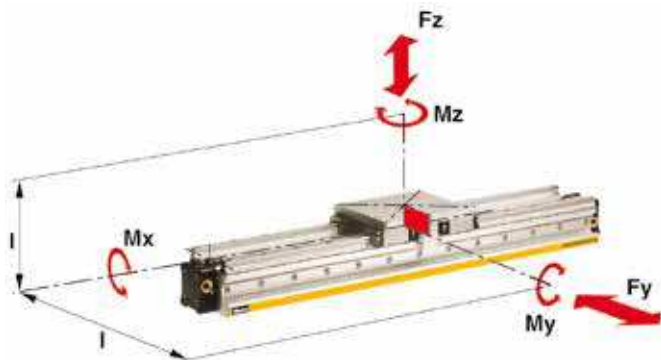
1) Viton with VOE not possible.  
 2) "Slow speed lubrication" in combination with „Viton®“ seals on demand.  
 3) „Lubrication slow speed“ in combination with „max. cushioning length“ not possible.

## Heavy Duty Guide HD Series HD 25 to 50 for Linear Drive

### Features:

- Guide system: 4-row recirculating ball bearing guide
- Polished and hardened steel guide rail
- For highest loads in all directions
- Highest precision
- Integrated wiper system
- Integrated grease nipples
- Any lengths of stroke up to 3700 mm (longer strokes on request)
- Anodized aluminium guide carriage - dimensions compatible with OSP guide GUIDELINE
- Maximum speed  $v = 5$  m/s

### Loads, Forces and Moments



### Technical Data

The table shows the maximal permissible loads. If multiple moments and forces act upon the cylinder simultaneously, the following equation applies:

$$\frac{M_x}{M_{x_{max}}} + \frac{M_y}{M_{y_{max}}} + \frac{M_z}{M_{z_{max}}} + \frac{F_y}{F_{y_{max}}} + \frac{F_z}{F_{z_{max}}} \leq 1$$

The sum of the loads should not exceed  $>1$ .

The table shows the maximum permissible values for light, shock-free operation, which must not be exceeded even under dynamic conditions.

For further technical information see catalogue P-A4P011GB

Series	For linear drive	Max. moment [Nm]			Max. loads [N]		Mass of linear drive with guide carriage [kg]		Mass* guide [kg]	Order-No.** HD Guide without cylinder
		Mx	My	Mz	Fy	Fz	with 0 mm stroke	increase per 100 mm stroke		
HD 25	OSP-P25	260	320	320	6000	6000	3.065	0.924	1.289	21246
HD 32	OSP-P32	285	475	475	6000	6000	4.308	1.112	1.367	21247
HD 40	OSP-P40	800	1100	1100	15000	15000	7.901	1.748	2.712	21248
HD 50	OSP-P50	1100	1400	1400	18000	18000	11.648	2.180	3.551	21249

\*\* Please use this order pattern: Order-No. + „stroke in mm“ (5 digits)  
Example: HD Guide D25 mm, stroke 1000 mm: 21246-01000

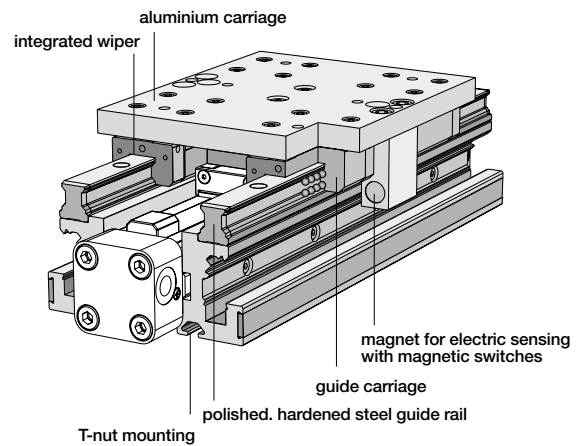
**OSP**  
ORIGA  
SYSTEM  
PLUS



### Options:

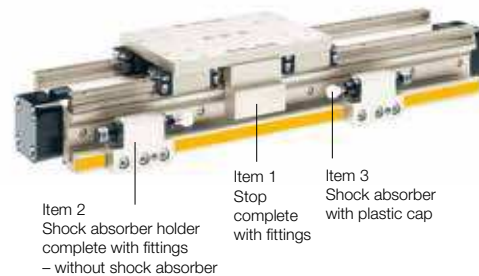
- With variable stop
- With intermediate stop module

### Version with pneumatic linear drive series OSP-P



### Variable Stop

#### Variable Stop Type VS25 to VS50



For shock absorber selection in dependence on mass and speed see page 147.

### \* Please note:

The mass of the carriage has to be added to the total moving mass when using the cushioning diagram

**Note: Order instructions for VS in combination with HD guide see page 153, pos.18**



**Order Instructions- HEAVY DUTY - HD**

1-4	5+6	7	8	9	10	11	12-16	17	18	19	20	21	22	23	24	25
<b>OSPP</b>	25	0	0	0	0	0	01100	0	0	0	0	0	0	0	0	0

**Piston-Ø**

25
32
40
50

**Stroke**

Input in mm  
(5 digits)

**Piston Mounting**

0	without
---	---------

**Measuring system**

0	without
X	SFI 0.1 mm
Y	SFI 1 mm

**Screws**

0	standard
---	----------

**Cushioning**

0	standard
1	max. length <sup>3)</sup>
2	VS variable stop, soft left for HD
3	VS variable stop, hard, left for HD
4	VS variable stop, soft, right for HD
5	VS variable stop, hard, right for HD
6	VS variable stop, soft, both sides for HD
7	VS variable stop, hard, both sides for HD

**Version / Piston**

0	standard
1	Tandem

**Lubrication**

0	standard
1	Slow speed <sup>2)</sup>

**Cover / Cable Channel**

0	standard
1	cable channel
2	cable channel two-sided
X	without Cover rail

**Air Connection**

0	standard
1	on the end face
2	both at one end (not turnable)
3	left standard right end face
4	right standard left end face
A	3/2 way valve VOE 24 V = Ø 25, 32, 40, 50
B	3/2 way valve VOE 230 V~/110 V = Ø 25, 32, 40, 50
C	3/2 way valve VOE 48 V = Ø 25, 32, 40, 50
E	3/2 way valve VOE 110 V ~ Ø 25, 32, 40, 50

**Seals**

0	standard (NBR)
1	Viton <sup>® 1)</sup>

**End cap position**

0	l+r 0° = in front
1	l+r 90° = underneath
2	l+r 180° = at the back
3	l+r 270° = same side as outerband
4	l 90° = underneath; r 0° = in front
5	l 180° = at the back; r 0° = in front
6	l 270° = same side as outerband; r 0° = in front
7	l 0° = in front; r 90° = underneath
8	l 180° = at the back; r 90° = underneath
9	l 270° = same side as outerband; r 90° = underneath
A	l 0° = in front; r 180° = at the back
B	l 90° = underneath; r 180° = at the back
C	l 270° = same side as outerband; r 180° = at the back
D	l 0° = in front; r 270° = same side as outerband
E	l 90° = underneath; r 270° = same side as outerband
F	l 180° = at the back; r 270° = same side as outerband

**Guides/ Brakes/ Inversion**

0	without
D	HD

**add. Guide Carriage**

0	without
D	Guide Carriage HD

**End cap position (air connection)**

**Cylinder L (left end side)**

**Cylinder R (right end side)**

<sup>1)</sup> Viton with VOE not possible.

<sup>2)</sup> "Slow speed lubrication" in combination with „Viton®“ seals on demand.

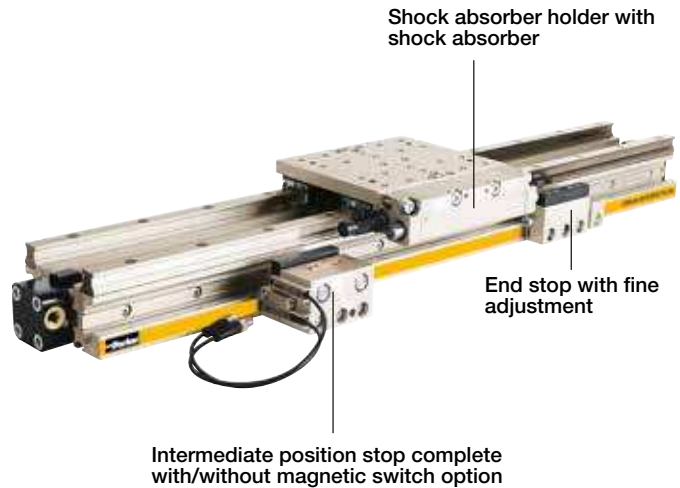
<sup>3)</sup> „Lubrication slow speed“ in combination with „max. cushioning length“ not possible.

## Intermediate Stop Module

### Type ZSM .. HD

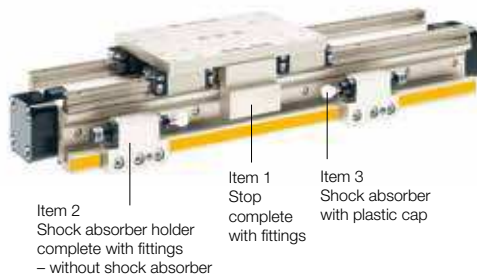
The intermediate stop module ZSM allows the guide carriage to stop at any desired intermediate positions with high accuracy. It can be retrofitted. Depending on the application, i.e. the number of intermediate stops, one or more intermediate position stops can be used. The intermediate position stops can be retracted and extended without the need for the guide carriage to be moved back out of position.

Therefore the guide carriage can be made to stop at the defined intermediate positions in any order.



### ORIGA intermediate stop module ZSM:

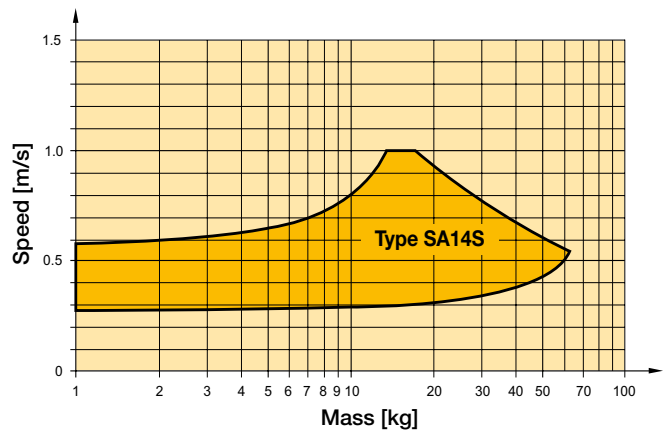
- Allows stopping at any intermediate positions
- Intermediate position stops can be located steplessly anywhere along the whole stroke length
- Movement to the next position without reverse stroke
- Compact unit
- Cost-effective positioning module without electrical or electronic components
- Option: end stop with fine adjustment



### Operating information

Operating pressure range:	4 - 8 bar
Temperature range:	-10°C to +70°C
Intermediate position grid	85 mm

### Shock Adsorbers Type SA14S



The values relate to an effective driving force of 250 N (6 bar)

### Order Instructions - Intermediate Stop Module - Type ZSM..HD

Item	Description	For intermediate stop module	Order-No.
1*	Shock absorber holder with shock absorber SA14S, both sides	ZSM25HD	21342BFIL
2*	Shock absorber holder with shock absorber SA14S, left	ZSM25HD	21342LFIL
3*	Shock absorber holder with shock absorber SA14S, right	ZSM25HD	21342RFIL
4	Intermediate position stop complete, without magnetic switch option	ZSM25HD	21343FIL
5	Intermediate position stop complete, with magnetic switch option	ZSM25HD	21344FIL
6	End stop with fine adjustment	ZSM25HD	21346FIL

\* The shock absorbers are installed in the shock absorber holder and adjusted in our workshop.

#### Note:

**For movement onwards from the intermediate position, the intermediate position stop must advance. The intermediate position stop can only advance if both cylinder chambers of the OSP-P cylinder are pressurized.**

For further technical information see catalogue P-A4P011GB



## Active Brakes and Passive Brakes

**Active Brake**  
for pneumatic linear drive  
Series OSP-P  
Piston diameters 25 - 80 mm.

See page 156



### Versions:

- ACTIVE Brake
- Plain bearing guide with integrated ACTIVE Brake
- Aluminium roller guide with integrated ACTIVE Brake
- Plain bearing guide with PASSIVE Brake
- Aluminium roller guide with PASSIVE Brake

**Slideline with Active Brake**  
Plain bearing guide SLIDELINE - SL  
with integrated ACTIVE Brake  
Piston diameters 25 - 50 mm.

See page 140



**Proline with Active Brake**  
Aluminium roller guide  
PROLINE - PL with  
integrated ACTIVE Brake  
Piston diameters 25 - 50 mm.

See page 144



**Multibrake with Slideline**  
MULTI BRAKE - PASSIVE Brake  
with plainbearing guide  
SLIDELINE - SL  
Piston diameter 25 - 80 mm.

See page 157



**Multibrake with Proline**  
MULTI BRAKE - PASSIVE Brake  
with aluminium roller guide  
PROLINE - PL  
Piston diameters 25 - 50 mm.

See page 158



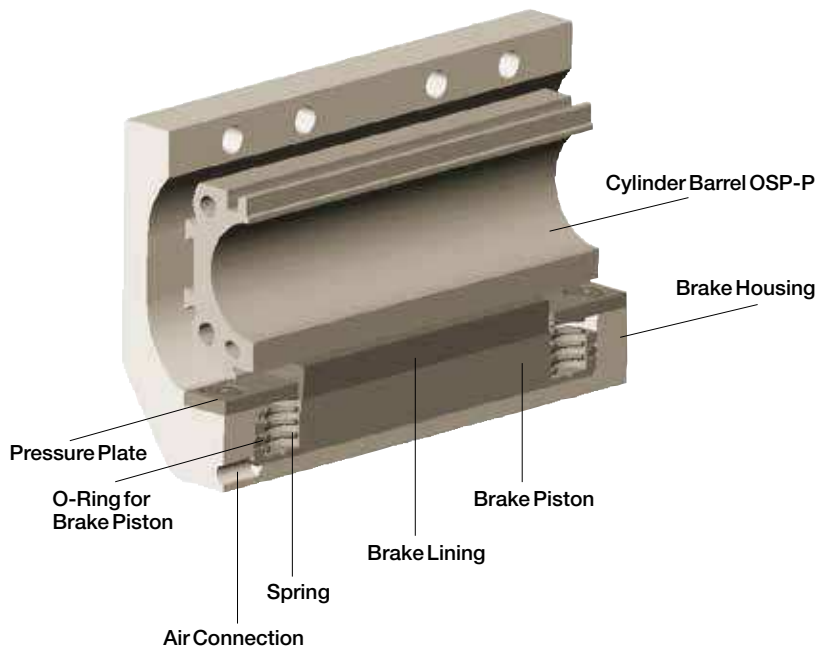
**Active Brake**  
**Series AB 25 to 80 for Linear Drive**



**Features:**

- Actuated by pressurisation
- Released by spring actuation
- Completely stainless version
- Holds position, even under changing load conditions

**Function**



**Forces and Weights**

Series	For linear drive	Max. braking force [N] <sup>(1)</sup>	Brake pad way [mm]	Mass [kg]		Brake *
				Linear drive with brake 0 mm stroke	increase per 100 mm stroke	
<b>AB 25</b>	OSP-P25	350	2.5	1.0	0.197	0.35
<b>AB 32</b>	OSP-P32	590	2.5	2.02	0.354	0.58
<b>AB 40</b>	OSP-P40	900	2.5	2.83	0.415	0.88
<b>AB 50</b>	OSP-P50	1400	2.5	5.03	0.566	1.50
<b>AB 63</b>	OSP-P63	2170	3.0	9.45	0.925	3.04
<b>AB 80</b>	OSP-P80	4000	3.0	18.28	1.262	5.82

For further technical information see catalogue P-A4P011GB

**Note:**  
 For combinations Active Brake AB + SFI-plus + Magnetic Switch contact our technical department please.

**Active brake in combination with Basic Cylinder see page 131, pos.20**

<sup>(1)</sup> – at 6 bar  
 both chambers pressurised with 6 bar  
 Braking surface dry  
 –oil on the braking surface will reduce the braking force

**\* Please Note:**  
 The mass of the brake has to be added to the total moving mass when using the cushioning diagram.

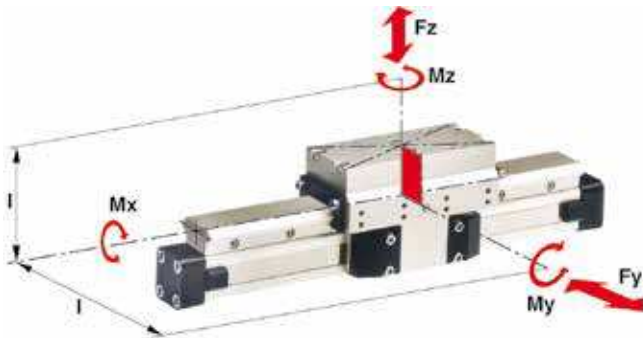
## Multi-Brake Passive Brake

with plain bearing guide Slideline SL  
Series MB-SL 25 to 80 for Linear Drive

### Features:

- Brake operated by spring actuation
- Brake release by pressurisation
- Anodised aluminium rail, with prism shaped slide elements
- Adjustable plastic slide elements
- Composite sealing system with plastic and felt wiper elements to remove dirt and lubricate the slideway
- Replenishable guide lubrication by integrated grease nipples
- Blocking function in case of pressure loss
- Intermediate stops possible

### Loads, Forces and Moments



### Technical Data

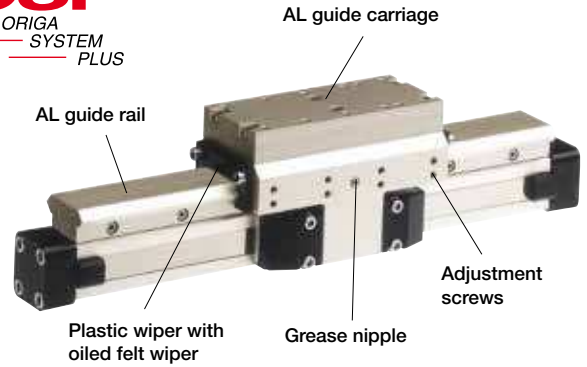
The table shows the maximum values for light, shock-free operation, which must not be exceeded even in dynamic operation.

Load and moment data are based on speeds  $v < 0.2$  m/s.  
Operating pressure 4.5 - 8 bar  
A pressure of 4.5 bar is required to release the brake.

For further technical information see catalogue P-A4P011GB

Series	For linear drive	Max. moments [Nm]			Max. loads [N] Fy, Fz	Max. brake force [N] <sup>1)</sup>	Mass of linear drive with guide [kg]		Mass <sup>2)</sup> guide carriage [kg]	Order-No. ** MB-SL Guide with passive brake without cylinder*
		Mx	My	Mz			with 0 mm stroke	increase per 100 mm stroke		
<b>MB-SL 25</b>	OSP-P25	14	34	34	675	470	2.04	0.39	1.10	<b>20796</b>
<b>MB-SL 32</b>	OSP-P32	29	60	60	925	790	3.82	0.65	1.79	<b>20797</b>
<b>MB-SL 40</b>	OSP-P40	50	110	110	1600	1200	5.16	0.78	2.34	<b>20798</b>
<b>MB-SL 50</b>	OSP-P50	77	180	180	2000	1870	8.29	0.97	3.63	<b>20799</b>
<b>MB-SL 63</b>	OSP-P63	120	260	260	2500	2900	13.31	1.47	4.97	<b>20800</b>
<b>MB-SL 80</b>	OSP-P80	120	260	260	2500	2900	17.36	1.81	4.97	<b>20846</b>

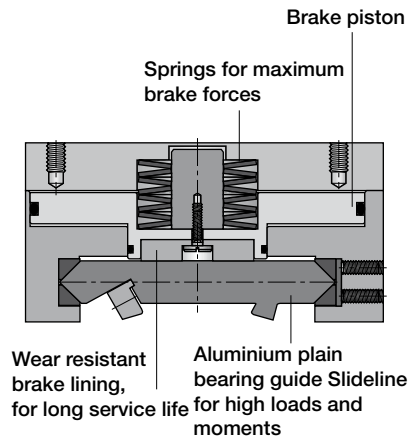
\*\* Please use this order pattern: Order-No. + „stroke in mm“ (5 digits)  
Example: MB-SL guide with passive brake D 25 mm, stroke 1000 mm: 20796-01000



### Function:

The Multi-Brake is a passive device. When the air pressure is removed the brake is actuated and movement of the cylinder is blocked. The brake is released by pressurisation. The high friction, wear resistant brake linings allow the Multi-Brake to be used as a dynamic brake to stop cylinder movement in the shortest possible time. The powerful springs also allow the Multi-Brake to be used effectively in positioning applications.

### Function



\* **Please note:**

in the cushioning diagram, the mass of the guide carriage has to be added to the total moving mass.

<sup>1)</sup> Braking surface dry – oil on the braking surface will reduce the braking force

**MB-SL in combination with cylinder see page 141, pos. 20**

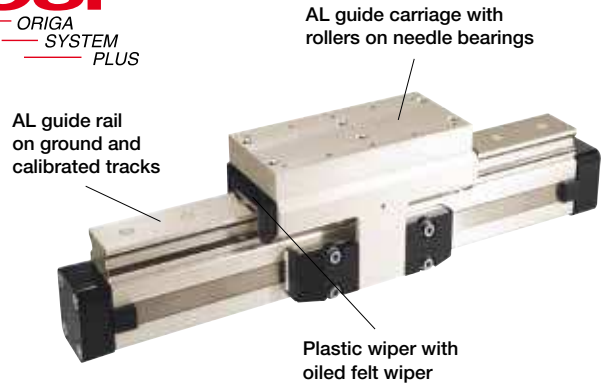
## Multi-Brake Passive Brake

### with Aluminium Roller Guide Proline PL Series MB-PL 25 to 50 for Linear Drive

#### Features:

- Brake operated by spring actuation
- Brake release by pressurisation
- Composite sealing system with plastic and felt wiper elements to remove dirt and lubricate the slideway
- Blocking function in case of pressure loss
- Intermediate stops possible

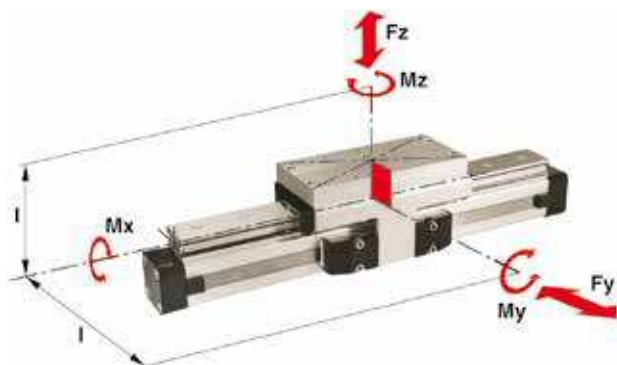
**OSP**  
ORIGA  
SYSTEM  
PLUS



#### Function:

The Multi-Brake is a passive device. When the air pressure is removed the brake is actuated and movement of the cylinder is blocked. The brake is released by pressurisation. The high friction, wear resistant brake linings allow the Multi-Brake to be used as a dynamic brake to stop cylinder movement in the shortest possible time. The powerful springs also allow the Multi-Brake to be used effectively in positioning applications.

#### Loads, Forces and Moments



#### Technical Data

The table shows the maximal permissible loads. If multiple moments and forces act upon the cylinder simultaneously, the following equation applies:

$$\frac{M_x}{M_{x_{max}}} + \frac{M_y}{M_{y_{max}}} + \frac{M_z}{M_{z_{max}}} + \frac{F_y}{F_{y_{max}}} + \frac{F_z}{F_{z_{max}}} \leq 1$$

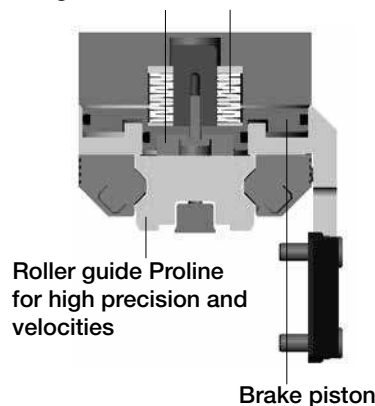
The sum of the loads should not exceed >1.  
With a load factor of less than 1, service life is 8000 km

Series	For linear drive	Max. moments [Nm]			Max. loads [N] Fy, Fz	Max. brake force [N] <sup>1)</sup>	Mass of linear drive with guide [kg]		Mass <sup>2)</sup> guide carriage [kg]	Order-No. ** MB-PL Guide with passive brake without cylinder *
		Mx	My	Mz			with 0 mm stroke	increase per 100 mm stroke		
<b>MB-PL25</b>	OSP-P25	16	39	39	857	315	2.14	0.40	1.24	<b>20864</b>
<b>MB-PL32</b>	OSP-P32	29	73	73	1171	490	4.08	0.62	2.02	<b>20865</b>
<b>MB-PL40</b>	OSP-P40	57	158	158	2074	715	5.46	0.70	2.82	<b>20866</b>
<b>MB-PL50</b>	OSP-P50	111	249	249	3111	1100	8.60	0.95	4.07	<b>20867</b>

\*\* Please use this order pattern: Order-No. + „stroke in mm“ (5 digits)  
Example: MB-PL guide with passive brake, D25 mm, stroke 1000 mm: 20864-01000

#### Function

Wear resistant brake lining, for long service life  
Springs for maximum brake forces



The table shows the maximum permissible values for light, shock-free operation, which must not be exceeded even under dynamic conditions.

Operating Pressure 4.5 - 8 bar. A pressure of min. 4.5 bar release the brake.

For further technical information see catalogue P-A4P011 GB

**MB-PL in combination with cylinder  
see page 145, pos. 20**

## **Linear Drive Accessories** **(Mountings and Magnetic Switches)** **Series OSP-P**

### **Description**

Overview

Clevis Mounting

End Cap Mountings

End Cap Mountings (for Linear Drives with guides)

Mid-Section Support

Mid-Section Support (for Linear Drives with guides)

Inversion Mounting

Adaptor Profile

T-Slot Profile

Connection Profile

Duplex Connection

Multiplex Connection

Magnetic Switch, standard version

Magnetic Switch for T-Nut mounting

Magnetic Switch ATEX-version 

Cable Cover



**See**  
**Catalogue**  
**P-A4P011GB**

## **Origa - Sensoflex**

**Displacement measuring system for**  
**automated movement**

**Series SFI-plus**  
**(Incremental measuring system)**



### **Characteristics:**

- Contactless magnetic displacement measurement system
- Displacement length up to 32 m
- Resolution 0.1 mm (option: 1 mm)
- Displacement speed up to 10m/s
- For linear and non-linear rotary motion
- Suitable for almost any control or display unit with a counter input

The SFI-plus magnetic displacement measuring system consists of 2 main components.

- **Measuring Scale**  
Self-adhesive magnetic measuring scale
- **Sensing Head**  
Converts the magnetic poles into electrical signals which are then processed by counter inputs down stream  
(e.g. PLC, PC, digital counter)

For further technical information see catalogue P-A4P011GB

**Note: Order instructions in combination with basic cylinder see page 131, pos.25**



# ORIGA Pneumatic Linear Drives OSP-L

Very long lifetime and lowest leakage



## A NEW Modular Linear Drive System

With this second generation linear drive Parker Origa offers design engineers complete flexibility. The well known ORIGA cylinder has been further developed into a combined linear actuator, guidance and control package. It forms the basis for the new, versatile ORIGA SYSTEM PLUS linear drive system.

All additional functions are designed into modular system components which replace the previous series of cylinders.

- Completely modular design
- Compatible with the comprehensive ORIGA OSP system component range
- High loads and moments
- Space saving
- For a wide range of loads, speeds and motion profiles

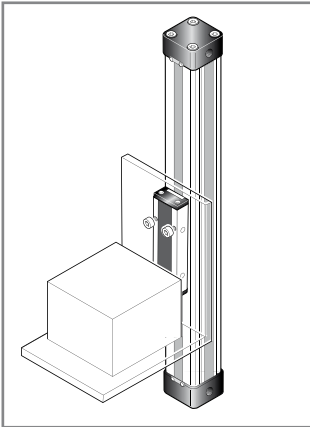


## Introduction – OSP Concept

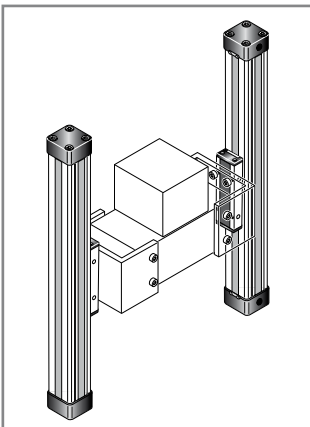
<p>Basic Linear Drive                      Standard Version</p> <ul style="list-style-type: none"> <li>• Series OSP-L</li> </ul>		<p>Duplex Connection</p> <ul style="list-style-type: none"> <li>• Series OSP-L</li> </ul>	
<p>Air Connection on the                      End-face or both at One End</p> <ul style="list-style-type: none"> <li>• Series OSP-L</li> </ul>		<p>Multiplex Connection</p> <ul style="list-style-type: none"> <li>• Series OSP-L</li> </ul>	
<p>Integrated 3/2 Way Valves</p> <ul style="list-style-type: none"> <li>• Series OSP-L</li> </ul>		<p>Linear Guides                      – SLIDELINE</p> <ul style="list-style-type: none"> <li>• Series OSP-L</li> </ul>	
<p>Clevis Mounting</p> <ul style="list-style-type: none"> <li>• Series OSP-L</li> </ul>		<p>Linear Guides                      – STARLINE</p> <ul style="list-style-type: none"> <li>• Series OSP-L</li> </ul>	
<p>End Cap Mounting</p> <ul style="list-style-type: none"> <li>• Series OSP-L</li> </ul>		<p>Magnetic Switches</p> <ul style="list-style-type: none"> <li>• Series OSP-L</li> </ul>	
<p>Mid-Section Support</p> <ul style="list-style-type: none"> <li>• Series OSP-L</li> </ul>		<p>Variable Stop VS</p> <ul style="list-style-type: none"> <li>• Series OSP-L                              with Linear Guide STL</li> </ul>	
<p>Inversion Mounting</p> <ul style="list-style-type: none"> <li>• Series OSP-L</li> </ul>			

# OSP-L Application examples

ORIGA SYSTEM PLUS – rodless linear drives offer maximum flexibility for any application.



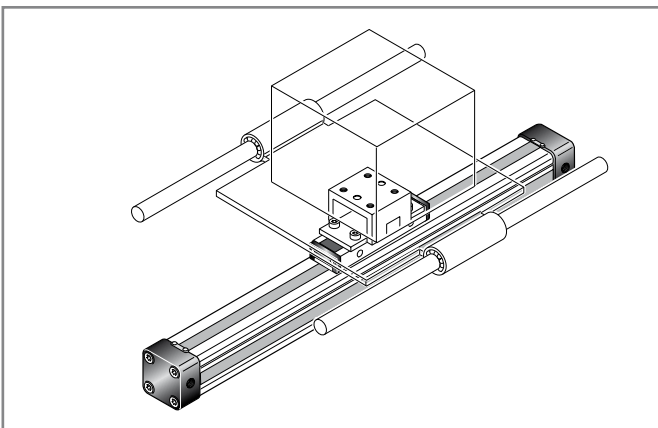
The high load capacity of the piston can cope with high bending moments without additional guides.



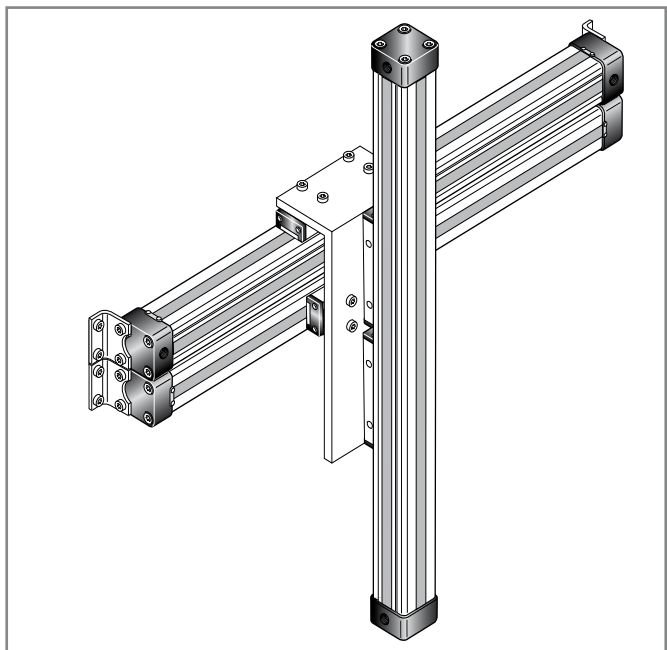
The mechanical design of the OSP-L allows synchronised movement of two cylinders.

Integrated guides offer optimal guidance for applications requiring high performance, easy assembly and maintenance free operation.

Optimal system performance by combining multi-axis cylinder combinations.



When using external guides, the clevis mounting is used to compensate for deviations in parallelism.



For further information and assembly instructions, please contact your local Parker Origa dealer.

# Options and Accessories for system versatility

## Series OSP-L

### STANDARD VERSIONS OSP-L25 to L63

Standard carrier with integral guidance. End cap can be rotated 4 x 90° to position air connection on any side.  
Magnetic piston as standard.  
Dovetail profile for mounting of accessories and the cylinder itself.



### BASIC CYLINDER OPTIONS

The special design of the linear drive enables all emissions to be led away.

### STAINLESS VERSION

For use in constantly damp or wet environments. All screws are A2 quality stainless steel (material no.1.4301 / 1.4303)



### END-FACE AIR CONNECTION

To solve special installation problems.



### BOTH AIR CONNECTIONS AT ONE END

For simplified tubing connections and space saving.



### INTEGRATED VOE VALVES

The complete compact solution for optimal cylinder control.



### DUPLEX CONNECTION

The duplex connection combines two OSP-L cylinders of the same size into a compact unit with high performance.



### MULTIPLEX CONNECTION

The multiplex connection combines two or more OSP-L cylinders of the same size into one unit. The orientation of the carriers can be freely selected.



## ACCESSORIES

### MAGNETIC SWITCHES TYPE RS, ES, RST, EST

For electrical sensing of end and intermediate piston positions.



### MOUNTINGS FOR OSP-L25 TO L63

#### CLEVIS MOUNTING

Carrier with tolerance and parallelism compensation for driving loads supported by external linear guides.



#### END CAP MOUNTING

For end-mounting of the cylinder.



#### MID-SECTION SUPPORT

For supporting long cylinders or mounting the cylinder by its dovetail rails.



#### INVERSION MOUNTING

The inversion mounting transfers the driving force to the opposite side, e.g. for dirty environments.



# Origa System Plus

## - Innovation from a proven design

The newly developed product line OSP-L can be simply and neatly integrated into any machine layout.

### MOUNTING RAILS ON 3 SIDES

Mounting rails on 3 sides of the cylinder enable modular components such as linear guides, brakes, valves, magnetic switches etc. to be fitted to the cylinder itself. This solves many installation problems, especially where space is limited.

The modular system concept forms an ideal basis for additional customer-specific functions.

Magnetic piston as standard - for contactless position sensing on three sides of the cylinder.

Corrosion resistant steel outer sealing band and robust wiper system on the carrier for use in aggressive environments.

Inner sealing band made of polyurethane for best sealing features and extreme slight friction.

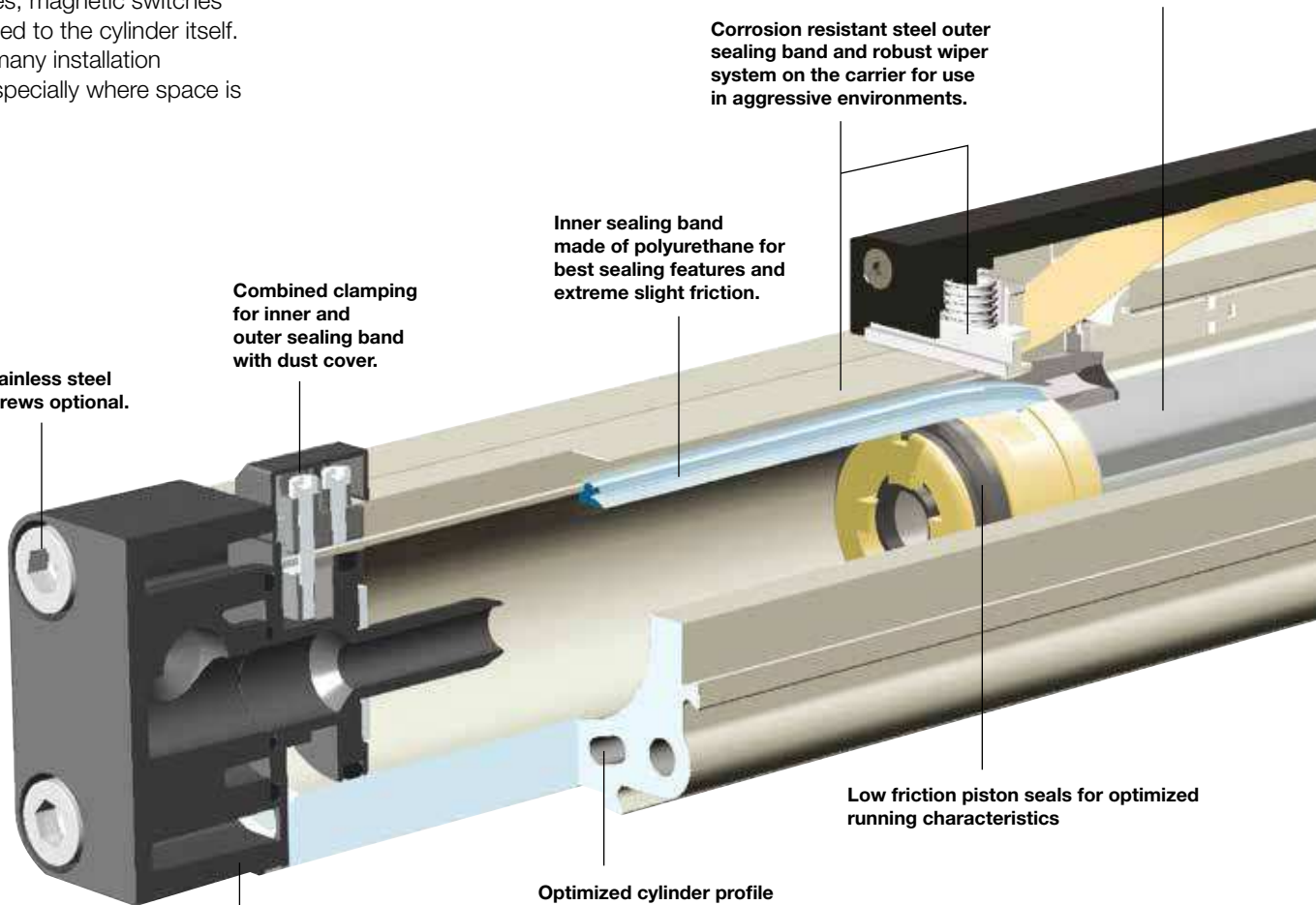
Combined clamping for inner and outer sealing band with dust cover.

Stainless steel screws optional.

Low friction piston seals for optimized running characteristics

End cap can be rotated to any one of the four positions (before or after delivery) so that the air connection can be in any desired position.

Optimized cylinder profile for maximum stiffness and minimum weight. Integral air passages enable both air connections to be positioned at one end, if desired.



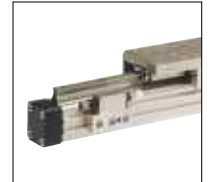
**SLIDELINE**  
 Cost-effective  
 plain bearing  
 guide for medium  
 loads.



**STARLINE**  
 Recirculating ball  
 bearing guide for  
 very high loads  
 and precision.



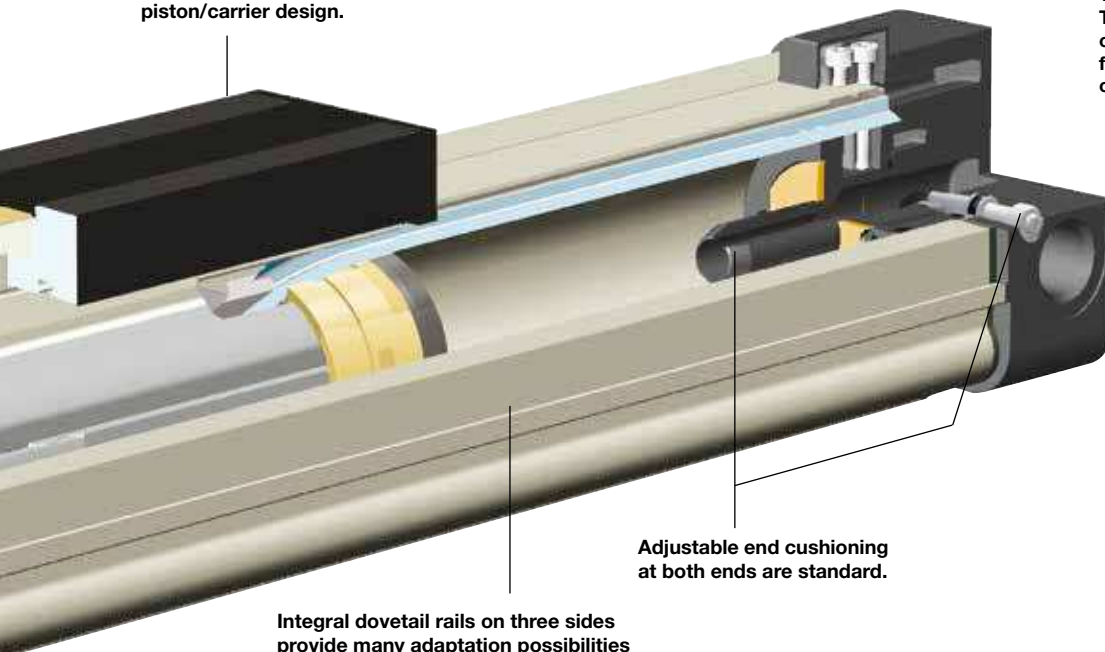
**VARIABLE STOP  
 VS**  
 The variable stop  
 provides simple  
 stroke limitation.



**INTEGRATED  
 VOE VALVES**  
 The complete  
 compact solution  
 for optimal cylinder  
 control.



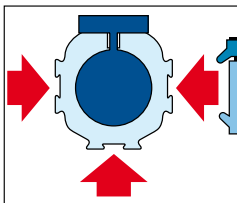
New low profile  
 piston/carrier design.



Adjustable end cushioning  
 at both ends are standard.

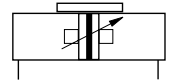
Integral dovetail rails on three sides  
 provide many adaptation possibilities  
 (linear guides, magnetic switches, etc.)

Modular system components  
 are simply clamped on.



## Rodless Pneumatic Cylinder

### Ø 25-63 mm



#### Standard Versions:

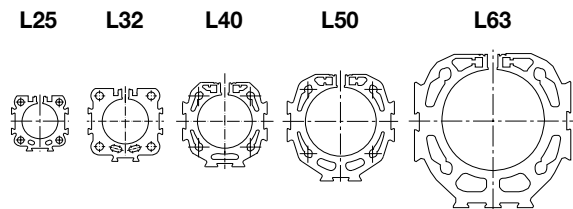
- Double-acting with adjustable end cushioning
- With magnetic piston for position sensing



#### Special Versions:

- Stainless steel screws
- Both air connections on one end
- Air connection on the end-face
- Integrated Valves VOE
- End cap can be rotated 4 x 90° to position air connection as desired
- Free choice of stroke length up to 6000 mm

#### Size Comparison



Characteristics	Description
<b>General Features</b>	
Type	Rodless cylinder
Series	OSP-L
System	Double-acting, with cushioning, position sensing capability
Mounting	See drawings
Air Connection	Threaded
Ambient temperature range $T_{min}$ to $T_{max}$	-20 °C Other temperature ranges +80 °C on request
Installation	In any position
Medium	Filtered, unlubricated compressed air (other media on request)
Lubrication	Permanent grease lubrication (additional oil mist lubrication not required)
<b>Material</b>	
Cylinder Profile	Anodized aluminium
Carrier (piston)	Anodized aluminium
End caps	Aluminium, lacquered
Sealing bands	Corrosion resistant steel (outer band) Polyurethane (inner band)
Seals	Polyurethane, NBR
Screws	Galvanized steel Option: stainless steel
Dust covers, wipers	Plastic
Max. operating pressure $p_{max}$	8 bar

## Loads, Forces and Moments

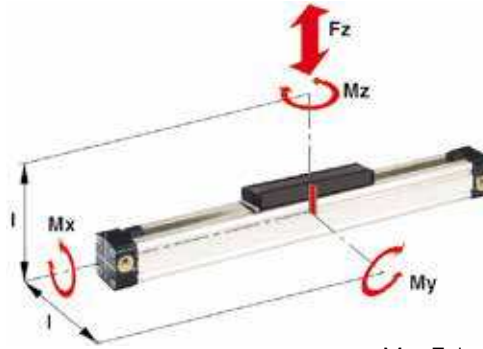
### Choice of cylinder is decided by:

- Permissible loads, forces and moments
- Performance of the pneumatic end cushions.

The main factors here are the mass to be cushioned and the piston speed at start of cushioning (unless external cushioning is used, e. g. hydraulic shock absorbers).

The adjacent table shows the maximum values for light, shock-free operation, which must not be exceeded even in dynamic operation. Load and moment data are based on speeds  $v \leq 0.5$  m/s.

When working out the action force required, it is essential to take into account the friction forces generated by the specific application or load.



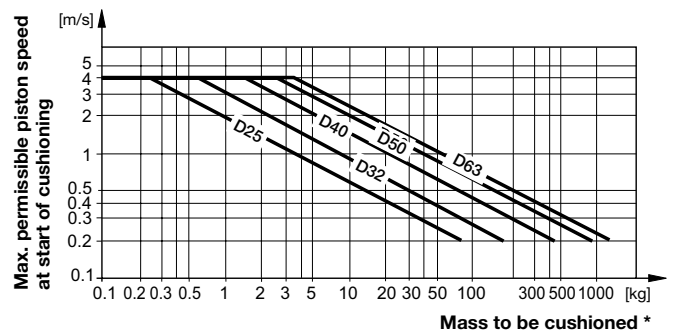
$M = F \cdot l$   
Bending moments are calculated from the centre of the linear actuator

Cylinder-Series Ø [mm]	Theoretical Action Force at 6 bar [N]	effektive Action Force $F_A$ at 6 bar [N]	max. Moments			max. Load F [N]	Cushion Length [mm]
			$M_x$ [Nm]	$M_y$ [Nm]	$M_z$ [Nm]		
OSP-L25	295	250	1.5	15	3	300	17
OSP-L32	483	420	3	30	5	450	20
OSP-L40	754	640	6	60	8	750	27
OSP-L50	in progress						
OSP-L63	in progress						

### Cushioning Diagram

Work out your expected moving mass and read off the maximum permissible speed at start of cushioning. Alternatively, take your desired speed and expected mass and find the cylinder size required. Please note that piston speed at start of cushioning is typically ca. 50 % higher than the average speed, and that it is this higher speed which determines the choice of cylinder.

**If the permitted values are exceeded, either additional shock absorbers should be fitted in the area of the centre of the gravity or you can consult us about our special cushioning system- we shall be happy to advise you on your specific application.**



\* For cylinders with linear guides or brakes, please be sure to take the mass of the carriage or the brake housing into account.

### Weight (mass) [kg]

Cylinder series (Basic cylinder)	Weight (Mass) [kg]	
	At 0 mm stroke	per 100 mm stroke
OSP-L25	0.65	0.197
OSP-L32	1.44	0.354
OSP-L40	1.95	0.415
OSP-L50	in progress	
OSP-L63	in progress	

For further technical information see catalogue P-A4P012GB

## Integrated 3/2 Way Valves

### VOE

#### Series OSP-L25, L32, L40 and L50

For optimal control of the OSP-L cylinder, 3/2 way valves integrated into the cylinder's end caps can be used as a compact and complete solution. They allow for easy positioning of the cylinder, smooth operation at the lowest speeds and fast response, making them ideally suited for the direct control of production and automation processes.

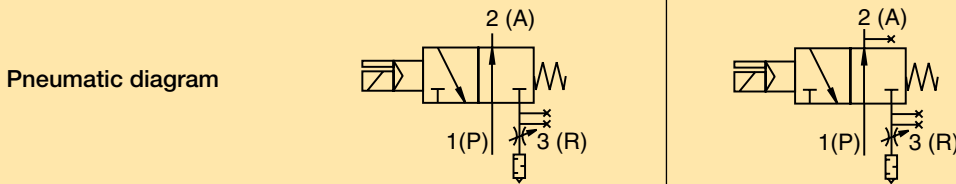


#### Features:

- Complete compact solution
- Various connection possibilities:  
Free choice of air connection with rotating end caps with VOE valves, Air connection can be rotated 4 x 90°
- Solenoid can be rotated 4 x 90°,
- Pilot valve can be rotated 180°
- High piston velocities can be achieved with max. 3 exhaust ports
- Minimal installation requirements
- Requires just one air connection per valve
- Optimal control of the OSP-L cylinder
- Excellent positioning characteristics
- Integrated operation indicator
- Integrated exhaust throttle valve
- Manual override - indexed
- Adjustable end cushioning
- Easily retrofitted – please note the increase in the overall length of the cylinder!

#### Characteristics 3/2 Way Valves VOE

##### Characteristics 3/2 Way Valves with spring return



Type	VOE-25	VOE-32	VOE-40	VOE-50
Actuation	electrical			
Basic position	P → A open, R closed			
Type	Poppet valve, non overlapping			
Mounting	integrated in end cap			
Installation	in any position			
Port size	G 1/8	G 1/4	G 3/8	G 3/8
Temperature	-10°C to +50°C *			
Operating pressure	2-8 bar			
Nominal voltage	24 V DC / 230 V AC, 50 Hz			
Power consumption	2.5 W / 6 VA			
Duty cycle	100%			
Electrical Protection	IP 65 DIN 40050			

\* other temperature ranges on request

For further technical information see catalogue P-A4P012GB



**Order Instructions- Basic Cylinder**

1-4	5+6	7	8	9	10	11	12-16	17	18	19	20	21	22	23	24	25
<b>OSPL</b>	25	0	0	0	0	0	01100	0	0	0	0	0	0	0	0	0

<b>Piston-Ø</b>																
25							<b>Stroke</b>			<b>Piston Mounting</b>		<b>add. Guide Carriage</b>		<b>Measuring system</b>		
32							in mm (5 digits)			0 without		0 without		0 without		
40										1 clevis mounting						
in progress																
in progress																

<b>Version / Piston</b>							<b>Screws</b>		<b>Cushioning</b>							
0 standard							0 standard		0 standard							
1 Tandem							1 Stainless		1 max. length							

<b>Air Connection</b>							<b>Lubrication</b>		<b>End cap position</b>		<b>Guides/ Brakes/ Inversion</b>			<b>Cover/ Cable Channel</b>		
0 standard							0 standard		0 l+r0° = in front		0 without			0 standard		
1 end face									1 l+r90° = underneath		M Inversion			1 Cable channel		
2 both at one end									2 l+r180° = at the back		Ø 16-80			2 Cable channel two-sided		
3 left standard right end face									3 l+r270° = same side as outerband		N Duplex					
4 right standard left end face									4 l90° = underneath; r0° = in front		Ø 25,32,40,50					
A 3/2 Way valve VOE 24 V = Ø 25,32,40,50									5 l180° = at the back; r0° = in front							
B 3/2 Way valve VOE 230 V~/ 110 V= Ø 25,32,40,50									6 l270° = same side as outerband; r0° = in front							
C 3/2 Way valve VOE 48 V = Ø 25,32,40,50									7 l0° = in front; r90° = underneath							
E 3/2 Way valve VOE 110 V~ Ø 25,32,40,50									8 l180° = at the back; r90° = underneath							

<b>Seals</b>									9 l270° = same side as outerband; r90° = underneath							
0 standard									A l0° = in front; r180° = at the back							
									B l90° = underneath; r180° = at the back							
									C l270° = same side as outerband; r180° = at the back							
									D l0° = in front; r270° = same side as outerband							
									E l90° = underneath; r270° = same side as outerband							
									F l180° = at the back; r270° = same side as outerband							

**End cap position (air connection)**

270° same side as outerband  
 180° at the back  
 end-face  
 0° in front  
 90° underneath

**Cylinder R (right end side)**

270° same side as outerband  
 180° at the back  
 end-face  
 0° in front  
 90° underneath

**Cylinder L (left end side)**

## Plain Bearing Guide

### SLIDELINE

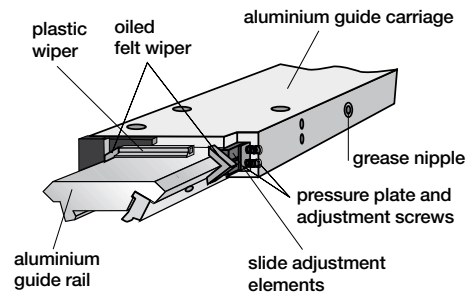
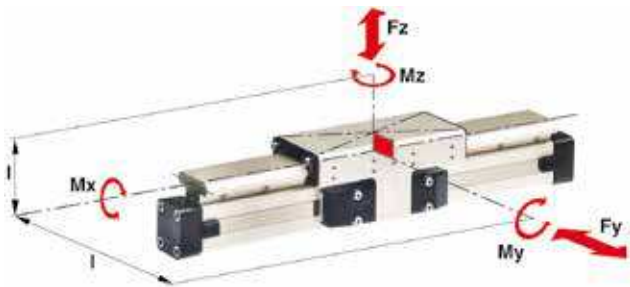
#### Series SL 25 to 63 for Linear Drive



#### Features:

- Anodised aluminium guide rail with prism-shaped slideway arrangement
- Adjustable plastic slide elements
- Composite sealing system with plastic and felt wiper elements to remove dirt and lubricate the slideways
- Corrosion resistant version available on request
- Any length of stroke up to 5500 mm (longer strokes on request)

#### Loads, Forces and Moments



#### Technical Data

The table shows the maximum permissible values for smooth operation, which should not be exceeded even under dynamic conditions.

The load and moment figures apply to speeds  $v < 0.2$  m/s.

**\* Please note:**

In the cushioning diagram, add the mass of the guide carriage to the mass to be cushioned.

For further technical information see catalogue P-A4P012GB

Series SL	For linear drive	Max. moments [Nm]			Max. loads [N] F <sub>y</sub> , F <sub>z</sub>	Mass of linear drive with guide [kg]		Mass * of guide carriage [kg]	Order No. ** SLIDELINE <sup>1)</sup> Guide without cylinder
		M <sub>x</sub>	M <sub>y</sub>	M <sub>z</sub>		with 0 mm stroke	increase per 100 mm stroke		
SL25	OSP-L25	14	34	34	675	1.55	0.39	0.61	20342FIL
SL32	OSP-L32	29	60	60	925	2.98	0.65	0.95	20196FIL
SL40	OSP-L40	50	110	110	1600	4.05	0.78	1.22	20343FIL
SL50	OSP-L50	in progress							
SL63	OSP-L63								

\*\* Please use this order pattern: Order-No. + "stroke in mm" (5 digits)  
Example: SLIDELINE guide D25mm, stroke 1000mm: 20342-01000

<sup>1)</sup> Corrosion resistant fixtures available on request

**Order Instructions SLIDELINE**

1-4	5+6	7	8	9	10	11	12-16	17	18	19	20	21	22	23	24	25
<b>OSPL</b>	25	0	0	0	0	0	01100	0	0	0	0	0	0	0	0	0

**Piston-Ø**

25
32
40
in progress
in progress

**Stroke**

in mm  
(5 digits)

**Piston Mounting**

0	without
---	---------

**Measuring system**

0	without
---	---------

**Screws**

0	standard
1	Stainless

**Cushioning**

0	standard
---	----------

**Version / Piston**

0	standard
1	Tandem

**Lubrication**

0	standard
---	----------

**End cap position**

0	l+r 0° = in front
1	l+r 90° = underneath
2	l+r 180° = at the back
3	l+r 270° = same side as outerband
4	190° = underneath; r 0° = in front
5	1180° = at the back; r 0° = in front
6	1270° = same side as outerband; r 0° = in front
7	10° = in front; r 90° = underneath
8	1180° = at the back; r 90° = underneath
9	1270° = same side as outerband; r 90° = underneath
A	10° = in front; r 180° = at the back
B	190° = underneath; r 180° = at the back
C	1270° = same side as outerband; r 180° = at the back
D	10° = in front; r 270° = same side as outerband
E	190° = underneath; r 270° = same side as outerband
F	1180° = at the back; r 270° = same side as outerband

**Guides/ Brakes/ Inversion**

0	without
2	Slideline SL Ø 25-63

**Cover / Cable Channel**

0	standard
1	Cable channel
2	Cable channel two-sided

**Air Connection**

0	standard
1	end face
2	both at one end
3	left standard right end face
4	right standard left end face
A	3/2 Way valve VOE 24 V = Ø 25,32,40,50
B	3/2 Way valve VOE 230 V~/110 V= Ø 25,32,40,50
C	3/2 Way valve VOE 48 V = Ø 25,32,40,50
E	3/2 Way valve VOE 110 V~ Ø 25,32,40,50

**Seals**

0	standard
---	----------

**add. Guide Carriage**

0	without
2	Guide Carriage Slideline SL Ø 25-63

**End cap position (air connection)**

**Cylinder L (left end side)**

**Cylinder R (right end side)**

## Recirculating Ball Bearing Guide STARLINE Series STL 16 to 50 for Linear Drive

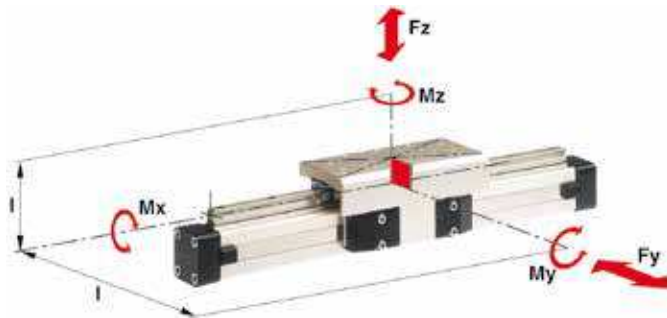


### Features:

- Polished and hardened steel guide rail
- For very high loads in all directions
- High precision
- Integrated wiper system
- Integrated grease nipples
- Any length of stroke up to 3700 mm
- Anodized aluminium guide carriage – dimensions compatible with OSP guides SLIDELINE
- Installation height (STL25 - 32) compatible with OSP-L guides SLIDELINE

- Maximum speed  
STL25 to 50: v = 5 m/s

### Loads, Forces and Moments



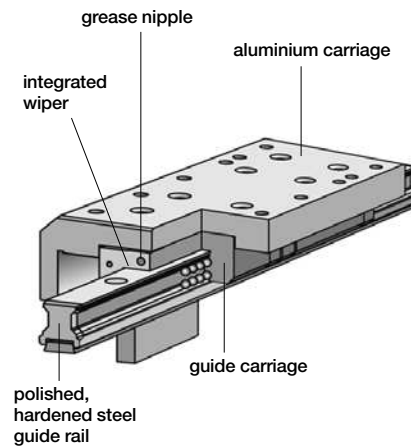
### Technical Data

The table shows the maximal permissible loads. If multiple moments and forces act upon the cylinder simultaneously, the following equation applies:

$$\frac{M_x}{M_{x_{max}}} + \frac{M_y}{M_{y_{max}}} + \frac{M_z}{M_{z_{max}}} + \frac{F_y}{F_{y_{max}}} + \frac{F_z}{F_{z_{max}}} \leq 1$$

The sum of the loads should not exceed >1.

The table shows the maximum permissible values for light, shock-free operation, which must not be exceeded even under dynamic conditions.



For further technical information see catalogue P-A4P012GB

**\* Please note:**

The mass of the carriage has to be added to the total moving mass when using the cushioning diagram

Series STL	For linear drive	Max. moments [Nm]			Max. loads [N]		Mass of linear drive with guide [kg]		Mass* of guide carriage [kg]	Order No. ** STARLINE Guide without cylinder
		Mx	My	Mz	Fy	Fz	with 0mm stroke	increase per 100mm stroke		
STL25	OSP-L25	50	110	110	3100	3100	1.733	0.369	0.835	21112
STL32	OSP-L32	62	160	160	3100	3100	2.934	0.526	1.181	21113
STL40	OSP-L40	150	400	400	4000	7500	4.452	0.701	1.901	21114
STL50	OSP-L50	in progress								

\*\* Please use this order pattern: Order-No. + "stroke in mm" (5 digits)

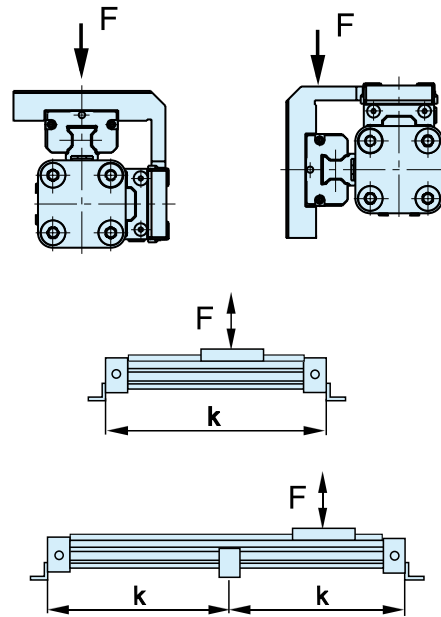
Example: STARLINE guide D25mm, stroke 1000mm: 21112-01000

## Mid-Section Support

Mid-section supports are required from a certain stroke length to prevent excessive deflection and vibration of the linear drive. The diagrams show the maximum permissible unsupported length in relation to loading. A distinction must be drawn between loading 1 and loading 2. Deflection of 0.5 mm max. between supports is permissible.

**Loading 1  
 Top carrier**

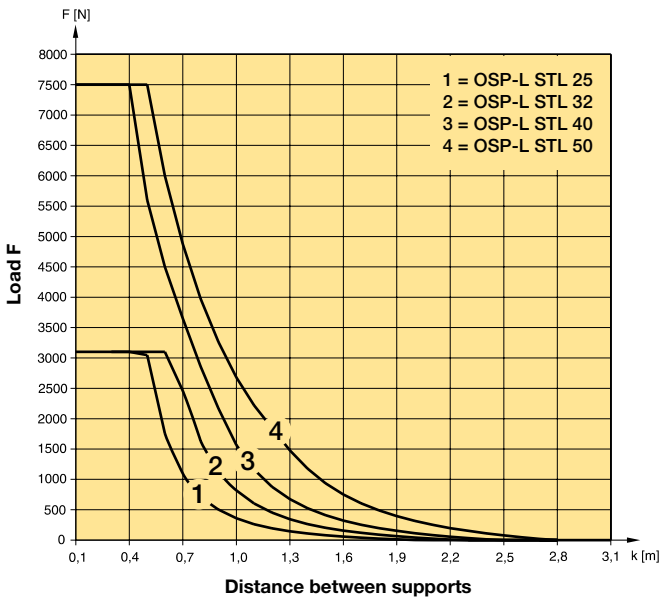
**Loading 2  
 Side carrier**



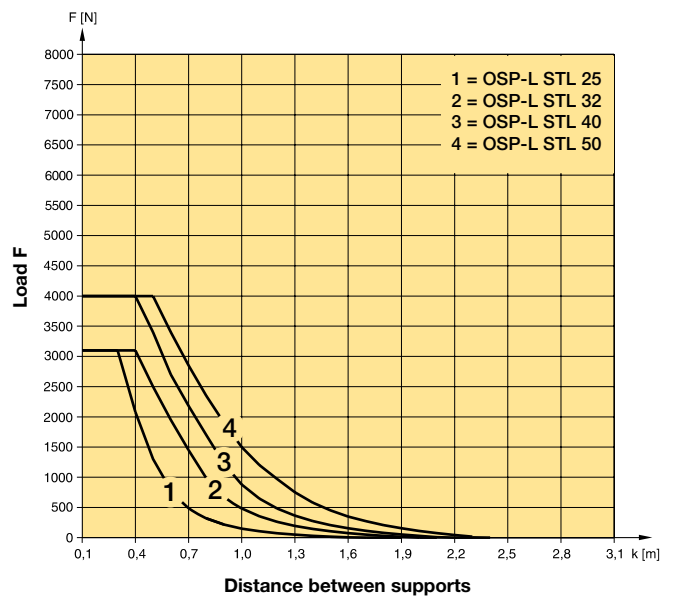
**Permissible Unsupported Length STL25 to STL50**

**Permissible Unsupported Length STL25 to STL50**

**Loading 1 – Top carrier**



**Loading 2 – Side carrier**



**Note:**

For speeds  $v > 0.5$  m/s the distance between supports should not exceed 1 m.

## Variable Stop

### Type VS25 to VS50

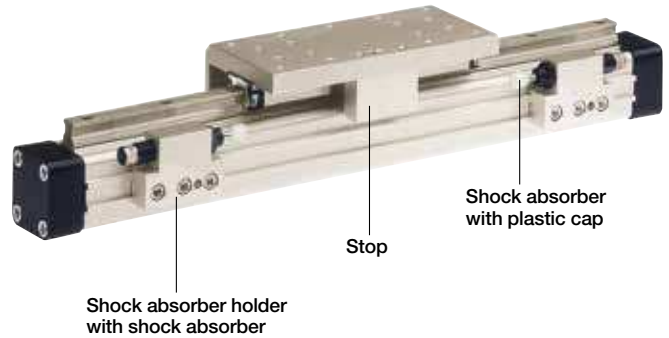
Arrangement with two variable stops

The variable stop Type VS provides simple stroke limitation. It can be retrofitted and positioned anywhere along the stroke length.

For every cylinder diameter two types of shock absorber are available – see „Shock Absorber Selection“ below.

Mid-section supports and magnetic switches can still be fitted on the same side as the variable stop.

Depending on the application, two variable stops can be fitted if required.

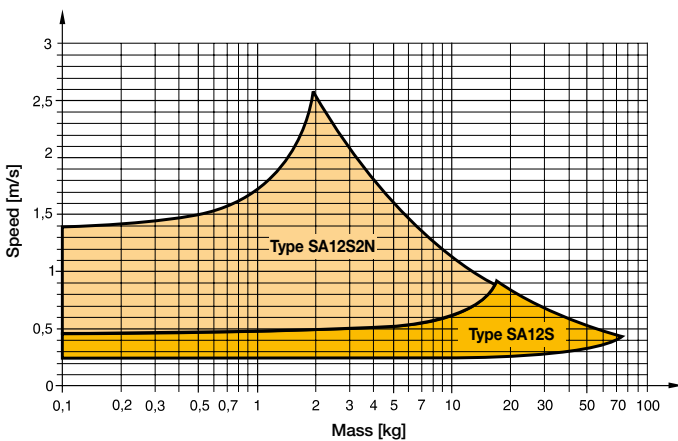


## Shock Absorber Selection

The shock absorber is selected in dependence on the mass and speed.

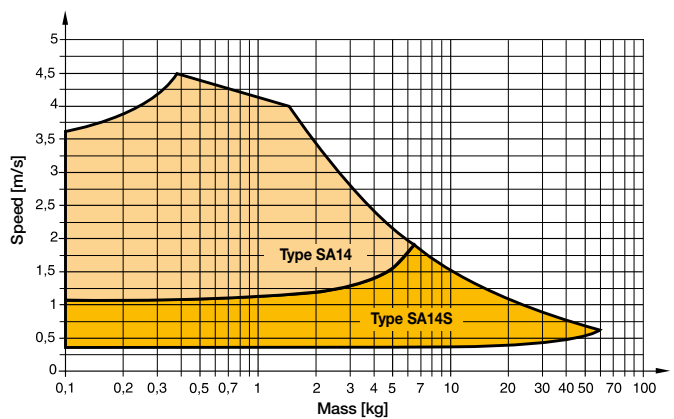
The mass of the carrier itself must be taken into account.

### Shock Absorber Selection in Dependence on Mass and Speed for Series OSP-L-STL25



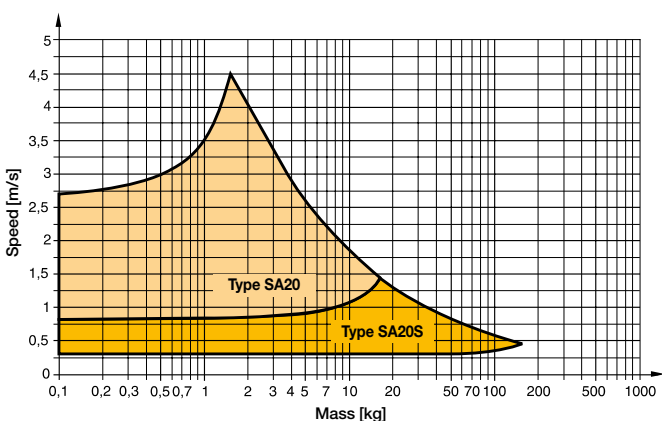
The values relate to an effective driving force of 250 N (6 bar)

### Shock Absorber Selection in Dependence on Mass and Speed for Series OSP-L-STL32



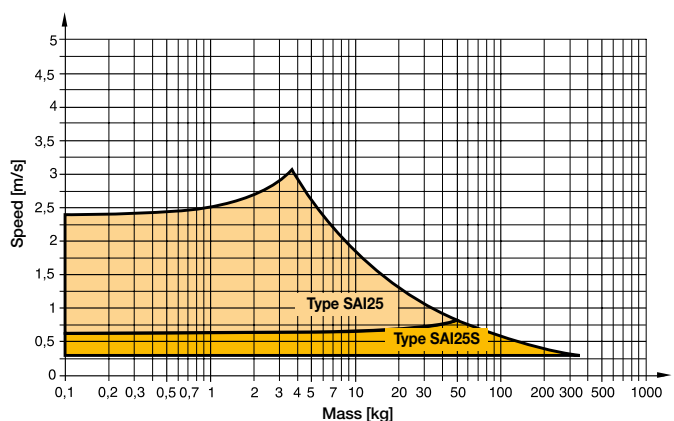
The values relate to an effective driving force of 420 N (6 bar)

### Shock Absorber Selection in Dependence on Mass and Speed for Series OSP-L-STL40



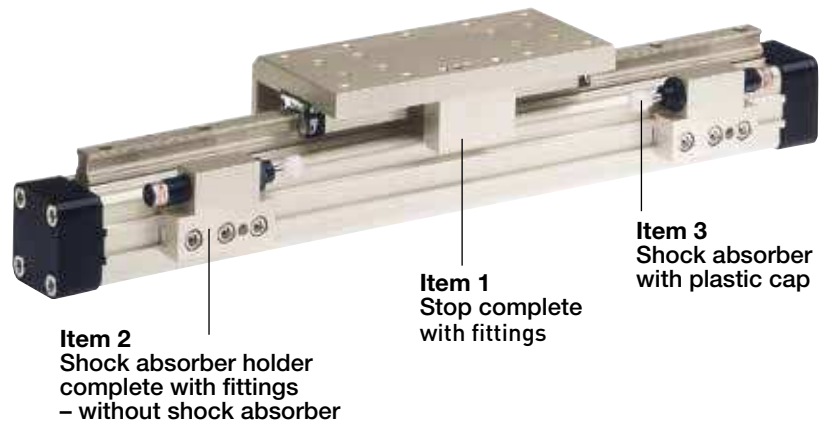
The values relate to an effective driving force of 640 N (6 bar)

### Shock Absorber Selection in Dependence on Mass and Speed for Series OSP-L-STL50



The values relate to an effective driving force of 1000 N (6 bar)

**Variable Stop**  
**Type VS25 to VS50**



**Order Instructions – Variable Stop Type VS25 to VS50**

**without cylinder and  
without guide**

Item	Description	Size							
		VS25		VS32		VS40		VS50	
		Type	Order-No.	Type	Order-No.	Type	Order-No.	Type	Order-No.
1	Stop, complete	-	21197FIL	-	21198FIL	-	21199FIL	in progress	
2	Shock absorber holder complete	-	21202FIL	-	21203FIL	-	21204FIL		
3 *	Shock absorber, soft	SA12S2N	7723FIL	SA14	7708FIL	SA20	7710FIL		
	Shock absorber, hard	SA12S	7707FIL	SA14S	7709FIL	SA20S	7711FIL		

\* Shock absorber with plastic cap

**Note: Order instructions for VS in combination with the Starline see page 176 pos.18**

For further technical information see catalogue P-A4P012GB

Order Instructions - STARLINE

1-4	5+6	7	8	9	10	11	12-16	17	18	19	20	21	22	23	24	25
<b>OSPL</b>	25	0	0	0	0	0	01100	0	0	0	0	0	0	0	0	0

<b>Piston-Ø</b>
25
32
40
in progress

<b>Stroke</b>
in mm (5 digits)

<b>Piston Mounting</b>
0 without

<b>Measuring system</b>
0 without

<b>Screws</b>
0 standard

<b>Cushioning</b>
0 standard
1 max. length
2 variable stop complete VS soft left for Starline
3 variable stop complete VS hard left for Starline,
4 variable stop complete VS soft right for Starline
5 variable stop complete VS hard right for Starline
6 variable stop complete VS soft both sides for Starline
7 variable stop complete VS hard both sides for Starline

<b>Cover / Cable Channel</b>
0 standard
1 Cable channel
2 Cable channel two-sided

<b>Version / Piston</b>
0 standard
1 Tandem

<b>Lubrication</b>
0 standard

<b>Air Connection</b>
0 standard
1 end face
2 both at one end
3 left standard right end face
4 right standard left end face
A 3/2 Way valve VOE 24 V = Ø 25,32,40,50
B 3/2 Way valve VOE 230 V~ / 110 V = Ø 25,32,40,50
C 3/2 Way valve VOE 48 V = Ø 25,32,40,50
E 3/2 Way valve VOE 110 V~ Ø 25,32,40,50

<b>Seals</b>
0 standard

<b>End cap position</b>
0 l+r 0° = in front
1 l+r 90° = underneath
2 l+r 180° = at the back
3 l+r 270° = same side as outerband
4 l 90° = underneath; r 0° = in front
5 l 180° = at the back; r 0° = in front
6 l 270° = same side as outerband; r 0° = in front
7 l 0° = in front; r 90° = underneath
8 l 180° = at the back; r 90° = underneath
9 l 270° = same side as outerband; r 90° = underneath
A l 0° = in front; r 180° = at the back
B l 90° = underneath; r 180° = at the back
C l 270° = same side as outerband; r 180° = at the back
D l 0° = in front; r 270° = same side as outerband
E l 90° = underneath; r 270° = same side as outerband
F l 180° = at the back; r 270° = same side as outerband

<b>Guides/ Brakes/ Inversion</b>
0 without
B Starline STL

<b>add. Guide Carriage</b>
0 without
B Guide Carriage Starline STL

**End cap position (air connection)**

270° same side as outerband

180° at the back

end-face

0° in front

90° underneath

Cylinder R (right end side)

Cylinder L (left end side)





# Magnetically coupled pneumatic cylinder P1Z ...

**No leakage**, with high magnetic coupling force



The P1Z is a rodless pneumatic cylinder with piston and carriage equipped with ring magnets.

Motion is transmitted via the magnetic force locking between the piston and the carriage.

The guided version consists of a carriage fitted with 4 plain bearings, guided on 2 guide rods the design provides high rigidity, accurate guidance and a non rotating movement.

- Double acting with guide
- Magnetically coupled without mechanical connection
- Mechanical protection in case of occasional overload due to magnetic uncoupling
- Piston chamber and Slide are pressure tight
- Pressure tight and leak free system
- With adjustable pneumatic end cushioning on both sides
- Carriage is free to rotate 360° around the cylinder axis
- Air connection at one end (option)
- Position sensing: Al-profile rail for magnetic switches (option). Magnetic switches available as reed switches or as electronic sensors (option).
- Various mounting arrangements

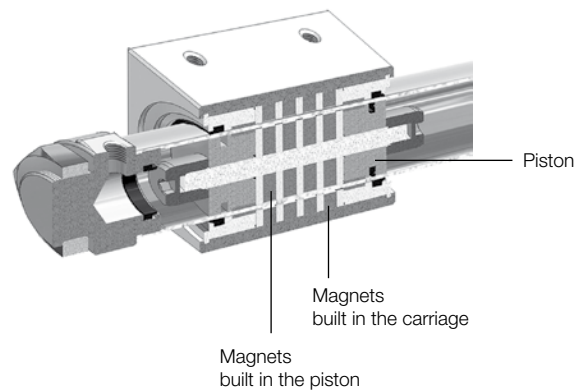
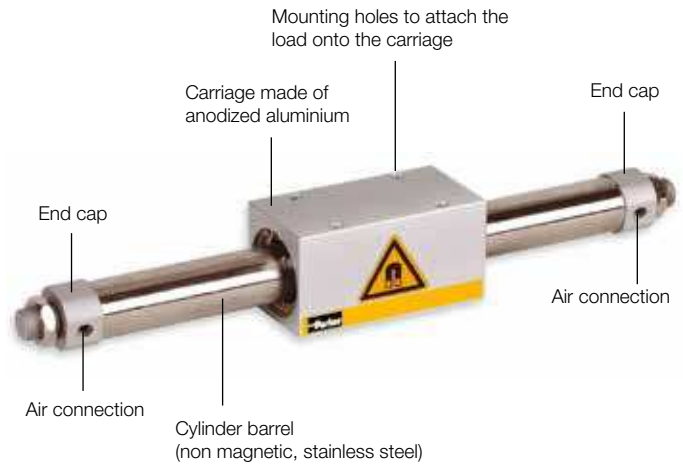
## P1Z Series - Basic Version

### Ø 16-40 mm

The P1Z is a rodless pneumatic cylinder. The piston and the carriage are equipped with ring magnets. The motion is transmitted via the magnetic force locking between the piston and the carriage.

#### Features:

- Double acting
- Magnetically coupled without mechanical connection
- Mechanical protection in case of occasional overload due to magnetic uncoupling
- Piston chamber and carriage are pressure tight
- Pressure tight and leak free system
- Dirt and dust cannot enter
- With adjustable pneumatic end cushioning on both sides
- Carriage is free to rotate 360° around the cylinder axis
- Various mounting arrangements



**Mounting and Technical Data**  
**Basic Version**

- The loads can be fitted onto the carriage by 4 tapped holes.
- The cylinder is mounted at the end caps with hexagonal nuts, flange or foot mountings.

**Materials**

Cylinder barrel	Stainless steel
Carriage	Al, anodised
End cap	Al, anodised
Seals	NBR



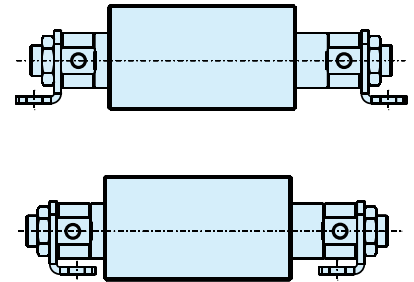
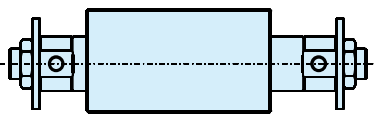
With 2 hexagonal nuts to fix the cylinder (included in scope of delivery)



Flange mounting (pair) option



Foot mounting (pair) option



**Technical Data**

<b>Piston diameter Ø [mm]</b>	<b>16</b>	<b>20</b>	<b>25</b>	<b>32</b>	<b>40</b>
Max. stroke length [mm]	1000	1500	2000	2000	2000
Stroke tolerance [mm] up to 1000 mm	0/+1.5				
Stroke tolerance [mm] > 1000 mm	0/+2				
Temperature range [°C]	0 to 60				
Operating medium	Filtered compressed air, dry, lubricated or unlubricated * (other media on request)				
Air supply port size	M5	G1/8	G1/8	G1/8	G1/4
Max. magnetic coupling force [N]	157	236	383	703	942
Velocity range [m/s]	0.1 to 1.3				
Min. operating pressure [bar]	1.8				
Max. operating pressure [bar]	6.5	7			
Cushion length [mm]	9	15	15	12	19
Weight [kg]					
at 0 mm stroke	0.28	0.46	0.83	1.35	2.01
per 100 mm stroke	0.043	0.082	0.088	0.14	0.16

\* if external lubrication is added, this must always be continued.

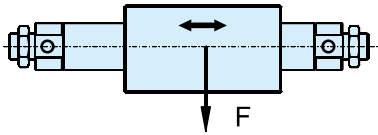
## Loads, forces and moments Basic Version

If the operating conditions are outside of the permissible values, either the P1Z guided version or the P1Z in combination with an external guide should be used !

### Forces [N]

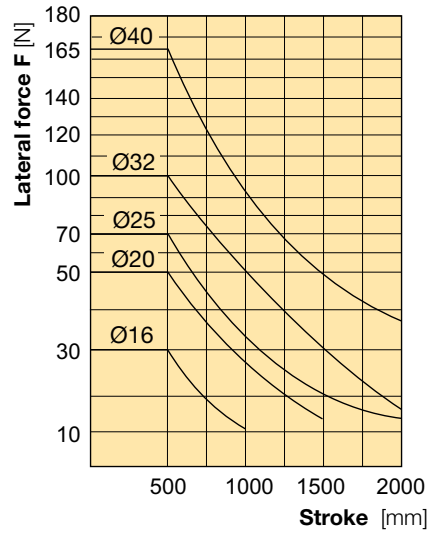
Piston [mm]	16	20	25	32	40
Theoretical force at 6 bar [N]	120	188	295	483	754
Max. magnetic coupling force [N]	157	236	383	703	942

### Permissible lateral force, depending on the stroke length

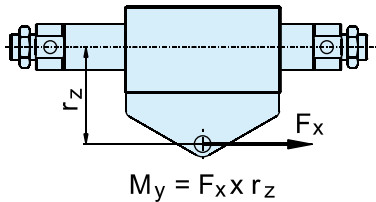


Ø [mm]	Permissible lateral force F [N]
16	30.0
20	50.0
25	70.0
32	100.0
40	165.0

The values are based on velocities  $v \leq 0.4 \text{ m/s}$

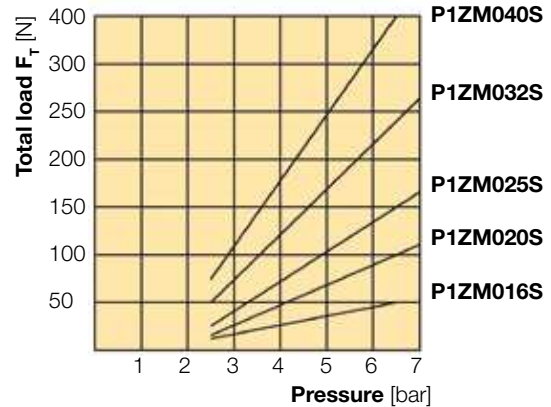
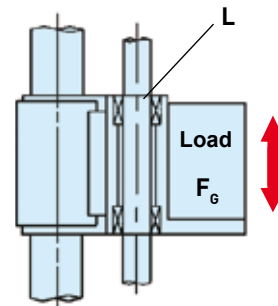


### Permissible axial load, horizontal mounting



Ø [mm]	Max. Moment My [Nm]
16	1.2
20	2.5
25	3.8
32	8.5
40	13.0

### Permissible axial load, vertical mounting



L = Weight of the external carriage

$F_G$  = Load

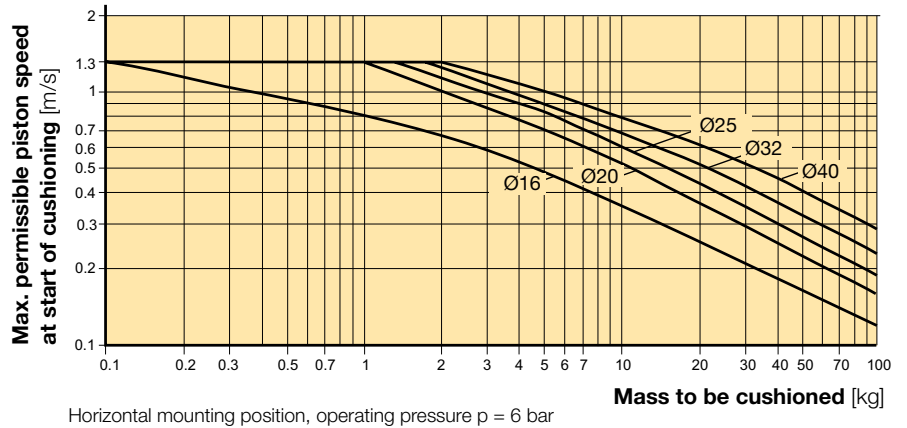
$F_T$  = Total load = Load  $F_G$  + Weight of the external carriage L + Force due to friction



**Dynamic forces must not exceed the maximum magnetic coupling force!**

**Cushioning diagram**

If the permitted limit values are exceeded, additional shock absorbers should be fitted in the area of the centre of gravity.

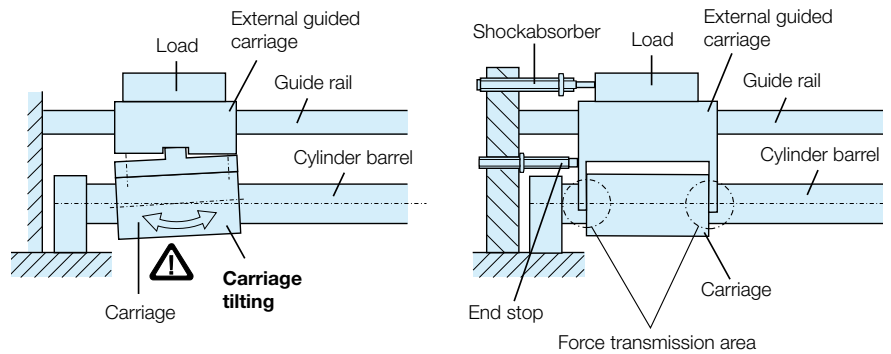


**Installation tips for use with external guides**

When stopping a load having a large inertia force at the stroke end, tilting of the carriage and damage to the bearings and cylinder barrel may occur (fig. left).

To prevent this, the force transmission should be realized at the middle axis of the cylinder.

The combination of the shock absorber with an end stop, can help to prevent the tilting of the carriage (fig. right).



Order Instructions - Basic Cylinder - Series P1Z

Basic cylinder (15 digits)												With option (18 digits)					
<b>P</b>	<b>1</b>	<b>Z</b>	<b>M</b>	<b>0</b>	<b>1</b>	<b>6</b>	<b>S</b>	<b>A</b>	<b>N</b>	<b>0</b>	<b>8</b>	<b>5</b>	<b>0</b>	<b>W</b>	<b>F</b>	<b>M</b>	<b>N</b>

Piston diameter	
<b>016</b>	Ø 16 mm
<b>020</b>	Ø 20 mm
<b>025</b>	Ø 25 mm
<b>032</b>	Ø 32 mm
<b>040</b>	Ø 40 mm

End of stroke cushioning	
<b>A</b>	Pneumatically adjustable (Ø 16, 20, 25, 32 and 40 mm)

Stroke length	
max. stroke [mm]	Piston Ø [mm]
<b>1000</b>	Ø 16
<b>1500</b>	Ø 20
<b>2000</b>	Ø 25
<b>2000</b>	Ø 32
<b>2000</b>	Ø 40

Options	
<b>B</b>	without
<b>W</b>	with

Mountings	
<b>N</b>	without
<b>F</b>	Foot mounting
<b>L</b>	Flange mounting

Air supply port type	
<b>M</b>	Metric thread (Ø 16 mm)
<b>B</b>	G-thread (Ø 20 - 40 mm)
(Other types on request)	

**Order code examples:**

- **P1ZM016SAN0100B**      Ø 16 mm, stroke 100 mm, supplied with hexagonal nuts on each end cap.
- **P1ZM020SAN1000WFBN**      Ø 20 mm, stroke 1000 mm, with foot mounting at both end caps.

For further technical information see catalogue P-A4P019GB

**P1Z Series - Guided Version**  
**Ø 16-40 mm**

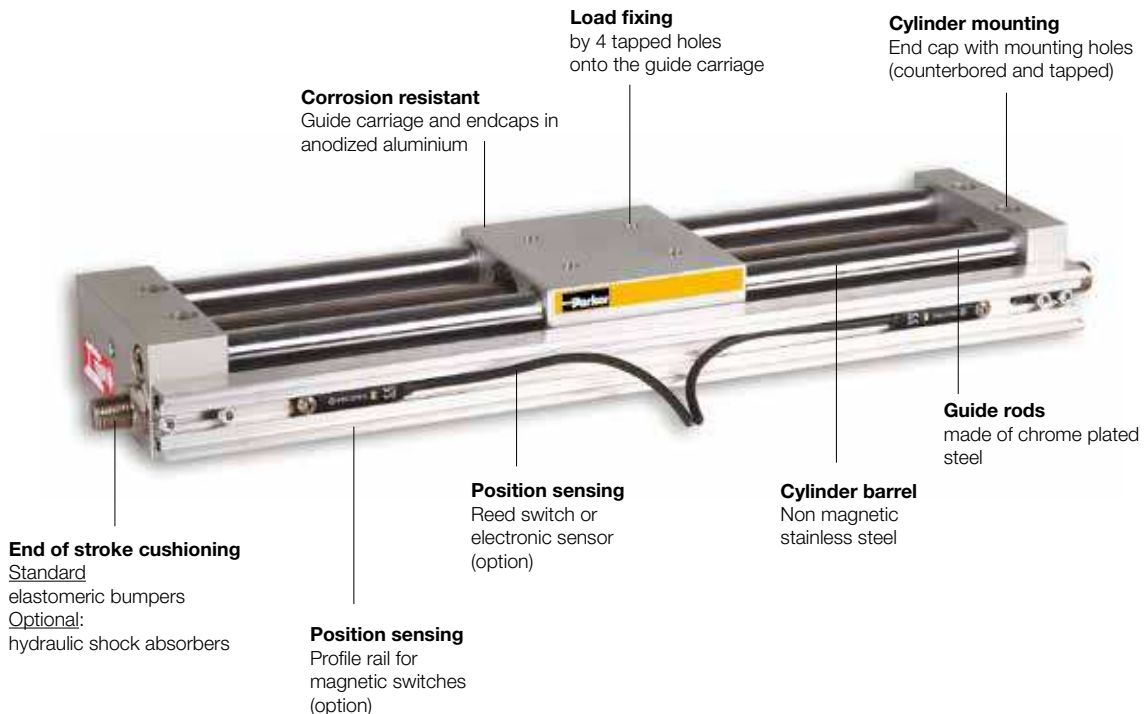
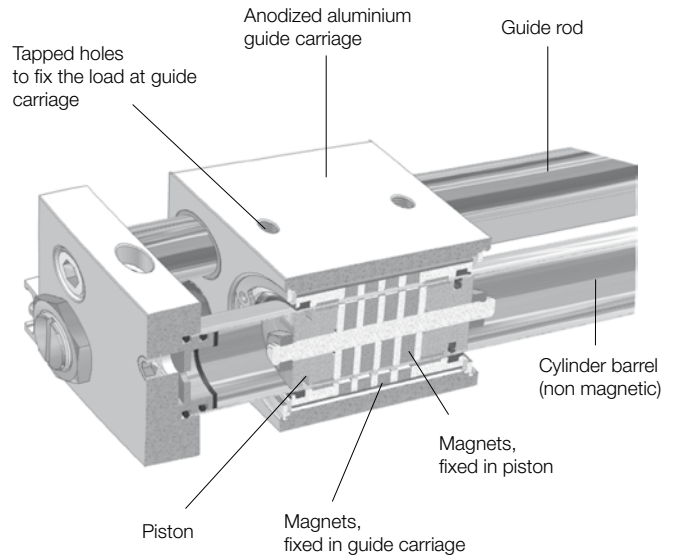
The P1Z is a rodless pneumatic cylinder with guide. The piston and the guide carriage are equipped with ring magnets.

The motion is transmitted via the magnetic force between the piston and the guide carriage.

The guided version consists of a carriage fitted with 4 plain bearings, guided on 2 guide rods. The design provides high rigidity, accurate guidance and a non rotating movement.

**Features:**

- Double acting with guide
- Magnetically coupled without mechanical connection
- Mechanical protection in case of occasional overload due to magnetic uncoupling
- Piston chamber and Slide are pressure tight
- Pressure tight and leak free system
- Air connection at one end (option)
- End of stroke cushioning: with elastomeric bumpers (standard), with hydraulic shock absorbers (option)
- Position sensing: Al-profile rail for magnetic switches (option). Magnetic switches available as reed switches or as electronic sensors (option).



**Guided Version  
Ø 16 - 40 mm**

**Air connection**



Guided version P1Z and air connection on both sides (standard)



Guided version P1Z and air connection at one end (option)

**End of stroke cushioning**

The end of stroke cushioning for light loads is provided by elastomeric bumpers (standard).

For medium and heavy loads hydraulic shock absorbers should be used (option).



Guided version P1Z and elastomeric bumpers (standard)



Guided version P1Z and hydraulic shock absorbers (option)

**Position sensing**

The guide carriage is fitted with a magnet for position sensing (standard)

An AI-profile rail for magnetic switches is available as an option. The rail is located on the same side as the elastomeric bumpers or the shock absorbers.

Reed switches or electronic sensors in several versions can be moved in the profile rail along the entire stroke length.



Guided version P1Z with magnet in the guide carriage for position sensing (standard).



Guided version P1Z and AI-profile rail for magnetic switches (option).



Guided version P1Z and AI-profile rail with 2 magnetic switches (option).



## Mounting and Technical Data

### Guided Version

The loads can be fixed onto the guide carriage by 4 tapped holes.

Cylinder mounting provided with 4 tapped and counterbored holes. Additional mountings are not required.

#### Materials

Cylinder barrel	Stainless steel
Carriage	Al, anodised
End cap	Al, anodised
Seals	NBR
Guide rods	Steel, chrome plated

#### Technical Data

Piston diameter Ø [mm]	16	20	25	32	40
Max. stroke length [mm]	750	1000	1500	1500	1500
Stroke tolerance [mm] up to 1000 mm	0/+1.5				
Stroke tolerance [mm] > 1000 mm	0/+2				
Temperature range [°C]	0 to 60				
Operating medium	Filtered compressed air, dry, lubricated or unlubricated * (other media on request)				
Air supply port size	M5	G1/8	G1/8	G1/8	G1/4
Max. magnetic coupling force [N]	157	236	383	703	942
Velocity range [m/s]	0.5 to 0.4				
Min. operating pressure [bar]	2.3	2			
Max. operating pressure [bar]	6.5	7			
Weight [kg]					
at 0 mm stroke	0.9	1.52	1.70	3.63	5.44
per 100 mm stroke	0.2	0.33	0.42	0.53	0.86

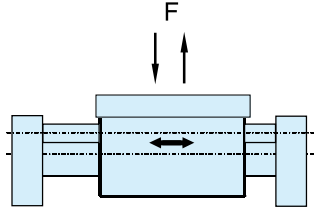
\* if external lubrication is added, this must always be continued.

**Loads, forces and moments**  
**Guided Version**

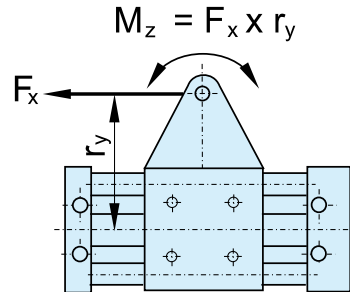
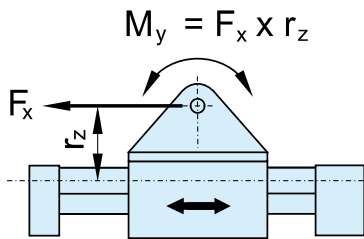
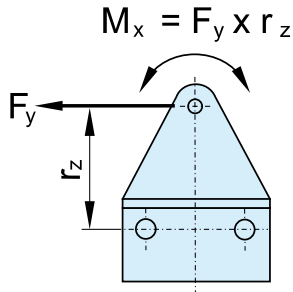
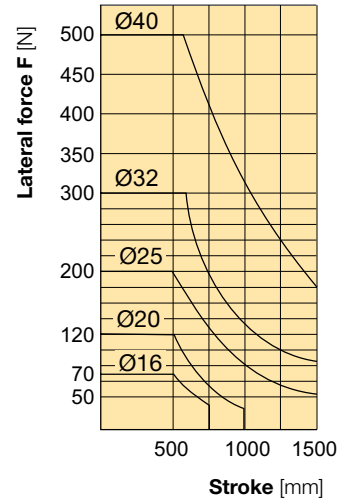
**Forces [N]**

Piston [mm]	16	20	25	32	40
Theoretical force at 6 bar [N]	120	188	295	483	754
Max. magnetic coupling force [N]	157	236	383	703	942

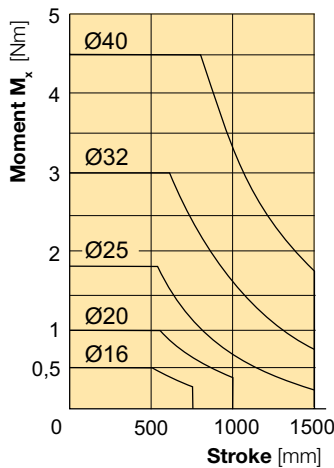
**Permissible lateral force, depending on the stroke length**



Ø [mm]	Max. Moment $M_x$ [Nm]	Max. Moment $M_y$ [Nm]	Max. Moment $M_z$ [Nm]
16	0.5	2.4	2.4
20	1.0	5.0	5.0
25	1.8	9.5	9.5
32	3.0	15.0	15.0
40	4.5	24.0	24.0



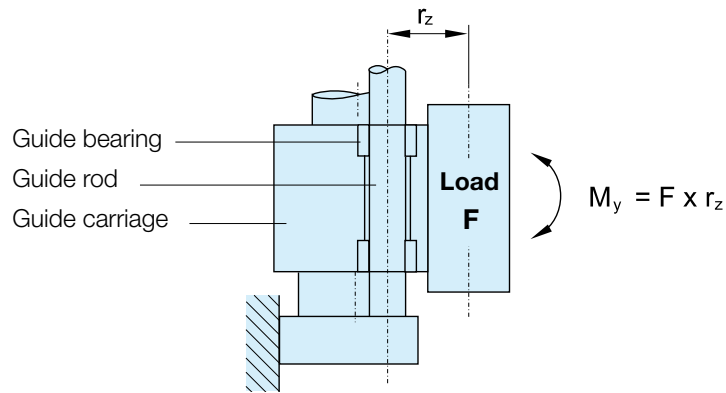
**Permissible moment  $M_x$  depending on the stroke length**



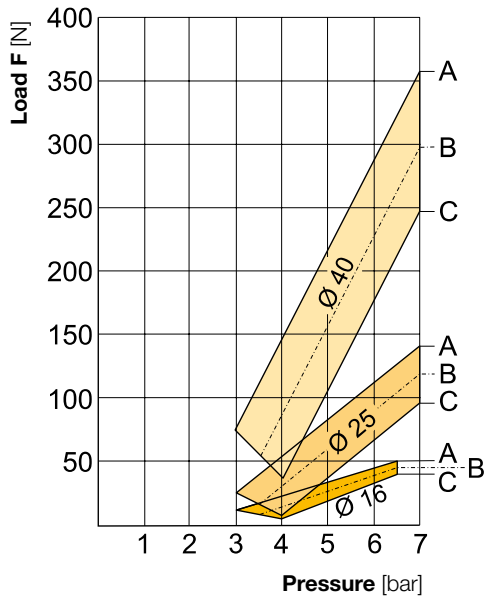
**Dynamic forces must not exceed the maximum magnetic coupling force!**

**Permissible axial load, vertical mounting**

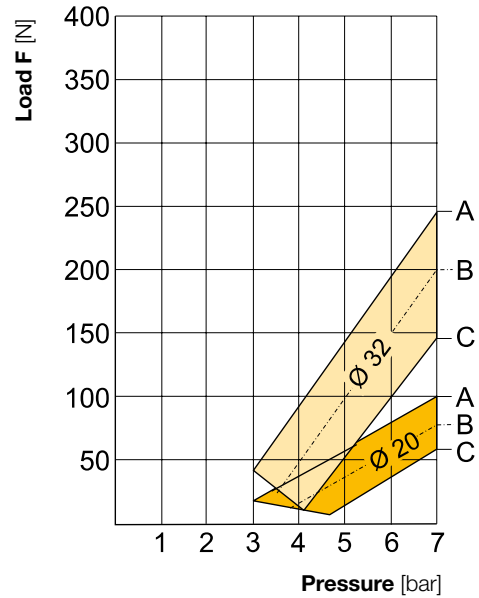
For vertical applications please refer to the values in the diagrams !



**Cylinder Ø 16, 25, 40**



**Cylinder Ø 20, 32**



Ø [mm]	Max. Load F [N]	B Max. Moment $M_y / 2$ [Nm]	C Max. Moment $M_y$ [Nm]
16	50.0	1.2	2.4
20	100.0	2.5	5.0
25	140.0	4.75	9.5
32	240.0	7.5	15.0
40	360.0	12.0	24.0

**A** = curve at moment  $M_y = 0$   
**B** = curve at moment  $M_y/2 =$  see **column B**  
**C** = curve at moment  $M_{y \max.} =$  see **column C**

Order Instructions - Guided version

Basic cylinder (15 digits)											With option (18 digits)						
P	1	Z	M	0	1	6	T	C	N	0	8	5	0	W	N	M	L

Piston diameter	
016	Ø 16 mm
020	Ø 20 mm
025	Ø 25 mm
032	Ø 32 mm
040	Ø 40 mm

Version	
G	Guided version and air connection on both sides
T	Guided version and air connection at one end

End of stroke cushioning	
C	with elastomeric bumpers
H	with two hydraulic shock absorbers

Stroke length	
max. stroke [mm]	piston Ø [mm]
750	Ø 16
1000	Ø 20
1500	Ø 25
1500	Ø 32
1500	Ø 40

Options	
B	without
W	with

Air supply port type	
M	Metric thread (Ø 16 mm)
B	G-thread (Ø 20 - 40 mm)
(Other types on request)	

Position sensing	
N	without
L	Al-profile without magnetic switch
S	2 Reed switches, 0.3 m with M8 connector, snap in
C	2 Reed switches, 3 m flying leads
K	2 Electronic sensors PNP 0.3 m with M8 connector, snap in
H	2 Electronic sensors PNP 3 m flying leads

Order code examples:

- P1ZM016TCN0100B      Cylinder guided version -Ø 16 mm, stroke 100 mm, with air connection at one end and elastomeric bumpers.

- P1ZM020GHN1000WNBL      Cylinder guided version -Ø 20 mm, stroke 1000 mm, with air connection on both sides, with two hydraulic shock absorbers and profile rail for magnetic switches.

For further technical information see catalogue P-A4P019GB

Cylinder bore mm	Series	Stroke	Bore mm	Piston rod mm	Area cm <sup>2</sup>	Max theoretical force in N										
						1.0 bar	2.0 bar	3.0 bar	4.0 bar	5.0 bar	6.0 bar	7.0 bar	8.0 bar	9.0 bar	10.0 bar	
10/4	P1A P1S	Double acting	+	10	4	0.8	8	15	23	31	39	46	54	62	69	77
			-	10	4	0.7	6	13	19	26	32	39	45	52	58	65
12/5	C05	Double acting	+	12	5	1.1	11	22	33	44	55	67	78	89	100	111
			-	12	5	0.9	9	18	28	37	46	55	64	73	83	92
12/6	P1A P1Q P1S	Double acting	+	12	6	1.1	11	22	33	44	55	67	78	89	100	111
			-	12	6	0.8	8	17	25	33	42	50	58	67	75	83
16/6	P1A P1S	Double acting	+	16	6	2.0	20	39	59	79	99	118	138	158	178	197
			-	16	6	1.7	17	34	51	68	85	102	119	136	153	170
16/8	P1Q	Double acting	+	16	8	2.0	20	39	59	79	99	118	138	158	178	197
			-	16	8	1.5	15	30	44	59	74	89	104	118	133	148
20/8	P1A P1S	Double acting	+	20	8	3.1	31	62	92	123	154	185	216	247	277	308
			-	20	8	2.6	26	52	78	104	129	155	181	207	233	259
20/10	C05 P1Q P5T	Double acting	+	20	10	3.1	31	62	92	123	154	185	216	247	277	308
			-	20	10	2.4	23	46	69	92	116	139	162	185	208	231
25/10	P1A P1Q P1S P5T	Double acting	+	25	10	4.9	48	96	144	193	241	289	337	385	433	482
			-	25	10	4.1	40	81	121	162	202	243	283	324	364	405
32/12	C05 P1D P1P P1Q P1S P1D-B P1D-C P1D-X	Double acting	+	32	12	8.0	79	158	237	316	394	473	552	631	710	789
			-	32	12	6.9	68	136	203	271	339	407	475	542	610	678
			+	32	12	8.0	80	161	241	322	402	483	563	643	724	804
			-	32	12	6.9	69	138	207	276	346	415	484	553	622	691
32/16	P5T	Double acting	+	32	16	8.0	79	158	237	316	394	473	552	631	710	789
			-	32	16	6.0	59	118	178	237	296	355	414	473	533	592
40/16	P1D P1D-C	Double acting	+	40	16	12,6	126	251	377	503	628	754	880	1005	1131	1257
			-	40	16	10,6	106	212	318	424	530	636	742	848	954	1060
40/12	P1P	Double acting	+	40	12	12,6	123	247	370	493	616	740	863	986	1109	1233
			-	40	12	11,4	112	224	337	449	561	673	785	897	1010	1122
40/16	P1Q P1D-B P1D-C P1D-X	Double acting	+	40	16	12,6	123	247	370	493	616	740	863	986	1109	1233
			-	40	16	10,6	104	207	311	414	518	621	725	828	932	1036
			+	40	16	12,6	126	251	377	503	628	754	880	1005	1131	1257
			-	40	16	10,6	106	212	318	424	530	636	742	848	954	1060
50/16	C05 P1P	Double acting	+	50	16	19,6	193	385	578	770	963	1156	1348	1541	1734	1926
			-	50	16	17,6	173	346	519	692	865	1037	1210	1383	1556	1729
50/20	P1D P1Q P1S P5T P1D-B P1D-C P1D-X	Double acting	+	50	20	19,6	193	385	578	770	963	1156	1348	1541	1734	1926
			-	50	20	16,5	162	324	485	647	809	971	1133	1295	1456	1618
			+	50	20	19,6	196	393	589	785	982	1178	1374	1571	1767	1963
			-	50	20	16,5	165	330	495	660	825	990	1155	1319	1484	1649

Cylinder bore mm	Series	Stroke	Bore mm	Piston rod mm	Area cm <sup>2</sup>	Max theoretical force in N										
						1.0 bar	2.0 bar	3.0 bar	4.0 bar	5.0 bar	6.0 bar	7.0 bar	8.0 bar	9.0 bar	10.0 bar	
63/16	C05 P1P	Double acting	+	63	16	31.2	306	612	917	1223	1529	<b>1835</b>	2141	2446	2752	3058
			-	63	16	29.2	286	572	858	1144	1430	<b>1717</b>	2003	2289	2575	2861
63/20	P1D P1Q P1S P5T P1D-B P1D-C P1D-X	Double acting	+	63	20	31.2	306	612	917	1223	1529	<b>1835</b>	2141	2446	2752	3058
			-	63	20	28.0	275	550	825	1100	1375	<b>1650</b>	1925	2200	2475	2750
			+	63	20	31,2	312	623	935	1247	1559	<b>1870</b>	2182	2494	2806	3117
			-	63	20	28,0	280	561	841	1121	1402	<b>1682</b>	1962	2242	2523	2803
			+	80	25	50.3	493	986	1479	1972	2466	<b>2959</b>	3452	3945	4438	4931
			-	80	25	45.4	445	890	1335	1780	2225	<b>2670</b>	3115	3560	4005	4450
80/25	P1D P1Q P1S P5T P1D-B P1D-C P1D-X	Double acting	+	80	25	50.3	503	1005	1508	2011	2513	<b>3016</b>	3519	4021	4524	5027
			-	80	25	45,4	454	907	1361	1814	2268	<b>2721</b>	3175	3629	4082	4536
			+	84	20	55.4	544	1087	1631	2175	2718	<b>3262</b>	3806	4349	4893	5436
			-	84	20	52.3	513	1026	1539	2051	2564	<b>3077</b>	3590	4103	4616	5128
			+	100	25	78.5	770	1541	2311	3082	3852	<b>4623</b>	5393	6164	6934	7705
			-	100	25	73.6	722	1445	2167	2889	3612	<b>4334</b>	5056	5779	6501	7223
100/25	P1D P1Q P1S P5T P1D-B P1D-C P1D-X	Double acting	+	100	25	78,5	785	1571	2356	3142	3927	<b>4712</b>	5498	6283	7069	7854
			-	100	25	73,6	736	1473	2209	2945	3682	<b>4418</b>	5154	5890	6627	7363
			+	114	20	101.9	1000	2000	3000	4000	5000	<b>6000</b>	7001	8001	9001	10001
			-	114	20	98.8	969	1939	2908	3877	4846	<b>5816</b>	6785	7754	8724	9693
			+	125	32	122.7	1204	2408	3612	4815	6019	<b>7223</b>	8427	9631	10835	12039
			-	125	32	114.7	1125	2250	3375	4500	5625	<b>6750</b>	7875	9000	10125	11250
125/32	P1D P1S P1D-B P1D-C P1D-X	Double acting	+	125	32	122,7	1227	2454	3682	4909	6136	<b>7363</b>	8590	9817	11045	12272
			-	125	32	114,7	1147	2294	3440	4587	5734	<b>6881</b>	8027	9174	10321	11468
			+	161	25	203.9	2000	4000	6000	8000	10000	<b>12000</b>	14000	16000	18000	20000
			-	161	25	199.0	1952	3904	5856	7808	9759	<b>11711</b>	13663	15615	17567	19519
160/40	P1E P1D-T	Double acting	+	160	40	201.1	1972	3945	5917	7890	9862	<b>11835</b>	13807	15779	17752	19724
			+	160	40	201,0	2010	4019	6029	8038	10048	<b>12058</b>	14067	16077	18086	20096
			-	160	40	188,4	1884	3768	5652	7536	9420	<b>11304</b>	13188	15072	16956	18840
200/40	P1E	Double acting	+	200	40	314.2	3082	6164	9246	12328	15410	<b>18491</b>	21573	24655	27737	30819
200/50	P1D-T	Double acting	+	200	50	314,2	3142	6283	9425	12566	15708	<b>18850</b>	21991	25133	28274	31416
			-	200	50	294,5	2945	5891	8836	11781	14727	<b>17672</b>	20617	23562	26508	29453
250/28	C0P2500	Double acting	+	250	28	490.9	4815	9631	14446	19262	24077	<b>28893</b>	33708	38524	43339	48155
			-	250	28	484.7	4755	9510	14265	19020	23776	<b>28531</b>	33286	38041	42796	47551
250/50	P1D-T	Double acting	+	250	50	490,9	4909	9818	14726	19635	24544	<b>29453</b>	34362	39270	44179	49088
			-	250	50	471,3	4713	9425	14138	18850	23563	<b>28275</b>	32988	37700	42413	47125
320/63	P1D-T	Double acting	+	320	63	804,25	8043	16085	24128	32170	40213	<b>48255</b>	56298	64340	72383	80425
			-	320	63	773,1	7731	15462	23192	30923	38654	<b>46385</b>	54116	61846	69577	77308

+ = Outward stroke  
- = Return stroke

**Note!**

Select a theoretical force 50-100% larger than the force required

The Force Guide is only for double acting cylinders, please look into the technical catalogue for every individual single acting cylinder to see the forces.

**Note!** For all single acting cylinders you have to reduce the force in the table with the spring force to get the theoretical force.  
The spring force is not calculated to create any work, it is only to take the piston rod into the cylinder.



# Handling Products

# Handling Products

Comprising an innovative range of Universal Grippers, Rotary Actuators and Precision Slide Tables



Parker is about motion control engineering, manufacturing, application expertise and unparalleled customer service.

Parker automation products are found just about everywhere — from laboratories, cleanrooms and factory floors, to mines, foundries and satellites in space — our products are used anywhere machines, processes and people depend on reliable high-performance motion control.

Today's industrial automation applications demand the best in quality and productivity. Likewise, high-technology automation applications demand performance in quality throughput and precision.



**P5GA - Angular double acting, square jaw carriers**

The P5GA is a compact angular gripper with a closed angle of -10° and an open angle of +30°. With double acting mechanism the gripper is suitable for internal or external gripping applications. For flexible installation mounting is available on three sides and the anodised body has recessed sensor grooves.



- Bore sizes Ø12, 16, 20, 25 and 32mm
- Double acting
- Anodised corrosion protection
- Magnetic piston as standard
- Optional sensors

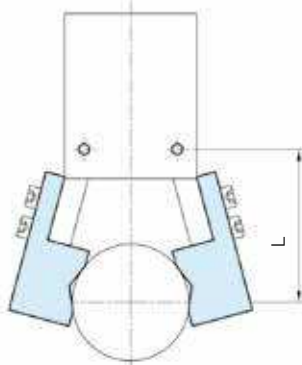
**Technical Information**

Acting type	Double acting					
Bore (mm)	12	16	20	25	32	
Port size	M3 x 0.5		M5 x 0.8			
Medium	Air					
Operating pressure range	1.5 - 7 bar					
Temperature range	-5 to +60°C (no freezing)					
Max frequency	180 Cycles/min					
Lubrication	Cylinder	Not required				
Lever	Grease					
Max. arm length mm (L)	30	40	60	70	85	
Theoretical holding force kgf-cm						
	Closed side	0.4xP	0.9xP	1.7xP	3.4xP	6.1xP
	Opened side	0.5xP	1.2xP	2.3xP	4.4xP	8.1xP
Clamp / Release angle	-10 to +30°					
Clamping force (F)	$F = M / L \times 0.85$					
Weight (g)	53	103	193	327	525	
L : Arm length (mm), M : Theoretical moment (kgf-cm)						
F : Clamping force (kgf), P : Operating pressure (kgf/cm <sup>2</sup> )						
For more information see <a href="http://www.parker.com/euro_pneumatic">www.parker.com/euro_pneumatic</a>						

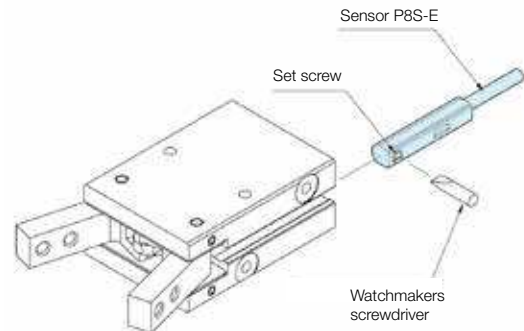
**P5GA - Angular Grippers**

Bore mm	Order code
12	<b>P5GA-012MSG030B</b>
16	<b>P5GA-016MSG030B</b>
20	<b>P5GA-020MSG030B</b>
25	<b>P5GA-025MSG030B</b>
32	<b>P5GA-032MSG030B</b>

**Length of gripping point**



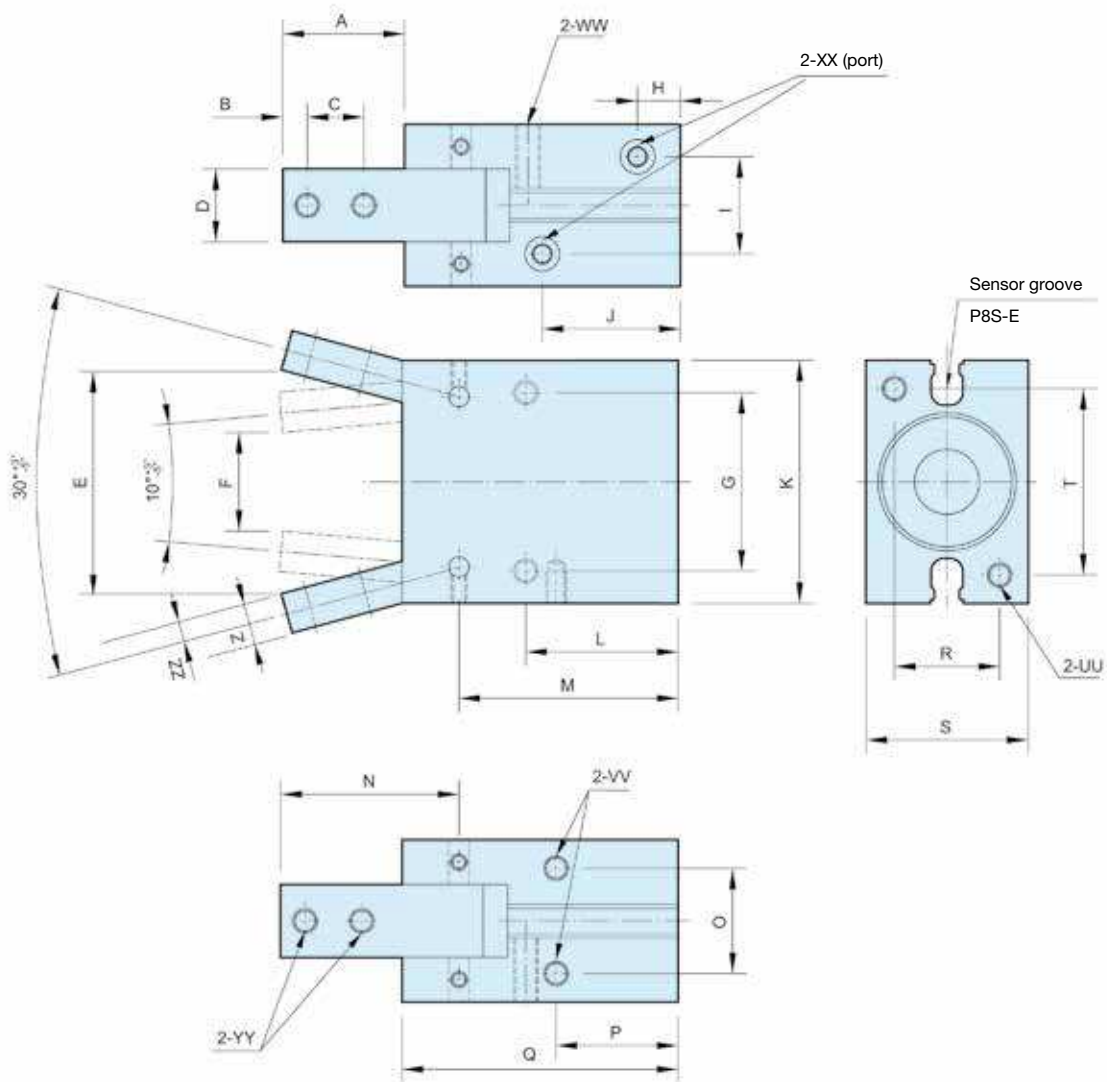
**Installation of sensor**



**Sensors - Series P8S-E**

Magnetic Sensor	M8 - Snap in	Flying lead
	0.165 m PUR cable with M8 connector	2 m PUR cable
PNP	<b>P8S-EPSUS</b>	<b>P8S-EPFXS</b>
NPN	<b>P8S-ENSUS</b>	<b>P8S-ENFXS</b>
Reed	<b>P8S-ERSUS</b>	<b>P8S-ERFXS</b>

Dimensions (mm)



Bore mm	A	B	C	D 0/-0.03	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
12	15,4	3	6	7	26,3	9	20	7,5	10,2	23,5	28	20	32,9	21,5	10,2	16	39	10	16	22
16	17,5	3	8	9	31,1	14	24	7,5	12	22	34	22,5	35	25	14	18	42,5	14	22	26
20	22	4	10	12	40,1	18	30	8	13	25	45	25	39,5	32,5	16	19	50	16	26	35
25	26	5	12	14	47,9	21	36	8,5	18	28	52	28,5	45,5	38,5	20	21,5	58	20	32	40
32	30	6	14	18	55,1	24	44	10,5	24	34	60	37,5	54	44	26	30	68	26	40	46

Bore mm	UU	VV	WW	XX	YY	Z	ZZ
12	M3 x 5 depth	M3 x 5 depth	M3 x 5 depth	M3 x 5 depth	M3	5	2,5
16	M4 x 7 depth	M4 x 7 depth	M4 x 7 depth	M5 x 5 depth	M3	6	3
20	M5 x 8 depth	M5 x 8 depth	M5 x 8 depth	M5 x 5 depth	M4	7	3,5
25	M6 x 10 depth	M6 x 10 depth	M6 x 10 depth	M5 x 5 depth	M5	9	4
32	M6 x 10 depth	M6 x 10 depth	M6 x 10 depth	M5 x 5 depth	M6	10	5

## P5GB - Parallel double acting, square jaw carriers

Available with a comprehensive range of bore sizes Ø12 - 32 mm the P5GB double acting parallel gripper is an accurate workpiece holding device. The anodised aluminium body has flexible installation mountings on three sides and recessed sensor grooves.

- Bore sizes Ø12, 16, 20, 25 and 32mm
- Double acting
- Anodised corrosion protection
- Magnetic piston as standard
- Optional sensors



### Technical Information

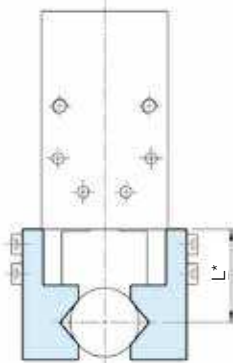
Acting type	Double acting					
Bore (mm)	12	16	20	25	32	
Port size	M3x0.5		M5 x 0.8			
Medium	Air					
Operating pressure range	1.5 - 7 bar					
Temperature range	-5 to +60°C (no freezing)					
Max frequency	180 Cycles/min					
Lubrication	Cylinder	Not required				
Lever	Grease					
Max. arm length mm (L)	30	40	60	70	85	
Theoretical holding force kgf-cm	Closed side	0.8	2.4	4.7	7.5	10
	Opened side	0.5	1.8	3.5	6.0	8.5
Lever open / closed stroke	6	8	12	14	16	
Weight (g)	66	144	255	419	719	

### P5GB - Parallel Grippers

Bore mm	Order code
12	<b>P5GB-012MSG006B</b>
16	<b>P5GB-016MSG008B</b>
20	<b>P5GB-020MSG012B</b>
25	<b>P5GB-025MSG014B</b>
32	<b>P5GB-032MSG016B</b>

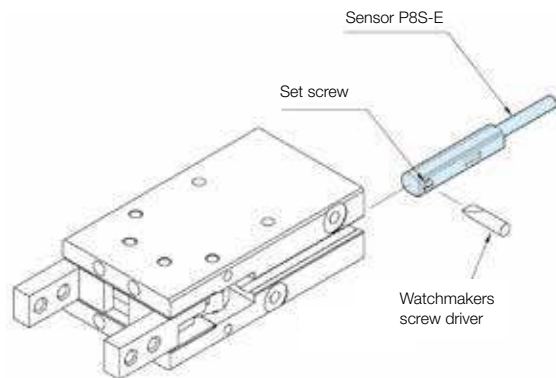
For more information see [www.parker.com/euro\\_pneumatic](http://www.parker.com/euro_pneumatic)

### Length of gripping point



\* L = gripping joint length 30mm, pressure 5kgf/cm<sup>2</sup>

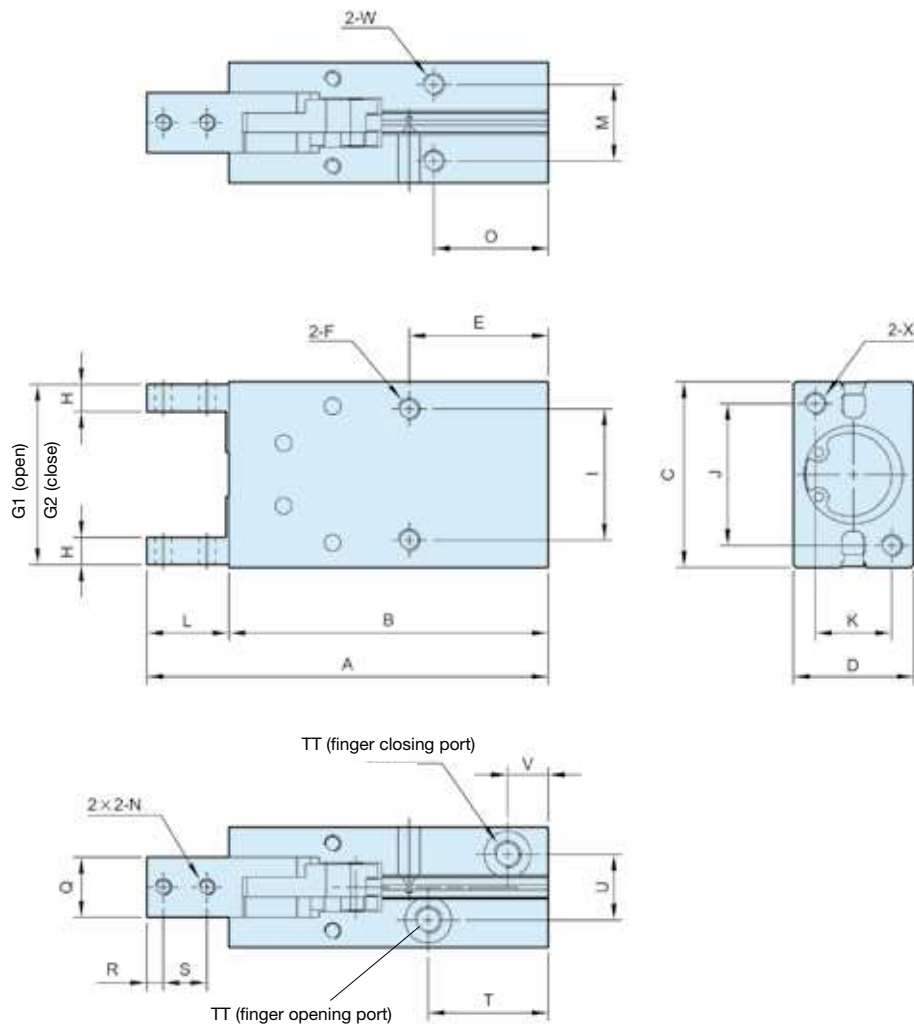
### Installation of sensor



### Sensors - Series P8S-E

Magnetic Sensor	M8 - Snap in	Flying lead
	0.165 m PUR cable with M8 connector	2 m PUR cable
PNP	<b>P8S-EPSUS</b>	<b>P8S-EPFXS</b>
NPN	<b>P8S-ENSUS</b>	<b>P8S-ENFXS</b>
Reed	<b>P8S-ERSUS</b>	<b>P8S-ERFXS</b>

Dimensions (mm)



Bore mm	A	B	C	D	E	F	G1	G2	H	I	J	K	L	M	N	O	Q 0/-0.03	R
12	63,5	50,5	28	16	20	M3 x 0.5 x 5 depth	27	21	4	18	17	10	13	10	M3 x 0.5	16	7	3
16	73,5	58,5	34	22	25,5	M4 x 0.7 x 11 depth	33	25	5	24	26	14	15	14	M3 x 0.5	21	11	3
20	88,5	69,5	45	26	25	M5 x 0.8 x 8 depth	44	32	6	30	35	16	19	16	M4 x 0.7	19	12	4
25	102,5	78,5	52	32	28	M6 x 1.0 x 10 depth	51	37	8	36	40	20	24	20	M5 x 0.8	22	14	5
32	120,5	90,5	60	40	34	M6 x 1.0 x 10 depth	59	43	10	44	46	24	30	26	M6 x 1.0	26	20	7

Bore mm	S	T	TT	U	V	W	X
12	6	23	M5 x 0.8 x 5 depth	10,2	7,5	M3 x 0.5 x 5 depth	M3 x 0.5 x 5 depth
16	8	22	M5 x 0.8 x 5 depth	12	7,5	M4 x 0.7 x 7 depth	M4 x 0.7 x 7 depth
20	10	26	M5 x 0.8 x 5 depth	13	8	M5 x 0.8 x 8 depth	M5 x 0.8 x 8 depth
25	12	29	M5 x 0.8 x 5 depth	18	8,5	M6 x 1.0 x 10 depth	M6 x 1.0 x 10 depth
32	15	35	M5 x 0.8 x 5 depth	24	10,5	M6 x 1.0 x 10 depth	M6 x 1.0 x 10 depth

## P5GD - Parallel precision guided double acting, square jaw carriers

The P5GD is a parallel double acting gripper with integral linear guides that provide rigidity and high precision for the stainless steel jaw carriers. The anodised aluminium body has mounting points on four sides and integral sensors grooves.



- Bore sizes Ø10, 16, 20 and 25mm
- Double acting
- Stainless steel jaw carriers
- Anodised corrosion protection
- Magnetic piston as standard
- Optional sensors

### Technical Information

Acting type	Double acting			
Bore (mm)	10	16	20	25
Port size	M3 x 0.5	M5 x 0.8		
Medium	Air			
Operating pressure range	2 to 7 bar		1 to 7 bar	
Temperature range	-10 to +60°C (no freezing)			
Repeatability	± 0.01 mm			
Max operating frequency	180 Cycles/min			
Lubrication	Not required			
Weight (g)	55	125	250	460

### P5GD - Parallel Grippers

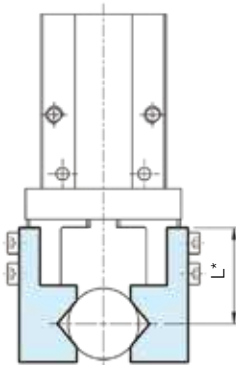
Bore mm	Order code
10	<b>P5GD-010MSG004B</b>
16	<b>P5GD-016MSG006B</b>
20	<b>P5GD-020MSG010B</b>
25	<b>P5GD-025MSG014B</b>

Bore	Gripping force <sup>(1)</sup>		Opening closing stroke (both sides) (mm)
	Gripping force per finger effective value N (kgf)		
10	External 9.8 (1)	Internal 17 (1.7)	4
16	30 (3.1)	40 (4.1)	6
20	42 (4.3)	66 (6.7)	10
25	65 (6.6)	104 (10.6)	14

<sup>1)</sup> Values based on pressure of 0.5 MPa (5.1 kgf/cm<sup>2</sup>)

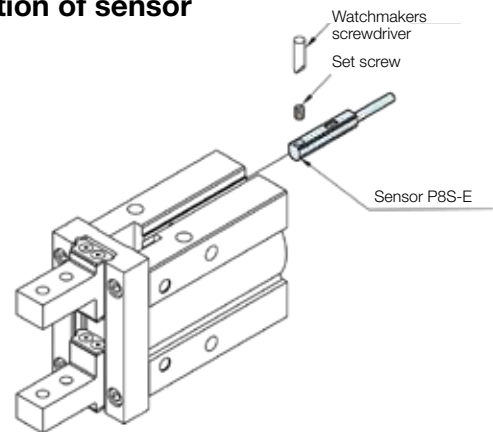
For more information see [www.parker.com/euro\\_pneumatic](http://www.parker.com/euro_pneumatic)

### Length of gripping point



\* L = Gripping point L = 20mm at center of stroke

### Installation of sensor



### Sensors - Series P8S-E

#### Magnetic Sensor

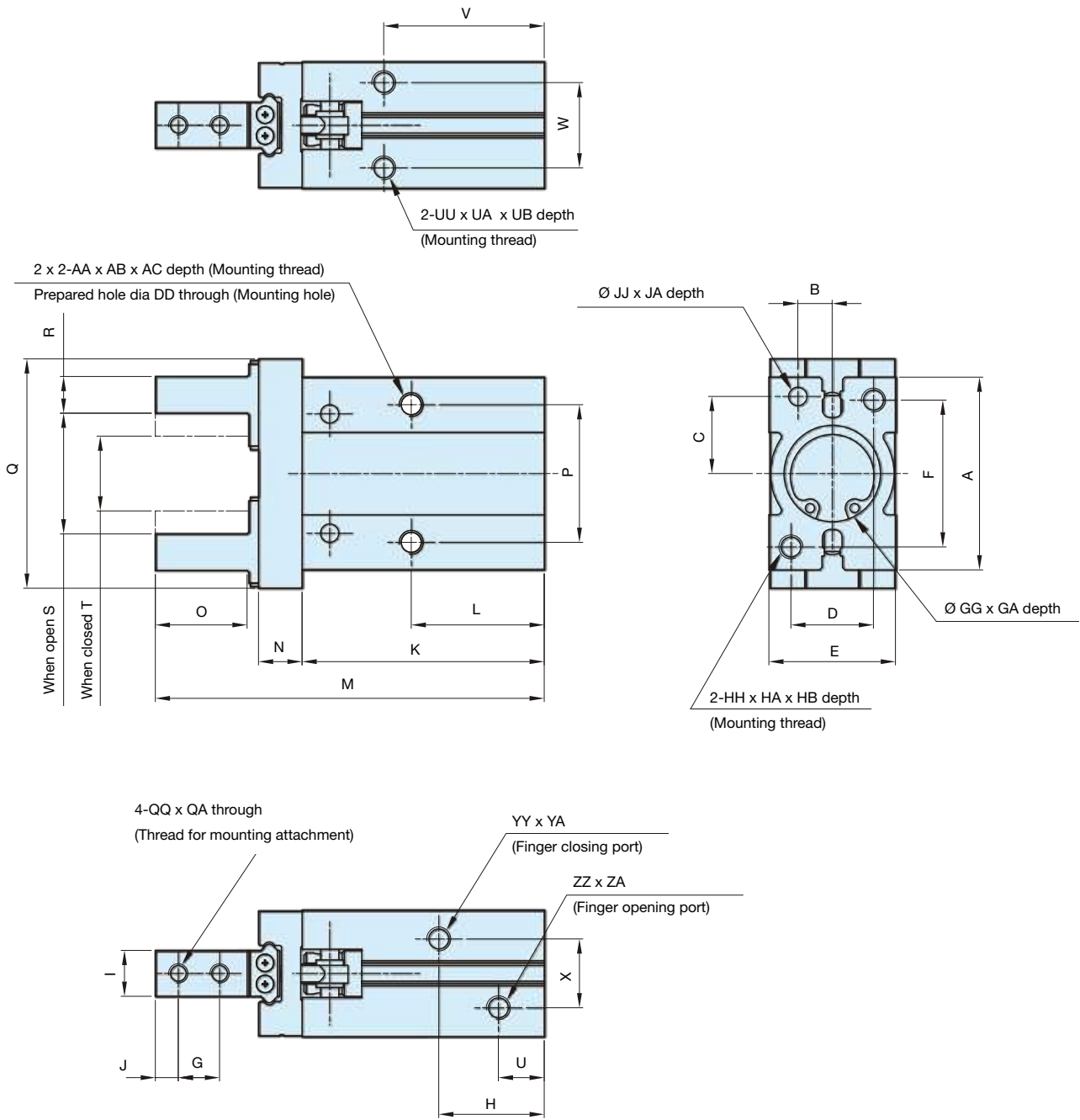
#### M8 - Snap in

#### Flying lead



	0.165 m PUR cable with M8 connector	2 m PUR cable
PNP	<b>P8S-EPSUS</b>	<b>P8S-EPFXS</b>
NPN	<b>P8S-ENSUS</b>	<b>P8S-ENFXS</b>
Reed	<b>P8S-ERSUS</b>	<b>P8S-ERFXS</b>

Dimensions (mm)



Bore mm	A	AA	AB	AC	B	C	D	DD	E	F	G	GG	GA	H	HH	HA	HB	I	J	JJ	JA	K	L	M
10	23	M3	0.5	5.5	5.2 <sup>+0.025</sup> <sub>0</sub>	7.6 <sup>+0.02</sup> <sub>-0.02</sub>	12	2.6	16.4 <sup>+0.05</sup> <sub>-0.05</sub>	18	5.7	11H9 <sup>+0.043</sup> <sub>0</sub>	2	19	M3	0.5	6	5 <sup>0</sup> <sub>-0.05</sub>	3	2H9 <sup>+0.025</sup> <sub>0</sub>	3	37.8	23	57
16	30.6	M4	0.7	8	6.5 <sup>+0.25</sup> <sub>0</sub>	11 <sup>+0.02</sup> <sub>-0.02</sub>	15	3.4	23.6 <sup>+0.05</sup> <sub>-0.05</sub>	22	7	17H9 <sup>+0.043</sup> <sub>0</sub>	2	19	M4	0.7	8	8 <sup>0</sup> <sub>-0.05</sub>	4	3H9 <sup>+0.025</sup> <sub>0</sub>	3	42.5	24.5	67.3
20	42	M5	0.8	10	7.5 <sup>+0.030</sup> <sub>0</sub>	16.8 <sup>+0.02</sup> <sub>-0.02</sub>	18	3.4	27.6 <sup>+0.05</sup> <sub>-0.05</sub>	32	9	21H9 <sup>+0.052</sup> <sub>0</sub>	3	23	M5	0.8	10	10 <sup>0</sup> <sub>-0.05</sub>	5	4H9 <sup>+0.030</sup> <sub>0</sub>	4	52.8	29	84.8
25	52	M6	1	12	10 <sup>+0.02</sup> <sub>-0.02</sub>	21.8 <sup>+0.02</sup> <sub>-0.02</sub>	22	5.1	33.6 <sup>+0.05</sup> <sub>-0.05</sub>	40	12	21H9 <sup>+0.052</sup> <sub>0</sub>	3.5	23.5	M6	1	12	12 <sup>0</sup> <sub>-0.05</sub>	6	4H9 <sup>+0.02</sup> <sub>-0.02</sub>	4	63.6	30	102.7
Bore mm	N	O	P	Q	QQ	QA	R	S	T	U	UU	UA	UB	V	W	X	YY	YA	ZZ	ZA				
10	6	12	16	29	M2.5	0.45	4 <sup>0</sup> <sub>-0.1</sub>	15.2 <sup>+2.2</sup> <sub>0</sub>	11.2 <sup>0</sup> <sub>-0.7</sub>	9	M3	0.5	6	27	11.4	10	M3	0.5	M3	0.5				
16	7.5	15	24	38	M3	0.5	5 <sup>0</sup> <sub>-0.1</sub>	20.9 <sup>+2.2</sup> <sub>0.2</sub>	14.9 <sup>0</sup> <sub>-0.7</sub>	8.5	M4	0.7	4.5	30	16	13	M5	0.8	M5	0.8				
20	9.5	20	30	50	M4	0.7	8 <sup>0</sup> <sub>-0.1</sub>	26.3 <sup>+2.2</sup> <sub>0.2</sub>	16.3 <sup>0</sup> <sub>-0.7</sub>	10	M5	0.8	8	35	18.6	15	M5	0.8	M5	0.8				
25	11	25	36	63	M5	0.8	10 <sup>0</sup> <sub>-0.1</sub>	33.3 <sup>+2.2</sup> <sub>0.2</sub>	19.3 <sup>0</sup> <sub>-0.8</sub>	9.7	M6	1	10	36.5	22	20	M5	0.8	M5	0.8				

## P5GL - 180° Angular double acting, cam style, square jaw carriers

The P5GL is a 180° angular gripper of compact size and lightweight construction. With double acting movement high gripping forces are achieved via internal cams. The anodised body has mounting points on four sides and sensors can be fitted in any of the four integral grooves.



- Bore sizes Ø10, 16, 20 and 25mm
- Double acting
- Anodised corrosion protection
- Magnetic piston as standard
- Optional sensors

### P5GL - 180° Angular Grippers - Cam Style

Bore mm	Order code
10	<b>P5GL-010MSG180B</b>
16	<b>P5GL-016MSG180B</b>
20	<b>P5GL-020MSG180B</b>
25	<b>P5GL-025MSG180B</b>

#### Technical Information

Acting type	Double acting			
Bore (mm)	10	16	20	25
Medium	Air			
Operating pressure range	1 to 6 bar			
Temperature range	-10 to +60°C (no freezing)			
Repeatability	± 0.2 mm			
Max operating frequency	60 Cycles/min			
Lubrication	Not required			
Effective force (Nm) at (5kgf/cm <sup>2</sup> )	0.16	0.54	1.10	2.28
Operating angle (both sides)	Opened side	180° - 182°		
	Closed side	-3°		
Weight (g)	80	150	320	600

For more information see [www.parker.com/euro\\_pneumatic](http://www.parker.com/euro_pneumatic)

### Sensors - Series P8S-H

#### Magnetic Sensor



Reed NO

#### M8 - Snap in



0.165 m PUR cable with M8 connector

**P8S-HRSUS**

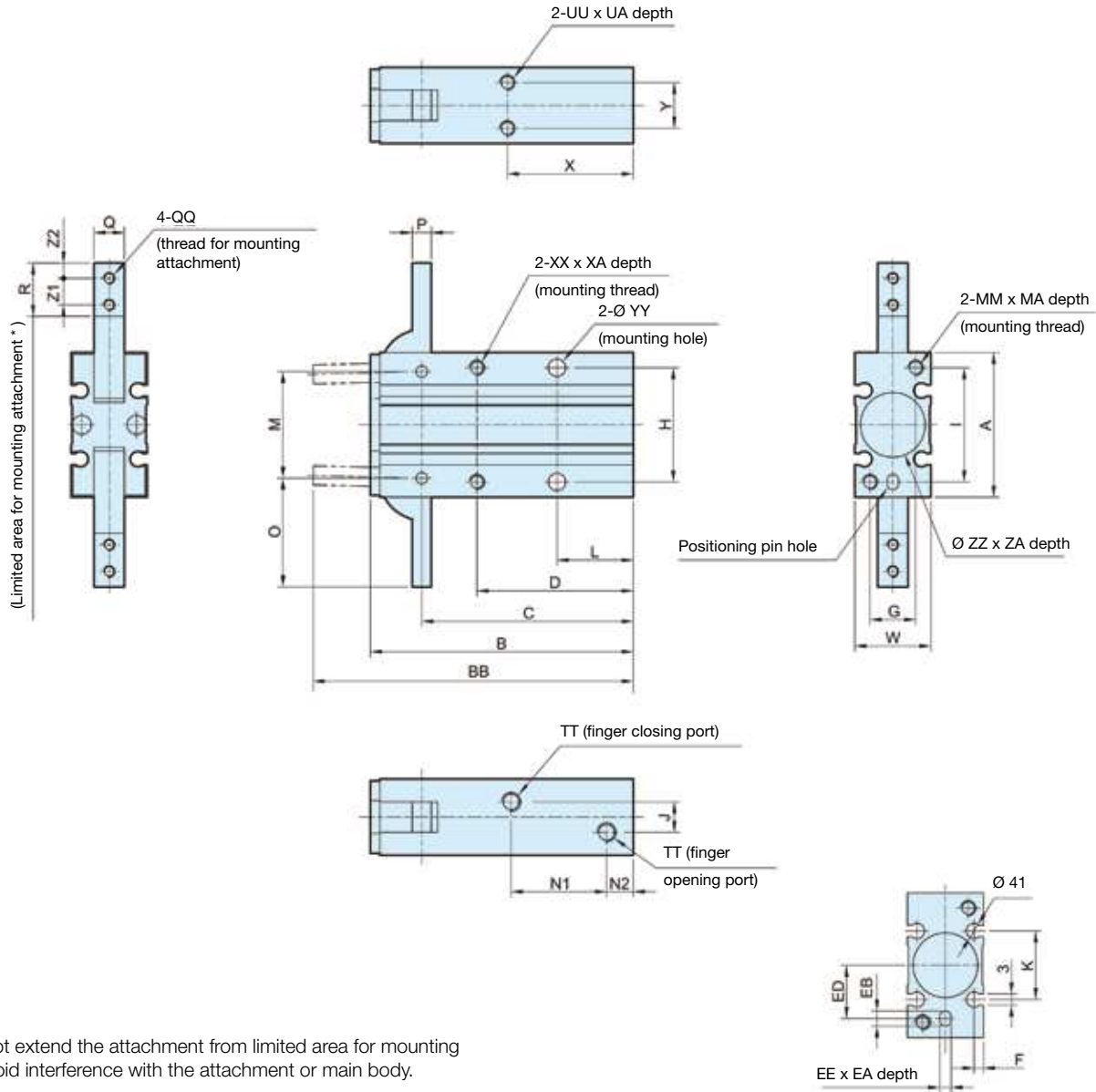
#### Flying lead



1 m PUR cable

**P8S-HRFCS**

**Dimensions (mm)**



\* Do not extend the attachment from limited area for mounting to avoid interference with the attachment or main body.

Bore mm	A	B	BB	C	D	EE	EA	EB	ED	F	G	H	I	J	K	L	M	MA	MM	N1	N2	O	P	Q
12	30	58	71	47,5	35	3H9 <sup>+0.025</sup> <sub>-0</sub>	3	4	9	2	9	24	24	3	13	18	22	6	M3 x 0.5	23	7	23,5	4	6 <sup>+0.005</sup> <sub>-0.025</sub>
16	38	69	84	55,5	41	3H9 <sup>+0.025</sup> <sub>-0</sub>	3	4	15	2,5	12	30	30	8	18	20	28	8	M4 x 0.7	25	7	28,5	5	8 <sup>+0.005</sup> <sub>-0.025</sub>
20	48	86	106	69	50	4H9 <sup>+0.030</sup> <sub>-0</sub>	4	5	19	3	16	36	38	12	20	25	36	10	M5 x 0.8	32	8	37	8	10 <sup>+0.005</sup> <sub>-0.025</sub>
25	58	107	131	86	60	4H9 <sup>+0.030</sup> <sub>-0</sub>	4	5	23	3	18	42	46	14	24	30	45	12	M6 x 1	42	8	45	10	12 <sup>+0.005</sup> <sub>-0.025</sub>

Bore mm	QH	QQ	R	TT	UA	UU	W	X	XA	XX	Y	YY	ZA	ZZ	Z1	Z2
12	3,4	M3 x 0.5	12	M5 x 0.8 x 5 depth	4	M3 x 0.5	15	30	6	M3 x 0.5	9	3,4	1,5	11H9 <sup>+0.043</sup> <sub>-0</sub>	6	3
16	3,4	M3 x 0.5	14	M5 x 0.8 x 5 depth	5	M4 x 0.7	20	33	8	M4 x 0.7	12	4,5	1,5	17H9 <sup>+0.043</sup> <sub>-0</sub>	7	4
20	4,5	M4 x 0.7	18	M5 x 0.8 x 5 depth	8	M5 x 0.8	26	42	10	M5 x 0.8	14	5,5	1,5	21H9 <sup>+0.052</sup> <sub>-0</sub>	9	5
25	5,5	M5 x 0.8	22,5	M5 x 0.8 x 5 depth	10	M6 x 1	30	50	12	M6 x 1	16	6,6	1,5	26H9 <sup>+0.052</sup> <sub>-0</sub>	12	6



## P5RS - Rotary Actuators

The P5RS rotary table units provide precise control even under heavy loads, with specially designed load fixing and centring capabilities. End stroke cushioning using supplied adjusting bolts or optional shock absorbers offers dependable linear cushioning enabling objects to be carried and positioned safely and securely.



- Bores Ø16, 20, 25 and 32mm
- Twin rack and pinion
- Adjustable between 0° and 190°
- Magnetic piston standard
- Stroke adjusters standard
- Optional shock absorbers bore Ø20 and 25mm
- Easy mounting of work piece

### Operating Information

Pressure range:	1 to 9 bar
Temperature range:	-5° to 60° C
Filtration requirements:	
Air filtration	40 micron or better
Air lubrication	Not necessary*
Air humidity	Low moisture content (dry)

\* Addition of lubrication will greatly increase service life

For more information see [www.parker.com/euro\\_pneumatic](http://www.parker.com/euro_pneumatic)

### Ordering Information: P5RS




Bore mm	Description	Ports (BSPP)	Rotation	Torque (N-m at 5 bar)	Weight (kg)	Order code
16	Rotary table, stroke adjusters	1/8	190 degrees	1.21	0.7	<b>P5RS-016DSG190B</b>
20	Rotary table, stroke adjusters	1/8	190 degrees	2.51	1.16	<b>P5RS-020DSG190B</b>
25	Rotary table, stroke adjusters	1/8	190 degrees	4.91	1.57	<b>P5RS-025DSG190B</b>
32	Rotary table, stroke adjusters	1/8	190 degrees	9.86	3.07	<b>P5RS-032DSG190B</b>

**Note:** Above units are supplied with rubber buffer stroke adjusters.

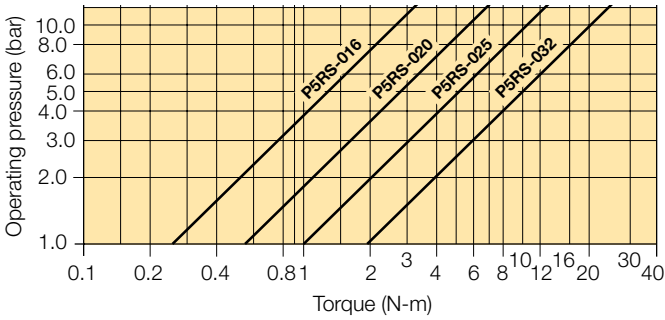
### Optional Shock Absorbers

Bore mm	Rotary Actuator	Order code
16	P5RS-016DSG190B	<b>N/A</b>
20	P5RS-020DSG190B	<b>N/A</b>
25	P5RS-025DSG190B	<b>MC150M</b>
32	P5RS-032DSG190B	<b>MC225M</b>

### Sensors - Series P8S-F

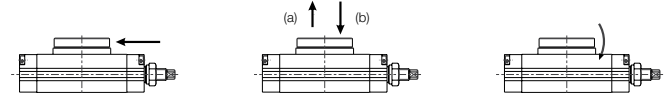
Magnetic Sensor	M8 - Snap in	Flying lead
		
Reed, NO	0.15 m PUR cable with M8 connector	2 m PUR cable
	<b>P8S-FRSUS</b>	<b>P8S-FRFXS</b>

Load capacity P5RS Rotary Table



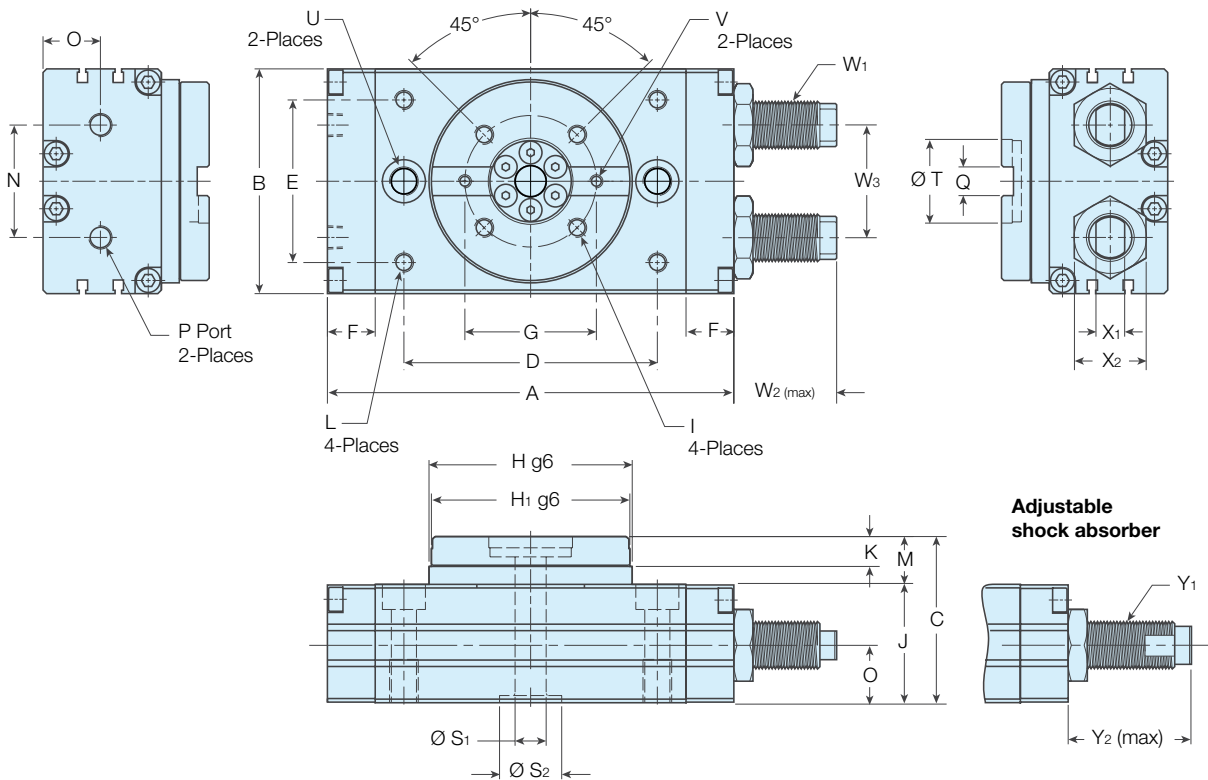
Allowable load

Set the load and moment to be applied to the table within the allowable values shown in the table below. (Values outside of limitations will cause excessive play, deteriorate accuracy, and shorten service life).



Bore	Allowable radial load (N)	Allowable thrust load (N)		Allowable moment (Nm)
		(a)	(b)	
16	78	74	78	2.4
20	147	137	137	4.0
25	196	197	363	5.3
32	314	296	451	9.7

Dimensions P5RS Rotary Table



Bore mm	A	B	C	D	E	F	G	H	H <sub>1</sub>	I	J	K	L	M	N	O	P	Q
16	108	58	47	62	38	15	38	50	48	M5 x 7 Dp, P.C.D38	33	8	M5 x 8 Dp	14	26	15.5	PT 1/8	8 <sup>+0.03</sup> <sub>-0</sub> x 3.3 Dp
20	128	68	55	78	47	15	46	62.5	60	M6 x 7 Dp, P.C.D46	38	10	M6 x 8 Dp	17	27	18.5	PT 1/8	10 <sup>+0.03</sup> <sub>-0</sub> x 3.5 Dp
25	135.5	77	58.5	84	55	15.5	48	67	65	M6 x 9 Dp, P.C.D48	41.5	10	M6 x 8 Dp	17	37	20	PT 1/8	12 <sup>+0.03</sup> <sub>-0</sub> x 4 Dp
32	170	94	69.5	106	68	20	55	85	83	M8 x 10 Dp, P.C.D55	49.5	12.5	M8 x 8.5 Dp	20	47	24	PT 1/8	12 <sup>+0.03</sup> <sub>-0</sub> x 5 Dp

Bore mm	S <sub>1</sub>	S <sub>2</sub>	T	U	V	W <sub>1</sub>	W <sub>2</sub>	W <sub>3</sub>	X <sub>1</sub>	X <sub>2</sub>	Y <sub>1</sub>	Y <sub>2</sub>
16	6	17 (H7) x 2.5 Dp	24 (H7) x 3 Dp	2-Ø 6.8 thru, Ø11 x 6.5 Dp, M8 x 12 Dp (Sink)	M3 x 4 Dp	M10 x 1,0	27	26	7	17	N/A	N/A
20	10	22 (H7) x 2.5 Dp	32 (H7) x 3 Dp	2-Ø 8.6 thru, Ø14 x 8.5 Dp, M10 x 15 Dp (Sink)	M4 x 6 Dp	M12 x 1,0	23	32	8	19	N/A	N/A
25	13	22 (H7) x 3 Dp	32 (H7) x 3.7 Dp	2-Ø 8.6 thru, Ø14 x 8.5 Dp, M10 x 15 Dp (Sink)	M4 x 5 Dp	M14 x 1,5	36	37	8	22	MC150M	52
32	13	26 (H7) x 3 Dp	35 (H7) x 4.7 Dp	2-Ø 10.5 thru, Ø18 x 10.5 Dp, M12 x 18 Dp (Sink)	M5 x 5 Dp	M20 x 1.5	43	47	12	30	MC225M	62

Dimensions in (mm)



## P5SS - Precision Slide Tables

The Precision Slide Table P5SS is a pneumatic actuator, operated by two cylinders mounted in parallel for moving loads fitted on its mobile carriage or on its front plate quickly and accurately. Optional end of stroke adjusters offer precise adjustment even when the slide table is pressurised.



- High precision
- Bores Ø6, 8, 12, 16, 20 and 25mm
- Combination of dual bore cylinder and linear rail
- Magnetic piston standard
- Rubber bumper standard
- Optional stroke adjusters
- Optional shock absorbers bores Ø8 - 25mm

### Operating Information

Pressure range:	1.5 to 7 bar
Temperature range:	-5° to 60° C
Filtration requirements:	
Air filtration	40 micron or better
Air lubrication	Not necessary*
Air humidity	Low moisture content (dry)

\* Addition of lubrication will greatly increase service life

For more information see [www.parker.com/euro\\_pneumatic](http://www.parker.com/euro_pneumatic)

### Ordering Information: P5SS

#### Ø6mm bore

Stroke (mm)	Order code
10	<b>P5SS-006DSG010B</b>
20	<b>P5SS-006DSG020B</b>
30	<b>P5SS-006DSG030B</b>
40	<b>P5SS-006DSG040B</b>
50	<b>P5SS-006DSG050B</b>

#### Ø12mm bore

Stroke (mm)	Order code
10	<b>P5SS-012DSG010B</b>
20	<b>P5SS-012DSG020B</b>
30	<b>P5SS-012DSG030B</b>
40	<b>P5SS-012DSG040B</b>
50	<b>P5SS-012DSG050B</b>
75	<b>P5SS-012DSG075B</b>
100	<b>P5SS-012DSG100B</b>

#### Ø20mm bore

Stroke (mm)	Order code
10	<b>P5SS-020DSG010B</b>
20	<b>P5SS-020DSG020B</b>
30	<b>P5SS-020DSG030B</b>
40	<b>P5SS-020DSG040B</b>
50	<b>P5SS-020DSG050B</b>
75	<b>P5SS-020DSG075B</b>
100	<b>P5SS-020DSG100B</b>
125	<b>P5SS-020DSG125B</b>

#### Ø8mm bore

Stroke (mm)	Order code
10	<b>P5SS-008DSG010B</b>
20	<b>P5SS-008DSG020B</b>
30	<b>P5SS-008DSG030B</b>
40	<b>P5SS-008DSG040B</b>
50	<b>P5SS-008DSG050B</b>
75	<b>P5SS-008DSG075B</b>

#### Ø16mm bore

Stroke (mm)	Order code
10	<b>P5SS-016DSG010B</b>
20	<b>P5SS-016DSG020B</b>
30	<b>P5SS-016DSG030B</b>
40	<b>P5SS-016DSG040B</b>
50	<b>P5SS-016DSG050B</b>
75	<b>P5SS-016DSG075B</b>
100	<b>P5SS-016DSG100B</b>
125	<b>P5SS-016DSG125B</b>

#### Ø25mm bore

Stroke (mm)	Order code
10	<b>P5SS-025DSG010B</b>
20	<b>P5SS-025DSG020B</b>
30	<b>P5SS-025DSG030B</b>
40	<b>P5SS-025DSG040B</b>
50	<b>P5SS-025DSG050B</b>
75	<b>P5SS-025DSG075B</b>
100	<b>P5SS-025DSG100B</b>
125	<b>P5SS-025DSG125B</b>
150	<b>P5SS-025DSG150B</b>

### Sensors - Series P8S-E

#### Magnetic Sensor



PNP  
NPN  
Reed

#### M8 - Snap in



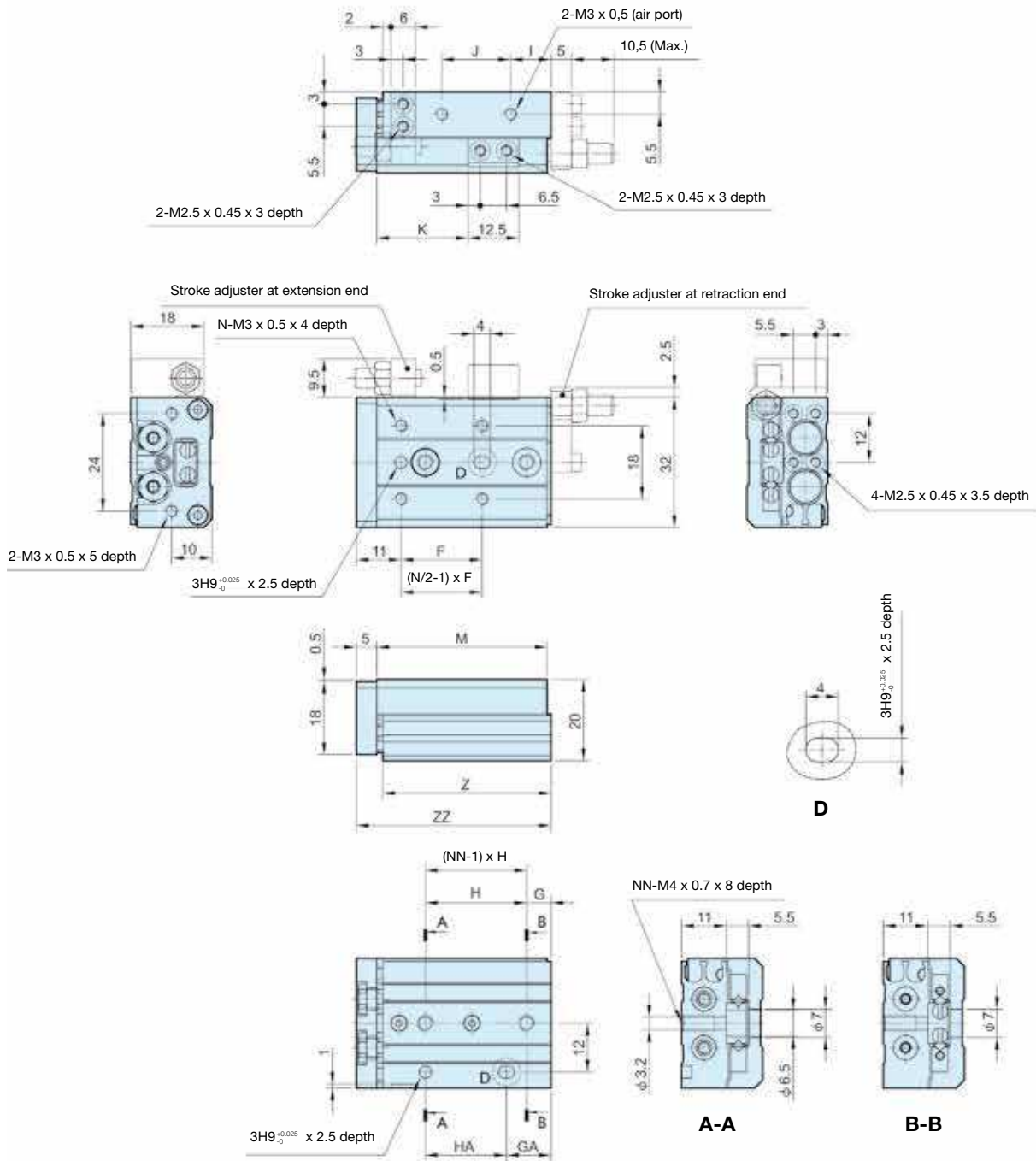
0.165 m PUR cable with M8 connector  
**P8S-EPSUS**  
**P8S-ENSUS**  
**P8S-ERSUS**

#### Flying lead



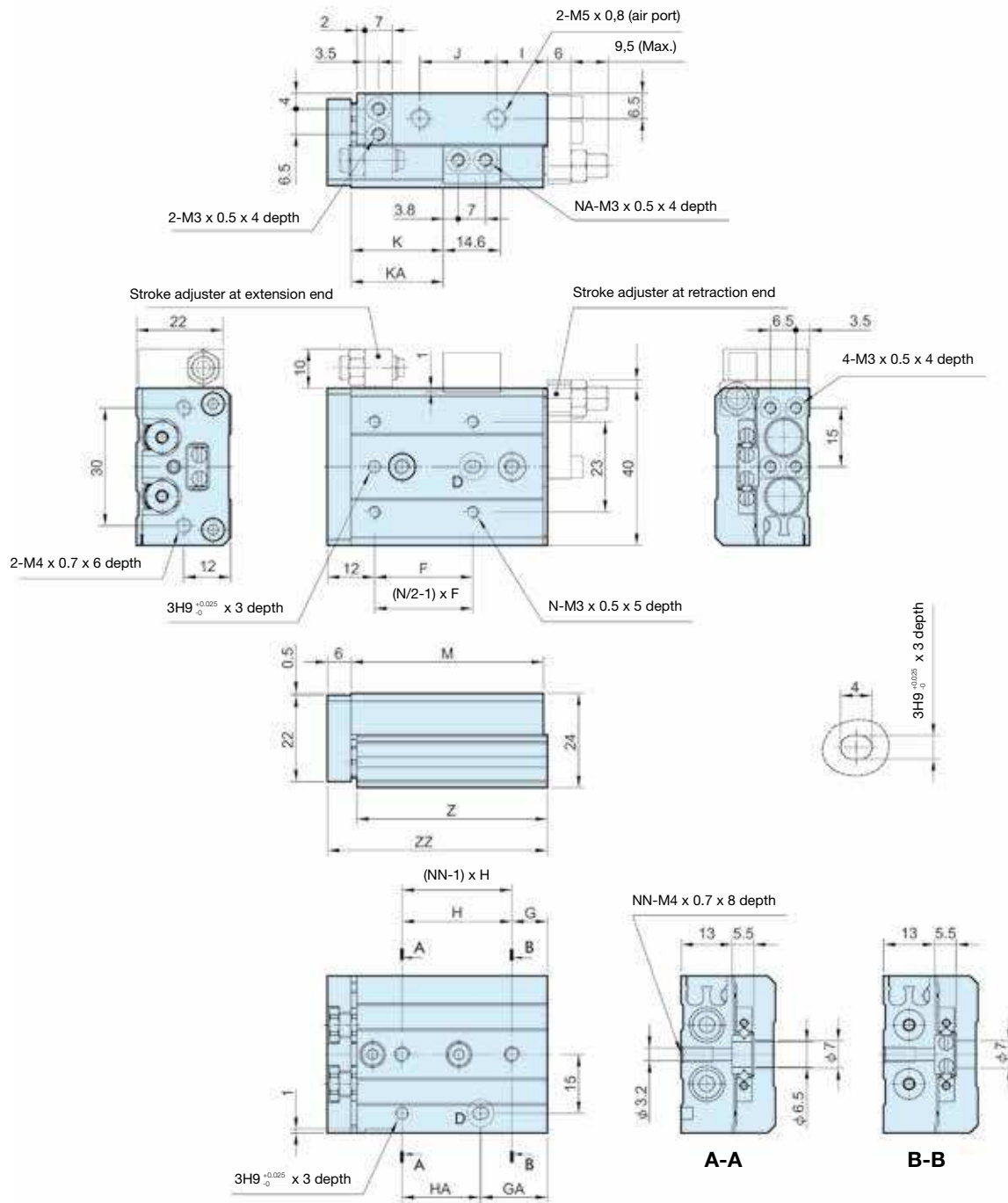
2 m PUR cable  
**P8S-EPFXS**  
**P8S-ENFXS**  
**P8S-ERFXS**

**Precision Slide Table Ø6 - Dimensions (mm)**



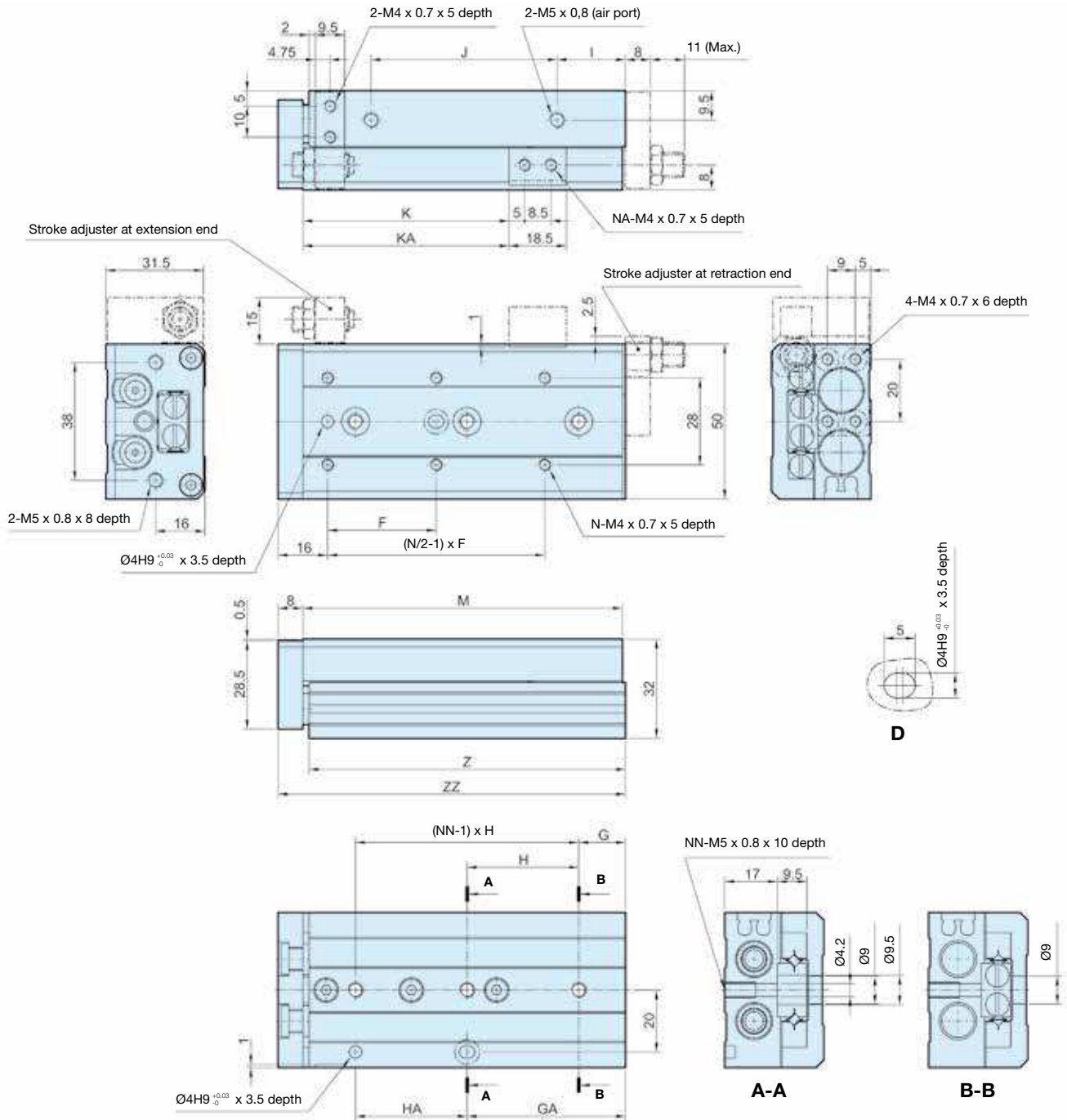
Stroke	F	G	GA	H	HA	I	J	K	M	N	NN	Z	ZZ
10	20	6	11	25	20	10	17	22,5	42	4	2	41,5	48
20	30	6	21	35	20	10	27	32,5	52	4	2	51,5	58
30	20	11	31	20	20	7	40	42,5	62	6	3	61,5	68
40	28	13	43	30	30	19	50	52,5	84	6	3	83,5	90
50	38	17	41	24	48	25	60	62,5	100	6	4	99,5	106

**Precision Slide Table Ø8 - Dimensions (mm)**



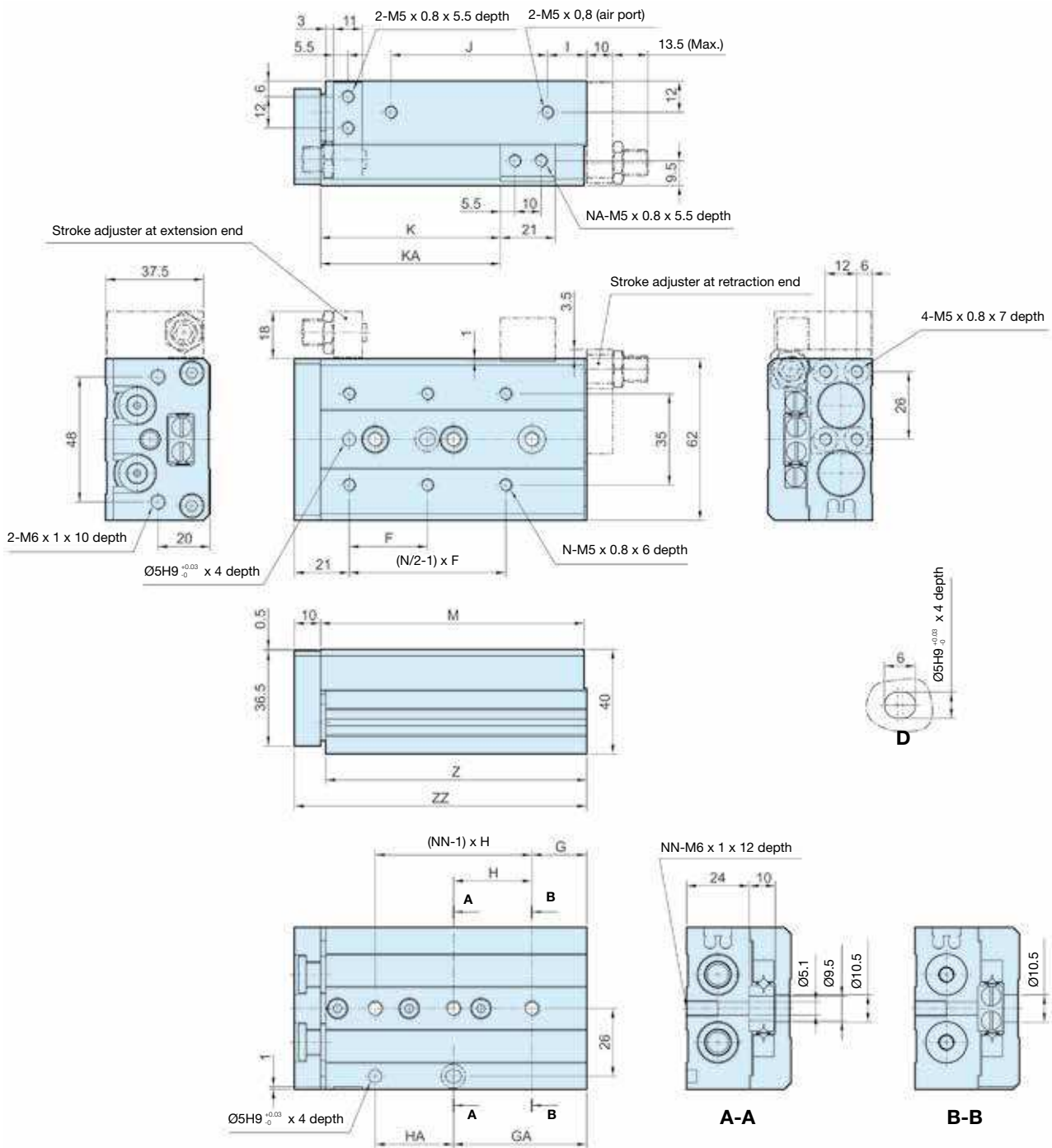
Stroke	F	G	GA	H	HA	I	J	K	KA	M	N	NA	NN	Z	ZZ
10	25	9	17	28	20	13	19,5	23,5	-	49	4	2	2	48,5	56
20	25	12	12	30	30	8,5	29	33,5	-	54	4	2	2	53,5	61
30	40	13	33	20	20	9,5	39	43,5	-	65	4	2	3	64,5	72
40	50	15	43	28	28	10,5	56	53,5	-	83	4	2	3	82,5	90
50	38	20	43	23	46	24,5	60	63,5	82,5	101	6	4	4	100,5	108
75	50	27	83	28	56	38,5	96	88,5	132,5	151	6	4	5	105,5	158

**Precision Slide Table Ø12 - Dimensions (mm)**



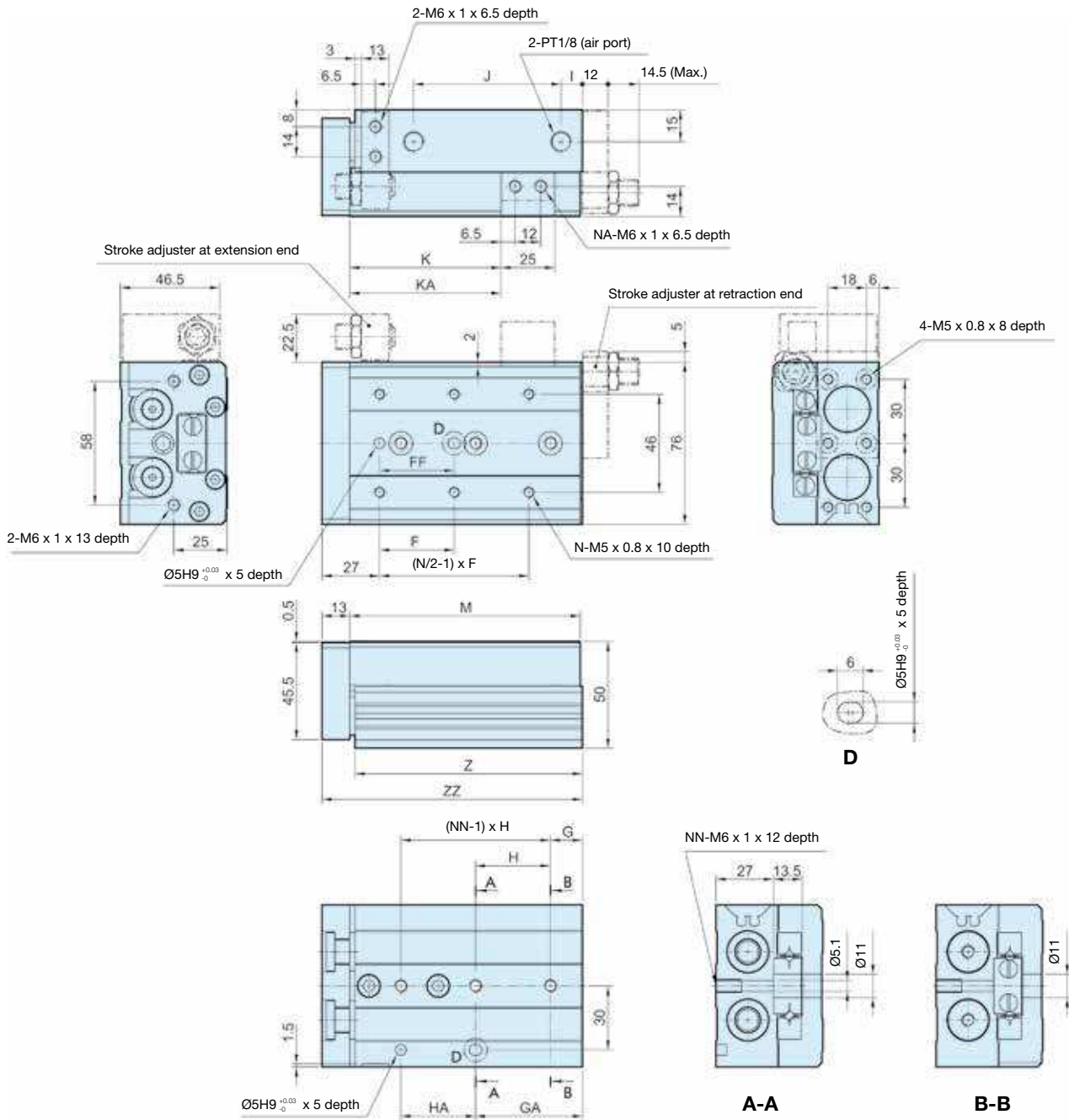
Stroke	F	G	GA	H	HA	I	J	K	KA	M	N	NA	NN	Z	ZZ
10	35	15	15	40	40	10	40	26,5	-	71	4	2	2	70	80
20	35	15	15	40	40	10	40	36,5	-	71	4	2	2	70	80
30	35	15	15	40	40	10	40	46,5	-	71	4	2	2	70	80
40	50	17	42	25	25	10	52	56,5	-	83	4	2	3	82	92
50	35	15	51	36	36	22	60	66,5	-	103	6	2	3	102	112
75	55	25	61	36	72	43	85	91,5	125,5	149	6	4	4	148	158
100	65	35	111	38	76	52	130	116,5	179,5	203	6	4	5	202	212

**Precision Slide Table Ø16 - Dimensions (mm)**



Stroke	F	G	GA	H	HA	I	J	K	KA	M	N	NA	NN	Z	ZZ
10	35	16	16	40	40	10	40	29	-	76	4	2	2	75	87
20	35	16	16	40	40	10	40	39	-	76	4	2	2	75	87
30	35	16	16	40	40	10	40	49	-	76	4	2	2	75	87
40	40	16	16	50	50	10	50	59	-	86	4	2	2	85	97
50	30	21	51	30	30	15	60	69	-	101	6	2	3	100	112
75	55	26	61	35	70	40	85	94	125	151	6	4	4	150	162
100	65	39	109	35	70	55	118	119	173	199	6	4	5	198	210
125	70	19	159	35	70	68	155	144	223	249	8	4	7	248	260

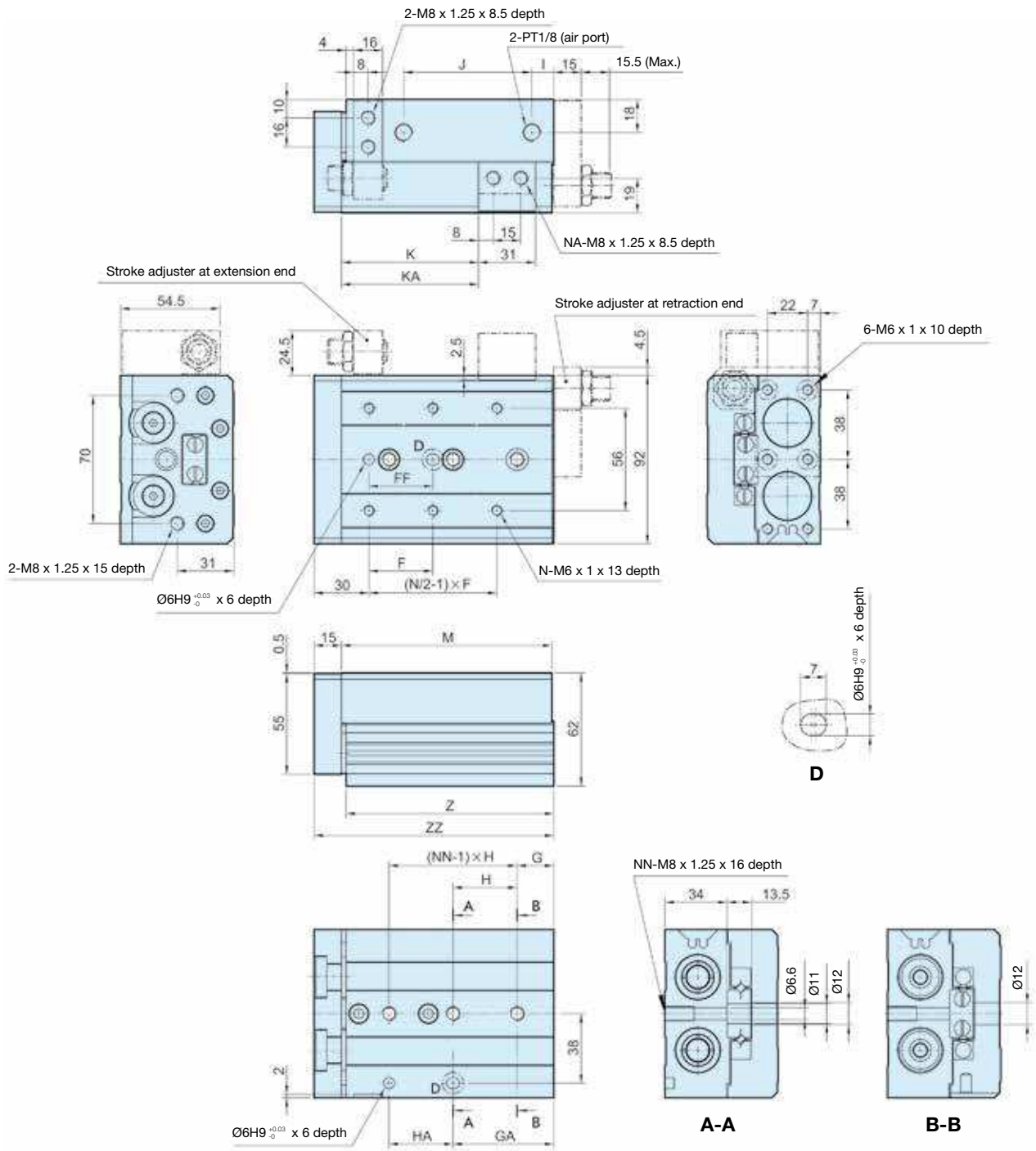
Precision Slide Table Ø20 - Dimensions (mm)



Stroke	F	FF	G	GA	H	HA	I	J	K	KA	M	N	NA	NN	Z	ZZ
10	50	40	15	25	45	35	10	44	31	-	83	4	2	2	81,5	97
20	50	40	15	25	45	35	10	44	41	-	83	4	2	2	81,5	97
30	50	40	15	25	45	35	10	44	51	-	83	4	2	2	81,5	97
40	60	50	15	35	55	35	10	54	61	-	93	4	2	2	91,5	107
50	35	35	15	50	35	35	10	69	71	-	108	6	2	3	106,5	122
75	60	60	19	54	35	70	10	108	96	-	147	6	2	4	145,5	161
100	70	70	37	107	35	70	58	113	121	169	200	6	4	5	198,5	214
125	70	70	41	155	38	76	70	155	146	223	254	8	4	6	252,5	268
150	80	80	19	195	44	88	87	190	171	275	306	8	4	7	304,5	320



**Precision Slide Table Ø25 - Dimensions (mm)**

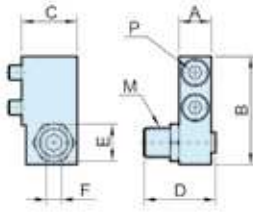


Stroke	F	FF	G	GA	H	HA	I	J	K	KA	M	N	NA	NN	Z	ZZ
10	50	40	22	22	45	45	12	47	35	-	92	4	2	2	90,5	108
20	50	40	22	22	45	45	12	47	45	-	92	4	2	2	90,5	108
30	50	40	22	22	45	45	12	47	55	-	92	4	2	2	90,5	108
40	60	50	22	22	55	55	12	57	65	-	102	4	2	2	100,5	118
50	35	35	20	55	35	35	12	70	75	-	115	6	2	3	113,5	131
75	60	60	26	61	35	70	33	90	100	-	156	6	2	4	154,5	172
100	70	70	32	102	35	70	50	114	125	162	197	6	4	5	195,5	213
125	75	75	40	154	38	76	67	155	150	218	255	8	4	6	253,5	271
150	80	80	30	190	40	80	82	180	175	258	295	8	4	7	293,5	311

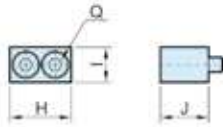
Accessories Ø6 - Ø25

Stroke adjuster at extension end:

Mounted to body



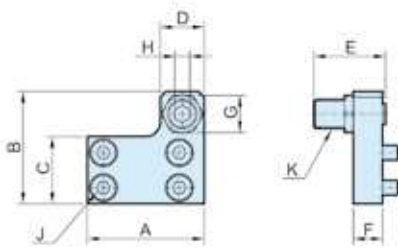
Mounted to table



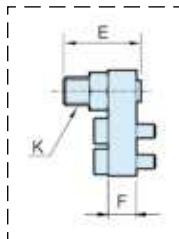
Bore mm	Order code	Adjustable stroke range (mm)	Mounted to body							Mounted to table				
			A	B	C	D	E	F	M	P*	H	I	J	Q*
6	P5SS-006-EA-05	5	6	17,8	10,5	16,5	7	2,5	M5 x 0.8	M2.5x10	12,5	6	8,5	M2.5 x 8
	P5SS-006-EA-15	15												
8	P5SS-008-EA-05	5	7	21,5	11	16,5	8	3	M6 x 1	M3 x 10	14,6	7	10	M3 x 10
	P5SS-008-EA-15	15				26,5								
	P5SS-008-EA-25	25				36,5								
12	P5SS-012-EA-05	5	9,5	31	16	20	11	4	M8 x 1	M4 x 16	18,5	10	13	M4 x 12
	P5SS-012-EA-15	15				30								
	P5SS-012-EA-25	25				40								
16	P5SS-016-EA-05	5	11	37	19	24,5	14	5	M10 x 1	M5 x 16	21	12	16,5	M5 x 16
	P5SS-016-EA-15	15				34,5								
	P5SS-016-EA-25	25				44,5								
20	P5SS-020-EA-05	5	13	45,5	24	27,5	17	6	M12 x 1.25	M6 x 20	25	13	21	M6 x 20
	P5SS-020-EA-15	15				37,5								
	P5SS-020-EA-25	25				47,5								
25	P5SS-025-EA-05	5	16	53,5	26,5	32,5	19	6	M14 x 1.5	M8 x 25	31	17	25,5	M8 x 25
	P5SS-025-EA-15	15				42,5								
	P5SS-025-EA-25	25				52,5								

\* Size of hexagon socket head cap screws

Stroke adjuster at retraction end:



P5SS-006  
P5SS-008

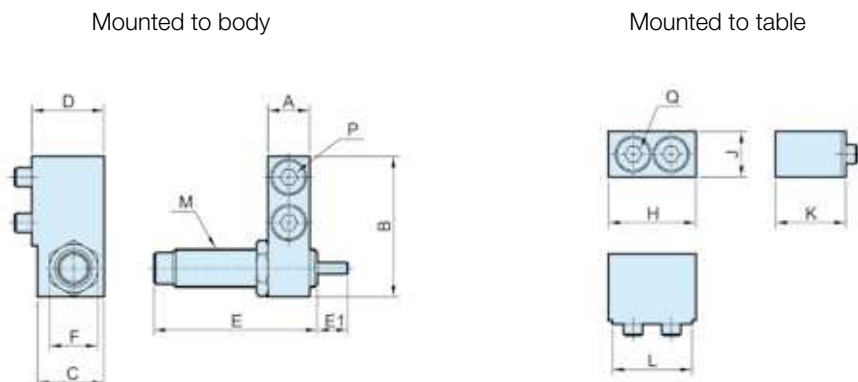


Bore mm	Order code	Adjustable stroke range (mm)	A	B	C	D	E	F	G	H	J*	K
6	P5SS-006-RA-05	5	21	19	10,5	8	16,5	5	7	2,5	M2.5 x 8	M5 x 0.8
	P5SS-006-RA-15	15					26,5					
8	P5SS-008-RA-05	5	25	22,5	12,5	9	16,5	6	8	3	M3 x 10	M6 x 1
	P5SS-008-RA-15	15					26,5					
	P5SS-008-RA-25	25					36,5					
12	P5SS-012-RA-05	5	32	31	18,5	13	20	8	12	4	M4 x 8	M8 x 1
	P5SS-012-RA-15	15					30					
	P5SS-012-RA-25	25					40					
16	P5SS-016-RA-05	5	40	38,5	23	15	24,5	10	14	5	M5 x 10	M10 x 1
	P5SS-016-RA-15	15					34,5					
	P5SS-016-RA-25	25					44,5					
20	P5SS-020-RA-05	5	50	48	29	21	27,5	12	17	6	M5 x 12	M12 x 1.25
	P5SS-020-RA-15	15					37,5					
	P5SS-020-RA-25	25					47,5					
25	P5SS-025-RA-05	5	60	58	35	23	32,5	15	19	6	M6 x 16	M14 x 1.5
	P5SS-025-RA-15	15					42,5					
	P5SS-025-RA-25	25					52,5					

\* Size of hexagon socket head cap screws

Accessories Ø8 - Ø25

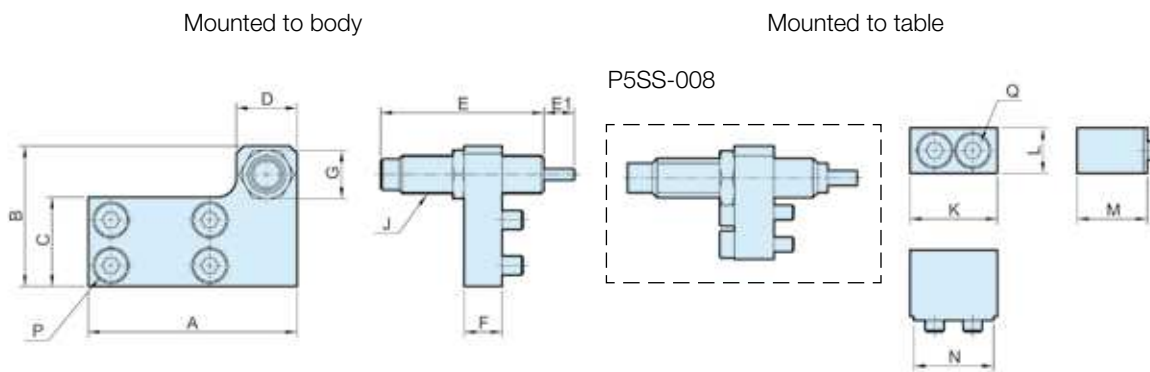
Shock absorber at extension end:



Bore mm	Order code	Mounted to body									Mounted to table				
		A	B	C	D	E	E1	F	M	P*	H	J	K	L	Q*
8	P5SS-008-ESK	7	23	14	15,5	40,6	6	11	M8 x 1	M3 x 16	16,6	7	15,5	14,6	M3 x 16
12	P5SS-012-ESK	9,5	31	14,5	16	40,6	6	11	M8 x 1	M4 x 16	20,5	10	15	18,5	M4 x 12
16	P5SS-016-ESK	11	37	17,5	19	47	7	12,7	M10 x 1	M5 x 16	23	12	18,5	21	M5 x 16
20	P5SS-020-ESK	13	45,5	23,5	26	67	12	19	M14 x 1.5	M6 x 25	27	13	25,5	25	M6 x 25
25	P5SS-025-ESK	16	53,5	23,5	26,5	67	12	19	M14 x 1.5	M8 x 25	33	17	25,5	31	M8 x 25

\* Size of hexagon socket head cap screws

Shock absorber at retraction end:



Bore mm	Order code	Mounted to body									Mounted to table					
		A	B	C	D	E	E1	F	G	J	P*	K	L	M	N	Q*
8	P5SS-008-RSK	38	23	12,5	14	40,6	6	8	12	M8 x 1	M3 x 12	16,6	7	15,5	14,6	M3 x 16
12	P5SS-012-RSK	45	31	18	14	40,6	6	8	11	M8 x 1	M4 x 8	20,5	10	15	18,5	M4 x 12
16	P5SS-016-RSK	55	37	23,5	16	47	7	10	12,7	M10 x 1	M5 x 10	23	12	18,5	21	M5 x 16
20	P5SS-020-RSK	70	47	29	23	67	12	12	19	M14 x 1.5	M5 x 12	27	13	25,5	25	M6 x 25
25	P5SS-025-RSK	80	54	35	23	67	12	12	19	M14 x 1.5	M6 x 16	33	17	25,5	31	M8 x 25

\* Size of hexagon socket head cap screws

# Pneumatic Stop Cylinders

Pneumatic stop cylinders with hydraulic industrial shock absorbers for soft, rebound-free stopping of a conveyed load.

## Pneumatic Stop Cylinders

- Soft, rebound-free stopping of a conveyed load.
- Flexible: for vertical or horizontal installation
- Types with shock absorber/roller lever combination, lone roller or roller with a piston rod that ensures direct stoppage
- Shock absorbers are easy to replace, even when fitted
- Rotating stop head for adjustment in line with the direction of travel of the conveyed load
- Rocker can be deactivated for alternate travel function
- Single and double acting cylinder variants
- Operating pressure up to 10 bar
- Different shock absorbers for conveyed load weights of up to 1700 kg and speeds of up to 45 m/min
- Optional: position switch for piston rod and proximity switch for rocker

### Rocker locking

After the conveyed load is stopped, the rocker is lowered and unlocked by applying compressed air. After the conveyed load has been moved, the return spring brings the rocker into its upper end position so that it is back in its start position for the next stopping procedure.

### Integrated shock absorbers

The shock absorbers, aligned to the weight and speed of the load, ensure gentle and precise stopping of the conveyed load

### Guide rod

Thanks to the easy-to-replace guide rod, the rocker can be quickly rotated so that the conveyor can move in a different direction.

### Diecast Aluminum

The design of the robust, lightweight diecast aluminum and its compact size enables it to be installed in many different conveyor systems.



### Unrestricted conveyor movement

The rocker is held in the OFF position (deactivated) by simply clipping a spring steel sheet onto it. The conveyed load can pass through the stop cylinder unobstructed while the rocker is in this position.



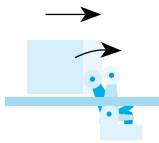
**Stop Cylinder – Vertical Version**

**STVSR series**



**Integrated shock absorber for heavy conveyed loads**

The built-in shock absorber stops the conveyed load in a gentle and precise manner without disturbing the load. Various shock absorbers are available depending on the weight of the conveyed load and the desired transport speed.

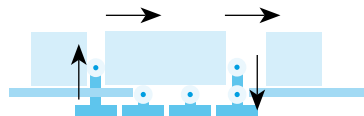


**STVDR series**



**Roller for lower conveyed load weights**

The piston rod with upward facing roller is lowered by applying compressed air once the conveyed load is on the ground. Afterwards, it is brought back into the upper end position by a return spring.

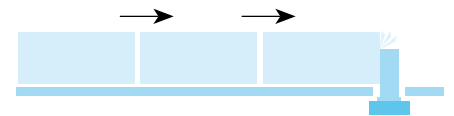


**STVD series**



**Direct stopping piston rod for heavy conveyed loads**

Reliably stops heavy conveyed loads at low transport speeds. Can also be used as a locking cylinder due to its solid piston rod.

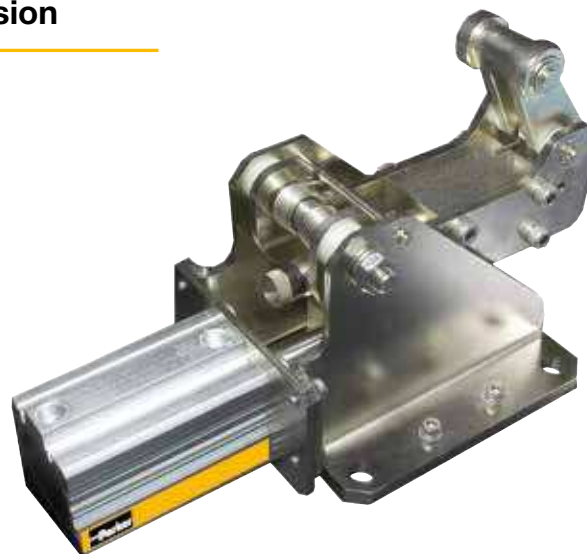


**Stop Cylinder – Horizontal Version**

**STHSR series**

**Horizontal stop cylinder with shock absorber**

Reliably stops heavy conveyed loads at high transport speeds. Well-suited for buffer areas.



## Pneumatic Stop Cylinders

### Ø 50-80 mm

Available with hydraulic Industrial shock absorbers

#### Vertical Version:

- STVSR series
- STVDR series
- STVD series

#### Horizontal Version:

- STHSR series



#### Vertical versions

##### Vertical stop cylinder with shock absorber and roller lever



Cylinder Ø mm	Stroke (mm)	Order code
50	30	<b>STVSR-50-30-.-...</b>
80	40	<b>STVSR-80-40-.-...</b>

##### Vertical stop cylinder with roller



Cylinder Ø mm	Stroke (mm)	Order code
50	30	<b>STVDR-50-30-.-...</b>

##### Vertical stop cylinder with direct stopping piston rod



Cylinder Ø mm	Stroke (mm)	Order code
50	30	<b>STVD-50-30-.-...</b>

#### Horizontal versions

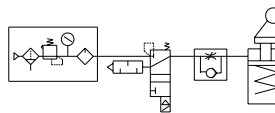
##### Horizontal stop cylinder with shock absorber and roller lever



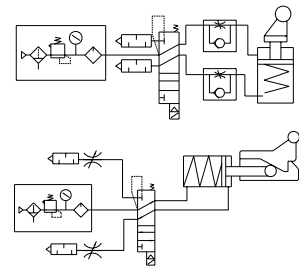
Cylinder Ø mm	Stroke (mm)	Order code
50	50	<b>STHSR-50-50-.-...</b>

#### Pneumatic Circuit Diagrams

##### Single acting



##### Double acting



#### Specifications

Specifications	Description
Medium	Filtered, unlubricated compressed air (if oil is used then it must be continued)
Operating pressure range	2 to 10 bar
Test pressure	15 bar
Ambient temperature range	0 °C to +65 °C (If intended for use below 0 °C consult Technical Sales)
Lubrication	Unlubricated
Cushioning	Cushioning mat made from oil-resistant rubber

#### Weight

Type STVSR-50-30	1.800 kg
Type STVSR-80-40	6.820 kg
Type STVDR-50-30	1.800 kg
Type STVD-50-30	1.800 kg
Type STHSR-50-50	8.750 kg

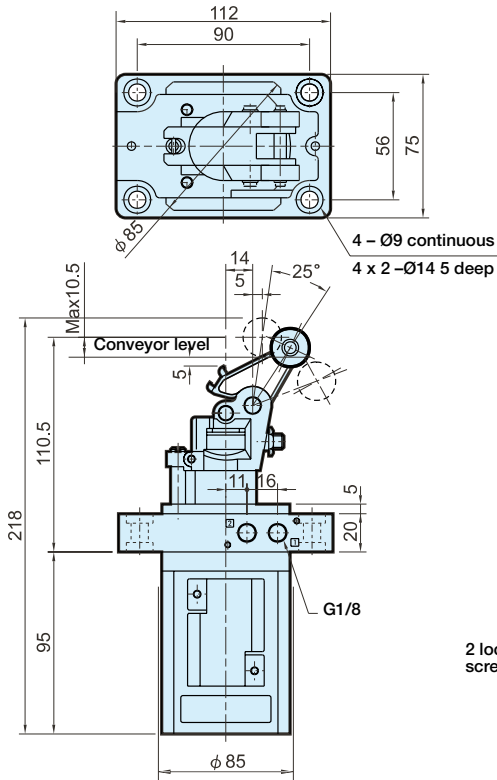
**STVSR Series - Stop cylinder Ø 50mm - Vertical version**

**Order Key**

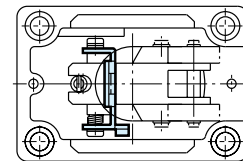
**STVSR - 50 - 30 - L - STD**

Shock absorber strength	
<b>L</b>	Light 50 - 150 kg
<b>H</b>	High 150 - 300 kg

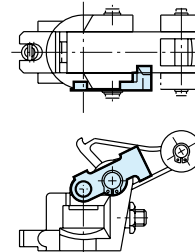
Connecting thread	
<b>STD</b>	Standard G1/8
<b>NPT</b>	National Pipe Thread 1/8"



**Option - Rocker locking**

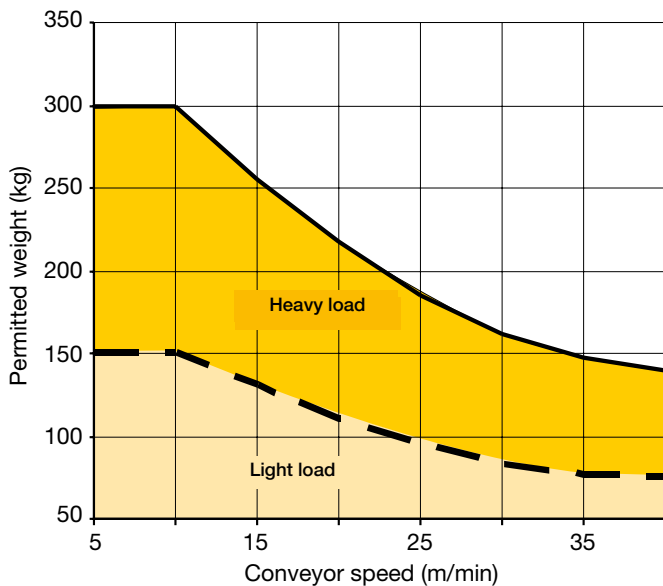


**- Free travel of conveyed load**

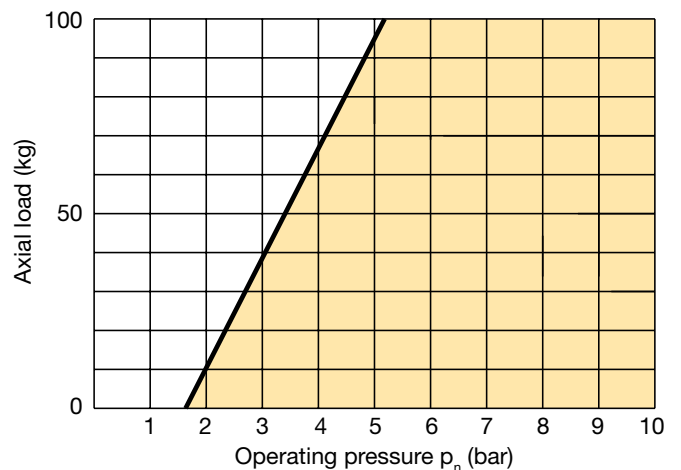


2 locking screws

**Loads - Moving mass subject to speed – Type STVSR-50-30**



**Axial load subject to operating pressure – Type STVSR-50-30**



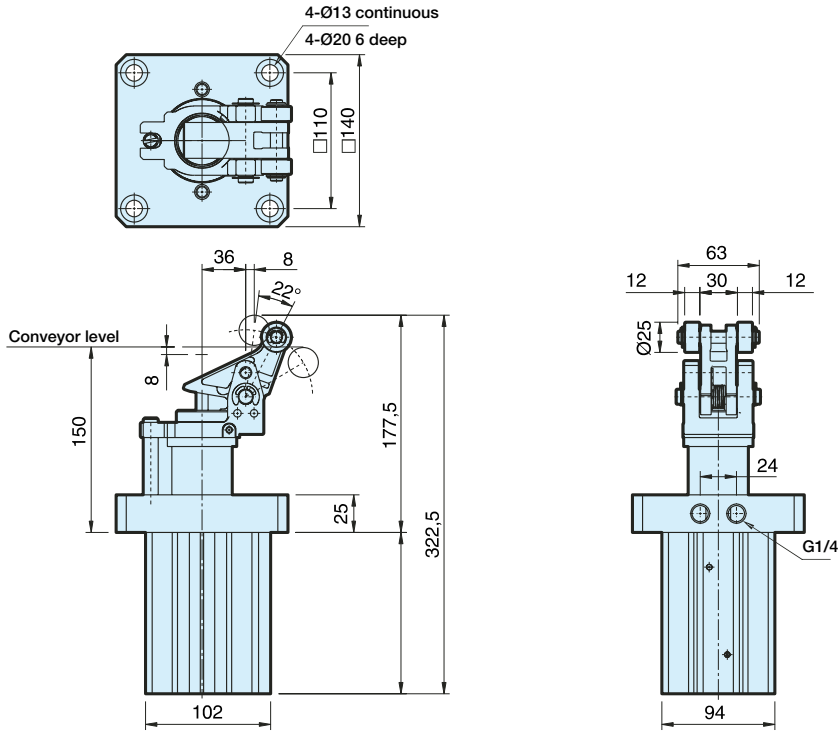
**STVSR Series - Stop cylinder Ø 80mm - Vertical version**

**Order Key**

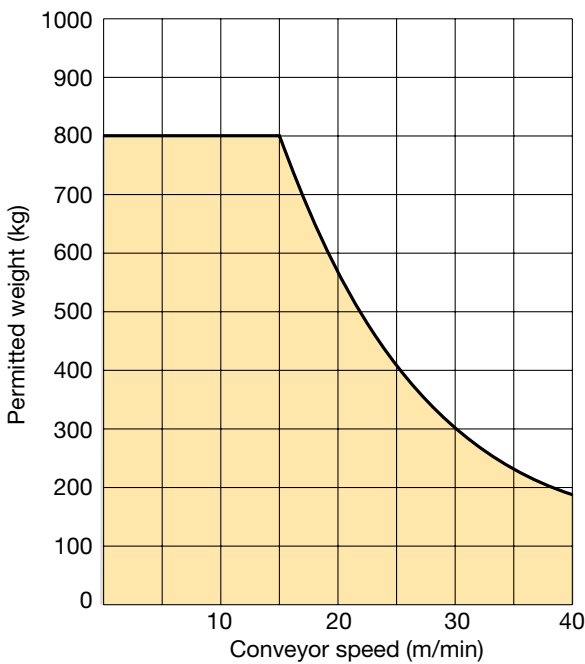
**STVSR - 80 - 40 - STD**

**Note:** Shock absorbers can set at 50 - 800kg

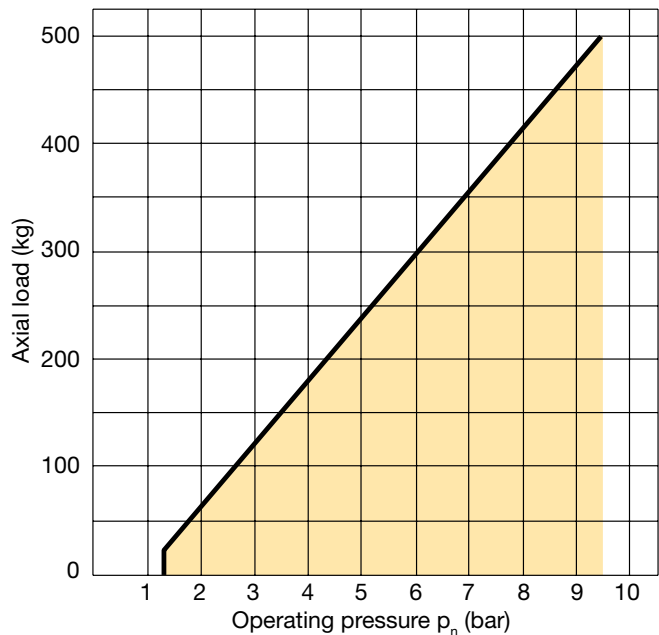
Connecting thread	
<b>STD</b>	Standard G1/4
<b>NPT</b>	National Pipe Thread 1/4"



**Loads - Moving mass subject to speed – Type STVSR-80-40**



**Axial load subject to operating pressure – Type STVSR-80-40**



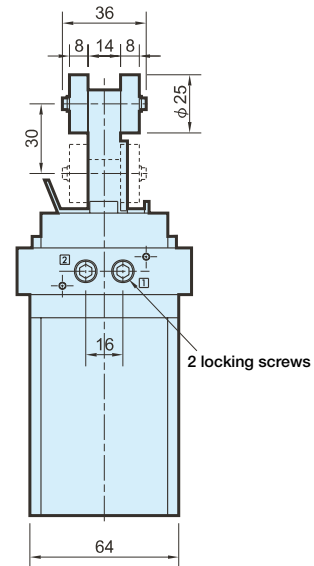
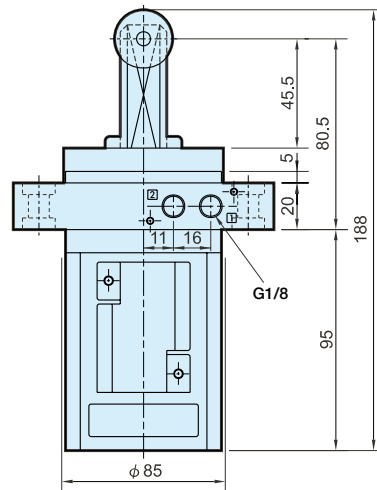
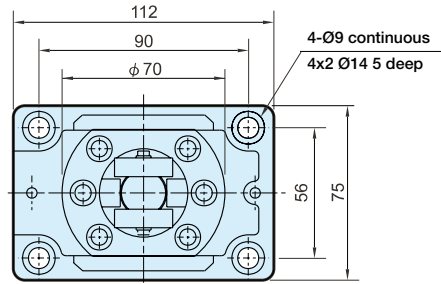


**STVDR Series - Stop cylinder Ø 50mm - Vertical version**

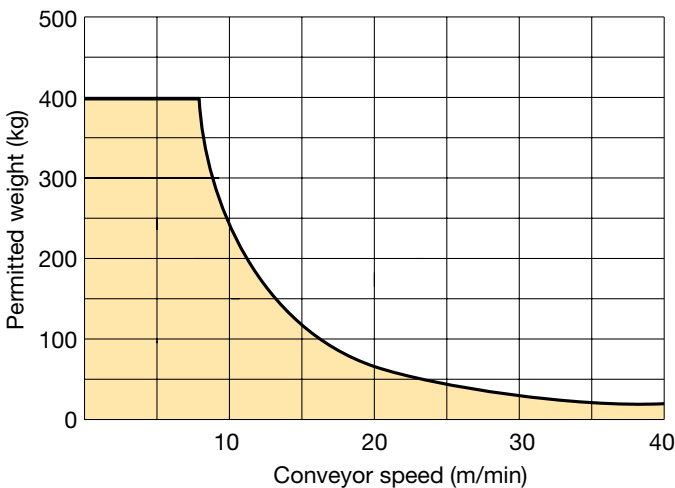
**Order Key**

**STVDR - 50 - 30 - STD**

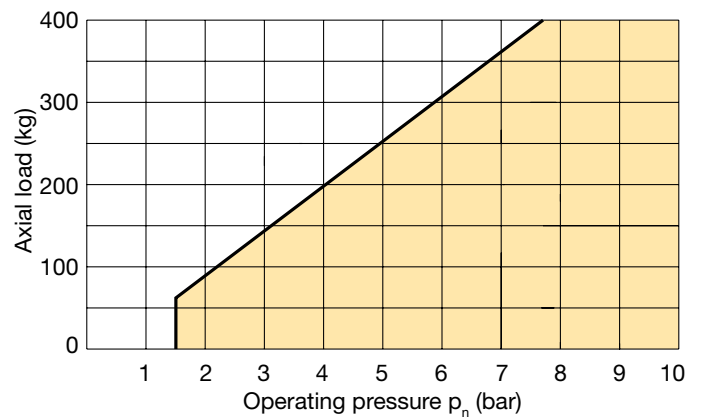
Connecting thread	
<b>STD</b>	Standard G1/8
<b>NPT</b>	National Pipe Thread 1/8"



**Loads - Moving mass subject to speed – Type STVDR-50-30**



**Axial load subject to operating pressure – Type STVDR-50-30**

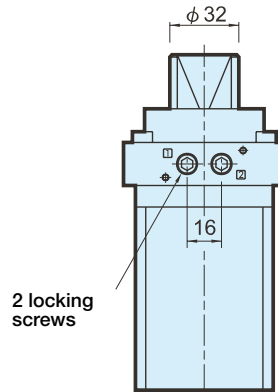
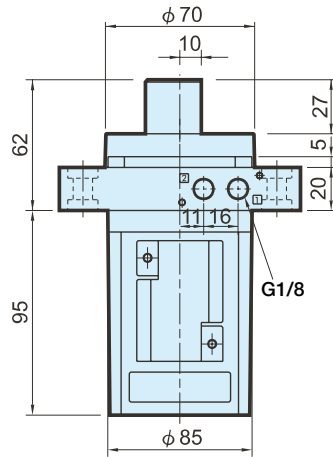
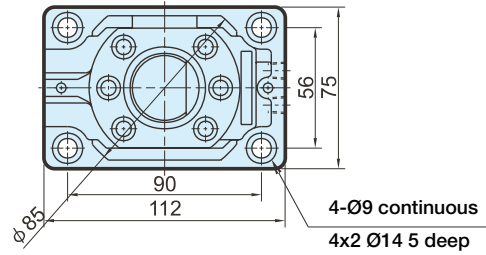


**STVSR Series - Stop cylinder Ø 80mm - Vertical version**

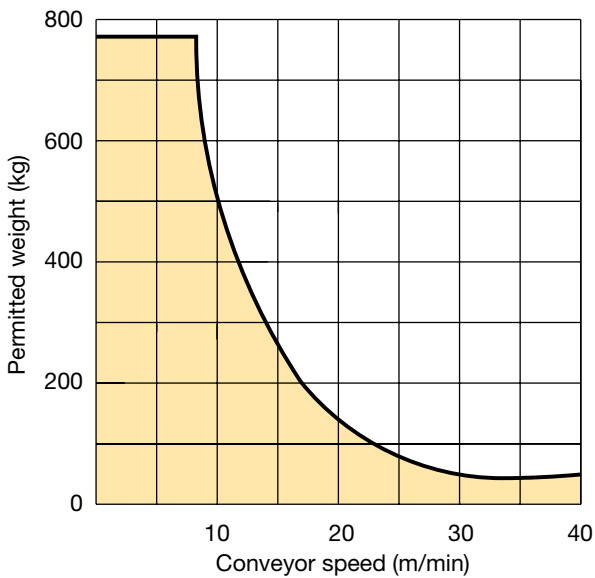
**Order Key**

**STVD - 50 - 30 - STD**

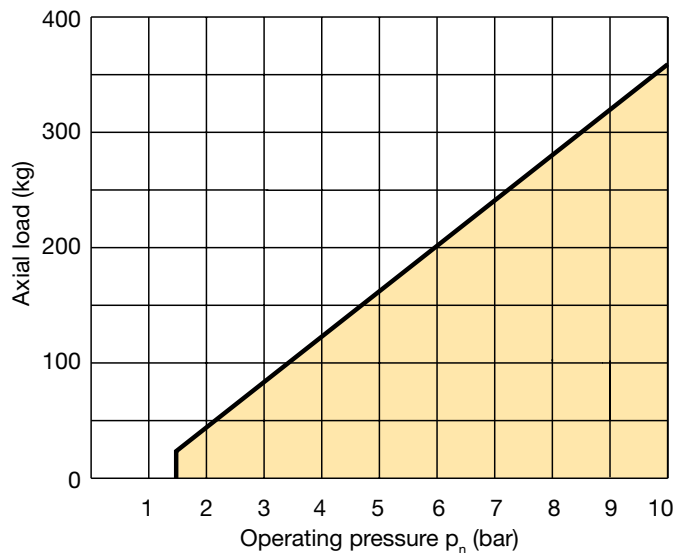
Connecting thread	
<b>STD</b>	Standard G1/8
<b>NPT</b>	National Pipe Thread 1/8"



**Loads - Moving mass subject to speed – Type STVD-50-30**



**Axial load subject to operating pressure – Type STVD-50-30**

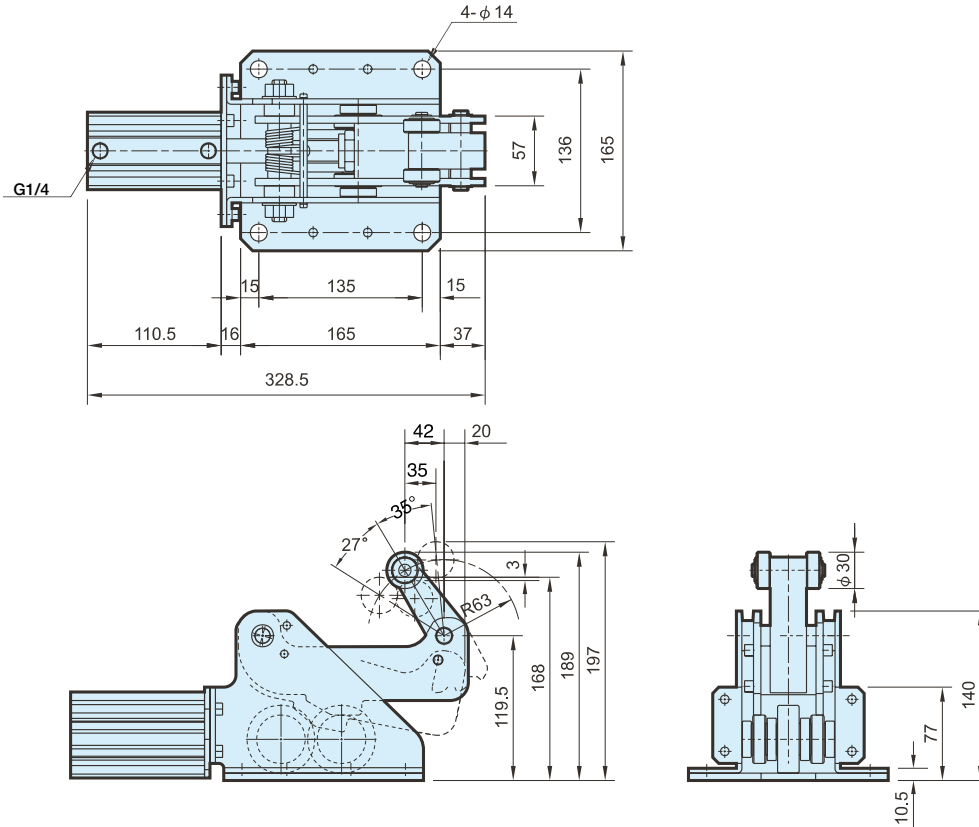


**STHSR Series - Stop cylinder Ø 50mm - Horizontal version**

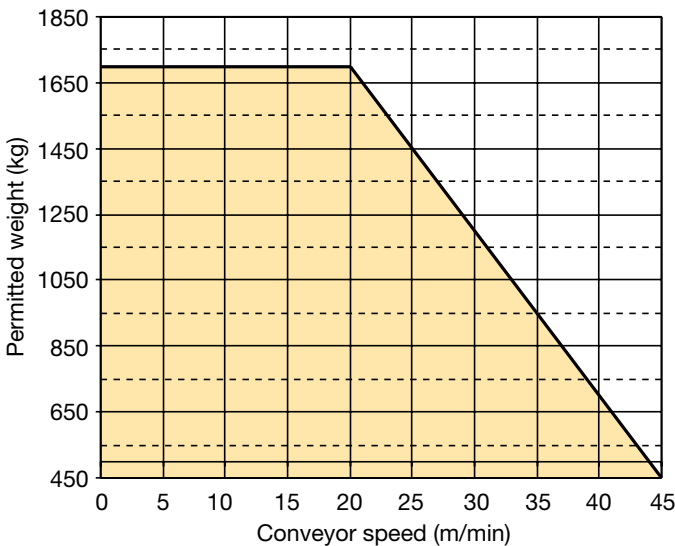
**Order Key**

**STHSR - 50 - 50 - STD**

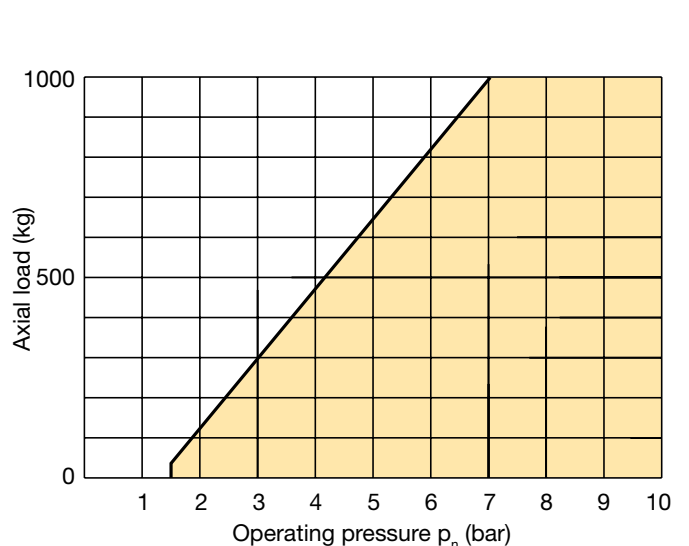
Connecting thread	
<b>STD</b>	Standard G1/4
<b>NPT</b>	National Pipe Thread 1/4"



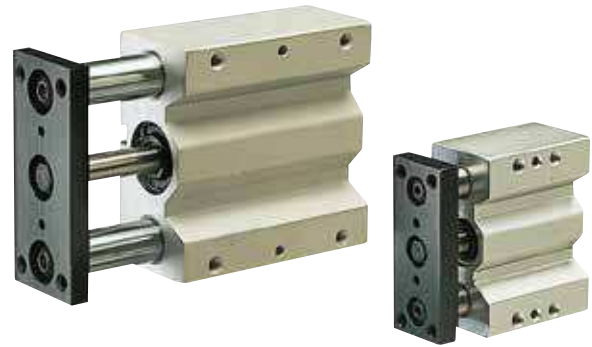
**Loads - Moving mass subject to speed – Type STHSR-50-50**



**Axial load subject to operating pressure – Type STHSR-50-50**



P5T cylinders are a modern and versatile range of cylinders with integral guides. The cylinders are double-acting, with end stop cushioning for quiet and vibration free operation. The strong guide shafts make it possible to adsorb considerable thrust forces and torque.



- Complete cylinder function with integral guidance
- Stainless steel guide rods
- Wide range of standard strokes, diameter 16-100 mm
- Flexible porting as standard
- Magnetic piston as standard with drop-in sensor technology
- End stop cushions as standard

### Operating information

Working pressure Max 10 bar  
Working temperature -20 °C to +80 °C

Prelubricated, further lubrication is not normally necessary. If additional lubrication is introduced it must be continued.

For more information see [www.parker.com/euro\\_pneumatic](http://www.parker.com/euro_pneumatic)

### Double acting - Plain bearing and top air connections

#### Ø16mm - (M5)

Stroke.mm	Order code
10	P5T-C016DGSN010
25	P5T-C016DGSN025
40	P5T-C016DGSN040
50	P5T-C016DGSN050
75	P5T-C016DGSN075
100	P5T-C016DGSN100

#### Ø20mm - (G1/8)

Stroke.mm	Order code
25	P5T-C020DGSN025
40	P5T-C020DGSN040
50	P5T-C020DGSN050
75	P5T-C020DGSN075
100	P5T-C020DGSN100
125	P5T-C020DGSN125

#### Ø25mm - (G1/8)

Stroke.mm	Order code
25	P5T-C025DGSN025
50	P5T-C025DGSN050
75	P5T-C025DGSN075
100	P5T-C025DGSN100
125	P5T-C025DGSN125
150	P5T-C025DGSN150

#### Ø32mm - (G1/8)

Stroke.mm	Order code
25	P5T-C032DGSN025
50	P5T-C032DGSN050
75	P5T-C032DGSN075
100	P5T-C032DGSN100
125	P5T-C032DGSN125
150	P5T-C032DGSN150
175	P5T-C032DGSN175
200	P5T-C032DGSN200

#### Ø40mm - (G1/8)

Stroke.mm	Order code
25	P5T-C040DGSN025
50	P5T-C040DGSN050
75	P5T-C040DGSN075
100	P5T-C040DGSN100
125	P5T-C040DGSN125
150	P5T-C040DGSN150
175	P5T-C040DGSN175
200	P5T-C040DGSN200

#### Ø50mm - (G1/4)

Stroke.mm	Order code
25	P5T-C050DGSN025
50	P5T-C050DGSN050
75	P5T-C050DGSN075
100	P5T-C050DGSN100
125	P5T-C050DGSN125
150	P5T-C050DGSN150
175	P5T-C050DGSN175
200	P5T-C050DGSN200

#### Ø63mm - (G1/4)

Stroke.mm	Order code
25	P5T-C063DGSN025
50	P5T-C063DGSN050
75	P5T-C063DGSN075
100	P5T-C063DGSN100
125	P5T-C063DGSN125
150	P5T-C063DGSN150
175	P5T-C063DGSN175
200	P5T-C063DGSN200

#### Ø80mm - (G3/8)

Stroke.mm	Order code
25	P5T-C080DGSN025
50	P5T-C080DGSN050
75	P5T-C080DGSN075
100	P5T-C080DGSN100
125	P5T-C080DGSN125
150	P5T-C080DGSN150
175	P5T-C080DGSN175
200	P5T-C080DGSN200

#### Ø100mm - (G3/8)

Stroke.mm	Order code
25	P5T-C100DGSN025
50	P5T-C100DGSN050
75	P5T-C100DGSN075
100	P5T-C100DGSN100
125	P5T-C100DGSN125
150	P5T-C100DGSN150
175	P5T-C100DGSN175
200	P5T-C100DGSN200

## Design Variants

In addition to the standard designs, a number of variants of the P5T range are available to special order, to provide effective solutions in a large number of applications.

- Cylinders with special strokes
- Cylinders with two fixing plates
- Cylinders with adjustable stops, with cushioning
- High-temperature cylinders for the temperature range of -10°C to +150°C (not magnetic piston).

### Special design for food industry applications

There is a special version of the P5T for food industry applications and other installation cases where high corrosion resistance and hygiene are required. This version has steel parts and other components in either stainless steel or special treated aluminium. Please contact Customer Service for more information.

### Plain bearing or recirculating ball bearings

The P5T is supplied with plain bearings as standard. This type of bearing has guide rods of greater diameter, providing excellent support for heavy loads, especially static loads. Plain bearings are highly tolerant of vibration and dirt, and are suitable for regular cleaning.

Recirculating ball bearings are used for applications which require high precision and low friction.

The choice should be based on the following factors:

Application requirements	Plain bearing	Recirculating ball bearings
Precision	Good	Excellent
Friction	Higher	Low
Coefficient of friction	Variable	Constant
Precision during service life	Variable	Constant
Static load capacity	Excellent	Good
Dynamic load capacity	Good, but with friction losses	Good
Vibration tolerance	Excellent	Average
Dirt tolerance	Excellent	Poor
Washing tolerance	Excellent	Poor

Double acting, connections on top.



Double acting with two fixing plates, side connections are recommended.



Double acting, connections at rear.



Double acting with two fixing plates and adjustable end stops with cushioning, side connections are recommended.



Double acting, connections on side.



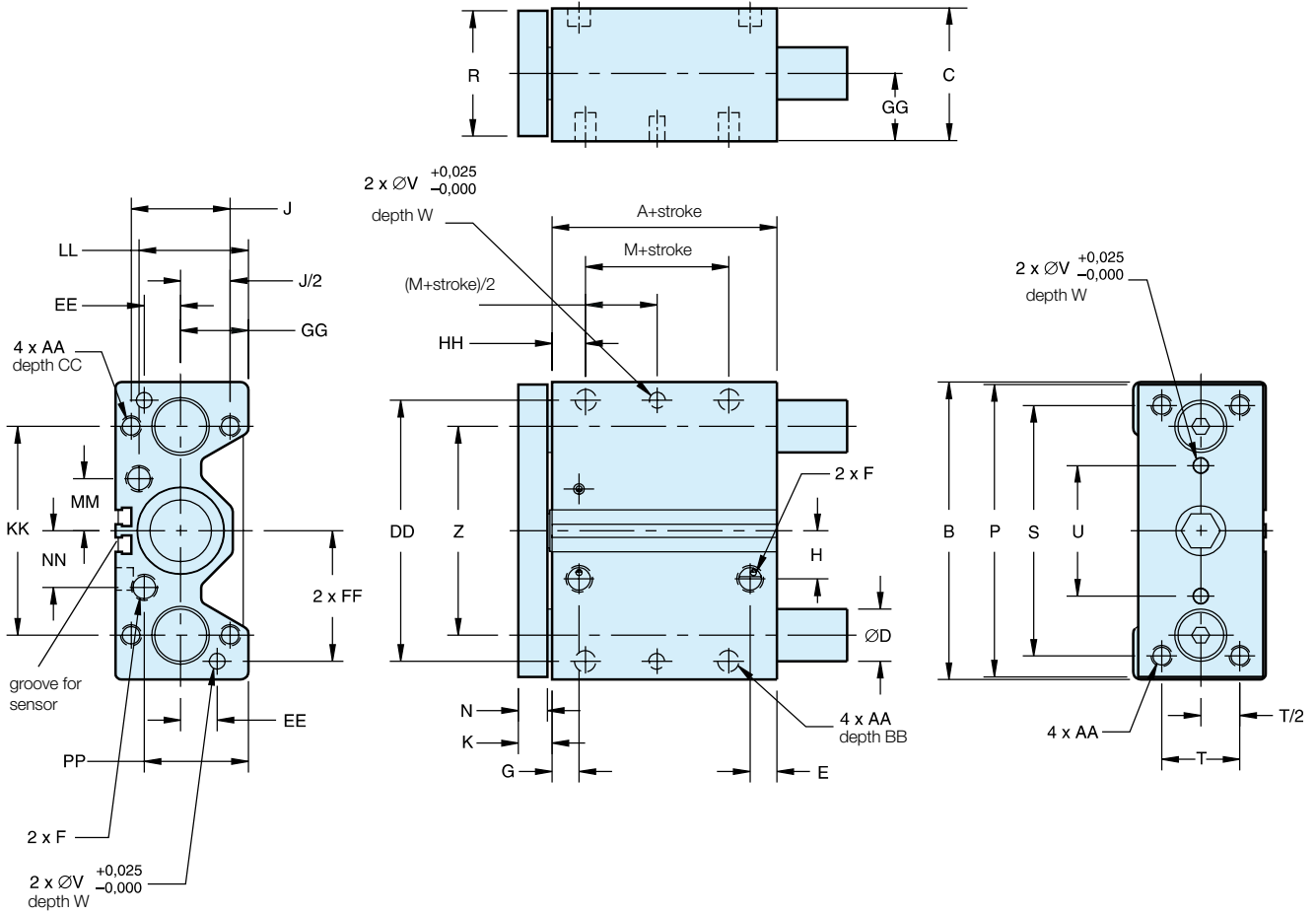
Double acting with one fixing plate adjustable end stops with cushioning, connections on side, on top or at rear.



Dimensions, P5T basic cylinder

Connection option D

(connection from the top)



Cylinder diam. mm	A mm	B mm	C mm	D1*) mm	D2*) mm	E mm	F	G mm	H mm	J mm	K mm	M mm	N mm	P mm	R mm	S mm	T mm	U mm	V mm
16	37,8	64	31	8	10	10,1	M5	10,1	7	22	9,9	7	7,9	62	25,4	52	16	20	3
20	35	74	36	10	12	19	G1/8	10	15,8	26	9,9	10	7,9	72	31,8	60	18	30	4
25	38	88	42	12	16	21	G1/8	11,4	15,5	32	9,9	10	7,9	86	38	70	26	34	4
32	36	114	51	16	20	10,3	G1/8	10,4	18,4	38	13,1	5	11,1	112	44,5	96	30	50	6
40	44	124	51	16	20	12,1	G1/8	14,9	22,5	38	13,1	10	11,1	122	44	106	30	60	6
50	44,9	140	62	20	25	14,5	G1/4	16,1	27	44	14,7	10	12,7	138	57	120	40	60	8
63	50,1	150	75	20	25	16,4	G1/4	14,5	33	44	14,7	10	12,7	148	70	130	50	72	8
80	59,5	188	95	25	30	17,5	G3/8	19	37	56	18	15	16	185	88,9	160	60	92	10
100	66**)	224	115	30	35	21,9**)	G3/8	23	40	62	18	15	16	221	108	190	80	114	10

Cylinder diam. mm	W mm	Z mm	AA	BB	CC	DD	EE	FF	GG	HH	KK	LL	MM	NN	PP	Piston rod Ø mm
16	6	42	M5x0,8	7,5	10	54	8	27	15	13,1	42	22,5	11,3	9,7	23	8
20	6	52	M5x0,8	7,5	10	64	10	32	17	13,1	52	26	15,4	15,4	26	10
25	6	62	M6x1,0	10	12	76	11	38	21	14,1	62	33,4	17	17	33,4	10
32	6	80	M8x1,25	11	16	100	14	50	26	12,9	80	42	20	21,7	38	16
40	6	90	M8x1,25	11	16	110	14	55	26	13,9	90	41	24	26,4	37,9	16
50	8	100	M10x1,5	12	20	124	16	62	30	14,3	100	51	29	33	44	20
63	8	110	M10x1,5	15	20	132	18	66	36,5	16,3	110	62	36	37,8	57,8	20
80	10	140	M12x1,75	18	24	166	22	83	46,5	21	140	78	45	48	75,5	25
100	10	170	M14x2,0	21	28	200	24	100	56,5	25	170	91,5	53	51	95,5	25

Length tolerance  $\pm 1$  mm

Stroke tolerance  $+ 1,5/0$  mm

\*\*) Stroke 25 mm, A=75 mm, E=28 mm

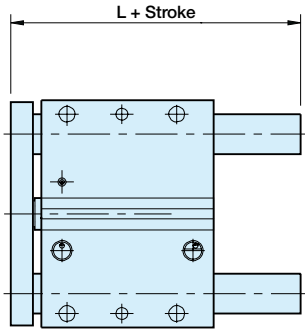
\*) D1 = bearing rod diameter for recirculating ball bearing

\*) D2 = bearing rod diameter for plain bearing

**Dimensions, P5T basic cylinder**

Standard lengths

Cylinder diam mm	Stroke mm	L mm
<b>16</b>	10	36,2
	25, 40, 50, 75	60,2
	100	75,2
<b>20</b>	25, 40, 50, 75	66,9
	100, 125	91,9
<b>25</b>	25, 50, 75, 100	69,9
	125, 150	91,9
<b>32</b>	25, 50, 75, 100	77,9
	125, 150, 175, 200	116,0
<b>40</b>	25, 50, 75, 100	77,9
	125, 150, 175, 200	116,0
<b>50</b>	25, 50, 75, 100	84,0
	125, 150, 175, 200	124,1
<b>63</b>	25, 50, 75, 100	84,0
	125, 150, 175, 200	124,1
<b>80</b>	25, 50, 75, 100	101,8
	125, 150, 175, 200	140,0
<b>100</b>	25	122,8
	50, 75, 100	120,3
	125, 150, 175, 200	158,4

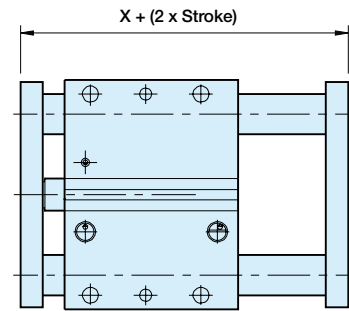


Please note that load capacity increases with two fixing plates, due to greater bearing distance.

Cylinder diam. mm	Guide rod dia. mm	X for option			QQ mm	RR mm	XX mm
		D mm	A mm	E mm			
<b>16</b>	8	57,6	70,6	62,7	18,0	13,0	0
	10	57,6	70,6	62,7	24,0	13,0	1
<b>20</b>	10	54,9	67,9	59,9	24,0	13,0	1
	12	54,9	72,6	64,6	28,0	17,7	3
<b>25</b>	12	57,8	75,5	67,6	28,0	17,7	1
	16	57,8	77,5	69,6	34,0	19,7	4
<b>32</b>	16	62,2	81,9	70,8	34,0	19,7	0
	20	62,2	83,9	72,8	41,4	21,7	3,7
<b>40</b>	16	70,2	89,9	78,8	34,0	19,7	0
	20	70,2	91,9	80,8	41,4	21,7	3,7
<b>50</b>	20	74,3	96,0	83,3	41,4	21,7	0,7
	25	74,3	96,0	83,3	50,8	21,7	5,4
<b>63</b>	20	79,5	101,2	88,5	41,4	21,7	0,7
	25	79,5	101,2	88,5	50,8	21,7	5,4
<b>80</b>	25	95,5	117,2	101,2	50,8	21,7	1,4
	30	95,5	117,2	101,2	60,5	21,7	6,3
<b>100</b>	30	102,0	123,7	107,7	60,5	21,7	3,3
	35	102,0	123,7	107,7	65,0	21,7	5,5

**Dimensions, P5T basic cylinder**

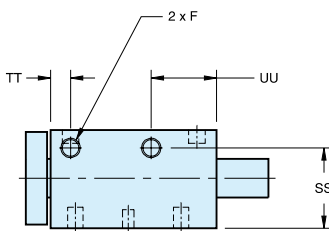
Option D



**Dimensions, P5T basic cylinder**

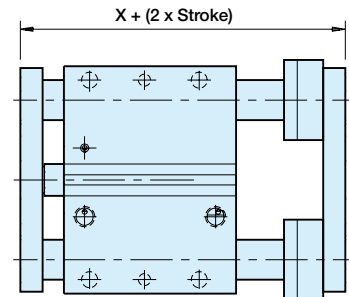
Connection option S (side connections)

Cylinder diam. mm	SS mm	TT mm	UU mm	F
<b>16</b>	24,1	10	20	M5
<b>20</b>	29,2	10	20	M5
<b>25</b>	35,2	11,4	25	M5
<b>32</b>	41,7	10,4	34	G1/8
<b>40</b>	41,7	14,9	34	G1/8
<b>50</b>	51,3	16,1	38	G1/4
<b>63</b>	60,7	15,6	41,8	G1/4
<b>80</b>	75,5	19	47	G3/8
<b>100</b>	83,7	23	53,3	G3/8



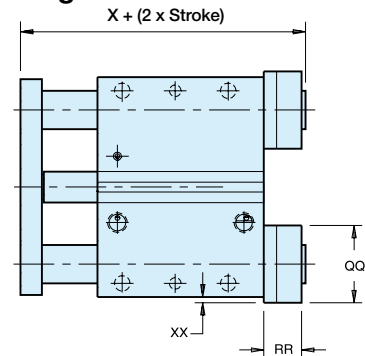
**Dimensions, P5T with two fixing plates and adjustable end stop with cushioning**

Option A



**Dimensions, P5T with adjustable end stop with cushioning**

Option E



## Twin Rod Non Rotate Cylinders RDV and AZ

A range of twin rod cylinders designed for use in non rotate applications specially suited to the handling and packaging environments. Offering a range of double acting cylinders with adjustable cushioning and magnetic variants.



### RDV Series:



- Available as bore  $\varnothing$  25mm
- Non rotating
- Double acting
- Adjustable cushioning
- Magnetic piston as standard

#### Operating information

Working pressure: Max 10 bar  
Working temperature:  $-10^{\circ}\text{C}$  to  $+70^{\circ}\text{C}$

Prelubricated, further lubrication is not normally necessary. If additional lubrication is introduced it must be continued.

### AZ Series:



- Available as bore  $\varnothing$  32mm -  $\varnothing$  100mm
- Non rotating
- Double acting
- Adjustable cushioning
- Magnetic piston as standard
- Drop in sensors

#### Operating information

Working pressure: Max 10 bar  
Working temperature:  $-20^{\circ}\text{C}$  to  $+80^{\circ}\text{C}$

Prelubricated, further lubrication is not normally necessary. If additional lubrication is introduced it must be continued.



**Order key - RDV**

<b>R D V</b>	<b>5</b>	<b>0 2 5</b>	<b>0 1 0 0</b>								
<b>Version</b>	<b>Function</b>	<b>Bore mm</b>	<b>Stroke (mm) e.g. 0100 = 100mm</b>								
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%;"><b>RDV</b></td> <td>Ø25mm bore only</td> </tr> </table>	<b>RDV</b>	Ø25mm bore only	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%;"><b>5</b></td> <td>Double acting with magnetic function, Adjustable cushioning</td> </tr> </table>	<b>5</b>	Double acting with magnetic function, Adjustable cushioning	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%;"><b>025</b></td> <td></td> </tr> </table>	<b>025</b>		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td colspan="2">Stroke lengths up to 500mm. Other sizes on request</td> </tr> </table>	Stroke lengths up to 500mm. Other sizes on request	
<b>RDV</b>	Ø25mm bore only										
<b>5</b>	Double acting with magnetic function, Adjustable cushioning										
<b>025</b>											
Stroke lengths up to 500mm. Other sizes on request											
<p><b>Note:</b>                  Standard option specified. Other options available                  Maximum 500mm</p>											

**Order key - AZV, AZ3, AZ4**

<b>A</b>	<b>5</b>	<b>5</b>	<b>K</b>	<b>0 1 0 0</b>	<b>/</b>	<b>0 0 0 A A A A 0 0 0 0 A 0 0 0 0</b>	
<b>Version</b>		<b>Function</b>		<b>Bore mm</b>		<b>Stroke (mm) e.g. 0100 = 100mm</b>	
5	<b>AZV</b>	Single set twin rods	1	Double acting, No magnetic function, Adjustable cushioning	K	<b>032</b>	Stroke lengths up to 500mm. Other sizes on request
6	<b>AZ4</b>	Double set twin rods	2	Double acting, No magnetic function, No adjustable cushioning	L	<b>040</b>	
7	<b>AZ3</b>	Single set twin rods with single rod	5	Double acting, With magnetic function, Adjustable cushioning	M	<b>050</b>	<p><b>Note:</b>                      Standard option specified. Other options available                      Maximum 2000mm</p>
			6	Double acting, With magnetic function, No adjustable cushioning	N	<b>063</b>	
					P	<b>080</b>	
					Q	<b>100</b>	

**Twin Rod Cylinder Cylinder Mounts**

Body Mounts	RDV	AZV / AZ3 / AZ4					
	25mm	32mm	40mm	50mm	Bore Ø 63mm		80mm
Foot mounting - MS3 / MS1	<b>KK28.302</b>	<b>PD27917</b>	<b>PD27918</b>	<b>PD28072</b>	<b>PD28073</b>	<b>PD28074</b>	<b>PD28075</b>
Rear Double Clevis - AB3 / MP2	<b>KZ1420</b>	<b>PD22704</b>	<b>PD22705</b>	<b>PD22706</b>	<b>PD22707</b>	<b>PD22708</b>	<b>PD22709</b>
Rear Single Clevis - MP4	-	<b>PD23412</b>	<b>PD23413</b>	<b>PD23414</b>	<b>PD23415</b>	<b>PD23416</b>	<b>PD23417</b>
Front Flange - Type MF1 for AZV / AZ3 / AZ4	-	<b>PD57042</b>	<b>PD57043</b>	<b>PD57044</b>	<b>PD57045</b>	<b>PD57046</b>	<b>PD57047</b>
Rear Flange - MF2	-	<b>PD23403</b>	<b>PD23404</b>	<b>PD23405</b>	<b>PD23406</b>	<b>PD23407</b>	<b>PD23408</b>
Trunnion - MT4	-	<b>PD39195</b>	<b>PD39196</b>	<b>PD39197</b>	<b>PD39198</b>	<b>PD39199</b>	<b>PD39200</b>
Trunnion Blocks - MT4	-	<b>PD23381</b>	<b>PD23382</b>	<b>PD23382</b>	<b>PD23383</b>	<b>PD23383</b>	<b>PD23384</b>
Pivot Mount - (w / o Bolts)	-	<b>PD25621</b>	<b>PD25622</b>	<b>PD25623</b>	<b>PD25624</b>	<b>PD25625</b>	<b>PD25626</b>
Groove Nut - for RDV5	<b>ZP2125</b>						

**Delivery information:** All mounts are sold separately and are not mounted for shipment, except for the trunnion mount which requires factory installation.

Rod Accessories	AZ3					
	32mm	40mm	50mm	Bore Ø 63mm		80mm
Rod Nut	<b>ZP 1810</b>	<b>ZP 2189</b>	<b>ZP 0178</b>	<b>ZP 0178</b>	<b>ZP 0185</b>	<b>ZP 0185</b>
Rod Clevis AP2	<b>KY 6135</b>	<b>KY 6136</b>	<b>KY 6139</b>	<b>KY 6139</b>	<b>KY 6141</b>	<b>KY 6141</b>
Rod Eye AP6	<b>KY 6147</b>	<b>KY 6148</b>	<b>KY 6150</b>	<b>KY 6150</b>	<b>KY 6151</b>	<b>KY 6151</b>
Clevis Pin	<b>KY 6153</b>	<b>KY 6154</b>	<b>KY 6157</b>	<b>KY 6156</b>	<b>KY 6158</b>	<b>KY 6159</b>
Flexo coupling	<b>KY 1129</b>	<b>KY 1131</b>	<b>KY 1133</b>	<b>KY 1133</b>	<b>KY 1134</b>	<b>KY 1134</b>

**Weights (kg)**

	RDV		AZV											
	25mm		32mm		40mm		50mm		Bore Ø 63mm		80mm		100mm	
	*1	*2	*1	*2	*1	*2	*1	*2	*1	*2	*1	*2	*1	*2
<b>Basic Cylinder</b>	0.46	0.11	0.80	0.25	1.00	0.35	1.70	0.5	2.60	0.6	4.20	0.9	6.20	1.0
<b>Type MS3 / MS1</b>	0.10		0.95		1.19		2.04		2.99		4.99		7.20	
<b>Type AB3 / MP2</b>	0.08		0.87		1.09		1.87		2.82		4.69		6.94	
<b>Type MP4</b>			0.90		1.13		1.91		2.90		4.77		7.11	
<b>Type MP6</b>			0.90		1.15		1.92		2.92		4.76		7.06	
<b>Type MF1 / MF2</b>			0.90		1.15		1.92		2.92		4.76		7.06	
<b>Type MT4</b>			0.91		1.18		1.93		3.25		5.03		7.76	

<b>AZ3</b>													
<b>Basic Cylinder</b>	1.0	0.30	1.5	0.45	2.5	0.7	3.2	0.85	5.3	1.3	7.5	1.5	
<b>Type MS1</b>	0.95		1.19		2.04		2.99		4.99		7.20		
<b>Type MF1 / MF2</b>	0.90		1.15		1.92		2.92		4.76		7.06		
<b>Type MT4</b>	0.91		1.18		1.93		3.25		5.03		7.76		

<b>AZ4</b>													
<b>Basic Cylinder</b>	1.0	0.30	1.4	0.40	2.3	0.6	3.2	0.9	5.6	1.4	7.4	1.50	
<b>Type MS1</b>	1.15		1.59		2.64		3.59		6.39		8.40		
<b>Type MT4</b>	1.11		1.58		2.53		3.59		6.13		8.16		

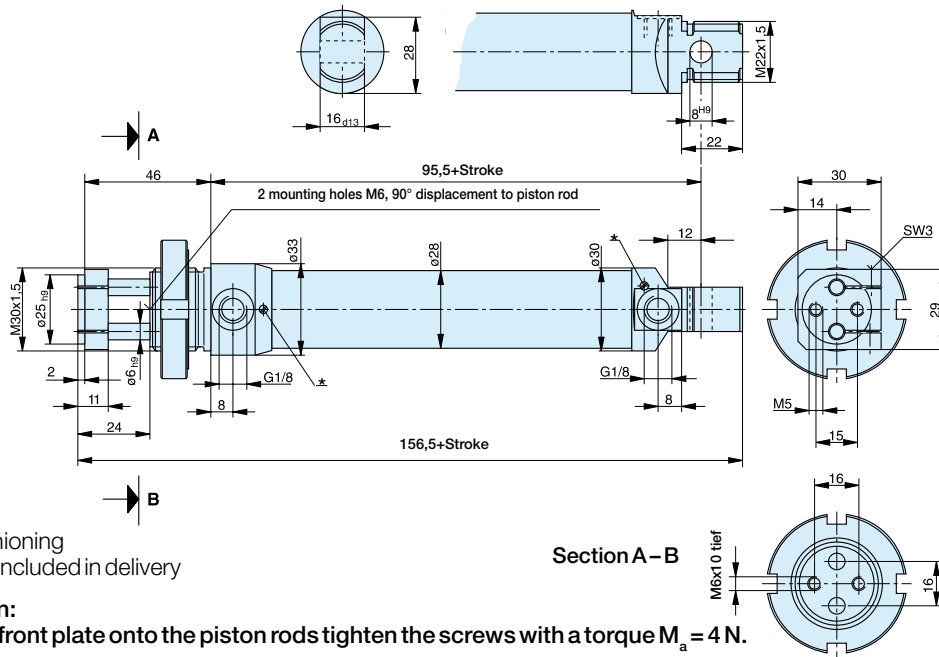
\*1 = Weight for cylinder with 100mm stroke

\*2 = Weight for every additional 100mm stroke length



**Dimensions – Double acting, non-rotating, Ø 25 mm**

**Series RDV5...**



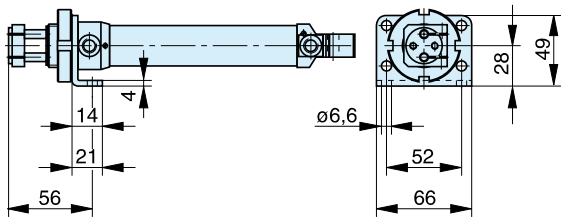
\* adjustable end cushioning  
 Mounting nut is not included in delivery

**Mounting instruction:**

When mounting the front plate onto the piston rods tighten the screws with a torque  $M_a = 4 \text{ N}$ .

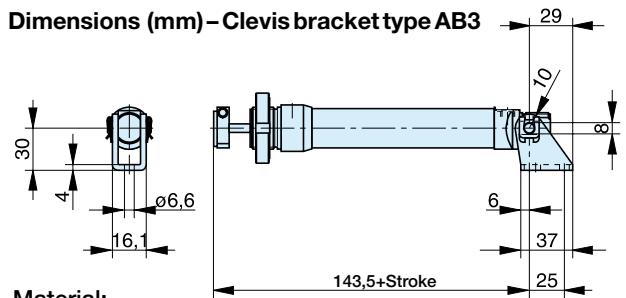
**Mountings – Series RDV..., Ø 25 mm**

**Dimensions (mm) – Foot mounting type MS3**



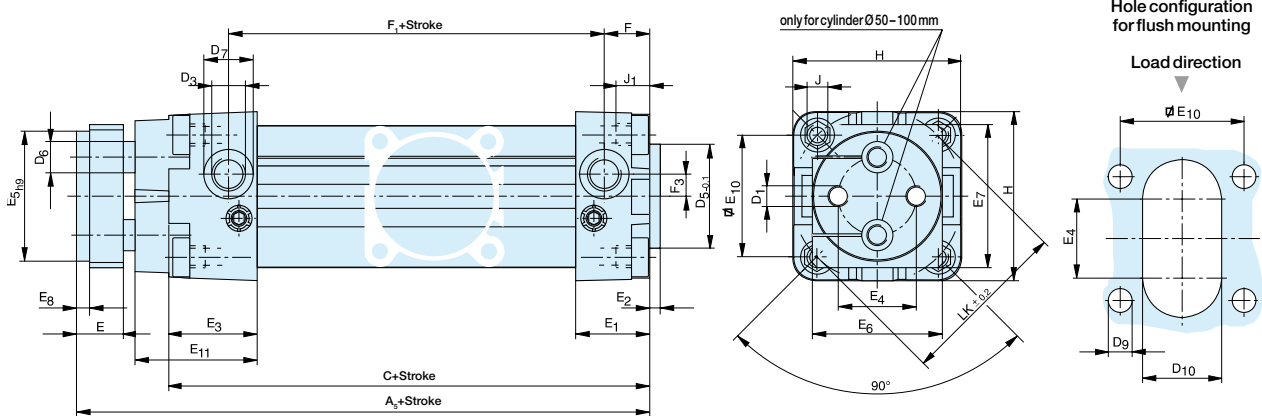
**Material:**  
 steel, passivated

**Dimensions (mm) – Clevis bracket type AB3**



**Material:**  
 steel, passivated

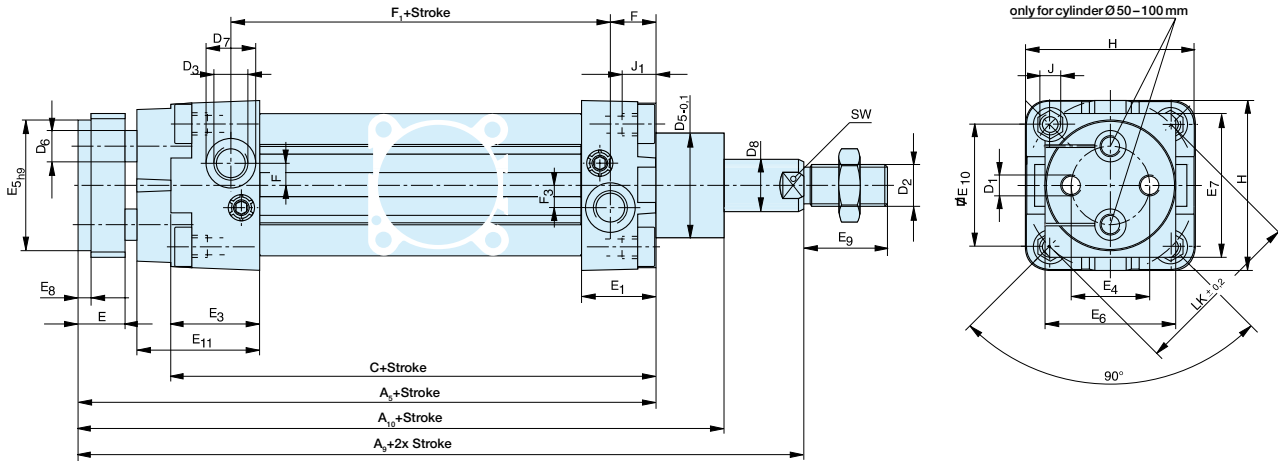
**Dimensions – Basic Cylinder, non-rotating, Series AZV..., Ø 32 – 100 mm**



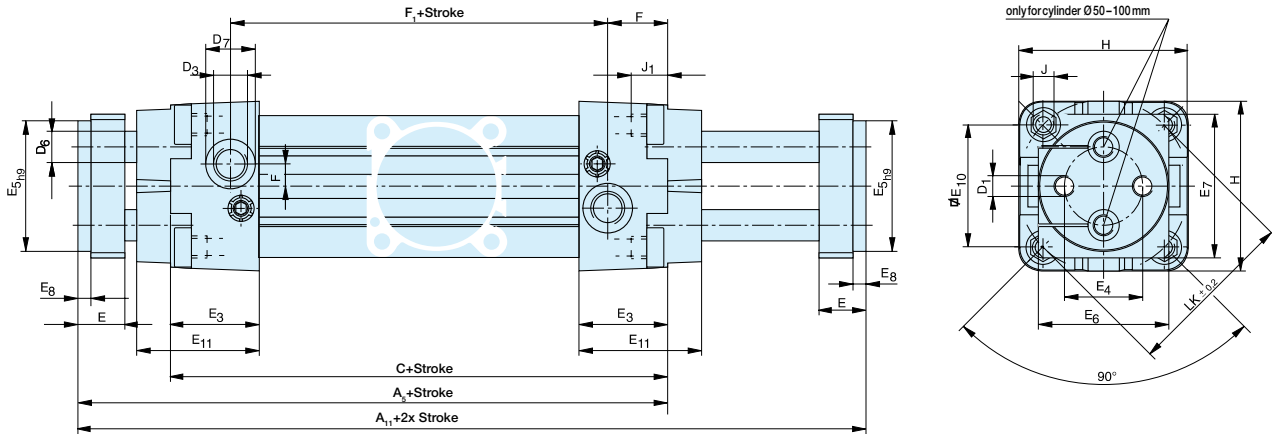
**Dimension Table (mm) – Basic Cylinder AZV..., AZ3..., AZ4...**

Cyl. Ø	A <sub>5</sub> + Stroke	A <sub>9</sub> + 2X Stroke	A <sub>10</sub> + Stroke	A <sub>11</sub> + 2X Stroke	C + Stroke	D <sub>1</sub>	D <sub>2</sub>	D <sub>3</sub>	ØD <sub>5</sub>	ØD <sub>6</sub>	ØD <sub>7</sub>	ØD <sub>8</sub>	ØD <sub>9</sub>	D <sub>10</sub>	E	E <sub>1</sub>	E <sub>2</sub>	E <sub>3</sub>
32	128	154	146	154	102	M6	M10x1.25	G1/8	30	8	15	12	7	23	15	29	4	26
40	142	172	163	172	112	M8	M12x1.25	G1/4	35	10	19	16	7	25	15	27	4	30
50	151	188	177	185	117	M8	M16x1.5	G1/4	40	12	19	20	9	30	18	29	4	34
63	161	198	187	197	125	M10	M16x1.5	G3/8	45	16	23	20	9	34	22	30	4	34
80	174	220	206	212	136	M12	M20x1.5	G3/8	45	20	23	25	10	38	22	34	4	39
100	181	232	218	219	143	M12	M20x1.5	G1/2	55	20	28	25	10	38	22	35	4	40

Dimensions – Basic Cylinder, non-rotating, with through piston rod, series AZ3...., Ø 32 – 100 mm



Dimensions – Basic Cylinder, non-rotating, with through piston rods, series AZ4...., Ø 32 – 100 mm



Dimension Table (mm) – Basic Cylinder AZV...., AZ3...., AZ4....

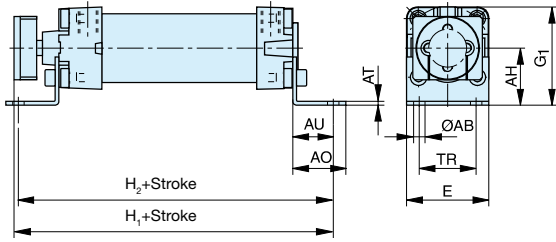
Cyl. Ø	A <sub>5</sub> + Stroke	A <sub>9</sub> + 2X Stroke	A <sub>10</sub> + Stroke	A <sub>11</sub> + 2X Stroke	C + Stroke	D <sub>1</sub>	D <sub>2</sub>	D <sub>3</sub>	ØD <sub>5</sub>	ØD <sub>6</sub>	ØD <sub>7</sub>	ØD <sub>8</sub>	ØD <sub>9</sub>	D <sub>10</sub>	E	E <sub>1</sub>	E <sub>2</sub>	E <sub>3</sub>
32	128	154	146	154	102	M6	M10x1.25	G1/8	30	8	15	12	7	23	15	29	4	26
40	142	172	163	172	112	M8	M12x1.25	G1/4	35	10	19	16	7	25	15	27	4	30
50	151	188	177	185	117	M8	M16x1.5	G1/4	40	12	19	20	9	30	18	29	4	34
63	161	198	187	197	125	M10	M16x1.5	G3/8	45	16	23	20	9	34	22	30	4	34
80	174	220	206	212	136	M12	M20x1.5	G3/8	45	20	23	25	10	38	22	34	4	39
100	181	232	218	219	143	M12	M20x1.5	G1/2	55	20	28	25	10	38	22	35	4	40

Cyl. Ø	ØE <sub>4</sub>	E <sub>5h9</sub>	E <sub>6</sub>	E <sub>7</sub>	E <sub>8</sub>	E <sub>9</sub>	E <sub>10</sub>	E <sub>11</sub>	F AZV, AZ3	F AZ4	F <sub>1</sub> +Stroke AZV, AZ3	F <sub>1</sub> +Stroke AZ4	F <sub>3</sub> AZV, AZ4	F <sub>3</sub> AZ3	F <sub>4</sub>	J	J <sub>1max</sub>	H	ØLK	SW
32	19	32	32	40	4	20	32.5	34	14.5	17.5	74	75	6	6	6	M6	16	47	46	10
40	22.5	40	40	45	4	24	38	42	16	19	77.5	75	7	7	7	M6	16	53	54	14
50	30	50	50	55	5	32	46.5	47	17.5	23	77	72	9.5	9.5	9.5	M8	16	65	66	17
63	38	63	63	70	5	32	56.5	45	17.5	21.5	87	83	10	10	10	M8	16	75	80	17
80	50	80	80	95	5	40	72	52	20.5	26	90	85	9	9	9	M10	16	95	102	22
100	70	100	100	115	5	40	89	53	19	24.5	100	95	13	13	13	M10	16	115	126	22

**Mountings – Series AZV....., AZ3....., AZ4....., Ø32 – 100 mm**

**Dimensions for foot mounting MS1**



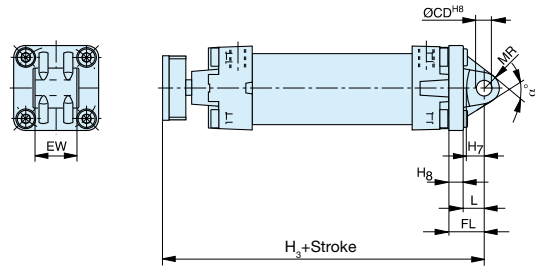
Material: steel, passivated

**Dimension Table (mm)**

Cyl. Ø	E	G <sub>1</sub>	H <sub>1</sub> + Stroke	H <sub>2</sub> + Stroke	AH	ØAB	AO	AT	AU	TR
32	47	55.5	152	150	32	7	32	4	24	32
40	53	62.5	170	168	36	9	38	4	28	36
50	65	77.5	183	181	45	9	42	5	32	45
63	75	87.5	193	189	50	9	42	5	32	50
80	95	110.5	215	218	63	12	55	6	41	63
100	115	128.5	222	225	71	14	56	6	41	75

Included in delivery: 2 foot brackets, 4 screws

**Dimensions for clevis bracket MP4**



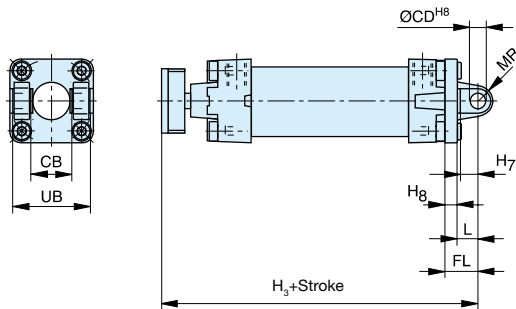
Material: cast aluminium

**Dimension Table (mm)**

Cyl. Ø	H <sub>3</sub> + Stroke	H <sub>7</sub>	H <sub>8</sub>	L	ØCD <sup>H8</sup>	FL	MR	EW	a°
32	150	10	10	12	10	22	10.5	26	60
40	167	13	10	15	12	25	13	28	60
50	178	12	11	16	12	27	13	32	70
63	193	17	11	21	16	32	17	40	60
80	210	16	15	21	16	36	17	50	70
100	222	20.5	16	25	20	41	21	60	70

Included in delivery: 1 clevis bracket, 4 screws

**Dimensions for clevis bracket MP2**



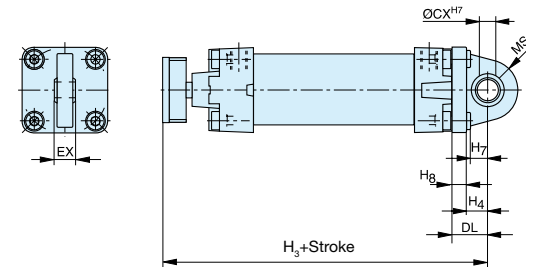
Material: cast aluminium

**Dimension Table (mm)**

Cyl. Ø	H <sub>3</sub> + Stroke	H <sub>7</sub>	H <sub>8</sub>	L	CB	ØCD <sup>H8</sup>	FL	MR	UB
32	150	10	10	12	26	10	22	9	45
40	167	13	10	15	28	12	25	11	52
50	178	12	11	16	32	12	27	12	60
63	193	17	11	21	40	16	32	15	70
80	210	16	15	22	50	16	36	16	90
100	222	20.5	16	25	60	20	41	20	110

Included in delivery: 1 rear trunnion mounting, 4 screws

**Dimensions for Swivel eye bracket MP6  
(Rear mounting with spherical bearing)**



Material: cast aluminium

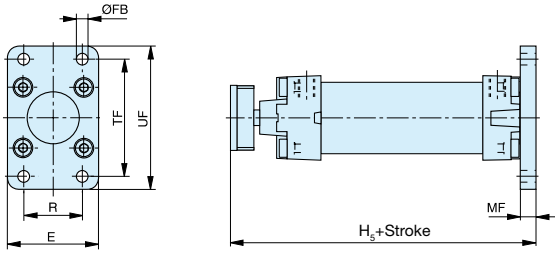
**Dimension Table (mm)**

Cyl. Ø	H <sub>3</sub> + Stroke	H <sub>4</sub>	H <sub>7</sub>	H <sub>8</sub>	ØCX <sup>H7</sup>	DL	EX	MS
32	150	12	10	10	10	22	14	18
40	167	15	13	10	12	25	16	21
50	178	16	12	11	12	27	16	23
63	193	21	17	11	16	32	21	27
80	210	21	16	15	16	36	21	29
100	222	25	20.5	16	20	41	25	34

Included in delivery: 1 rear trunnion mounting with spherical bearing, 4 screws

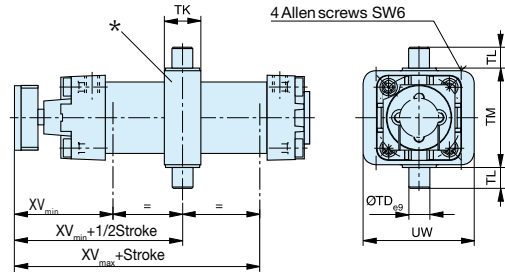
Mountings – Series AZV ....., AZ3....., AZ4....., Ø 32 – 100 mm

Dimensions for flange mouting MF2



Material: cast aluminium

Dimensions for trunnion mounting MT4 (profile cylinder barrel version)



Material: cast aluminium

\* Position trunnion mounting  
 Standard position: Type EN1 – The taps of the EN attachment are horizontally aligned to the air supply  
 Option: Type EN2 – The taps of the EN attachment are vertically aligned to the air supply

Dimension Table (mm)

Cyl. Ø	E	H <sub>5</sub> + Stroke	R	ØFB	MF	TF	UF
32	50	138	32	7	10	64	79
40	56	152	36	9	10	72	90
50	70	163	45	9	12	90	110
63	77	173	50	9	12	100	120
80	100	190	63	12	16	126	153
100	120	197	75	14	16	150	178

Included in delivery: 1 flange, 4 screws

Dimension Table (mm)

Cyl. Ø	ØTD <sub>eg</sub>	TK	TL	TM	UW	XV <sub>min</sub>	XV	XV <sub>max</sub>
32	12	25	12	50	65	64	76	87
40	16	28	16	63	75	75	87	99
50	16	28	16	75	85	84	95	106
63	20	36	20	90	100	89	101	112
80	20	36	20	110	120	96	109	121
100	25	48	25	132	135	99	112	125

Included in delivery: 1 rear trunnion mounting

After loosening the locking screws, the trunnion mounting is infinitely variable between XV<sub>min</sub> and XV<sub>max</sub>.

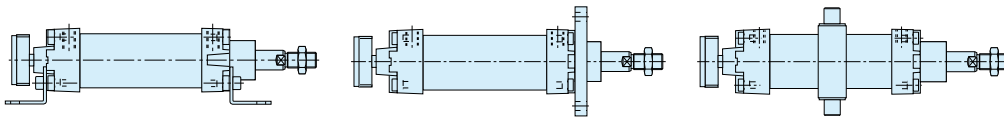
As standard, the position of the T-slots and dovetail slots is on the same side as the air connections. Exception: Ø 32 has only T-slots on the same side as the air connections, with a dovetail slot on the underside.

Mountings – Basic Cylinder, with through piston rod, series AZ3....., Ø 32 – 100 mm

Foot mounting MS1

Rear flange mounting MF2

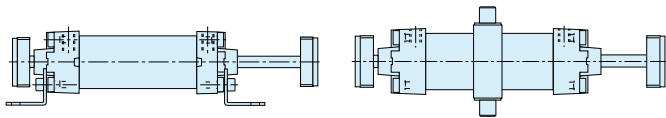
Trunnion mounting MT4



Mountings – Basic Cylinder, with through piston rods, series AZ4....., Ø 32 – 100 mm

Foot mounting MS1

Trunnion mounting MT4



# Industrial Shock Absorbers

Adjustable / Non-adjustable



Shock absorbers are hydraulic units that assist in bringing a moving load to rest, quickly and safely, without rebound or backward movement.

They provide a constant linear deceleration with the lowest possible reaction force in the shortest possible stopping time.

- Compact and heavy duty versions
- High energy absorption
- Low return force
- Long service life
- Increases productivity
- Reduces maintenance

**Smooth, Controlled Stopping of Moving Loads**

**Parker shock absorbers prevent damage to moving parts and to machines and plant, destructive impact forces are absorbed by controlled linear deceleration.**

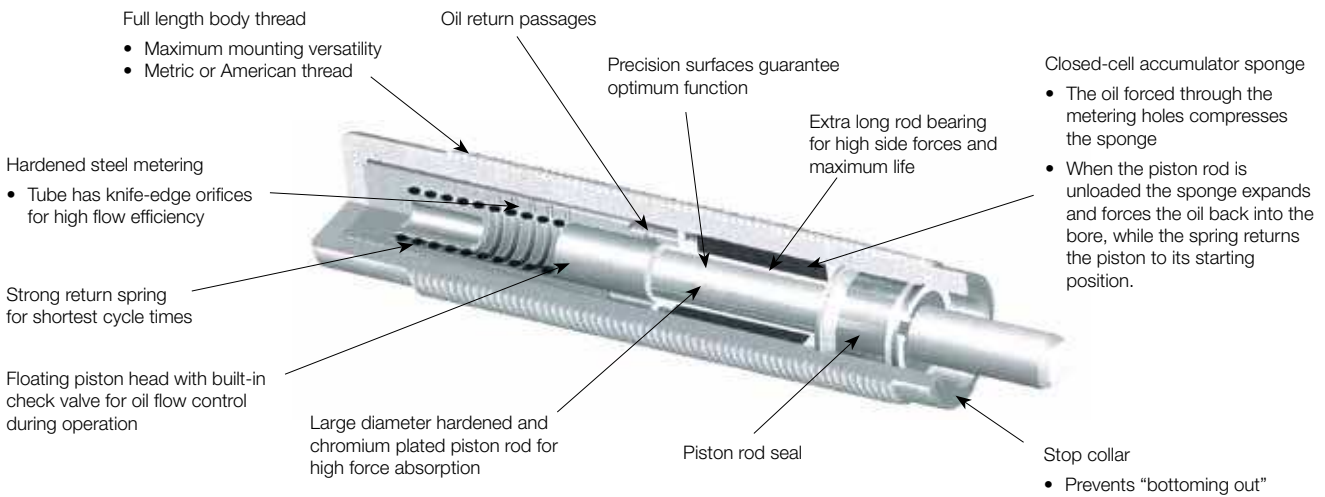
**Parker shock absorbers let you**

- Increase operating speeds
- Increase operating loads
- Increase system performance
- Increase operating reliability
- Reduce stresses on equipment
- Reduce production costs
- Reduce noise levels

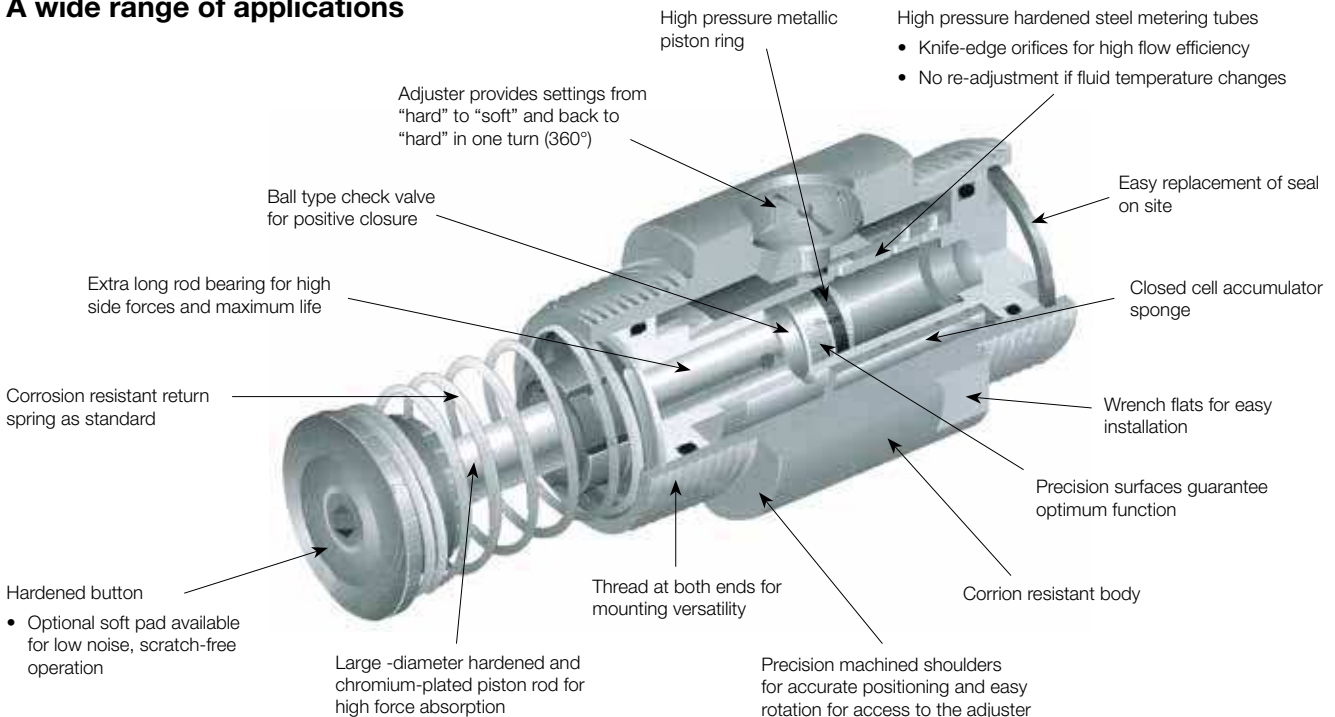
All moving parts in a production process have to be stopped without damage to themselves or to the stopping devices of the machines and plant.

The high impact forces have to be reduced in a controlled manner: to bring a moving load to a standstill, the kinetic energy generated by the movement has to be dissipated. The heavier the moving load and the faster it moves, the higher the kinetic energy. In automation especially, shorter and shorter cycle times are demanded, so that stopping times are greatly reduced while kinetic energy levels are dramatically increased. These again have to be dissipated in a controlled manner. Some commonly used stopping devices such as springs, rubber buffers or dashpots actually increase shock loading instead of reducing it - they do not dissipate energy at a uniform rate.

For smooth dissipation of the kinetic energy we recommend the use of hydraulic shock absorbers. Parker shock absorbers convert the kinetic energy generated by the deceleration of the load into thermal energy. Optimum operating conditions are achieved if the energy is dissipated almost uniformly, i.e. if the moving mass is brought to a halt in the shortest distance, in the shortest time and without sudden peak loads during the stroke.



**A wide range of applications**



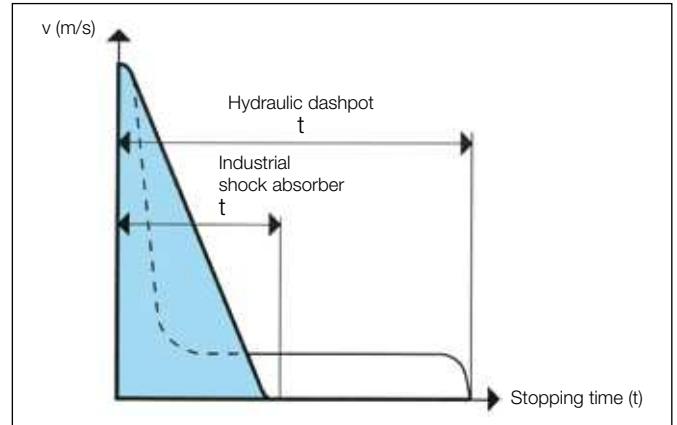
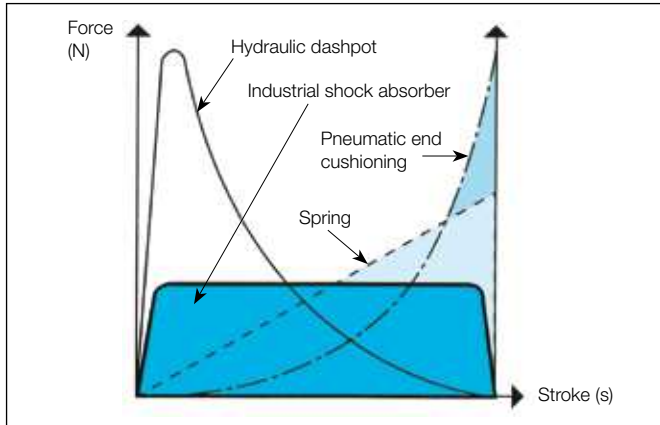


**Shock absorption**

Ordinary shock absorbers, springs, buffers and pneumatic cushioning cannot match the performance of Parker shock absorbers. These shock absorbers match the speed and mass of the moving object and bring it smoothly and uniformly to rest. Springs and buffers, on the other hand, store energy rather than dissipate it. Although the moving object is

stopped, it bounces back and this leads to fatigue in materials and components which can cause premature breakdown of the machine. Pneumatic cushioning provides a better solution because the energy is actually converted, but because of the compressibility of air the maximum braking force is generated

at the end of the stroke, which can lead to excessive loads on components. Hydraulic dashpots also cause excessive loads because peak resistance comes at the beginning of the stroke and then quickly falls away. This generates unnecessarily high braking forces.



**The Force/Stroke Diagram**

clearly shows these effects. The shock absorber curve is ideal because all the energy is dissipated by linear deceleration without initial impact or final rebound.

**Stopping time**

Both damping units stop the same mass from the same speed with the same stroke. Therefore they do the same work but the industrial shock absorber reduces the stopping time by 60 to 70%.

**Selection of Shock Absorber Type**

**Parker shock absorbers are available in two main types, to suit different applications and installation requirements. After selection of the appropriate type, sizing is determined by calculation.**

**Compact series with full-length body thread**

This compact, space-saving series is available in adjustable and non-adjustable versions and can be installed in many different ways, e.g. in a tapped blind hole, in a tapped through hole, in a clearance hole in a flange or bracket, etc.



**Universal series**

This versatile, adjustable series with various mounting accessories is designed to stop heavier loads. It is especially suited to applications which require several of the same shock absorbers with the same stroke length.



**Mounting methods**

Parker shock absorbers are designed for a variety of mountings, which can be either built into machines or supplied as accessories.

**Accumulators**

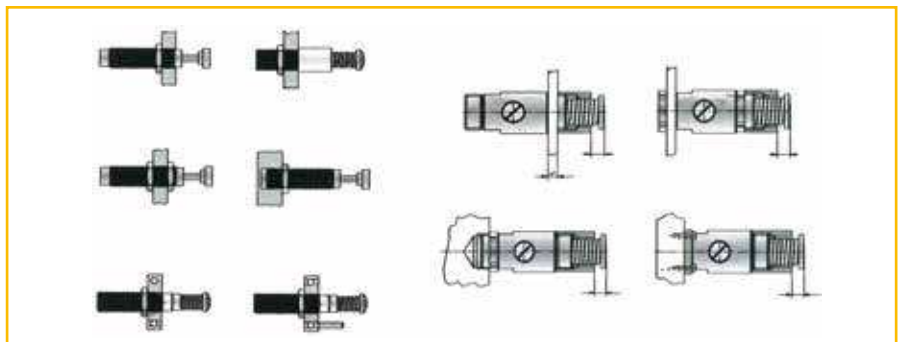
Normally shock absorbers with internal accumulators are used. This simplifies installation by eliminating external piping and oil storage. However, in applications with short cycle times and high kinetic energy the oil can become overheated. In this case an external accumulator should be used so that the oil can be cooled in the external circuit.

**Shock absorber return stroke**

- Piston rod with return spring combined with internal accumulator
- Return stroke actuated by compressed air or mechanically, combined with external accumulator. With this version a delayed return stroke is also possible.

**Options**

- Stop collars for front or rear mounting - these provide a positive stop to prevent damage caused by the piston "bottoming out". They also allow precise setting of the stroke length.
- Soft pad for the hardened steel button - to avoid surface damage and reduce noise levels.



## Non-Adjustable Shock Absorbers - SA Series

Type	Stroke [mm]	Effective Mass $m_e$ [kg]		Max Energy Absorption [Nm]		Thread Size	Order code
		Min.	Max.	per stroke $W_3$	per hour $W_4$		
SA 10N	6,5	0,7	2,2	2,8	22500	M10x1	7717FIL
SA 10SN	6,5	1,8	5,4	2,8	22500	M10x1	7718FIL
SA 10S2N	6,5	4,6	13,6	2,8	22500	M10x1	7721FIL
SA 12N	10	0,3	1,1	9,0	28200	M12x1	7719FIL
SA 12SN	10	0,9	4,8	9,0	28200	M12x1	7722FIL
SA 12S2N	10	2,7	36,2	9,0	28200	M12x1	7723FIL
SA 14	12,5	0,9	10	17	34000	M14x1,5 <sup>1)</sup>	7720FIL
SA 14S	12,5	8,6	86	17	34000	M14x1,5 <sup>1)</sup>	7927FIL
SA 14S2	12,5	68	205	17	34000	M14x1,5 <sup>1)</sup>	7928FIL
SA 20	12,5	2,3	25	25	45000	M20x1,5	7930FIL
SA 20S	12,5	23	230	25	45000	M20x1,5	7937FIL
SA 20S2	12,5	182	910	25	45000	M20x1,5	7938FIL
SAI 25	25,4	9	136	68	68000	M25x1,5	7834FIL
SAI 25S	25,4	113	1130	68	68000	M25x1,5	7835FIL
SAI 25S2	25,4	400	2273	68	68000	M25x1,5	7836FIL
SA 33x25	25,4	9	40	153	75000	M33x1,5	8041FIL
SA 33Sx25	25,4	30	120	153	75000	M33x1,5	8042FIL
SA 33S2x25	25,4	100	420	153	75000	M33x1,5	8043FIL
SA 33S3x25	25,4	350	1420	153	75000	M33x1,5	8044FIL
SA 33x50	50,8	18	70	305	85000	M33x1,5	8045FIL
SA 33Sx50	50,8	60	250	305	85000	M33x1,5	8046FIL
SA 33S2x50	50,8	210	840	305	85000	M33x1,5	8047FIL
SA 33S3x50	50,8	710	2830	305	85000	M33x1,5	8048FIL
SA 45x25	25,4	20	90	339	107000	M45x1,5	8049FIL
SA 45Sx25	25,4	80	310	339	107000	M45x1,5	8050FIL
SA 45S2x25	25,4	260	1050	339	107000	M45x1,5	8051FIL
SA 45S3x25	25,4	890	3540	339	107000	M45x1,5	8052FIL
SA 45x50	50,8	45	180	678	112000	M45x1,5	8053FIL
SA 45Sx50	50,8	150	620	678	112000	M45x1,5	8054FIL
SA 45S2x50	50,8	520	2090	678	112000	M45x1,5	8055FIL
SA 45S3x50	50,8	1800	7100	678	112000	M45x1,5	8056FIL
SA 45x75	76,2	70	270	1017	146000	M45x1,5	8057FIL
SA 45Sx75	76,2	230	930	1017	146000	M45x1,5	8058FIL
SA 45S2x75	76,2	790	3140	1017	146000	M45x1,5	8059FIL
SA 45S3x75	76,2	2650	10600	1017	146000	M45x1,5	8060FIL
SA 64x50	50,8	140	540	1695	146000	M64x2	8061FIL
SA 64Sx50	50,8	460	1850	1695	146000	M64x2	8062FIL
SA 64S2x50	50,8	1600	6300	1695	146000	M64x2	8063FIL
SA 64S3x50	50,8	5300	21200	1695	146000	M64x2	8064FIL
SA 64x100	101,6	270	1100	3390	192000	M64x2	8065FIL
SA 64Sx100	101,6	930	3700	3390	192000	M64x2	8066FIL
SA 64S2x100	101,6	3150	12600	3390	192000	M64x2	8067FIL
SA 64S3x100	101,6	10600	42500	3390	192000	M64x2	8068FIL
SA 64x150	150,1	410	1640	5084	248000	M64x2	8069FIL
SA 64Sx150	150,1	1390	5600	5084	248000	M64x2	8070FIL
SA 64S2x150	150,1	4700	18800	5084	248000	M64x2	8071FIL
SA 64S3x150	150,1	16000	63700	5084	248000	M64x2	8072FIL



<sup>1)</sup> Option: M14 x 1 thread

## Non-Adjustable Shock Absorbers - MC Series

Type	Stroke [mm]	Effective Mass $m_e$ [kg]		Max Energy Absorption [Nm]		Thread Size	Order code
		Min.	Max.	per stroke $W_3$	per hour $W_4$		
MC9M1-B	5	0,6	3,2	1	2000	M6 x 0,5	MC9M1-B
MC9M2-B	5	0,8	4,1	1	2000	M6 x 0,5	MC9M2-B
MC10ML-B	5	0,3	2,7	0,5	4000	M8 x 1	MC10ML-B
MC10MH-B	5	0,7	5,0	0,5	4000	M8 x 1	MC10MH-B
MC25ML	6,6	0,7	2,2	2,8	22500	M10 x 1	MC25ML
MC25M	6,6	1,8	5,4	2,8	22500	M10 x 1	MC25M
MC25MH	6,6	4,6	13,6	2,8	22500	M10 x 1	MC25MH
MC75M-1	10	0,3	1,1	9	28200	M12 x 1	MC75M-1
MC75M-2	10	0,9	4,8	9	28200	M12 x 1	MC75M-2
MC75M-3	10	2,7	36,2	9	28200	M12 x 1	MC75M-3
MC150M	12,5	0,9	10	17	34000	M14 x 1,5	MC150M
MC150MH	12,5	8,6	86	17	34000	M14 x 1,5	MC150MH
MC150MH2	12,5	70	200	17	34000	M14 x 1,5	MC150MH2
MC225M	12,5	2,3	25	25	45000	M20 x 1,5	MC225M
MC225MH	12,5	23	230	25	45000	M20 x 1,5	MC225MH
MC225MH2	12,5	180	910	25	45000	M20 x 1,5	MC225MH2
MC600M	25,4	9	136	68	68000	M25 x 1,5	MC600M
MC600MH	25,4	113	1130	68	68000	M25 x 1,5	MC600MH
MC600MH2	25,4	400	2300	68	68000	M25 x 1,5	MC600MH2
MC3325M-1	25	9	40	155	75000	M33 x 1,5	MC3325M-1
MC3325M-2	25	30	120	155	75000	M33 x 1,5	MC3325M-2
MC3325M-3	25	100	420	155	75000	M33 x 1,5	MC3325M-3
MC3350M-1	50	18	70	310	85000	M33 x 1,5	MC3350M-1
MC3350M-2	50	60	250	310	85000	M33 x 1,5	MC3350M-2
MC3350M-3	50	210	840	310	85000	M33 x 1,5	MC3350M-3
MC4525M-1	25	20	90	340	107000	M45 x 1,5	MC4525M-1
MC4525M-2	25	80	310	340	107000	M45 x 1,5	MC4525M-2
MC4525M-3	25	260	1050	340	107000	M45 x 1,5	MC4525M-3
MC4550M-1	50	45	180	680	112000	M45 x 1,5	MC4550M-1
MC4550M-2	50	150	620	680	112000	M45 x 1,5	MC4550M-2
MC4550M-3	50	520	2090	680	112000	M45 x 1,5	MC4550M-3
MC4575M-1	75	70	270	1020	146000	M45 x 1,5	MC4575M-1
MC4575M-2	75	230	930	1020	146000	M45 x 1,5	MC4575M-2
MC4575M-3	75	790	3140	1020	146000	M45 x 1,5	MC4575M-3
MC6450M-1	50	140	540	1700	146000	M64 x 2	MC6450M-1
MC6450M-2	50	460	1850	1700	146000	M64 x 2	MC6450M-2
MC6450M-3	50	1600	6300	1700	146000	M64 x 2	MC6450M-3
MC64100M-1	100	270	1100	3400	192000	M64 x 2	MC64100M-1
MC64100M-2	100	930	3700	3400	192000	M64 x 2	MC64100M-2
MC64100M-3	100	3150	12600	3400	192000	M64 x 2	MC64100M-3
MC64150M-1	150	410	1640	5100	248000	M64 x 2	MC64150M-1
MC64150M-2	150	1390	5600	5100	248000	M64 x 2	MC64150M-2
MC64150M-3	150	4700	18800	5100	248000	M64 x 2	MC64150M-3



## Non Adjustable Shock Absorbers - SC Series

Type	Stroke [mm]	Effective Mass $m_e$ [kg]				Max Energy Absorption [Nm]		Thread Size	Order code
		Soft contact		Self compensating		per stroke $W_3$	per hour $W_4$		
		Min.	Max.	Min.	Max.				
<b>SC925M-1</b>	40	22	72	14	90	110	90000	M25 x 1,5	<b>SC925M-1</b>
<b>SC925M-2</b>	40	59	208	40	272	110	90000	M25 x 1,5	<b>SC925M-2</b>
<b>SC925M-3</b>	40	181	612	113	726	110	90000	M25 x 1,5	<b>SC925M-3</b>



## Adjustable Shock Absorbers - SA Series

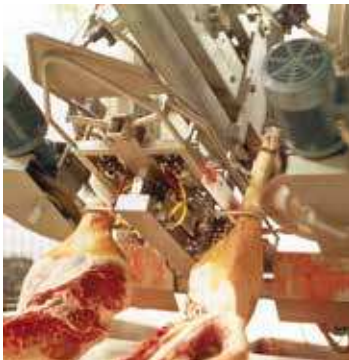
Type	Stroke [mm]	Effective Mass $m_e$ [kg]		Max Energy Absorption [Nm]		Thread Size	Order code
		Min.	Max.	per stroke $W_3$	per hour $W_4$		
<b>SA 1/4 x 1/2N</b>	12,7	1,0	190	20	35000	M20x1,5	<b>7720FIL</b>
<b>SA 3/8 x 1D</b>	25,4	4,5	546	70	68000	M25x1,5 <sup>2)</sup>	<b>7840FIL</b>
<b>SALD 1/2 x 1M</b>	25,4	4,5	1360	170	85000	M36x1,5	<b>7841FIL</b>
<b>SALD 1/2 x 2M</b>	50,8	9,5	2720	340	98000	M36x1,5	<b>7842FIL</b>
<b>SA 1/2 x 1</b>	25,4	4,5	1225	153	84700	M33x1,5	<b>7970FIL</b>
<b>SA 1/2 x 2</b>	50,8	9,5	2450	305	98300	M33x1,5	<b>7975FIL</b>
<b>SA 3/4 x 1</b>	25,4	9	8163	339	124300	M42x1,5	<b>7980FIL</b>
<b>SA 3/4 x 2</b>	50,8	16	14500	678	146800	M42x1,5	<b>7985FIL</b>
<b>SA 3/4 x 3</b>	76	23	20866	1017	180776	M42x1,5	<b>7986FIL</b>
<b>SA 1 1/8 x 2</b>	50,8	54	22680	1808	169478	M64x2,0	<b>7990FIL</b>
<b>SA 1 1/8 x 4</b>	102	73	45360	3616	225970	M64x2,0	<b>7995FIL</b>
<b>SA 1 1/8 x 6</b>	152	91	68040	5423	282463	M64x2,0	<b>7996FIL</b>
<b>SA-A 3/4 x 1</b>	25,4	27	3600	290	184000 <sup>3)</sup>	M42x1,5	<b>7887FIL</b>
<b>SA-A 3/4 x 2</b>	50,8	43	6350	600	230000 <sup>3)</sup>	M42x1,5	<b>7888FIL</b>
<b>SA-A 3/4 x 3</b>	76	55	9500	890	276000 <sup>3)</sup>	M42x1,5	<b>7889FIL</b>
<b>SA-A 1 1/8 x 2</b>	50,8	72	13000	1380	345000 <sup>3)</sup>	M64x2,0	<b>7880FIL</b>
<b>SA-A 1 1/8 x 4</b>	102	118	18200	2700	460000 <sup>3)</sup>	M64x2,0	<b>7885FIL</b>
<b>SA-A 1 1/8 x 6</b>	152	200	32000	4150	575000 <sup>3)</sup>	M64x2,0	<b>7886FIL</b>

<sup>2)</sup> Option: M27 x 3 thread      <sup>3)</sup> Operation with external air-oil tank

Further shock absorbers sizes (1 1/2", 2", 2 1/4", 3", 4") in various stroke lengths are also available on request.



For further technical data and accessories information regarding the SA-series please refer to shock absorber catalogue P-A4P018GB, for MC-SC- series please refer to catalogue PDE2524TCUK or contact your local Parker sales company.



# Air Motors

# Stainless Steel Air Motors P1V-S

*An ideal choice for the food grade applications, and in all other ATEX applications where there is a risk of corrosion.*



Designed for demanding applications and available in a wide variety of speeds and output torques. The all round, dirt-trap free design, stainless steel construction and FKM (DIN ISO 16299) external seals makes them the ideal choice for the Food Industry, where washdown with aggressive cleaning agents is common.

- Power from 0,02 kW to 1,2 kW
- ATEX CE Ex approved from 0,12 kW to 1,2 kW
- Keyed or threaded shaft
- No-lube intermittent operation as standard
- 0,2 kW, 0,3 and 1.2 kW Brakemotors for higher safety
- 0,28, 0,57 and 0.86 kW high torque series

P1V-S is a range of air motors with all external components made of stainless steel, which means that they can be used in food grade applications, and in all other applications where there is a risk of corrosion.

- Power from 0,02 kW to 1,2 kW
- ATEX CE Ex approved from 0,12 kW to 1,2 kW
- Designed for arduous applications
- No-lube intermittent operation as standard



### Operating information

Working pressure : Max 6 bar in Ex area  
 Working temperature : -20° to +40°C in Ex area  
 Fluid: Compressed air with ISO 8573-1 Quality class 3.4.3 (no-lube operation) and 3.-.5 (lube operation)

**Note :** All technical data are based on a working pressure of 6 bar and with oil. For oil-free performances are -10 to 15% lower. Data tolerance accuracy +-10%

For details, see technical catalogue on web site : [www.parker.com/euro\\_pneumatic](http://www.parker.com/euro_pneumatic)

CE Ex II 2GD c IIC T6 (80 °C) X

CE Ex II 2GD c IIC T5 (95 °C) X

#### Keyed shaft, P1V-S012A series, 120 watt - (G1/8)

CE Ex II2GD cIIC T6 (80°C) X

Max output kW	Free speed rpm	Speed at max output r/min	Torque at max output Nm	Min start torque Nm	Air consumption at max output l/s	Conn.	Min pipe ID	Order code
0,12	22000	11000	0,10	0,15	5,0	G1/8	6	<b>P1V-S012A0N00</b>
0,12	5500	2750	0,40	0,60	5,0	G1/8	6	<b>P1V-S012A0550</b>
0,12	3600	1800	0,60	0,90	5,0	G1/8	6	<b>P1V-S012A0360</b>
0,12	1400	700	1,60	2,40	5,0	G1/8	6	<b>P1V-S012A0140</b>
0,12	900	450	2,50	3,80	5,0	G1/8	6	<b>P1V-S012A0090</b>
0,12	600	300	3,80	5,00*	5,0	G1/8	6	<b>P1V-S012A0060</b>
0,12	100	50	5,00*	5,00*	5,0	G1/8	6	<b>P1V-S012A0010</b>

#### Threaded shaft, P1V-S012D series, 120 watt - (G1/8)

CE Ex II2GD cIIC T6 (80°C) X

0,12	22000	11000	0,10	0,15	5,0	G1/8	6	<b>P1V-S012D0N00</b>
0,12	5500	2750	0,40	0,60	5,0	G1/8	6	<b>P1V-S012D0550</b>
0,12	3600	1800	0,60	0,90	5,0	G1/8	6	<b>P1V-S012D0360</b>
0,12	1400	700	1,60	2,40	5,0	G1/8	6	<b>P1V-S012D0140</b>
0,12	900	450	2,50	3,80	5,0	G1/8	6	<b>P1V-S012D0090</b>
0,12	600	300	3,80	5,00*	5,0	G1/8	6	<b>P1V-S012D0060</b>
0,12	100	50	5,00*	5,00*	5,0	G1/8	6	<b>P1V-S012D0010</b>

#### Keyed shaft, P1V-S020A series, 200 watt - (G1/8)

CE Ex II2GD cIIC T6 (80°C) X

0,20	14500	7250	0,26	0,40	6,2	G1/8	10	<b>P1V-S020A0E50</b>
0,20	4600	2300	0,80	1,20	6,2	G1/8	10	<b>P1V-S020A0460</b>
0,20	2400	1200	1,60	2,40	6,2	G1/8	10	<b>P1V-S020A0240</b>
0,20	1400	700	2,70	4,10	6,2	G1/8	10	<b>P1V-S020A0140</b>
0,20	700	350	5,40	8,20	6,2	G1/8	10	<b>P1V-S020A0070</b>
0,20	320	160	12,00	18,00	6,2	G1/8	10	<b>P1V-S020A0032</b>
0,10	180	90	10,50	15,00	4,5	G1/8	10	<b>P1V-S020A0018</b>
0,18	50	25	20,00*	20,00*	6,2	G1/8	10	<b>P1V-S020A0005</b>
0,18	20	-	20,00*	20,00*	6,2	G1/8	10	<b>P1V-S020A0002</b>
0,18	10	-	20,00*	20,00*	6,2	G1/8	10	<b>P1V-S020A0001</b>
0,18	5	-	20,00*	20,00*	6,2	G1/8	10	<b>P1V-S020A00005</b>

\* Max allowed torque

## Reversible air motors

## Threaded shaft, P1V-S020D series, 200 watt - (G1/8)

CE Ex II2GD cIICT6 (80°C) X

Max output kW	Free speed rpm	Speed at max output r/min	Torque at max output Nm	Min start torque Nm	Air consumption at max output l/s	Conn.	Min pipe ID	Order code
0,20	14500	7250	0,26	0,40	6.2	G1/8	10	P1V-S020D0E50
0,20	4600	2300	0,80	1,20	6.2	G1/8	10	P1V-S020D0460
0,20	2400	1200	1,60	2,40	6.2	G1/8	10	P1V-S020D0240
0,20	1400	700	2,70	4,10	6.2	G1/8	10	P1V-S020D0140
0,20	700	350	5,40	8,20	6.2	G1/8	10	P1V-S020D0070
0,20	320	160	12,00	18,00	6.2	G1/8	10	P1V-S020D0032
0,10	180	90	10,50	15,00	4.5	G1/8	10	P1V-S020D0018
0,18	50	25	20,00*	20,00*	6.2	G1/8	10	P1V-S020D0005

## Keyed shaft, P1V-S030A series, 300 watt - (G1/4)

CE Ex II2GD cIICT6 (80°C) X

0,30	14500	7250	0,40	0,60	7.8	G1/4	10	P1V-S030A0E50
0,30	4600	2300	1,20	1,90	7.8	G1/4	10	P1V-S030A0460
0,30	2400	1200	2,40	3,60	7.8	G1/4	10	P1V-S030A0240
0,30	1400	700	4,10	6,10	7.8	G1/4	10	P1V-S030A0140
0,30	600	300	9,60	14,30	7.8	G1/4	10	P1V-S030A0060
0,30	340	170	16,90	25,30	7.8	G1/4	10	P1V-S030A0034
0,30	230	115	24,00	36,00	7.8	G1/4	10	P1V-S030A0023
0,13	180	90	13,80	21,00	4.7	G1/8	10	P1V-S030A0018
0,30	100	50	57,00	85,50	7.8	G1/4	10	P1V-S030A0010
0,30	50	25	36,00*	36,00*	7.8	G1/4	10	P1V-S030A0005

## Threaded shaft, P1V-S030D series, 300 watt - (G1/4)

CE Ex II2GD cIICT6 (80°C) X

0,30	14500	7250	0,40	0,60	7.8	G1/4	10	P1V-S030D0E50
0,30	4600	2300	1,20	1,90	7.8	G1/4	10	P1V-S030D0460
0,30	2400	1200	2,40	3,60	7.8	G1/4	10	P1V-S030D0240
0,30	1400	700	4,10	6,10	7.8	G1/4	10	P1V-S030D0140
0,30	600	300	9,60	14,30	7.8	G1/4	10	P1V-S030D0060
0,30	340	170	16,90	25,30	7.8	G1/4	10	P1V-S030D0034
0,13	180	90	13,80	21,00	4.7	G1/8	10	P1V-S030D0018
0,30	50	25	36,00*	36,00*	7.8	G1/4	10	P1V-S030D0005

## Keyed shaft, P1V-S060A series, 600 watt - (G3/8)

CE Ex II2GD cIICT6 (80°C) X

0,60	14000	7000	0,82	1,23	14.2	G3/8	12	P1V-S060A0E00
0,60	3500	1750	3,20	4,80	14.2	G3/8	12	P1V-S060A0350
0,60	2700	1350	4,20	6,40	14.2	G3/8	12	P1V-S060A0270
0,60	1700	850	6,70	10,10	14.2	G3/8	12	P1V-S060A0170
0,60	630	315	18,00	27,00	14.2	G3/8	12	P1V-S060A0063
0,60	480	240	23,90	36,00	14.2	G3/8	12	P1V-S060A0048
0,60	300	150	38,20	57,00	14.2	G3/8	12	P1V-S060A0030
0,30	150	75	38,00	57,00	14.2	G3/8	12	P1V-S060A0015

## Keyed shaft, P1V-S090A series, 900 watt - (G3/8)

CE Ex II2GD cIICT6 (80°C) X

0,90	12000	6000	1,40	2,10	23.3	G1/2	12	P1V-S090A0C00
0,90	3500	1750	4,90	7,30	23.3	G1/2	12	P1V-S090A0350
0,90	2700	1350	6,30	9,50	23.3	G1/2	12	P1V-S090A0270
0,90	1700	850	10,10	15,20	23.3	G1/2	12	P1V-S090A0170
0,90	630	315	27,00	40,00	23.3	G1/2	12	P1V-S090A0063
0,90	480	240	35,00	53,00	23.3	G1/2	12	P1V-S090A0048
0,90	300	150	57,00	85,00	23.3	G1/2	12	P1V-S090A0030

## Keyed shaft, P1V-S120A series, 1200 watt - (G3/4)

CE Ex II2GD cIICT5 (95°C) X

1,20	9000	4500	2,50	3,80	26,7	G3/4	19	P1V-S120A0900
1,20	2500	1250	8,20	13,70	26,7	G3/4	19	P1V-S120A0250
1,20	1100	550	21,00	31,00	26,7	G3/4	19	P1V-S120A0110
1,20	700	350	33,00	49,00	26,7	G3/4	19	P1V-S120A0070
1,20	320	160	71,00	107,00	26,7	G3/4	19	P1V-S120A0032
1,20	200	100	66,90	100,00	19,0	G3/4	19	P1V-S120A0020

\* Max permitted torque to not damage the gearbox



## ATEX Robust air motors - P1V-S

The high torque motors of the P1V-S type are small in size but provide extremely high output. Our high torque motors are also less apt to stall. These drive solutions are Particularly suitable for use in industrial agitators and mixers as used in the paint industry, food industry or pharmaceutical industry.



- Power 0.28, 0.57 and 0.86 kW
- Designed for arduous applications
- No-lube intermittent operation as standard

CE Ex II 2 GD c IIC T6 (80°C) X

## Operating information

Working pressure	Max 6 bar in Ex area
Working temperature	-20° to +40°C in Ex area
Fluid	Compressed air with ISO 8573-1 Quality class 3.4.3 (no-lube operation) and 3.-.5 (lube operation)

**Note :** All technical data are based on a working pressure of 6 bar and with oil.  
For oil-free performances are -10 to 15% lower.  
Data tolerance accuracy +-10%

For details, see technical catalogue on web site :  
[www.parker.com/euro\\_pneumatic](http://www.parker.com/euro_pneumatic)

## Keyed shaft, P1V-S028A series, 285 watt - (G3/8)

Max power	Free speed*	Nominal speed	Nominal torque	Min start torque	Air consumption at max power	Conn.	Min pipe ID	Weight	Order code
kW	rpm	rpm	Nm	Nm	l/s		mm	Kg	
0,285	170	85	32	47	7,8	G3/8	10	2,700	<b>P1V-S028A0017</b>
0,285	80	40	62	92	7,8	G3/8	10	2,600	<b>P1V-S028A0008</b>
0,285	50	25	110	162	7,8	G3/8	10	2,900	<b>P1V-S028A0005</b>
0,280	26	13	210	320	7,8	G3/8	10	3,500	<b>P1V-S028A0003</b>
0,280	14	7	410	615	7,8	G3/8	10	3,500	<b>P1V-S028A0002</b>

## Keyed shaft, P1V-S057A series, 570 watt - (G1/2)

Max power	Free speed*	Nominal speed	Nominal torque	Min start torque	Air consumption at max power	Conn.	Min pipe ID	Weight	Order code
kW	rpm	rpm	Nm	Nm	l/s		mm	Kg	
0,570	150	75	72	108	14,2	G1/2	10	3,600	<b>P1V-S057A0015</b>
0,570	110	55	98	147	14,2	G1/2	10	3,600	<b>P1V-S057A0011</b>
0,570	74	37	150	225	14,2	G1/2	10	3,600	<b>P1V-S057A0007</b>
0,565	40	20	265	400	14,2	G1/2	10	4,400	<b>P1V-S057A0004</b>

## Keyed shaft, P1V-S086A series, 860 watt - (G1/2)

Max power	Free speed*	Nominal speed	Nominal torque	Min start torque	Air consumption at max power	Conn.	Min pipe ID	Weight	Order code
kW	rpm	rpm	Nm	Nm	l/s		mm	Kg	
0,860	150	75	160	110	23,3	G1/2	10	3,800	<b>P1V-S086A0015</b>
0,860	110	55	220	150	23,3	G1/2	10	3,900	<b>P1V-S086A0011</b>
0,860	70	35	335	225	23,3	G1/2	10	3,900	<b>P1V-S086A0007</b>
0,850	40	20	600	400	23,3	G1/2	10	4,700	<b>P1V-S086A0004</b>

\* maximum admissible speed (idling)

## Brake motors

The integrated brake is a spring-loaded disk brake, which is released at a minimum air pressure of 5 bar. The brake is applied in the absence of pressure.

The technology and the size of air motors with integrated running and stationary brake make them ideal for applications requiring repeated precise positioning.

The motor can also be kept stationary in a specific position, and the stopping time for a rotating weight can be shortened significantly. Another typical application for brake motors is when the output shaft needs to be held in one position when the motor stops delivering torque.

The brake can handle more than 1500 braking operations per hour at maximum braking torque.

### Note!

Brake motors must only ever be supplied with unlubricated air, otherwise there is a risk of oil from the supply air getting into the brake unit, resulting in poor brake performance or no braking effect.

Please check the allowed maximum torque applied on the motor from the load in the technical catalogue

### Data for reversible brake motor with keyed shaft, P1V-S020AD series, 200 watt

Max power	Free speed*	Nominal speed	Nominal torque	Min start torque	Air consumption at max power	Conn.	Min pipe ID	Weight	Order code
kW	rpm	rpm	Nm	Nm	l/s		mm	Kg	
0,200	14500	7250	0,26	0,40	6,2	G1/8	10	1,000	<b>P1V-S020ADE50</b>
0,200	4600	2300	0,80	1,20	6,2	G1/8	10	1,050	<b>P1V-S020AD460</b>
0,200	2400	1200	1,60	2,40	6,2	G1/8	10	1,050	<b>P1V-S020AD240</b>
0,200	1400	700	2,70	4,10	6,2	G1/8	10	1,150	<b>P1V-S020AD140</b>
0,200	700	350	5,40	8,20	6,2	G1/8	10	1,150	<b>P1V-S020AD070</b>
0,200	320	160	12,00	18,00	6,2	G1/8	10	1,150	<b>P1V-S020AD032</b>
0,100	180	90	10,50	15,00	4,5	G1/8	10	1,150	<b>P1V-S020AD018</b>
0,180	50	25	20,00**	20,00**	6,2	G1/8	10	1,250	<b>P1V-S020AD005</b>
0,180	20	–	20,00**	20,00**	6,2	G1/8	10	1,250	<b>P1V-S020AD002</b>
0,180	10	–	20,00**	20,00**	6,2	G1/8	10	1,350	<b>P1V-S020AD001</b>
0,180	5	–	20,00**	20,00**	6,2	G1/8	10	1,350	<b>P1V-S020AD0005</b>

### Data for reversible brake motor with keyed shaft, P1V-S030AD series, 300 watt

0,300	14500	7250	0,40	0,60	8,0	G1/4	10	1,350	<b>P1V-S030ADE50</b>
0,300	4600	2300	1,20	1,90	8,0	G1/4	10	1,400	<b>P1V-S030AD460</b>
0,300	2400	1200	2,40	3,60	8,0	G1/4	10	1,400	<b>P1V-S030AD240</b>
0,300	1400	700	4,10	6,10	8,0	G1/4	10	1,450	<b>P1V-S030AD140</b>
0,300	600	300	9,60	14,30	8,0	G1/4	10	1,500	<b>P1V-S030AD060</b>
0,300	340	170	16,90	25,30	8,0	G1/4	10	1,500	<b>P1V-S030AD034</b>
0,300	230	115	24,00	36**	8,0	G1/4	10	3,650	<b>P1V-S030AD023</b>
0,130	180	90	13,80	21,00	4,7	G1/4	10	1,150	<b>P1V-S030AD018</b>
0,300	100	50	57,00	85,50	8,0	G1/4	10	3,650	<b>P1V-S030AD010</b>
0,280	50	25	36**	36**	8,0	G1/4	10	1,600	<b>P1V-S030AD005</b>


### Data for reversible brake motor with keyed shaft, P1V-S120AD series, 1200 watts

1,200	9000	4500	2,50	3,80	26,7	G3/4	19	9,000	<b>P1V-S120AD900</b>
1,200	2500	1250	9,20	13,70	26,7	G3/4	19	9,200	<b>P1V-S120AD250</b>
1,200	1100	550	21,00	31,00	26,7	G3/4	19	9,200	<b>P1V-S120AD110</b>
1,200	700	350	33,00	49,00	26,7	G3/4	19	9,700	<b>P1V-S120AD070</b>
1,200	320	160	71,00	107,00	26,7	G3/4	19	9,700	<b>P1V-S120AD032</b>


## P1V-S Accessories

\* Max allowed torque

### Flange

	For air motor	For drilling motor	Order code
	P1V-S002		<b>P1V-S4002B</b>
	P1V-S003		<b>P1V-S4002B</b>
	P1V-S008	P1V-S008	<b>P1V-S4008B</b>
	P1V-S012		<b>P1V-S4012B</b>
	P1V-S020	P1V-S025	<b>P1V-S4020B</b>
	P1V-S028 high torque		<b>P1V-S4028B1</b>
	P1V-S028 high torque		<b>P1V-S4028B2</b>
	P1V-S030	P1V-S040	<b>P1V-S4030B</b>
	P1V-S057 high torque		<b>P1V-S4028B1</b>
	P1V-S057 high torque		<b>P1V-S4028B2</b>
	P1V-S060	P1V-S060	<b>P1V-S4060B</b>
	P1V-S086 high torque		<b>P1V-S4028B1</b>
	P1V-S086 high torque		<b>P1V-S4028B2</b>
	P1V-S090		<b>P1V-S4060B</b>
	P1V-S120		<b>P1V-S4120B</b>

### Foot

	For air motor	For drilling motor	Order code
	P1V-S008	P1V-S008	<b>P1V-S4008F</b>
	P1V-S012		<b>P1V-S4012F</b>
	P1V-S020	P1V-S025	<b>P1V-S4020F</b>
	P1V-S028 high torque		<b>P1V-S4028F1</b>
	P1V-S028 high torque		<b>P1V-S4028F2</b>
	P1V-S030A0023		<b>P1V-S4020C</b>
	P1V-S030A0010		<b>P1V-S4020C</b>
	P1V-S030	P1V-S040	<b>P1V-S4030F</b>
	P1V-S057 high torque		<b>P1V-S4028F1</b>
	P1V-S057 high torque		<b>P1V-S4028F2</b>
	P1V-S060	P1V-S060	<b>P1V-S4060F</b>
	P1V-S086 high torque		<b>P1V-S4028F1</b>
	P1V-S086 high torque		<b>P1V-S4028F2</b>
	P1V-S090		<b>P1V-S4060F</b>
	P1V-S120		<b>P1V-S4120F</b>

## Design Variants

### Drilling, milling and grinding motors

A large number of drilling motors, milling motors and grinding motors have been developed using the P1V-S as the base motor in order to make it easier to install air motors in machining applications. These motors are all equipped with standard vanes for intermittent lubrication-free operation, although it is recommended to use oil mist if you are planning to operate them for extended periods.

**Note!** These motors are not made of 100% stainless steel.

Drilling motors are available with power ratings of 80, 170, 250 and 400 Watts, and several different speeds for the machining of a range of materials. They can be fitted with collet chucks, drill chucks and quick-release chucks. Many of them also have accessories allowing the exhaust air to be removed.

The milling motor, with a power rating of 400 Watts, runs at a relatively high speed, and is fitted with a collet chuck for a shaft diameter of 8 mm. It is equipped with strong bearings able to handle greater shear forces on the spindle.

The grinding motor, with a power rating of 200 Watts, is fitted with a collet chuck for a shaft diameter of 8 mm and runs at a relatively high speed. It is equipped with strong bearings able to handle greater shear forces on the spindle.

The design principle of the 90 Watt grinding motor is different from the others. The turbine principle means that high speeds are possible without the need for lubrication.



### Feed movement in drilling, milling and grinding motors

A slow and even feed movement is necessary in machining applications. During drilling, the feed must not uncontrollably speed up once the drill breaks through the material. One good way of solving the problem is to use a pneumatic cylinder for the feed, which is able to provide force during drilling and a rapid approach before the actual drilling phase. Feed during the drilling phase is controlled using a hydraulic brake cylinder (HYDROCHECK) fitted in parallel with the pneumatic cylinder. This provides even, slow and safe feed movement, without the risk of the uncontrolled feed described above.

**Note:** All air motors can be operated oil-free without special adaptation with only a 20% reduction of power.

#### Operating information

Working pressure:	Max 7 bar
Working temperature:	-20°C to +110°C
Medium:	40 µm filtered oil mist (unlubricated for grinding motor P1V-S009)

For more information see [www.parker.com/euro\\_pneumatic](http://www.parker.com/euro_pneumatic)

P1V-M is a series of air motors, with or without planetary gearbox. they are made of casted iron and grey painted. Its robustness makes it suitable for all industrial air motor applications.

P1V-M Air Motors are ATEX certified to be used in critical environments. The range contains five different sizes with power ratings of 200, 400, 600, 900 and 1200 Watts.

The motor and the gearbox are built to be extremely compact, making the motors suitable for applications requiring spaceless. The gearbox is of the planetary type, permanently lubricated with grease. The flange mounting is cast as an integral part of the case, and give, together with the foot bracket, plenty of opportunity for simple and robust installation.



- Power 0,2 kW, 0,4 kW, 0,6 kW, 0,9 kW & 1.2 kW
- ATEX certified
- Patented method for simple change of vanes
- Free speeds from 32 up to 10000 rpm
- Torque from 0,38 Nm up to 120 Nm by max output power
- Standard equipped with flange mounting
- Foot mountings as accesories

### Operating information

Working pressure	Max 7 bar
Working temperature	-20 °C to +110 °C
Medium	Filtered dry air and oil mist, purity class ISO 8573-1 class 3.-.5 for indoor use and with a dew point lower than ambient temperature for outdoor use.

### Robust motor reversible with keyed shaft, flange

Max power	Free speed*	Nominal speed	Nominal torque	Min start torque	Air consumption at max power	Conn.	Min pipe ID	Weight	Order code
kW	rpm	rpm	Nm	Nm	l/s		mm	Kg	
0,200	10 000	5 000	0,38	0,57	5	G1/8	10	1,00	<b>P1V-M020B0A00</b>
0,400	10 000	5 000	0,76	1,10	10	G3/8	12	1,40	<b>P1V-M040B0A00</b>
0,600	10 000	5 000	1,10	1,70	15	G3/8	13	1,60	<b>P1V-M060B0A00</b>
0,900	10 500	5 250	1,60	2,40	36,7	G1/2	13	3,10	<b>P1V-M090B0A00</b>
1,200	10 500	5 250	2,20	3,30	43,3	G1/2	13	3,80	<b>P1V-M120B0A00</b>

\* maximum admissible speed (idling)

### Robust reversible motor with keyed shaft, flange

Max power	Free speed*	Nominal speed	Nominal torque	Min start torque	Air consumption at max power	Conn.	Min pipe ID	Weight	Order code
kW	rpm	rpm	Nm	Nm	l/s		mm	Kg	
0,200	2 300	1 150	1,60	2,40	5	G1/8	10	2,40	<b>P1V-M020C0230</b>
0,200	1 460	730	2,60	3,90	5	G1/8	10	2,40	<b>P1V-M020C0146</b>
0,200	540	270	7,00	10,50	5	G1/8	10	2,80	<b>P1V-M020C0054</b>
0,200	340	170	11,20	16,80	5	G1/8	10	2,80	<b>P1V-M020C0034</b>
0,200	210	105	18,20	27,30	5	G1/8	10	2,80	<b>P1V-M020C0021</b>
0,200	120	60	31,80	47,70	5	G1/8	10	3,20	<b>P1V-M020C0012</b>
0,200	80	40	47,80	71,70	5	G1/8	10	3,20	<b>P1V-M020C0008</b>
0,200	32	16	80**	80**	5	G1/8	10	3,20	<b>P1V-M020C0003</b>

\* maximum admissible speed (idling) / \*\* gear box restriction

## Robust reversible motor with keyed shaft, flange

Max power	Free speed*	Nominal speed	Nominal torque	Min start torque	Air consumption at max power	Conn.	Min pipe ID	Weight	Order code
kW	rpm	rpm	Nm	Nm	l/s		mm	Kg	
0,400	2 300	1 150	3,20	4,80	10	G3/8	12	2,80	<b>P1V-M040C0230</b>
0,400	1 460	730	5,20	7,80	10	G3/8	12	2,80	<b>P1V-M040C0146</b>
0,400	540	270	14,00	21,00	10	G3/8	12	3,20	<b>P1V-M040C0054</b>
0,400	340	170	22,40	33,60	10	G3/8	12	3,20	<b>P1V-M040C0034</b>
0,400	210	105	36,40	54,60	10	G3/8	12	3,20	<b>P1V-M040C0021</b>
0,400	120	60	63,60	80**	10	G3/8	12	3,60	<b>P1V-M040C0012</b>
0,400	80	40	80**	80**	10	G3/8	12	3,60	<b>P1V-M040C0008</b>

\* maximum admissible speed (idling) / \*\* gear box restriction

## Robust reversible motor with keyed shaft, flange

Max power	Free speed*	Nominal speed	Nominal torque	Min start torque	Air consumption at max power	Conn.	Min pipe ID	Weight	Order code
kW	rpm	rpm	Nm	Nm	l/s		mm	Kg	
0,600	2 300	1 150	5,00	7,50	15	G3/8	13	3,00	<b>P1V-M060C0230</b>
0,600	1 460	730	7,80	11,70	15	G3/8	13	3,00	<b>P1V-M060C0146</b>
0,600	540	270	21,00	31,50	15	G3/8	13	3,40	<b>P1V-M060C0054</b>
0,600	340	170	33,60	50,40	15	G3/8	13	3,40	<b>P1V-M060C0034</b>
0,600	210	105	54,50	80**	15	G3/8	13	3,40	<b>P1V-M060C0021</b>
0,600	120	60	80**	80**	15	G3/8	13	3,80	<b>P1V-M060C0012</b>

\* maximum admissible speed (idling) / \*\* gear box restriction

## Robust motor reversible with keyed shaft, flange

Max power	Free speed*	Nominal speed	Nominal torque	Min start torque	Air consumption at max power	Conn.	Min pipe ID	Weight	Order code
kW	rpm	rpm	Nm	Nm	l/s		mm	Kg	
0,900	2 450	1 225	7,00	10,50	36,7	G1/2	13	4,90	<b>P1V-M090C0245</b>
0,900	1 560	780	11,00	16,50	36,7	G1/2	13	4,90	<b>P1V-M090C0156</b>
0,900	580	290	30,00	45,00	36,7	G1/2	13	5,60	<b>P1V-M090C0058</b>
0,900	360	180	47,00	71,00	36,7	G1/2	13	5,60	<b>P1V-M090C0036</b>
0,900	230	115	75,00	112,00	36,7	G1/2	13	5,60	<b>P1V-M090C0023</b>
0,900	134	67	120**	120**	36,7	G1/2	13	6,30	<b>P1V-M090C0013</b>
0,900	90	45	120**	120**	36,7	G1/2	13	6,30	<b>P1V-M090C0009</b>
0,900	40	20	120**	120**	36,7	G1/2	13	6,30	<b>P1V-M090C0004</b>

\* maximum admissible speed (idling) / \*\* gear box restriction

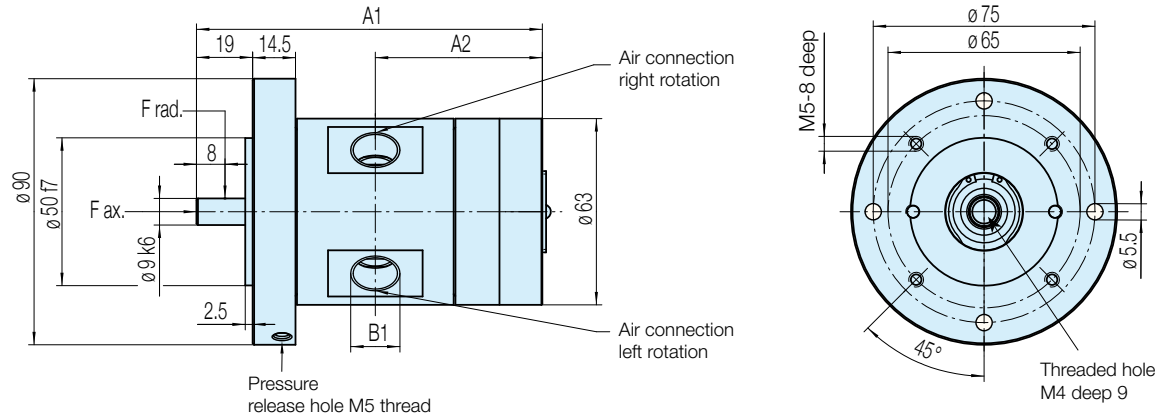
## Robust motor reversible with keyed shaft, flange

Max power	Free speed*	Nominal speed	Nominal torque	Min start torque	Air consumption at max power	Conn.	Min pipe ID	Weight	Order code
kW	rpm	rpm	Nm	Nm	l/s		mm	Kg	
1,20	2 450	1 225	9,40	14,00	43,3	G1/2	13	5,60	<b>P1V-M120C0245</b>
1,20	1 560	780	14,70	22,00	43,3	G1/2	13	5,60	<b>P1V-M120C0156</b>
1,20	580	290	40,00	60,00	43,3	G1/2	13	6,30	<b>P1V-M120C0058</b>
1,20	360	180	63,00	94,00	43,3	G1/2	13	6,30	<b>P1V-M120C0036</b>
1,20	230	115	100,00	120**	43,3	G1/2	13	6,30	<b>P1V-M120C0023</b>

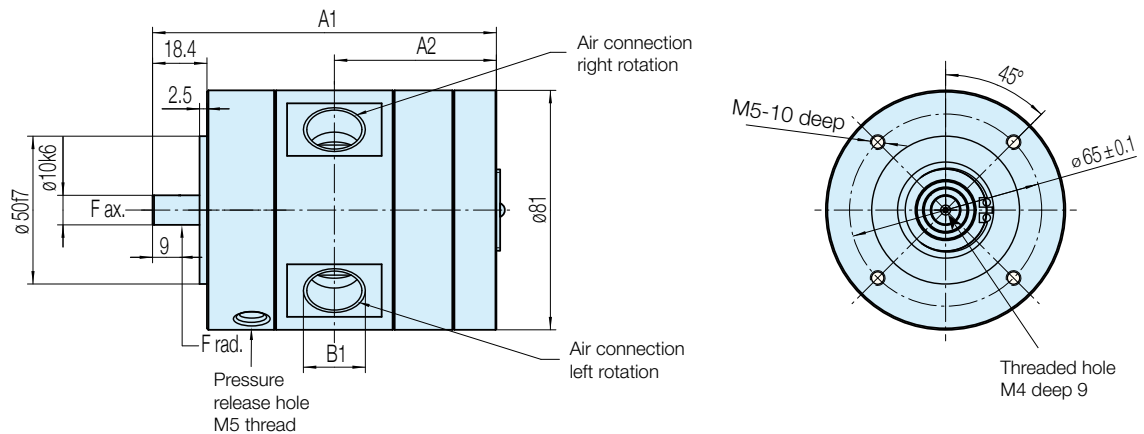
\* maximum admissible speed (idling) / \*\* gear box restriction

Dimensions (mm)

Motor **P1V-M020B0A00**  
**P1V-M040B0A00**  
**P1V-M060B0A00**



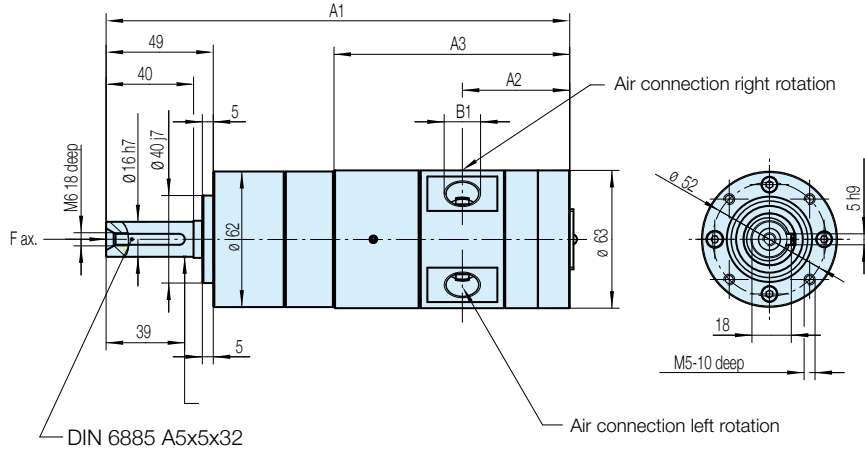
Motor **P1V-M090B0A00**  
**P1V-M120B0A00**



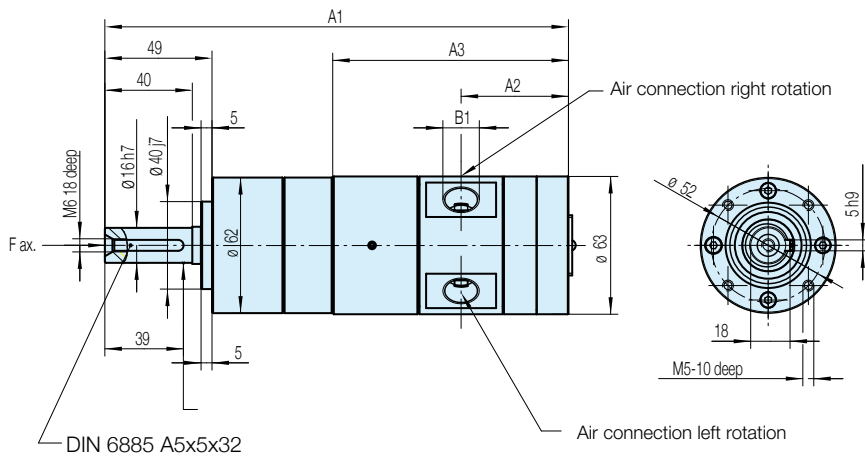
Motor type	Dimensions (mm)			
	A1	A2	B1	Key on shaft
<b>P1V-M020B0A00</b>	82	39	G1/8	DIN6885 A3x3x10
<b>P1V-M040B0A00</b>	102	49	G3/8	DIN6885 A3x3x10
<b>P1V-M060B0A00</b>	117	56.5	G3/8	DIN6885 A3x3x10
<b>P1V-M090B0A00</b>	116.3	54.8	G1/2	DIN6885 A3x3x18
<b>P1V-M120B0A00</b>	136.3	64.3	G1/2	DIN6885 A3x3x18

**Dimensions (mm)**

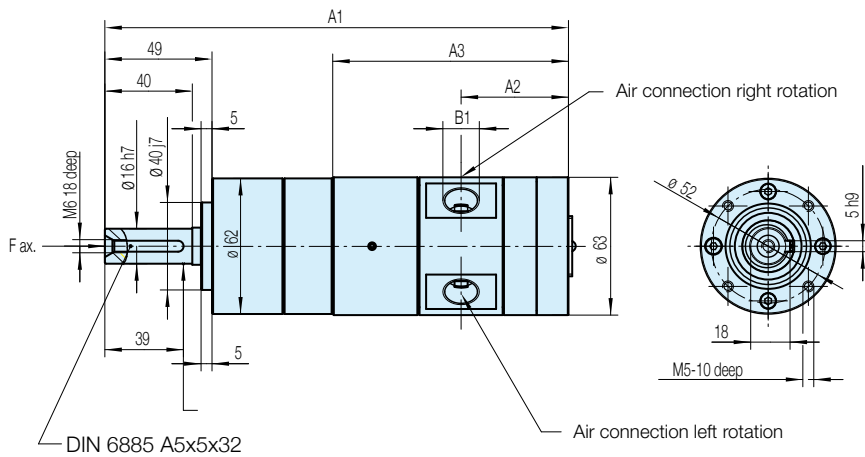
**Motor P1V-M020C**



**Motor P1V-M040C**



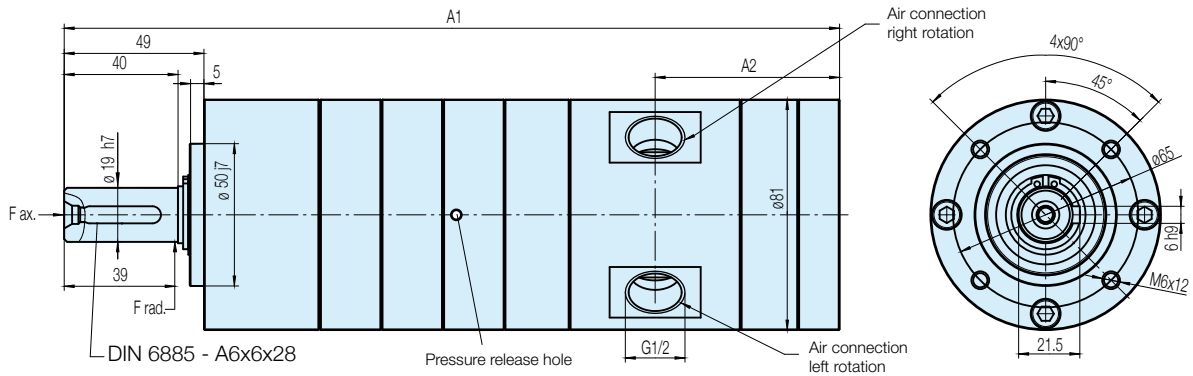
**Motor P1V-M060C**



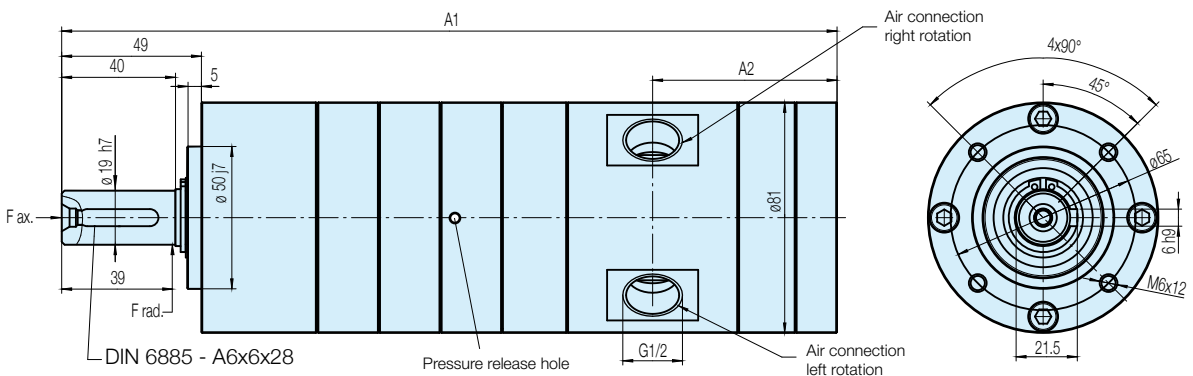
Motor size				Dimensions (mm)			
				A1	A2	A3	B1
200 watts	<b>P1V-M020C0230</b>	<b>P1V-M020C0034</b>		192.5	39	88	G1/8
	<b>P1V-M020C0146</b>	<b>P1V-M020C0021</b>	<b>P1V-M020C0008</b>	208.5	39	88	G1/8
	<b>P1V-M020C0054</b>	<b>P1V-M020C0012</b>	<b>P1V-M020C0003</b>	224	39	88	G1/8
400 watts	<b>P1V-M040C0230</b>	<b>P1V-M040C0034</b>		212.5	49	108	G3/8
	<b>P1V-M040C0146</b>	<b>P1V-M040C0021</b>	<b>P1V-M040C0008</b>	228.5	49	108	G3/8
	<b>P1V-M040C0054</b>	<b>P1V-M040C0012</b>		244	49	108	G3/8
600 watts	<b>P1V-M060C0230</b>	<b>P1V-M060C0034</b>		227.5	56.5	123	G3/8
	<b>P1V-M060C0146</b>	<b>P1V-M060C0021</b>	<b>P1V-M060C0012</b>	243.5	56.5	123	G3/8
	<b>P1V-M060C0054</b>			259	56.5	123	G3/8

**Dimensions (mm)**

**Motor P1V-M090C**



**Motor P1V-M120C**



Motor size				Dimensions (mm)	
				A1	A2
900 watts	<b>P1V-M090C0245</b>	<b>P1V-M090C0156</b>		209	55
	<b>P1V-M090C0058</b>	<b>P1V-M090C0036</b>	<b>P1V-M090C0023</b>	231	55
	<b>P1V-M090C0013</b>	<b>P1V-M090C0009</b>	<b>P1V-M090C0004</b>	252.5	55
1200 watts	<b>P1V-M120C0245</b>	<b>P1V-M120C0156</b>		229	65
	<b>P1V-M120C0058</b>	<b>P1V-M120C0036</b>	<b>P1V-M120C0023</b>	251	65



These large motors are designed for use in the most arduous applications, requiring considerable power, torque, robustness and reliability



### Operating information

Working pressure: Max 7 bar  
 Temperature range: -20°C to +110°C  
 Medium: Filtered dry air and oil mist, purity class ISO 8573-1 class 3.-.5 for indoor use and with a dew point lower than ambient temperature for outdoor use

For more information see [www.parker.com/euro\\_pneumatic](http://www.parker.com/euro_pneumatic)

### Reversible motor without gear box, IEC Flange

Max power	Free speed	Speed at max power	Torque at max power	Min start torque	Air consumption at max power	Conn.	Min pipe ID	Weight	Order code
kW	rpm	rpm	Nm	Nm	m <sup>3</sup> /min		mm	Kg	
5,1	6000	3000	16.2	24.4	6.2	G1	25	27	<b>P1V-B510A0600</b>
9	6000	3000	28.6	43	10	G1	25	25	<b>P1V-B900A0600</b>
18	6000	3000	57	85	20	G2	43	54	<b>P1V-BJ00A0600</b>

### Technical data

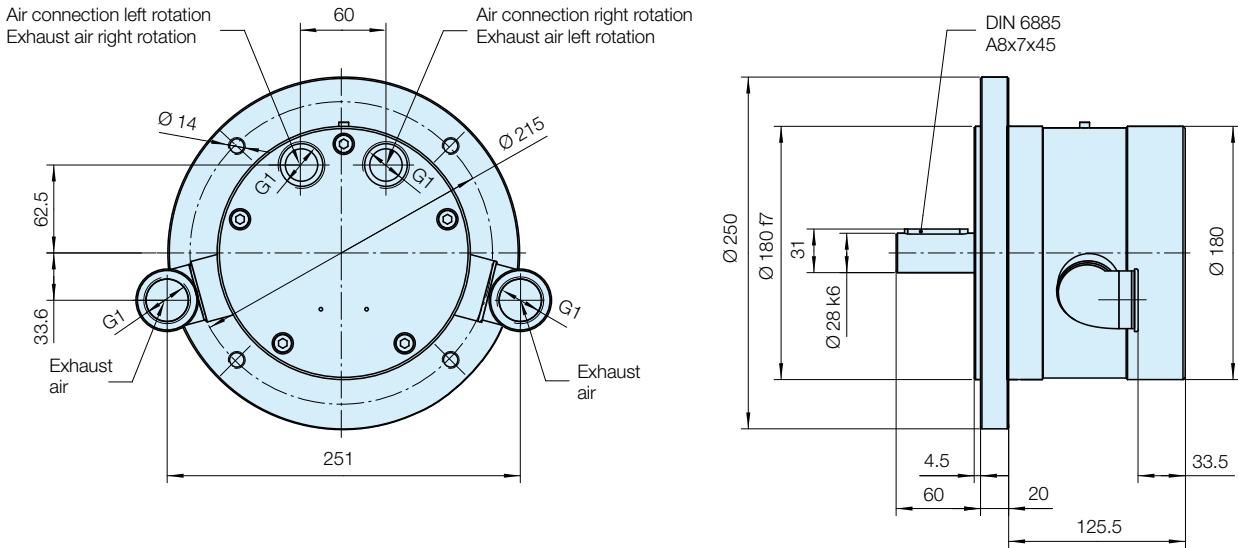
Air motor size & type	P1V-B510	P1V-B900	P1V-BJ00
Nominal power (watts)	5100	9000	18000
Working pressure (bar)	3 to 7		
Working temperature (°C)	-20 to +110		
Ambient temperature (°C)	-20 to +110		
Air flow required (NI/min)	6200	10000	20000
Min pipe ID, inlet (mm)	25	25	43
Min pipe ID, outlet (mm)	25	25	43
<b>Choice of treatment unit: recommended min air flow (l/min) at p1 7.5 bar and 0.8 bar pressure drop</b>			
	6400	10300	20400
<b>Choice of valve: recommended min nominal air flow (l/min) at p1 6 bar and 1 bar pressure drop</b>			
	6600	10600	20800
Medium	40µm filtered, oil mist or dry unlubricated compressed air		
Oil operation	1-2 drop per cube meter, ISO8573-1 purity class 3.-.5		
Recommended oil	Foodstuffs industry Klüber oil 4 UH 1-32 N		
Shaft radial force (N)	7500	7500	7500
Shaft axial force (N)	11000	11000	11000

### Material specification

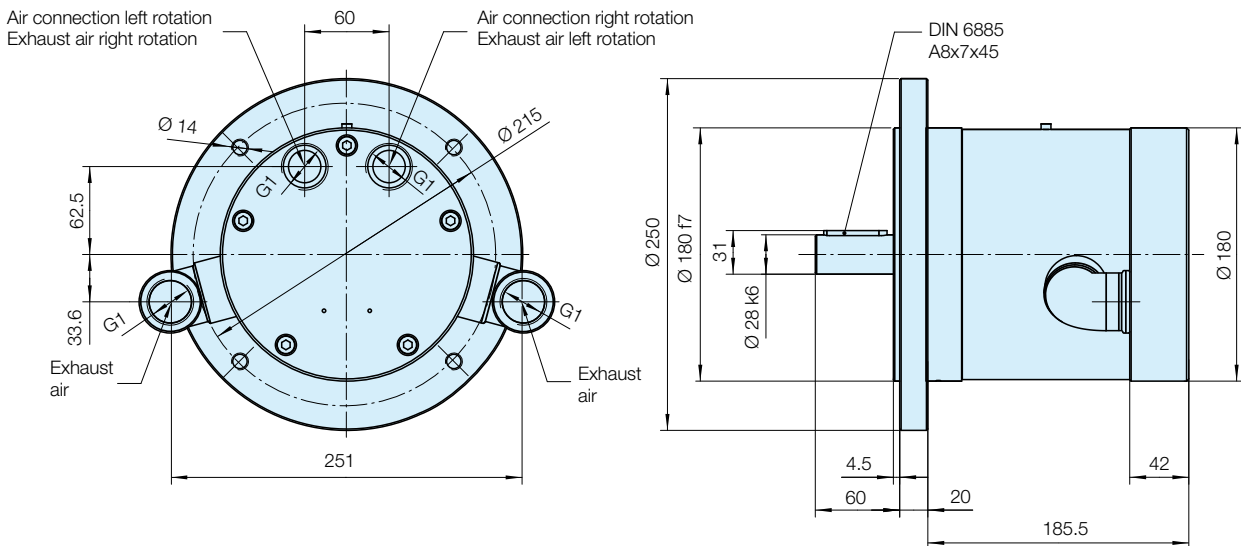
Air motor size & type	P1V-B510	P1V-B900	P1V-BJ00
Motor housing	Cast iron, synthetic paint, black color		
Shaft	High grade steel		
Key	Hardened steel		
External seal	Nitrile rubber, NBR		
Internal steel parts	High grade steel		
Vanes	Patented, no data		

**Dimensions (mm)**

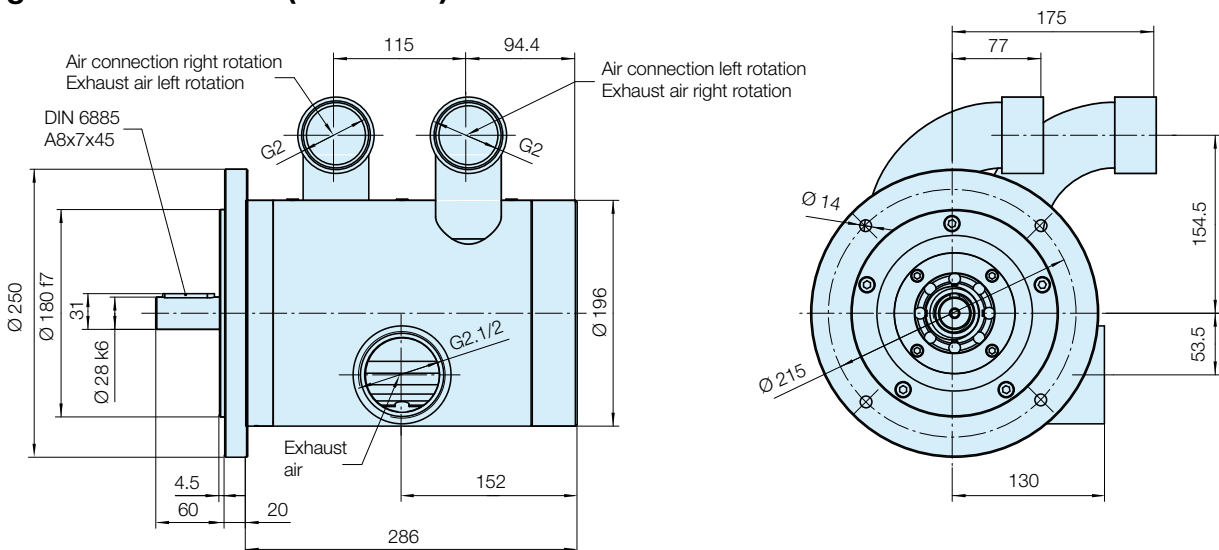
**Flange motor IEC112A (P1V-B510)**



**Flange motor IEC112A (P1V-B900)**



**Flange motor IEC112A (P1V-BJ00)**



## Technical data

**Note:** All technical data are based on a working pressure of 6 bar and with oil. Speed tolerance accuracy in between clock and anti-clockwise directions is  $\pm 10\%$ .

Air motor size & type	P1V-A160	P1V-A260	P1V-A360
Nominal power (watts)	1600	2600	3600
Working pressure (bar)	3 to 7, 6 in explosive atmosphere		
Working temperature (°C)	-20 to +110		
Ambient temperature (°C)	-20 to +110		
Air flow required (NI/min)	1900	3600	5800
Min pipe ID, inlet (mm)	15	19	25
Min pipe ID, outlet (mm)	15	19	25

**Choice of treatment unit: recommended min air flow (l/min) at p1 7.5 bar and 0.8 bar pressure drop**

	2100	3900	6200
--	------	------	------

**Choice of valve: recommended min nominal air flow (l/min) at p1 6 bar and 1 bar pressure drop**

	2300	4200	6600
Medium	40µm filtered, oil mist lubricated compressed air		
Oil operation	1-2 drop per cube meter, ISO8573-1 purity class 3.-.5		
Recommended oil	Foodstuffs industry Klüber oil 4 UH1- 32 N		
Sound level free outlet (dB(A))	120	131	131
With outlet silencer (dB(A))	97.5	99	101

**Note:** sound levels are measured at free speed with the measuring instrument positioned 1 meter away from the air motor at an height of 1 meter.

## Material specification

Air motor size & type	P1V-A160	P1V-A260	P1V-A360
<b>Without gear box</b>			
Motor housing	Cast iron, synthetic paint, silver grey color		
Shaft	High grade steel		
Key	Hardened steel		
External seal	Nitrile rubber, NBR		
Internal steel parts	High grade steel		
Vanes	Patented, no data		
Screws	Zinc coated steel		
<b>With gear boxes, common data</b>			
Housing	Alloy steel, synthetic paint, silver grey color		
Shaft	Hardened steel		
Key	Hardened steel		
Shaft seal	Nitrile rubber, NBR		
Screws	Zinc coated steel		
<b>With planetary gear box</b>			
Housing	Cast iron, synthetic paint, silver grey color		
<b>With helical gear box</b>			
Housing	Aluminium or cast iron, synthetic paint, silver grey color		
<b>With worm gear box</b>			
Housing	Aluminium or cast iron, synthetic paint, silver grey color		
Pinion	Chili cast phosphor bronze		
Worm	Alloyed, hardened steel		

**P1V-A Air Motor - Without gear box**

**NOTE!** All technical data are based on a working pressure of 6 bar and with oil.  
Speed tolerance accuracy is +-10%.



**A: Basic reversible motor without gear box, IEC Flange**

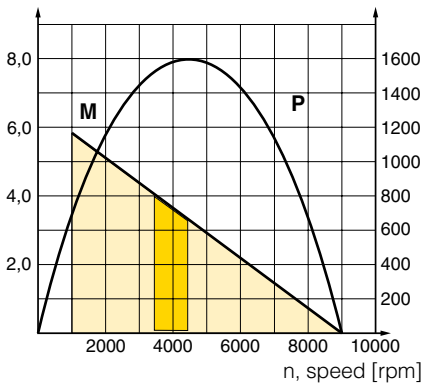
Max power	Free speed*	Nominal speed	Nominal torque	Min start torque	Air consumption at max power	Con-nection	Min pipe ID inlet/ outlet	Weight	Order code
kW	rpm	rpm	Nm	Nm	l/s		mm	Kg	
1,600	9000	4500	3,3	5,0	32	G1/2	15	4,2	<b>P1V-A160A0900</b>
2,600	7000	3500	7,1	11,0	60	G3/4	19	7,9	<b>P1V-A260A0700</b>
3,600	6000	3000	11,5	17,0	97	G1	25	16,5	<b>P1V-A360A0600</b>

\* maximum admissible speed (idling)

**P1V-A160A0900**

M, torque [Nm]

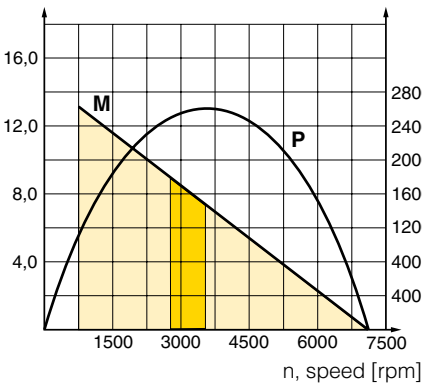
P, power [W]



**P1V-A260A0700**

M, torque [Nm]

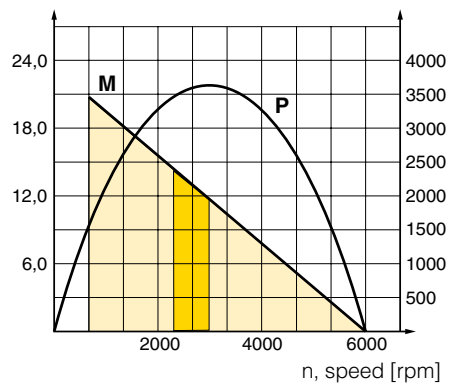
P, power [W]



**P1V-A360A0600**

M, torque [Nm]

P, power [W]



- Possible working range of motor.
- Optimum working range of motor.  
Higher speeds = more vane wear  
Lower speeds with high torque = more gearbox wear

**Permitted shaft loadings**

Max permitted load on output shaft for basic motors (based on 10,000,000 revolutions of the output shaft, with 90% probable service life for ball bearings).

	F <sub>ax</sub> N	F <sub>rad</sub> N	a mm
P1V-A160A0900	600	1000	15
P1V-A260A0700	700	1400	20
P1V-A360A0600	900	1900	25

F<sub>rad</sub> = Radial loading (N)  
F<sub>ax</sub> = Axial loading (N)

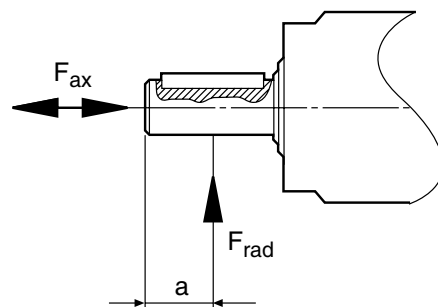
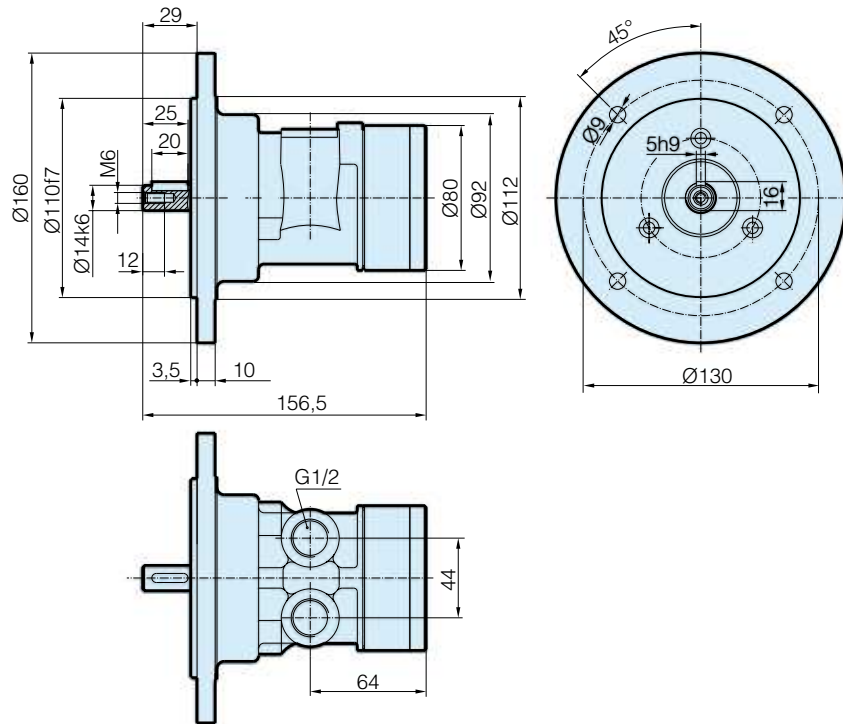


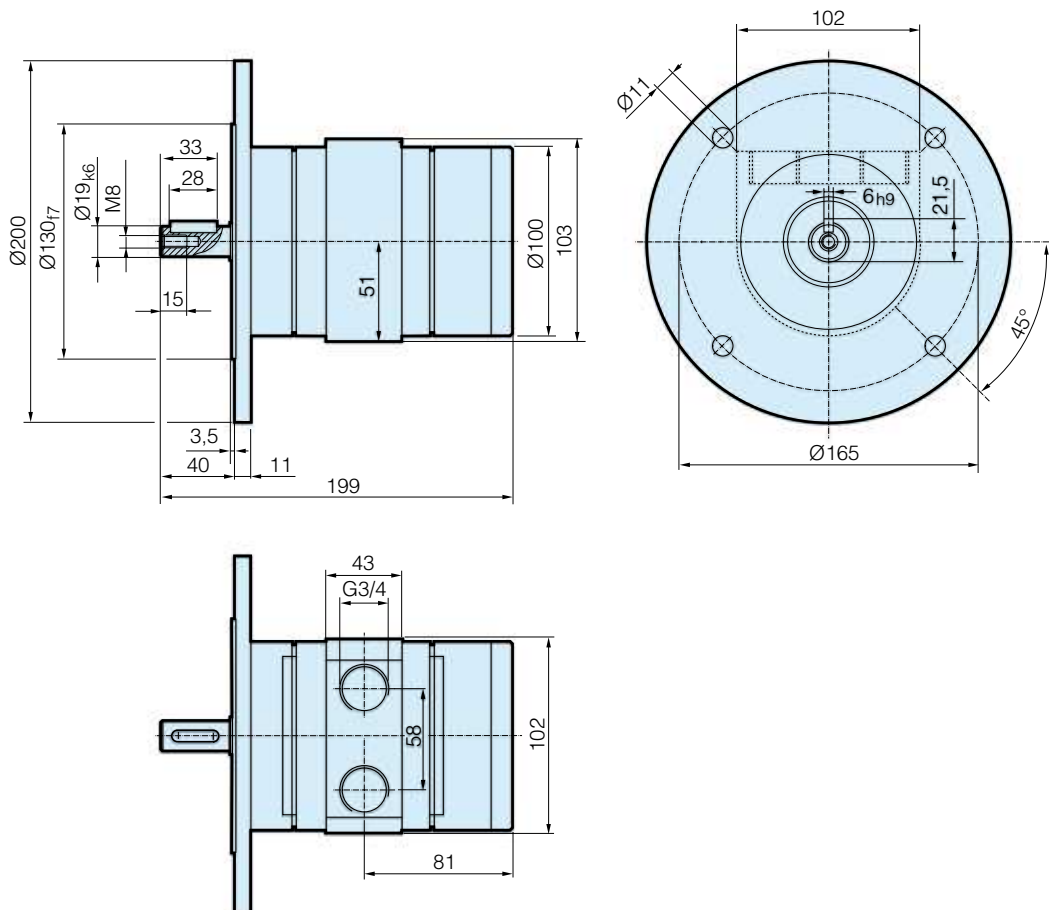
Fig. 1: Loading on output shaft.

**Dimensions (mm)**

**Flange motor IEC71AB5 (P1V-A160)**

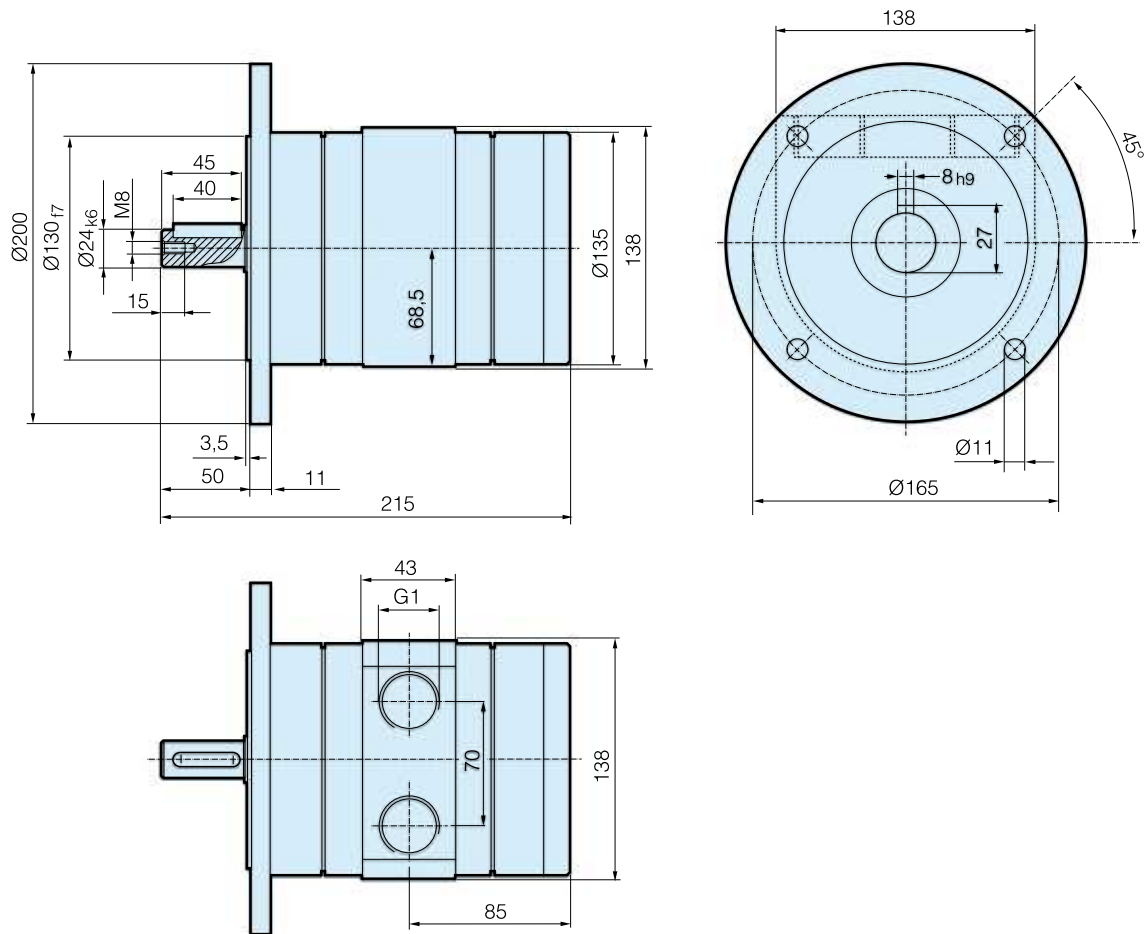


**Flange motor IEC80AB5 (P1V-A260)**



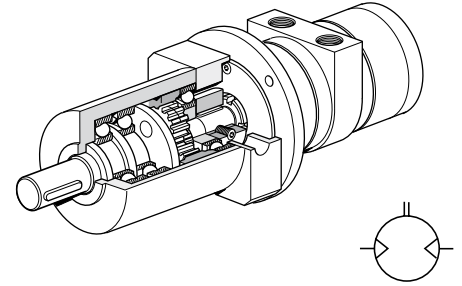
Dimensions (mm)

Flange motor IEC90AB5 (P1V-A360)



**P1V-A Air Motor - Planetary Gear**

**NOTE!** All technical data are based on a working pressure of 6 bar and with oil. Speed tolerance accuracy is +-10%.



**B: Reversible motor with planetary gear, flange mounting, free installation position**

Max power kW	Max speed* rpm	Nominal speed rpm	Nominal Torque Nm	Min start torque Nm	Max permanent torque** Nm	Air consumption at max power l/s	Connection	Min pipe ID inlet/outlet mm	Weight Kg	Order code
<b>Series P1V-A160</b>										
1,600	1200	900	16	24	40	32	G1/2	15	8,3	<b>P1V-A160B0120</b>
1,600	600	450	32	48	35	32	G1/2	15	8,3	<b>P1V-A160B0060</b>
1,600	190	180	77	115	100	32	G1/2	15	15,4	<b>P1V-A160B0019</b>
<b>Series P1V-A260</b>										
2,600	1200	700	34	51	40	60	G3/4	19	12,0	<b>P1V-A260B0120</b>
2,600	600	350	67	100	40	60	G3/4	19	12,0	<b>P1V-A260B0060</b>
2,600	190	140	160	240	40	60	G3/4	19	13,0	<b>P1V-A260B0019</b>
<b>Series P1V-A360</b>										
3,600	960	600	55	82	100	97	G1	25	25,5	<b>P1V-A360B0096</b>
3,600	480	300	110	165	100	97	G1	25	25,5	<b>P1V-A360B0048</b>

\* maximum admissible speed (idling)

\*\* Max gear box torque for a permanent load

**Permitted shaft loadings**

The following calculations should be used to determine the loading on the output shaft bearing, if a service life of 10,000,000 revolutions of the output shaft is to be obtained with 90% probability.

$$F_{ax} = \max 0,24 \times F_{rad}$$

$$M = \pm F_{ax} \times r \pm F_{rad} \times (X + K)$$

Where M and K are found in the table below

	M Nm	K N
P1V-A160B120	2651	0,031
P1V-A160B060	2651	0,031
P1V-A160B019	7385	0,040
P1V-A160B010	7385	0,040
P1V-A260B120	2651	0,031
P1V-A260B060	2651	0,031
P1V-A260B019	7385	0,040
P1V-A360B096	7385	0,040
P1V-A360B048	7385	0,040

- M Max. torque loading on output shaft (Nm)
- r Distance from centre of output shaft to axial load (m)
- X Distance from collar to radial load (m)
- F<sub>rad</sub> Radial loading (N)
- F<sub>ax</sub> Axial loading (N)

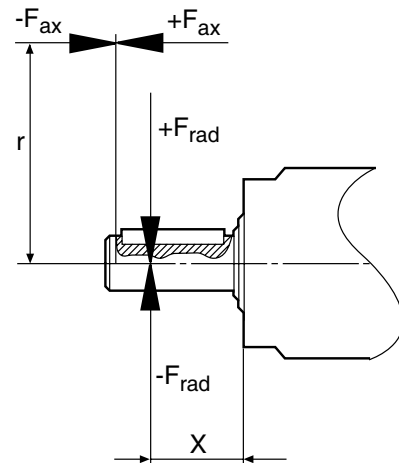
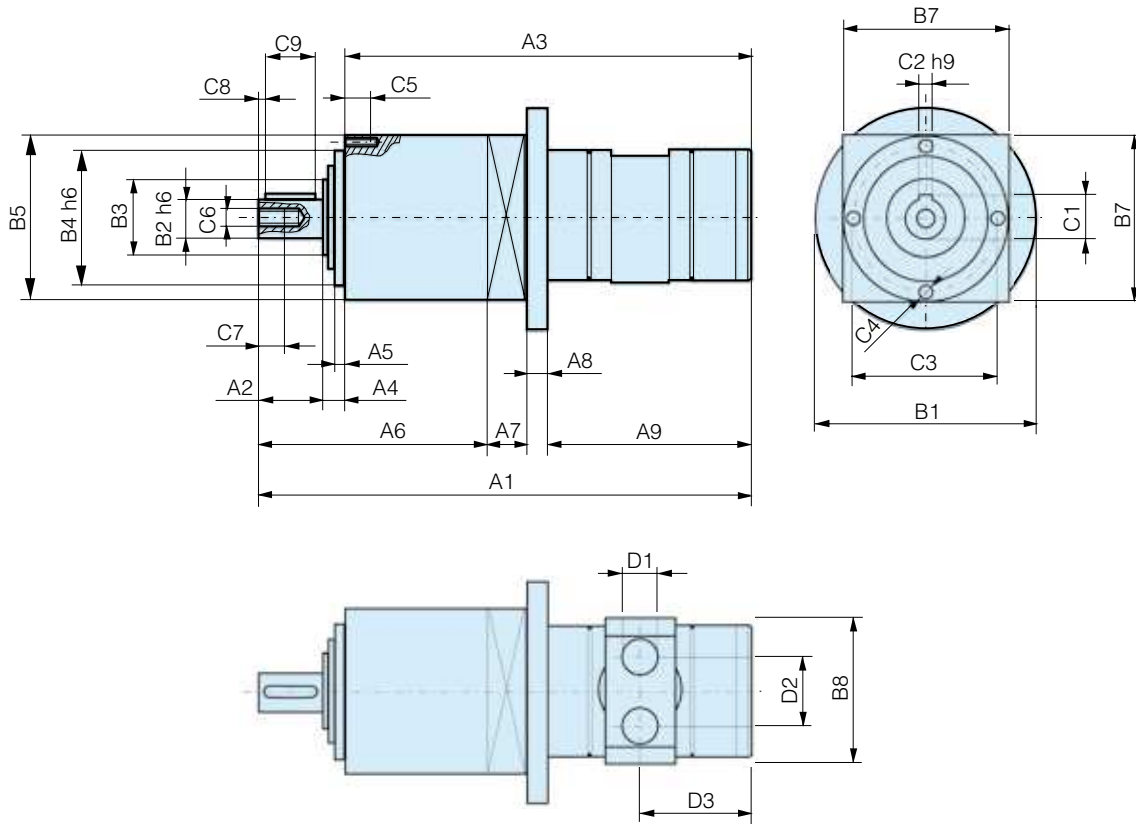


Fig 2: Load and braking torque on output shaft of planetary gear

Dimensions (mm)

B: Motor with planetary gear, flange mounting



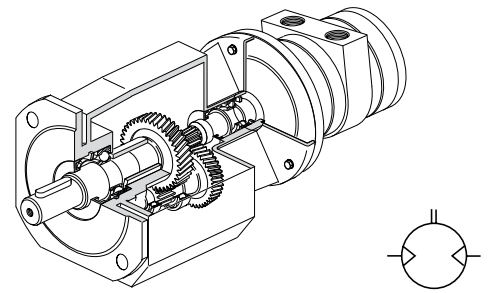
Order code	A1	A2	A3	A4	A5	A6	A7	A8	A9	B1	B2	B3	B4	B5	B6
P1V-A160B0120	274,5	36	228,5	10	5	126,0	22	10	116,5	160	22	40	68	90	80
P1V-A160B0060	274,5	36	228,5	10	5	126,0	22	10	116,5	160	22	40	68	90	80
P1V-A160B0019	359,0	58	289,0	12	5	204,5	28	10	116,5	160	32	50	90	120	80
P1V-A260B0120	317,0	36	271,0	10	6	126,0	32	11	148,0	200	22	40	68	90	100
P1V-A260B0060	317,0	36	271,0	10	6	126,0	32	11	148,0	200	22	40	68	90	100
P1V-A260B0019	391,5	58	321,5	12	6	204,5	28	11	148,0	200	32	50	90	120	100
P1V-A360B0096	375,0	58	305,0	12	6	172,0	38	11	154,0	200	32	50	90	120	135
P1V-A360B0048	375,0	58	305,0	12	6	172,0	38	11	154,0	200	32	50	90	120	135

Order code	B7	B8	C1	C2	C3	C4	C5	C6	C7	C8	C9	D1	D2	D3
P1V-A160B0120	120	85	24,5	6	80	M6	12	M8	13	2	32	G1/2	44	64
P1V-A160B0060	120	85	24,5	6	80	M6	12	M8	13	2	32	G1/2	44	64
P1V-A160B0019	120	85	35,0	10	108	M8	16	M12	22	4	50	G1/2	44	64
P1V-A260B0120	140	102	24,5	6	80	M6	12	M8	13	2	32	G3/4	58	81
P1V-A260B0060	140	102	24,5	6	80	M6	12	M8	13	2	32	G3/4	58	81
P1V-A260B0019	140	102	35,0	10	108	M8	16	M12	22	4	50	G3/4	58	81
P1V-A360B0096	140	138	35,0	10	108	M8	16	M12	22	4	50	G1	70	85
P1V-A360B0048	140	138	35,0	10	108	M8	16	M12	22	4	50	G1	70	85



**P1V-A Air Motor - Helical Gear**

**NOTE!** All technical data are based on a working pressure of 6 bar and with oil.  
Speed tolerance accuracy is +-10%.



**D: Reversible motor with helical gear, flange mounting**

Max power kW	Max speed* rpm	Nominal speed rpm	Nominal torque Nm	Min start torque Nm	Max permanent torque** Nm	Air consumption at max power l/s	Connection	Min pipe ID inlet/outlet mm	Weight Kg	Order code
<b>Series P1V-A160</b>										
1,600	660	590	24	36	45	32	G1/2	15	9,8	<b>P1V-A160D0066••</b>
1,600	320	280	50	75	140	32	G1/2	15	11,5	<b>P1V-A160D0032••</b>
1,600	140	120	113	171	280	32	G1/2	15	14,4	<b>P1V-A160D0014••</b>
1,600	80	70	197	299	560	32	G1/2	15	31,7	<b>P1V-A160D0008••</b>
1,600	37	33	413	626	1000	32	G1/2	15	49,2	<b>P1V-A160D0004••</b>
1,600	21	18	716	1084	1600	32	G1/2	15	67,2	<b>P1V-A160D0003••</b>
<b>Series P1V-A260</b>										
2,600	800	565	42	64	42	60	G3/4	19	14,9	<b>P1V-A260D0080••</b>
2,600	520	365	65	100	115	60	G3/4	19	16,1	<b>P1V-A260D0052••</b>
2,600	250	175	135	210	235	60	G3/4	19	19,0	<b>P1V-A260D0025••</b>
2,600	110	80	302	468	500	60	G3/4	19	36,4	<b>P1V-A260D0011••</b>
2,600	55	40	614	951	1000	60	G3/4	19	54,9	<b>P1V-A260D0006••</b>
2,600	30	20	990	1530	1600	60	G3/4	19	68,9	<b>P1V-A260D0003••</b>
<b>Series P1V-A360</b>										
3,600	1050	625	52	78	80	97	G1	25	24,6	<b>P1V-A360D0105••</b>
3,600	520	310	105	155	175	97	G1	25	24,6	<b>P1V-A360D0052••</b>
3,600	250	150	216	320	385	97	G1	25	45,0	<b>P1V-A360D0025••</b>
3,600	125	74	441	652	795	97	G1	25	63,5	<b>P1V-A360D0013••</b>
3,600	60	36	888	1312	1600	97	G1	25	77,5	<b>P1V-A360D0006••</b>
3,600	30	18	1800	2670	4000	97	G1	25	151,5	<b>P1V-A360D0003••</b>

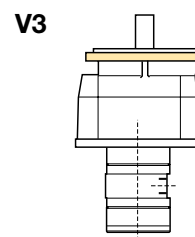
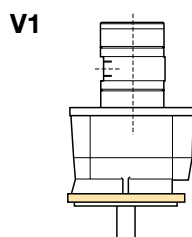
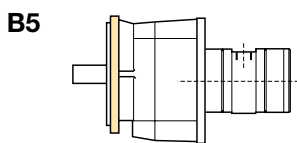
\* maximum admissible speed (idling)

\*\* Max gear box torque for a permanent load

**Note!**  
•• specify installation position in the order code as in the illustrations below.  
**Example: P1V-A160D0066B5**

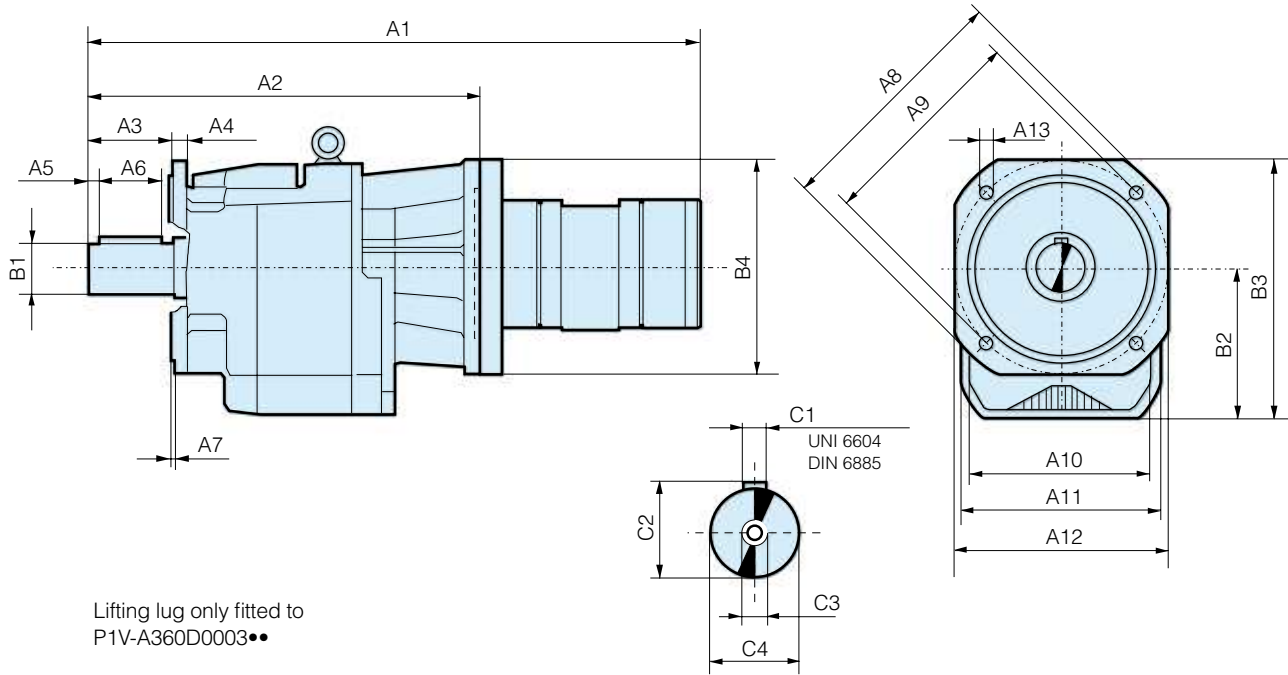
**Note:** Oil-bath gearboxes mean that the installation position must be decided in advance. The installation position determines the volume of oil in the gearbox and location of oil filling and drain plugs.

**D: Installation positions, helical gear, flange mounting**



Dimensions (mm)

D: Motor with helical gear, flange mounting



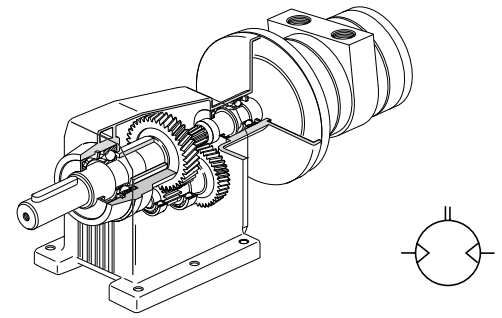
Order code	A1	A2	A3	A4	A5	A6	A7	A8	A9	A10	A11	A12	A13	B1	B2	B3
P1V-A160D0066**	370,5	244	40	8	5	30	3,0	140	115	95f7	95	105	9,5	20	82	138,0
P1V-A160D0032**	399,5	273	50	10	5	40	3,5	160	130	110f7	110	135	9,5	25	92	159,5
P1V-A160D0014**	433,5	307	60	12	5	50	3,5	200	165	130f7	130	150	11,5	30	108	183,0
P1V-A160D0008**	463,5	337	70	13	5	60	4,0	250	215	180 f7	155	210	14,0	35	128	233,0
P1V-A160D0004**	559,5	433	80	16	5	70	5,0	300	265	230 f7	185	260	14,0	40	152	282,0
P1V-A160D0003**	601,5	475	100	16	5	90	5,0	300	265	230 f7	210	260	14,0	50	190	320,0
P1V-A260D0080**	423,0	264	40	8	5	30	3,0	140	115	95f7	95	105	9,5	20	82	138,0
P1V-A260D0052**	451,0	292	50	10	5	40	3,5	160	130	110f7	110	135	9,5	25	92	159,5
P1V-A260D0025**	486,0	327	60	12	5	50	3,5	200	165	130f7	130	150	11,5	30	108	183,0
P1V-A260D0011**	515,0	356	70	13	5	60	4,0	250	215	180 f7	155	210	14,0	35	128	233,0
P1V-A260D0006**	612,0	453	80	16	5	70	5,0	300	265	230 f7	185	260	14,0	40	152	282,0
P1V-A260D0003**	634,0	475	100	16	5	90	5,0	300	265	230 f7	210	260	14,0	50	190	320,0
P1V-A360D0105**	458,0	292	50	10	5	40	3,5	160	130	110f7	110	135	9,5	25	92	159,5
P1V-A360D0052**	458,0	292	50	10	5	40	3,5	160	130	110f7	110	135	9,5	25	92	159,5
P1V-A360D0025**	521,0	356	70	13	5	60	4,0	250	215	180 f7	155	210	14,0	35	128	233,0
P1V-A360D0013**	547,0	382	80	16	5	70	5,0	300	265	230 f7	185	260	14,0	40	152	282,0
P1V-A360D0006**	640,0	475	100	16	5	90	5,0	300	265	230 f7	210	260	14,0	50	190	320,0
P1V-A360D0003**	699,0	534	140	20	15	110	5,0	400	350	300 f7	320	350	18,0	80	247	424,0

Order code	B4	C1	C2	C3	C4
P1V-A160D0066**	160	6x6x30	22,5	M8x19	20 h6
P1V-A160D0032**	160	8x7x40	28,0	M8x19	25 h6
P1V-A160D0014**	160	8x7x50	33,0	M10x22	30 h6
P1V-A160D0008**	160	10x8x60	38,0	M10x22	35 h6
P1V-A160D0004**	160	12x8x70	43,0	M12x28	40 h6
P1V-A160D0003**	160	14x9x90	53,5	M16x36	50 h6
P1V-A260D0080**	200	6x6x30	22,5	M8x19	20 h6
P1V-A260D0052**	200	8x7x40	28,0	M8x19	25 h6
P1V-A260D0025**	200	8x7x50	33,0	M10x22	30 h6
P1V-A260D0011**	200	10x8x60	38,0	M10x22	35 h6
P1V-A260D0006**	200	12x8x70	43,0	M12x28	40 h6
P1V-A260D0003**	200	14x9x90	53,5	M16x36	50 h6
P1V-A360D0105**	200	8x7x40	28,0	M8x19	25 h6
P1V-A360D0052**	200	8x7x40	28,0	M8x19	25 h6
P1V-A360D0025**	200	10x8x60	38,0	M10x22	35 h6
P1V-A360D0013**	200	12x8x70	43,0	M12x28	40 h6
P1V-A360D0006**	200	14x9x90	53,5	M16x36	50 h6
P1V-A360D0003**	200	22x14x110	85,0	M20x42	80 h6

\*\* see previous page for installation positions

P1V-A Air Motor - Helical Gear

**NOTE!** All technical data are based on a working pressure of 6 bar and with oil.  
Speed tolerance accuracy is  $\pm 10\%$ .



**E: Reversible motor with helical gear, foot mounting**

Max power kW	Max speed* rpm	Nominal speed rpm	Nominal torque Nm	Min start torque Nm	Max permanent torque** Nm	Air consumption at max power l/s	Connection	Min pipe ID inlet/outlet mm	Weight Kg	Order code
<b>Series P1V-A160</b>										
1,600	660	590	24	36	45	32	G1/2	15	9,8	<b>P1V-A160E0066••</b>
1,600	320	280	50	75	140	32	G1/2	15	11,5	<b>P1V-A160E0032••</b>
1,600	140	120	113	171	280	32	G1/2	15	14,4	<b>P1V-A160E0014••</b>
1,600	80	70	197	299	560	32	G1/2	15	31,7	<b>P1V-A160E0008••</b>
1,600	37	33	413	626	1000	32	G1/2	15	49,2	<b>P1V-A160E0004••</b>
1,600	21	18	716	1084	1600	32	G1/2	15	67,2	<b>P1V-A160E0003••</b>

<b>Series P1V-A260</b>										
2,600	800	565	42	64	42	60	G3/4	19	14,9	<b>P1V-A260E0080••</b>
2,600	520	365	65	100	115	60	G3/4	19	16,1	<b>P1V-A260E0052••</b>
2,600	250	175	135	210	235	60	G3/4	19	19,0	<b>P1V-A260E0025••</b>
2,600	110	80	302	468	500	60	G3/4	19	36,4	<b>P1V-A260E0011••</b>
2,600	55	40	614	951	1000	60	G3/4	19	54,9	<b>P1V-A260E0006••</b>
2,600	30	20	990	1530	1600	60	G3/4	19	68,9	<b>P1V-A260E0003••</b>

<b>Series P1V-A360</b>										
3,600	1050	625	52	78	80	97	G1	25	24,6	<b>P1V-A360E0105••</b>
3,600	520	310	105	155	175	97	G1	25	24,6	<b>P1V-A360E0052••</b>
3,600	250	150	216	320	385	97	G1	25	45,0	<b>P1V-A360E0025••</b>
3,600	125	74	441	652	795	97	G1	25	63,5	<b>P1V-A360E0013••</b>
3,600	62	36	868	1312	1600	97	G1	25	77,5	<b>P1V-A360E0006••</b>
3,600	30	18	1800	2670	4000	97	G1	25	151,5	<b>P1V-A360E0003••</b>

\* maximum admissible speed (idling)

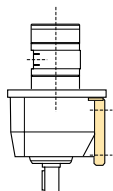
\*\* Max gear box torque for a permanent load

**Note!**  
•• specify installation position in the order code as in the illustrations below.  
**Example: P1V-A160E0066V5**

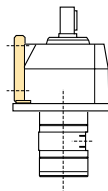
**Note:** Oil-bath gearboxes mean that the installation position must be decided in advance. The installation position determines the volume of oil in the gearbox and location of oil filling and drain plugs.

**E: Installation positions, helical gear, foot mounting**

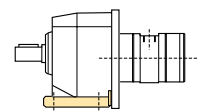
**V5**



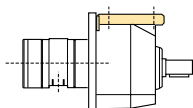
**V6**



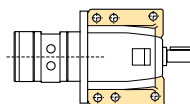
**B3**



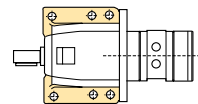
**B8**



**B7**

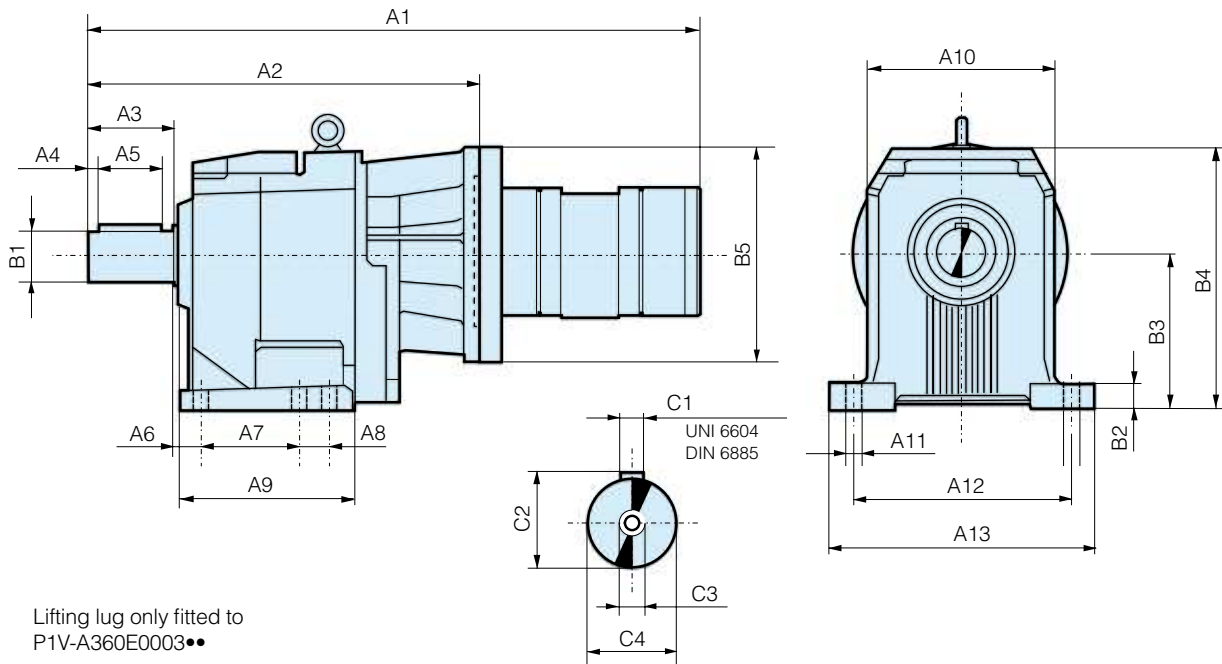


**B6**



Dimensions (mm)

E: Motor with helical gear, foot mounting



Lifting lug only fitted to  
P1V-A360E0003••

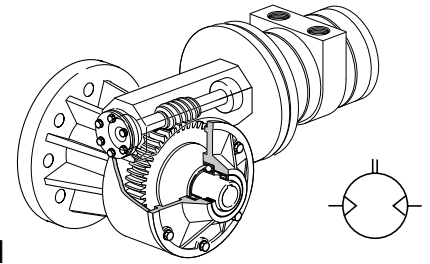
Order code	A1	A2	A3	A4	A5	A6	A7	A8	A9	A10	A11	A12	A13	B1	B2	B3
P1V-A160E0066••	370,5	244	40	5	30	18	50	37,0	107,0	95	9	110	130	20	15	85
P1V-A160E0032••	399,5	273	50	5	40	18	60	47,5	137,0	110	11	130	155	25	17	100
P1V-A160E0014••	433,5	307	60	5	50	18	70	60,0	156,0	130	11	160	190	30	20	110
P1V-A160E0008••	463,5	337	70	5	60	20	105	44,5	185,5	155	14	180	216	35	18	130
P1V-A160E0004••	559,5	433	80	5	70	25	110	46,0	200,0	185	18	225	270	40	22	155
P1V-A160E0003••	601,5	475	100	5	90	25	145	35,0	222,0	210	18	250	300	50	25	195
P1V-A260E0080••	413,0	244	40	5	30	18	50	37,0	107,0	95	9	110	130	20	15	85
P1V-A260E0052••	451,0	292	50	5	40	18	60	47,5	137,0	110	11	130	155	25	17	100
P1V-A260E0025••	486,0	327	60	5	50	18	70	60,0	156,0	130	11	160	190	30	20	110
P1V-A260E0011••	515,0	356	70	5	60	20	105	44,5	185,5	155	14	180	216	35	18	130
P1V-A260E0006••	612,0	453	80	5	70	25	110	46,0	200,0	185	18	225	270	40	22	155
P1V-A260E0003••	654,0	495	100	5	90	25	145	35,0	222,0	210	18	250	300	50	25	195
P1V-A360E0105••	457,0	292	50	5	40	18	60	47,5	137,0	110	11	130	155	25	17	100
P1V-A360E0052••	457,0	292	50	5	40	18	60	47,5	137,0	110	11	130	155	25	17	100
P1V-A360E0025••	521,0	356	70	5	60	20	105	44,5	185,5	155	14	180	216	35	18	130
P1V-A360E0013••	547,0	382	80	5	70	25	110	46,0	200,0	185	18	225	270	40	22	155
P1V-A360E0006••	660,0	495	100	5	90	25	145	35,0	222,0	210	18	250	300	50	25	195
P1V-A360E0003••	699,0	534	140	15	110	33	210	—	277,0	320	26	370	440	80	35	250

Order code	B4	B5	C1	C2	C3	C4
P1V-A160E0066••	141	160	6x6x30	22,5	M8x19	20 h6
P1V-A160E0032••	166	160	8x7x40	28,0	M8x19	25 h6
P1V-A160E0014••	181	160	8x7x50	33,0	M10x22	30 h6
P1V-A160E0008••	223	160	10x8x60	38,0	M10x22	35 h6
P1V-A160E0004••	278	160	12x8x70	43,0	M12x28	40 h6
P1V-A160E0003••	316	160	14x9x90	53,5	M16x36	50 h6
P1V-A260E0080••	141	200	6x6x30	22,5	M8x19	20 h6
P1V-A260E0052••	166	200	8x7x40	28,0	M8x19	25 h6
P1V-A260E0025••	181	200	8x7x50	33,0	M10x22	30 h6
P1V-A260E0011••	223	200	10x8x60	38,0	M10x22	35 h6
P1V-A260E0006••	278	200	12x8x70	43,0	M12x28	40 h6
P1V-A260E0003••	316	200	14x9x90	53,5	M16x36	50 h6
P1V-A360E0105••	166	200	8x7x40	28,0	M8x19	25 h6
P1V-A360E0052••	166	200	8x7x40	28,0	M8x19	25 h6
P1V-A360E0025••	223	200	10x8x60	38,0	M10x22	35 h6
P1V-A360E0013••	278	200	12x8x70	43,0	M12x28	40 h6
P1V-A360E0006••	316	200	14x9x90	53,5	M16x36	50 h6
P1V-A360E0003••	420	200	22x14x110	85,0	M20x42	80 h6

••: see previous page for installation positions

**P1V-A Air Motor - Worm Gear**

**NOTE!** All technical data are based on a working pressure of 6 bar and with oil.  
Speed tolerance accuracy is +-10%.



**F: Reversible motor with worm gear, flange mounting left-hand**

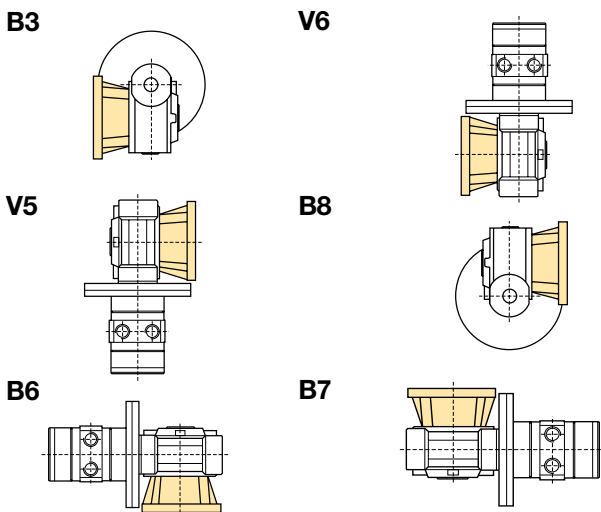
Max power	Max speed*	Nominal speed	Nominal torque	Min start torque	Max permanent torque**	Types of self-locking	Air consumption at max power	Connection	Min pipe ID inlet/outlet	Weight	Order code
kW	rpm	rpm	Nm	Nm	Nm		l/s		mm	Kg	
<b>Series P1V-A160</b>											
1,600	430	320	38	40	44	1	32	G1/2	15	7,2	<b>P1V-A160F0043••</b>
1,600	200	150	77	65	125	2	32	G1/2	15	10,5	<b>P1V-A160F0020••</b>
1,600	95	70	154	117	250	3	32	G1/2	15	17,8	<b>P1V-A160F0010••</b>
1,600	75	55	180	130	225	3	32	G1/2	15	17,8	<b>P1V-A160F0008••</b>
<b>Series P1V-A260</b>											
2,600	500	350	62	71	125	1	60	G3/4	19	14,5	<b>P1V-A260F0050••</b>
2,600	220	150	133	133	285	1	60	G3/4	19	21,0	<b>P1V-A260F0022••</b>
2,600	125	85	224	191	430	2	60	G3/4	19	21,0	<b>P1V-A260F0013••</b>
2,600	62	44	415	308	660	3	60	G3/4	19	57,0	<b>P1V-A260F0008••</b>
<b>Series P1V-A360</b>											
3,600	500	300	98	113	125	1	97	G1	25	22,9	<b>P1V-A360F0050••</b>
3,600	220	130	224	230	285	1	97	G1	25	31,0	<b>P1V-A360F0022••</b>
3,600	125	75	368	317	595	2	97	G1	25	55,0	<b>P1V-A360F0013••</b>
3,600	62	37	670	480	660	3	97	G1	25	65,5	<b>P1V-A360F0006••</b>

\* maximum admissible speed (idling)

\*\* Max gear box torque for a permanent load

**Note!**  
•• specify installation position in the order code as in the illustrations below.  
**Example: P1V-A160F0043B3**

**F: Installation positions, worm gear, flange mounting left-hand**



**Note:** Oil-bath gearboxes mean that the installation position must be decided in advance. The installation position determines the volume of oil in the gearbox and location of oil filling and drain plugs.

**Self-locking**

Dynamic self-locking means that the force acting on the output shaft of the gear can not turn the gear further when the air motor is stopped. Dynamic self-locking is only possible when the gear ratio is high, and at low speeds. None of our worm drive gears are completely self-locking in dynamic conditions.

Static self-locking means that the force acting on the output shaft of the gear can not begin to turn the shaft.

When loads with considerable momentum are driven, it is necessary to have a braking time sufficient to stop the gearbox from being overloaded. It is extremely important that the maximum permitted torque is not exceeded.

*Tip:* Braking of the air motor can be arranged by either slowly restricting the air supply to the motor until it is completely shut off, or by slowly reducing the supply pressure to zero.

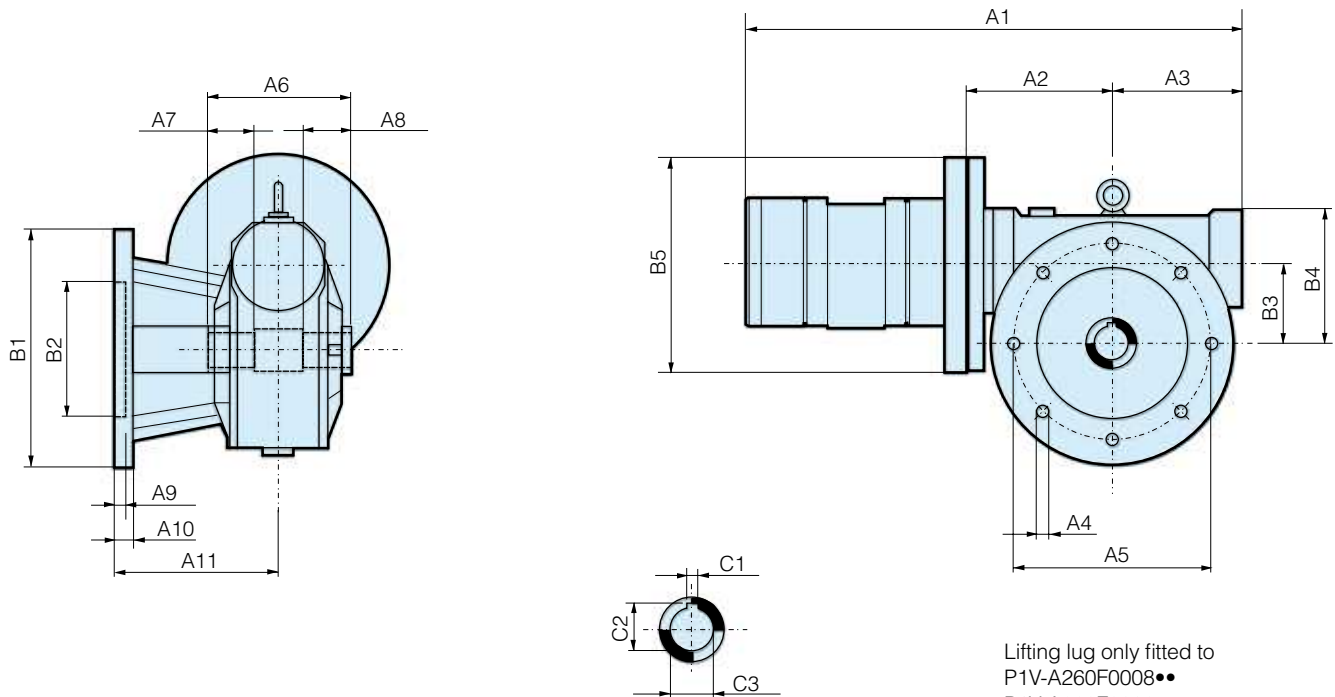
**Types of Self-locking**

1. Static, not self-locking
2. Static, self-locking - quicker return under vibration - not dynamically self-locking
3. Static, self-locking - return only possible under vibration - good dynamic self-locking

**Important!**  
Since it is practically impossible to guarantee total self-locking, an external brake must be used to guarantee that vibration can not cause an output shaft to move.

Dimensions (mm)

F: Motor with worm gear, flange mounting



Lifting lug only fitted to  
P1V-A260F0008••  
P1V-A360F0006••

As standard, the motor has a hollow shaft with key slot. Please refer to page 44 for a dimension sketch of the single ended and double ended shafts and for additional flange on the opposite side.

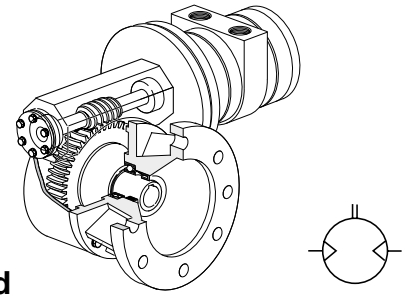
Order code	A1	A2	A3	A4	A5	A6	A7	A8	A9	A10	A11	B1	B2	B3
P1V-A160F0043••	259,5	70	63	10,5	90	82	22,5	22,5	10	12	85,0	125	70 H8	49,50
P1V-A160F0020••	301,5	95	80	10,5	130	120	40,0	40,0	8	11	116,0	180	115 H8	62,17
P1V-A160F0010••	362,5	126	110	12,5	176	140	45,0	45,0	15	15	151,0	210	152 H8	86,90
P1V-A160F0008••	362,5	126	110	12,5	176	140	45,0	45,0	15	15	151,0	210	152 H8	86,90
P1V-A260F0050••	292,0	70	63	10,5	90	82	22,5	22,5	10	12	85,0	125	70 H8	49,50
P1V-A260F0022••	395,0	126	110	12,5	176	140	45,0	45,0	15	15	151,0	210	152 H8	86,90
P1V-A260F0013••	395,0	126	110	12,5	176	140	45,0	45,0	15	15	151,0	210	152 H8	86,90
P1V-A260F0008••	498,0	185	154	16,0	255	165	52,5	52,5	18	20	197,5	320	180 H8	130,00
P1V-A360F0050••	340,0	95	80	10,5	130	120	40,0	40,0	8	11	116,0	180	115 H8	62,17
P1V-A360F0022••	401,0	126	110	12,5	176	140	45,0	45,0	15	15	151,0	210	152 H8	86,90
P1V-A360F0013••	456,0	153	138	13,5	230	155	45,0	45,0	18	20	179,5	280	170 H8	110,10
P1V-A360F0006••	504,0	185	154	16,0	255	165	52,5	52,5	18	20	197,5	320	180 H8	130,00

Order code	B4	B5	C1	C2	C3
P1V-A160F0043••	80,0	160	8 H8	28,3	25 H7
P1V-A160F0020••	98,5	160	8 H8	28,3	25 H7
P1V-A160F0010••	138,0	160	10 H8	38,3	35 H7
P1V-A160F0008••	138,0	160	10 H8	38,3	35 H7
P1V-A260F0050••	80,0	200	8 H8	28,3	25 H7
P1V-A260F0022••	138,0	200	10 H8	38,3	35 H7
P1V-A260F0013••	138,0	200	10 H8	38,3	35 H7
P1V-A260F0008••	195,0	200	14 H8	48,8	45 H7
P1V-A360F0050••	98,5	200	8 H8	28,3	25 H7
P1V-A360F0022••	138,0	200	10 H8	38,3	35 H7
P1V-A360F0013••	169,0	200	12 H8	45,3	42 H7
P1V-A360F0006••	195,0	200	14 H8	48,8	45 H7

••: see previous page for installation positions

**P1V-A Air Motor - Worm Gear**

**NOTE!** All technical data are based on a working pressure of 6 bar and with oil.  
Speed tolerance accuracy is +-10%.



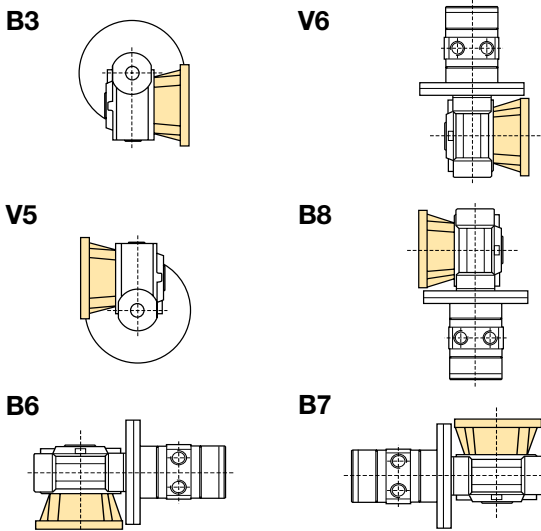
**G: Reversible motor with worm gear, flange mounting right-hand**

Max power	Max speed*	Nominal speed	Nominal torque	Min start torque	Max permanent torque**	Types of self-locking	Air consumption at max power	Connection	Min pipe ID inlet/outlet	Weight	Order code
kW	rpm	rpm	Nm	Nm	Nm		l/s		mm	Kg	
<b>Series P1V-A160</b>											
1,600	430	320	38	40	44	1	32	G1/2	15	7,2	<b>P1V-A160G0043••</b>
1,600	200	150	77	65	125	2	32	G1/2	15	10,5	<b>P1V-A160G0020••</b>
1,600	95	70	154	117	250	3	32	G1/2	15	17,8	<b>P1V-A160G0010••</b>
1,600	75	55	180	130	225	3	32	G1/2	15	17,8	<b>P1V-A160G0008••</b>
<b>Series P1V-A260</b>											
2,600	500	350	62	71	125	1	60	G3/4	19	14,5	<b>P1V-A260G0050••</b>
2,600	220	150	133	133	285	1	60	G3/4	19	21,0	<b>P1V-A260G0022••</b>
2,600	125	85	224	191	430	2	60	G3/4	19	21,0	<b>P1V-A260G0013••</b>
2,600	62	44	415	308	660	3	60	G3/4	19	57,0	<b>P1V-A260G0008••</b>
<b>Series P1V-A360</b>											
3,600	500	300	98	113	125	1	97	G1	25	22,9	<b>P1V-A360G0050••</b>
3,600	220	130	224	230	285	1	97	G1	25	31,0	<b>P1V-A360G0022••</b>
3,600	125	75	368	317	595	2	97	G1	25	55,0	<b>P1V-A360G0013••</b>
3,600	62	37	670	480	660	3	97	G1	25	65,5	<b>P1V-A360G0006••</b>

\* maximum admissible speed (idling)  
\*\* Max gear box torque for a permanent load

**Note!**  
•• specify installation position in the order code as in the illustrations below.  
**Example: P1V-A160G0043B3**

**G: Installation positions, worm gear gear, flange mounting right-hand**



**Note:** Oil-bath gearboxes mean that the installation position must be decided in advance. The installation position determines the volume of oil in the gearbox and location of oil filling and drain plugs.

**Self-locking shafts and for additional flange on the opposite side.**

Dynamic self-locking means that the force acting on the output shaft of the gear can not turn the gear further when the air motor is stopped. Dynamic self-locking is only possible when the gear ratio is high, and at low speeds. None of our worm drive gears are completely self-locking in dynamic conditions.

Static self-locking means that the force acting on the output shaft of the gear can not begin to turn the shaft.

When loads with considerable momentum are driven, it is necessary to have a braking time sufficient to stop the gearbox from being overloaded. It is extremely important that the maximum permitted torque is not exceeded.

*Tip:* Braking of the air motor can be arranged by either slowly restricting the air supply to the motor until it is completely shut off, or by slowly reducing the supply pressure to zero.

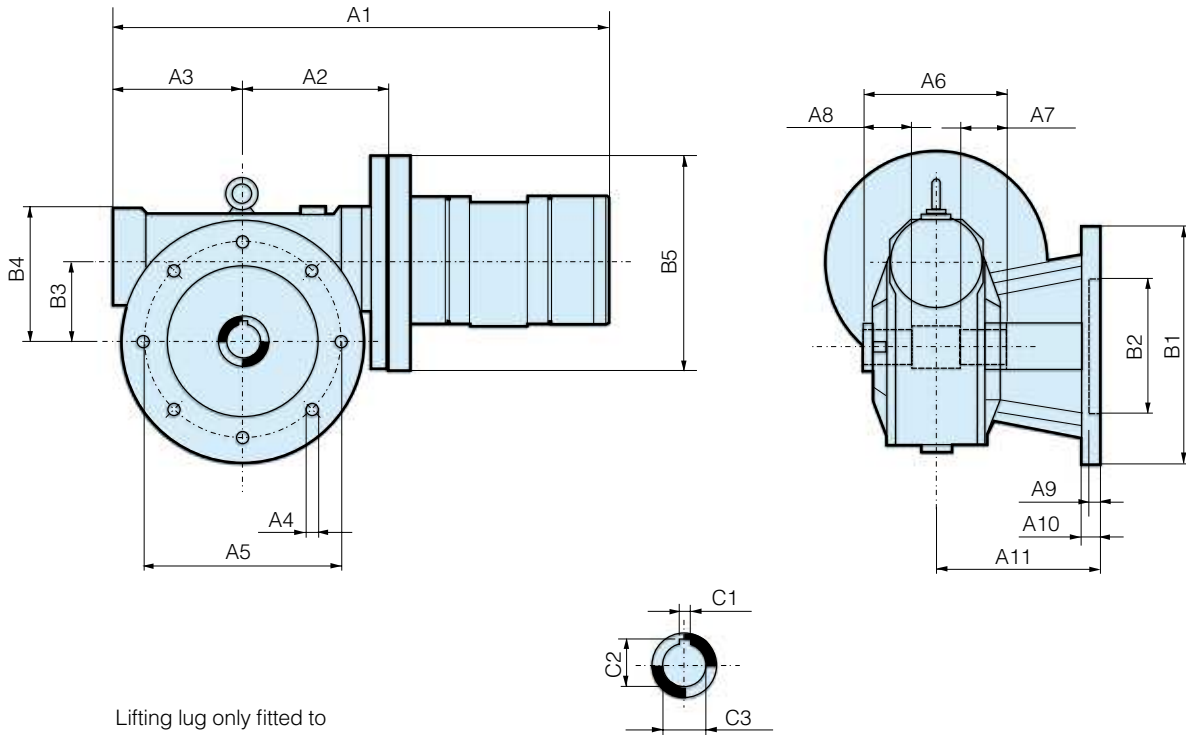
**Types of Self-locking**

1. Static, not self-locking
2. Static, self-locking - quicker return under vibration - not dynamically self-locking
3. Static, self-locking - return only possible under vibration - good dynamic self-locking

**Important!**  
Since it is practically impossible to guarantee total self-locking, an external brake must be used to guarantee that vibration can not cause an output shaft to move.

Dimensions (mm)

G: Motor with worm gear, flange mounting



Lifting lug only fitted to  
P1V-A260G0008••  
P1V-A360G0006••

As standard, the motor has a hollow shaft with key slot. Please refer to page 44 for a dimension sketch of the single ended and double ended shafts and for additional flange on the opposite side.

Order code	A1	A2	A3	A4	A5	A6	A7	A8	A9	A10	A11	B1	B2	B3
P1V-A160G0043••	259,5	70	63	10,5	90	82	22,5	22,5	10	12	85,0	125	70 H8	49,50
P1V-A160G0020••	301,5	95	80	10,5	130	120	40,0	40,0	8	11	116,0	180	115 H8	62,17
P1V-A160G0010••	362,5	126	110	12,5	176	140	45,0	45,0	15	15	151,0	210	152 H8	86,90
P1V-A160G0008••	362,5	126	110	12,5	176	140	45,0	45,0	15	15	151,0	210	152 H8	86,90
P1V-A260G0050••	292,0	70	63	10,5	90	82	22,5	22,5	10	12	85,0	125	70 H8	49,50
P1V-A260G0022••	395,0	126	110	12,5	176	140	45,0	45,0	15	15	151,0	210	152 H8	86,90
P1V-A260G0013••	395,0	126	110	12,5	176	140	45,0	45,0	15	15	151,0	210	152 H8	86,90
P1V-A260G0008••	498,0	185	154	16,0	255	165	52,5	52,5	18	20	197,5	320	180 H8	130,00
P1V-A360G0050••	340,0	95	80	10,5	130	120	40,0	40,0	8	11	116,0	180	115 H8	62,17
P1V-A360G0022••	401,0	126	110	12,5	176	140	45,0	45,0	15	15	151,0	210	152 H8	86,90
P1V-A360G0013••	456,0	153	138	13,5	230	155	45,0	45,0	18	20	179,5	280	170 H8	110,10
P1V-A360G0006••	504,0	185	154	16,0	255	165	52,5	52,5	18	20	197,5	320	180 H8	130,00

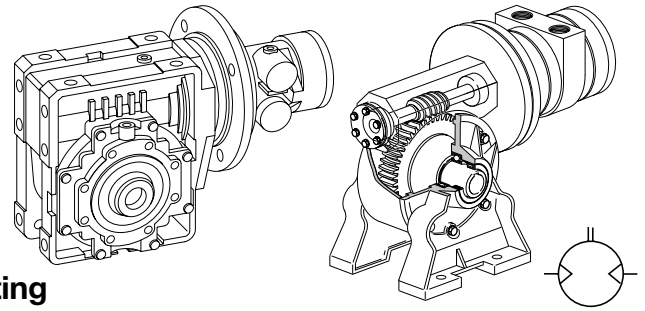
Order code	B4	B5	C1	C2	C3
P1V-A160G0043••	80,0	160	8 H8	28,3	25 H7
P1V-A160G0020••	98,5	160	8 H8	28,3	25 H7
P1V-A160G0010••	138,0	160	10 H8	38,3	35 H7
P1V-A160G0008••	138,0	160	10 H8	38,3	35 H7
P1V-A260G0050••	80,0	200	8 H8	28,3	25 H7
P1V-A260G0022••	138,0	200	10 H8	38,3	35 H7
P1V-A260G0013••	138,0	200	10 H8	38,3	35 H7
P1V-A260G0008••	195,0	200	14 H8	48,8	45 H7
P1V-A360G0050••	98,5	200	8 H8	28,3	25 H7
P1V-A360G0022••	138,0	200	10 H8	38,3	35 H7
P1V-A360G0013••	169,0	200	12 H8	45,3	42 H7
P1V-A360G0006••	195,0	200	14 H8	48,8	45 H7

••: see previous page for installation positions



**P1V-A Air Motor - Worm Gear**

**NOTE!** All technical data are based on a working pressure of 6 bar and with oil. Speed tolerance accuracy is +-10%.



**H: Reversible motor with worm gear, foot mounting**

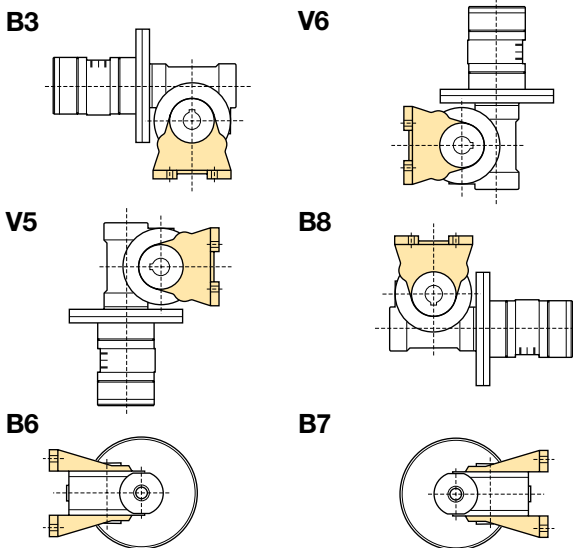
Max power	Max speed*	Nominal speed	Nominal torque	Min start torque	Max permanent torque**	Types of self-locking	Air consumption at max power	Connection	Min pipe ID inlet/outlet	Weight	Order code
kW	rpm	rpm	Nm	Nm	Nm		l/s		mm	Kg	
<b>Series P1V-A160</b>											
1,600	430	320	38	40	44	1	32	G1/2	15	7,2	<b>P1V-A160H0043••</b>
1,600	200	150	77	65	125	2	32	G1/2	15	10,2	<b>P1V-A160H0020••</b>
1,600	95	70	154	177	250	3	32	G1/2	15	20,5	<b>P1V-A160H0010••</b>
1,600	75	55	180	130	225	3	32	G1/2	15	20,5	<b>P1V-A160H0008••</b>
<b>Series P1V-A260</b>											
2,600	500	350	62	90	125	1	60	G3/4	19	11,0	<b>P1V-A260H0050••</b>
2,600	220	150	133	206	285	1	60	G3/4	19	21,0	<b>P1V-A260H0022••</b>
2,600	125	85	224	330	430	2	60	G3/4	19	21,0	<b>P1V-A260H0013••</b>
2,600	62	44	415	308	660	3	60	G3/4	19	57,0	<b>P1V-A260H0008••</b>
<b>Series P1V-A360</b>											
3,600	500	300	98	113	125	1	97	G1	25	22,5	<b>P1V-A360H0050••</b>
3,600	220	130	224	230	285	1	97	G1	25	33,0	<b>P1V-A360H0022••</b>
3,600	125	75	368	317	595	2	97	G1	25	49,0	<b>P1V-A360H0013••</b>
3,600	62	37	670	480	660	3	97	G1	25	65,5	<b>P1V-A360H0006••</b>

\* maximum admissible speed (idling)

\*\* Max gear box torque for a permanent load

**Note!**  
 •• specify installation position in the order code as in the illustrations below.  
**Example: P1V-A160H0043B3**

**H: Installation positions, worm gear, foot mounting**



**Note:** Oil-bath gearboxes mean that the installation position must be decided in advance. The installation position determines the volume of oil in the gearbox and location of oil filling and drain plugs.

**Self-locking**

Dynamic self-locking means that the force acting on the output shaft of the gear can not turn the gear further when the air motor is stopped. Dynamic self-locking is only possible when the gear ratio is high, and at low speeds. None of our worm drive gears are completely self-locking in dynamic conditions.

Static self-locking means that the force acting on the output shaft of the gear can not begin to turn the shaft.

When loads with considerable momentum are driven, it is necessary to have a braking time sufficient to stop the gearbox from being overloaded. It is extremely important that the maximum permitted torque is not exceeded.

*Tip:* Braking of the air motor can be arranged by either slowly restricting the air supply to the motor until it is completely shut off, or by slowly reducing the supply pressure to zero.

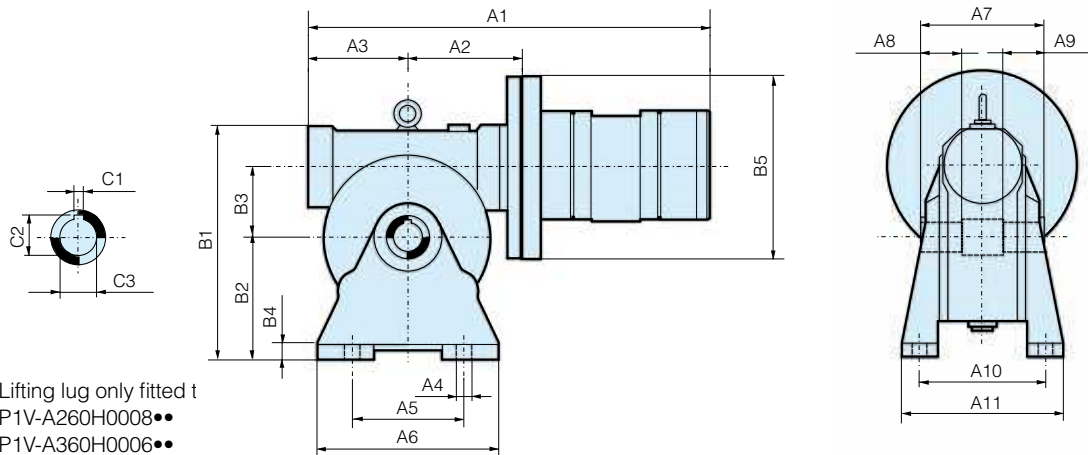
**Types of Self-locking**

1. Static, not self-locking
2. Static, self-locking - quicker return under vibration - not dynamically self-locking
3. Static, self-locking - return only possible under vibration - good dynamic self-locking

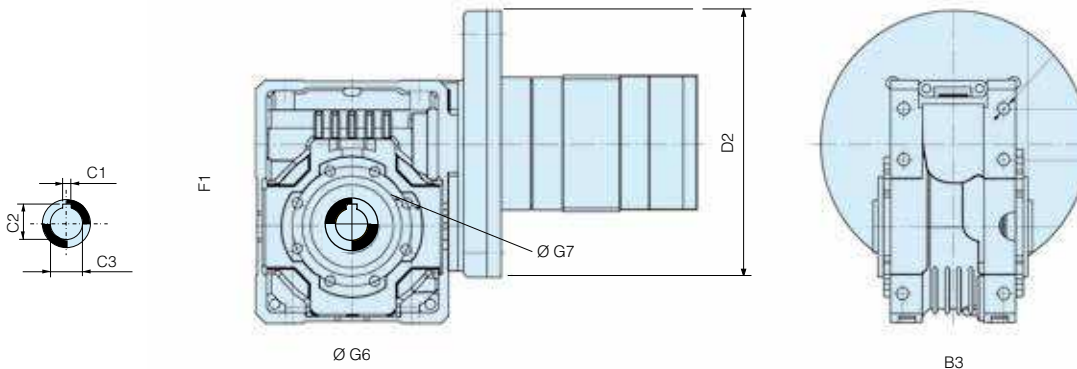
**Important!**  
 Since it is practically impossible to guarantee total self-locking, an external brake must be used to guarantee that vibration can not cause an output shaft to move.

Dimensions (mm)

H: Motor with worm gear, foot mounting



Order code	A1	A2	A3	A4	A5	A6	A7	A8	A9	A10	A11	B1	B2	B3
P1V-A160H0043	259,5	70	63	8,5	63	110	82	22,5	22,5	98,5	124	162	82	49,50
P1V-A260H0008	498,0	185	154	16,0	220	310	165	52,5	52,5	191,0	245	398	195	130,00
P1V-A360H0006	504,0	185	154	16,0	220	310	165	52,5	52,5	191,0	245	398	195	130,00
	B4	B5	C1	C2	C3									
P1V-A160H0043	12	160	8 H8	28,3	25 H7									
P1V-A260H0008	18	200	14 H8	48,8	45 H7									
P1V-A360H0006	18	200	14 H8	48,8	45 H7									



Order code	A1	A2	A3	A5	A6	B3	D2	F1	F2	F3	F4	F5	F6	Ø F7
P1V-A160H0020	294,5	95	127	72,5	102	120	160	62,2	110,0	182,5	72,5	102	37,5	9,0
P1V-A160H0010	355,0	128	127	100,0	144	140	160	86,9	145,5	245,5	100,0	144	45,5	11,5
P1V-A160H0008	355,0	128	127	100,0	144	140	160	86,9	145,5	245,5	100,0	144	45,5	11,5
P1V-A260H0050	333,5	102	159	72,5	102	120	200	62,2	110,0	182,5	72,5	102	37,5	9,0
P1V-A260H0022	387,0	128	159	100,0	144	140	200	86,9	145,5	245,5	100,0	144	45,5	11,5
P1V-A260H0013	387,0	128	159	100,0	144	140	200	86,9	145,5	245,5	100,0	144	45,5	11,5
P1V-A360H0050	334,5	102	165	72,5	102	120	200	62,2	110,0	182,5	72,5	102	37,5	9,0
P1V-A360H0022	393,0	128	165	100,0	144	140	200	86,9	145,5	245,5	100,0	144	45,5	11,5
P1V-A360H0013	433,0	143	165	125,0	174	155	200	110,1	183,0	308,0	125,0	184	58,0	14,0

Order code	F8	G1	Ø G6	Ø G7	C1 (H8)	C2	C3 (H7)
P1V-A160H0020	76	56,0	90	M8 depth 14	8	28,3	25
P1V-A160H0010	101	68,0	130	M10 depth 18	10	38,3	35
P1V-A160H0008	101	68,0	130	M10 depth 18	10	38,3	35
P1V-A260H0050	76	53,0	90	M8 depth 14	8	28,3	25
P1V-A260H0022	101	68,0	130	M10 depth 18	10	38,3	35
P1V-A260H0013	101	68,0	130	M10 depth 18	10	38,3	35
P1V-A360H0050	76	56,0	90	M8 depth 14	8	28,3	25
P1V-A360H0022	101	68,0	130	M10 depth 18	10	38,3	35
P1V-A360H0013	115	76,5	135	M12 depth 19	12	45,3	42

••: see previous page for installation positions

**Radial piston air motors P1V-P**

P1V-P is a range of air motors using the radial piston principle. Radial piston motors can operate at a low speed while delivering high torque. The low speed keeps the noise level to a minimum, making this type of motor suitable for all applications that are subject to stringent noise level requirements.



- Three basic motors with 73.5, 125 and 228 watt power at 5 bar supply pressure
- Various gearboxes are available for these motors, to provide the right speed and torque for every application
- Equipped with a spring-loaded braking unit
- The medium used by the P1V-P is oil mist. This makes the motors unique in that they require no servicing at all.

**Operating information**

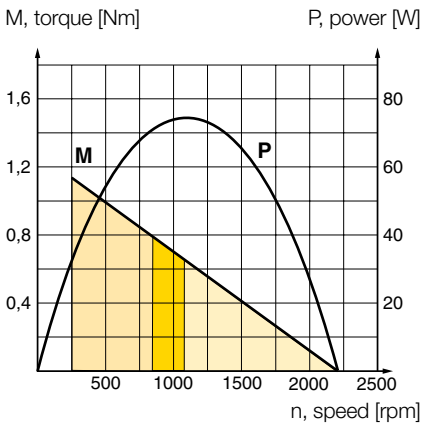
Working pressure: Max 6 bar  
 Temperature range: -10°C to +70°C  
 Medium: Oil mist, dry compressed air purity class 3.4.4 according to ISO8573-1  
 Gearboxes: Grease lubricated

For more information see [www.parker.com/euro\\_pneumatic](http://www.parker.com/euro_pneumatic)

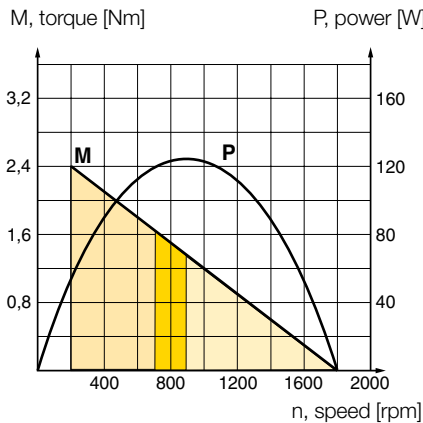
**Order key**

<b>P1V-P</b>	<b>012</b>	<b>F</b>	<b>B</b>	<b>0060</b>
<b>Motor size</b>	<b>Function</b>	<b>Function</b>	<b>Free speed/min</b>	
007 74 W	A Basic motor	0 Standard	2200 2200	
012 125 W	B Flange version	B Brake	- -	
023 228 W	F Foot version		0007 7	
<b>Air motor range</b>				
P1V-P	Radial piston motor			

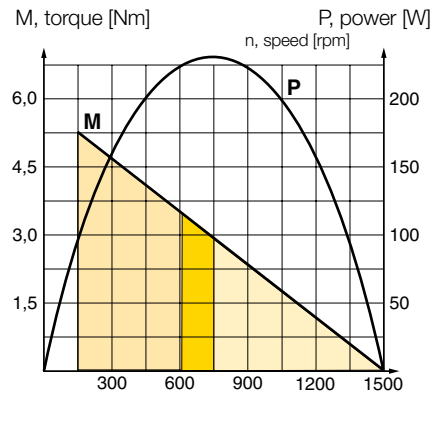
**P1V-P007\*\*2200**



**P1V-P012\*\*1800**

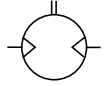


**P1V-P023\*\*1500**



Possible working range of motor.
  Optimum working range of motor.
  Working range with shorter service life.

Note! All technical data is based on a working pressure of 5 bar.



### Data for reversible basic motor

Max power kW	Speed at max power rpm	Torque at max power Nm	Min start torque Nm	Stall torque Nm	Brake torque Nm	Air consumption at max power l/s	Conn.	Min pipe ID mm	Weight Kg	Order code
0,0735	1100	0,637	0,686	1,18	-	3,34	G1/4	6	1,45	<b>P1V-P007A02200</b>
0,125	900	1,37	1,96	2,94	-	4,34	G1/4	10	2,5	<b>P1V-P012A01800</b>
0,228	750	2,94	4,71	5,88	-	6,67	G3/8	10	4,6	<b>P1V-P023A01500</b>

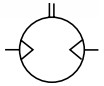
### Data for reversible basic motor with flange

Max power kW	Speed at max power rpm	Torque at max power Nm	Min start torque Nm	Stall torque Nm	Brake torque Nm	Air consumption at max power l/s	Conn.	Min pipe ID mm	Weight Kg	Order code
0,0735	1100	0,637	0,686	1,18	-	3,34	G1/4	6	1,45	<b>P1V-P007B02200</b>
0,125	900	1,37	1,96	2,94	-	4,34	G1/4	10	2,5	<b>P1V-P012B01800</b>
0,228	750	2,94	4,71	5,88	-	6,67	G3/8	10	4,6	<b>P1V-P023B01500</b>

### Data for reversible basic motor with foot

Max power kW	Speed at max power rpm	Torque at max power Nm	Min start torque Nm	Stall torque Nm	Brake torque Nm	Air consumption at max power l/s	Conn.	Min pipe ID mm	Weight Kg	Order code
0,0735	1100	0,637	0,686	1,18	-	3,34	G1/4	6	1,45	<b>P1V-P007F02200</b>
0,125	900	1,37	1,96	2,94	-	4,34	G1/4	10	2,5	<b>P1V-P012F01800</b>
0,228	750	2,94	4,71	5,88	-	6,67	G3/8	10	4,6	<b>P1V-P023F01500</b>

Note! All technical data is based on a working pressure of 5 bar.



**Data for reversible basic motor with brake**

Max power kW	Speed at max power rpm	Torque at max power Nm	Min start torque Nm	Stall torque Nm	Brake torque Nm	Air consumption at max power l/s	Conn.	Min pipe ID mm	Weight Kg	Order code
0,125	900	1,37	1,96	2,94	3,24	4,34	G1/4	10	4,4	<b>P1V-P012AB1800</b>
0,228	750	2,94	4,71	5,88	6,47	6,67	G3/8	10	7,8	<b>P1V-P023AB1500</b>

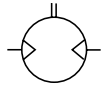
**Data for reversible basic motor with brake and flange**

Max power kW	Speed at max power rpm	Torque at max power Nm	Min start torque Nm	Stall torque Nm	Brake torque Nm	Air consumption at max power l/s	Conn.	Min pipe ID mm	Weight Kg	Order code
0,125	900	1,37	1,96	2,94	3,24	4,34	G1/4	10	4,4	<b>P1V-P012BB1800</b>
0,228	750	2,94	4,71	5,88	6,47	6,67	G3/8	10	7,8	<b>P1V-P023BB1500</b>

**Data for reversible basic motor with brake and foot**

Max power kW	Speed at max power rpm	Torque at max power Nm	Min start torque Nm	Stall torque Nm	Brake torque Nm	Air consumption at max power l/s	Conn.	Min pipe ID mm	Weight Kg	Order code
0,125	900	1,37	1,96	2,94	3,24	4,34	G1/4	10	5,2	<b>P1V-P012FB1800</b>
0,228	750	2,94	4,71	5,88	6,47	6,67	G3/8	10	9,4	<b>P1V-P023FB1500</b>

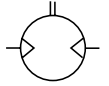
Note! All technical data is based  
on a working pressure of 5 bar.



### Data for reversible motor with gearbox and flange

Max power kW	Speed at max power rpm	Torque at max power Nm	Min start torque Nm	Stall torque Nm	Brake torque Nm	Air consumption at max power l/s	Conn.	Min pipe ID mm	Weight Kg	Order code
0,0662	220	2,84	2,94	4,90	-	3,34	G1/4	6	4,0	<b>P1V-P007B00440</b>
0,0662	110	5,69	5,88	9,81	-	3,34	G1/4	6	4,0	<b>P1V-P007B00220</b>
0,0662	73,3	8,53	8,83	15,7	-	3,34	G1/4	6	4,0	<b>P1V-P007B00147</b>
0,0662	55	11,5	11,8	20,6	-	3,34	G1/4	6	4,0	<b>P1V-P007B00110</b>
0,110	180	5,88	8,83	12,7	-	4,34	G1/4	10	6,7	<b>P1V-P012B00360</b>
0,110	90	11,8	17,7	26,5	-	4,34	G1/4	10	6,7	<b>P1V-P012B00180</b>
0,110	60	17,7	26,5	39,2	-	4,34	G1/4	10	6,7	<b>P1V-P012B00120</b>
0,110	45	23,5	35,3	53,0	-	4,34	G1/4	10	6,7	<b>P1V-P012B00090</b>
0,110	30	35,3	53,0	78,5	-	4,34	G1/4	10	8,7	<b>P1V-P012B00060</b>
0,110	22,5	47,1	70,6	106	-	4,34	G1/4	10	8,7	<b>P1V-P012B00050</b>
0,110	18	58,8	79,4	132	-	4,34	G1/4	10	8,7	<b>P1V-P012B00040</b>
0,110	15	70,6	106	157	-	4,34	G1/4	10	8,7	<b>P1V-P012B00030</b>
0,110	11,2	93,2	139	206	-	4,34	G1/4	10	8,7	<b>P1V-P012B00022</b>
0,103	9	118	175	250	-	4,34	G1/4	10	11,7	<b>P1V-P012B00018</b>
0,103	7,5	137	206	300	-	4,34	G1/4	10	11,7	<b>P1V-P012B00015</b>
0,103	5,6	176	261	373	-	4,34	G1/4	10	11,7	<b>P1V-P012B00012</b>
0,103	4,5	233	350	500	-	4,34	G1/4	10	11,7	<b>P1V-P012B00009</b>
0,199	150	12,7	20,6	26,5	-	6,67	G3/8	10	10,5	<b>P1V-P023B00300</b>
0,199	75	26,5	41,2	53,0	-	6,67	G3/8	10	10,5	<b>P1V-P023B00150</b>
0,199	50	39,2	61,8	79,4	-	6,67	G3/8	10	10,5	<b>P1V-P023B00100</b>
0,199	37,5	53,0	82,4	106	-	6,67	G3/8	10	10,5	<b>P1V-P023B00075</b>
0,199	25	78,5	124	159	-	6,67	G3/8	10	14,0	<b>P1V-P023B00050</b>
0,199	18,7	106	165	212	-	6,67	G3/8	10	14,0	<b>P1V-P023B00038</b>
0,199	15	132	206	265	-	6,67	G3/8	10	14,0	<b>P1V-P023B00030</b>
0,199	12,5	157	247	318	-	6,67	G3/8	10	14,0	<b>P1V-P023B00025</b>
0,199	9,3	203	314	402	-	6,67	G3/8	10	14,0	<b>P1V-P023B00018</b>
0,191	7,5	250	392	490	-	6,67	G3/8	10	20,5	<b>P1V-P023B00015</b>
0,191	6,2	300	471	598	-	6,67	G3/8	10	20,5	<b>P1V-P023B00012</b>
0,191	4,6	396	628	785	-	6,67	G3/8	10	20,5	<b>P1V-P023B00009</b>
0,191	3,7	500	785	981	-	6,67	G3/8	10	20,5	<b>P1V-P023B00007</b>

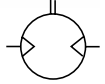
Note! All technical data is based  
on a working pressure of 5 bar.



### Data for reversible motor with gearbox and foot

Max power kW	Speed at max power rpm	Torque at max power Nm	Min start torque Nm	Stall torque Nm	Brake torque Nm	Air consumption at max power l/s	Conn.	Min pipe ID mm	Weight Kg	Order code
0,0662	220	2,84	2,94	4,90	-	3,34	G1/4	6	3,5	<b>P1V-P007F00440</b>
0,0662	110	5,69	5,88	9,81	-	3,34	G1/4	6	4,0	<b>P1V-P007F00220</b>
0,0662	73,3	8,53	8,83	15,7	-	3,34	G1/4	6	3,5	<b>P1V-P007F00147</b>
0,0662	55	11,5	11,8	20,6	-	3,34	G1/4	6	3,5	<b>P1V-P007F00110</b>
0,110	180	5,88	8,83	12,7	-	4,34	G1/4	10	6,2	<b>P1V-P012F00360</b>
0,110	90	11,8	17,7	26,5	-	4,34	G1/4	10	6,2	<b>P1V-P012F00180</b>
0,110	60	17,7	26,5	39,2	-	4,34	G1/4	10	6,2	<b>P1V-P012F00120</b>
0,110	45	23,5	35,3	53,0	-	4,34	G1/4	10	6,2	<b>P1V-P012F00090</b>
0,110	30	35,3	53,0	78,5	-	4,34	G1/4	10	8,2	<b>P1V-P012F00060</b>
0,110	22,5	47,1	70,6	106	-	4,34	G1/4	10	8,2	<b>P1V-P012F00050</b>
0,110	18	58,8	79,4	132	-	4,34	G1/4	10	8,2	<b>P1V-P012F00040</b>
0,110	15	70,6	106	157	-	4,34	G1/4	10	8,2	<b>P1V-P012F00030</b>
0,110	11,2	93,2	139	206	-	4,34	G1/4	10	8,2	<b>P1V-P012F00022</b>
0,103	9	118	175	250	-	4,34	G1/4	10	11,2	<b>P1V-P012F00018</b>
0,103	7,5	137	206	300	-	4,34	G1/4	10	11,2	<b>P1V-P012F00015</b>
0,103	5,6	176	261	373	-	4,34	G1/4	10	11,2	<b>P1V-P012F00012</b>
0,103	4,5	233	350	500	-	4,34	G1/4	10	11,2	<b>P1V-P012F00009</b>
0,199	150	12,7	20,6	26,5	-	6,67	G3/8	10	10,0	<b>P1V-P023F00300</b>
0,199	75	26,5	41,2	53,0	-	6,67	G3/8	10	10,0	<b>P1V-P023F00150</b>
0,199	50	39,2	61,8	79,4	-	6,67	G3/8	10	10,0	<b>P1V-P023F00100</b>
0,199	37,5	53,0	82,4	106	-	6,67	G3/8	10	10,0	<b>P1V-P023F00075</b>
0,199	25	78,5	124	159	-	6,67	G3/8	10	13,5	<b>P1V-P023F00050</b>
0,199	18,7	106	165	212	-	6,67	G3/8	10	13,5	<b>P1V-P023F00038</b>
0,199	15	132	206	265	-	6,67	G3/8	10	13,5	<b>P1V-P023F00030</b>
0,199	12,5	157	247	318	-	6,67	G3/8	10	13,5	<b>P1V-P023F00025</b>
0,199	9,3	203	314	402	-	6,67	G3/8	10	13,5	<b>P1V-P023F00018</b>
0,191	7,5	250	392	490	-	6,67	G3/8	10	20,0	<b>P1V-P023F00015</b>
0,191	6,2	300	471	598	-	6,67	G3/8	10	20,0	<b>P1V-P023F00012</b>
0,191	4,6	396	628	785	-	6,67	G3/8	10	20,0	<b>P1V-P023F00009</b>
0,191	3,7	500	785	981	-	6,67	G3/8	10	20,0	<b>P1V-P023F00007</b>

Note! All technical data is based  
on a working pressure of 5 bar.

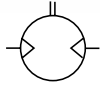


### Data for reversible motor with gearbox, brake and flange

Max power kW	Speed at max power rpm	Torque at max power Nm	Min start torque Nm	Stall torque Nm	Brake torque Nm	Air consumption at max power l/s	Conn.	Min pipe ID mm	Weight Kg	Order code
0,110	180	5,88	8,83	12,7	14,7	4,34	G1/4	10	8,0	<b>P1V-P012BB0360</b>
0,110	90	11,8	17,7	26,5	29,4	4,34	G1/4	10	8,0	<b>P1V-P012BB0180</b>
0,110	60	17,7	26,5	39,2	44,1	4,34	G1/4	10	8,0	<b>P1V-P012BB0120</b>
0,110	45	23,5	35,3	53,0	58,8	4,34	G1/4	10	8,0	<b>P1V-P012BB0090</b>
0,110	30	35,3	53,0	78,5	88,3	4,34	G1/4	10	10,0	<b>P1V-P012BB0060</b>
0,110	22,5	47,1	70,6	106	118	4,34	G1/4	10	10,0	<b>P1V-P012BB0050</b>
0,110	18	58,8	79,4	132	147	4,34	G1/4	10	10,0	<b>P1V-P012BB0040</b>
0,110	15	70,6	106	157	177	4,34	G1/4	10	10,0	<b>P1V-P012BB0030</b>
0,110	11,2	93,2	139	206	235	4,34	G1/4	10	10,0	<b>P1V-P012BB0022</b>
0,103	9	118	175	250	283	4,34	G1/4	10	11,7	<b>P1V-P012BB0018</b>
0,103	7,5	137	206	300	339	4,34	G1/4	10	13,0	<b>P1V-P012BB0015</b>
0,103	5,6	176	261	373	453	4,34	G1/4	10	13,0	<b>P1V-P012BB0012</b>
0,103	4,5	233	350	500	567	4,34	G1/4	10	13,0	<b>P1V-P012BB0009</b>
0,199	150	12,7	20,6	26,5	29,4	6,67	G3/8	10	13,5	<b>P1V-P023BB0300</b>
0,199	75	26,5	41,2	53,0	58,8	6,67	G3/8	10	13,5	<b>P1V-P023BB0150</b>
0,199	50	39,2	61,8	79,4	88,3	6,67	G3/8	10	13,5	<b>P1V-P023BB0100</b>
0,199	37,5	53,0	82,4	106	118	6,67	G3/8	10	13,5	<b>P1V-P023BB0075</b>
0,199	25	78,5	124	159	177	6,67	G3/8	10	17,0	<b>P1V-P023BB0050</b>
0,199	18,7	106	165	212	235	6,67	G3/8	10	17,0	<b>P1V-P023BB0038</b>
0,199	15	132	206	265	294	6,67	G3/8	10	17,0	<b>P1V-P023BB0030</b>
0,199	12,5	157	247	318	353	6,67	G3/8	10	17,0	<b>P1V-P023BB0025</b>
0,199	9,3	203	314	402	471	6,67	G3/8	10	17,0	<b>P1V-P023BB0018</b>
0,191	7,5	250	392	490	549	6,67	G3/8	10	24,5	<b>P1V-P023BB0015</b>
0,191	6,2	300	471	598	657	6,67	G3/8	10	24,5	<b>P1V-P023BB0012</b>
0,191	4,6	396	628	785	873	6,67	G3/8	10	24,5	<b>P1V-P023BB0009</b>
0,191	3,7	500	785	981	1100	6,67	G3/8	10	24,5	<b>P1V-P023BB0007</b>



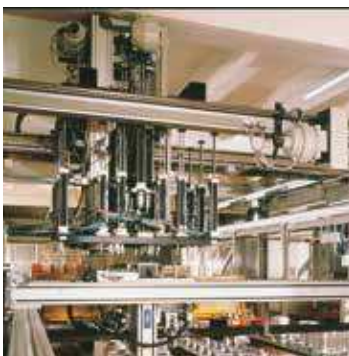
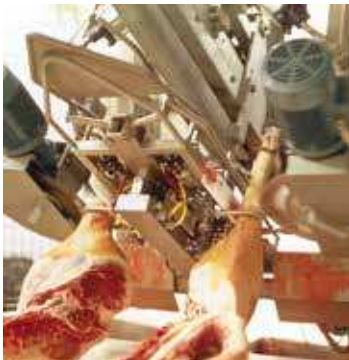
Note! All technical data is based  
on a working pressure of 5 bar.



### Data for reversible motor with gearbox, brake and foot

Max power kW	Speed at max power rpm	Torque at max power Nm	Min start torque Nm	Stall torque Nm	Brake torque Nm	Air consumption at max power l/s	Conn.	Min pipe ID mm	Weight Kg	Order code
0,110	180	5,88	8,83	12,7	14,7	4,34	G1/4	10	8,5	<b>P1V-P012FB0360</b>
0,110	90	11,8	17,7	26,5	29,4	4,34	G1/4	10	8,5	<b>P1V-P012FB0180</b>
0,110	60	17,7	26,5	39,2	44,1	4,34	G1/4	10	8,5	<b>P1V-P012FB0120</b>
0,110	45	23,5	35,3	53,0	58,8	4,34	G1/4	10	8,5	<b>P1V-P012FB0090</b>
0,110	30	35,3	53,0	78,5	88,3	4,34	G1/4	10	10,5	<b>P1V-P012FB0060</b>
0,110	22,5	47,1	70,6	106	118	4,34	G1/4	10	10,5	<b>P1V-P012FB0050</b>
0,110	18	58,8	79,4	132	147	4,34	G1/4	10	10,5	<b>P1V-P012FB0040</b>
0,110	15	70,6	106	157	177	4,34	G1/4	10	10,5	<b>P1V-P012FB0030</b>
0,110	11,2	93,2	139	206	235	4,34	G1/4	10	10,5	<b>P1V-P012FB0022</b>
0,103	9	118	175	250	283	4,34	G1/4	10	13,5	<b>P1V-P012FB0018</b>
0,103	7,5	137	206	300	339	4,34	G1/4	10	13,5	<b>P1V-P012FB0015</b>
0,103	5,6	176	261	373	453	4,34	G1/4	10	13,5	<b>P1V-P012FB0012</b>
0,103	4,5	233	350	500	567	4,34	G1/4	10	13,5	<b>P1V-P012FB0009</b>
0,199	150	12,7	20,6	26,5	29,4	6,67	G3/8	10	13,0	<b>P1V-P023FB0300</b>
0,199	75	26,5	41,2	53,0	58,8	6,67	G3/8	10	13,0	<b>P1V-P023FB0150</b>
0,199	50	39,2	61,8	79,4	88,3	6,67	G3/8	10	13,0	<b>P1V-P023FB0100</b>
0,199	37,5	53,0	82,4	106	118	6,67	G3/8	10	13,0	<b>P1V-P023FB0075</b>
0,199	25	78,5	124	159	177	6,67	G3/8	10	16,5	<b>P1V-P023FB0050</b>
0,199	18,7	106	165	212	235	6,67	G3/8	10	16,5	<b>P1V-P023FB0038</b>
0,199	15	132	206	265	294	6,67	G3/8	10	16,5	<b>P1V-P023FB0030</b>
0,199	12,5	157	247	318	353	6,67	G3/8	10	16,5	<b>P1V-P023FB0025</b>
0,199	9,3	203	314	402	471	6,67	G3/8	10	16,5	<b>P1V-P023FB0018</b>
0,191	7,5	250	392	490	549	6,67	G3/8	10	24,0	<b>P1V-P023FB0015</b>
0,191	6,2	300	471	598	657	6,67	G3/8	10	24,0	<b>P1V-P023FB0012</b>
0,191	4,6	396	628	785	873	6,67	G3/8	10	24,0	<b>P1V-P023FB0009</b>
0,191	3,7	500	785	981	1100	6,67	G3/8	10	24,0	<b>P1V-P023FB0007</b>





# Rotary Actuators

Rotary actuators are an efficient and easy way to generate torque from compressed air, in a very compact size. They are ideal for the compact applications in a wide range of industries such as, packaging, process, electronics etc.



- Compact design
- Durable construction
- Long maintenance-free life
- High output torque/weight ratio
- Wide choice of torques available (up to 247 Nm)
- Range of mounting option, hydro-cushioning and position sensors

**Operating information**

Working pressure: Max 10 bar  
 Permissible fluid: Filtered (<5µ) with or without lubrication  
 Standard working temperature:  
 PRN/PRO 3 to 20 -5°C to +80°C  
 Other models -5°C to +60°C

Pre-lubricated, further lubrication is not normally necessary. If additional lubrication is introduced it must be continued.  
 For more information see [www.parker.com/euro\\_pneumatic](http://www.parker.com/euro_pneumatic)

**PRN miniature (fixed oscillating angle)**

Single vane	Torque at 6 bar (N.m)	Oscillating reference point		Order code	Oscillating angle	
		45°	90°		180°	270°
PRNA1S	0,16	X		<b>PRNA1S-90-90</b>	<b>PRNA1S-180-90</b>	
PRNA3S	0,38	X		<b>PRNA3S-90-90</b>	<b>PRNA3S-180-90</b>	
PRNA10S	1,20	X		<b>PRNA10S-90-90</b>	<b>PRNA10S-180-90</b>	
PRNA20S	2,10	X		<b>PRNA20S-90-90</b>	<b>PRNA20S-180-90</b>	
PRN30SE	4,10	X		<b>PRN30SE-90-45</b>	<b>PRN30SE-180-45</b>	<b>PRN30SE-270-45</b>
<b>Double vane</b>						
PRNA3D	0,65			<b>PRNA3D-90-45</b>		
PRNA10D	2,54			<b>PRNA10D-90-45</b>		
PRNA20D	4,70			<b>PRNA20D-90-45</b>		
PRN30DE	9,50			<b>PRN30DE-90-45</b>		

**PRO (adjustable oscillating angle)**

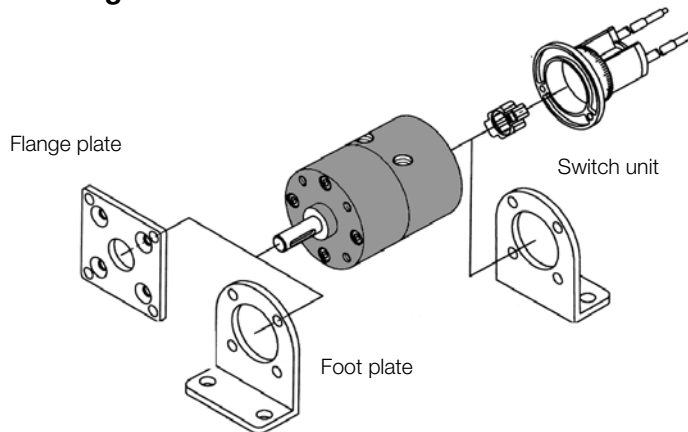
Single vane	Torque at 6bar (N.m)	Oscillating angle	Order code	Double vane	Torque at 6bar (N.m)	Oscillating angle	Order code
	0,38	30 to 180°	<b>PROA3S-0-90</b>		0,65	30 to 90°	<b>PROA3D-0-45</b>
	1,20	30 to 180°	<b>PROA10S-0-90</b>		2,54	30 to 90°	<b>PROA10D-0-45</b>
	2,10	30 to 180°	<b>PROA20S-0-90</b>		4,70	30 to 90°	<b>PROA20D-0-45</b>
	4,10	30 to 270°	<b>PRO30SE-0-45</b>		9,50	30 to 90°	<b>PRO30DE-0-45</b>

**PRN high torque range (fixed oscillating angle)**

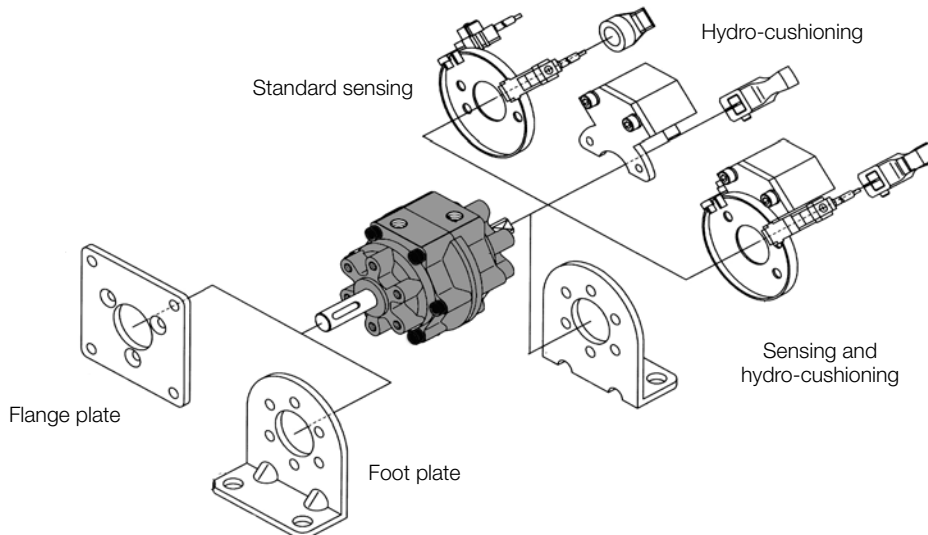
Single vane	Torque at 6 bar (N.m)	Oscillating angle	Order code
PRN50SE	5,9	90°	<b>PRN50SE-90-45</b>
PRN150SE	18,0	180°	<b>PRN150SE-180-45</b>
PRN300SE	34,5	270°	<b>PRN300SE-270-45</b>
PRN800SE	123,0		<b>PRN800SE-270-45</b>
<b>Double vane (oscillating angle 45°)</b>			
PRN50DE	12,8		<b>PRN50DE-90-45</b>
PRN150DE	41,5		<b>PRN150DE-90-45</b>
PRN300DE	83,0		<b>PRN300DE-90-45</b>
PRN800DE	247,0		<b>PRN800DE-90-45</b>

**Design Variants**

**PRO and miniature PRN ranges**



**PRN high torque range**



**Hydro-cushion for PRN050 to PRN800 rotary actuators**

Rotary actuator	Hydro-cushion	Claw for hydro-cushion - Oscillating angle		
		90°	180°	270°
PRN50S	<b>CRN50</b>	<b>CRN50-90-45-T</b>	<b>CRN50-180-45-T</b>	<b>CRN50-270-45-T</b>
PRN150S	<b>CRN150</b>	<b>CRN150-90-45-T</b>	<b>CRN150-180-45-T</b>	<b>CRN150-270-45-T</b>
PRN300S	<b>CRN300</b>	<b>CRN300-90-45-T</b>	<b>CRN300-180-45-T</b>	<b>CRN300-270-45-T</b>
PRN50D	<b>CRN50</b>	<b>CRN50-90-45-T</b>		
PRN150D	<b>CRN150</b>	<b>CRN150-90-45-T</b>		
PRN300D	<b>CRN300</b>	<b>CRN300-90-45-T</b>		

Vane actuators provide the maximum amount of output torque from the smallest possible envelope size. They convert pneumatic pressure into rotary motion for a wide variety of industrial applications.

Two basic styles are available. Single vane models with a maximum rotation of 280°, while the double vane units produce twice the torque output from identical envelope dimensions and have a maximum rotation of 100°.

- Double acting actuators
- Single or double vane
- Compact smooth design
- Uniform torque in both directions
- Angle adjustment and sensors available.



### Operating information

Type	Double acting actuation	
Standard rotation (tolerance $\pm 1^\circ$ )	Single vane	0 to 275°, size 10 to 11 0 to 280°, size 22 to 23
	Double vane	0 to 95°, size 10 to 11 0 to 100°, size 22 to 23
Temperature	-10°C to +80°C	
Air supply	Lubricated or non-lubricated	
Pressure range	2 to 10 bar max	

### Basic Unit

Size	Max.rotation	Type	Shaft	Order code.
10	275°	Single	Not through rod	<b>6V5100010F-275</b>
	95°	Double		<b>6V5100010F-095</b>
11	275°	Single	Not through rod	<b>6V5200010F-275</b>
	95°	Double		<b>6V5200010F-095</b>
22	280°	Single	Through rod	<b>6V1300030F-280</b>
	100°	Double		<b>6V1300030F-100</b>
33	280°	Single	Through rod	<b>6V2400030F-280</b>
	100°	Double		<b>6V2400030F-100</b>

### Angle adjustment and sensor kits

Size	Options	Order code.
22	Angle adjustment kit	<b>6V03570</b>
	Angle adjustment kit with sensors PNP	<b>6V03575</b>
	Angle adjustment kit with sensors NPN	<b>6V03576</b>
33	Angle adjustment Kit	<b>6V04570</b>
	Angle adjustment kit with sensors PNP	<b>6V04575</b>
	Angle adjustment kit with sensors NPN	<b>6V04576</b>

### Complete with angle adjustment and sensors

Size	Max.rotation	Type	Shaft	Order code.
22	220°	Single	Angle adjustment kit	<b>6V1357630F-220</b>
	100°	Double	Angle adjustment kit	<b>6V1357730F-100</b>
	220°	Single	As above + PNP Sensors + plug	<b>6V1357635F-220</b>
	100°	Double	As above + PNP Sensors + plug	<b>6V1357735F-100</b>
	220°	Single	As above + NPN Sensors + plug	<b>6V1357636F-220</b>
	100°	Double	As above + NPN Sensors + plug	<b>6V1357736F-100</b>
33	220°	Single	Angle adjustment kit	<b>6V2457630F-220</b>
	100°	Double	Angle adjustment kit	<b>6V2457730F-100</b>
	220°	Single	As above + PNP Sensors + plug	<b>6V2457635F-220</b>
	100°	Double	As above + PNP Sensors + plug	<b>6V2457735F-100</b>
	220°	Single	As above + NPN Sensors + plug	<b>6V2457636F-220</b>
	100°	Double	As above + NPN Sensors + plug	<b>6V2457736F-100</b>

The RA is a double-acting rotary actuator of very compact design. It has a high torque and small installation dimensions.

The actuator has double pistons, which transmits the turning moment to the output shaft. The toothed piston rods act on the output shaft in a rack-and-pinion type arrangement. Each piston and toothed rod is of integral construction.

The rack-and-pinion type arrangement gives an even turning moment throughout the rotation movement.



- 5 unit sizes
- Torque from 20 to 200 Nm
- Turning angles of 90° or 180°
- Keyway output shaft
- Direct Namur valve connection

### Operating information

Working medium:	dry, filtered compressed air
Working pressure:	Max, 10 bar
Working temperature:	-20°C to +80°C

Prelubricated, further lubrication is not normally necessary.  
If additional lubrication is introduced it has to be continued.

### Ordering information for RA

Angle	Order code
90°	<b>RA2-90</b>
180°	<b>RA2-180</b>
90°	<b>RA4-90</b>
180°	<b>RA4-180</b>
90°	<b>RA8-90</b>
180°	<b>RA8-180</b>
90°	<b>RA12-90</b>
180°	<b>RA12-180</b>
90°	<b>RA20-90</b>
180°	<b>RA20-180</b>

### Material specification

Cylinder block / end covers	Anodised aluminium, natural/black
Pistons	Aluminium
Relief surface bars	Stainless steel
Shaft	Zinc-plated steel
End cover screws	Zinc-plated steel
Seals	Nitrile rubber, NRB
Piston bearings	POM
Shaft bearings	Polyethene MOS2

Transforms the rectilinear motion of two single acting opposite cylinders into rotary motion via a rack and pinion drive contained within the cylinder body.



- VRA version (Ø32 to Ø80mm)
- VRA standard version (Ø32 to Ø125mm) for corrosive environments
- Rotation angles of 96°, 186° or 366°
- Optional magnetic version
- Several options are available; rotative angle adjustable stop, male shaft or female shaft (through)

### Operating information

Working pressure: Max, 10 bar  
Standard working temperature: -10°C to +60°C

Prelubricated, further lubrication is not normally necessary.  
If additional lubrication is introduced it has to be continued.

### VRA - Magnetic, Female shaft, No end adjustment

Bore	Rotation Angle (°)	Order code	Bore	Rotation Angle (°)	Order code	Bore	Rotation Angle (°)	Order code
32	96	<b>VRAM032-96FNN</b>	50	96	<b>VRAM050-96FNN</b>	80	96	<b>VRAM080-96FNN</b>
32	186	<b>VRAM032-186FNN</b>	50	186	<b>VRAM050-186FNN</b>	80	186	<b>VRAM080-186FNN</b>
32	366	<b>VRAM032-366FNN</b>	50	366	<b>VRAM050-366FNN</b>	80	366	<b>VRAM080-366FNN</b>
Bore	Rotation Angle (°)	Order code	Bore	Rotation Angle (°)	Order code			
40	96	<b>VRAM040-96FNN</b>	63	96	<b>VRAM063-96FNN</b>			
40	186	<b>VRAM040-186FNN</b>	63	186	<b>VRAM063-186FNN</b>			
40	366	<b>VRAM040-366FNN</b>	63	366	<b>VRAM063-366FNN</b>			

### VRS - Magnetic, Female shaft, No end adjustment

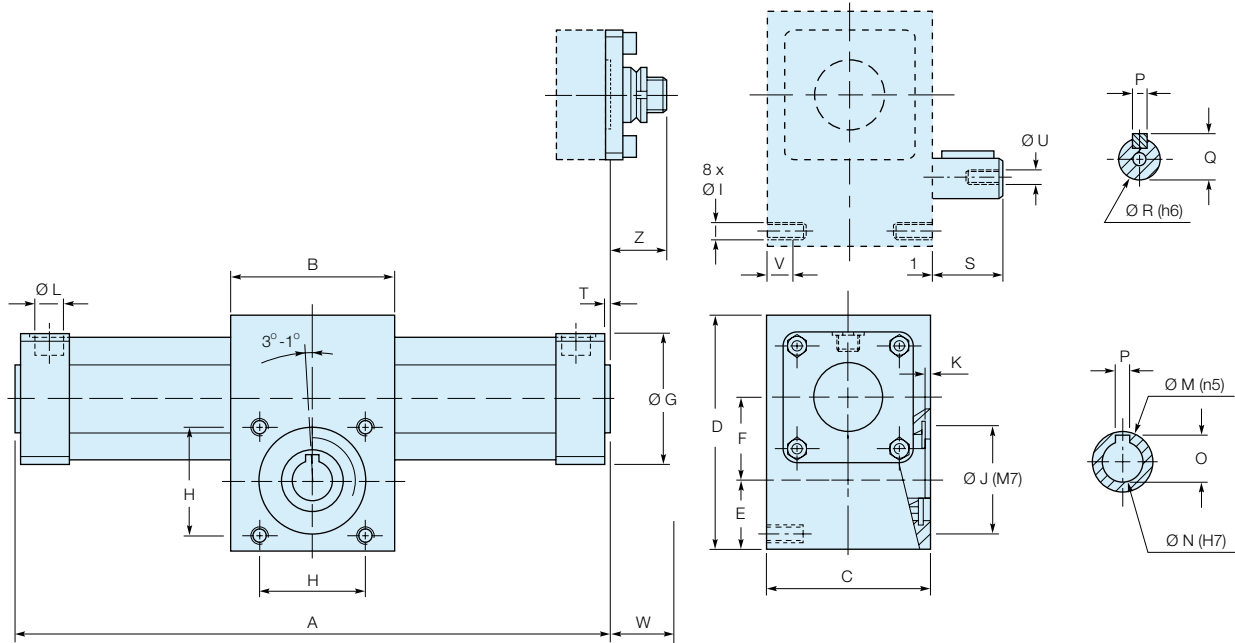
Bore	Rotation Angle (°)	Order code	Bore	Rotation Angle (°)	Order code	Bore	Rotation Angle (°)	Order code
32	96	<b>VRSM032-96FNN</b>	63	96	<b>VRSM063-96FNN</b>	125	96	<b>VRSM125-96FNN</b>
32	186	<b>VRSM032-186FNN</b>	63	186	<b>VRSM063-186FNN</b>	125	186	<b>VRSM125-186FNN</b>
32	366	<b>VRSM032-366FNN</b>	63	366	<b>VRSM063-366FNN</b>	125	366	<b>VRSM125-366FNN</b>
Bore	Rotation Angle (°)	Order code	Bore	Rotation Angle (°)	Order code			
40	96	<b>VRSM040-96FNN</b>	80	96	<b>VRSM080-96FNN</b>			
40	186	<b>VRSM040-186FNN</b>	80	186	<b>VRSM080-186FNN</b>			
40	366	<b>VRSM040-366FNN</b>	80	366	<b>VRSM080-366FNN</b>			
Bore	Rotation Angle (°)	Order code	Bore	Rotation Angle (°)	Order code			
50	96	<b>VRSM050-96FNN</b>	100	96	<b>VRSM100-96FNN</b>			
50	186	<b>VRSM050-186FNN</b>	100	186	<b>VRSM100-186FNN</b>			
50	366	<b>VRSM050-366FNN</b>	100	366	<b>VRSM100-366FNN</b>			

For more options consult technical catalogue



Dimensions (mm)

Cylinder bores Ø 32 to 80mm



The location of the shaft key is indicated when the pistons are on the left.  
First rotation as indicated (clockwise).

**Ω : Rotative angle 96°, 186° or 360°**

Ø	A*	B	C	D	E	F	G	H	I	J	K	L
32	128 + 0.523 Ω	50	50	72	25.0	24.0	45	35	M6	35	2.0	G1/8"
40	163 + 0.6981 Ω	65	65	95	32.5	29.5	52	47	M8	47	3.0	G1/4"
50	163 + 0.6981 Ω	65	65	95	32.5	29.5	65	47	M8	47	3.0	G1/4"
63	209 + 0.9424 Ω	95	95	126	40.0	38.0	75	62	M10	62	3.5	G3/8"
80	209 + 0.9424 Ω	95	95	126	40.0	38.0	95	62	M10	62	3.5	G3/8"

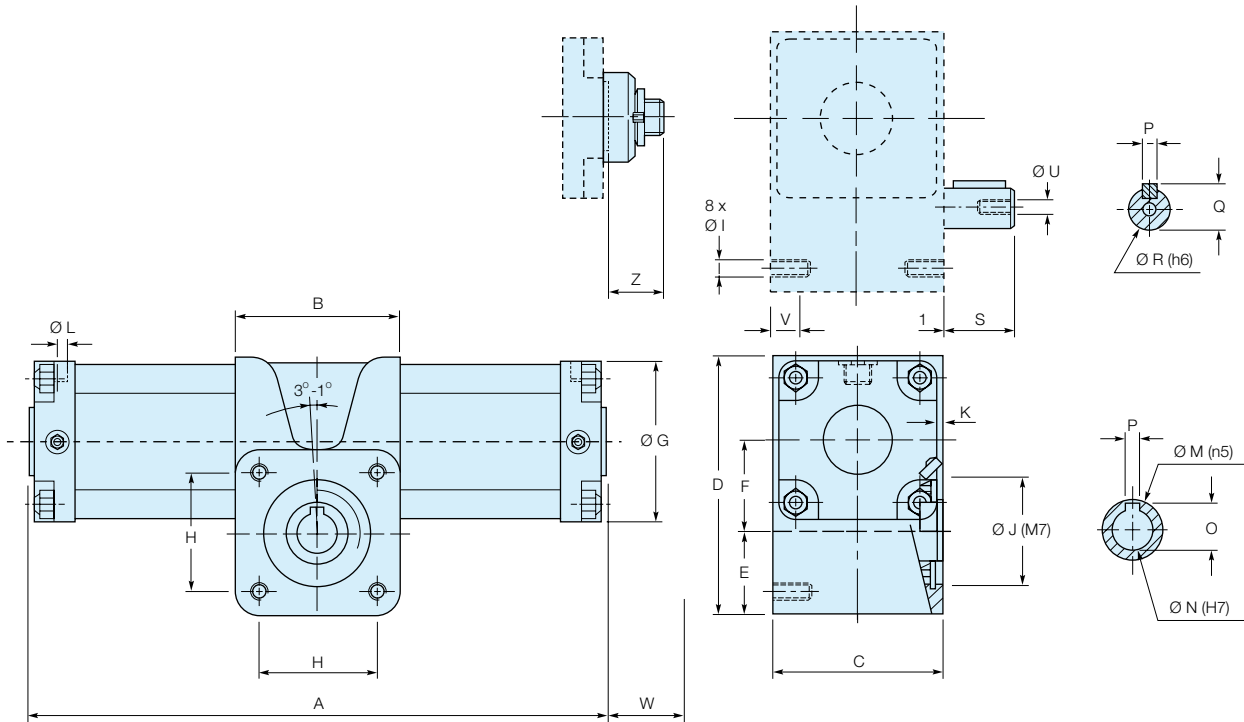
  

Ø	M	N	O	P	Q	R	S	T	U	V	W*	Z
32	17	10	11.7	4	13.5	12	20	2	M4 x 10	10	22	31
40	25	15	17.2	5	18.0	16	30	3	M5 x 15	12	24	35
50	25	15	17.2	5	18.0	16	30	3	M5 x 15	12	29	35
63	35	24	27.2	8	27.0	24	40	3	M8 x 20	15	32	32
80	35	24	27.2	8	27.0	24	40	3	M8 x 20	15	32	32

\* Add W to A for the magnetic version (magnet on right hand side as standard).

Dimensions (mm)

Cylinder bores Ø 100 to 125mm



The location of the shaft key is indicated when the pistons are on the left.  
First rotation as indicated (clockwise).

**Ω : Rotative angle 96°, 186° or 360°**

Ø	A*	B	C	D	E	F	G	H	I	J	K	L
100	304 + 1.309 Ω	130	142	188	64.0	53.5	115	90	M14	90	4.5	G1/2"
125	304 + 1.309 Ω	130	142	188	64.0	53.5	140	90	M14	90	4.5	G1/2"
Ø	M	N	O	P	Q	R	S	U	V	W*	Z	
100	55	35	38.7	10	38.5	35	50	M12 x 20	24	4	38	
125	55	35	38.7	10	38.5	35	50	M12 x 20	24	4	38	

\* Add W to A for the magnetic version (magnet on right hand side as standard).

## Material specification

	VRS	VRA
Rack	XC40 steel	XC40 steel
Floating piston	Aluminium	Aluminium
Magnet (**M version)	Magnetic elastomer	Magnetic elastomer
Piston seals	Polyurethane	Polyurethane
Rack and pinion gear seals		Silicone
Body	Anodised aluminium	Anodised aluminium
Integrated tie rods, nuts, circlips, screws	Zinc plated steel	303 stainless steel
Body	Hard anodised aluminium extrusion	Hard anodised aluminium extrusion
End caps	Anodised aluminium	Anodised aluminium
Male or female transmission shaft	XC40 steel	304 stainless steel (female)
Cushion sleeve	Brass	Brass
Clearance adjusting block (Ø 32 to 80mm)	Acetal	Acetal
Adjusting screw blanking plate		Aluminium + silicone seal

## Condition of use

	Ø 32 to 80mm	Ø 100 and 125mm
Temperature range	-10°C to +60°C (14°F to 140°F)	
Pressure range (bar)	0.5 to 10 7 to 145 psi)	0.3 to 10 (4 to 145 psi)
Air condition	Filtered air 40µ, lubricated or non lubricated, dry or non dry	

## Theoretical torque

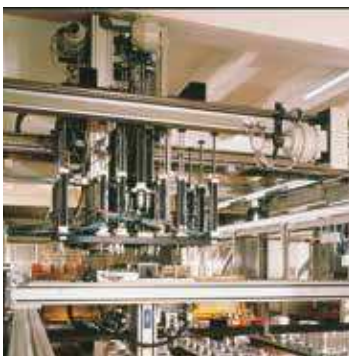
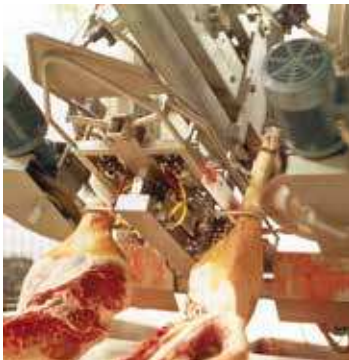
Ø Bore mm	Pinion Module	ØPm	Torque (N.m)				
			2 bar	4 bar	6 bar	8 bar	10 bar
32	1.5	20	2.4	4.8	7.2	9.6	12
40	2	40	5.0	10.0	15.0	20.0	25
50	2	40	8.0	16.0	24.0	32.0	40
63	3	54	17.0	34.0	51.0	68.0	85
80	3	54	27.0	54.0	81.0	108.0	135
100	5	75	58.0	116.0	174.0	232.0	290
125	5	75	92.0	184.0	276.0	368.0	460

The table above shows the theoretical torque at different pressures. A maximum efficiency of 80% should be assured due to functional losses.

## Technical data

Bore (mm)		32	40	50	63	80	100	125
Maximum load (N)	Axial	110	350	350	1050	1050	2500	2500
	Radial	35	220	220	900	900	2000	2000
Cushion angle (°)		50	45	45	32	32	30	30
Nominal moment of inertia (kg.m <sup>2</sup> )		0.003	0.01	0.02	0.1	0.2	0.3	0.4
Rotative angle (-1°)		96°, 186°, 366°						
Angular tolerance		0°10'	0°10'	0°10'	0°10'	0°10'	1°	1°





# Thrust Drives

# 9109 & SP Air Bellows

## Removable and Crimped Types



Air bellows are the ideal choice for applications requiring short stroke, high thrust single acting actuators. Manufactured from fabric reinforced synthetic rubber in one, two or three convolutions according to stroke and model. They incorporate no reciprocating metal parts and so provide virtually frictionless thrust compared with conventional pneumatic cylinders. All models are single acting only. The return stroke is provided in part by the natural spring action of the bellows but more usually by the load itself. The simplicity of construction provides an extremely long, virtually maintenance-free service life even under arduous conditions. Air bellows are suitable for vibration applications i.e. device feeders at high frequency.

- **10 sizes, diameters 70 to 660 mm, Strokes from 20 to 410 mm, single, double or triple convolutions (removable type)**
- **7 sizes, diameters 82 to 288 mm, Strokes from 55 to 170 mm, single or double convolutions (crimped type)**
- **High thrust and frictionless movement**
- **Oil free**
- **Short stroke for high force application**
- **Easy to install**
- **Easy to work**
- **Single acting**
- **Use as a cylinder or an isolator**

Air bellows are the ideal choice for applications requiring short stroke, high thrust single acting actuators.

Manufactured from fabric reinforced synthetic rubber in one, two or three convolutions according to stroke and model. They incorporate no reciprocating metal parts and so provide virtually frictionless thrust compared with conventional pneumatic cylinders.

- 10 sizes, diameters 70-660 mm
- Strokes from 45 to 375 mm
- Single, double or triple convolutions
- High thrust and frictionless movement
- Maintenance free



### Operating information




Working pressure: Max 8 bar  
 Working temperature: -30°C to +70°C  
 High temperature version  
 Working temperature: -30°C to +90°C  
 Operation: Dry air



It is recommended that external mechanical stops are used to limit the stroke. The units should not achieve maximum stroke or be allowed to 'bottom out'.  
 Air Bellows may not be stacked, use singly only.

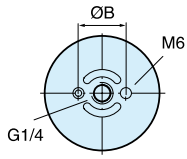
Air bellows are suitable for vibration applications i.e. device feeders at high frequency.

For more information see [www.parker.com/euro\\_pneumatic](http://www.parker.com/euro_pneumatic)

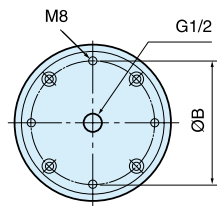
Symbol	Ø (mm)	Types inch x nb conv.	Port size	Max stroke (mm)	Order code Standard	Order code High temp	Order code With stainless steel parts
<b>One convolution</b> 	<b>70</b>	2¾ x 1 (alu.)	G1/4	20	<b>9109025A</b>	<b>9109225A</b>	/
	<b>110</b>	4½ x 1 (alu.)	G3/8	45	<b>9109400</b>	<b>9109600</b>	<b>9109400N</b>
	<b>150</b>	6 x 1 (alu.)	G1/2	55	<b>9109004A</b>	<b>9109204A</b>	/
	<b>150</b>	6 x 1 (steel)	G1/2	55	<b>9109004</b>	<b>9109204</b>	<b>9109004N</b>
	<b>200</b>	8 x 1 (steel)	G1/2	75	<b>9109014</b>	<b>9109214</b>	<b>9109014N</b>
	<b>250</b>	10 x 1 (steel)	G1/2	100	<b>9109024</b>	<b>9109224</b>	<b>9109024N</b>
	<b>300</b>	12 x 1 (steel)	G1/2	100	<b>9109044</b>	<b>9109244</b>	<b>9109044N</b>
	<b>370</b>	14½ x 1 (steel)	G1/2	115	<b>9109064</b>	<b>9109264</b>	<b>9109064N</b>
	<b>410</b>	16 x 1 (steel)	G1/2	160	<b>9109026</b>	<b>9109226</b>	<b>9109026N</b>
	<b>550</b>	21½ x 1 (alu.)	G3/4	XXX	<b>9109027A</b>	<b>9109227A</b>	/
<b>Two convolutions</b> 	<b>70</b>	2¾ x 2 (alu.)	G1/4	50	<b>9109009</b>	<b>9109509</b>	/
	<b>110</b>	4½ x 2 (alu.)	G3/8	80	<b>9109401</b>	<b>9109502</b>	<b>9109401N</b>
	<b>150</b>	6 x 2 (alu.)	G1/2	112	<b>9109001A</b>	<b>9109201A</b>	/
	<b>150</b>	6 x 2 (steel)	G1/2	112	<b>9109001</b>	<b>9109201</b>	<b>9109001N</b>
	<b>200</b>	8 x 2 (steel)	G1/2	180	<b>9109011</b>	<b>9109211</b>	<b>9109011N</b>
	<b>250</b>	10 x 2 (steel)	G1/2	200	<b>9109021</b>	<b>9109221</b>	<b>9109021N</b>
	<b>300</b>	12 x 2 (steel)	G1/2	195	<b>9109041</b>	<b>9109241</b>	<b>9109041N</b>
	<b>370</b>	14½ x 2 (steel)	G1/2	225	<b>9109061</b>	<b>9109261</b>	<b>9109061N</b>
	<b>410</b>	16 x 2 (steel)	G1/2	250	<b>9109171</b>	<b>9109271</b>	<b>9109171N</b>
	<b>550</b>	21½ x 2 (Air bellow less end caps)	G3/4	300	<b>9109150</b>	<b>9109250</b>	/
				<b>9109153</b>	<b>9109253</b>	/	
<b>660</b>	26 x 2 (steel) 26 x 2 (Air bellow less end caps)	G3/4	310	<b>9109156</b>	/	/	
				<b>9109159</b>	/	/	
<b>Three convolutions</b> 	<b>70</b>	2¾ x 3 (alu.)	G1/4	65	<b>9109010</b>	<b>9109510</b>	/
	<b>110</b>	4½ x 3 (alu.)	G3/8	100	<b>9109402</b>	<b>9109503</b>	<b>9109402N</b>
	<b>150</b>	6 x 3 (alu.)	G1/2	173	<b>9109007A</b>	<b>9109207A</b>	/
	<b>150</b>	6 x 3 (steel)	G1/2	173	<b>9109007</b>	<b>9109207</b>	<b>9109007N</b>
	<b>200</b>	8 x 3 (steel)	G1/2	225	<b>9109017</b>	<b>9109217</b>	<b>9109017N</b>
	<b>250</b>	10 x 3 (steel)	G1/2	300	<b>9109031</b>	<b>9109231</b>	<b>9109031N</b>
	<b>300</b>	12 x 3 (steel)	G1/2	330	<b>9109051</b>	<b>9109251</b>	<b>9109051N</b>
	<b>370</b>	14½ x 3 (steel)	G1/2	350	<b>9109069</b>	<b>9109269</b>	<b>9109069N</b>
<b>410</b>	16 x 3 * (steel)	G1/2	375	<b>9109177</b>	<b>9109277</b>	<b>9109177N</b>	

Dimensions (mm)

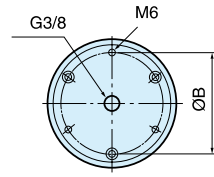
Ø70 mm (2¾")  
Aluminium end plate version



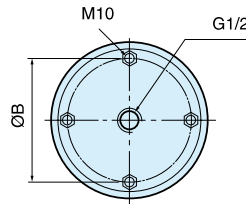
Ø150 mm (6")  
Aluminium end plate version



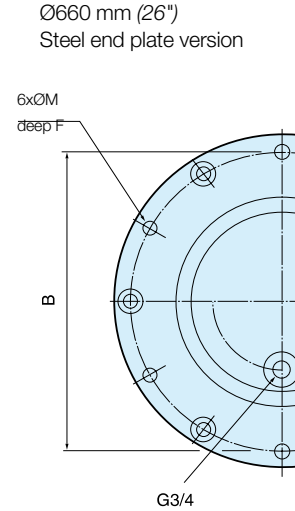
Ø110 mm (4½")  
Aluminium end plate version



Ø200-410 mm (8-16")  
Aluminium end plate version

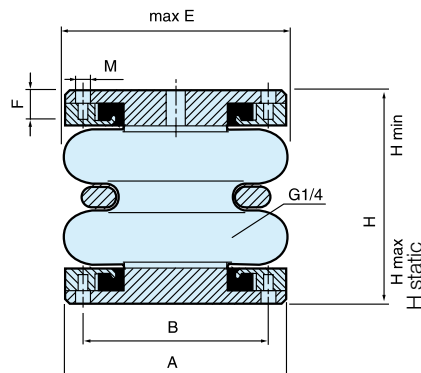


Ø550 mm (21½")  
Steel end plate version

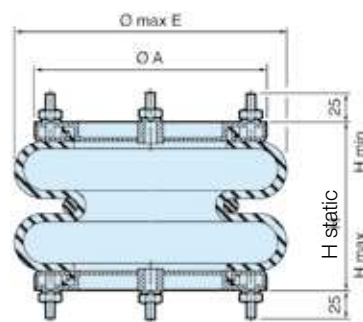


Ø	Number of convolutions	H min	H static	H max	Stroke max	ØE max	ØA	ØB	ØM	F
70	2	65	90	115	50	80	78	36	M6	9
70	3	80	110	145	65	80	78	36	M6	9
110	1	45	65	90	45	125	110	93	M6	13
110	2	65	100	145	80	125	110	93	M6	13
110	3	100	145	200	100	125	110	93	M6	13
150	1	50	80	105	55	175	155	127	M8	16
150	2	78	130	190	172	175	155	127	M8	16
150	3	102	190	275	173	175	155	127	M8	16
200	1	50	90	125	75	230	184	155,5	M10	
200	2	70	160	250	180	230	184	155,5	M10	
200	3	100	205	325	225	230	184	155,5	M10	
250	1	50	100	150	100	280	210	181	M10	
250	2	70	170	270	250	280	210	181	M10	
250	3	100	250	400	300	280	210	181	M10	
300	1	50	100	150	100	330	260	232	M10	
300	2	75	170	270	195	330	260	232	M10	
300	3	100	250	430	330	330	260	232	M10	
370	1	50	110	165	115	395	310	282,5	M10	
370	2	70	180	295	225	395	310	282,5	M10	
370	3	100	280	450	350	395	310	282,5	M10	
410	2	75	200	325	250	440	310	282,5	M10	
410	3	125	300	500	375	440	310	282,5	M10	
550	2	90	200	390	300	580	498,5	470	M10	19
660	2	90	200	400	310	700	498,5	470	M10	19

Ø70-150 mm (2¾-6")

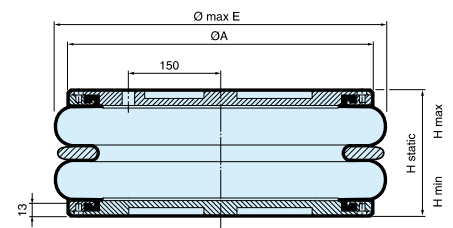


Ø200-410 mm (8-16")  
Steel end plate version



Ø550 mm (21½")  
Aluminium end plate version

Ø660 mm (26")  
Steel end plate version





Air bellows are the ideal choice for applications requiring short stroke, high thrust single acting actuators.

Manufactured from fabric reinforced synthetic rubber in one or two convolutions according to stroke and model. They incorporate no reciprocating metal parts and so provide virtually frictionless thrust compared with conventional pneumatic cylinders.

- 13 variants, diameters 150 to 420 mm
- Strokes from 45 to 170 mm
- Single or double convolutions
- High thrust and frictionless movement
- Maintenance free



#### Operating information

Working pressure: Max 8 bar  
 Working temperature: -40°C to +70°C  
 Operation: Dry air



It is recommended that external mechanical stops are used to limit the stroke. The units should not achieve maximum stroke or be allowed to 'bottom out'. Air Bellows may not be stacked, use singly only.

Air bellows are suitable for vibration applications i.e. device feeders at high frequency.

For more information see [www.parker.com/euro\\_pneumatic](http://www.parker.com/euro_pneumatic)

#### Single convolution

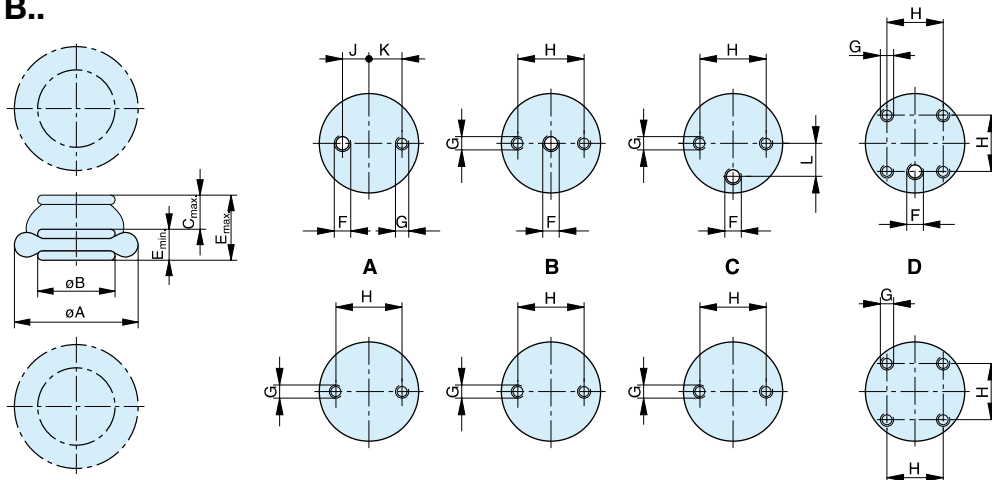
Symbol	Ø mm (inches)	Port size	Max force (N) at 1 bar (0 stroke)	Max stroke mm	Type	Order code
	150	G1/4	1250	55	SP-1B04	<b>KY9500</b>
	165	G1/4	1350	45	SP-1B05	<b>KY8401</b>
	205	G1/4	1550	90	SP-1B07	<b>KY9501</b>
	250	G3/4	2800	100	SP-1B12	<b>KY9502</b>
	350	G3/4	5050	110	SP-1B22	<b>KY9590</b>
	420	G3/4	7600	110	SP-1B34	<b>KY8010</b>

#### Double convolution

Symbol	Ø mm (inches)	Port size	Max force (N) at 1 bar (0 stroke)	Max stroke mm	Type	Order code
	165	G1/4	1250	110	SP-2B04	<b>KY9612</b>
	165	G1/4	1350	80	SP-2B05	<b>KY8011</b>
	170	G1/4	1750	105	SP-2B05A	<b>KY8012</b>
	215	G1/4	2200	125	SP-2B07	<b>KY9589</b>
	250	G3/4	3700	150	SP-2B12	<b>KY9611</b>
	320	G3/4	5000	170	SP-2B22	<b>KY9591</b>
	390	G3/4	8000	170	SP-2B34	<b>KY8007</b>

**Dimensions Series SP-1B..**

**Dimensions of Mounting Plates – Series SP-1B..**



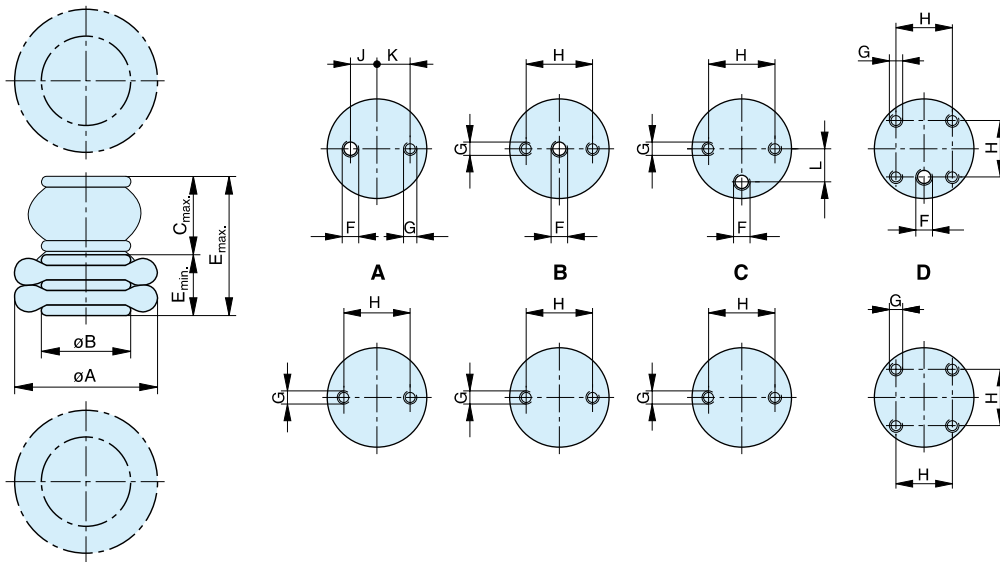
Type	Order-No.	Mounting plate	$\phi A$ at 8 bar	$\phi B$	$C_{max}^{**}$	$E_{max}^{**}$	$E_{min}$	F	G*	H	J	K	L
SP-1B04	<b>KY 9500</b>	A	150	88	55	105	50	G1/4	M8	22	9	11	-
SP-1B05	<b>KY 8401</b>	B	165	110	45	95	50	G1/4	M8	44.5	-	-	-
SP-1B07	<b>KY 9501</b>	C	205	135	80	130	50	G1/4	M8	54	-	-	27
SP-1B12	<b>KY 9502</b>	C	250	160	100	150	50	G3/4	M8	89	-	-	38
SP-1B22	<b>KY 9590</b>	C	350	229	110	170	60	G3/4	M12	157.5	-	-	73
SP-1B34	<b>KY 8010</b>	D	420	288	110	170	60	G3/4	M8	158.8	-	-	-

\*15 deep

\*\*These dimensions depend on the operating pressure: see force diagrams

**Dimensions Series SP-2B..**

**Dimensions of Mounting Plates – Series SP-2B..**



Type	Order-No.	Mounting plate	$\phi A$ at 8 bar	$\phi B$	$C_{max}^{**}$	$E_{max}^{**}$	$E_{min}$	F	G*	H	J	K	L
SP-2B04	<b>KY 9612</b>	A	165	82	110	190	80	G1/4	M8	22	9	11	-
SP-2B05	<b>KY 8011</b>	B	165	110	80	160	80	G1/4	M8	44.5	-	-	-
SP-2B05A	<b>KY 8012</b>	B	170	110	105	185	80	G1/4	M8	44.5	-	-	-
SP-2B07	<b>KY 9589</b>	C	215	135	125	220	95	G1/4	M8	54	-	-	27
SP-2B12	<b>KY 9611</b>	C	250	160	150	240	90	G3/4	M8	89	-	-	38
SP-2B22	<b>KY 9591</b>	C	320	229	170	260	90	G3/4	M12	157.5	-	-	73
SP-2B34	<b>KY 8007</b>	D	390	288	170	260	90	G3/4	M8	158.8	-	-	-

\*15 deep

\*\*These dimensions depend on the operating pressure: see force diagrams

The thrust cylinders are linear actuators, designed for a high force to size ratio. This makes the cylinder ideal to use for clamping, riveting, punching and similar applications where a high force is required.

- Thrust cylinders provide large forces
- Compact dimensions
- C0D, diaphragm type
- C0P, piston type
- Available in single and double acting versions



**Operating information**

Working pressure: Max 8 bar  
 Working temperature: -20°C to +70°C

Stainless steel piston rod  
 Piston rod according to ISO 4395



Compressed air cylinders, types C0D and C0P should not be used in vertical applications without external stop.

For more information see [www.parker.com/euro\\_pneumatic](http://www.parker.com/euro_pneumatic)

**C0D - Double acting**

Force at 6 bar, N	Port size	Stroke mm	Order code
3000	G1/4	40	<b>C0D300-40</b>
6000	G1/4	50	<b>C0D600-50</b>
12000	G1/2	50	<b>C0D1200-50</b>
25000	G1/2	60	<b>C0P2500-60</b>
25000	G1/2	80	<b>C0P2500-80</b>

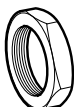
**C0P - Single acting**

Force at 6 bar, N	Spring N force		Port size	Stroke mm	Order code
	Max N	Min N			
1600	314	128	G1/4	50	<b>C0P160-50S</b>
1600	314	128	G1/4	80	<b>C0P160-80S</b>
3000	314	128	G1/4	50	<b>C0P300-50S</b>
3000	314	128	G1/4	80	<b>C0P300-80S</b>
3000	294	98	G1/4	40	<b>C0D300-40S</b>
6000	638	98	G1/4	50	<b>C0D600-50S</b>
12000	981	235	G1/2	50	<b>C0D1200-50S</b>
25000	2700	883	G1/2	60	<b>C0P2500-60S</b>
25000	2700	883	G1/2	100	<b>C0P2500-100S</b>


The spring forces in single acting cylinders are sufficient to return the piston rod without load

**Accessories**

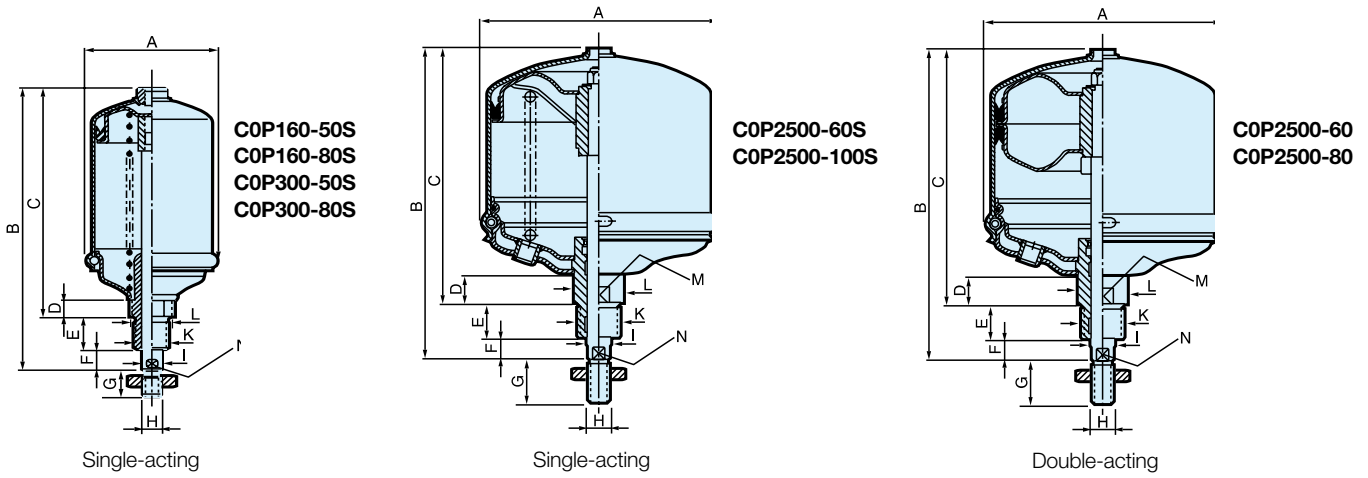
**Neck mounting nut**

Lock nut thread	For cylinder	Order code
 M24x2	C0D300	<b>9141100000</b>
M36x3	C0D600/1200	<b>9141100100</b>
M48x3	C0P2500	<b>9141100200</b>
M24x3	C0P160/300	<b>9141100300</b>

**Piston rod nut (one nut is included)**

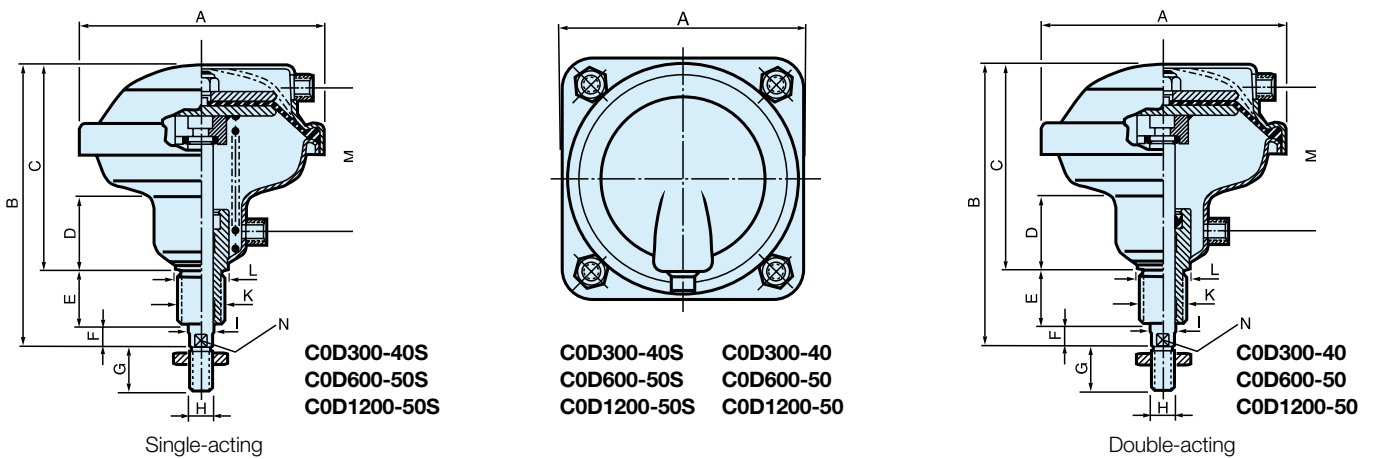
Piston rod nut thread	For cylinder	Order code
 M12	C0P160/300 and C0D300	<b>0266211200</b>
M16	C0D600	<b>0266211400</b>
M20	C0D1200	<b>0266211600</b>
M24	C0P2500	<b>0266211800</b>

Dimensions (mm), piston type



Type	Connection thread	A	B	C	D	E	F	G	H	I Ø	K	L Ø	M	N
C0P160-50S	G1/4	66	192	151	18	30	11	24	M12x1,75	14	M24x3	30	30	12
C0P160-80S	G1/4	66	222	181	18	30	11	24	M12x1,75	14	M24x3	30	30	12
C0P300-50S	G1/4	93	192	151	18	30	11	24	M12x1,75	14	M24x3	30	30	12
C0P300-80S	G1/4	93	222	181	18	30	11	24	M12x1,75	14	M24x3	30	30	12
C0P2500-60S	G1/2	268	345	285	33	40	20	48	M24x3	28	M48x3	56	50	25
C0P2500-100S	G1/2	268	385	325	33	40	20	48	M24x3	28	M48x3	56	50	25
C0P2500-60	G1/2	268	345	285	33	40	20	48	M24x3	28	M48x3	56	50	25
C0P2500-80	G1/2	268	385	325	33	40	20	48	M24x3	28	M48x3	56	50	25

Dimensions (mm), diaphragm type



Type	Connection thread	A	B	C	D	E	F	G	H	I Ø	K	L Ø	M	N
C0D300-40S	G1/4	150	183	131	48	38	14	24	M12x1,75	16	M24x2	30	90	13
C0D300-40	G1/4	150	183	131	48	38	14	24	M12x1,75	16	M24x2	30	90	13
C0D600-50S	G1/4	195	212	154	55	38	20	32	M16x2	20	M36x3	43	107	17
C0D600-50	G1/4	195	212	154	55	38	20	32	M16x2	20	M36x3	43	107	17
C0D1200-50S	G1/2	261	243	178	58	45	20	40	M20x2,5	25	M36x3	43	117	22
C0D1200-50	G1/2	261	243	178	58	45	20	40	M20x2,5	25	M36x3	43	117	22

**Press stand for thrust cylinders**

A simple press for efficient mounting and pressing can easily be built by screwing the thrust cylinders into the threaded holes in the very stable and strong steel press stand. The stand is available in two versions with different fastening threads for the cylinders.

The top plate has two different threads, and can be rotated through 180 degrees to present the correct thread for nose fitting of the cylinders.

The sub-base is fitted with a T-track for easy mounting of accessories. It also has two through holes for simple and secure fitting to a work bench.

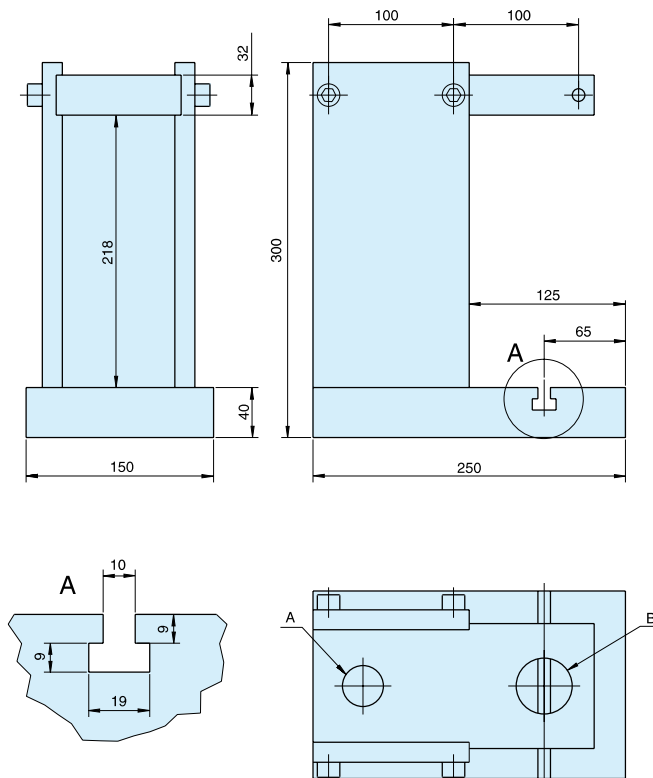


**NOTE!** Remember that an approved two-handed press control must be used with the cylinders and the press stand to prevent crush injuries. We recommend the use of our type PXP two-handed press control. It is available in a number of versions, and is simple, ergonomic and safe to incorporate in the press stand. It meets the requirements of safety standards EN574 and EN954-1.

For more information, see our website:  
[www.parker.com/euro\\_pneumatic](http://www.parker.com/euro_pneumatic)

Description	Threads A/B	Weight kg	Order No.
Press stand for C0P160 / C0P300 / C0D300	M24x2/M24x3	24	<b>C0P-C0D-P01</b>
Press stand for C0D600 / C0D1200 / C0P2500	M36x3/M48x3	24	<b>C0P-C0D-P02</b>

**Dimensions**



Clamp cylinders are single acting pneumatic cylinders with built-in oleo-pneumatic intensifiers. They can be used to solve most clamping, tightening etc problems.

- Single acting cylinders with built-in hydro-pneumatic intensifier
- Compact size with large clamping forces up to 2700 daN (depending on air pressure)
- Operated using a compressed air supply, no special installation required
- Easy adjustment through a fully threaded body
- Simple and rapid installation



**Operating information**

Working pressure:	Max 9bar
except VBH603 and VBH606 :	Max 7bar
Permissible fluid:	Filtered (40µ) with or without lubrication
Standard working temperature:	+5°C to +50°C

**Hydraulic clamps**

Order code	Max.stroke (mm)	Ø external (mm)	Force at 6bar (daN)
VB363C	3	36	240
VB366C	6	36	240
VB369C	9	36	240
VB483C	3	48	530
VB486C	6	48	530
VB489C	9	48	530
VB4812C	12	48	530
VBH483C	3	48	1060
VB606C	6	60	1140
VB609C	9	60	1140
VB6012C	12	60	1140
VBH603C	3	60	1800
VBH606C	6	60	1800

**Maintenance**

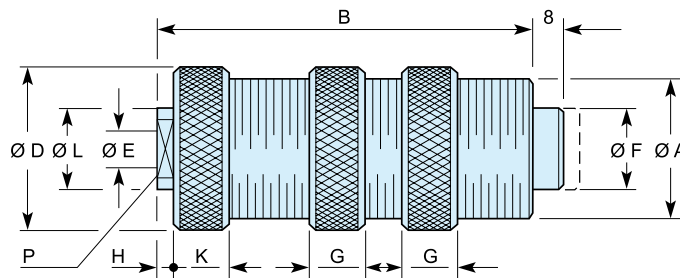
Seal kit for VB Ø36 VB Ø48 VBH Ø48 VB Ø60 VBH Ø60  
**Order code JJVB36 JJVB48 JJVBH48 JJVB60 JJVBH60**  
 Oil container for all types of hydraulic clamp cylinders (250ml capacity) :  
 Order code BH680VB

**Hydraulic clamp mountings**

Mounting for VB	Mounting block	Rounded end	V groove end
Ø36	FVA36-1	BVA36-16	BVA36-17
Ø48	FVA48-1	BVA48-16	BVA48-17
Ø60	FVA60-1	BVA60-16	BVA60-17



**Dimensions (mm)**



Model No	ØA	B	ØD	ØE	ØF	G	H	K	ØL	P
VB363C	M36 x 1,5	98,0	42	G1/8	22	12	4	13	22	17
VB366C	M36 x 1,5	127,5	42	G1/8	22	12	4	13	22	17
VB369C	M36 x 1,5	185,0	42	G1/8	22	12	4	13	22	17
VB483C	M48 x 1,5	111,0	56	G1/8	32	12	4	13	22	17
VBH483C	M48 x 1,5	148,0	56	G1/8	32	12	4	13	22	17
VB486C	M48 x 1,5	148,0	56	G1/8	32	12	4	13	22	17
VB489C	M48 x 1,5	188,0	56	G1/8	32	12	4	13	22	17
VB4812C	M48 x 1,5	234,0	56	G1/8	32	12	4	13	22	17
VBH603C	M60 x 2	175,0	70	G1/4	40	14	5	17	25	22
VB606C	M60 x 2	175,0	70	G1/4	40	14	5	17	25	22
VBH606C	M60 x 2	290,0	70	G1/4	40	14	5	17	25	22
VB609C	M60 x 2	249,0	70	G1/4	40	14	5	17	25	22
VB6012C	M60 x 2	314,0	70	G1/4	40	14	5	17	25	22



# Hydrochecks

## Self contained hydraulic checking units



Hydrochecks are precision built self contained hydraulic control units designed to smooth out pneumatic cylinder movements over any distance within their own stroke length, up to 450 mm.

Basic single acting models provide adjustable speed control over the full outward or inward stroke and fast return, with the facility for rapid approach to the controlled stroke by adjustment of the piston rod engaging nut.

- Gives smooth control feeds
- Strokes up to 450 mm.







# Electromechanical Drives



# ORIGA SYSTEM PLUS OSPE

## Electric Linear Actuators



### The latest generation of **high capacity** actuators

The OSP-E series combines robustness, precision and high performance. The aesthetic design is easily integrated into any machine constructions by virtue of extremely adaptable mountings.

- For particularly high requirements regarding loads and forces
- For high-speed applications and highly dynamic motion profiles
- BHD with toothed belt and integrated heavy duty guide: roller guide or re-circulating ball bearing guide

# One complete system - Seven actuator options For all possible applications

Series OSP-E..BHD  
Belt Actuator with integrated Guide  
- Ball Bearing Guide  
- Roller Guide



Series OSP-E..BV  
Vertical Belt Actuator with integrated Ball  
Bearing Guide



Series OSP-E..B  
Belt Actuator with Internal  
Guide



Series OSP-E..SB  
Ball Screw Actuator with internal  
Plain Bearing Guide



Series OSP-E..ST  
Trapezoidal Screw Actuator with  
Internal Plain Bearing Guide



Series OSP-E..SBR  
Ball Screw Actuator with internal Plain  
Bearing Guide and Piston Rod



Series OSP-E..STR  
Trapezoidal Screw actuator with  
Internal Plain Bearing Guide and  
Piston Rod



## Belt actuator with integrated guide for heavy duty applications

The latest generation of high capacity actuators, the OSP-E..BHD series combines robustness, precision and high performance. The aesthetic design is easily integrated into any machine constructions by virtue of extremely adaptable mountings.

### Belt Actuator with Integrated Guide - selective with Ball Bearing Guide or Roller Guide

#### Advantages:

- Accurate path and position control
- High force output
- High speed operation
- High load capacity
- Easy installation
- Low maintenance
- Ideal for multi-axis applications

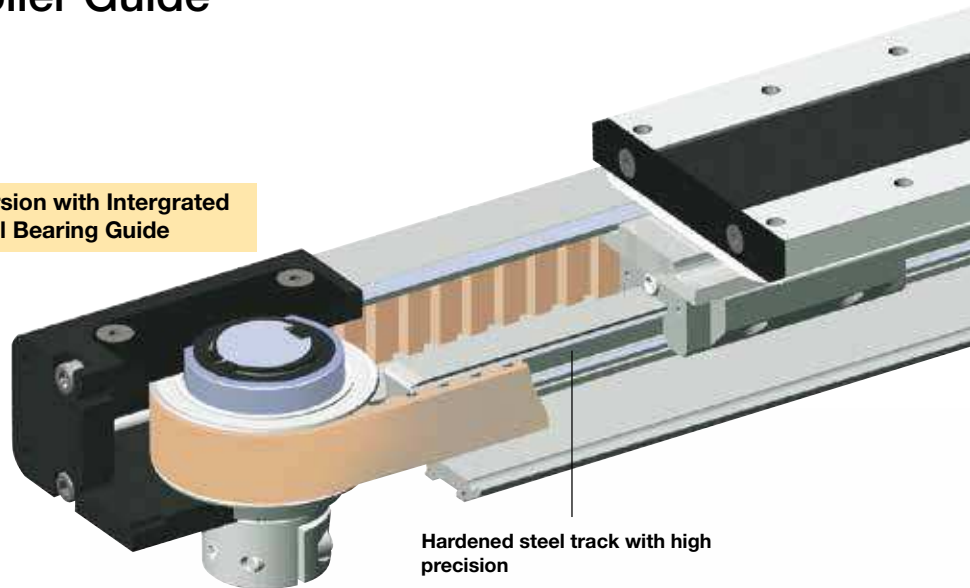
#### Features:

- Integrated ball bearing guide or integrated roller guide
- Diverse range of multi-axis connection elements
- Diverse range of accessories and mountings
- Complete motor and control packages
- Optional integrated planetary gearbox
- Special options on request

Take the easy route and load all the dimensions into your system. The file is suitable for all current CAD systems – available on CD-Rom or at [www.parker-origa.com](http://www.parker-origa.com)

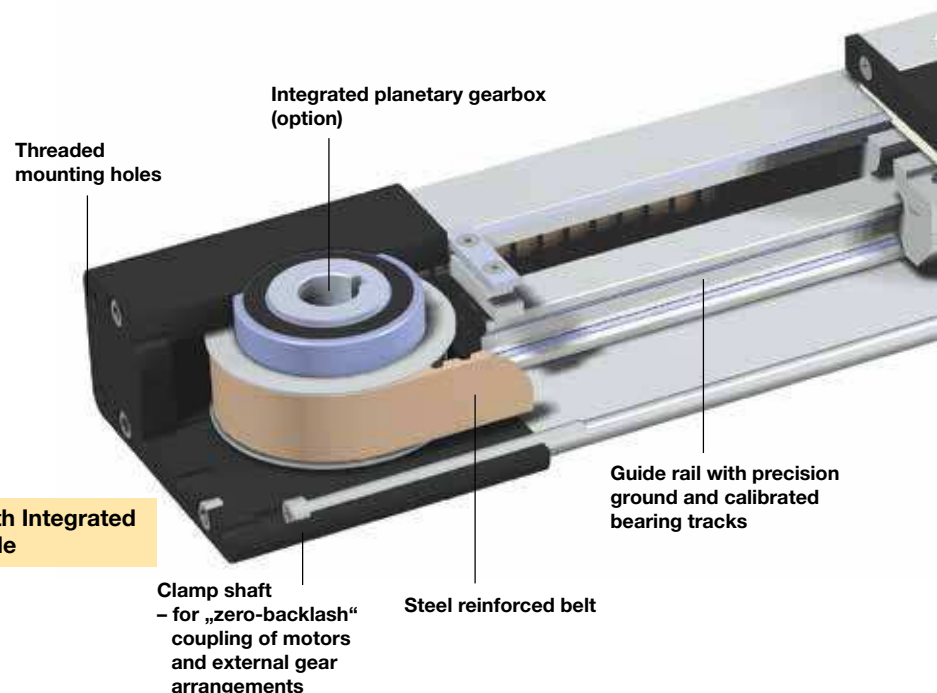


Version with Intergrated Ball Bearing Guide



Hardened steel track with high precision

Version with Integrated Roller Guide



Threaded mounting holes

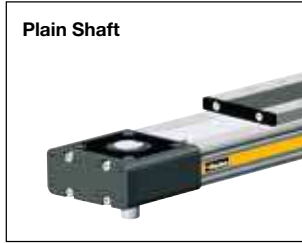
Integrated planetary gearbox (option)

Clamp shaft – for „zero-backlash“ coupling of motors and external gear arrangements

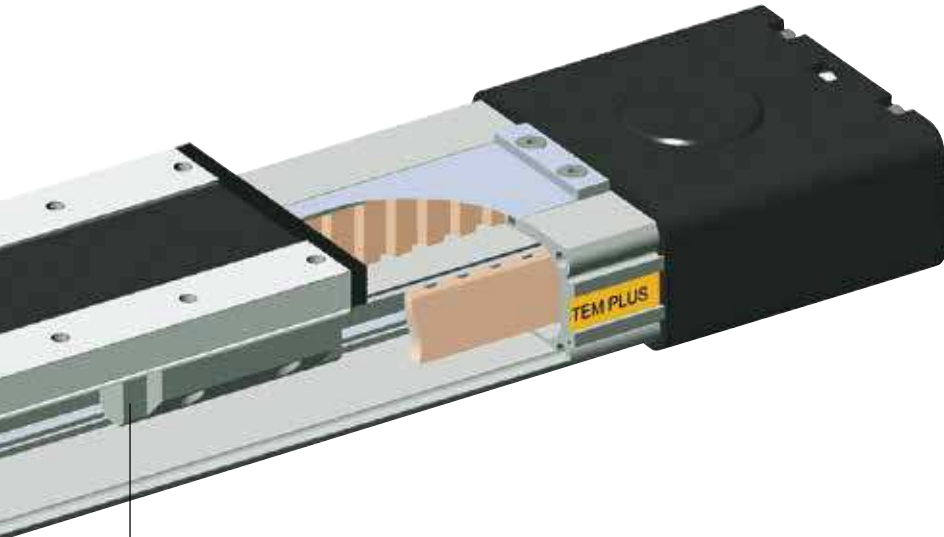
Steel reinforced belt

Guide rail with precision ground and calibrated bearing tracks

**Drive Shaft Versions**



**Drive Shaft OPTIONS**



Steel runner block with integrated scraper system and grease nipples

Corrosion resistant steel sealing band

Threaded mounting holes compatible with Proline series

Carriage

Slotted profile with dovetail grooves

Permanent magnet for contactless position sensing

Rollers on needle bearings for smooth operation up to 10 m/s.

BI-PARTING Version for perfectly synchronised bi-parting movements.



**MULTI-AXIS SYSTEMS**  
 A wide range of adapter plates and intermediate drive shafts simplify engineering and installation



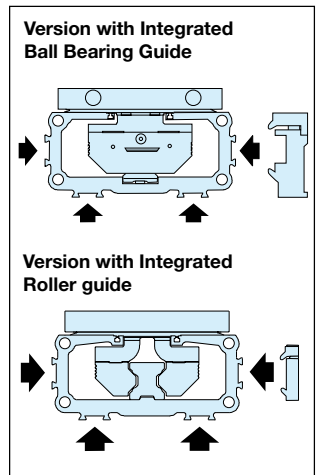
**OPTION**

Integrated planetary gearbox



- Highly compact and rigid solution fully integrated in the drive cap housing
- Purpose designed for the BHD series
- Available with three standard ratios (3, 5 and 10)
- Very low backlash
- A wide range of available motor flanges

The dovetailed mounting rails of the new linear actuator expand its function into that of a universal system carrier. Modular system components are simply clamped on

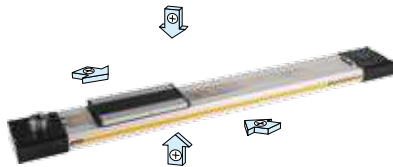


# Options and Accessories

## OSP-E..BHD Belt actuator with integrated guide

### STANDARD VERSIONS OSP-E..BHD

Standard carrier with integrated guide and magnets for contactless position sensing. Dovetail profile for mounting of accessories and the actuator itself.



### DRIVE SHAFT WITH CLAMP SHAFT

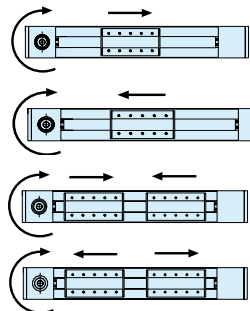


### DRIVE SHAFT WITH PLAIN SHAFT



### ACTUATING DIRECTION

Important in parallel operations, e.g. with intermediate drive shaft



Standard

Standard - Bi-Parting Version

### OPTIONS

**TANDEM**  
 For higher moment support.



**BI-PARTING VERSION**  
 For perfectly synchronised bi-parting movements.



**DRIVE SHAFT WITH CLAMP SHAFT AND PLAIN SHAFT**  
 For connections with intermediate drive shaft



**HOLLOW SHAFT WITH KEYWAY**  
 For close coupling of motors and external gears.



**INTEGRATED PLANETARY GEARBOX**  
 For compact installation and very low backlash.



### ACCESSORIES

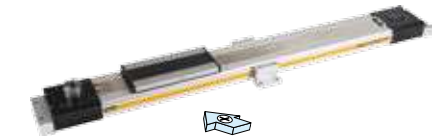
#### MOTOR MOUNTINGS



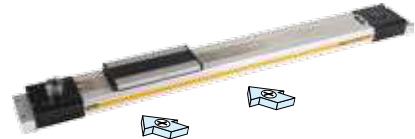
**END CAP MOUNTING**  
 For mounting the actuators on the end cap.



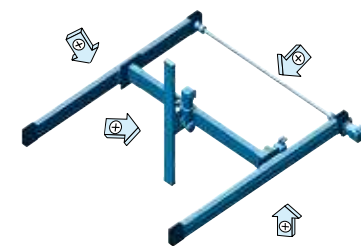
**PROFILE MOUNTING**  
 For supporting long actuators or mounting the actuators on dovetail grooves.



**MAGNETIC SWITCHES TYPE RS AND ES**  
 For contactless position sensing of end stop and intermediate carrier positions.



**MULTI-AXIS SYSTEMS**  
 For modular assembly of actuators up to multi-axis systems.



## Belt Actuator with Integrated Ball Bearing Guide

### Size 20 to 50

Type: OSP-E..BHD



#### Standard Versions:

- Belt Actuator with integrated Ball Bearing Guide
- Drive shaft with clamp shaft or plain shaft
- Choice of motor mounting side
- Dovetail profile for mounting of accessories and the actuator itself

#### Options:

- Tandem version for higher moments
- Bi-parting version for synchronised movements
- Integrated planetary gearbox
- Drive shaft with
  - clamp shaft and plain shaft
  - hollow shaft with keyway
- Special drive shaft versions on request

#### Installation Instructions

Use the threaded holes in the end cap for mounting the actuator.

Check if profile mountings are needed using the maximum allowable unsupported length graph.

At least one end cap must be secured to prevent axial sliding when profile mountings are used.

Characteristics	Description
Series	OSP-E..BHD
Mounting	See drawings
Ambient temperature range	-30 °C to +80 °C
Installation	In any position
Encapsulation class	IP 54
<b>Material</b>	
Slotted profile	Extruded anodized aluminium
Belt	Steel-corded polyurethane
Pulley	Aluminium
Guide	Ball bearing guide
Guide rail	Hardened steel rail with high precision, accuracy class N
Guide carrier preloaded 0.02 x C, accuracy class H	Steel carrier with integrated wiper system, grease nipples,
Steel band	Hardened, corrosion resistant steel
Screws, nuts	Zinc plated steel
Mountings	Zinc plated steel and aluminium

#### Weight (mass) and Inertia

Series	Weight (mass)[kg]			Inertia [x 10 <sup>-6</sup> kgm <sup>2</sup> ]		
	At stroke 0 m	Add per metre stroke	Moving mass	At stroke 0 m	Add per metre stroke	per kg mass
OSP-E20BHD	2.8	4	0.8	280	41	413
OSP-E25BHD	4.3	4.5	1.5	1229	227	821
OSP-E32BHD	8.8	7.8	2.6	3945	496	1459
OSP-E50BHD	26	17	7.8	25678	1738	3103
OSP-E20BHD*	4.3	4	1.5	540	41	413
OSP-E25BHD*	6.7	4.5	2.8	2353	227	821
OSP-E32BHD*	13.5	7.8	5.2	7733	496	1459
OSP-E50BHD*	40	17	15	49180	1738	3103

\* Version: Tandem and Bi-parting (Option)

#### Maintenance

Depending on operating conditions, inspection of the actuator is recommended after 12 months or 3000 km operation. Please refer to the operating instructions supplied with the actuator.

#### First service start-up

The maximum values specified in the technical data sheet for the different products must not be exceeded. Before taking the actuator as a machine into service, the user must ensure the adherence to the EC Machine Directive 2006/42/EG.

## Sizing Performance Overview

### Maximum Loadings

#### Sizing of Actuator

The following steps are recommended for selection :

- Determination of the lever arm length  $l_x, l_y$  and  $l_z$  from  $m_e$  to the centre axis of the actuator.
- Calculation of the load  $F_x$  or  $F_y$  to the carrier caused by  $m_e$   
 $F = m_e \cdot g$
- Calculation of the static and dynamic force  $F_A$  which must be transmitted by the belt.  

$$F_{A(horizontal)} = F_a + F_0 = m_g \cdot a + M_0 \cdot 2\pi / U_{ZR}$$

$$F_{A(vertical)} = F_g + F_a + F_0 = m_g \cdot g + m_g \cdot a + M_0 \cdot 2\pi / U_{ZR}$$
- Calculation of all static and dynamic bending moments  $M_x, M_y$  and  $M_z$  which occur in the application  
 $M = F \cdot l$
- Selection of maximum permissible loads via Table T3.
- Calculation and checking of the combined load, which must not be higher than 1.
- Checking of the maximum torque that occurs at the drive shaft in Table T2.
- Checking of the required action force  $F_A$  with the permissible load value from Table T1.

For motor sizing, the effective torque must be determined, taking into account the cycle time.

#### Legend

- $l$  = distance of a mass in the x-, y- and z-direction from the guide [m]
- $m_e$  = external moved mass [kg]
- $m_{LA}$  = moved mass of actuator [kg]
- $m_g$  = total moved mass ( $m_e + m_{LA}$ ) [kg]
- $F_{x/y}$  = load exerted on the carrier in dependence of the installation position [N]
- $F_A$  = action force [N]
- $M_0$  = no-load torque [Nm]
- $U_{ZR}$  = circumference of the pulley (linear movement per revolution) [m]
- $g$  = gravity [m/s<sup>2</sup>]
- $a_{max}$  = maximum acceleration [m/s<sup>2</sup>]

#### Performance Overview

T1

Characteristics	Unit	Description				
Series		OSP-E20BHD	OSP-E25BHD	OSP-E32BHD	OSP-E50BHD	
Max. speed	[m/s]	3 <sup>1)</sup>	5 <sup>1)</sup>	5 <sup>1)</sup>	5 <sup>1)</sup>	
Linear motion per revolution of drive shaft	[mm]	125	180	240	350	
Max. rpm on drive shaft	[min <sup>-1</sup> ]	2000	1700	1250	860	
Max. effective Action force $F_A$ at speed	< 1 m/s:	[N]	550	1070	1870	3120
	1-3 m/s:	[N]	450	890	1560	2660
	> 3 m/s:	[N]	-	550	1030	1940
No-load torque	[Nm]	0.6	1.2	2.2	3.2	
Max. acceleration/deceleration	[m/s <sup>2</sup> ]	50	50	50	50	
Repeatability	[mm/m]	±0.05	±0.05	±0.05	±0.05	
Max. standard stroke length	[mm]	5760 <sup>2)</sup>	5700 <sup>2)</sup>	5600 <sup>2)</sup>	5500 <sup>2)</sup>	

<sup>1)</sup> up to 10 m/s on request  
<sup>2)</sup> longer strokes on request

#### Maximum Permissible Torque on Drive Shaft Speed / Stroke

T2

OSP-E20BHD				OSP-E25BHD				OSP-E32BHD				OSP-E50BHD			
Speed [m/s]	Torque [Nm]	Stroke [m]	Torque [Nm]	Speed [m/s]	Torque [Nm]	Stroke [m]	Torque [Nm]	Speed [m/s]	Torque [Nm]	Stroke [m]	Torque [Nm]	Speed [m/s]	Torque [Nm]	Stroke [m]	Torque [Nm]
1	11	1	11	1	31	1	31	1	71	1	71	1	174	1	174
2	10	2	11	2	28	2	31	2	65	2	71	2	159	2	174
3	9	3	8	3	25	3	31	3	59	3	60	3	153	3	138
4		4	7	4	23	4	25	4	56	4	47	4	143	4	108
5		5	5	5	22	5	21	5	52	5	38	5	135	5	89

#### Important:

The maximum permissible torque on the drive shaft is the lowest value of the speed or stroke-dependent torque value.

#### Example above:

OSP-E25BHD, stroke 5 m, required speed 3 m/s from table T2  
 speed 3 m/s gives 25 Nm and stroke 5 m gives 21 Nm. Max. torque for this application is 21 Nm.

#### Maximum Permissible Loads

T3

Series	Max. applied load		Max. moments [Nm]		
	Fy[N]	Fz[N]	Mx	My	Mz
OSP-E20BHD	1600	1600	21	150	150
OSP-E25BHD	2000	3000	50	500	500
OSP-E32BHD	5000	10000	120	1000	1400
OSP-E50BHD	12000	15000	180	1800	2500

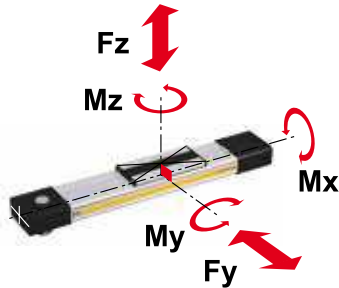


## Loads, Forces and Moments

### Combined loads

If the actuator is subjected to several forces, loads and moments at the same time, the maximum load is calculated with the equation shown here.

The maximum permissible loads must not be exceeded.



### Equation of Combined Loads

$$\frac{F_y}{F_y(\max)} + \frac{F_z}{F_z(\max)} + \frac{M_x}{M_x(\max)} + \frac{M_y}{M_y(\max)} + \frac{M_z}{M_z(\max)} \leq 1$$

The total of the loads must not exceed >1 under any circumstances.

$$M = F \cdot l \text{ [Nm]}$$

$$M_x = M_{x \text{ static}} + M_{x \text{ dynamic}}$$

$$M_y = M_{y \text{ static}} + M_{y \text{ dynamic}}$$

$$M_z = M_{z \text{ static}} + M_{z \text{ dynamic}}$$

The distance ( $l_x, l_y, l_z$ ) for calculation of moments relates to the centre axis of the actuator. Bending moments are calculated from the centre of the actuator and F indicates actual force.

## Maximum Permissible Unsupported Length

### Stroke length

The stroke lengths of the actuators are available in multiples of 1 mm up to 5700 mm.

Other stroke lengths are available on request.

The end of stroke must not be used as a mechanical stop.

Allow an additional safety clearance at both ends equivalent to the linear movement of one revolution of the drive shaft, but at least 100 mm.

The use of an AC motor with frequency converter normally requires a larger clearance than that required for servo systems.

For advice, please contact your local Parker Origa technical support department.

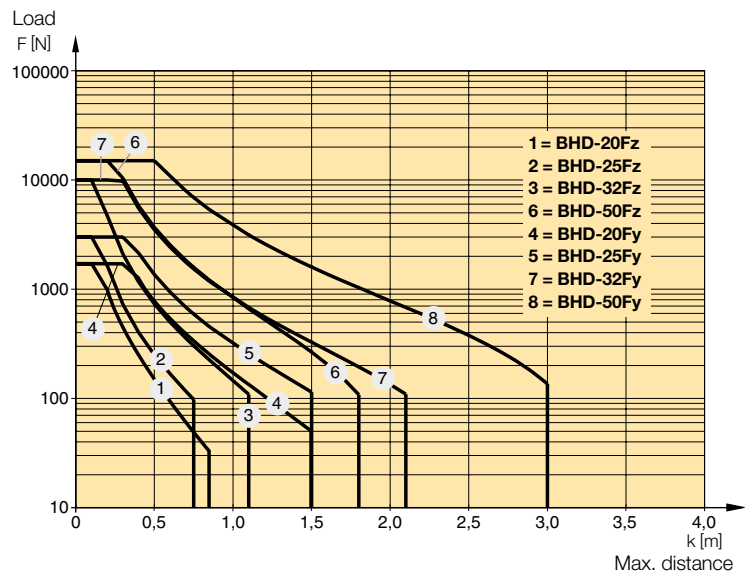
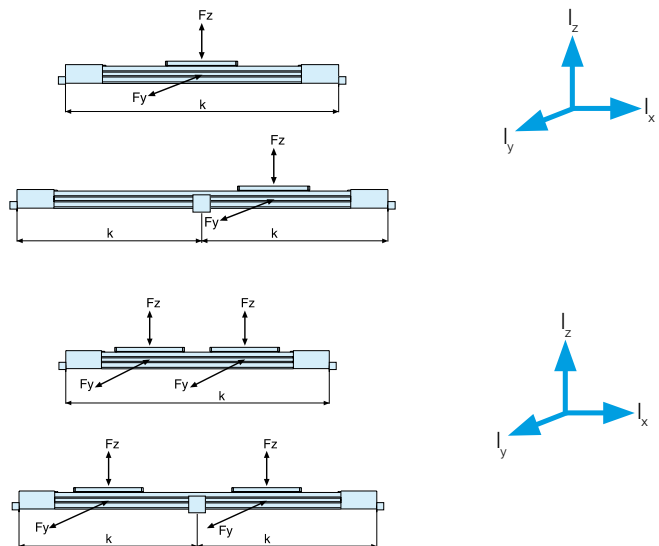
\* For Bi-parting version the max. load (F) is the total load of both carriers

$$F = F_{\text{carrier 1}} + F_{\text{carrier 2}}$$

k = Max. permissible distance between mountings/Profile Mounting for a given load F.

When loadings are below or up to the curve in the graph below the deflection will be max. 0.01 % of distance k.

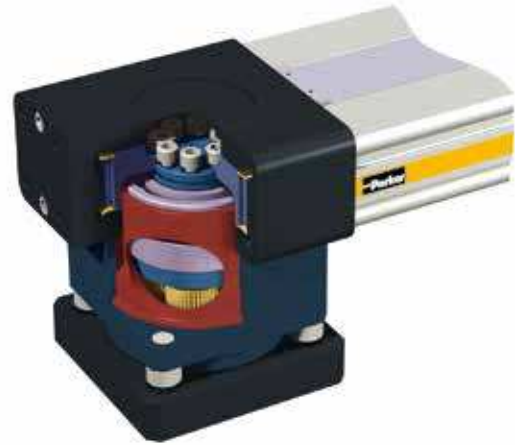
### Maximum Permissible Unsupported Length – Placing of Profile Mounting



**Integrated Planetary Gearbox**  
**Series OSP-E..BHD -**  
 with Integrated Planetary Gearbox (Option)

**Features:**

- Highly compact and rigid solution fully integrated in the drive cap housing
- Purpose designed for the BHD series.
- Available with three standard ratios (3, 5 and 10)
- Very low backlash
- A wide range of available motor flanges



Please contact your local Parker Origa technical support for available motor flanges.

**Standard Version:**

- Gearbox on opposite side to carrier.

**Note:**

When ordering, specify model/type of motor and manufacturer for correct motor flange.

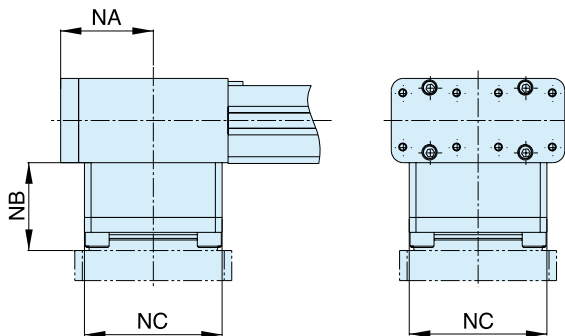
**Material:**

Aluminium (AL-H) / Steel (St-H)

**Performance Overview**

Characteristics	Unit	Description		
Series		OSP-E25BHD	OSP-E32BHD	OSP-E50BHD
Ratio (1-stage)	i	3/5/10		
Max. axial load	F <sub>amax</sub> [N]	1550	1900	4000
Torsional rigidity (i=5)	C <sub>t,21</sub> [Nm/arcmin]	3.3	9.5	25.0
Torsional rigidity (i=3/10)	C <sub>t,21</sub> [Nm/arcmin]	2.8	7.5	222.0
Torsional backlash	J <sub>t</sub> [arcmin]	<12		
Linear motion per revolution of drive shaft	[mm]	220	280	360
Nominal input speed	n <sub>nom</sub> [min <sup>-1</sup> ]	3700	3400	2600
Max. input speed	n <sub>1max</sub> [min <sup>-1</sup> ]	6000		
No-load torque at Nominal input speed	T <sub>012</sub> [Nm]	<0.14	<0.51	<1.50
Lifetime	[h]	20 000		
Efficiency	η [%]	>97		
Noise level (n <sub>1</sub> =3000 min <sup>-1</sup> )	L <sub>PA</sub> [db]	<70	<72	<74

**Dimensions**



**Dimension table (mm) and additional weight**

Series	NA	NB	NC	Weight (Mass) [kg]
OSP-E25BHD	49	43	76	2.6
OSP-E32BHD	62	47	92	4.9
OSP-E50BHD	80	50	121	9.6

## Belt Actuator with Integrated Roller Guide

Size 25, 32, 50

Type: OSP-E..BHD



### Standard Versions:

- Belt Actuator with integrated Roller Guide
- Drive shaft with clamp shaft or plain shaft
- Choice of motor mounting side
- Dovetail profile for mounting of accessories and the actuator itself

### Options:

- Tandem version for higher moments
- Bi-parting version for synchronised movements
- Integrated planetary gearbox
- Drive shaft with
  - clamp shaft and plain shaft
  - hollow shaft with keyway
- Special drive shaft versions on request

### Installation Instructions

Use the threaded holes in the end cap for mounting the actuator.

Check if profile mountings are needed using the maximum allowable unsupported length graph.

At least one end cap must be secured to prevent axial sliding when profile mountings are used.

Characteristics	Description
Series	OSP-E..BHD
Mounting	See drawings
Ambient temperature range	-30 °C to +80 °C
Installation	In any position
Encapsulation class	IP 54
<b>Material</b>	
Slotted profile	Extruded anodized aluminium
Belt	Steel-corded polyurethane
Pulley	Aluminium
Guide	Roller guide
Guide rail	Aluminium
Track	High alloyed steel
Roller cartridge	Steel rollers in aluminium housing
Steel band	Hardened, corrosion resistant steel
Screws, nuts	Zinc plated steel
Mountings	Zinc plated steel and aluminium

### Weight (mass) and Inertia

Series	Weight (mass)[kg]			Inertia [ $\times 10^{-6}$ kgm <sup>2</sup> ]		
	At stroke 0 m	Add per metre stroke	Moving mass	At stroke 0 m	Add per metre stroke	per kg mass
OSP-E25BHD	3.8	4.3	1.0	984	197	821
OSP-E32BHD	7.7	6.7	1.9	3498	438	1459
OSP-E50BHD	22.6	15.2	4.7	19690	1489	3103
OSP-E25BHD*	5.7	4.3	2.0	1805	197	821
OSP-E32BHD*	11.3	6.7	3.8	6358	438	1459
OSP-E50BHD*	31.7	15.2	9.4	34274	1489	3103

\* Version: Tandem and Bi-parting (Option)

### Maintenance

Depending on operating conditions, inspection of the actuator is recommended after 12 months or 3000 km operation. Please refer to the operating instructions supplied with the actuator.

### First service start-up

The maximum values specified in the technical data sheet for the different products must not be exceeded. Before taking the actuator as a machine into service, the user must ensure the adherence to the EC Machine Directive 2006/42/EG.

## Sizing Performance Overview

### Maximum Loadings

#### Sizing of Actuator

The following steps are recommended for selection :

- Determination of the lever arm length  $l_x, l_y$  and  $l_z$  from  $m_e$  to the centre axis of the actuator.
- Calculation of the load  $F_x$  or  $F_y$  to the carrier caused by  $m_e$   
 $F = m_e \cdot g$
- Calculation of the static and dynamic force  $F_A$  which must be transmitted by the belt.  

$$F_{A(horizontal)} = \frac{F_a + F_0}{m_g \cdot a + M_0 \cdot 2\pi / U_{ZR}}$$

$$F_{A(vertical)} = \frac{F_g + F_a + F_0}{m_g \cdot g + m_g \cdot a + M_0 \cdot 2\pi / U_{ZR}}$$
- Calculation of all static and dynamic bending moments  $M_x, M_y$  and  $M_z$  which occur in the application  
 $M = F \cdot l$
- Selection of maximum permissible loads via Table T3.
- Calculation and checking of the combined load, which must not be higher than 1.
- Checking of the maximum torque that occurs at the drive shaft in Table T2.
- Checking of the required action force  $F_A$  with the permissible load value from Table T1.

For motor sizing, the effective torque must be determined, taking into account the cycle time.

#### Legend

- $l$  = distance of a mass in the x-, y- and z-direction from the guide [m]
- $m_e$  = external moved mass [kg]
- $m_{LA}$  = moved mass of actuator [kg]
- $m_g$  = total moved mass ( $m_e + m_{LA}$ ) [kg]
- $F_{x/y}$  = load exerted on the carrier in dependence of the installation position [N]
- $F_A$  = action force [N]
- $M_0$  = no-load torque [Nm]
- $U_{ZR}$  = circumference of the pulley (linear movement per revolution) [m]
- $g$  = gravity [m/s<sup>2</sup>]
- $a_{max.}$  = maximum acceleration [m/s<sup>2</sup>]

#### Performance Overview

T1

Characteristics	Unit	Description		
Series		OSP-E25BHD	OSP-E32BHD	OSP-E50BHD
Max. speed	[m/s]	10	10	10
Linear motion per revolution drive shaft	[mm]	180	240	350
Max. rpm. drive shaft	[min <sup>-1</sup> ]	3000	2500	1700
Max. effective action force $F_A$ at speed	< 1 m/s:	[N] 1070	1870	3120
	1-3 m/s:	[N] 890	1560	2660
	> 3-10 m/s:	[N] 550	1030	1940
No-load torque	[Nm]	1.2	2.2	3.2
Max. acceleration/deceleration	[m/s <sup>2</sup> ]	40	40	40
Repeatability	[mm/m]	±0.05	±0.05	±0.05
Max. standard stroke length	[mm]	7000	7000	7000

#### Maximum Permissible Torque on Drive Shaft Speed / Stroke

T2

OSP-E25BHD				OSP-E32BHD				OSP-E50BHD			
Speed [m/s]	Torque [Nm]	Stroke [m]	Torque [Nm]	Speed [m/s]	Torque [Nm]	Stroke [m]	Torque [Nm]	Speed [m/s]	Torque [Nm]	Stroke [m]	Torque [Nm]
1	31	1	31	1	71	1	71	1	174	1	174
2	28	2	31	2	65	2	71	2	159	2	174
3	25	3	31	3	59	3	60	3	153	3	138
4	23	4	25	4	56	4	47	4	143	4	108
5	22	5	21	5	52	5	38	5	135	5	89
6	21	6	17	6	50	6	32	6	132	6	76
7	19	7	15	7	47	7	28	7	126	7	66
8	18			8	46			8	120		
9	17			9	44			9	116		
10	16			10	39			10	108		

#### Important:

The maximum permissible torque on the drive shaft is the lowest value of the speed or stroke-dependent torque value.

#### Example above:

OSP-E25BHD, stroke 5 m, required speed 3 m/s from table T2  
 speed 3 m/s gives 25 Nm and stroke 5 m gives 21 Nm. Max. torque for this application is 21 Nm.

#### Maximum Permissible Loads

T3

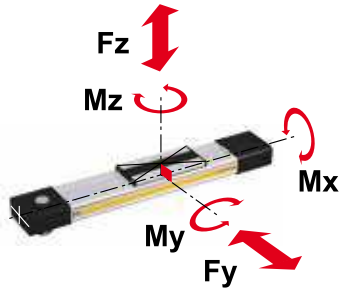
Series	Max. applied load $F_y, F_z$ [N]	Max. moments [Nm]		
		$M_x$	$M_y$	$M_z$
OSP-E25BHD	986	11	64	64
OSP-E32BHD	1348	19	115	115
OSP-E50BHD	3704	87	365	365

## Loads, Forces and Moments

### Combined loads

If the actuator is subjected to several forces, loads and moments at the same time, the maximum load is calculated with the equation shown here.

The maximum permissible loads must not be exceeded.



### Equation of Combined Loads

$$\frac{F_y}{F_y(\max)} + \frac{F_z}{F_z(\max)} + \frac{M_x}{M_x(\max)} + \frac{M_y}{M_y(\max)} + \frac{M_z}{M_z(\max)} \leq 1$$

The total of the loads must not exceed >1 under any circumstances.

$$M = F \cdot l \text{ [Nm]}$$

$$M_x = M_{x \text{ static}} + M_{x \text{ dynamic}}$$

$$M_y = M_{y \text{ static}} + M_{y \text{ dynamic}}$$

$$M_z = M_{z \text{ static}} + M_{z \text{ dynamic}}$$

The distance ( $l_x, l_y, l_z$ ) for calculation of moments relates to the centre axis of the actuator. Bending moments are calculated from the centre of the actuator and F indicates actual force.

## Maximum Permissible Unsupported Length

### Stroke length

The stroke lengths of the actuators are available in multiples of 1 mm up to 5700 mm.

Other stroke lengths are available on request.

The end of stroke must not be used as a mechanical stop.

Allow an additional safety clearance at both ends equivalent to the linear movement of one revolution of the drive shaft, but at least 100 mm.

The use of an AC motor with frequency converter normally requires a larger clearance than that required for servo systems.

For advice, please contact your local Parker Origa technical support department.

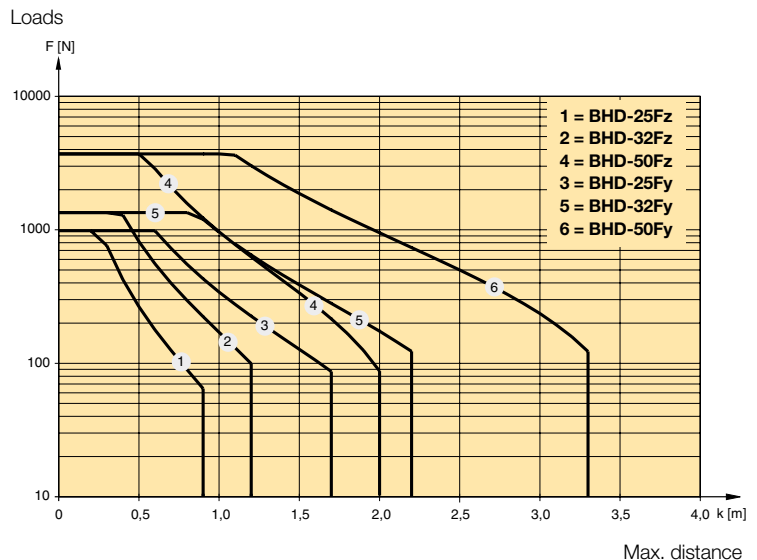
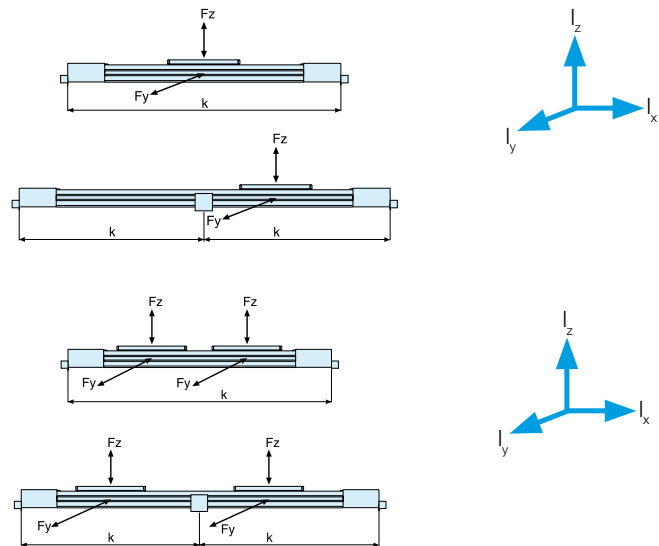
\* For the bi-parting version the maximum load (F) complies with the total of the load at both carriers.

$$F = F_{\text{carriage 1}} + F_{\text{carriage 2}}$$

k = Maximum permissible distance between mountings/mid-section support for a given load F.

If the loads are below or up to the curve in the graph the deflection will be max. 0.01 % of distance k.

### Maximum Permissible Unsupported Length – Placing of Profile Mounting



# Options and Accessories

## OSP-E..BV, Vertical belt actuator with integrated ball bearing guide

### STANDARD VERSION OSP-E..BV

Standard actuator head with clamp shaft or plain shaft and integrated ball bearing guide with two carriers.  
 Choice of side on which gearbox or motor is to be mounted.

**DRIVE SHAFT**  
 "CLAMP SHAFT AND PLAIN SHAFT" OR "DOUBLE PLAIN SHAFT"  
 e.g. for parallel operation of two Z-axes with an intermediate drive shaft.

### ACCESSORIES

**MOTOR MOUNTINGS**  
 For connection of gearbox or motor direct to drive shaft with clamp shaft, or with a motor coupling to drive shaft with plain shaft.

Drive Shaft with Clamp Shaft

Drive Shaft with Plain Shaft

Drive Shaft with Clamp Shaft and Plain Shaft

Drive Shaft with Double Plain Shaft

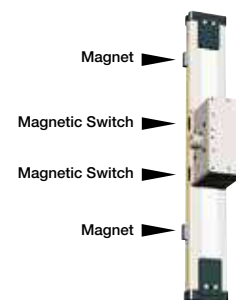


**MAGNETIC SWITCHES SET**  
 Magnetic switches with connector, mounting rail and magnets for contactless sensing of the end positions. Cable (suitable for cable chain) can be ordered separately in 5 m, 10 m or 15 m length.

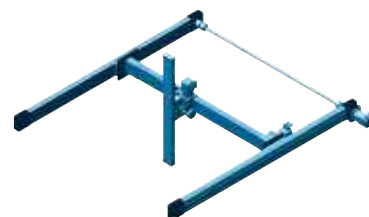
### OPTIONS

**TANDEM**  
 Additional actuator head and two additional carriers for higher bending moments.

**HOLLOW SHAFT WITH KEYWAY**  
 For direct connection of gearbox or motor with keyway.



**MULTI-AXIS SYSTEMS**  
 For modular assembly of actuators up to multi-axis systems.



## Vertical belt actuator with integrated ball bearing guide in multi-axis systems

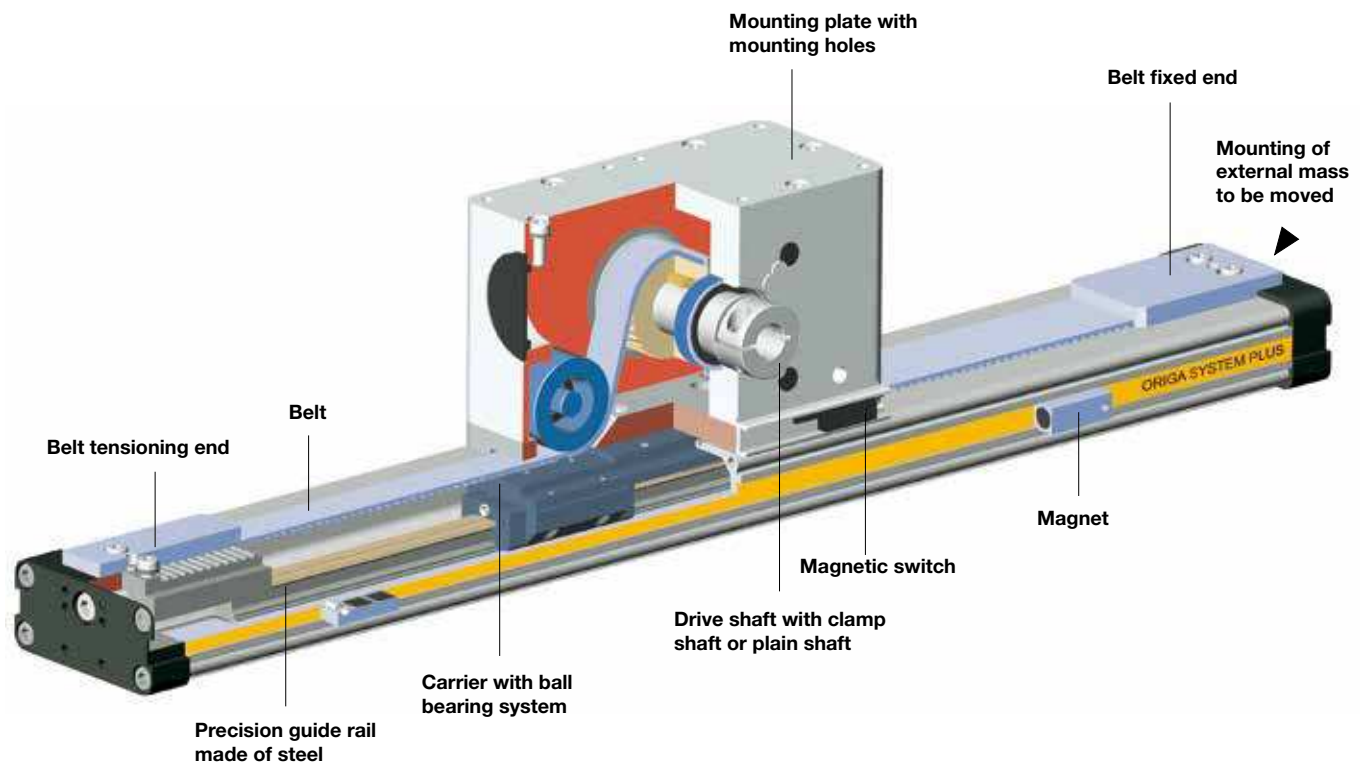
The OSP-E..BV vertical belt actuator with integrated ball bearing guide has been specially developed for lifting movements in the Z-axis. The especially low vibration OSP-E..BV vertical actuator in combination with the heavy duty series OSP-E..BHD meets the highest demands in portal and handling applications.

### Advantages

- Fixed actuator head for low moving mass
- Integrated ball bearing guide for high bending moments
- Magnetic switch set for contactless position sensing
- Easy to install
- Low maintenance

### Features

- High acceleration and speed
- Drive Shaft versions with clamp shaft or plain shaft
- Power transmission by belt
- Moving axis profile
- Complete motor and control packages



Take the easy route and load all the dimensions into your system. The file is suitable for all current CAD systems – available on CD-Rom or at [www.parker-origa.com](http://www.parker-origa.com)



**Vertical Belt Actuator with Integrated Ball Bearing Guide**  
**Size 20, 25**  
 Type: OSP-E..BV



**Standard Versions:**

- Vertical belt actuator with integrated ball bearing guide
- Drive shaft with clamp shaft or plain shaft
- Choice of motor mounting side

**Options:**

- Tandem version for higher moments
- Drive shaft with
  - clamp shaft and plain shaft or double plain shaft
  - hollow shaft with keyway
- Special drive shaft versions on request

**Installation Instructions**

Make sure that the OSP-E..BV is always operated by motor with holding brake on the actuator side. For the mounting of the external mass to be moved there are threaded holes in the end caps. Before mounting, check the correct centre of gravity distance from the table. Mount the external mass on the belt fixed end, so that the belt tension can be checked and adjusted at the belt tensioning end without dismantling.

Characteristics	Description
Series	OSP-E..BV
Mounting	See drawings
Ambient temperature range	-30 °C to +80 °C
Installation	Vertical
Encapsulation class	IP 20
<b>Material</b>	
Profile	Extruded anodized aluminium
Belt	Steel-corded polyurethane
Pulley	Aluminium
Guide	Ball bearing guide
Guide rail	Hardened steel rail with high precision, accuracy class N
Guide carrier preloaded 0.08 x C, accuracy class N	Steel carrier with integrated wiper system, grease nipples,
Screws, nuts	Zinc plated steel

**Weight (mass) and Inertia**

Series	Total weight (Mass) [kg]		Moving mass [kg]		Inertia [x 10 <sup>-6</sup> kgm <sup>2</sup> ]		
	At stroke 0 m	Actuator head	At stroke 0 m	Add per metre stroke	At Stroke 0 m	Add per metre stroke	Add per kg mass
OSP-E20BV	3.4	1.9	1.6	4.0	486	1144	289
OSP-E25BV	7.7	5.3	2.4	4.4	1695	2668	617
OSP-E20BV*	5.3	2 x 1.9	1.6	4.0	533	1144	289
OSP-E25BV*	13	2 x 5.3	2.4	4.4	1915	2668	617

\* Version: Tandem (Option)

**Maintenance**

Depending on operating conditions, inspection of the actuator is recommended after 12 months or 3000 km operation. Please refer to the operating instructions supplied with the actuator.

**First service start-up**

The maximum values specified in the technical data sheet for the different products must not be exceeded. Before taking the actuator as a machine into service, the user must ensure the adherence to the EC Machine Directive 2006/42/EG.



## Sizing Performance Overview

### Maximum Loadings

#### Sizing of Actuator

The following steps are recommended for selection :

1. Determination of the lever arm length  $l_x, l_y$  and  $l_z$  from  $m_e$  to the centre axis of the actuator.
2. Calculation of the static and dynamic force  $F_A$  which must be transmitted by the belt.  

$$F_A = F_g + F_a + F_0$$

$$= m_g \cdot g + m_g \cdot a + M_0 \cdot 2\pi / U_{ZR}$$
3. Calculation of all static and dynamic moments  $M_x, M_y$  and  $M_z$  which occur in the application.  

$$M = F \cdot l$$
4. Selection of maximum permissible loads via Table T3.
5. Calculation and checking of the combined load, which must not be higher than 1.
6. Checking of the maximum moment that occurs at the drive shaft in Table T2.
7. Checking of the required action force  $F_A$  with the permissible load value from Table T1.

For motor sizing, the effective torque must be determined, taking into account the cycle time.

#### Legend

- $l$  = distance of a mass in the x-, y- and z-direction from the guide [m]
- $m_e$  = external moved mass [kg]
- $m_{LA}$  = moved mass of actuator [kg]
- $m_g$  = total moved mass ( $m_e + m_{LA}$ ) [kg]
- $F_A$  = action force [N]
- $M_0$  = no-load torque [Nm]
- $U_{ZR}$  = circumference of the pulley (linear movement per revolution) [m]
- $g$  = gravity [m/s<sup>2</sup>]
- $a_{max}$  = maximum acceleration [m/s<sup>2</sup>]

#### Performance Overview

T1

Characteristics	Unit	Description		
Series		OSP-E20BV	OSP-E25BV	
Max. Speed	[m/s]	3.0	5.0	
Linear motion per revolution of drive shaft	[mm/U]	108	160	
Max. rpm. drive shaft	[min <sup>-1</sup> ]	1700	1875	
Max. effective action force $F_A$ at speed	1m/s	[N]	650	1430
	1 - 2 m/s	[N]	450	1200
	> 3 - 5 m/s	[N]	-	1050
No-load torque <sup>2)</sup>	[Nm]	0.6	1.2	
Max. acceleration/deceleration	[m/s <sup>2</sup> ]	20	20	
Repeatability	+/- [mm/m]	0.05	0.05	
Max. standard stroke length <sup>1)</sup>	[mm]	1000	1500	
Max. recommended permissible mass <sup>3)</sup>	[kg]	10	20	

<sup>1)</sup> Longer strokes on request

<sup>2)</sup> As a result of static friction force

<sup>3)</sup> vertical

#### Maximum Permissible Torque on Drive Shaft Speed / Stroke

T2

OSP-E-20BV				OSP-E-25BV			
Speed [m/s]	Torque [Nm]	Stroke [m]	Torque [Nm]	Speed [m/s]	Torque [Nm]	Stroke [m]	Torque [Nm]
1	19	1	17	1	36	1	36
2	17	2	11	2	30	2	36
3	16			3	30		
				4	28		
				5	27		

#### Important:

The maximum permissible torque on the drive shaft is the lowest value of the speed or stroke-dependent torque value.

#### Example above:

OSP-E25BV required speed  $v = 3$  m/s and stroke = 1 m.

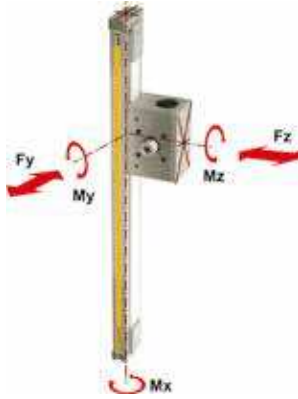
Accordingly Table T2 shows permissible moments of 30 Nm for the speed and 36 Nm for the stroke. Therefore the maximum moment at the drive shaft is determined by the speed and must not exceed 30 Nm.

## Loads, Forces and Moments

### Combined loads

If the actuator is subjected to several forces, loads and moments at the same time, the maximum load is calculated with the equation shown here.

The maximum permissible loads must not be exceeded.



$$M = F \cdot l \text{ [Nm]}$$

$$M_x = M_{x \text{ static}} + M_{x \text{ dynamic}}$$

$$M_y = M_{y \text{ static}} + M_{y \text{ dynamic}}$$

$$M_z = M_{z \text{ static}} + M_{z \text{ dynamic}}$$

The distance l (lx, ly, lz) for calculation of the bending moments relates to the centre axis of the actuator.

### Maximum Permissible Loads

T3

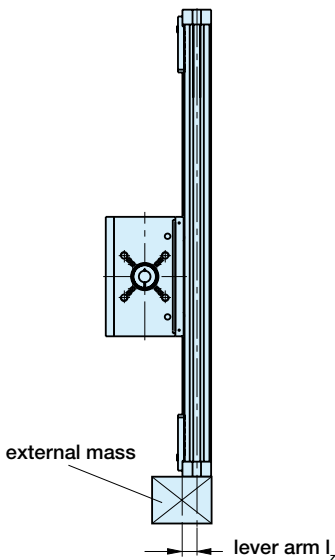
Size	Max. applied load [N]		Max. moments [Nm]		
	Fy [N]	Fz [N]	Mx	My	Mz
OSP-E20BV	1600	1600	20	100	100
OSP-E25BV	2000	3000	50	200	200

### Equation of Combined Loads

$$\frac{F_z}{F_z \text{ (max)}} + \frac{M_x}{M_x \text{ (max)}} + \frac{M_y}{M_y \text{ (max)}} + \frac{M_z}{M_z \text{ (max)}} \leq 1$$

The total of the loads must not exceed >1 under any circumstances.

### Distance of Centre of Gravity of External Mass from Mid-Point of Actuator



Mass [kg]	OSP-E20BV		OSP-E25BV	
	Lever arm lz [mm]	Max. permissible acceleration/ deceleration [m/s²]	Lever arm lz [mm]	Max. permissible acceleration/ deceleration [m/s²]
> 3 to 5	0	20	50	20
>5 to 10	0	20	40	20
> 10 to 15	-	-	35	20
> 15 to 20	-	-	30	15

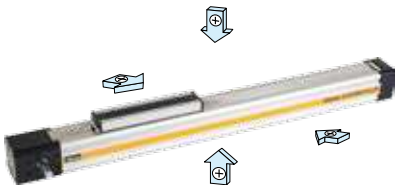
# Options and Accessories

## OSP-E..B

### Belt actuator with internal plain bearing guide

#### STANDARD VERSIONS OSP-E..B

Carrier with internal guidance and magnet packet for contactless position sensing. Dovetail profile for mounting of accessories and the actuator itself.



#### DRIVE SHAFT VERSIONS

- Plain shaft or
- double plain shaft (Option)  
e.g. to drive two actuators in parallel.



#### OPTIONS

##### TANDEM

For higher moment support.



##### BI-PARTING

For perfectly synchronised bi-parting movements.



#### ACCESSORIES

##### MOTOR MOUNTING



##### END CAP MOUNTING

For end-mounting of the actuator.



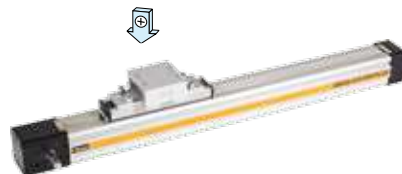
##### PROFILE MOUNTING

For supporting long actuators or mounting the actuator on the dovetail grooves.



##### CLEVIS MOUNTING

Carrier with tolerance and parallelism compensation to drive external linear guides.



##### INVERSION MOUNTING

The inversion mounting, mounted on the carrier, transfers the driving force to the opposite side, e.g. for dirty environments.



##### MAGNETIC SWITCHES SERIES RST AND EST

For contactless position sensing of end stop and intermediate carrier positions.



# Belt actuator with internal plain bearing guide for point-to-point applications

A completely new generation of actuators which can be integrated into any machine layout neatly and simply.

## Advantages

- Precise path and position control
- High speed operation
- Easy installation
- Low maintenance
- Ideal for precise point-to-point applications

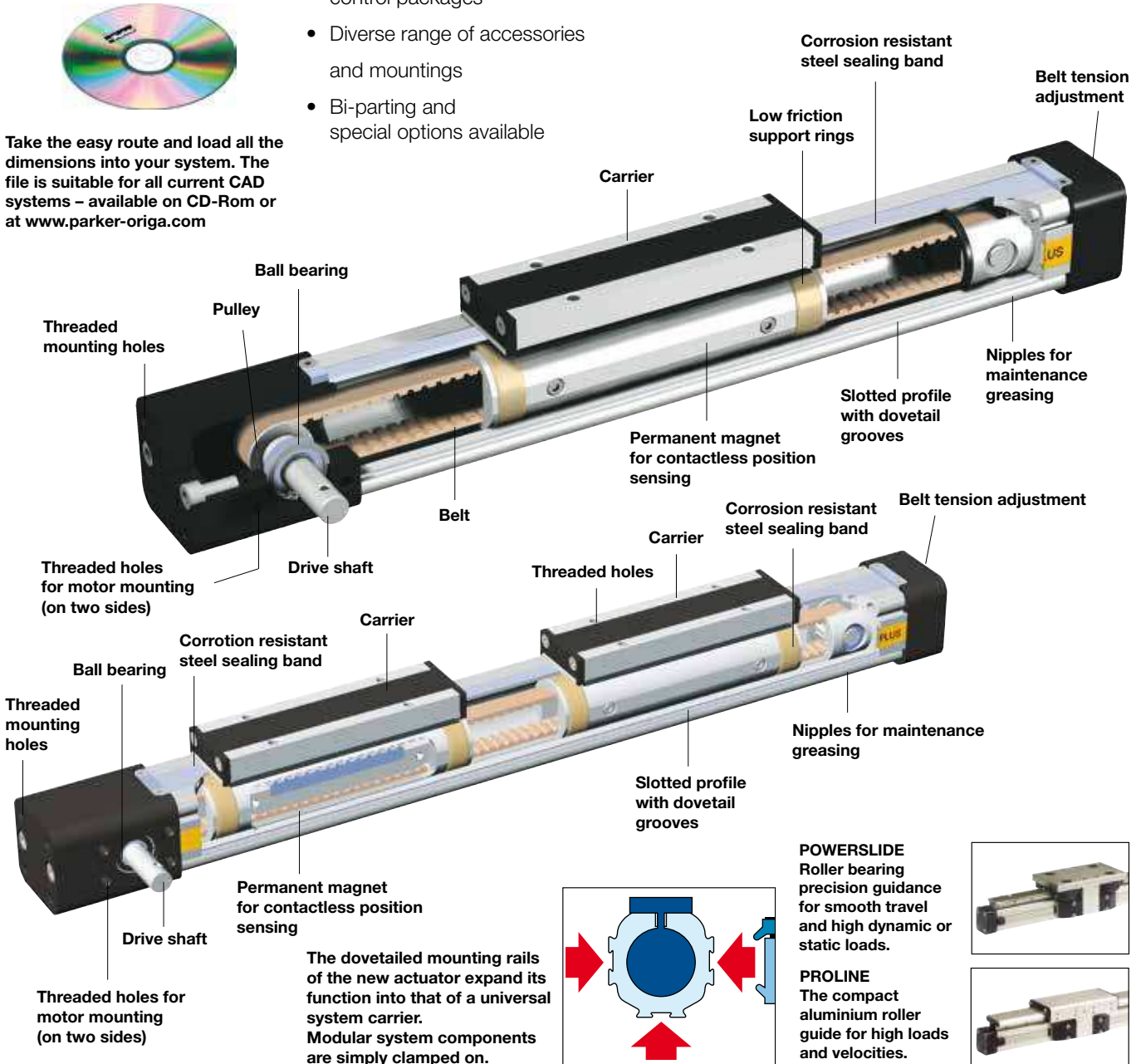


Take the easy route and load all the dimensions into your system. The file is suitable for all current CAD systems – available on CD-Rom or at [www.parker-origa.com](http://www.parker-origa.com)

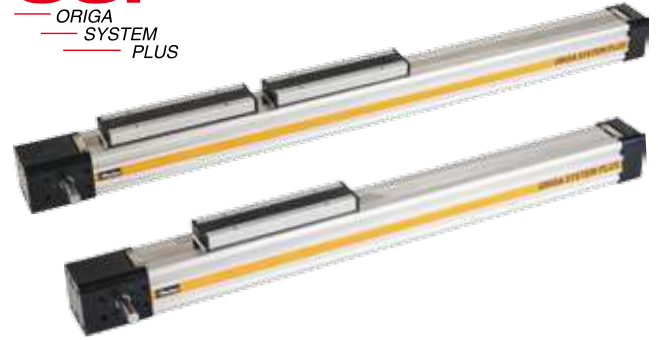
## Features

- Integrated drive and guidance system
- Tandem configuration with increased carrier distance for higher moment supports
- Long available strokes
- Complete motor and control packages
- Diverse range of accessories and mountings
- Bi-parting and special options available

Tandem configuration with increased carrier distance for higher moment supports.  
 Bi-parting version for precise synchronized movements



**Belt Actuator with Internal Plain Bearing Guide**  
**Size 25, 32, 50**  
 Type: OSP-E..B



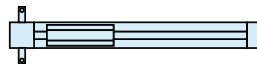
**Standard Versions:**

- Standard carrier with internal plain bearing guide
- Dovetail profile for mounting of accessories and the actuator itself
- Position of drive shafts



**Options:**

- Tandem version
- Bi-parting version for synchronized movements
- Drive shaft with double plain shaft



**Installation Instructions**

Use the threaded holes in the end cap for mounting the actuator. See if Profile Mountings are needed using the maximum allowable unsupported length graph. At least one end cap must be secured to prevent axial sliding when profile mounting is used. When the actuator is moving an externally guided load, the compensation must be used.

The actuators can be fitted with the standard carrier mounting facing in any direction. To prevent contamination such as fluid ingress, the actuator should be fitted with its sealing band facing downwards. The inversion mounting can be fitted to transfer the driving force to the opposite side.

Characteristics	Description
Series	OSP-E..B
Mounting	See drawings
Ambient temperature range	-30 °C to +80 °C
Installation	See table
Encapsulation class	IP 54
<b>Material</b>	
Slotted Profile	Extruded anodized aluminium
Belt	Steel-corded polyurethane
Pulley	Aluminium
Guide bearings	Low friction plastic
Sealing band	Hardened corrosion resistant steel
Screws, nuts	Zinc plated steel
Mountings	Zinc plated steel and aluminium

**Weight (mass) and Inertia**

Series	at stroke 0 m	Weight (mass) [kg]		Inertia [ $\times 10^{-6}$ kgm <sup>2</sup> ]	
		ad per meter stroke	moving mass	at stroke 0 m	ad per meter stroke
OSP-E25B	0.9	1.6	0.2	25	6.6
OSP-E32B	1.9	3.2	0.4	43	10
OSP-E50B	5.2	6.2	1.0	312	45
OSP-E25B*	1.2	1.6	0.5	48	6.6
OSP-E32B*	2.3	3.2	0.8	83	10
OSP-E50B*	6.3	6.2	2.1	585	45

\* Version: Tandem and Bi-parting (Option)

**Maintenance**

All moving parts are long-term lubricated for a normal operational environment. Parker Origa recommends a check and lubrication of the actuator, and if necessary a change of the belt and wear parts, after an operation time of 12 months of operation or 3 000 km travel of distance. Additional greasing is easily done by using nipples in the slotted profile. Please refer to the operating instructions supplied with the actuator.

**First service start-up**

The maximum values specified in the technical data sheet for the different products must not be exceeded. Before taking the actuator as a machine into service, the user must ensure the adherence to the EC Machine Directive 2006/42/EG.

## Sizing Performance Overview

### Maximum Loadings

#### Sizing of Actuator

The following steps are recommended for selection :

1. Required acceleration,
2. Required torque is shown on page 332
3. Check that maximum values in the table 3 are not exceeded
4. Drive shaft by using table T2. (Pay attention to note under table) If value is lower than required, overview the moving profile or select if possible a bigger unit.
5. Before sizing and specifying the motor, the average torque must be calculated using the cycle time of the application.
6. Check that the maximum allowable unsupported length is not exceeded.

#### Performance Overview

Characteristics	Unit	Description			
Size		OSP-E25B	OSP-E32B	OSP-E50B	
Max. speed	[m/s]	2	3	5	
Linear motion per revolution, drive shaft	[mm]	60	60	100	
Max. rpm drive shaft	[min <sup>-1</sup> ]	2 000	3 000	3 000	
Max. effective action force F <sub>A</sub> at speed	< 1 m/s:	[N]	50	150	425
	1- 2 m/s:	[N]	50	120	375
	> 2 m/s:	[N]	-	100	300
No-load torque	[Nm]	0.4	0.5	0.6	
Max. acceleration/deceleration	[m/s <sup>2</sup> ]	10	10	10	
Repeatability	[mm/m]	±0.05	±0.05	±0.05	
Max. stroke length OSP-E..B	[mm]	3000	5000	5000	
Max. stroke length OSP-E..B*	[mm]	2 x 1500	2 x 2500	2 x 2500	

\* Bi-parting version

#### Maximum Permissible Torque on Drive Shaft Speed / Stroke T2

OSP-E25B				OSP-E32B				OSP-E50B			
Speed [m/s]	Torque [Nm]	Stroke [m]	Torque [Nm]	Speed. [m/s]	Torque [Nm]	Stroke [m]	Torque [Nm]	Speed. [m/s]	Torque [Nm]	Stroke [m]	Torque [Nm]
1	0.9	1	0.9	1	2.3	1	2.3	1	10.0	1	10.0
2	0.9	2	0.9	2	2.0	2	2.3	2	9.5	2	10.0
		3	0.9	3	1.8	3	2.3	3	9.0	3	9.0
						4	2.3	4	8.0	4	7.0
						5	1.8	5	7.5	5	6.0

#### Important:

The maximum permissible torque on the drive shaft is the lowest value of the speed or stroke-dependent torque value.

#### Example above:

OSP-E32B stroke 2 m, required speed 3 m/s;

From table T2: speed 3 m/s gives 1.8 Nm and stroke 2 m gives 2.3 Nm.

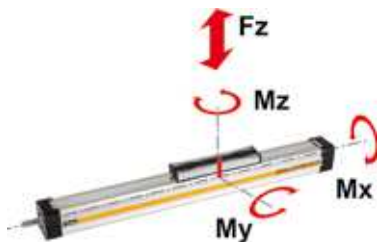
Max. torque for this application is 1.8 Nm.

## Loads, Forces and Moments

#### Combined loads

If the actuator is subjected to several forces, loads and moments at the same time, the maximum load is calculated with the equation shown here.

The maximum permissible loads must not be exceeded.



$$M = F \cdot l \text{ [Nm]}$$

$$M_x = M_{x \text{ static}} + M_{x \text{ dynamic}}$$

$$M_y = M_{y \text{ static}} + M_{y \text{ dynamic}}$$

$$M_z = M_{z \text{ static}} + M_{z \text{ dynamic}}$$

The distance l (lx, ly, lz) for calculation of the bending moments relates to the centre axis of the actuator.

#### Maximum Permissible Loads T3

Size	Max. applied load [N] Fz	Max. moments [Nm]		
		Mx	My	Mz
OSP-E25B	500	2	12	8
OSP-E32B	1200	8	25	16
OSP-E50B	3000	16	80	32
OSP-E..B Bi-partional	The maximum load F must be equally distributed among the two carriers			

#### Equation of Combined Loads

$$\frac{F_z}{F_z \text{ (max)}} + \frac{M_x}{M_x \text{ (max)}} + \frac{M_y}{M_y \text{ (max)}} + \frac{M_z}{M_z \text{ (max)}} \leq 1$$

The total of the loads must not exceed >1 under any circumstances.

## Maximum Permissible Unsupported Length

### Stroke length

The stroke lengths of the actuators are available in multiples of 1 mm up to max.

**OSP-E25B:** 3 m / 2 x 1.5 m \*

**OSP-E32B:** 5 m / 2 x 2.5 m \*

**OSP-E50B:** 5 m / 2 x 2.5 m \*

\* Version: Bi-partional

Other stroke lengths are available on request.

The end of stroke must not be used as a mechanical stop.

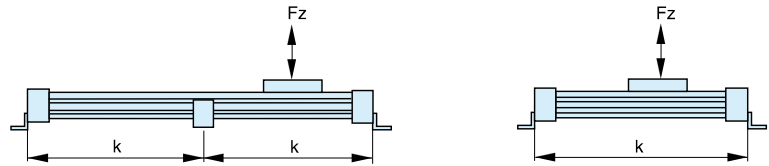
Allow an additional safety clearance at both ends equivalent to the linear movement of one revolution of the drive shaft.

The use of an AC motor with frequency converter normally requires a larger safety clearance than that required for servo systems.

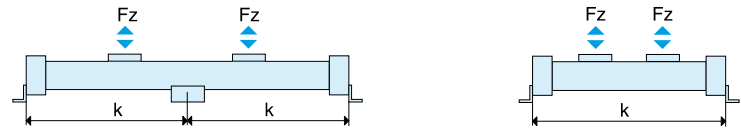
For advise, please contact your local Parker Origas technical support department.

## Maximum Permissible Unsupported Length – Placing of Profile Mounting

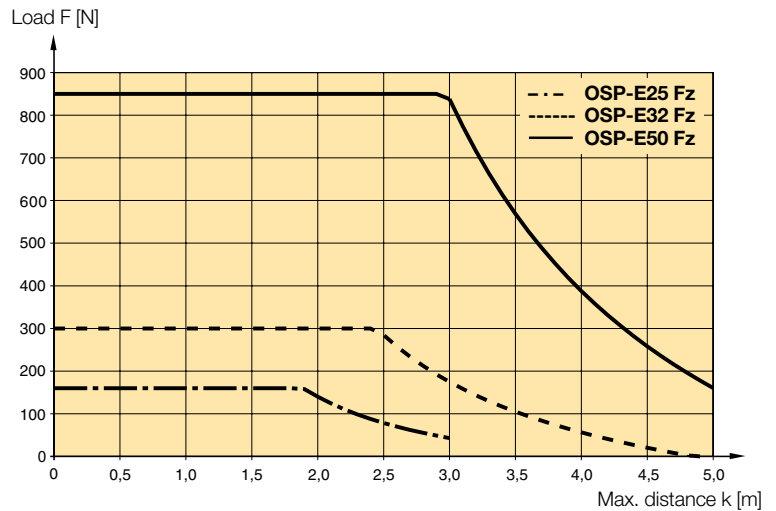
### Series OSP-E..B



### Series OSP-E..B Bi-parting version



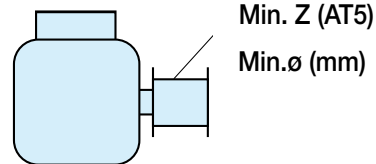
k = Maximum permissible distance between mountings/mid-section support for a given load F.



(Up to the curve in the above graph the deflection will be max. 0.2 % of distance k.)

## Mounting on the Drive Shaft

Do not expose the drive shaft to uncontrolled axial or radial forces when mounting coupling or pulley, a steadying block should be used.



## Pulleys

Minimum allowable number of teeth Z (AT5) at maximum applied torque.

Size	Min. Z	Min. ø
OSP-E25B	24	38
OSP-E32B	24	38
OSP-E50B	36	57

## Required Acceleration

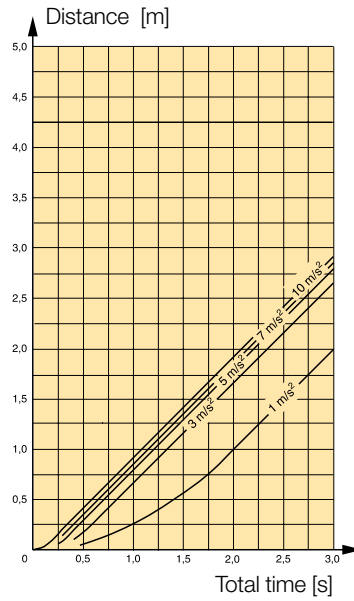
### Distance / Time Graph

Using the required travel distance and total time, the adjacent graphs show the required acceleration based on maximum speed.

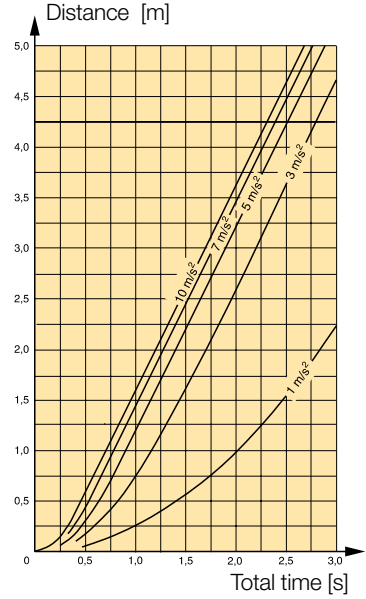
The graphs assume that acceleration and deceleration are equal.

Please note that specifying non-essential high acceleration or short cycle time will result in an oversized motor.

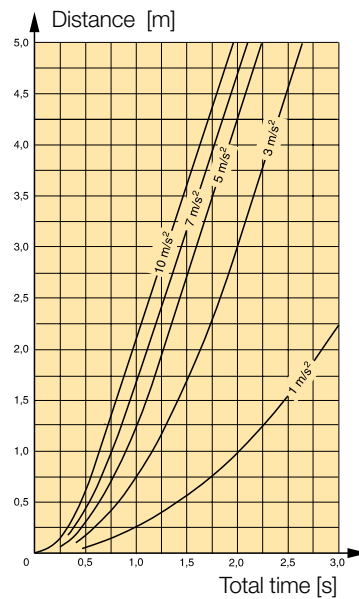
**Max speed 1 m/s**



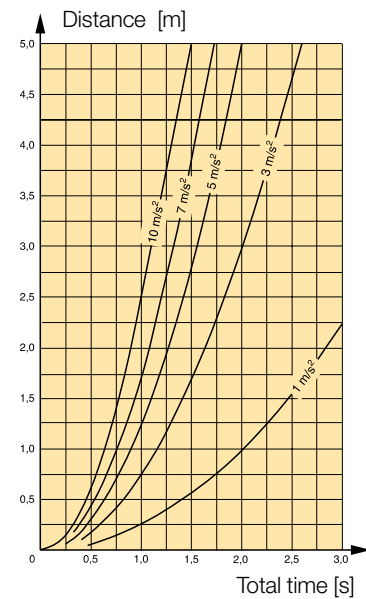
**Max speed 2 m/s**



**Max speed 3 m/s**



**Max speed 5 m/s**





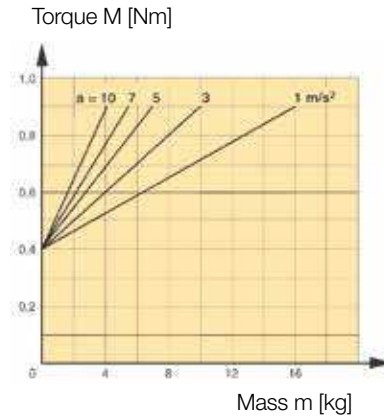
**Required Torque / Mass**

Using the known mass, the direction of the application and the required acceleration from the distance-time graphs, the actuator can be sized and the required torque is shown in the adjacent graphs. Mass in graphs = Load + moving mass of the actuator.

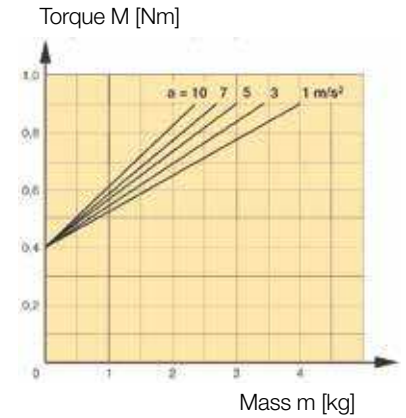
**Please note:**

When using an additional guide, please add the mass of the carriage to the total moving mass.

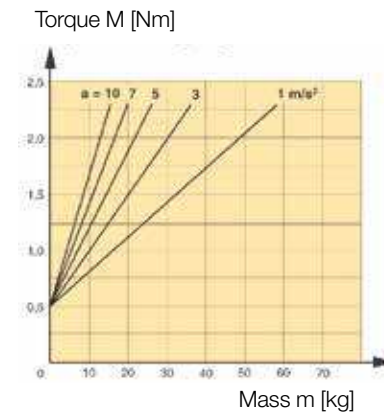
**Size OSP-E25B, Horizontal Application**



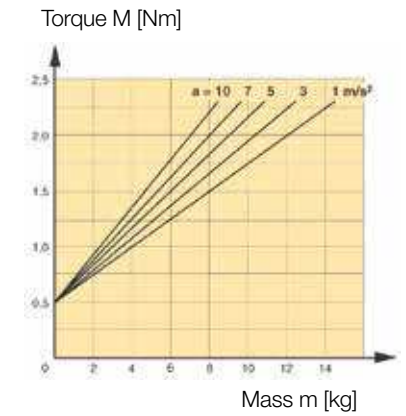
**Size OSP-E25B, Vertical Application**



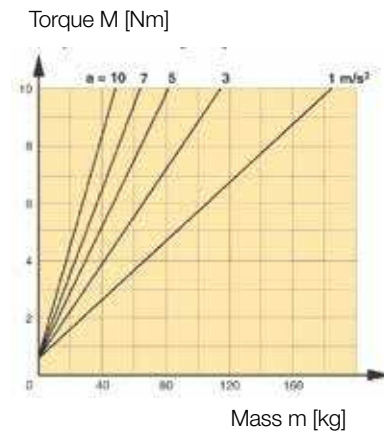
**Size OSP-E32B, Horizontal Application**



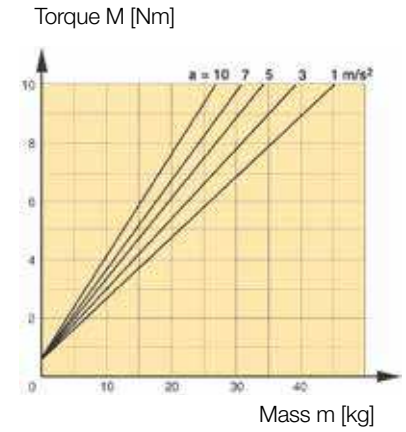
**Size OSP-E32B, Vertical Application**



**Size OSP-E50B, Horizontal Application**



**Size OSP-E50B, Vertical Application**



# Ball screw actuator with internal plain bearing guide for high accuracy applications

A completely new generation of actuators which can be integrated into any machine layout neatly and simply.

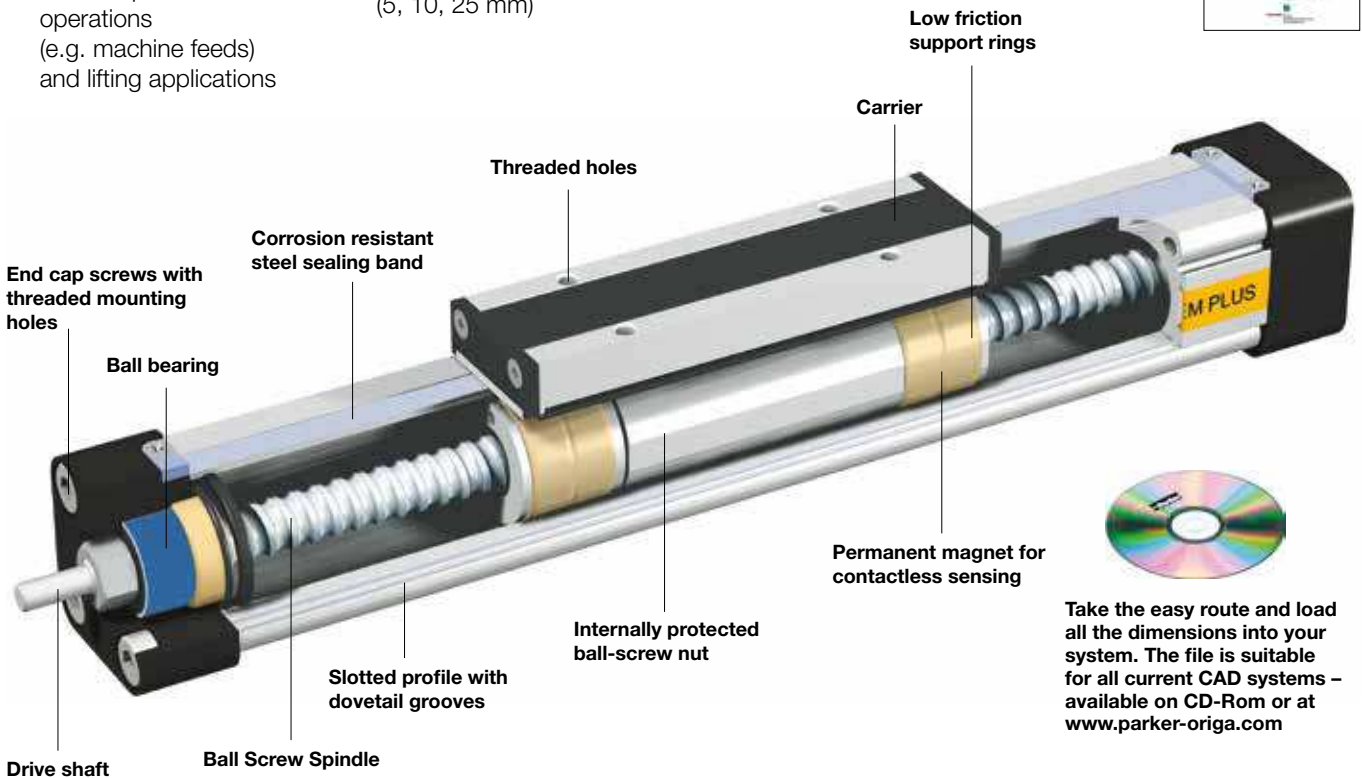
## Advantages

- Accurate path and position control
- High force output
- Easy installation
- Excellent slow speed characteristics
- Ideal for precise traverse operations (e.g. machine feeds) and lifting applications

## Features

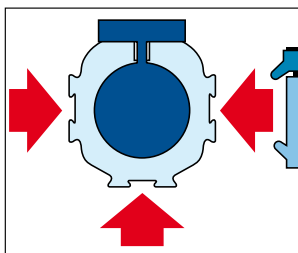
- Integrated drive and guidance system
- Complete motor and control packages
- Diverse range of accessories and mountings
- Optimal screw pitches (5, 10, 25 mm)

Clean Room-Version certified to DIN EN ISO 14644-1

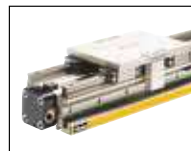


Take the easy route and load all the dimensions into your system. The file is suitable for all current CAD systems - available on CD-Rom or at [www.parker-origa.com](http://www.parker-origa.com)

The dovetailed mounting rails of the new actuator expand its function into that of a universal system carrier. Modular system components are simply clamped on.



Heavy Duty guide HD linear guides for heavy duty applications



SFI-plus displacement measuring system



**SLIDELINE**  
 Combination with linear guides provides for heavier loads.



**POWERSLIDE**  
 Roller bearing precision guidance for smooth travel and high dynamic or static loads.



**PROLINE**  
 The compact aluminium roller guide for high loads and velocities.



## Ball Screw Actuator with Internal Plain Bearing Guide

### Size 25, 32, 50

Type: OSP-E..SB



#### Standard Versions:

- Standard carrier with internal plain bearing guide
- Dovetail profile for mounting of accessories and the actuator itself
- Pitches of Ball Screw Spindle  
Type OSP-E25 : 5 mm  
Type OSP-E32: 5 , 10 mm  
Type OSP-E50: 5 , 10, 25 mm

#### Options:

- Tandem version
- Clean room-version, according to DIN EN ISO 14644-1
- Displacement Measuring System SFI-plus

#### Installation Instructions

Use the threaded holes in the end cap for mounting the actuator. See if Profile Mountings are needed using the maximum allowable unsupported length graph. At least one end cap must be secured to prevent axial sliding when profile mounting is used.

When the actuator is moving an externally guided load, the compensation must be used.

The actuators can be fitted with the standard carrier mounting facing in any direction.

To prevent contamination such as fluid ingress, the actuator should be fitted with its sealing band facing downwards.

The inversion mounting can be fitted to transfer the driving force to the opposite side.

Characteristics	Description
Series	OSP-E..SB
Ambient temperature range	-20 °C to +80 °C
Installation	In any position
Mounting	See drawing
Encapsulation class	IP 54
<b>Material</b>	
Slotted Profile	Extruded anodized aluminium
Ball screw	Hardened steel
Ball screw nut	Hardened steel
Guide bearings	Low friction plastic
Sealing band	Hardened corrosion resistant steel
Screws, nuts	Zinc plated steel
Mountings	Zinc plated steel and aluminium

#### Weight (mass) and Inertia

Series	at stroke 0 m	Weight (mass) [kg]		Inertia [ $\times 10^{-6}$ kgm <sup>2</sup> ]	
		ad per meter stroke	moving mass	at stroke 0 m	ad per meter stroke
OSP-E25SB	0.8	2.3	0.2	2.2	11
OSP-E32SB	2.0	4.4	0.4	8.4	32
OSP-E50SB	5.2	9.4	1.2	84.0	225

#### Maintenance

All moving parts are long-term lubricated for a normal operational environment. Parker Origa recommends a check and lubrication of the actuator, and if necessary a change of the belt and wear parts, after an operation time of 12 months of operation or 3 000 km travel of distance. Please refer to the operating instructions supplied with the actuator.

#### First service start-up

The maximum values specified in the technical data sheet for the different products must not be exceeded. Before taking the actuator as a machine into service, the user must ensure the adherence to the EC Machine Directive 2006/42/EG.

## Sizing Performance Overview

### Maximum Loadings

#### Sizing of Actuator

The following steps are recommended for selection :

1. Recommended maximum acceleration is shown in graphs
2. Required torque is shown in graphs
3. Check that maximum values in the adjacent charts are not exceeded.
4. When sizing and specifying the motor, the RMS-average torque must be calculated using the cycle time of the application.
5. Check that the maximum allowable unsupported length is not exceeded.

#### Performance Overview

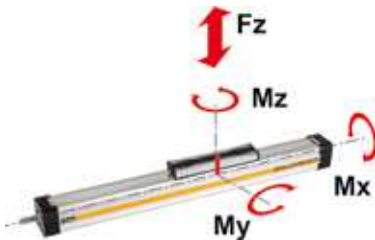
Characteristics	Unit	Description					
Series		OSP-E25SB		OSP-E32SB		OSP-E50SB	
Pitch	[mm]	5	5	10	5	10	25
Max. speed	[m/s]	0.25	0.25	0.5	0.25	0.5	1.25
Linear motion per revolution drive shaft	[mm]	5	5	10	5	10	25
Max. rpm, drive shaft	[min <sup>-1</sup> ]	3 000		3 000		3 000	
Max. effective action force F <sub>A</sub>	[N]	250	600		1 500		
Corresponding torque on drive shaft	[Nm]	0.35	0.75	1.3	1.7	3.1	7.3
No-load torque	[Nm]	0.2	0.2	0.3	0.3	0.4	0.5
Max. allowable torque on drive shaft	[Nm]	0.6	1.5	2.8	4.2	7.5	20
Repeatability	[mm/m]	±0.05		±0.05		±0.05	
Max. Standard stroke length	[mm]	1100	2000		3200		

## Loads, Forces and Moments

### Combined loads

If the actuator is subjected to several forces, loads and moments at the same time, the maximum load is calculated with the equation shown here.

The maximum permissible loads must not be exceeded.



$$M = F \cdot l \text{ [Nm]}$$

$$M_x = M_{x \text{ static}} + M_{x \text{ dynamic}}$$

$$M_y = M_{y \text{ static}} + M_{y \text{ dynamic}}$$

$$M_z = M_{z \text{ static}} + M_{z \text{ dynamic}}$$

The distance l (lx, ly, lz) for calculation of the bending moments relates to the centre axis of the actuator.

### Maximum Permissible Loads

Size	Max. applied load [N] Fz	Max. moments [Nm]		Mz
		Mx	My	
OSP-E25SB	500	2	12	8
OSP-E32SB	1200	8	25	16
OSP-E50SB	3000	16	80	32

### Equation of Combined Loads

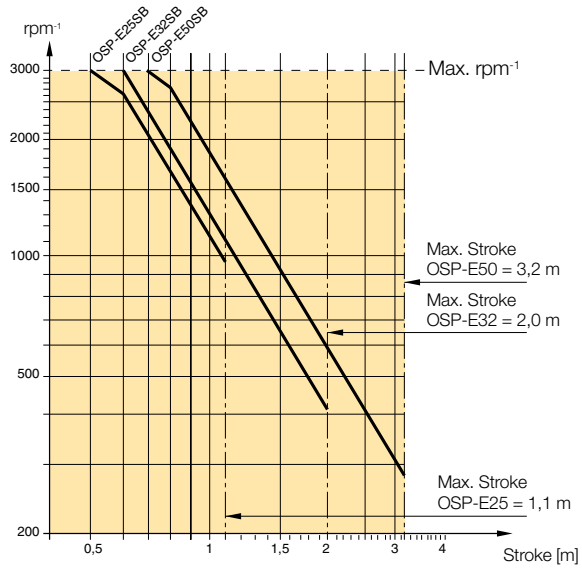
$$\frac{Fz}{Fz \text{ (max)}} + \frac{Mx}{Mx \text{ (max)}} + \frac{My}{My \text{ (max)}} + \frac{Mz}{Mz \text{ (max)}} \leq 1$$

The total of the loads must not exceed >1 under any circumstances.

## Maximum rpm / Stroke

At longer strokes the speed has to be reduced according to the adjacent graphs.

## Maximum rpm / Stroke



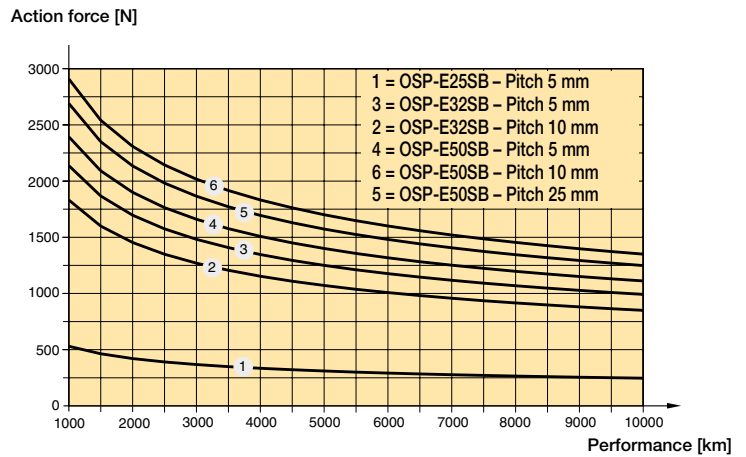
The maximum rpm shown in the graph, is 80% of the critical rpm.

## Performance / Action Force

The performance to be expected depends on the maximum required actions force of the application.

An increase of the action force will lead to a reduced performance.

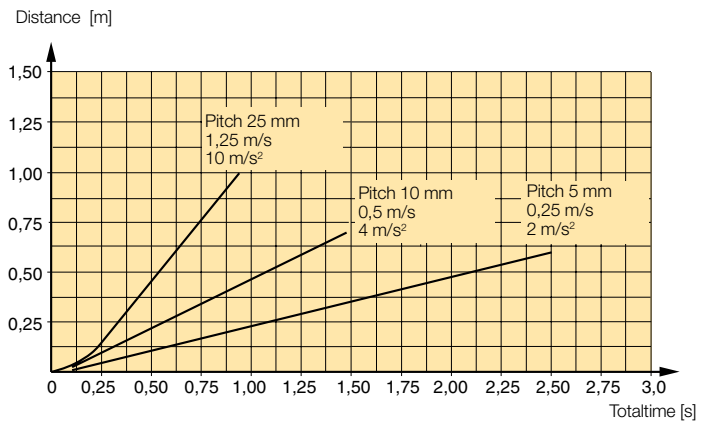
## Performance as a function of the action force



## Distance / Time Graph

The adjacent graphs show travel distance and total time at maximum speed and recommended maximum acceleration. The graph assumes that acceleration and deceleration are equal.

## Distance / Time Graph



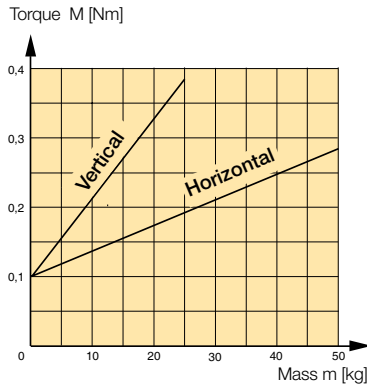
## Required Torque / Mass

Using the known mass, the direction of the application and the recommended acceleration, the actuator can be sized and the required torque is shown in the adjacent graphs.  
 Mass in graphs = Load + moving mass of the actuator according to the weight chart.

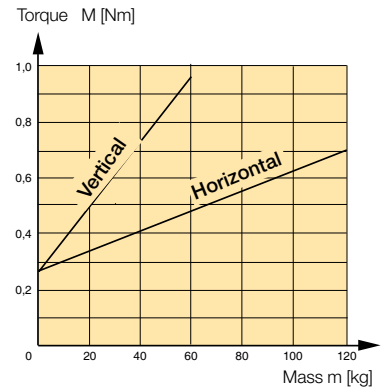
**Please mind:**

If an additional guide is used, mind the weight of the guide carriage.

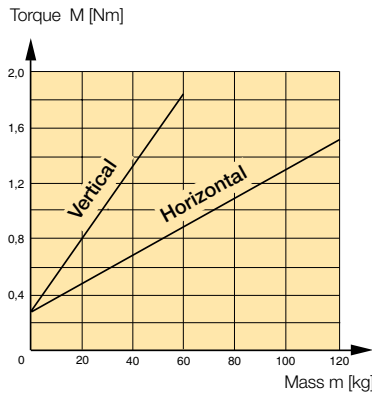
**Size OSP-E25SB, Pitch 5mm  
 Acceleration 2 m/s<sup>2</sup>**



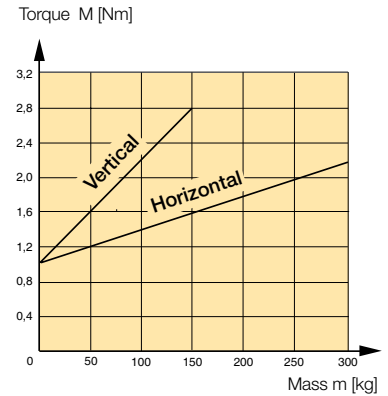
**Size OSP-E32SB, Pitch 5mm  
 Acceleration 2 m/s<sup>2</sup>**



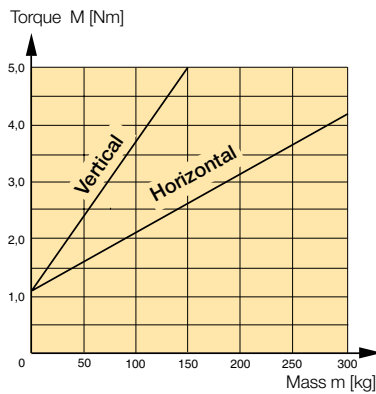
**Size OSP-E32SB, Pitch 10mm  
 Acceleration 4 m/s<sup>2</sup>**



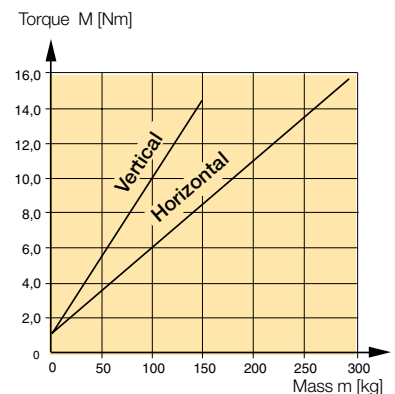
**Size OSP-E50SB, Pitch 5mm  
 Acceleration 2 m/s<sup>2</sup>**



**Size OSP-E50SB, Pitch 10mm  
 Acceleration 4 m/s<sup>2</sup>**



**Size OSP-E50SB, Pitch 25mm  
 Acceleration 10 m/s<sup>2</sup>**



# Trapezoidal screw actuator with internal plain bearing guide for intermittent applications

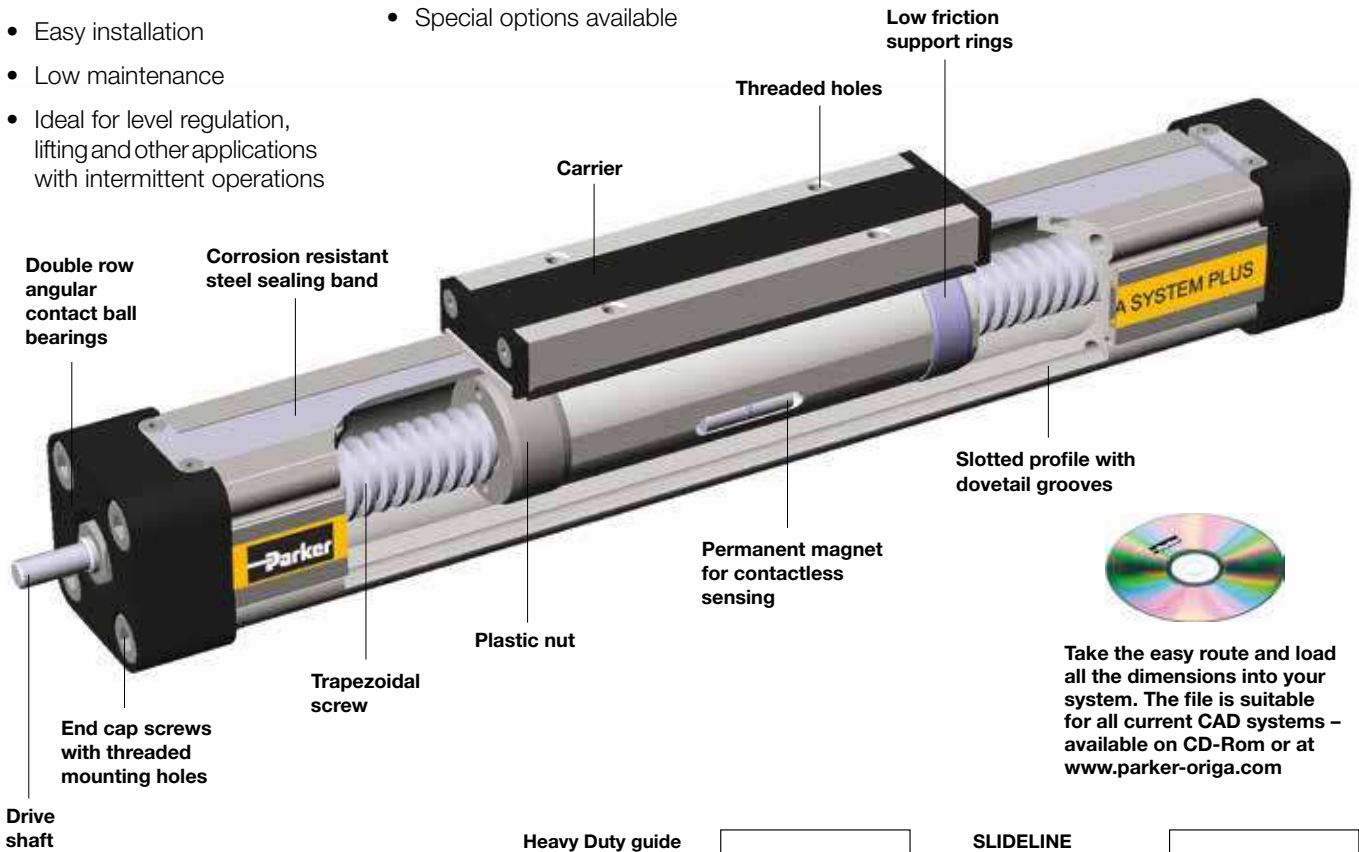
A completely new generation of actuators which can be integrated into any machine layout neatly and simply.

## Advantages

- Accurate path and position control
- High force output
- Self-locking
- Excellent slow speed characteristics
- Easy installation
- Low maintenance
- Ideal for level regulation, lifting and other applications with intermittent operations

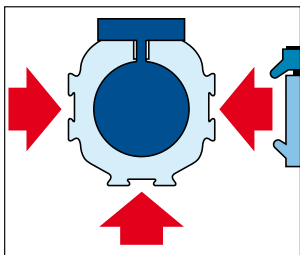
## Features

- Integrated drive and guidance system
- Complete motor and control packages
- Diverse range of accessories and mountings
- Special options available

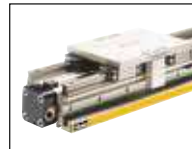


Take the easy route and load all the dimensions into your system. The file is suitable for all current CAD systems – available on CD-Rom or at [www.parker-origa.com](http://www.parker-origa.com)

The dovetailed mounting rails of the new actuator expand its function into that of a universal system carrier. Modular system components are simply clamped on.



**Heavy Duty guide HD linear guides for heavy duty applications**



**SFI-plus displacement measuring system**



**SLIDELINE**  
Combination with sliding guide for heavy-duty operation



**POWERSLIDE**  
Roller bearing precision guidance for smooth travel and high dynamic or static loads.



**PROLINE**  
The compact aluminium roller guide for high loads and velocities.



**Trapezoidal Screw Actuator with Internal Plain Bearing Guide**  
**Size 25, 32, 50**  
 Type: OSP-E..ST



**Standard Versions:**

- Standard carrier with internal plain bearing guide
- Dovetail profile for mounting of accessories and the actuator itself
- Pitch of Trapezoidal Spindle:  
 Type OSP-E25ST : 4 mm  
 Type OSP-E32ST: 4 mm  
 Type OSP-E50ST: 6 mm

**Options:**

- Displacement Measuring System SFI-plus
- Keyway

**Installation Instructions**

Use the threaded holes in the free end cap and a profile mounting close to the motor end for mounting the actuator. See if profile mountings are needed using the maximum permissible unsupported length graph. At least one end cap must be secured to prevent axial sliding when Profile Mounting is used. When the actuator is moving an externally guided load, the compensation must be used. The actuators can be fitted with the standard carrier mounting facing in any direction. To prevent contamination such as fluid ingress, the drive should be fitted with its sealing band facing downwards. The inversion mounting can be fitted to transfer the driving force to the opposite side.

Characteristics	Description
Series	OSP-E..ST
Mounting	See drawings
Ambient temperature range	-20 °C to +70 °C
Installation	In any position
<b>Material</b>	
Slotted Profile	Extruded anodized aluminium
Trapezoidal screw	Cold rolled steel
Drive nut	Thermoplastic polyester
Guide bearings	Low friction plastic
Sealing band	Hardened corrosion resistant steel
Screws, nuts	Zinc plated steel
Mountings	Zinc plated steel and aluminium

**Weight (mass) and Inertia**

Series	at stroke 0 m	Weight (mass) [kg]		Inertia [ $\times 10^{-6}$ kgm <sup>2</sup> ]	
		ad per meter stroke	moving mass	at stroke 0 m	ad per meter stroke
OSP-E25ST	0.9	2.8	0.2	6	30
OSP-E32ST	2.1	5.0	0.5	21.7	81
OSP-E50ST	5.1	10.6	1.3	152	400

**Maintenance**

All moving parts are long-term lubricated for a normal operational environment. Parker Origa recommends a check and lubrication of the actuator, and if necessary a change of the belt and wear parts, after an operation time of 12 months of operation or 3000 km travel of distance. Please refer to the operating instructions supplied with the drive

**First service start-up**

The maximum values specified in the technical data sheet for the different products must not be exceeded. Before taking the actuator as a machine into service, the user must ensure the adherence to the EC Machine Directive 2006/42/EG.



## Sizing Performance Overview

### Maximum Loadings

#### Sizing of Actuator

The following steps are recommended for selection :

1. Check that maximum values in the table T3 are not exceeded.
2. Check the maximum values in graph are not exceeded.
3. When sizing and specifying the motor, the RMS-average torque must be calculated using the cycle time of the application.
4. Check that the maximum allowable unsupported length is not exceeded

#### Performance Overview

Characteristics	Unit	Description		
		OSP-E25ST	OSP-E32ST	OSP-E50ST
Size				
Pitch	[mm]	4	4	6
Max. speed	[m/s]	0.1	0.1	0.15
Linear motion per revolution drive shaft	[mm]	4	4	6
Max. rpm, drive shaft	[min-1]	1500	1500	1500
Max. effective action force FA	[N]	600	1300	2 500
Corresponding torque on drive shaft	[Nm]	1.35	3.2	8.8
No-load torque	[Nm]	0.3	0.4	0.5
Max. allowable torque on drive shaft	[Nm]	1.55	4.0	9.4
Self-locking force FL1)	[N]	600	1300	2500
Repeatability	[mm/m]	±0.5	±0.5	±0.5
Max. Standard stroke length	[mm]	1100	2000	2500*

<sup>1)</sup> Related to screw types Tr 16x4, Tr 20x4, TR 30x6

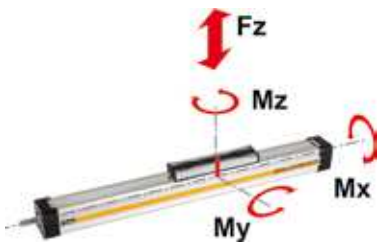
\* For strokes longer than 2000 mm in horizontal applications, please contact our customer support.

## Loads, Forces and Moments

### Combined loads

If the actuator is subjected to several forces, loads and moments at the same time, the maximum load is calculated with the equation shown here.

The maximum permissible loads must not be exceeded.



$$M = F \cdot l \text{ [Nm]}$$

$$M_x = M_{x \text{ static}} + M_{x \text{ dynamic}}$$

$$M_y = M_{y \text{ static}} + M_{y \text{ dynamic}}$$

$$M_z = M_{z \text{ static}} + M_{z \text{ dynamic}}$$

The distance l (lx, ly, lz) for calculation of the bending moments relates to the centre axis of the actuator.

### Maximum Permissible Loads

T3

Size	Max. applied load [N] Fz	Max. moments [Nm]		Mz
		Mx	My	
OSP-E25ST	500	2	24	7
OSP-E32ST	1000	6	65	12
OSP-E50ST	1500	13	155	26

### Equation of Combined Loads

$$\frac{F_z}{F_z \text{ (max)}} + \frac{M_x}{M_x \text{ (max)}} + \frac{M_y}{M_y \text{ (max)}} + \frac{M_z}{M_z \text{ (max)}} \leq 1$$

The total of the loads must not exceed >1 under any circumstances.

## Maximum Permissible Unsupported Length

### Stroke length

The stroke lengths of the actuators are available in multiples of 1 mm up to the following maximum stroke lengths.

**OSP-E25ST**: max. 1100 mm

**OSP-E32ST**: max. 2000 mm

**OSP-E50ST**: max. 2500 mm \*

Other stroke lengths are available on request.

\* For strokes longer than 2000 mm in horizontal applications, please contact our customer support

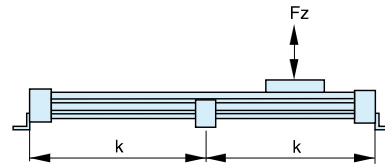
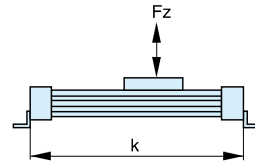
The end of stroke must not be used as a mechanical stop.

Allow an additional safety clearance of minimum 25 mm at both ends.

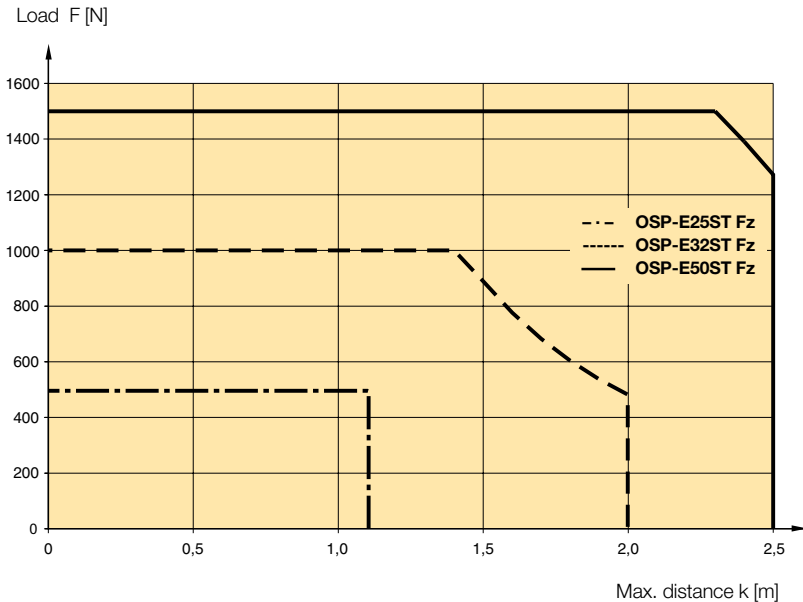
The use of an AC motor with frequency converter normally requires a larger safety clearance than that required for servo systems.

For advise, please contact your local Parker Origa technical support department.

## Maximum Permissible Unsupported Length – Placing of Profile Mounting



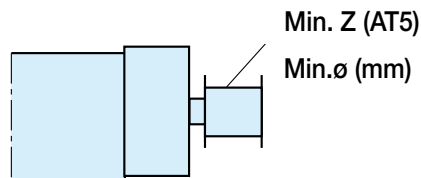
k = Maximum permissible distance between mountings/mid-section support for a given load F.



(Up to the curve in the above graph the deflection will be max. 0.2 % of distance k.)

## Mounting on the Drive Shaft

Do not expose the drive shaft to uncontrolled axial or radial forces when mounting coupling or pulley, a steadying block should be used.



## Pulleys

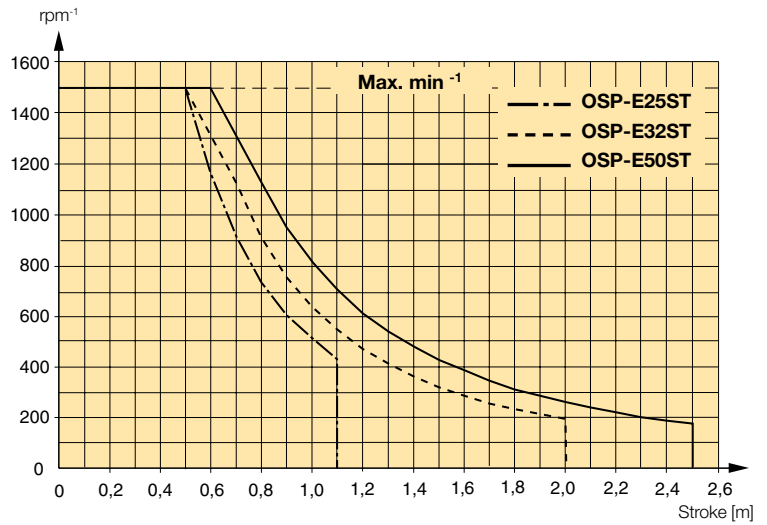
Minimum allowable number of teeth (AT5) and diameter of pulley at maximum applied torque.

Size	Min. Z	Min. ø
OSP-E25ST	24	38
OSP-E32ST	24	38
OSP-E50ST	36	57

## Maximum rpm / Stroke

At longer strokes the speed has to be reduced according to the adjacent graphs.

## Maximum rpm / Stroke



The maximum rpm shown in the graph, is 80% of the critical rpm.

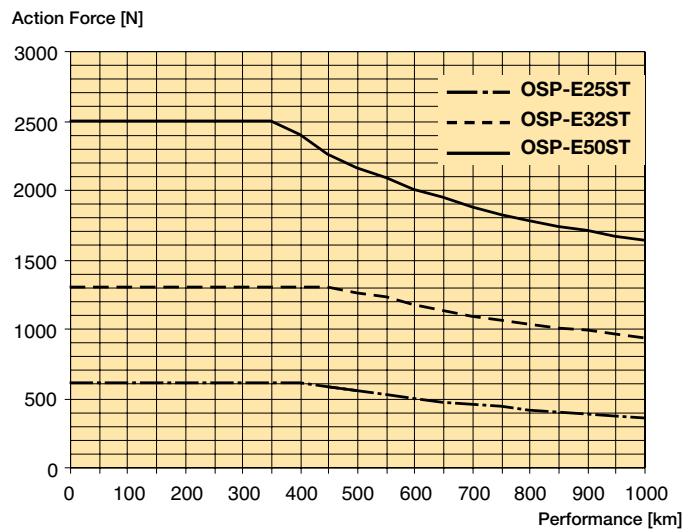
## Performance / Action Force

The actuators are designed for a 10% intermittent usage.

The performance to be expected depends on the maximum required actions force of the application.

An increase of the action force will lead to a reduced performance.

## Performance as a function of the action force



Note: Graph above is based upon 10% intermittent usage

# Ball screw actuator with internal plain bearing guide and piston rod for accurate piston rod applications

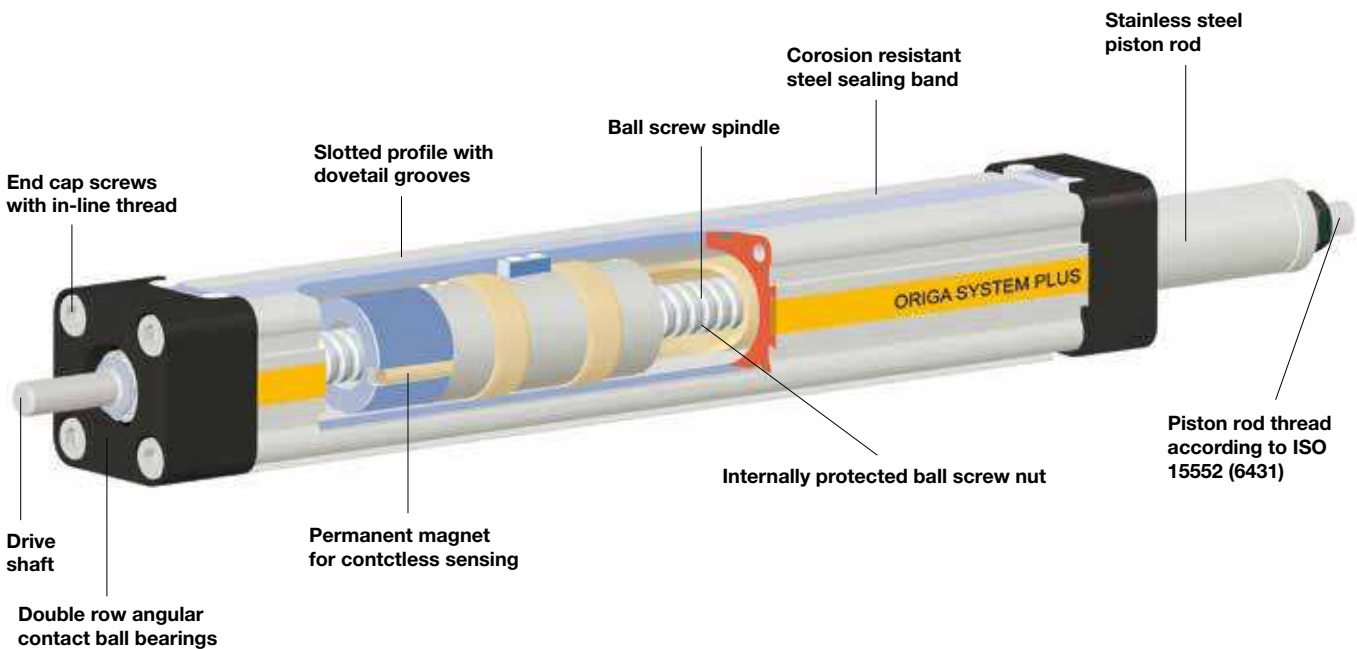
A completely new generation of actuators which can be integrated into any machine layout neatly and simply.

## Advantages

- High output force
- Excellent running characteristics
- Accurate path and position control
- High levels of repeatability

## Features

- Extending drive rod
- Ball screw spindle
- Non-rotating drive rod
- Continuous duty operation
- Large range of accessories



Take the easy route and load all the dimensions into your system. The file is suitable for all current CAD systems – available on CD-Rom or at [www.parker-origa.com](http://www.parker-origa.com)



# Options and Accessories

## OSP-E..SBR

### Ball screw actuator with internal plain bearing guide and piston rod

#### STANDARD VERSIONS OSP-E..SBR

Standard piston rod with internal guidance and integrated magnet set for contactless position sensing. Dovetail profile for mounting of accessories and the actuator itself.



**END CAP MOUNTING**  
 For end-mounting the actuator on the extending rod side.



**COMPENSATION**  
 Piston Rod eye



Piston rod Clevis



**Flange Mounting C**  
 For end-mounting the actuator on the extending rod side.



**Piston Rod compensating coupling**  
 For compensating of radial and angular misalignments



#### BALL SCREW PITCH

The ball screws spindles are available in various pitches:  
 OSP-E25SBR: 5 mm  
 OSP-E32SBR: 5, 10 mm  
 OSP-E50SBR: 5, 10, 25 mm

#### ACCESSORIES

##### MOTOR MOUNTINGS



**PROFILE MOUNTING**  
 For mounting the actuator on the dovetail grooves and on the motor end.



**MAGNETIC SWITCHES  
 SERIES RST AND EST**  
 For contactless position sensing of end stop and intermediate carrier positions.



**Trunning mounting EN in combination with pivot mounting EL.**  
 – steplessly adjustable in axial direction.



**Ball Screw Actuator with Internal Plain Bearing Guide and Piston Rod**  
**Size 25, 32, 50**  
 Type: OSP-E..SBR



**Standard Versions:**

- Standard piston rod with internal plain bearing guide
- Pitches of Ball Screw Spindle:  
 Type OSP-E25SBR : 5 mm  
 Type OSP-E32SBR: 5, 10 mm  
 Type OSP-E50SBR: 5, 10, 25 mm

**Options:**

- Keyway version

**Installation Instructions**

Use the threaded holes in the free end cap and a profile mounting close to the motor end for mounting the actuator.

The piston rod is locked against rotations, but must not be used for radial loads  $M_x$ , that need to be guided externally. A compensation part e. g. piston rod eye is recommended.

Characteristics	Description
Series	OSP-E..SBR
Mounting	See drawings
Ambient temperature range	-20 °C to +80 °C
Installation	In any position
Encapsulation class	IP 54
<b>Material</b>	
Slotted Profile	Extruded anodized aluminium
Ball screw	Steel
Ball nut	Steel
Piston rod	Stainless steel
Guide bearings	Low friction plastic
Sealing band	Hardened corrosion resistant steel
Screws, nuts	Zinc plated steel
Mountings	Zinc plated steel and aluminium

**Weight (mass) and Inertia**

Series	Total weight (Mass) [kg]		Moving mass [kg]		Inertia [ $\times 10^{-6}$ kgm <sup>2</sup> ]	
	At stroke 0 m	Actuator head	At stroke 0 m	Add per metre stroke	At Stroke 0 m	Add per metre stroke
OSP-E25SBR	0.7	3.0	0.2	0.9	1.2	11.3
OSP-E32SBR	1.7	5.6	0.6	1.8	5.9	32.0
OSP-E50SBR	4.5	10.8	1.1	2.6	50.0	225.0

**Maintenance**

All moving parts are long-term lubricated for a normal operational environment. Parker Origa recommends a check and lubrication of the actuator, and if necessary a change of wear parts, after an operation time of 12 months or 3000 km travel of distance. Please refer to the operating instructions supplied with the actuator.

**First service start-up**

The maximum values specified in the technical data sheet for the different products must not be exceeded. Before taking the actuator as a machine into service, the user must ensure the adherence to the EC Machine Directive 2006/42/EG.

## Sizing Performance Overview

### Maximum Loadings

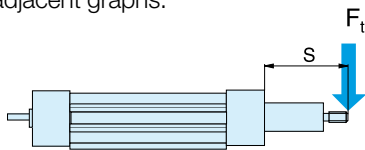
#### Sizing of Actuator

The following steps are recommended for selection :

1. Check that the maximum values in the adjacent chart and transverse force/stroke graph below are not exceeded.
2. Check the lifetime/travel distance in graph below.
3. When sizing and specifying the motor, the RMS-average torque must be calculated using the cycle time in application

## Transverse Force / Stroke

The permissible transverse force is reduced with increasing stroke length. according to the adjacent graphs.



## Maximum rpm / Stroke

At longer strokes the speed has to be reduced according to the adjacent graphs.

## Performance / Action Force

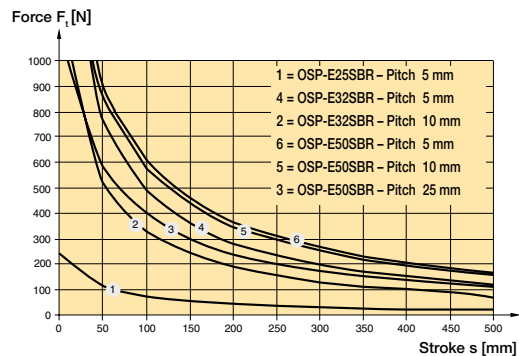
The performance to be expected depends on the maximum required actions force of the application.

An increase of the action force will lead to a reduced performance.

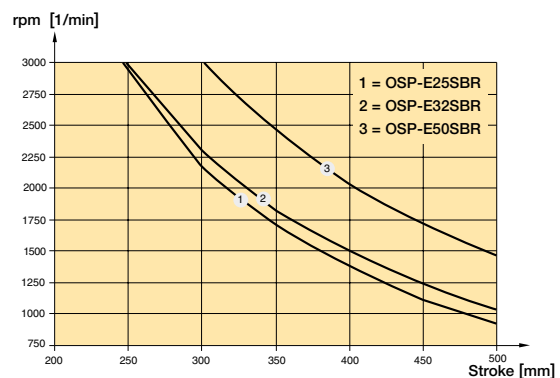
## Performance Overview

Characteristics	Unit	Description					
Series		OSP-E25SBR		OSP-E32SBR		OSP-E50SBR	
Pitch	[mm]	5	5	10	5	10	25
Max. speed	[m/s]	0.25	0.25	0.5	0.25	0.5	1.25
Linear motion per revolution drive shaft	[mm]	5	5	10	5	10	25
Max. rpm drive shaft		[min <sup>-1</sup> ]		3000	3000	3000	
Max. effective action force $F_A$	[N]	260	900	1200			
Corresponding torque drive shaft	[Nm]	0.45	1.1	1.8	1.3	2.8	6.0
No-load torque	[Nm]	0.2	0.2	0.3	0.3	0.4	0.5
Max. allowable torque on drive shaft	[Nm]	0.6	1.5	2.8	4.2	7.5	20
Max. allowable acceleration	[m/s <sup>2</sup> ]	5	5	5			
Typical repeatability	[mm/m]	±0.05		±0.05		±0.05	
Max. Standard stroke length	[mm]	500	500	500			

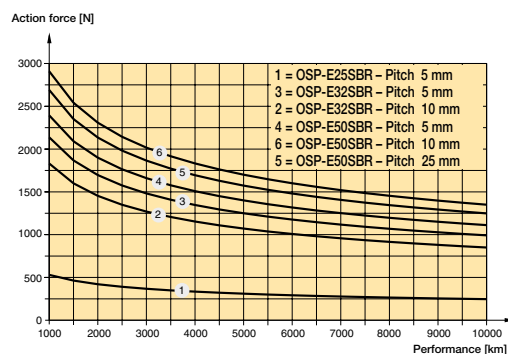
## Transverse Force / Stroke



## Maximum rpm / Stroke



## Performance as a function of the action force



# Trapezoidal screw actuator with internal plain bearing guide and piston rod for intermittent applications

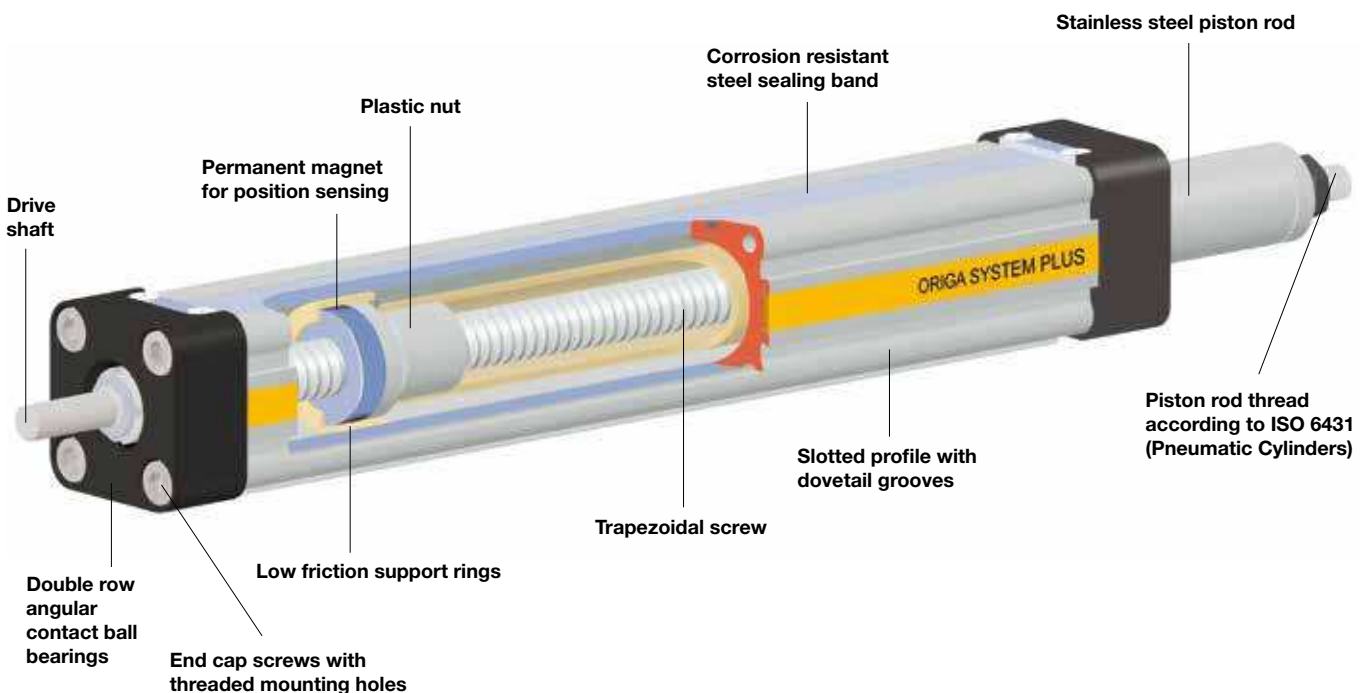
A completely new generation of actuators which can be integrated into any machine layout neatly and simply.

## Advantages

- Accurate path and position control
- High force output
- Self-locking
- Excellent slow speed characteristics
- Easy installation
- Low maintenance
- Ideal for level regulation, lifting and other applications with intermittent operations

## Features

- Piston rod-end dimensions conforming to ISO pneumatic standards
- Complete motor and control packages
- Diverse range of accessories and mountings
- Special options available



Take the easy route and load all the dimensions into your system. The file is suitable for all current CAD systems – available on CD-Rom or at [www.parker-origa.com](http://www.parker-origa.com)





# Options and Accessories

## OSP-E..STR

Trapezoidal screw actuator with internal plain bearing guide and piston rod

### STANDARD VERSIONS

#### OSP-E..STR

Standard piston rod with internal guidance and integrated magnet set for contactless position sensing. Dovetail profile for mounting of accessories and the actuator itself.



#### END CAP MOUNTING

For end-mounting the actuator on the extending rod side.



#### COMPENSATION PISTON ROD EYE



#### FLANGE MOUNTING C

For end-mounting the actuator on the extending rod side.



#### PISTON ROD CLEVIS



### ACCESSORIES

#### MOTOR MOUNTINGS



#### PROFILE MOUNTING

For mounting the actuator on the dovetail grooves and on the motor end.



#### PISTON ROD COMPENSATING COUPLING

For compensating of radial and angular misalignments



#### TRUNNING MOUNTING EN in combination with pivot mounting EL.

– steplessly adjustable in axial direction.

#### MAGNETIC SWITCHES SERIES RST AND EST

For contactless position sensing of end stop and intermediate carrier positions.



**Trapezoidal Screw Actuator with Internal Plain Bearing Guide and Piston rod**

**Size 25, 32, 50**

**Type: OSP-E..STR**



**Standard Versions:**

- Dovetail profile for mounting of accessories and the actuator itself
- Pitch of Trapezoidal Spindle:  
 Type OSP-E25STR: 3 mm  
 Type OSP-E32STR: 4 mm  
 Type OSP-E50STR: 5 mm

**Contactless position sensing**

Please use the magnetic switch mentioned below:

- KL3096** (Type RS-K, normally closed, Reed-contact, with cable)
- KL3098** (Type ES-S, Magnetic electronic, PNP-switch with DIN-plug)

**Installation Instructions**

Use the threaded holes in the free end cap and a profile mounting close to the motor end for mounting the actuator.

The piston rod is not locked against rotation and needs to be guided externally. A compensation part e. g. piston rod eye is recommended.

Characteristics	Description
Series	OSP-E..STR
Mounting	See drawings
Ambient temperature range	-20 °C to +70 °C
Installation	In any position
Encapsulation class	IP 54
<b>Material</b>	
Slotted Profile	Extruded anodized aluminium
Trapezoidal screw	Cold rolled steel
Drive nut	Thermoplastic polyester
Piston rod	Stainless steel
Guide bearings	Low friction plastic
Sealing band	Hardened corrosion resistant steel
Screws, nuts	Zinc plated steel
Mountings	Zinc plated steel and aluminium

**Weight (mass) and Inertia**

Series	Total weight (Mass) [kg]		Moving mass [kg]		Inertia [ $\times 10^{-6}$ kgm <sup>2</sup> ]	
	At stroke 0 m	Actuator head	At stroke 0 m	Add per metre stroke	At Stroke 0 m	Add per metre stroke
OSP-E25STR	0.4	2.9	0.1	0.7	1.1	10.3
OSP-E32STR	0.9	5.4	0.2	1.2	3.9	29.6
OSP-E50STR	2.4	10.6	0.8	1.6	24.6	150

**Maintenance**

All moving parts are long-term lubricated for a normal operational environment. Parker Origa recommends a check and lubrication of the actuator, and if necessary a change of wear parts, after an operation time of 12 months or 3000 km travel of distance. Please refer to the operating instructions supplied with the actuator.

**First service start-up**

The maximum values specified in the technical data sheet for the different products must not be exceeded. Before taking the actuator as a machine into service, the user must ensure the adherence to the EC Machine Directive 2006/42/EG.

## Sizing Performance Overview

### Maximum Loadings

#### Sizing of Actuator

The following steps are recommended for selection :

1. Check that the maximum values in the adjacent chart and transverse force/stroke graph below are not exceeded.
2. Check the lifetime/travel distance in graph below.
3. When sizing and specifying the motor, the RMS-average torque must be calculated using the cycle time in application

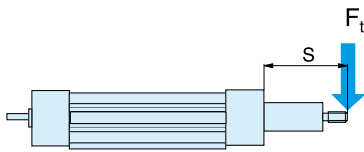
#### Performance Overview

Characteristics	Unit	Description		
Size		OSP-E25STR	OSP-E32STR	OSP-E50STR
Pitch	[mm]	3	4	5
Max. speed	[m/s]	0.075	0.1	0.125
Linear motion per revolution, drive shaft	[mm]	3	4	5
Max. rpm, drive shaft	[min <sup>-1</sup> ]	1500 <sup>2)</sup>	1500	1500
Max. effective action force $F_A$	[N]	800	1600	3300
Corresponding torque on drive shaft	[Nm]	1.35	3.4	9.25
No-load torque	[Nm]	0.3	0.4	0.5
Max. allowable torque on drive shaft	[Nm]	1.7	4.4	12
Self-locking force $F_L$ <sup>1)</sup>	[N]	800	1600	3300
Typical repeatability	[mm/m]	±0,5	±0,5	±0,5
Max. Standard stroke length	[mm]	500	500	500

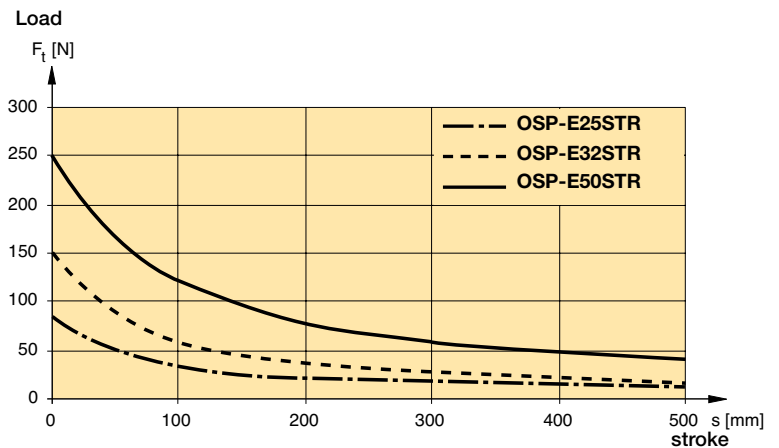
<sup>1)</sup> Related to screw types Tr 12x3, Tr 16x4, Tr 24x5

<sup>2)</sup> from 0,4 m stroke max. 1200 min<sup>-1</sup> permissible

## Transverse Force / Stroke



#### Transverse Force / Stroke

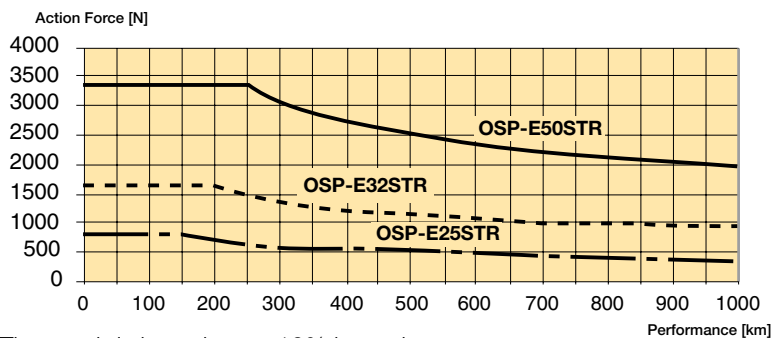


The graph is based upon 10% intermittent usage

## Performance / Action Force

The Actuators are designed for a 10% intermittent usage. The performance to be expected depends on the maximum required actions force of the application. An increase of the action force will lead to a reduced performance.

#### Performance as a function of the action force



The graph is based upon 10% intermittent usage



# ORIGA HMR

High Moment Rodless Electric Linear Actuators - Two Drive Technologies: Screw & Toothed Belt



## *Driving the future*

The HMR linear drive system can be equipped with a “basic” or “reinforced” profile as standard. The “basic” profile is suitable for fitting directly to a machine base that has a corresponding support surface. The “reinforced” profile, on the other hand, is the preferred choice for self-supporting systems or for use in conjunction with a base surface offering limited support.

- Two alternative drive technologies in one profile
- Unique flexibility and reliability
- High speed and precision
- Two profile versions
- Optional IP54 snap-in covers

# ORIGA HMR Electromechanical Linear Actuators

We drive the future - with screw, toothed belt.



### Profile designs

- Basic profile for assembling directly to the machine base
- Reinforced profile for self-supporting assembly

### Position sensing

- Integrated, adjustable position switch for end positions and homing

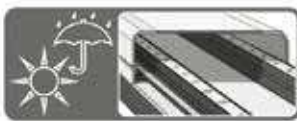


### Mounting systems

- Integrated T-slots for attaching from below and from the side

### Impact protection

- Integrated shock absorbers for both end positions

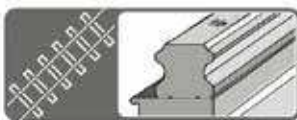


### Protection classes

- Without cover: IP20
- With cover: IP54

### Distance measurement

- Contact-free, incremental displacement measuring system



### Guide systems

- Plain bearing guide
- Recirculating ball bearing guide

### Brake system

- Holding brake can be implemented for horizontal and vertical movements

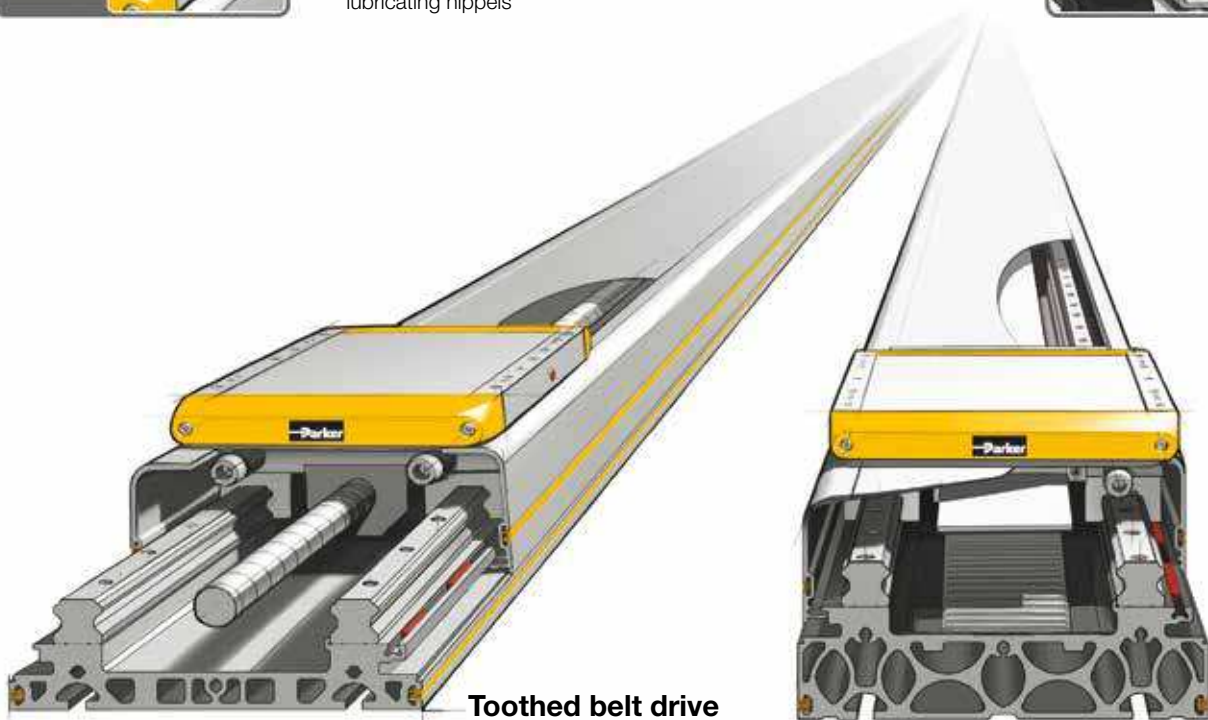


### Lubrication

- Central lubrication via externally accessible lubricating nipples

### Cable drag chains

- Directly attachable drag chains for various cabling



### Toothed belt drive

The solution for fast path and position control for medium loads



### Screw drive

The solution for precise path and position control for heavy loads



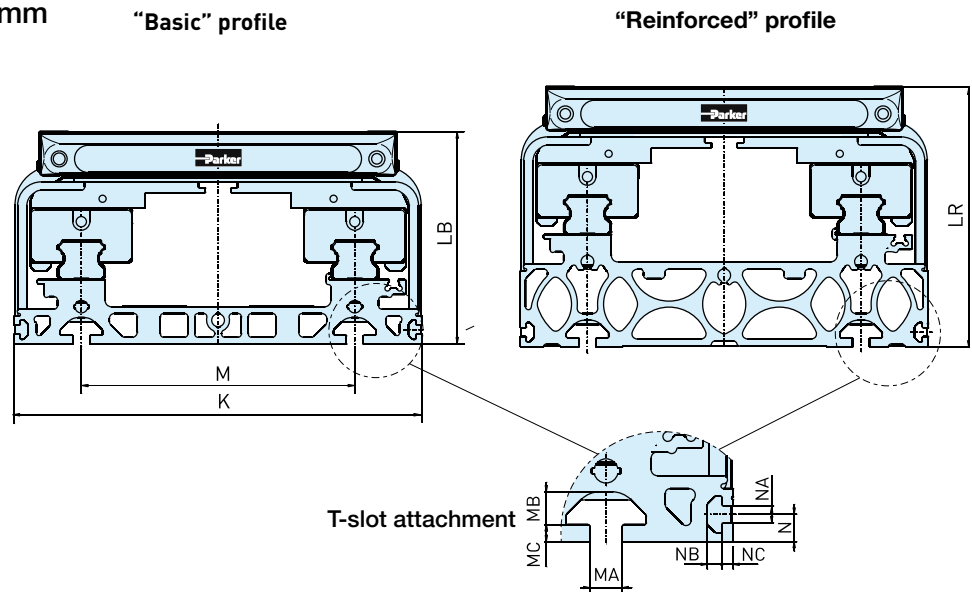
## Origa Linear Drives

Sizes 85, 110, 150, 180, 240 mm

HMR Series

Profile designs

- Basic
- Reinforced



The HMR linear drive system can be equipped with a “basic” or “reinforced” profile as standard. The “basic” profile is suitable for fitting directly to a machine base that has a corresponding support surface. The “reinforced” profile, on the other hand, is the preferred choice for self-supporting systems or for use in conjunction with a base surface offering limited support.

### Dimensions (mm) - Profil design HMR

Size	K	LB	LR	M	MA	MB	MC	N	NA	NB	NC
HMRx085	85.0	60.0	71.0	50.0	5.2	4.5	1.5	4.5	3.4	3.0	2.5
HMRx110	110.0	69.5	89.5	70.0	5.2	4.5	1.8	4.5	3.4	3.0	2.5
HMRx150	150.0	90.0	114.0	96.0	6.2	6.8	3.0	6.5	5.2	4.6	3.5
HMRx180	180.0	111.5	134.5	116.0	8.0	7.8	4.5	8.5	5.2	4.5	3.5
HMRx240	240.0	125.0	153.0	161.0	10.0	10.2	5.3	8.5	5.2	4.5	3.5

## Origa Linear Drives

Sizes 85, 110, 150, 180, 240 mm

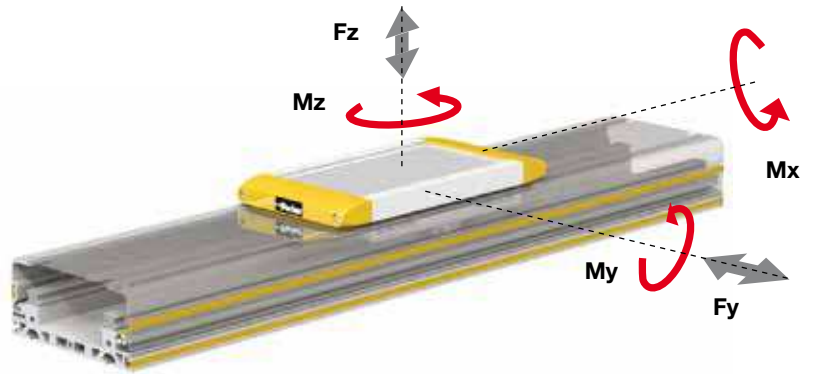
HMR Series

Ball Bearing Guide

The occurring loads, forces and bending moments depend on the application. The mass of the construction attached to the carriage has a center of gravity. This mass creates static forces ( $F = m \cdot g$ ) and bending moments ( $M = m \cdot g \cdot l$ ).

Additional dynamic moments ( $M = m \cdot a \cdot l$ ) arise in dependence of the acceleration during travel. Care should be taken when selecting suitable guides that the permissible sum of loads does not exceed 1.

## Loads, Forces and Moments



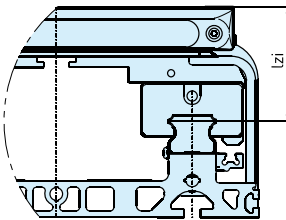
### Combined loads

The maximum permissible load for linear drives subject to simultaneous multiple loads, forces and bending moments are calculated using the formula below. Maximum permissible loads must not be exceeded.

$$L = \frac{F_y}{F_{y(max)}} + \frac{F_z}{F_{z(max)}} + \frac{M_x}{M_{x(max)}} + \frac{M_y}{M_{y(max)}} + \frac{M_z}{M_{z(max)}} \leq 1$$

The sum of all loads must under no circumstance be > 1.

### Internal lever arm $l_{zi}$



### Dimension table - $l_{zi}$

Product size	$l_{zi}$
HMR-085 [mm]	33.0
HMR-110 [mm]	39.5
HMR-150 [mm]	50.0
HMR-180 [mm]	57.5
HMR-240 [mm]	68.0

### Maximum permissible loads based on a performance of 2,540 km

Product Size	HMRx08	HMRx11	HMRx15	HMRx18	HMRx24	HMRx08	HMRx11	HMRx15	HMRx18	HMRx24
Carriage	Standard					Tandem				
<b>Max. permissible load</b>										
$F_{z2540}$ [N]	1,800	4,450	8,800	16,200	26,600	2,700	6,700	13,200	24,300	39,900
<b>Max. permissible bending moment</b>										
$M_{x2540}$ [Nm]	45	155	430	940	2,150	68	235	645	1,410	3,225
$M_{y2540}$ [Nm]	80	200	560	1,230	2,430	120	300	840	1,845	3,645

### Maximum permissible loads based on a performance of 8,000 km

Product Size	HMRx08	HMRx11	HMRx15	HMRx18	HMRx24	HMRx08	HMRx11	HMRx15	HMRx18	HMRx24
Carriage	Standard					Tandem				
<b>Max. permissible load</b>										
$F_{z8000}$ [N]	1,250	3,000	6,000	11,000	18,200	1,875	4,500	9,000	16,500	27,300
<b>Max. permissible bending moment</b>										
$M_{x8000}$ [Nm]	30	105	290	640	1,460	45	160	435	960	2,190
$M_{y8000}$ [Nm]	55	135	380	840	1,660	80	205	570	1,260	2,490

## Ball Screw

Sizes 85, 110,150, 180, 240 mm

HMRS Series



### Technical Data HMRS

Product Size			HMRS08		HMRS11		HMRS15		HMRS18		HMRS24	
Type of Screw			12 x 5	12 x 12	16 x 5	16 x 16	20 x 5	20 x 20	25 x 10	25 x 25	32 x 10	32 x 32
Pitch	p	[mm]	5	12	5	16	5	20	10	25	10	32
Max. speed	v <sub>max</sub>	[m/s]	0.25	0.60	0.25	0.80	0.25	1.00	0.50	1.25	0.50	1.60
Max. acceleration	a <sub>max</sub>	[m/s <sup>2</sup> ]	10		10		10		10		10	
Repeatability		[μm]	± 20		± 20		± 20		± 20		± 20	
Max. stroke		[mm]	1,200		1,500		2,500		3,400		4,000	

### Thrust force and torque

Max. thrust force	F <sub>Amax</sub>	[N]	820	820	2,200	2,200	2,600	2,600	4,800	4,800	5,500	5,500
	F <sub>A2540</sub>	[N]	820	650	1,550	1,150	1,800	2,160	3,300	3,960	3,500	4,880
Max. torque at drive shaft	M <sub>Amax</sub>	[Nm]	0.7	1.7	1.9	6.1	2.2	9.0	8.3	20.8	9.5	30.4
	M <sub>A2540</sub>	[Nm]	0.7	1.3	1.3	3.1	1.6	7.5	5.7	17.1	6.1	27.0
No load torque	M <sub>0</sub>	[Nm]	0.2	0.2	0.3	0.4	0.7	0.9	0.9	1.0	1.0	1.1

### Stroke dependent on speed

200	[mm]	250	600	250	800	250	1,000	500	1,250	500	1,600
400	[mm]	250	600	250	800	250	1,000	500	1,250	500	1,600
600	[mm]	152	366	197	631	250	1,000	500	1,250	500	1,600
800	[mm]	102	245	132	424	169	678	382	956	423	1,354
1000	[mm]	73	176	95	304	122	486	277	694	312	997
1200	[mm]	55	132	71	228	91	366	211	526	239	765
1400	[mm]	-	-	56	178	71	285	165	413	189	605
1600	[mm]	-	-	45	143	57	228	133	333	153	491
1800	[mm]	-	-	-	-	47	187	109	274	127	406
2000	[mm]	-	-	-	-	39	156	92	229	107	342
2200	[mm]	-	-	-	-	33	132	78	195	91	291
2400	[mm]	-	-	-	-	28	113	67	167	79	251
2600	[mm]	-	-	-	-	-	-	58	145	68	219
2800	[mm]	-	-	-	-	-	-	51	128	60	193
3000	[mm]	-	-	-	-	-	-	45	113	53	171
3200	[mm]	-	-	-	-	-	-	40	100	48	152
3400	[mm]	-	-	-	-	-	-	-	-	43	137
3600	[mm]	-	-	-	-	-	-	-	-	39	123
3800	[mm]	-	-	-	-	-	-	-	-	35	112
4000	[mm]	-	-	-	-	-	-	-	-	32	102



**Ball Screw**

Sizes 85, 110, 150, 180, 240 mm

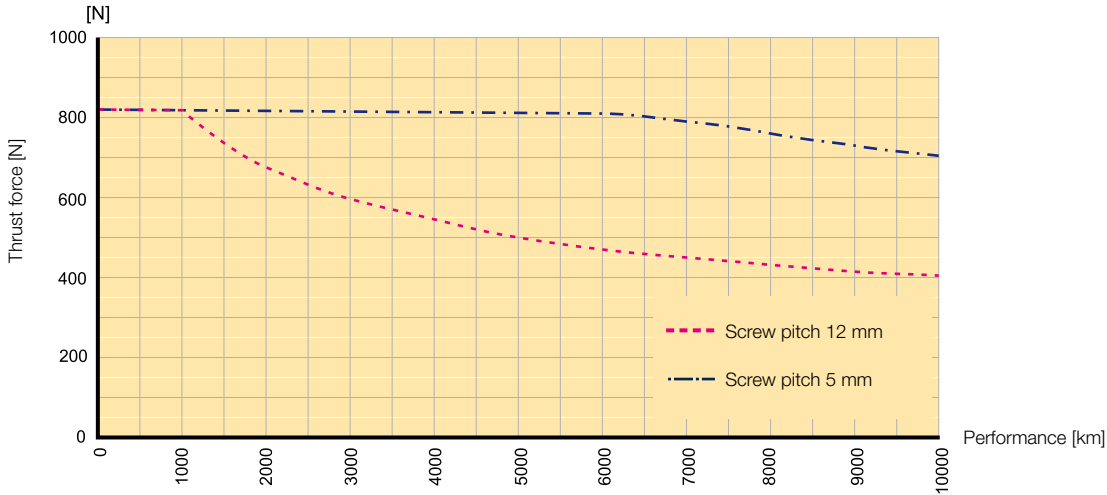
**HMRS Series**

Performance expectancy depends on the application's required force.

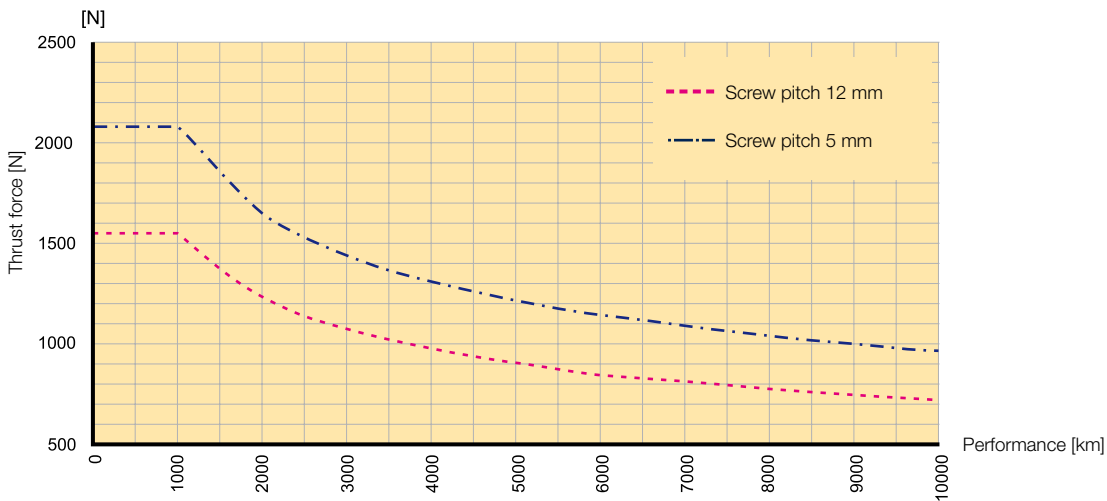
An increase in force will reduce performance.

**Performance / thrust force**

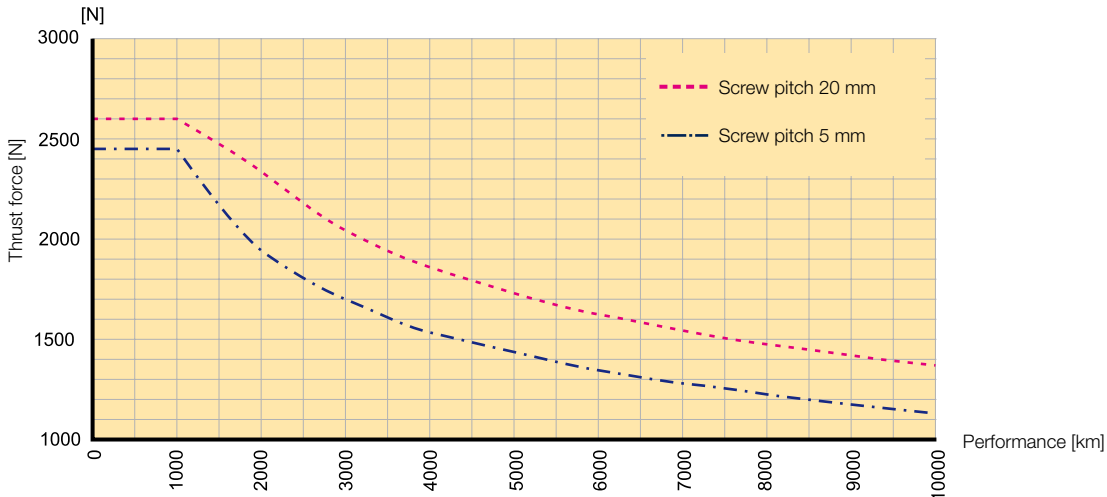
**HMRS08 Performance / Thrust force**



**HMRS11 Performance / Thrust force**



**HMRS15 Performance / Thrust force**



## Ball Screw

Sizes 85, 110, 150, 180, 240 mm

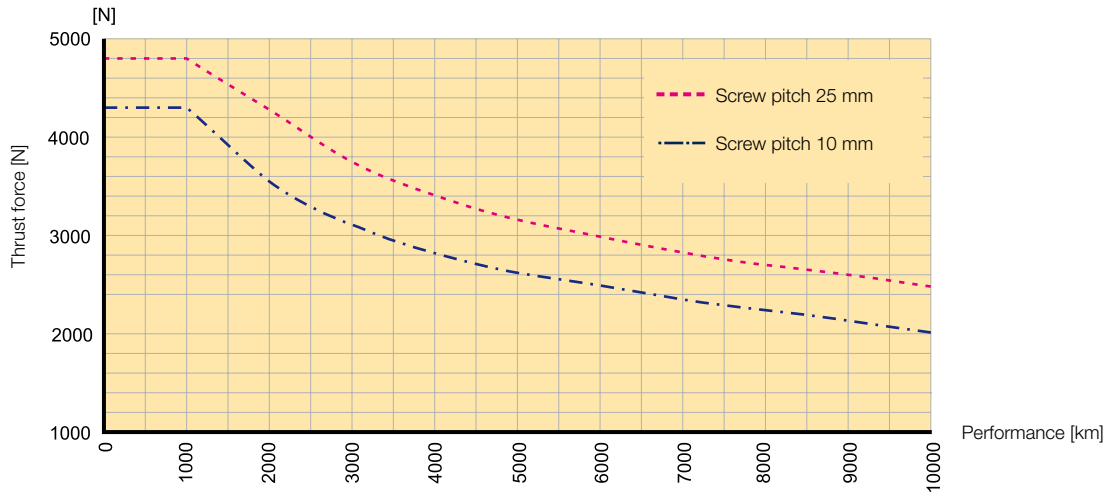
HMRS Series

Performance expectancy depends on the application's required force.

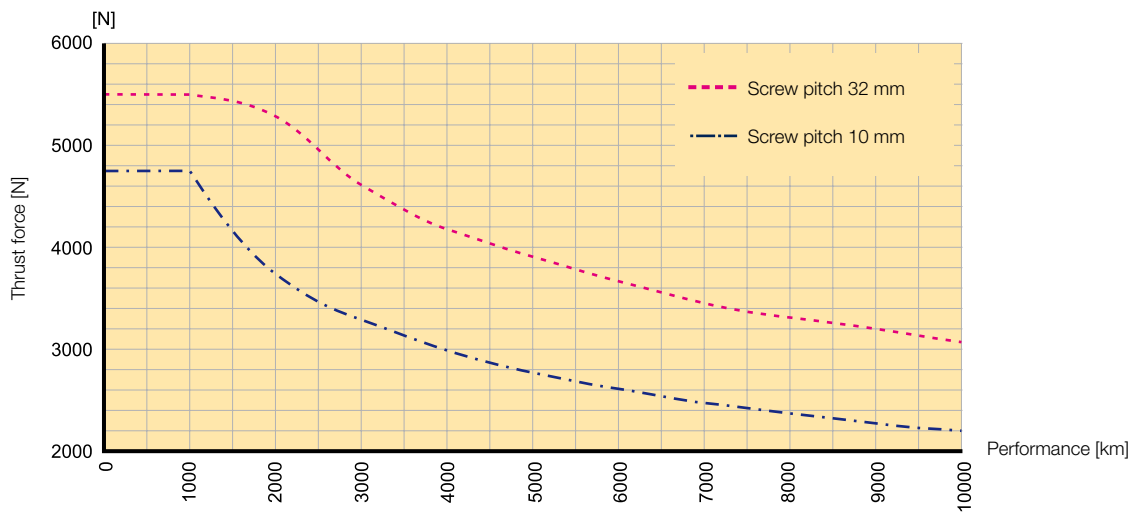
An increase in force will reduce performance.

### Performance / thrust force

**HMRS18 Performance / Thrust force**



**HMRS24 Performance / Thrust force**

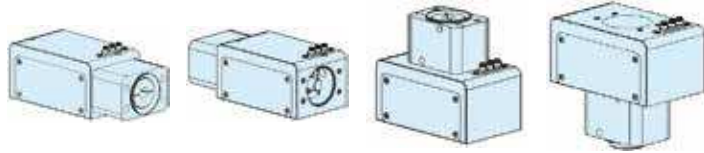
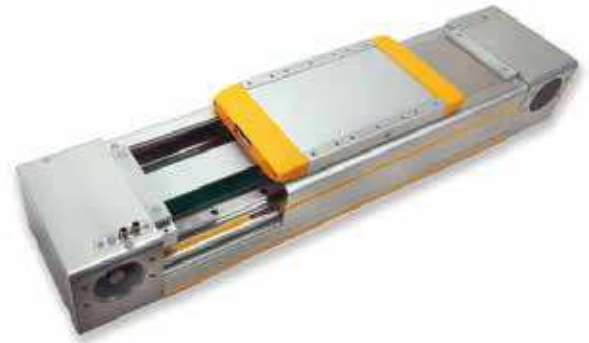


**Belt Drive**

Sizes 85, 110, 150, 180, 240 mm

**HMRB Series**

**Description Motor mounting position**



horizontal		upright	
090° / 270°		000° / 180°	
BD, DD		AP, CP, AD, CD	

Type and orientation of the belt is given by the motor mounting position.

**Technical Data HMRB**

Production size			HMRB08		HMRB11		HMRB15	
Motor mounting position			090°/270°	000°/180°	090°/270°	000°/180°	090°/270°	000°/180°
Lead constant	$s_{lin.}$	[mm]	66	66	90	90	100	125
Max. speed	$v_{max.}$	[m/s]	2				5	
Max. acceleration	$a_{max.}$	[m/s <sup>2</sup> ]	30				50	
Repeatability		[µm]	± 50					
Max. order stroke		[mm]	3,000		4,000		6,000	
Thrust force and torque								
Max. thrust force	$F_{Amax.}$	[N]	295	295	630	630	1,050	630
Max. torque on drive shaft	$M_{Amax.}$	[Nm]	3.1	3.1	9.0	9.0	17.0	13.0
No load torque	$M_0$	[Nm]	1.0	1.0	1.2	1.2	1.2	1.2

Production size			HMRB18		HMRB24	
Motor mounting position			090°/270°	000°/180°	090°/270°	000°/180°
Lead constant	$s_{lin.}$	[mm]	130	150	160	224
Max. speed	$v_{max.}$	[m/s]	5			
Max. acceleration	$a_{max.}$	[m/s <sup>2</sup> ]	50			
Repeatability		[µm]	± 50			
Max. order stroke		[mm]	6,000			
Thrust force and torque						
Max. thrust force	$F_{Amax.}$	N	1,300	1,000	4,000	3,750
Max. torque on drive shaft	$M_{Amax.}$	Nm	27	24	101	134
No load torque	$M_0$	Nm	2.0	2.0	4.0	4.0

## Belt Drive

Sizes 85, 110, 150, 180, 240 mm

### HMRB Series

The permissible thrust force from the table is depending on speed level and order stroke length.

The minimum thrust force value must not be exceeded in the application.

#### Information:

Limiting the torque from the motor may avoid exceeding permitted thrust force.

### HMRB thrust force

Product size			HMRB08		HMRB11		HMRB15		HMRB18		HMRB24	
Motor mounting position			090° / 270°	000° / 180°	090° / 270°	000° / 180°	090° / 270°	000° / 180°	090° / 270°	000° / 180°	090° / 270°	000° / 180°
Thrust force $F_A$ corresponding to speed $v$	$F_{A(v<1 \text{ m/s})}$	[N]	295	295	630	630	1,050	630	1,300	1,000	4,000	3,750
	$F_{A(v<2 \text{ m/s})}$	[N]	295	295	550	550	990	630	1,300	1,000	4,000	3,380
	$F_{A(v<3 \text{ m/s})}$	[N]	-	-	-	-	930	630	1,300	1,000	3,650	3,140
	$F_{A(v<4 \text{ m/s})}$	[N]	-	-	-	-	890	630	1,300	1,000	3,370	2,950
	$F_{A(v<5 \text{ m/s})}$	[N]	-	-	-	-	840	630	1,300	1,000	3,200	2,800
Thrust force $F_A$ corresponding to order stroke length OS	$F_{A(OS<1000 \text{ mm})}$	[N]	250	250	630	630	1,050	630	1,300	1,000	4,000	3,750
	$F_{A(OS<2000 \text{ mm})}$	[N]	140	140	550	550	820	490	1,000	775	4,000	3,360
	$F_{A(OS<3000 \text{ mm})}$	[N]	100	100	385	385	570	340	710	550	3,370	2,440
	$F_{A(OS<4000 \text{ mm})}$	[N]	-	-	295	295	445	265	550	430	2,860	1,880
	$F_{A(OS<5000 \text{ mm})}$	[N]	-	-	-	-	365	215	450	350	2,350	1,540
	$F_{A(OS<6000 \text{ mm})}$	[N]	-	-	-	-	305	185	380	295	2,000	1,300

#### Example:

HMRB18 with motor mounting position 1 (090° front), speed  $v = 2 \text{ m/s}$  ( $F_A = 1,300 \text{ N}$ )

and order stroke length OS = 2,500 mm ( $F_A = 710 \text{ N}$ ).

The maximum permissible thrust force  $F_A = 710 \text{ N}$  must not be exceeded.

**Protection Class**

**HMR Series**

**Standard** - without cover

**IP54** - with cover

HMR was developed for various environment conditions. HMR can be equipped with a cover to comply with IP54 protection class if a higher rating is required.

**Version - Standard**

**Version - Protected Class IP54**



**Impact Protection**

**HMR Series**

HMR can be equipped with impact protection. The mounted structure shock absorbers can compensate the energy released by unintentional impact and afford protection against mechanical damage.

Two structure shock absorbers are fitted to each side of the carriage prior to delivery.

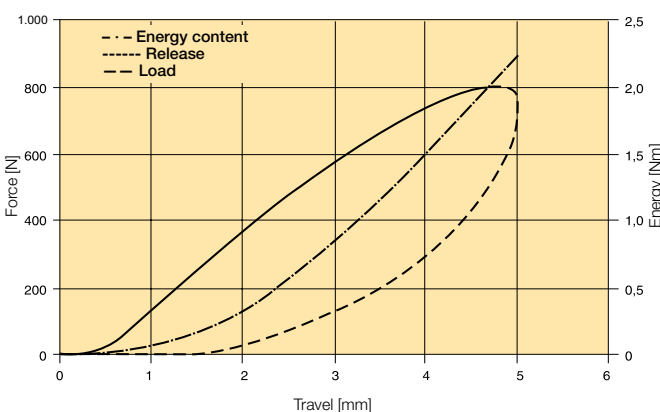


**Shock absorbers for impact protection**

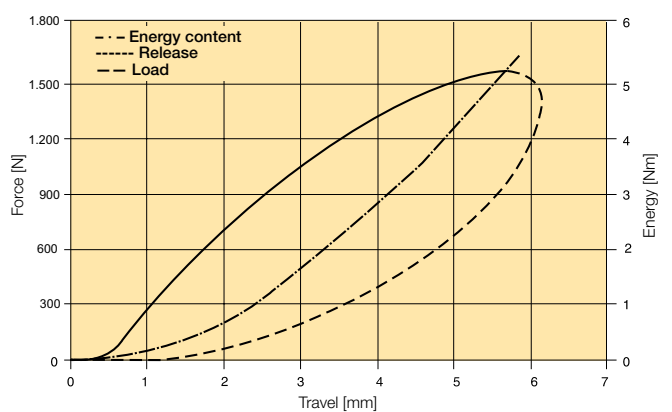
Product size	HMRx08	HMRx11	HMRx15	HMRx18	HMRx24
Shock absorber	TA12-5	TA12-5	TA12-5	TA17-7	TA17-7
Energy absorption	3.0 Nm	3.0 Nm	3.0 Nm	8.5 Nm	8.5 Nm
Maximum stroke	5.0 mm	5.0 mm	5.0 mm	7.0 mm	7.0 mm



**Distance-force and energy-distance characteristic curve (dynamic) – production size HMR-145**



**Distance-force and energy-distance characteristic curve (dynamic) – production size HMR-175, HMR-225**





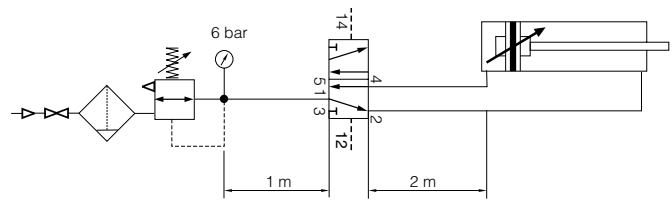


# Valves

**Choice of components for air supply to cylinders**

In the chart below can you find the suitable valves, tubes etc. for each cylinder size. If you have a tube length over 2 m, choose one tube size larger than in the chart. The table is based on a maximum cylinder speed of 0,5m/s.

Following data is valid:  
 Supply pressure: min 7,0 bar  
 Regulator pressure setting: 6,0 bar  
 Pipe length between air treatment unit and valve: max 1 m  
 Pipe length between valve and cylinder : max 2 m  
 The table is made for a cylinder speed max 0,5 m/s



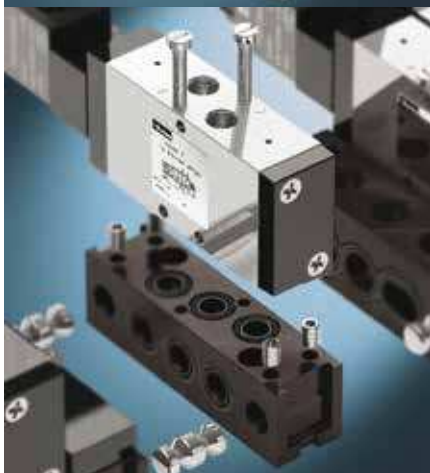
<b>Cylinder</b>														
Cylinder diameter mm	Ø10	Ø12	Ø16	Ø20	Ø25	Ø32	Ø40	Ø50	Ø63	Ø80	Ø100	Ø125	Ø160	Ø200
Cylinder ISO connection	M5	M5	M5	G1/8	G1/8	G1/8	G1/4	G1/4	G3/8	G3/8	G1/2	G1/2	G3/4	G3/4
<b>Tube</b>														
Tube diameter mm Ext / Int	4 / 2.7	4 / 2.7	4 / 2.7	6 / 4	6 / 4	6 / 4	8 / 6	8 / 6 10 / 8	10 / 8	12 / 9 14 / 11	12 / 9	16 / 13	18 / 15	22 / 16
<b>FRL units</b>														
Global P31														
Global P32														
Global P33														
<b>Valves</b>														
4mm inst. fitting valve														
M5 valve														
6mm inst. fitting valve														
1/8 valve														
1/4 valve														
3/8 valve														
1/2 valve														

Possible    
  Recommended    
  Cylinder speed < 0,5 m/s    
  Not recommended



# Viking Lite

*rust and corrosion resistant,  
high reliability with flexible installation*



## **Rust and corrosion resistant designs.**

Viking Lite valves are made of anodized aluminium, for good corrosion resistance. The smooth design, with no dirt-collecting pockets, makes the valve suitable for most environments.

## **High reliability**

Viking Lite valves easily comply with the requirements for the component reliability in accordance with EU Machinery Directive standards EN292-2 and EN983. The valves are designed for use with or without supplementary lubrication.

## **Compact installation dimensions - flexible installation**

Compact dimensions direct body porting and integral mounting holes are all features of the Viking Lite range. In addition to single valve installation, the Viking Lite valves may be installed on manifolds so that the valves have a common supply and manifolded exhausts.

The Viking Lite valve range is robust, versatile and combines high performance with compact installation dimensions. Large flow capacity, short change-over times and low change-over pressure are important characteristics of this valve range.



Designed to operate with pressures up to 10 bar in temperatures -10°C to +50°C.

- 3 sizes: G1/8, G1/4 and G3/8.
- Large flow capacity with short change-over times.
- Low change over pressure.
- Dynamic bi-directional spool seals.
- Do not require lubrication in operation but can also be installed in systems that are lubricated.

**Operating information**

	<b>P2L-AZ</b>	<b>P2L-BZ</b>	<b>P2L-CZ</b>
Port size:	G1/8	G1/4	G3/8
Working pressure:	10 bar	10 bar	10 bar
Working temperature	-10 °C to +50 °C		
Flow (Qmax);	15,6 l/s	37,8 l/s	68,3 l/s

For more information see [www.parker.com/euro\\_pneumatic](http://www.parker.com/euro_pneumatic)

**Solenoid and pneumatically operated directional control valves**

**3/2 valves, internal air, standard temperature**

Symbol	Size	Actuation	Return	Min Operating Pressure (bar)	Changeover time (ms) at 6 bar @20°C actua./return	Weight Kg	Order code Without coil	Order code With 24V DC (22mm coil)
	G1/8	Air signal	Air signal	1.5	5/5	0.18	<b>P2LAZ311PP</b>	
	G1/4			1.5	6/6	0.18	<b>P2LBZ312PP</b>	
	G3/8			1.5	8/8	0.36	<b>P2LCZ313PP</b>	
	G1/8	Air signal	Spring	3.0	8/15	0.16	<b>P2LAZ311PS</b>	
	G1/4			3.0	10/20	0.16	<b>P2LBZ312PS</b>	
	G3/8			3.0	10/30	0.35	<b>P2LCZ313PS</b>	
	G1/8	Electric signal	Electric signal	1.5	10/10	0.18	<b>P2LAZ311EENDCN</b>	<b>P2LAZ311EENDCB49</b>
	G1/4			1.5	12/12	0.18	<b>P2LBZ312EENDCN</b>	<b>P2LBZ312EENDCB49</b>
	G3/8			1.5	17/17	0.36	<b>P2LCZ313EENDCN</b>	<b>P2LCZ313EENDCB49</b>
	G1/8	Electric signal	Spring	3.0	15/35	0.16	<b>P2LAZ311ESNDCN</b>	<b>P2LAZ311ESNDCB49</b>
	G1/4			3.0	18/45	0.16	<b>P2LBZ312ESNDCN</b>	<b>P2LBZ312ESNDCB49</b>
	G3/8			3.0	27/75	0.35	<b>P2LCZ313ESNDCN</b>	<b>P2LCZ313ESNDCB49</b>

**5/2 valves, internal air, standard temperature**

Symbol	Size	Actuation	Return	Min Operating Pressure (bar)	Changeover time (ms) at 6 bar @20°C actua./return	Weight Kg	Order code Without coil	Order code With 24V DC (22mm coil)
	G1/8	Air signal	Air signal	1.5	5/5	0.18	<b>P2LAZ511PP</b>	
	G1/4			1.5	6/6	0.18	<b>P2LBZ512PP</b>	
	G3/8			1.5	8/8	0.36	<b>P2LCZ513PP</b>	
	G1/8	Air signal	Spring	3.0	8/15	0.16	<b>P2LAZ511PS</b>	
	G1/4			3.0	10/20	0.16	<b>P2LBZ512PS</b>	
	G3/8			3.0	10/30	0.35	<b>P2LCZ513PS</b>	
	G1/8	Electric signal	Electric signal	1.5	10/10	0.19	<b>P2LAZ511EENDCN</b>	<b>P2LAZ511EENDCB49</b>
	G1/4			1.5	12/12	0.21	<b>P2LBZ512EENDCN</b>	<b>P2LBZ512EENDCB49</b>
	G3/8			1.5	17/17	0.44	<b>P2LCZ513EENDCN</b>	<b>P2LCZ513EENDCB49</b>
	G1/8	Electric signal	Spring	3.0	15/35	0.17	<b>P2LAZ511ESNDCN</b>	<b>P2LAZ511ESNDCB49</b>
	G1/4			3.0	18/45	0.20	<b>P2LBZ512ESNDCN</b>	<b>P2LBZ512ESNDCB49</b>
	G3/8			3.0	27/75	0.43	<b>P2LCZ513ESNDCN</b>	<b>P2LCZ513ESNDCB49</b>

## 5/3 valves, internal air, standard temperature

Symbol	Size	Actuation	Min Operating Pressure (bar)	Changeover time (ms) at 6 bar @20°C actua./return	Weight Kg	Order code Without coil	Order code With 24V DC (22mm coil)
	G1/8	Self centring	3,0	18/40	0,26	<b>P2LAZ611EENDCN</b>	<b>P2LAZ611EENDCB49</b>
	G1/4	Electric/Electric Closed	3,0	22/55	0,28	<b>P2LBZ612EENDCN</b>	<b>P2LBZ612EENDCB49</b>
	G3/8	Centre	3,0	30/90	0,60	<b>P2LCZ613EENDCN</b>	<b>P2LCZ613EENDCB49</b>
	G1/8	Self centring	3,0	18/40	0,26	<b>P2LAZ711EENDCN</b>	<b>P2LAZ711EENDCB49</b>
	G1/4	Electric/Electric Presurised	3,0	22/45	0,28	<b>P2LBZ712EENDCN</b>	<b>P2LBZ712EENDCB49</b>
	G3/8	Centre	3,0	30/90	0,60	<b>P2LCZ713EENDCN</b>	<b>P2LCZ713EENDCB49</b>
	G1/8	Self centring	3,0	18/40	0,26	<b>P2LAZ811EENDCN</b>	<b>P2LAZ811EENDCB49</b>
	G1/4	Electric/Electric Vented	3,0	22/45	0,28	<b>P2LBZ812EENDCN</b>	<b>P2LBZ812EENDCB49</b>
	G3/8	Centre	3,0	30/90	0,60	<b>P2LCZ813EENDCN</b>	<b>P2LCZ813EENDCB49</b>

**Note:** All valves may be ordered with non locking manual override, replacing

...**CN** with ...**BN**

...**CB49** with ...**BB49**

# Viking Lite

Available in boxed quantities of 25



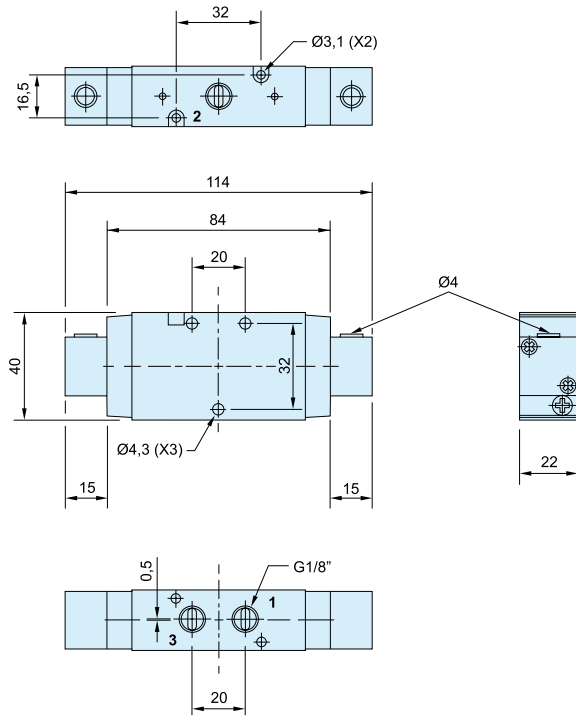
## 5/2 valves, internal air, standard temperature

Size	Actuation	Return	Order code Without solenoid	Order code With 24V DC (22mm coil)
G1/8	Electric	Electric	<b>P2LAZ511EENDCNQ25</b>	<b>P2LAZ511EENDCB49Q25</b>
G1/4	signal	signal	<b>P2LBZ512EENDCNQ25</b>	<b>P2LBZ512EENDCB49Q25</b>
G1/8	Electric	Spring	<b>P2LAZ511ESNDCNQ25</b>	<b>P2LAZ511ESNDCB49Q25</b>
G1/4	signal		<b>P2LBZ512ESNDCNQ25</b>	<b>P2LBZ512ESNDCB49Q25</b>

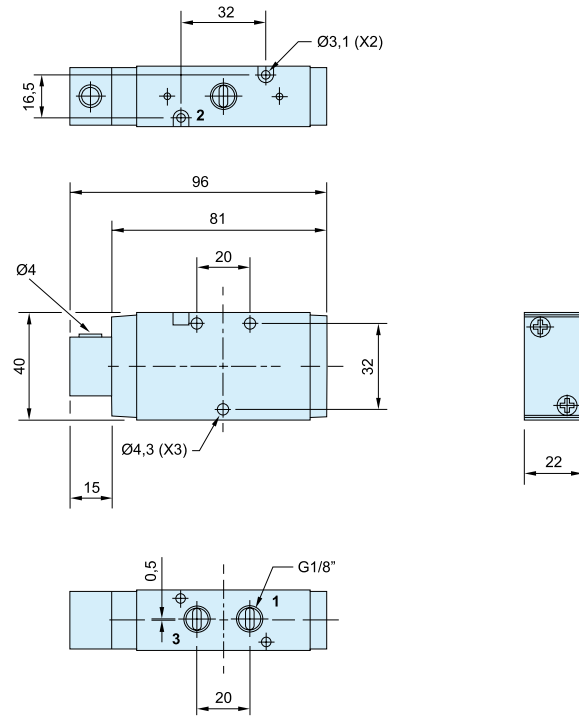
The Viking Lite valve is available in boxed quantities of 25 combines high performance with compact installation dimensions. Large flow capacity, short change-over times and low change-over pressure are important characteristics of this valve range.

**Dimensions**

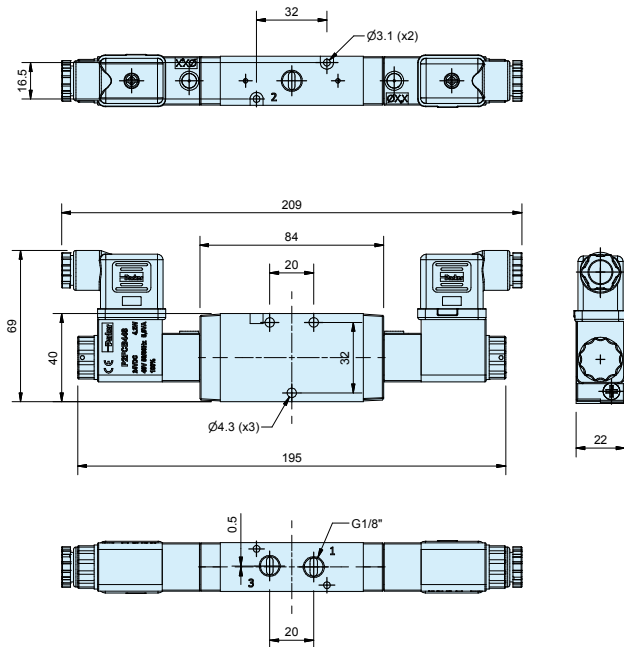
**P2LAZ 3/2**  
 Air / Air



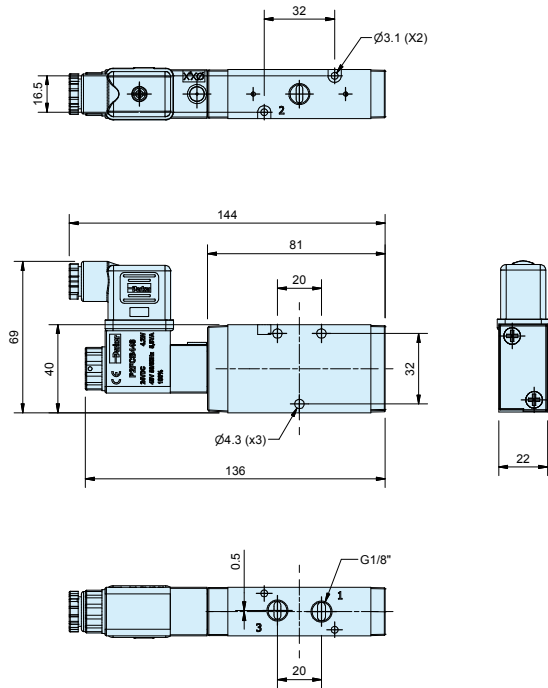
**P2LAZ 3/2**  
 Air / Spring



**P2LAZ 3/2**  
 Solenoid / Solenoid



**P2LAZ 3/2**  
 Solenoid / Spring

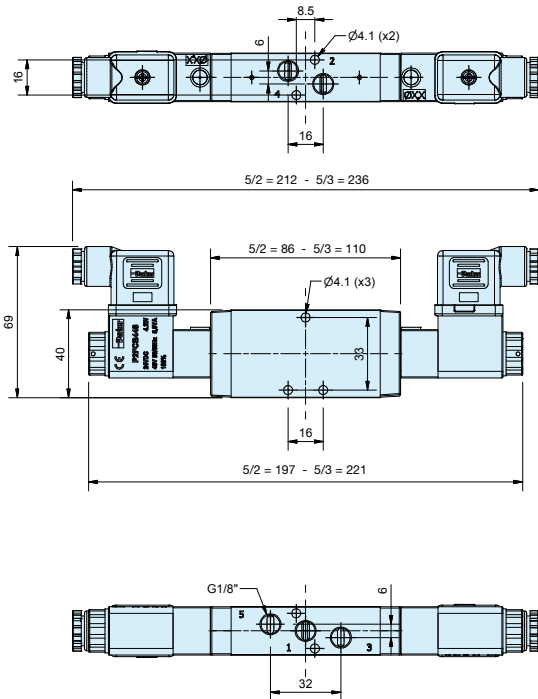


**Solenoid valves**

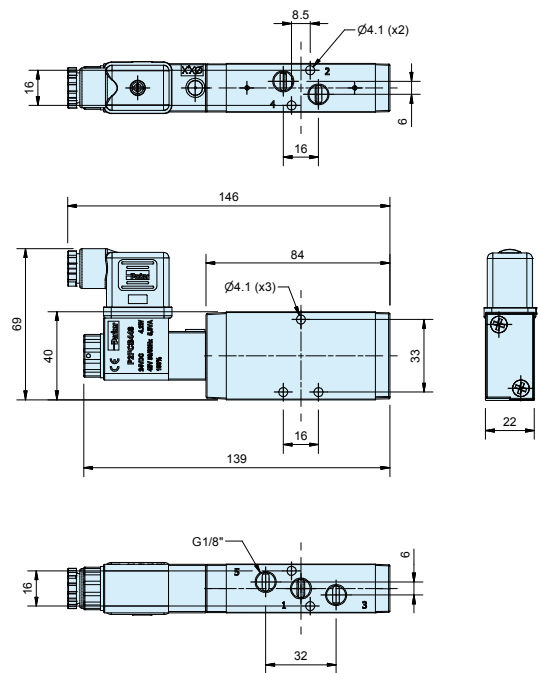
Solenoid valves and cable plugs must be ordered separately. One pilot valve is required for each E (NDCN only) in the valve order code.

**Dimensions**

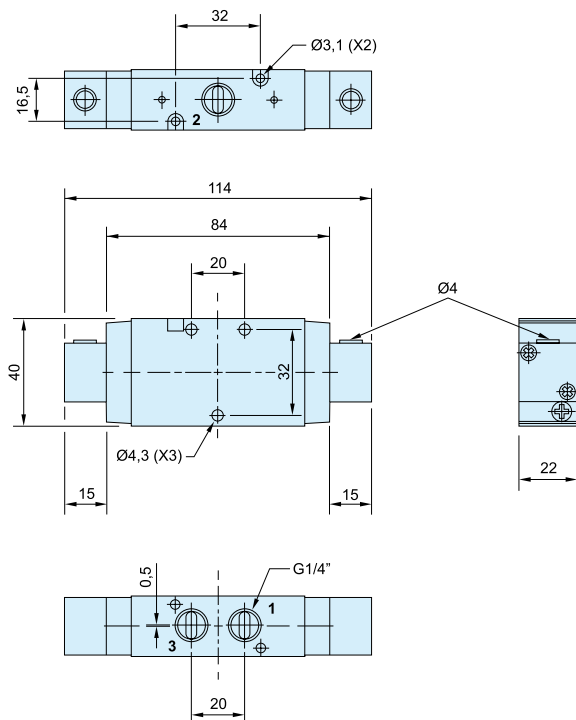
**P2LAZ 5/2 and 5/3  
 Solenoid / Solenoid**



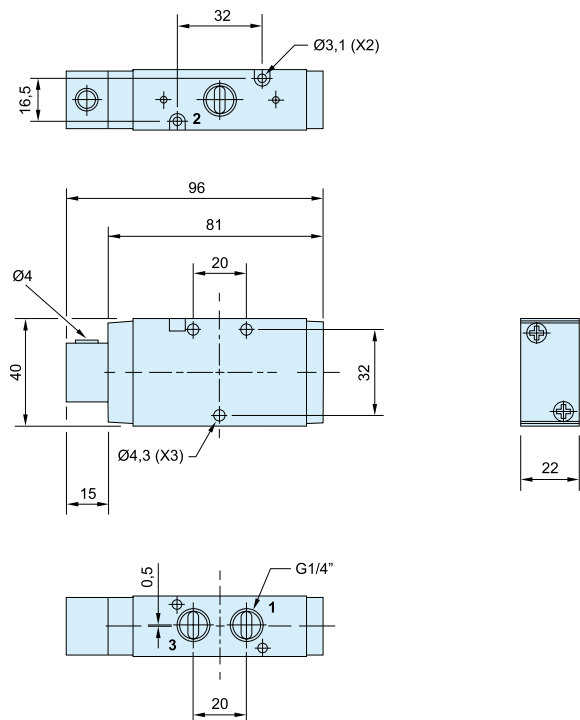
**P2LAZ 5/2  
 Solenoid / Spring**



**P2LBZ 3/2  
 Air / Air**



**P2LBZ 3/2  
 Air / Spring**

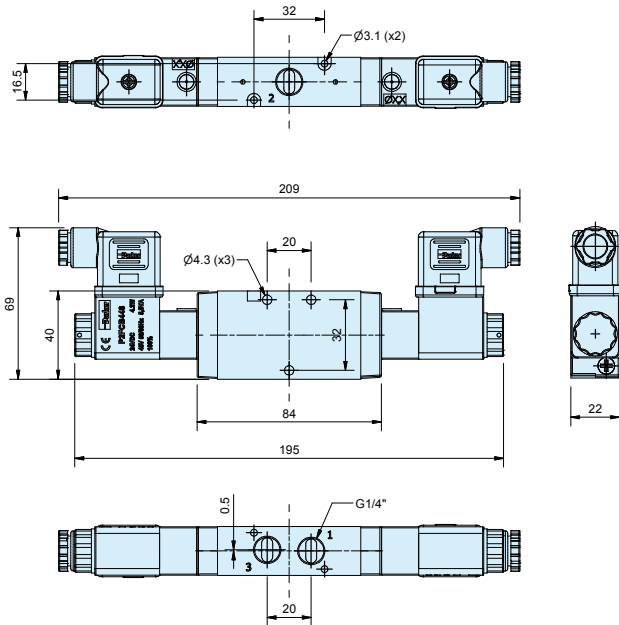


**Solenoid valves**

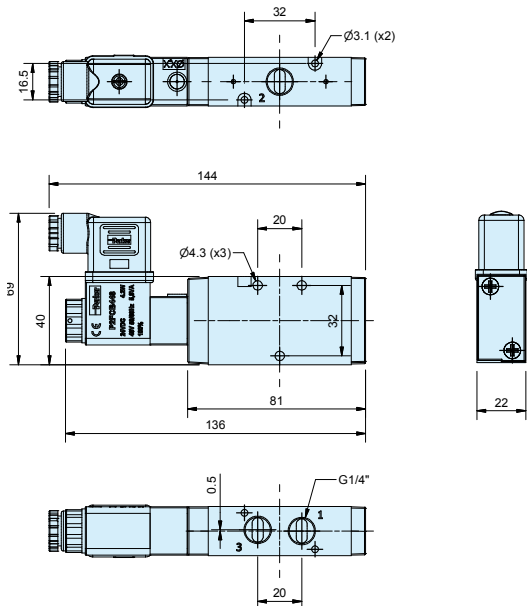
Solenoid valves and cable plugs must be ordered separately. One pilot valve is required for each E (NDCN only) in the valve order code.

Dimensions

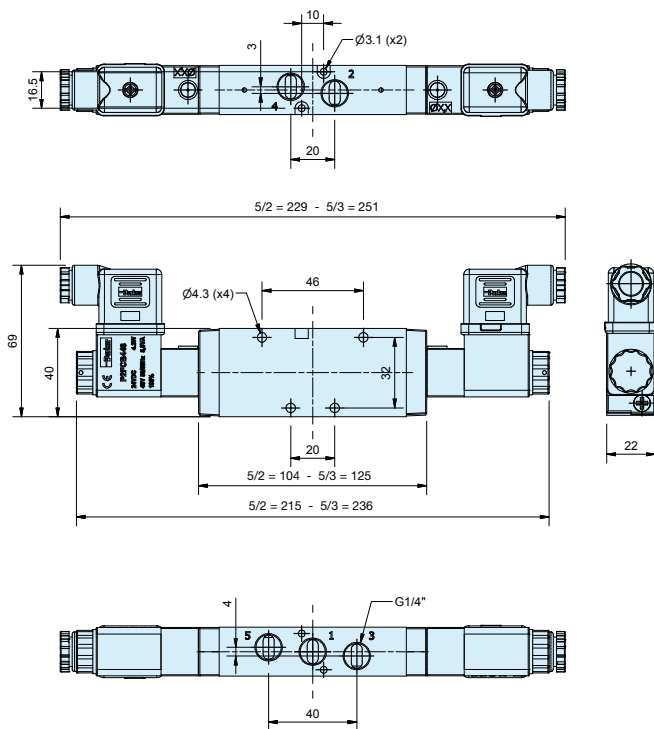
P2LBZ 3/2  
Solenoid / Solenoid



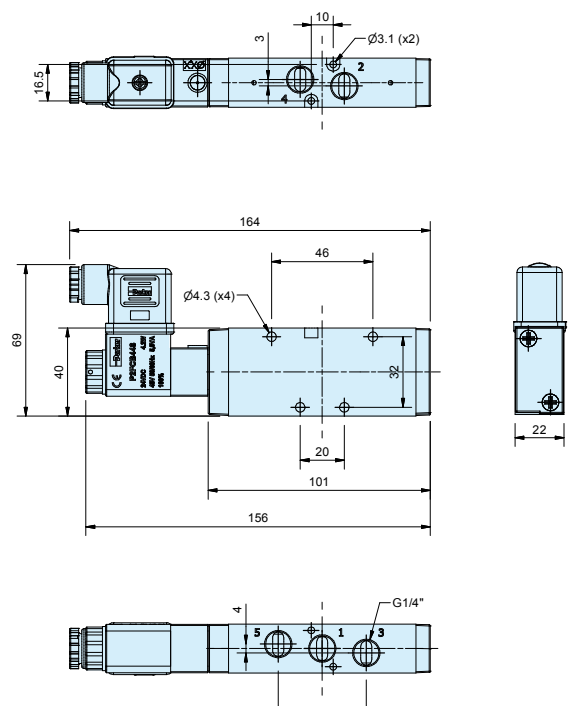
P2LBZ 3/2  
Solenoid / Spring



P2LBZ 5/2 and 5/3  
Solenoid / Solenoid



P2LBZ 5/2  
Solenoid / Spring

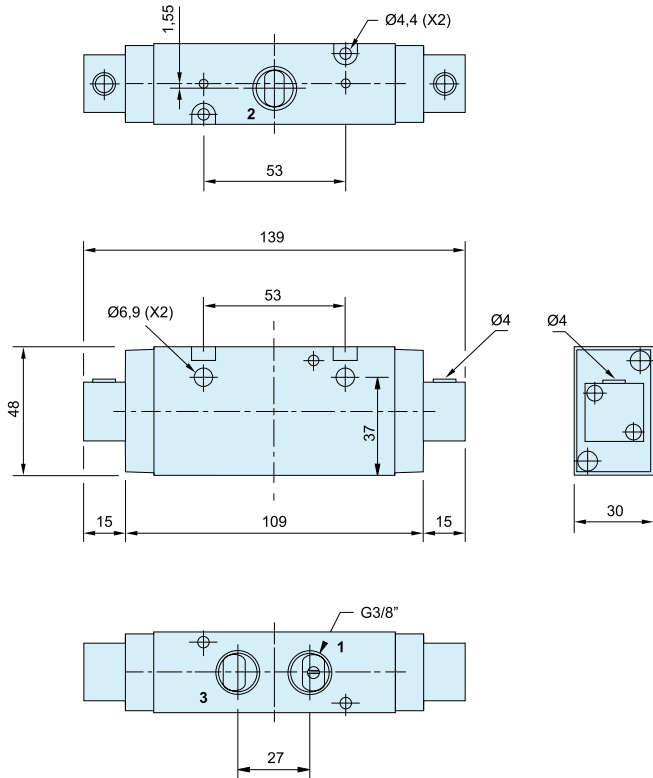


**Solenoid valves**

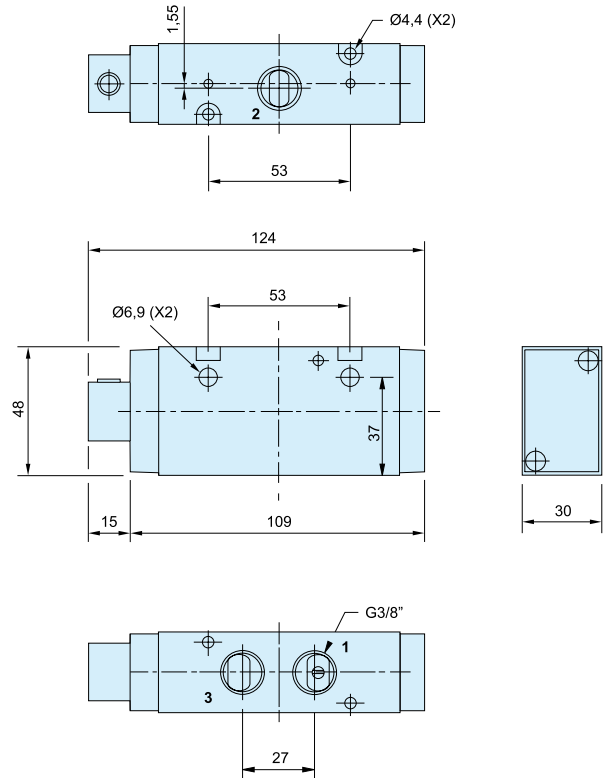
Solenoid valves and cable plugs must be ordered separately. One pilot valve is required for each E (NDCN only) in the valve order code.

**Dimensions**

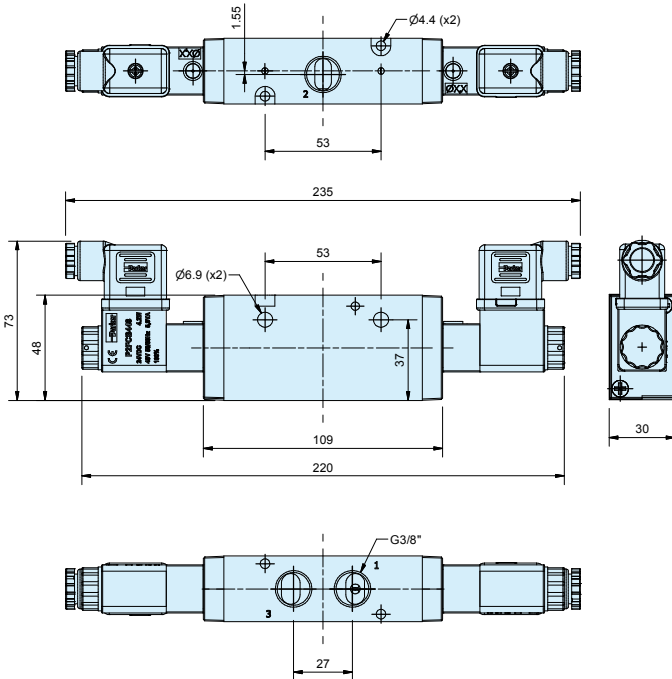
**P2LCZ 3/2**  
 Air / Air



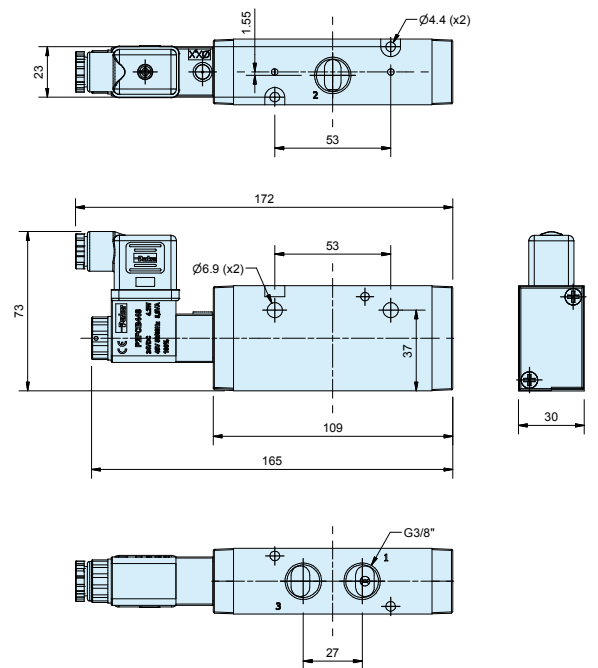
**P2LCZ 3/2**  
 Air / Spring



**P2LCZ 3/2**  
 Solenoid / Solenoid



**P2LCZ 3/2**  
 Solenoid / Spring

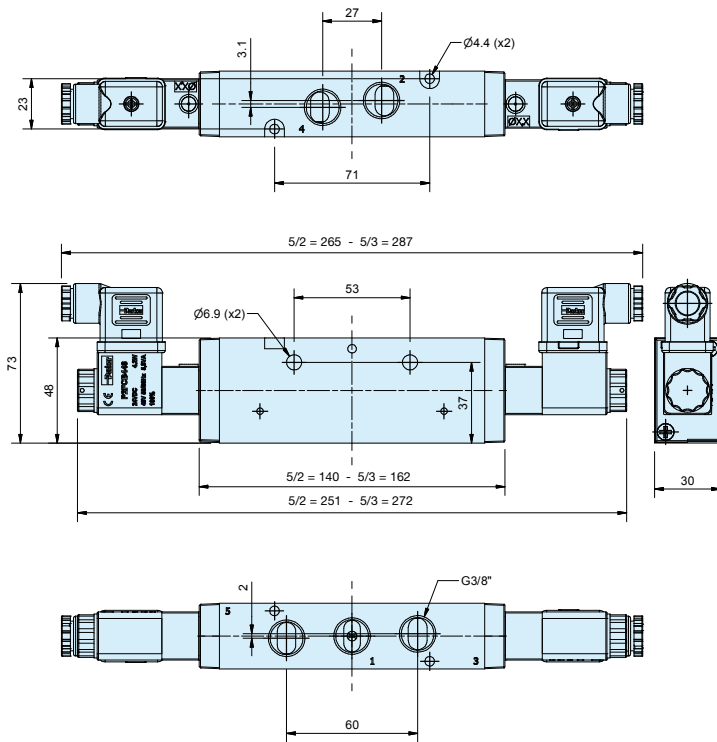


**Solenoid valves**

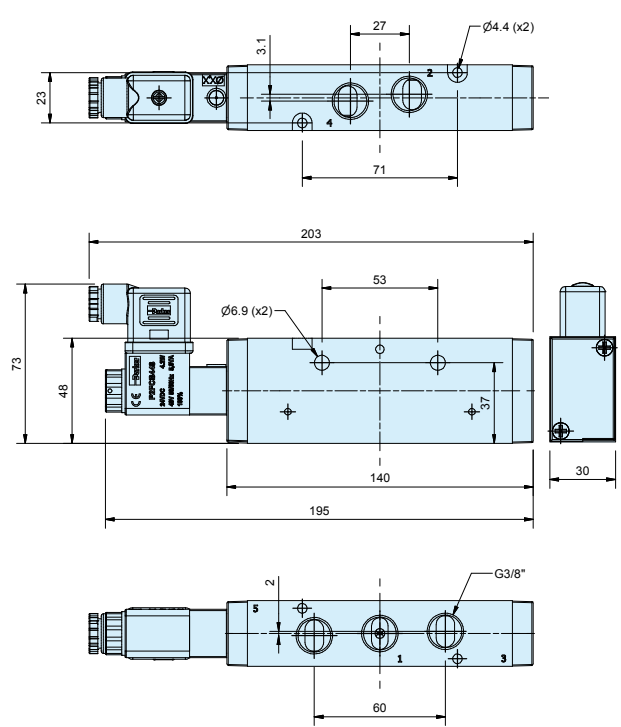
Solenoid valves and cable plugs must be ordered separately. One pilot valve is required for each E (NDCN only) in the valve order code.

**Dimensions**

**P2LCZ 5/2 and 5/3  
 Solenoid / Solenoid**





**P2LCZ 5/2  
 Solenoid / Spring**



**Solenoid valves**

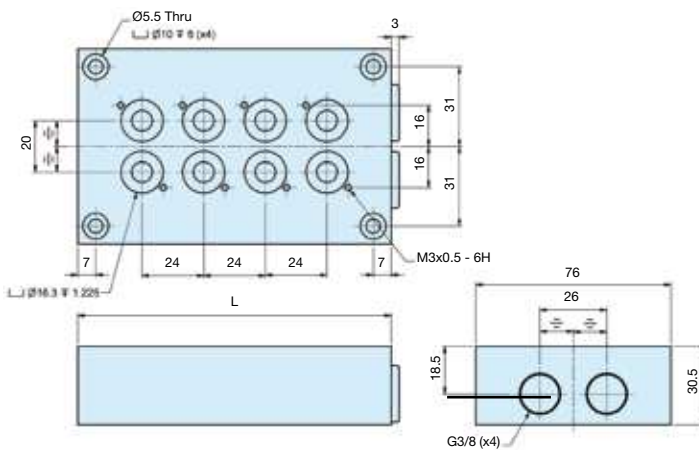
Solenoid valves and cable plugs must be ordered separately. One pilot valve is required for each E (NDCN only) in the valve order code.



Accessories	Type P2LA / P2LB 3/2 valves	Weight kg	Order code
	<b>Manifold bar, P2LB</b> incl. fasteners and O-ring. G3/8		
	For 2 valves	0,38	<b>91213202SXZ</b>
	For 4 valves	0,64	<b>91213204SXZ</b>
	For 6 valves	0,89	<b>91213206SXZ</b>
	For 8 valves	1,15	<b>91213208SXZ</b>
	For 10 valves	1,40	<b>91213210SXZ</b>
	<b>Blanking plate</b> for Manifold bar	0,10	<b>912132BPSXZ</b>

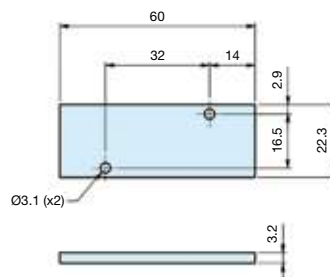
## Dimensions








### Manifold bar



No. of valves	L mm
2	74
4	122
6	170
8	218
10	266

### Blanking plate for manifold bar, P2LB

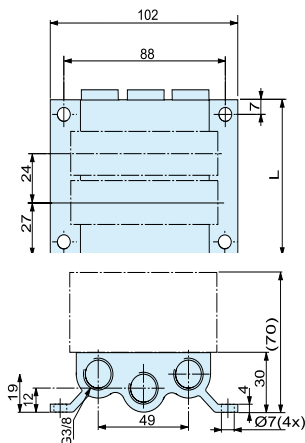


Accessories	Type P2LA 5/2 valves	Weight kg	Order code
	<b>Manifold bar, P2LA</b> including seals, mounting screws. G3/8 For 4 valves For 6 valves For 8 valves For 10 valves For 12 valves For 14 valves	0,48 0,63 0,80 0,98 1,10 1,23	<b>9121658075</b> <b>9121658076</b> <b>9121658077</b> <b>9121658078</b> <b>9121658079</b> <b>9121658099</b>
	<b>Blanking plate, P2LA</b> for Manifold bar	0,05	<b>9121658063</b>
	<b>Pressure bar, P2LA</b> for common air supply incl. O-rings and mounting screws. G1/4 For 2 valves For 4 valves For 6 valves For 8 valves	0,13 0,20 0,26 0,33	<b>9121658070</b> <b>9121658071</b> <b>9121658072</b> <b>9121658073</b>
	<b>Blanking plate, P2LA</b> for Pressure bar	0,05	<b>9121658074</b>
	<b>Assembly screws, P2LA</b> in stainless steel for valve	0,02	<b>9121658043</b>
	<b>Assembly screws, P2LA</b> in stainless steel for blanking plate	0,01	<b>9121658044</b>
	<b>O-ring kit, P2LA</b> O-rings between valve and manifold bar/Pressure bar	0,01	<b>9121658046</b>

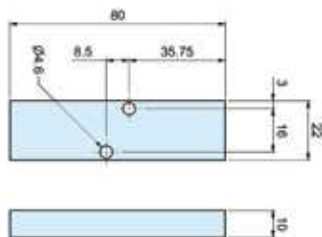
Dimensions

Manifold bar, P2LA

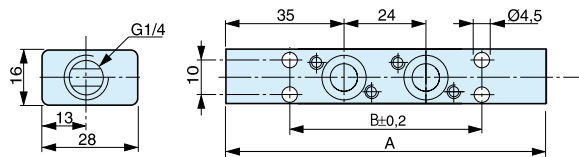
No. of valves	L mm
4	126
6	174
8	222
10	270
12	318
14	366



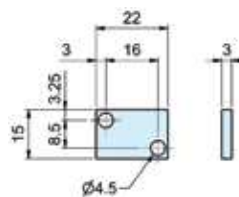
Blanking plate for manifold bar, P2LA







Pressure bar, P2LA



Blanking plate for pressure bar, P2LA

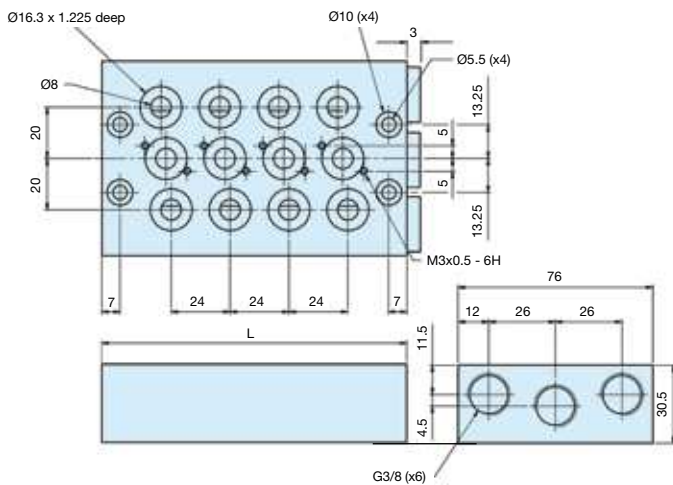


No. of valves	A mm	B mm
2	94	56
4	142	104
6	190	152
8	238	200

Accessories	Type P2LB 5/2 valves	Weight kg	Order code
	<b>Manifold bar, P2LB</b> incl. fasteners and O-ring. G3/8 For 2 valves For 4 valves For 6 valves For 8 valves For 10 valves	0,69 1,13 1,56 2,00 2,45	<b>9121594805X</b> <b>9121594806X</b> <b>9121594807X</b> <b>9121594808X</b> <b>9121594812X</b>
	<b>Blanking plate, P2LB</b> for Manifold bar	0,10	<b>9121594809X</b>
	<b>Pressure bar, P2LB</b> for common air supply incl. O-rings and mounting screws. G3/8 For 2 valves For 4 valves For 6 valves For 8 valves For 10 valves	0,38 0,53 0,68 0,83 0,99	<b>9127113301X</b> <b>9127113302X</b> <b>9127113303X</b> <b>9127113304X</b> <b>9127113305X</b>
	<b>Blanking plate P2LB</b> for Pressure bar. G1/4	0,02	<b>9127113306X</b>

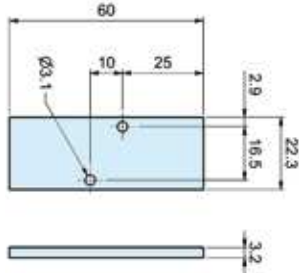
**Dimensions**

**Manifold bar, P2LB**

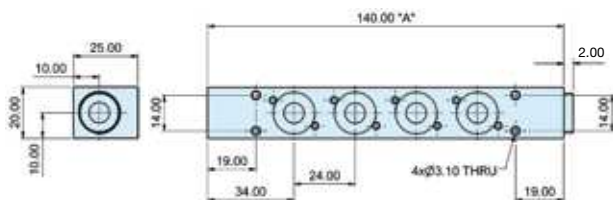


No. of valves	L mm
2	74
4	122
6	170
8	218
10	266

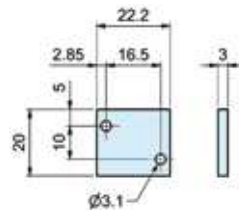
**Blanking plate for manifold bar, P2LB**



**Pressure bar, P2LB**



**Blanking plate for pressure bar, P2LB**



No. of valves	A mm
2	92
4	140
6	188
8	236
10	284

**22mm solenoid operator part numbers and spares**

**Solenoid coils for 22mm solenoid operators**

Voltage	Weight (Kg)	Order code Form B
12V 60Hz	0.093	<b>P2FCB340</b>
24V 50/60Hz	0.093	<b>P2FCB342</b>
12V DC	0.093	<b>P2FCB345</b>
24V DC	0.093	<b>P2FCB349</b>
48V DC	0.093	<b>P2FCB351</b>
110V/50Hz, 120V/60Hz	0.093	<b>P2FCB353</b>
230V/50Hz, 230V/60Hz	0.093	<b>P2FCB357</b>

**Spare Solenoid Nuts**



**Valves requiring captured exhaust should be fitted with plastic knurled nut**

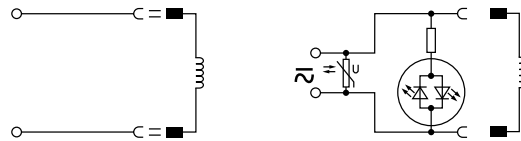
Order code
<b>P2FNP</b>

**Valves with vented exhaust are fitted with diffuser plastic nut**

Order Code
<b>P2FND</b>

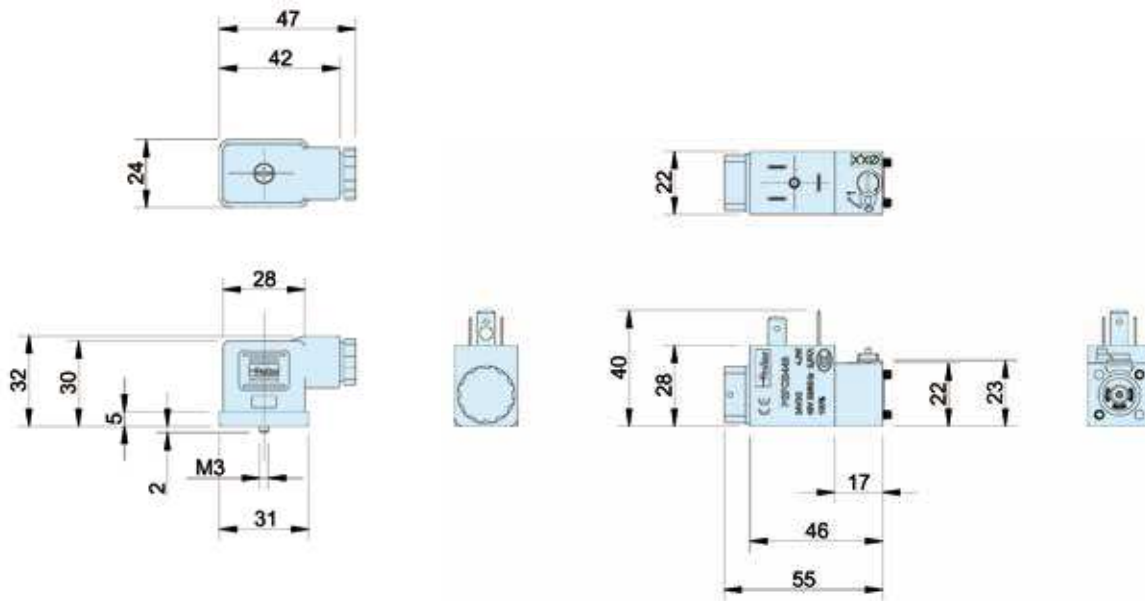
**Solenoid Connectors / Cable Plugs EN175301-803**

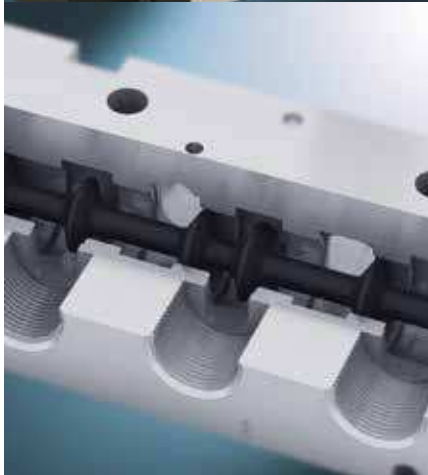
	Description	Order code 22mm Industrial Form B
With standard screw	Standard IP65 without flying lead	<b>3EV10V10</b>
	With LED and protection 24V AC/DC	<b>3EV10V20-24</b>
	With LED and protection 110V AC	<b>3EV10V20-110</b>
	With LED and protection 230V AC	<b>3EV10V20-230</b>
With cable	24V AC/DC, 5m cable LED and protection IP65	<b>3EV10V20-24L5</b>
	110V AC/DC, 5m cable LED and protection IP65	<b>3EV10V20-110L5</b>
	230V AC, 5m cable LED and protection IP65	<b>3EV10V20-230L5</b>



<b>3EV10V10</b>	<b>3EV10V20-24</b>	<b>3EV10V20-24L5</b>
	<b>3EV10V20-110</b>	<b>3EV10V20-110L5</b>
	<b>3EV10V20-230</b>	<b>3EV10V20-230L5</b>

**Cable Plug Dimensions (mm)**





# Viking Xtreme

High performance directional control valves  
G1/8 - G1/2 body ported



## Extreme Environments

*Demand The **Viking Xtreme***

The Viking Xtreme valve range is robust, versatile and combines high performance with compact installation dimensions. Large flow capacity, short change-over times and low change-over pressure are important characteristics of this valve range.

The 1/8 & 1/4 sizes are designed to operate with pressures up to 16 bar and the 3/8 & 1/2 sizes up to 12 bar, in ambient temperatures -40°C to + 60°C when fitted with suitable solenoid operators.

The Viking Xtreme valve range is robust, versatile and combines high performance with compact installation dimensions. Large flow capacity, short change-over times and low change-over pressure are important characteristics of this valve range.

- 4 sizes: G1/8, G1/4, G3/8 and G1/2.
- Wide operating temperature range
- Compact design with good corrosion resistance.
- Wide range of 3/2, 5/2 and 5/3 versions.
- High and low temperature versions available for transport applications.
- Lever operated version.
- Twist operated version.



**Operating information**

	<b>P2L-AX</b>	<b>P2L-BX</b>	<b>P2L-CX</b>	<b>P2L-DX</b>
Working pressure:	16 bar	16 bar	12 bar	12 bar
Working temperature, standard				
Air pilot solenoid	-40 °C to +60 °C			
Standard and food version	-10 °C to +50 °C			
Mobile & Lever operated version	-40 °C to +60 °C			
Flow (Qmax);	<b>P2L-AX</b>	<b>P2L-BX</b>	<b>P2L-CX</b>	<b>P2L-DX</b>
	19,0 l/s	38,0 l/s	72,0 l/s	78,0 l/s

For more information see [www.parker.com/euro\\_pneumatic](http://www.parker.com/euro_pneumatic)



**For ATEX specific products contact Sales Office**

**Pneumatically actuated 3/2, 5/2 and 5/3 valves**

Symbol	Size	Actuator	Return	Order code
<b>3/2 valves, temperature -40°C to +60°C</b>				
	G1/8	Air pilot	Air pilot	<b>P2LAX311PP</b>
	G1/4			<b>P2LBX312PP</b>
	G3/8			<b>P2LCX313PP</b>
	G1/2			<b>P2LDX314PP</b>
	G1/8	Air pilot	Spring	<b>P2LAX311PS</b>
	G1/4			<b>P2LBX312PS</b>
	G3/8			<b>P2LCX313PS</b>
	G1/2			<b>P2LDX314PS</b>
<b>5/2 valves, temperature -40°C to +60°C</b>				
	G1/8	Air pilot	Air pilot	<b>P2LAX511PP</b>
	G1/4			<b>P2LBX512PP</b>
	G3/8			<b>P2LCX513PP</b>
	G1/2			<b>P2LDX514PP</b>
	G1/8	Air pilot	Spring	<b>P2LAX511PS</b>
	G1/4			<b>P2LBX512PS</b>
	G3/8			<b>P2LCX513PS</b>
	G1/2			<b>P2LDX514PS</b>

Symbol	Size	Actuator	Return	Order code
<b>5/3 valves, temperature -40°C to +60°C</b>				
	G1/8	Air pilot	Air pilot	<b>P2LAX611PP</b>
	G1/4	Closed	Self	<b>P2LBX612PP</b>
	G3/8	centre	centring	<b>P2LCX613PP</b>
	G1/2			<b>P2LDX614PP</b>
	G1/8	Air pilot	Air pilot	<b>P2LAX811PP</b>
	G1/4	Vented	Self	<b>P2LBX812PP</b>
	G3/8	centre	centring	<b>P2LCX813PP</b>
	G1/2			<b>P2LDX814PP</b>
	G1/8	Air pilot	Air pilot	<b>P2LAX711PP</b>
	G1/4	Pressure	Self	<b>P2LBX712PP</b>
	G3/8	centre	centring	<b>P2LCX713PP</b>
	G1/2			<b>P2LDX714PP</b>

**Electrically actuated 3/2, 5/2 and 5/3 valves - 15mm solenoid**

Symbol	Size	Actuator	Return	Order code 15mm solenoid with 24 VDC sol	Order code without 15mm solenoid
<b>3/2 valves, internal air, standard temperature</b>					
	G1/8	Solenoid	Solenoid	P2LAX311EENXB549	P2LAX311EENXXX
	G1/4			P2LBX312EENXB549	P2LBX312EENXXX
	G3/8			P2LCX313EENXB549	P2LCX313EENXXX
	G1/2			P2LDX314EENXB549	P2LDX314EENXXX
	G1/8	Solenoid	Spring	P2LAX311ESNXB549	P2LAX311ESNXXX
	G1/4			P2LBX312ESNXB549	P2LBX312ESNXXX
	G3/8			P2LCX313ESNXB549	P2LCX313ESNXXX
	G1/2			P2LDX314ESNXB549	P2LDX314ESNXXX
<b>5/2 valves, internal air, standard temperature</b>					
	G1/8	Solenoid	Solenoid	P2LAX511EENXB549	P2LAX511EENXXX
	G1/4			P2LBX512EENXB549	P2LBX512EENXXX
	G3/8			P2LCX513EENXB549	P2LCX513EENXXX
	G1/2			P2LDX514EENXB549	P2LDX514EENXXX
	G1/8	Solenoid	Spring	P2LAX511ESNXB549	P2LAX511ESNXXX
	G1/4			P2LBX512ESNXB549	P2LBX512ESNXXX
	G3/8			P2LCX513ESNXB549	P2LCX513ESNXXX
	G1/2			P2LDX514ESNXB549	P2LDX514ESNXXX
<b>5/3 valves, internal air, standard temperature</b>					
	G1/8	Solenoid	Solenoid	P2LAX611EENXB549	P2LAX611EENXXX
	G1/4	Closed	Self	P2LBX612EENXB549	P2LBX612EENXXX
	G3/8	centre	centring	P2LCX613EENXB549	P2LCX613EENXXX
	G1/2			P2LDX614EENXB549	P2LDX614EENXXX
	G1/8	Solenoid	Solenoid	P2LAX811EENXB549	P2LAX811EENXXX
	G1/4	Vented	Self	P2LBX812EENXB549	P2LBX812EENXXX
	G3/8	centre	centring	P2LCX813EENXB549	P2LCX813EENXXX
	G1/2			P2LDX814EENXB549	P2LDX814EENXXX
	G1/8	Solenoid	Solenoid	P2LAX711EENXB549	P2LAX711EENXXX
	G1/4	Pressure	Self	P2LBX712EENXB549	P2LBX712EENXXX
	G3/8	centre	centring	P2LCX713EENXB549	P2LCX713EENXXX
	G1/2			P2LDX714EENXB549	P2LDX714EENXXX

**Electrically actuated 3/2, 5/2 and 5/3 valves - 22mm solenoid**

Symbol	Size	Actuator	Return	Order code 22mm solenoid 24 VDC	Order code Without solenoid coil
<b>3/2 valves, internal air, standard temperature</b>					
	G1/8	Solenoid	Solenoid	P2LAX311EENDDB49	P2LAX311EENDDN
	G1/4			P2LBX312EENDDB49	P2LBX312EENDDN
	G3/8			P2LCX313EENDDB49	P2LCX313EENDDN
	G1/2			P2LDX314EENDDB49	P2LDX314EENDDN
	G1/8	Solenoid	Spring	P2LAX311ESNDDDB49	P2LAX311ESNDDDN
	G1/4			P2LBX312ESNDDDB49	P2LBX312ESNDDDN
	G3/8			P2LCX313ESNDDDB49	P2LCX313ESNDDDN
	G1/2			P2LDX314ESNDDDB49	P2LDX314ESNDDDN
<b>5/2 valves, internal air, standard temperature</b>					
	G1/8	Solenoid	Solenoid	P2LAX511EENDDB49	P2LAX511EENDDN
	G1/4			P2LBX512EENDDB49	P2LBX512EENDDN
	G3/8			P2LCX513EENDDB49	P2LCX513EENDDN
	G1/2			P2LDX514EENDDB49	P2LDX514EENDDN
	G1/8	Solenoid	Spring	P2LAX511ESNDDDB49	P2LAX511ESNDDDN
	G1/4			P2LBX512ESNDDDB49	P2LBX512ESNDDDN
	G3/8			P2LCX513ESNDDDB49	P2LCX513ESNDDDN
	G1/2			P2LDX514ESNDDDB49	P2LDX514ESNDDDN
<b>5/3 valves, internal air, standard temperature</b>					
	G1/8	Solenoid	Solenoid	P2LAX611EENDDB49	P2LAX611EENDDN
	G1/4	Closed	Self	P2LBX612EENDDB49	P2LBX612EENDDN
	G3/8	centre	centring	P2LCX613EENDDB49	P2LCX613EENDDN
	G1/2			P2LDX614EENDDB49	P2LDX614EENDDN
	G1/8	Solenoid	Solenoid	P2LAX811EENDDB49	P2LAX811EENDDN
	G1/4	Vented	Self	P2LBX812EENDDB49	P2LBX812EENDDN
	G3/8	centre	centring	P2LCX813EENDDB49	P2LCX813EENDDN
	G1/2			P2LDX814EENDDB49	P2LDX814EENDDN
	G1/8	Solenoid	Solenoid	P2LAX711EENDDB49	P2LAX711EENDDN
	G1/4	Pressure	Self	P2LBX712EENDDB49	P2LBX712EENDDN
	G3/8	centre	centring	P2LCX713EENDDB49	P2LCX713EENDDN
	G1/2			P2LDX714EENDDB49	P2LDX714EENDDN

## Electrically actuated 3/2, 5/2 and 5/3 - Xtreme duty 16 bar - 40°C to +60°C.

P2LAX/P2LBX 16 bar and P2LCX/P2LDX 12 bar

Symbol	Size	Actuator	Return	Order code 22mm solenoid 24 VDC	Order code Without solenoid coil
<b>3/2 valves, internal air, low temperature</b>					
	G1/8	Solenoid	Solenoid	<b>P2LAX311EEHDDDB49</b>	<b>P2LAX311EEHDDN</b>
	G1/4		Low temp.	<b>P2LBX312EEHDDDB49</b>	<b>P2LBX312EEHDDN</b>
	G3/8			<b>P2LCX313EEHDDDB49</b>	<b>P2LCX313EEHDDN</b>
	G1/2			<b>P2LDX314EEHDDDB49</b>	<b>P2LDX314EEHDDN</b>
	G1/8	Solenoid	Spring	<b>P2LAX311ESHDDDB49</b>	<b>P2LAX311ESHDDN</b>
	G1/4		Low temp.	<b>P2LBX312ESHDDDB49</b>	<b>P2LBX312ESHDDN</b>
	G3/8			<b>P2LCX313ESHDDDB49</b>	<b>P2LCX313ESHDDN</b>
	G1/2			<b>P2LDX314ESHDDDB49</b>	<b>P2LDX314ESHDDN</b>
<b>5/2 valves, internal air, low temperature</b>					
	G1/8	Solenoid	Solenoid	<b>P2LAX511EEHDDDB49</b>	<b>P2LAX511EEHDDN</b>
	G1/4		Low temp.	<b>P2LBX512EEHDDDB49</b>	<b>P2LBX512EEHDDN</b>
	G3/8			<b>P2LCX513EEHDDDB49</b>	<b>P2LCX513EEHDDN</b>
	G1/2			<b>P2LDX514EEHDDDB49</b>	<b>P2LDX514EEHDDN</b>
	G1/8	Solenoid	Spring	<b>P2LAX511ESHDDDB49</b>	<b>P2LAX511ESHDDN</b>
	G1/4		Low temp.	<b>P2LBX512ESHDDDB49</b>	<b>P2LBX512ESHDDN</b>
	G3/8			<b>P2LCX513ESHDDDB49</b>	<b>P2LCX513ESHDDN</b>
	G1/2			<b>P2LDX514ESHDDDB49</b>	<b>P2LDX514ESHDDN</b>
<b>5/3 valves, internal air, low temperature</b>					
	G1/8	Solenoid	Solenoid	<b>P2LAX611EEHDDDB49</b>	<b>P2LAX611EEHDDN</b>
	G1/4	Closed	Self	<b>P2LBX612EEHDDDB49</b>	<b>P2LBX612EEHDDN</b>
	G3/8	centre	centring	<b>P2LCX613EEHDDDB49</b>	<b>P2LCX613EEHDDN</b>
	G1/2			<b>P2LDX614EEHDDDB49</b>	<b>P2LDX614EEHDDN</b>
	G1/8	Solenoid	Solenoid	<b>P2LAX811EEHDDDB49</b>	<b>P2LAX811EEHDDN</b>
	G1/4	Vented	Self	<b>P2LBX812EEHDDDB49</b>	<b>P2LBX812EEHDDN</b>
	G3/8	centre	centring	<b>P2LCX813EEHDDDB49</b>	<b>P2LCX813EEHDDN</b>
	G1/2			<b>P2LDX814EEHDDDB49</b>	<b>P2LDX814EEHDDN</b>
	G1/8	Solenoid	Solenoid	<b>P2LAX711EEHDDDB49</b>	<b>P2LAX711EEHDDN</b>
	G1/4	Pressure	Self	<b>P2LBX712EEHDDDB49</b>	<b>P2LBX712EEHDDN</b>
	G3/8	centre	centring	<b>P2LCX713EEHDDDB49</b>	<b>P2LCX713EEHDDN</b>
	G1/2			<b>P2LDX714EEHDDDB49</b>	<b>P2LDX714EEHDDN</b>

## Pneumatic twist operated valves - Xtreme operating pressure / temperature

Max operating pressure 16 bar (A &amp; B) 12 bar (C &amp; D). temp range -40°C to +60°C


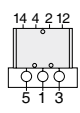

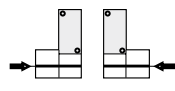

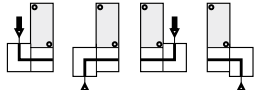

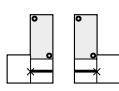

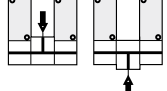

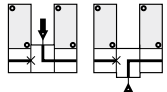


Symbol	Size	Actuation	Return	Changeover Angle	Order code
<b>3/2 valves, temperature -40°C to +60°C</b>					
	G1/4	Twist	Twist	45	<b>P2LBX312JJ</b>
<b>5/2 valves, temperature -40°C to +60°C</b>					
	G1/4	Twist	Twist	45	<b>P2LBX512JJ</b>
<b>5/3 valves, temperature -40°C to +60°C</b>					
	G1/4	Twist	Twist	54	<b>P2LBX71277</b>
	G1/4	Twist	Twist	54	<b>P2LBX61277</b>
	G1/4	Twist	Twist	54	<b>P2LBX81277</b>



**Lever operated directional control valves**

Max operating pressure 16 bar (A & B) 12 bar (C & D). temp range -40°C to +60°C





Symbol	Size	Actuation	Return	Changeover angle	Changeover Force	Type	Weight Kg	Order code
<b>3/2 valves, standard temperature / Low temperature, lever 90° to ports</b>								
	G1/8	Lever	Lever	20°	9 N	Std.	0,33	<b>P2LAX311VV</b>
	G1/4	Lever	Lever	20°	9 N	Std.	0,33	<b>P2LBX312VV</b>
	G3/8	Lever	Lever	32°	25 N	Std.	0,40	<b>P2LCX313VV</b>
	G1/2	Lever	Lever	32°	25 N	Std.	0,60	<b>P2LDX314VV</b>
	G1/8	Lever	Spring	20°	10N	Std.	0,33	<b>P2LAX311VS</b>
	G1/4	Lever	Spring	20°	10N	Std.	0,33	<b>P2LBX312VS</b>
	G3/8	Lever	Spring	32°	15 N	Std.	0,40	<b>P2LCX313VS</b>
	G1/2	Lever	Spring	32°	15 N	Std.	0,60	<b>P2LDX314VS</b>
<b>5/2 valves, standard temperature / Low temperature, lever 90° to ports</b>								
	G1/8	Lever	Lever	28°	9 N	Std.	0,18	<b>P2LAX511VV</b>
	G1/4	Lever	Lever	20°	9 N	Std.	0,33	<b>P2LBX512VV</b>
	G3/8	Lever	Lever	32°	25 N	Std.	0,40	<b>P2LCX513VV</b>
	G1/2	Lever	Lever	32°	25 N	Std.	0,60	<b>P2LDX514VV</b>
	G1/8	Lever	Spring	28°	10N	Std.	0,18	<b>P2LAX511VS</b>
	G1/4	Lever	Spring	20°	10N	Std.	0,33	<b>P2LBX512VS</b>
	G3/8	Lever	Spring	32°	15 N	Std.	0,40	<b>P2LCX513VS</b>
	G1/2	Lever	Spring	32°	15 N	Std.	0,60	<b>P2LDX514VS</b>
<b>5/3 valves, low temperature, lever 90° to ports</b>								
	G1/8	Lever	Lever	±14°	15 N	Std.	0,18	<b>P2LAX61122</b>
	G1/4	Closed centre position held in three positions		±12°	15 N	Std.	0,33	<b>P2LBX61222</b>
	G3/8		±16°	17 N	Std.	0,71	<b>P2LCX61322</b>	
	G1/2		±16°	17 N	Std.	0,73	<b>P2LDX61422</b>	
	G1/8	Lever	Lever	±14°	15 N	Std.	0,18	<b>P2LAX81122</b>
	G1/4	Exhausted centre position held in three positions		±12°	15 N	Std.	0,33	<b>P2LBX81222</b>
	G3/8		±16°	17 N	Std.	0,71	<b>P2LCX81322</b>	
	G1/2		±16°	17 N	Std.	0,73	<b>P2LDX81422</b>	
	G1/8	Lever	Lever	±14°	15 N	Std.	0,18	<b>P2LAX71122</b>
	G1/4	Pressure applied centre position held in three positions		±12°	15 N	Std.	0,33	<b>P2LBX71222</b>
	G3/8		±16°	17 N	Std.	0,71	<b>P2LCX71322</b>	
	G1/2		±16°	17 N	Std.	0,73	<b>P2LDX71422</b>	
	G1/8	Lever	Lever	±14°	16 N	Std.	0,18	<b>P2LAX61111</b>
	G1/4	Closed centre position Self centring		±12°	16 N	Std.	0,33	<b>P2LBX61211</b>
	G3/8		±16°	30 N	Std.	0,71	<b>P2LCX61311</b>	
	G1/2		±16°	30 N	Std.	0,73	<b>P2LDX61411</b>	
	G1/8	Lever	Lever	±14°	16 N	Std.	0,18	<b>P2LAX81111</b>
	G1/4	Exhausted centre position Self centring		±12°	16 N	Std.	0,33	<b>P2LBX81211</b>
	G3/8		±16°	30 N	Std.	0,71	<b>P2LCX81311</b>	
	G1/2		±16°	30 N	Std.	0,73	<b>P2LDX81411</b>	
	G1/8	Lever	Lever	±14°	16 N	Std.	0,18	<b>P2LAX71111</b>
	G1/4	Pressure applied centre position Self centring		±12°	16 N	Std.	0,33	<b>P2LBX71211</b>
	G3/8		±16°	30 N	Std.	0,71	<b>P2LCX71311</b>	
	G1/2		±16°	30 N	Std.	0,73	<b>P2LDX71411</b>	

Accessories P2LAX	Connection alternatives	Type	Weight kg	Order code
		<b>Multiple manifold</b> including seals, mounting screws, and guiding pins.	0,11	<b>9121658060</b>
		<b>Connection block S</b> including seals, mounting screws, and guiding pins. G1/4	0,15	<b>9121658064</b>
		<b>Connection block L</b> including seals, mounting screws, and guiding pins. G1/4	0,15	<b>9121658061</b>
		<b>End cover</b> including seals, mounting screws, and guiding pins.	0,16	<b>9121658066</b>
		<b>Intermediate block T</b> including seals, mounting screws, and guiding pins. G1/4	0,17	<b>9121658062</b>
		<b>Intermediate block L</b> including seals, mounting screws, and guiding pins. G1/4	0,17	<b>9121658065</b>
		<b>Blanking plate</b> including seals, mounting screws.	0,05	<b>9121658063</b>

**Accessories P2LAX**

Type	Weight kg	Order code
 <b>Manifold bar, P2LA</b> including seals, mounting screws. G3/8 For 4 valves 0,48 <b>9121658075</b> For 6 valves 0,63 <b>9121658076</b> For 8 valves 0,80 <b>9121658077</b> For 10 valves 0,98 <b>9121658078</b> For 12 valves 1,10 <b>9121658079</b> For 14 valves 1,23 <b>9121658099</b>		
 <b>Blanking plate, P2LA</b> for Manifold bar 0,05 <b>9121658063</b>		
 <b>Pressure bar, P2LA</b> for common air supply incl. O-rings and mounting screws. G1/4 For 2 valves 0,13 <b>9121658070</b> For 4 valves 0,20 <b>9121658071</b> For 6 valves 0,26 <b>9121658072</b> For 8 valves 0,33 <b>9121658073</b>		
 <b>Blanking plate, P2LA</b> for Pressure bar 0,05 <b>9121658074</b>		
 <b>Assembly screws, P2LA</b> in stainless steel for valve 0,02 <b>9121658043</b>		
 <b>Assembly screws, P2LA</b> in stainless steel for blanking plate 0,01 <b>9121658044</b>		
 <b>O-ring kit, P2LA</b> O-rings between valve and manifold bar/ Pressure bar 0,01 <b>9121658046</b>		

**Accessories P2LBX**

Type	Weight kg	Order code
 <b>Manifold bar, P2LB,</b> <b>(not for P2LB with</b> <b>external air supply</b> <b>to solenoid valves)</b> incl. fasteners and O-ring. G3/8 For 2 valves 0,69 <b>9121594805X</b> For 4 valves 1,13 <b>9121594806X</b> For 6 valves 1,56 <b>9121594807X</b> For 8 valves 2,00 <b>9121594808X</b> For 10 valves 2,45 <b>9121594812X</b>		
 <b>Blanking plate, P2LB</b> for Manifold bar 0,10 <b>9121594809X</b>		
 <b>Pressure bar, P2LB</b> for common air supply incl. O-rings and banjo-bolts. G3/8 For 2 valves 0,38 <b>9127113301X</b> For 4 valves 0,53 <b>9127113302X</b> For 6 valves 0,68 <b>9127113303X</b> For 8 valves 0,83 <b>9127113304X</b> For 10 valves 0,99 <b>9127113305X</b>		
 <b>Blanking plug, P2LB</b> for Pressure bar. G1/4 0,02 <b>9127113306X</b>		

## 22mm solenoid operator part numbers and spares

### Solenoid coils for 22mm solenoid operators

Voltage	Order code Form A	Weight (Kg)	Order code Form B	Weight (Kg)
12V 60Hz			<b>P2FCB440</b>	0.093
24V 50/60Hz			<b>P2FCB442</b>	0.093
12V DC			<b>P2FCB445</b>	0.093
12V DC Mobile	<b>P2FCA447</b>	0.17	<b>P2FCB447</b>	0.093
24v DC Mobile	<b>P2FCA448</b>	0.17	<b>P2FCB448</b>	0.093
24V DC			<b>P2FCB449</b>	0.093
24V DC Low power			<b>P2FCB249</b>	0.093
48V DC			<b>P2FCB451</b>	0.093
110V/50Hz, 120V/60Hz			<b>P2FCB453</b>	0.093
230V/50Hz, 230V/60Hz			<b>P2FCB457</b>	0.093

**Note:** Mobile solenoids are only suitable for Viking Xtreme valves with 'H' specification having 0,8/1,0 operator type P2FP13H4D

### Spare Solenoid Nuts

Valves requiring captured exhaust should be fitted with plastic knurled nut

Order code
<b>P2FNP</b>

Valves with vented exhaust are fitted with diffuser plastic nut

Order code
<b>P2FND</b>

### Spare Solenoid Operators

**Solenoid pilot operator 22mm NC, Normal duty**  
(Max Operating pressure 10bar, Temp -10°C to +50°C)

Order code (with locking bi-stable m/o)	Weight Kg	Order code (with Non-locking monostable m/o)	Weight Kg
<b>P2FP13N4C</b>	0.05kg	<b>P2FP13N4D</b>	0.05kg

**Low power pilot operator NC, Normal duty**  
(Max Operating pressure 10bar, Temp -10°C to +50°C)

Order code (with locking bi-stable m/o)	Weight Kg	Order code (with Non-locking monostable m/o)	Weight Kg
<b>P2FP13N2C</b>	0.05kg	<b>P2FP13N2D</b>	0.05kg

**Solenoid pilot operator 22mm NC, Xtreme duty**  
(Max Operating pressure 16bar, Temp -40°C to +60°C)

Order code (with Non-locking monostable m/o)	Weight Kg
<b>P2FP13H4D</b>	0.05kg

**Note.**

Solenoid pilot operators are fitted to the Viking valve range. Order the above part numbers for spares. The operators are supplied with mounting screws and interface 'O' rings.

**Coils and connectors must be ordered separately.**

### Solenoid Operators - Electrical connection EN175301-803 C/ISO15217 (Ex DIN 43650C)

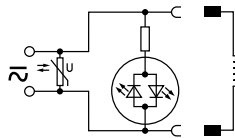
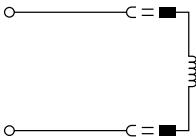
#### Solenoids 15 mm NC, standard

Voltage	Weight Kg	Order code		Weight Kg	Order code		Weight Kg	Order code	
		Without manual override			Override, blue, non locking flush			Override, yellow, locking flush	
12 VDC	0,038	<b>P2E-KV32B0</b>	Ⓛ	0,038	<b>P2E-KV32B1</b>	Ⓛ	0,038	<b>P2E-KV32B2</b>	Ⓛ
24 VDC	0,038	<b>P2E-KV32D0</b>	Ⓛ	0,038	<b>P2E-KV32D1</b>	Ⓛ	0,038	<b>P2E-KV32D2</b>	Ⓛ
48 VDC	0,038	<b>P2E-KV31C0</b>	Ⓛ	0,038	<b>P2E-KV31C1</b>	Ⓛ	0,038	<b>P2E-KV31C2</b>	Ⓛ
24 VAC 50Hz	0,038	<b>P2E-KV34D0</b>	Ⓛ	0,038	<b>P2E-KV34D1</b>	Ⓛ	0,038	<b>P2E-KV34D2</b>	Ⓛ
48 VAC 50/60Hz	0,038	<b>P2E-KV31F0</b>	Ⓛ	0,038	<b>P2E-KV31F1</b>	Ⓛ	0,038	<b>P2E-KV31F2</b>	Ⓛ
115 VAC 50Hz/ 120 VAC 60Hz	0,038								
230 VAC 50Hz/ 240 VAC 60Hz	0,038	<b>P2E-KV31J0</b>	Ⓛ	0,038	<b>P2E-KV31J1</b>	Ⓛ	0,038	<b>P2E-KV31J2</b>	Ⓛ

In accordance with the EU Machine Directive, EN 983, solenoid valves with manual override should have spring-return operating arms for safety.

**Solenoid Connectors / Cable Plugs EN175301-803**

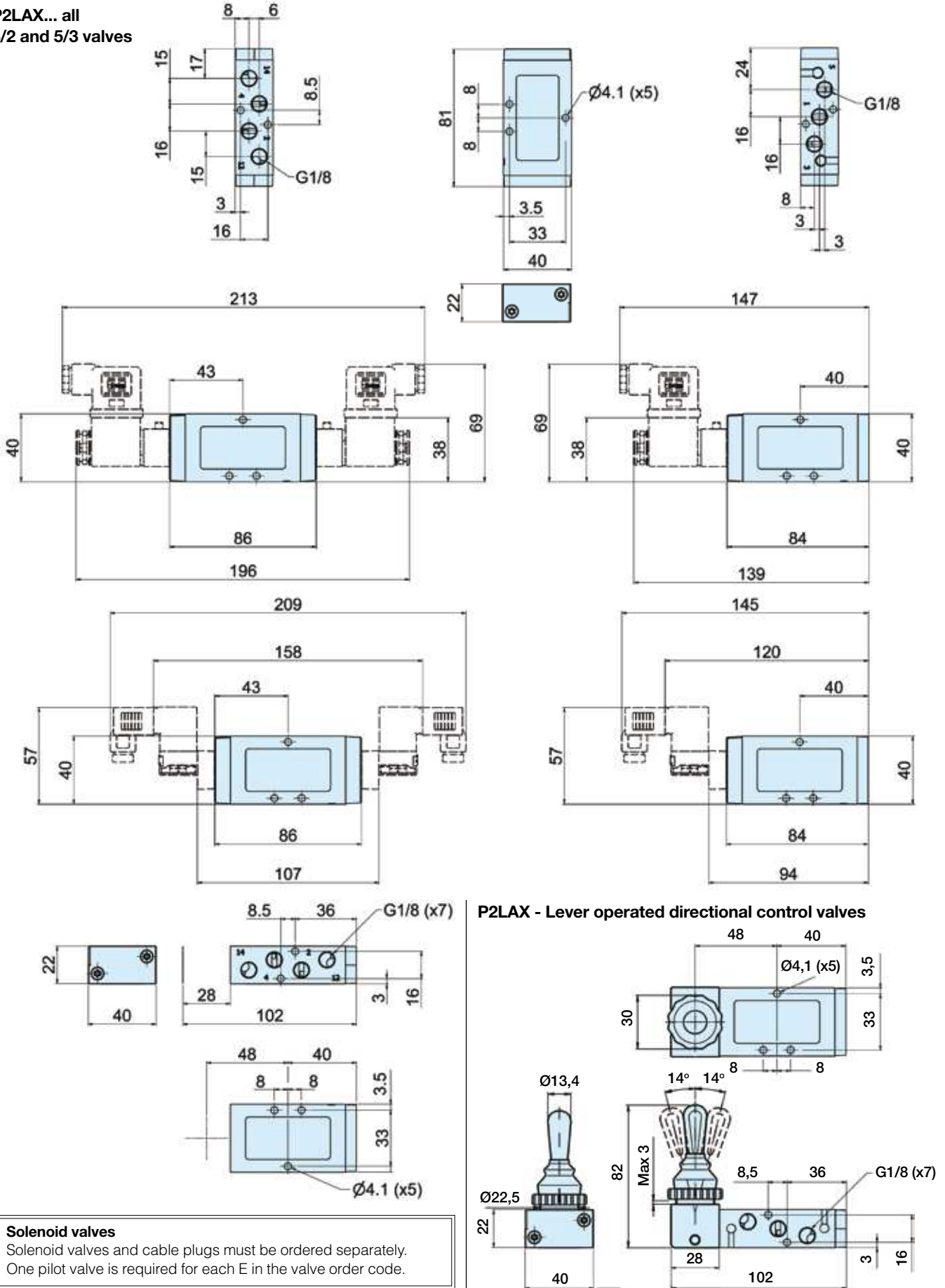
	Description	Order code 15mm Form C/ISO15217	Order code 22mm Industrial Form B
With large headed screw suitable for mounting in inaccessible or recess position 	Standard IP65	<b>P8C-C</b>	
	24V DC LED and protection IP65	<b>P8C-C26C</b>	
	110V AC LED and protection IP65	<b>P8C-C21E</b>	
With standard screw 	Standard IP65 without flying lead	<b>P8C-D</b>	<b>3EV10V10</b>
	With LED and protection 24V AC/DC	<b>P8C-D26C</b>	<b>3EV10V20-24</b>
	With LED and protection 110V AC	<b>P8C-D21E</b>	<b>3EV10V20-110</b>
	With LED and protection 230V AC		<b>3EV10V20-230</b>
With cable 	Standard with 2m cable IP65	<b>P8L-C2</b>	
	Standard with 5m cable IP65	<b>P8L-C5</b>	
	24V AC/DC, 2m cable LED and protection IP65	<b>P8L-C226C</b>	
	24V AC/DC, 5m cable LED and protection IP65	<b>P8L-C526C</b>	<b>3EV10V20-24L5</b>
	24V AC/DC, 10m cable LED and protection IP65	<b>P8L-CA26C</b>	
	110V AC/DC, 2m cable LED and protection IP65	<b>P8L-C221E</b>	
	110V AC/DC, 5m cable LED and protection IP65	<b>P8L-C521E</b>	<b>3EV10V20-110L5</b>
	230V AC, 5m cable LED and protection IP65		<b>3EV10V20-230L5</b>



<b>P8C-C</b>	<b>P8C-D26C</b>	<b>P8L-C226C</b>
<b>P8C-D</b>	<b>P8C-D21E</b>	<b>P8L-C526C</b>
<b>P8L-C2</b>	<b>P8C-C26C</b>	<b>P8L-CA26C</b>
<b>P8L-C5</b>	<b>P8C-C21E</b>	<b>P8L-C221E</b>
<b>3EV10V10</b>		<b>P8L-C521E</b>
<b>3EV290V10</b>	<b>3EV10V20-24</b>	<b>3EV10V20-24L5</b>
	<b>3EV10V20-110</b>	<b>3EV10V20-110L5</b>
	<b>3EV10V20-230</b>	<b>3EV10V20-230L5</b>

**Dimensions**

P2LAX... all  
5/2 and 5/3 valves



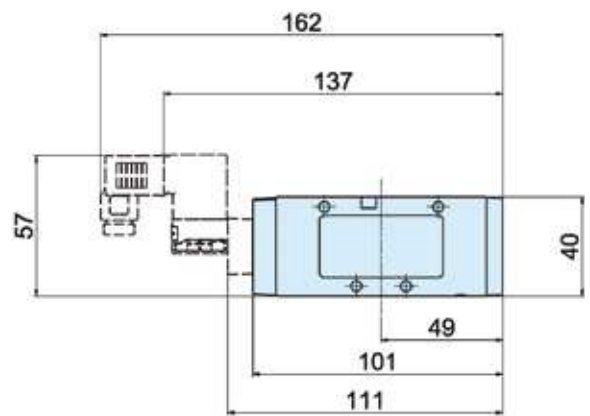
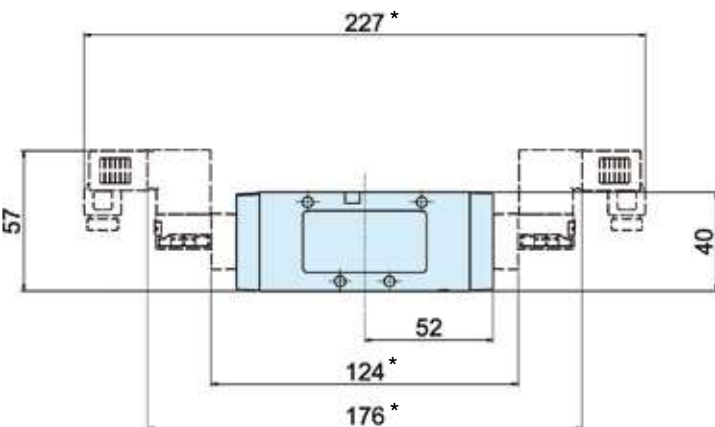
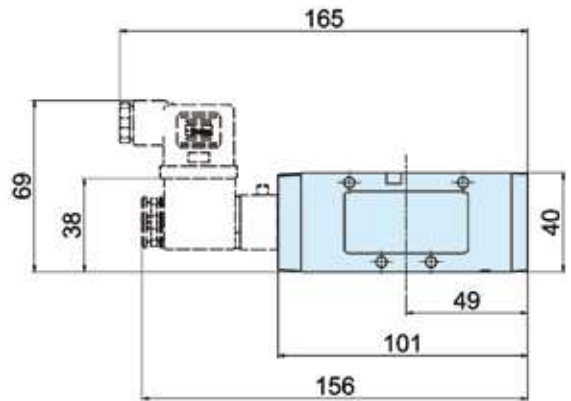
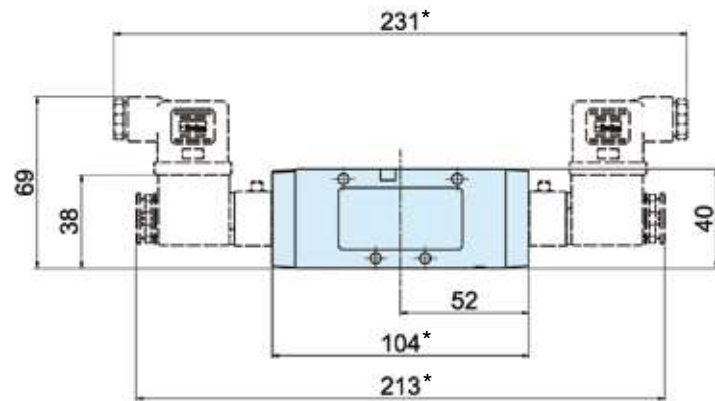
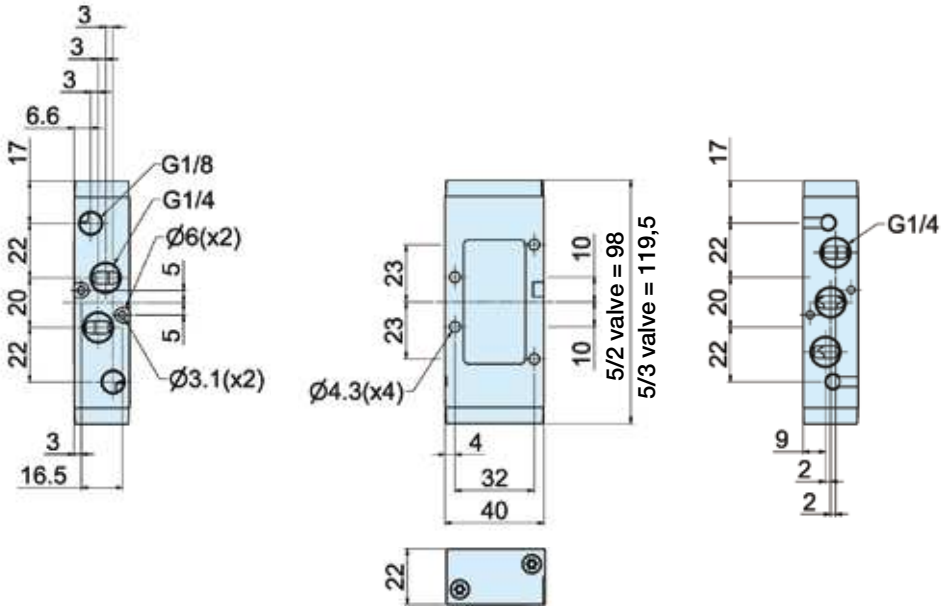
P2LAX - Lever operated directional control valves

**Solenoid valves**  
Solenoid valves and cable plugs must be ordered separately.  
One pilot valve is required for each E in the valve order code.



Dimensions

P2LBX... all  
5/2 and 5/3 valves

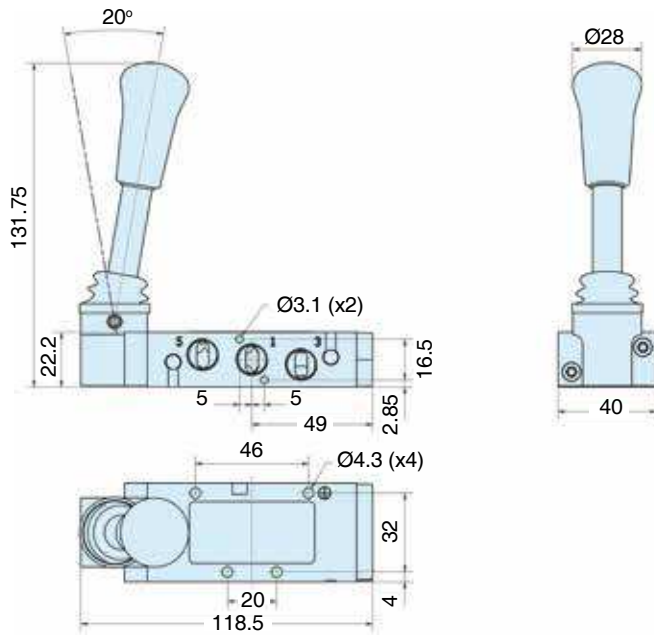


\* Note: 5/3 valves - add 21.5mm

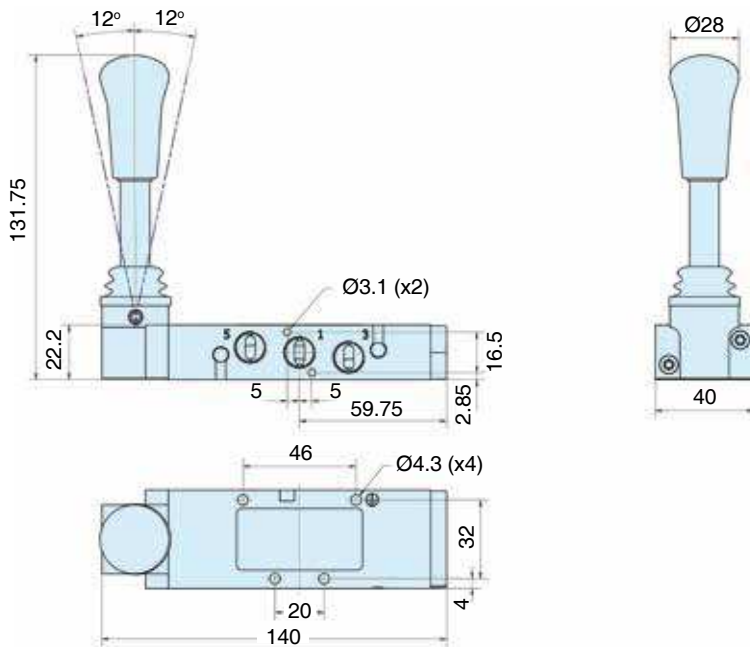
**Solenoid valves**  
Solenoid valves and cable plugs must be ordered separately.  
One pilot valve is required for each E in the valve order code.

**Dimensions**

**P2LBX - 5/2 Lever operated directional control valves**

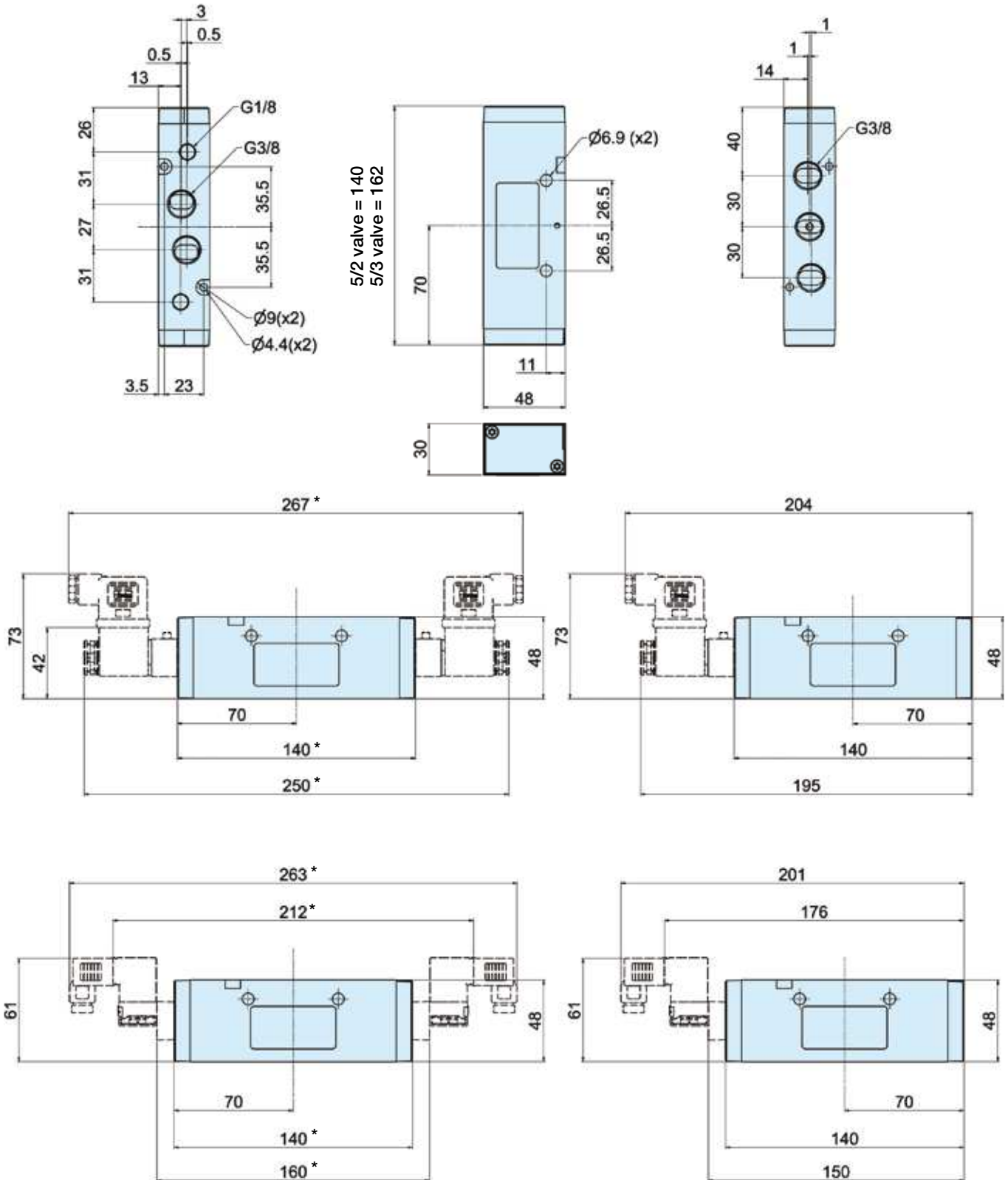


**P2LBX - 5/3 Lever operated directional control valves**



Dimensions

P2LCX... all  
5/2 and 5/3 valves



\* Note: 5/3 valves - add 22.0mm

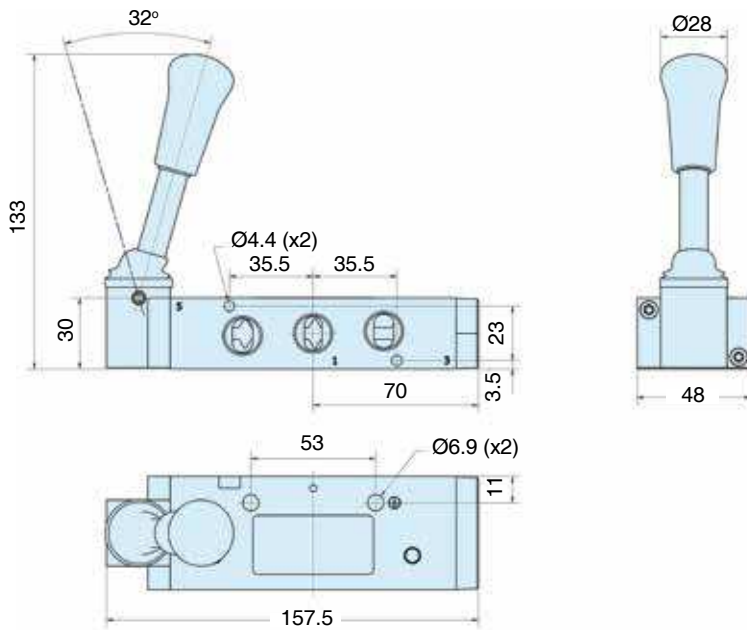
**Solenoid valves**

Solenoid valves and cable plugs must be ordered separately. One pilot valve is required for each E in the valve order code.

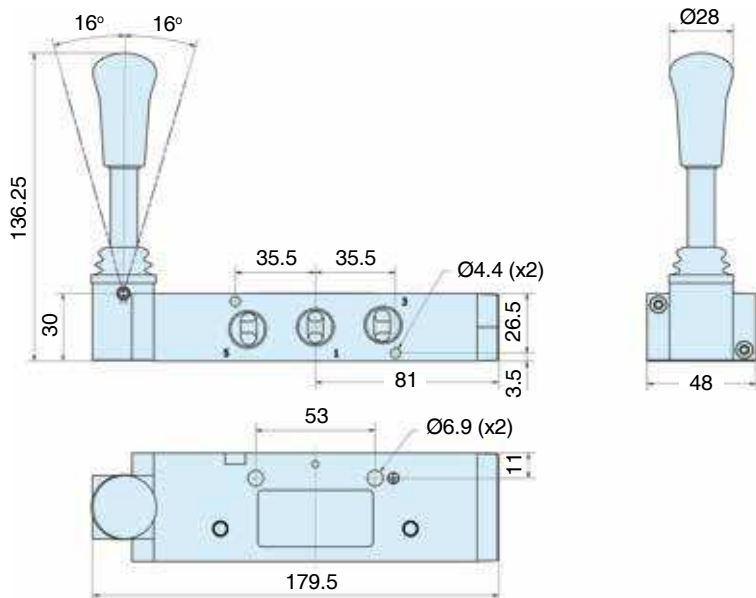


**Dimensions**

**P2LCX - 5/2 Lever operated directional control valves**

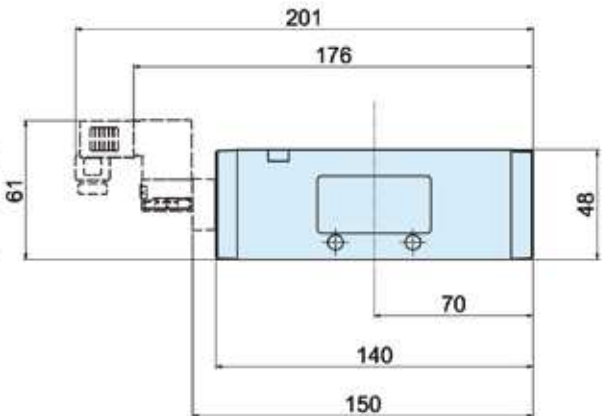
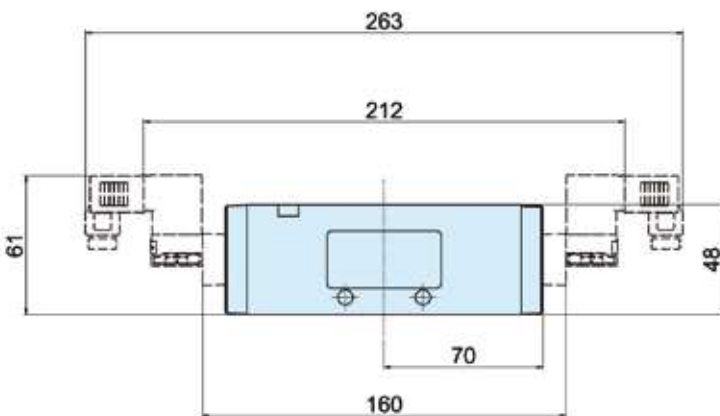
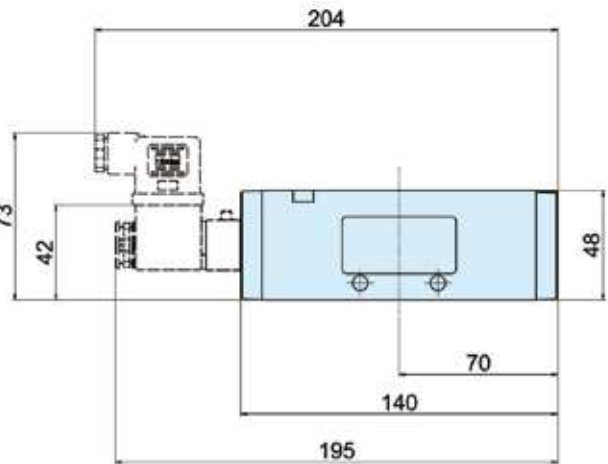
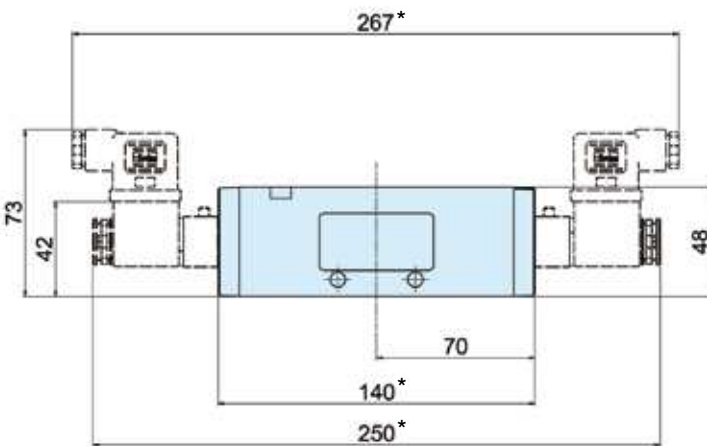
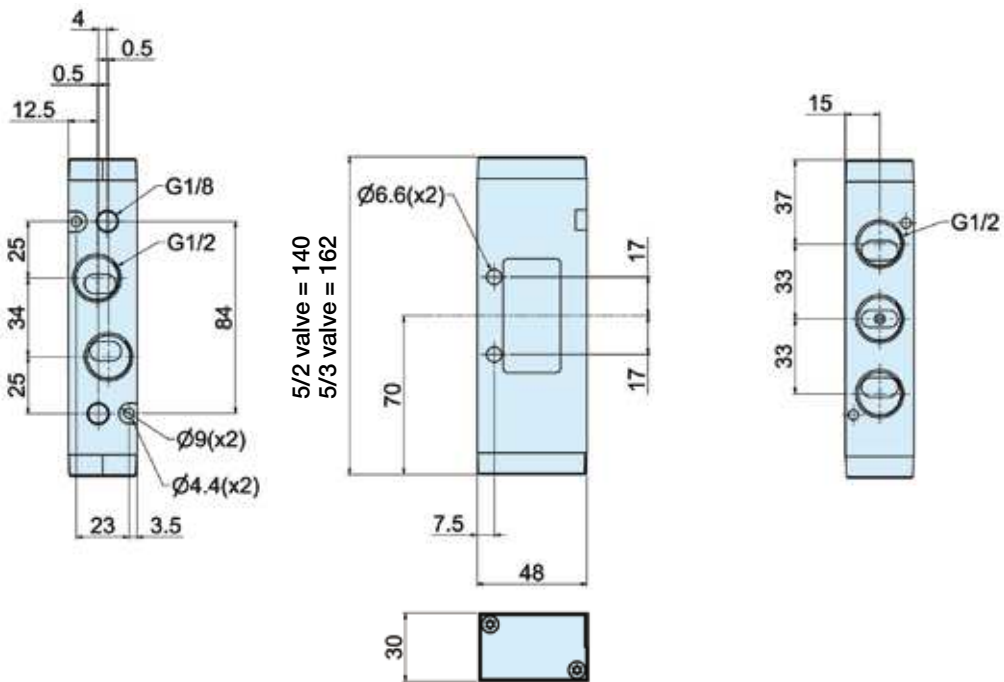


**P2LCX - 5/3 Lever operated directional control valves**



Dimensions

P2LDX... all  
5/2 and 5/3 valve:

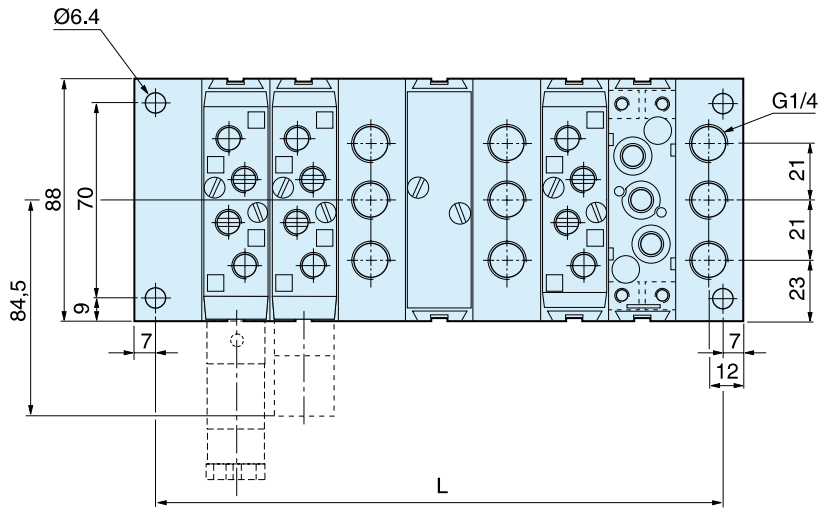


\* Note: 5/3 valves - add 22.0mm

Solenoid valves

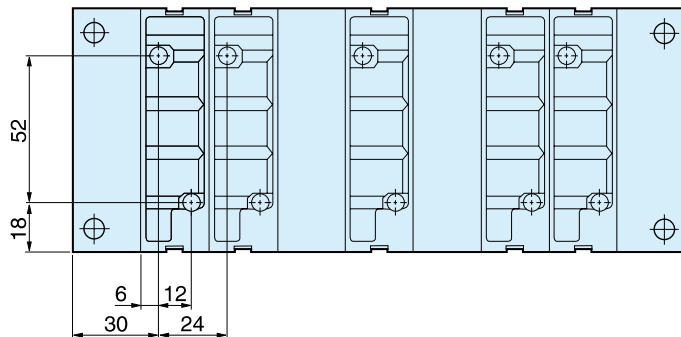
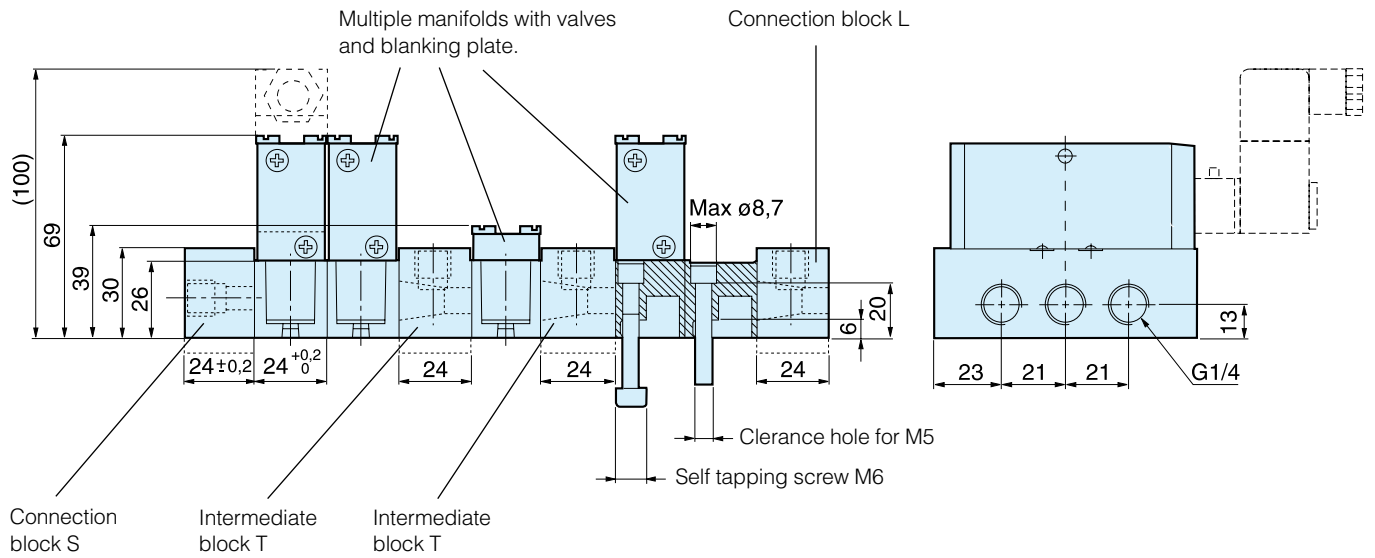
Solenoid valves and cable plugs must be ordered separately. One pilot valve is required for each E in the valve order code.

**Dimensions**



$L = 34 + (\text{Number of manifolds and Intermediate blocks} \times 24)$

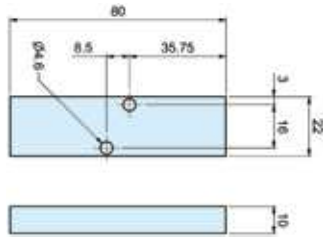
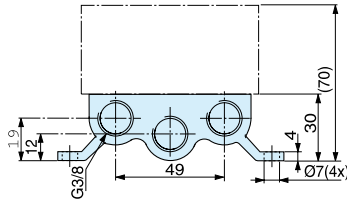
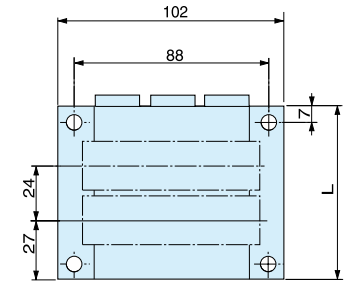
Connection block L and intermediate blocks L and T can be turned so that connection can be made from above or below. Multiple manifolds must be fitted with the top indication line (a 10 mm long line) facing the same side on all manifolds.



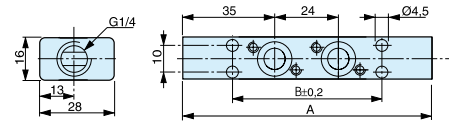
**Dimensions**

**Manifold bar, P2LA**

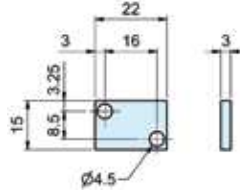
No. of valves	L mm
4	126
6	174
8	222
10	270
12	318
14	366



**Pressure bar, P2LA**

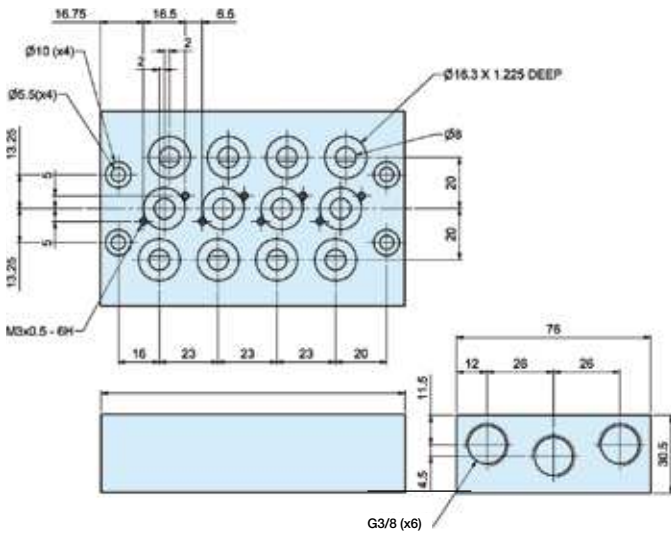


**Pressure bar, P2LA**

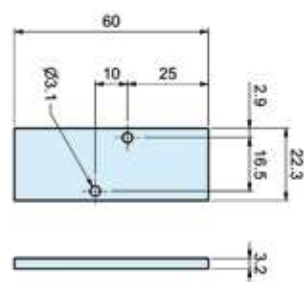


No. of valves	A mm	B mm
2	94	56
4	142	104
6	190	152
8	238	200

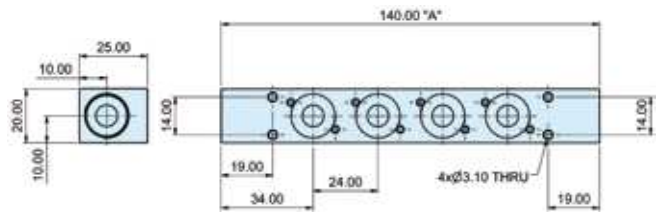
**Manifold bar, P2LB**



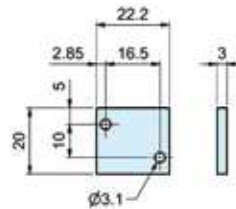
No. of valves	L mm
2	74
4	122
6	170
8	218
10	266



**Pressure bar, P2LB**



**Blanking plug, P2LB**



No. of valves	A mm
2	92
4	140
6	188
8	236
10	284

Miniature low voltage solenoid valves, ideal for powering small cylinders in the packaging and process industries. Metal bodies with stand alone or manifold mounted versions.

- 2 sizes: M5 and 1/8"
- Compact body with large flow
- Quick response time, faster than 10ms
- Expected life time more than 50,000,000 cycles
- Low power consumption only 0.6W
- Optional multipin connector manifold
- Manual override






**Operating information**




Working pressure	: 1.5 to 7 bar
Working temperature	: -5°C to +50°C
Flow (Qmax)	A05 : 260 l/min
	A12 : 850 l/min
Flow Qn	A05 : 160 l/min
	A12 : 510 L/min

For more information see [www.parker.com/euro\\_pneumatic](http://www.parker.com/euro_pneumatic)

**Directional control valves A05R and A12R series, inline / IEM manifold - Voltage 24V DC**


Description (Electrically Actuated)	Order code <b>A05R - M5 ports</b>	Order code <b>A12R - G1/8 ports</b>
5/2 single solenoid 	<b>A05RS251PM5MF</b>	<b>A12RS251PG1MF</b>
5/2 double solenoid 	<b>A05RD251PM5MF</b>	<b>A12RD251PG1MF</b>
5/3 closed centre 	<b>A05RD351PM5MF</b>	<b>A12RD351PG1MF</b>

**Directional control valves A05P/A12P series, sub-base version - Voltage 24V DC**

Description (Electrically Actuated)	Order code <b>A05P</b>	Order code <b>A12P</b>
5/2 single solenoid 	<b>A05PS251P</b>	<b>A05PS251P</b>
5/2 double solenoid 	<b>A05PD251P</b>	<b>A05PD251P</b>
5/3 closed centre 	<b>A05PD351P</b>	<b>A05PD351P</b>


**A05R/A12R Series Manifolds**

Manifold for individual wiring threaded type




	No. of stations	Port size	Size	Order Code Manifold
	4	M5	A05	<b>MMFU4A05G</b>
	G1/8	A12	<b>MMFU4A12G</b>	
6	M5	A05	<b>MMFU6A05G</b>	
	G1/8	A12	<b>MMFU6A12G</b>	
8	M5	A05	<b>MMFU8A05G</b>	
	G1/8	A12	<b>MMFU8A12G</b>	

**A05R/A12R Series Manifolds**

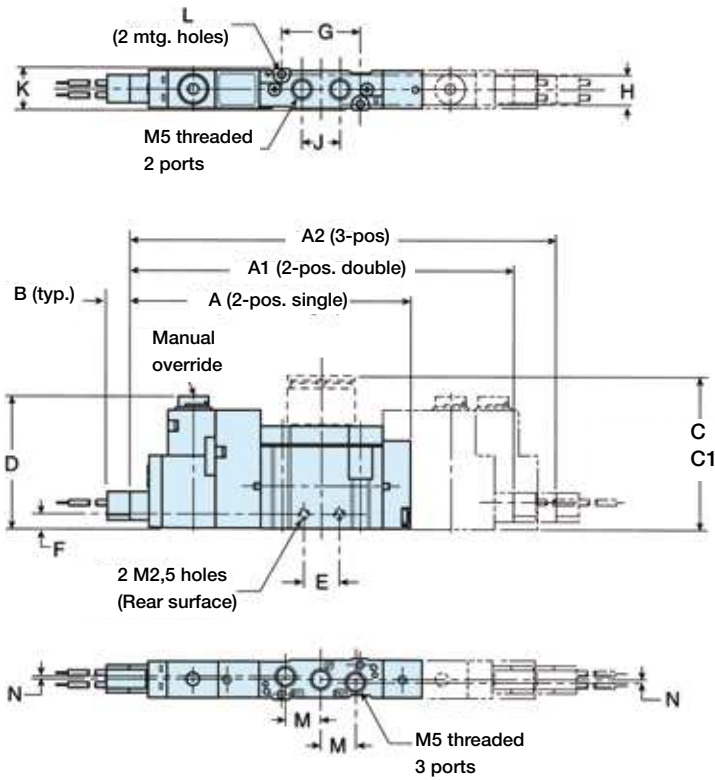
Manifold for individual wiring threaded type

	No. of stations	Port size	Size	Order Code Manifold
	4	M5	A05	<b>MMFS4A05GM5</b>
	G1/8	A12	<b>MMFS4A12GG1</b>	
6	M5	A05	<b>MMFS6A05GM5</b>	
	G1/8	A12	<b>MMFS6A12GG1</b>	
8	M5	A05	<b>MMFS8A05GM5</b>	
	G1/8	A12	<b>MMFS8A12GG1</b>	

**Mounting and Wiring Accessories**

Description	Order code
 Connector with lead wire black (-) red (+) 500mm	<b>A05PDCCL5</b>
 IEM blank plate kit (pack of 5)	<b>A05RGBP</b> <b>A12RGBP</b>
 Subbase blank plate kit (pack of 5)	<b>A05PGBP</b> <b>A12PGBP</b>

**A05R - Single and double operators - Body ported**

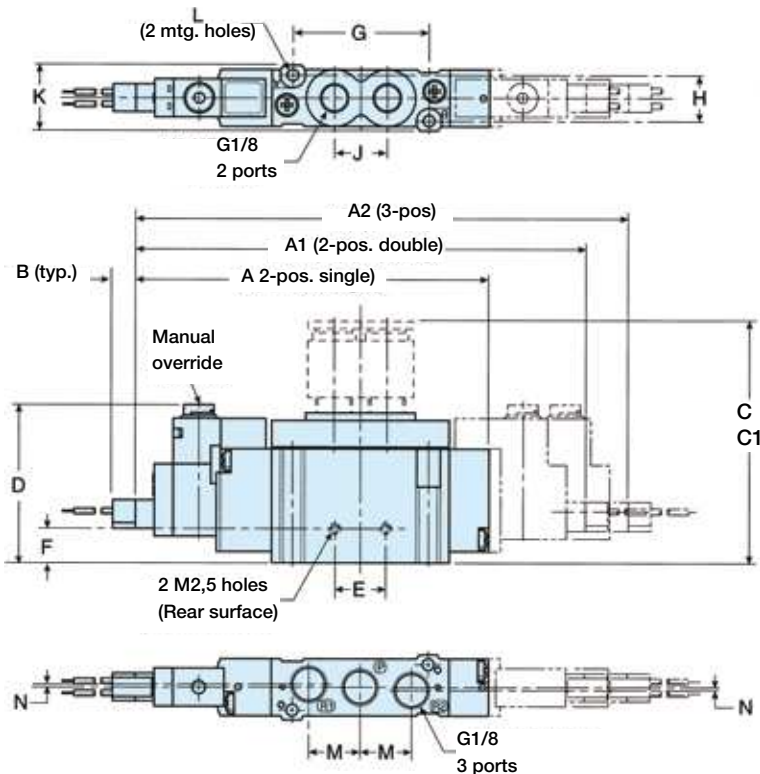


**A05R - Body ported**

A	A1	A2	B	C
74	100	108	6	-
C1	D	E	F	G
-	34,6	9,6	4	21
H	J	K	L	M
8,5	10,2	11,4	Ø2,1	9,5
N				
1				

Dimensions in mm

**A12R - Single and double operators - Body ported**

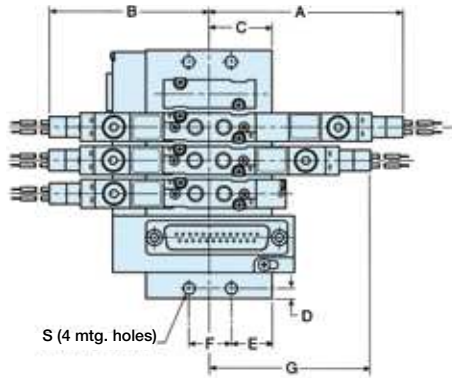


**A12R - Body ported**

A	A1	A2	B	C
93,5	119	130	6	-
C1	D	E	F	G
-	41,6	13,4	9	36
H	J	K	L	M
12	14	17,2	Ø3,1	13,6
N				
0,8				

Dimensions in mm

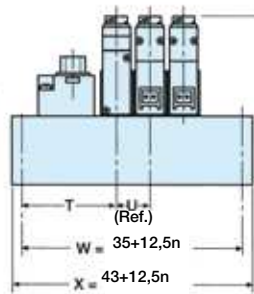
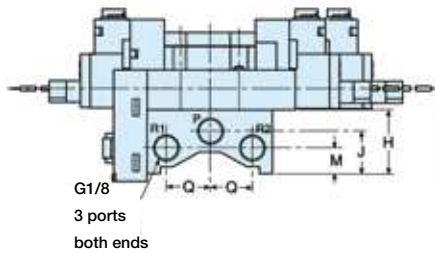
**A05R - Manifold - Valve body ports**



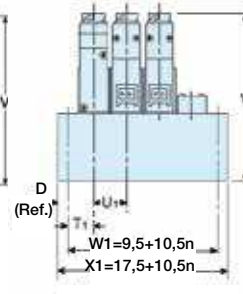
**A05R - Manifold - valve body port**

A	B	C	D	E
64	56	23,5	4	15,5
F	G	H	J	M
16	56	24	15,5	9,5
Q	S	T	T1	U
16	Ø4,5	34	10	12,5
U1	V			
10,5	63			

Dimensions in mm



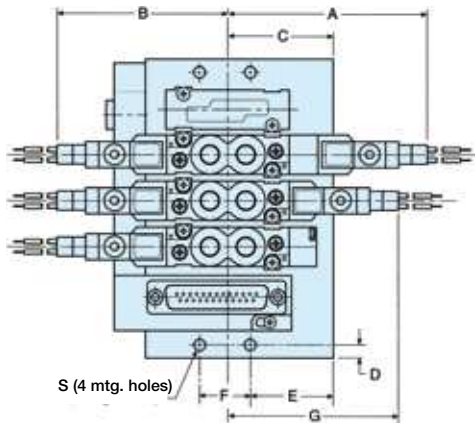
**MMCU...**



**MMFU...**

n = number of stations

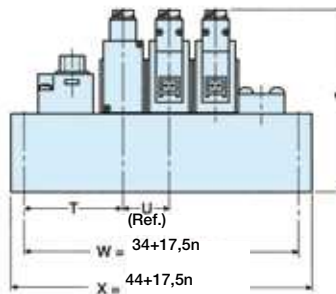
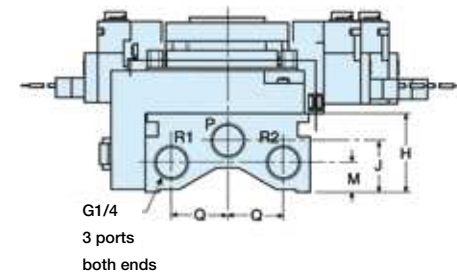
**A12R - Manifold - Valve body ports**



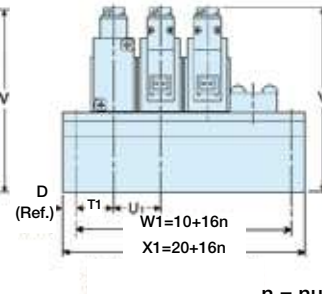
**A12R - Manifold - valve body port**

A	B	C	D	E
77	66	29	5	19,2
F	G	H	J	M
19,6	66	27,5	18	10,5
Q	S	T	T1	U
19,5	Ø4,5	37,5	12,2	17,5
U1	V			
16	70			

Dimensions in mm



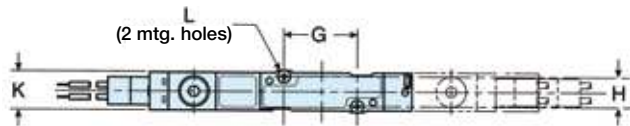
**MMCU...**



**MMFU...**

n = number of stations

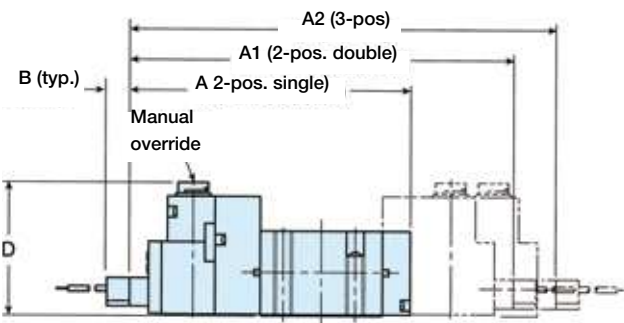
**A05P - Single and double operators - Subbase**



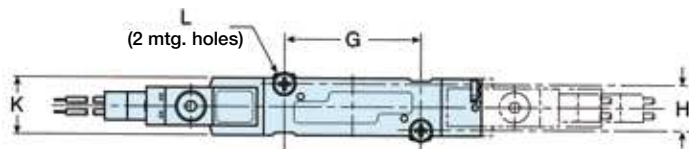
**A05P - Subbase**

A	A1	A2	B	D
74	100	108	6	35,1
G	H	K	L	
19	8,5	10	Ø2,1	

Dimensions in mm



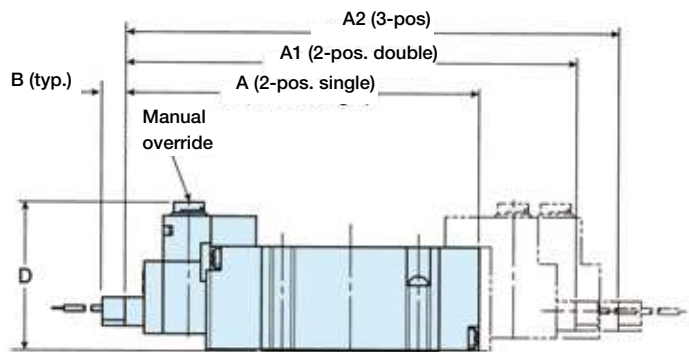
**A12P - Single and double operators - Subbase**



**A12P - Subbase**

A	A1	A2	B	D
93,5	119	130	6	39,1
G	H	K	L	
34	12	15	Ø3,1	

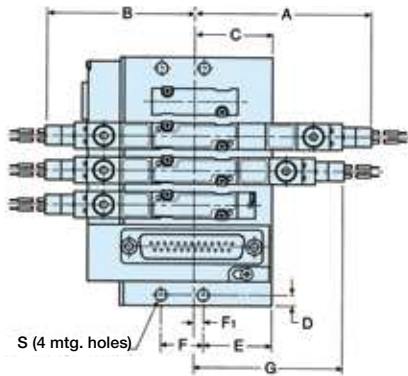
Dimensions in mm





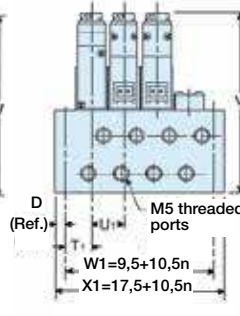
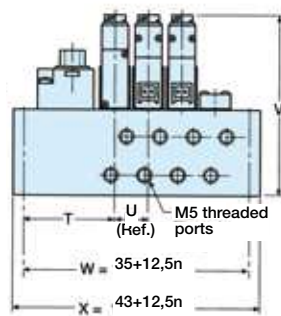
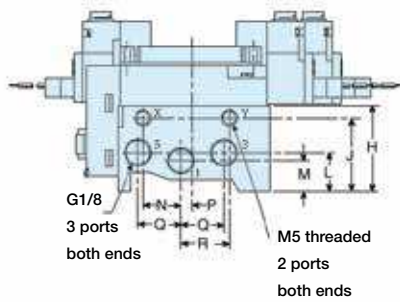
A05P - Manifold - Side ports

A05P - Manifold - Side ports



A	B	C	D	E
64	56	30,2	4	25,5
F	F1	G	H	J
16	4,7	56	32	28
L	M	N	P	Q
14,5	11,5	14	3	16
R	S	T	T1	U
18	Ø4,5	33,8	10	12,5
U1	V			
10,5	67			

Dimensions in mm



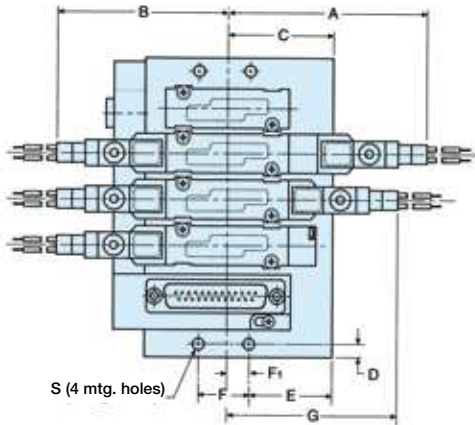
n = number of stations

MMCS...

MMFS...

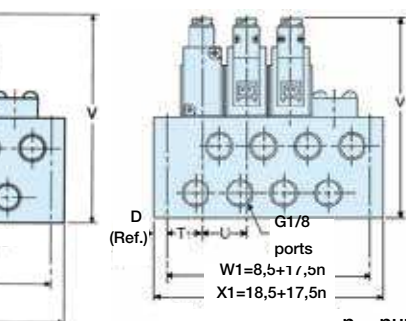
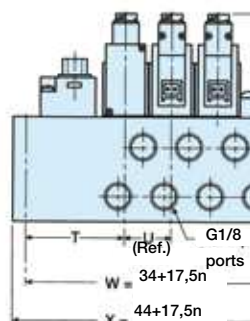
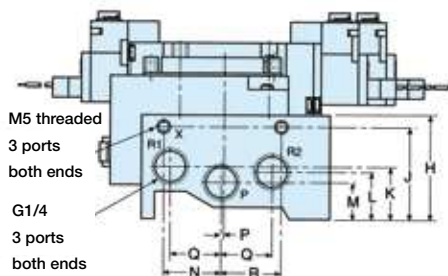
A12P - Manifolds - Side ports

A12P - Manifold - Side ports



A	B	C	D	E
77	66	40,4	5	31,7
F	F1	G	H	J
19,6	11	66	39,5	35
K	L	M	N	P
20,5	18	14	22	1
Q	R	S	T	T1
19,5	23	Ø4,5	37,2	12,7
U	V			
17,5	79			

Dimensions in mm



n = number of stations

MMCS...

MMFS...

The compact design of these valves make them a popular choice for manual or mechanical operation and their modular construction permit different operators to be fitted to the actuator and return assemblies.

The Midget and Intermediate valves are designed to have balanced forces across the spool so that 3/2 valves can be piped normally open or normally closed by changing the inlet supply from port 1 to port 3.



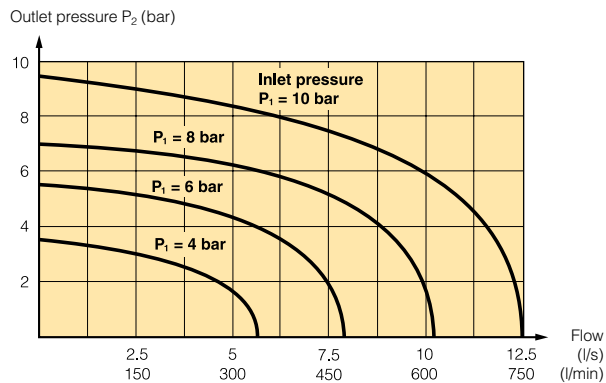
- B 43 - 1/8" ported, B53 - 1/4 ported
- Manual and mechanical operation
- Stainless steel spools
- Viton seals
- 3/2, 5/2, 3/3 and 5/3 versions.
- Integral mounting holes

Operating information		Material specification	
Type	Spool valves	Valve body	Aluminium
Style	Body ported	Spool	Stainless steel
Port size	G1/8 & G1/4	Seal spacers	Zinc die cast
Mounting	Any plane	Seals	Viton
Pressure range	Vacuum to 10 bar	Spring housing	Nylon
Temperature range	-10°C to +80°C	Spring	Zinc plated
Flow acc. (to ISO 6358)		End covers	Zinc die cast
	<b>Midget B43 series</b>	Actuators	Zinc die cast
	<b>Intermediate B53 series</b>	End cover screws	Zinc plated
	c = 1.13 NI/s x bar		
	c = 3.69 NI/s x bar		
	b = 0.36		
	b = 0.33		
	Qn = 5.5 l/s		
	Qn = 17.5 l/s		
	Qmax = 9.0 l/s		
	Qmax = 29 l/s		
	Cv = 0.24		
	Cv = 1.02		
		<b>Working medium, air quality</b>	
		Working medium:	Dry, filtered compressed air to ISO 8573-1 class 3.4.3.

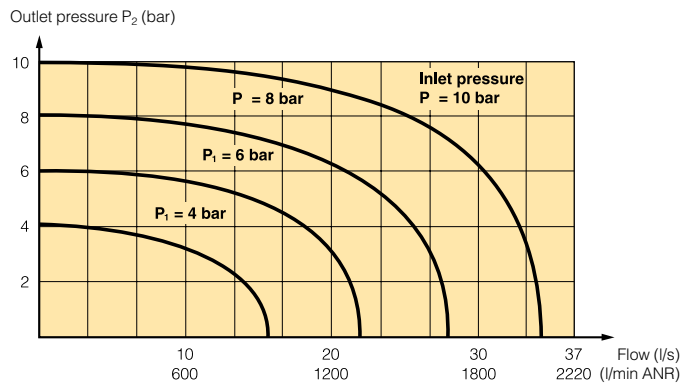
**Flow characteristics**

Flow capacities in accordance with ISO 6358  
The flow curves shown below are typical.

**Midget B43 series valves**



**Intermediate B53 series valves**



**Midget mechanically operated valves, B43 series - G1/8**

Symbol	Type	Actuator Button	Return	Operating force at 6 bar, N	Order code
	3/2	Plunger	Spring	36	<b>B43003CS</b>
	3/2	Plunger	Air	14	<b>B43003CP</b>
	5/2	Plunger	Spring	36	<b>B43004CS</b>
	5/2	Plunger	Air	14	<b>B43004CP</b>
	3/2	Roller Lever	Spring	20	<b>B43003RS</b>
	3/2	Roller Lever	Air	7	<b>B43003RP</b>
	5/2	Roller Lever	Spring	20	<b>B43004RS</b>
	5/2	Roller Lever	Air	7	<b>B43004RP</b>
	3/2	One way lever	Spring	20	<b>B43003RTS</b>
	3/2	One way roller lever	Air	7	<b>B43003RTP</b>
	5/2	One way roller lever	Spring	20	<b>B43004RTS</b>
	5/2	One way roller lever	Air	7	<b>B43004RTP</b>

**Midget manually operated valves, B43 series - G1/8**

Symbol	Type	Actuator Button	Return	Operating force at 6 bar, N	Order code
	3/2	Black	Spring	36	<b>B43003BXS</b>
	3/2	Black	Button	13	<b>B43003HXS</b>
	5/2	Black	Spring	36	<b>B43004BXS</b>
	5/2	Black	Button	13	<b>B43004HXS</b>
	3/2	Black	Air	13	<b>B43003BXP</b>
	3/2	Black	Air or Button	13	<b>B43003HXP</b>
	5/2	Black	Air	13	<b>B43004BXP</b>
	5/2	Black	Air or Button	13	<b>B43004HXP</b>
	3/2	Lock down lever	Spring	9	<b>B43003LS</b>
	3/2	Lock down lever	Spring	9	<b>B43004LS</b>
	3/2	Lock down lever	Air	3	<b>B43003LP</b>
	3/2	Lock down lever	Air	3	<b>B43004LP</b>

**Intermediate mechanically operated valves, B53 series - G1/4**

Symbol	Type	Actuator Button	Return	Operating force at 6 bar, N	Order code
	3/2	Plunger	Spring	53	<b>B53003CS</b>
	3/2	Plunger	Air	27	<b>B53003CP</b>
	5/2	Plunger	Spring	53	<b>B53004CS</b>
	5/2	Plunger	Air	27	<b>B53004CP</b>
	3/2	Roller	Spring	53	<b>B53003RS</b>
	3/2	Roller	Air	27	<b>B53003RP</b>
	5/2	Roller	Spring	53	<b>B53004RS</b>
	5/2	Roller	Air	27	<b>B53004RP</b>

**Intermediate manually operated valves, B53 series - G1/4**

Symbol	Type	Actuator Button	Return	Operating force at 6 bar, N	Order code
	3/2	Black	Spring	53	<b>B53003HXS</b>
	3/2	Black	Button	27	<b>B53003HXP</b>
	3/2	Black	Air	27	<b>B53003HXP</b>
	5/2	Black	Spring	53	<b>B53004HXS</b>
	5/2	Black	Button	27	<b>B53004HXP</b>
	5/2	Black	Air	27	<b>B53004HXP</b>
	5/3	Button closed centring	Button self centring	13	<b>B53005HXX</b>
	5/3	Button vented centring	Air self centring	13	<b>B53004HXY</b>
	5/3	Button pressurised centring	Air self centring	13	<b>B53004HXZ</b>

**Intermediate lever operated valve,  
B53 series - G1/4**

Symbol	Type	Actuator Button	Return	Operating force at 6 bar, N	Order code
	3/2	Lever	Spring	14	<b>B53003LS</b>
	3/2	Lever	Air	9	<b>B53003LP</b>
	3/2	Lever	Lever	9	<b>B53003LT</b>
	3/3	Lever closed centre position	Lever	9	<b>B53003L</b>
	3/3	Lever closed centre position	Lever self centring	14	<b>B53003LX</b>
	5/2	Lever	Spring	14	<b>B53004LS</b>
	5/2	Lever	Air	14	<b>B53004LP</b>
	5/2	Lever	Lever	14	<b>B53004LT</b>
	5/3	Lever closed centre position	Lever held in three positions	9	<b>B53004L</b>
	5/3	Lever vented centre position	Lever held in three positions	9	<b>B53004LW</b>
	5/3	Lever pressurised centre position	Lever held in three positions	9	<b>B53004LN</b>
	5/3	Lever closed centre position	Lever self centring	14	<b>B53004LX</b>
	5/3	Lever vented centre position	Lever self centring	14	<b>B53004LY</b>
	5/3	Lever pressurised centre position	Lever self centring	14	<b>B53004LZ</b>

**Mounting kit**



Panel mounting kit **M53004L-10A**  
 Kit includes panel plate and M5 counter sunk head screws

**Midget foot operated valves,  
B43 series - G1/8**

Symbol	Type	Actuator Button	Return	Operating force at 6 bar, N	Order code
	3/2	Foot pedal	Spring	16	<b>B43003FS</b>
	5/2	Foot pedal	Spring	16	<b>B43004FS</b>

**Intermediate foot operated valves,  
B53 series - G1/4**

Symbol	Type	Actuator Button	Return	Operating force at 6 bar, N	Order code
--------	------	-----------------	--------	-----------------------------	------------

**Single pedal operated**

	3/2	Foot pedal	Spring	95	<b>B53003FS</b>
	5/2	Foot pedal	Spring	95	<b>B53004FS</b>

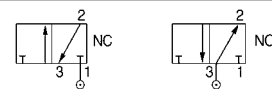
**Rocker pedal operated**

	3/2	Foot pedal	Foot pedal	18	<b>B53003G</b>
	5/2	Foot pedal	Foot pedal	18	<b>B53004G</b>
	5/3	Foot pedal closed centre position	Foot pedal self centring	18	<b>B53004GX</b>
	5/3	Foot pedal vented centre position	Foot pedal self centring	18	<b>B53004GY</b>
	5/3	Foot pedal pressurised centre position	Foot pedal self centring	18	<b>B53004GZ</b>

**Accessories**



Foot guard kit **3117**



All 3/2 type B43 & B5/3 valves can be connected either as normally closed 3/2 valve (NC) or normally open 3/2 valve (NO) as required, by connecting the primary air supply to port 1 or port 3

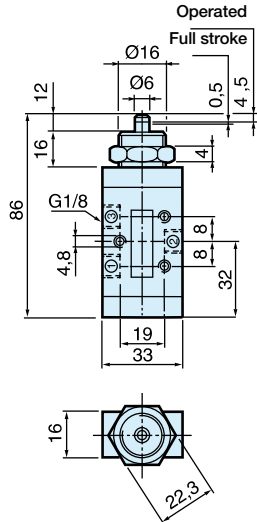
**Dimensions, G1/8 ported spool valves**

All dimensions in mm unless otherwise stated

**Mechanically operated valves**

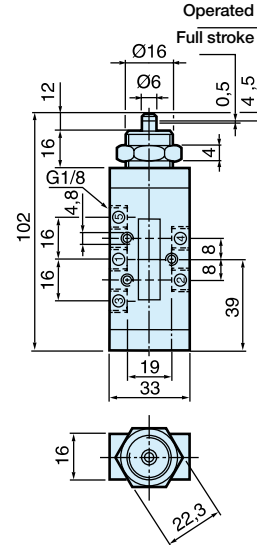
**3/2 valves**

Plunger operated spring return



**5/2 valves**

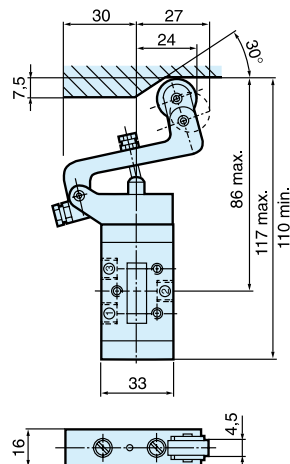
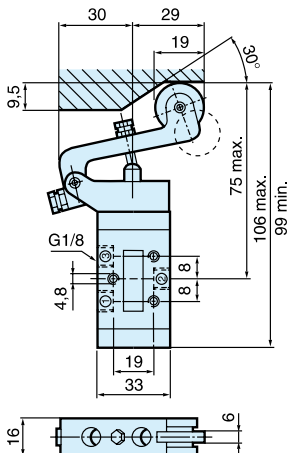
Plunger operated spring return



**3/2 valves**

Roller operated spring return

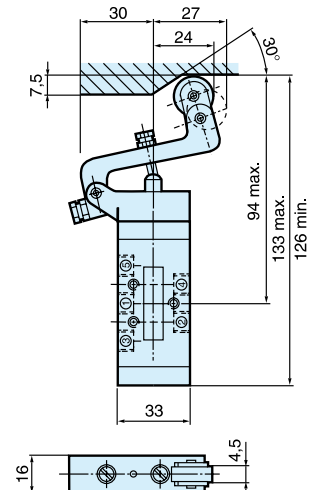
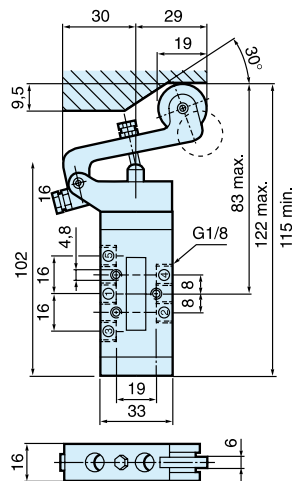
One way roller trip operate spring return



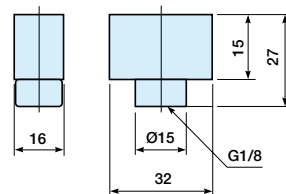
**5/2 valves**

Roller operated spring return

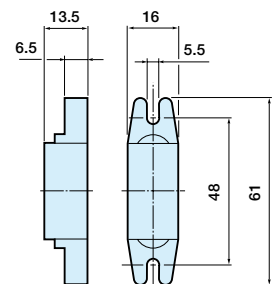
One way roller trip operate spring return



Air Pilot Return



Optional foot mounted - Spring return housing



**Dimensions, G1/8 ported spool valves**

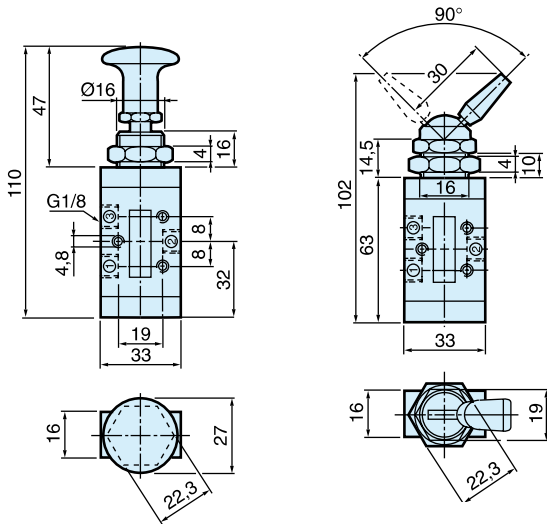
All dimensions in mm unless otherwise stated

**Manually operated valves**

**3/2 valves**

Button operated spring return or button returned

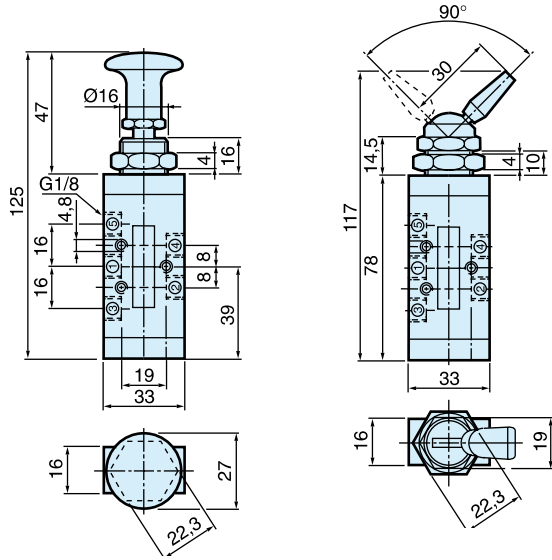
Lock down lever operated spring return



**5/2 valves**

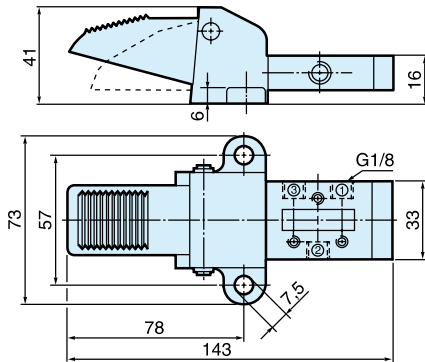
Button operated spring return or button returned

Lock down lever operated spring return



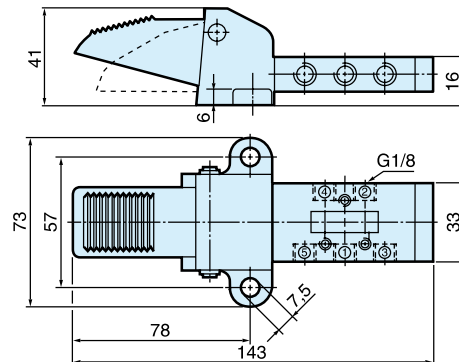
**3/2 valves**

Foot pedal operated spring return

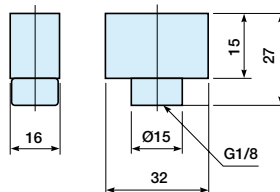


**5/2 valves**

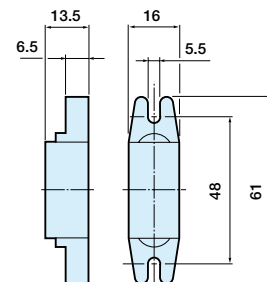
Foot pedal operated spring return



Air Pilot Return



Optional foot mounted - Spring return housing



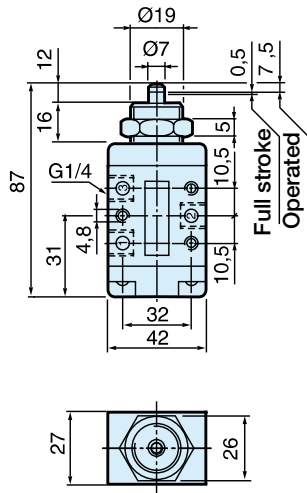
**Dimensions, G1/4 ported spool valves**

All dimensions in mm unless otherwise stated

**Mechanically operated valves**

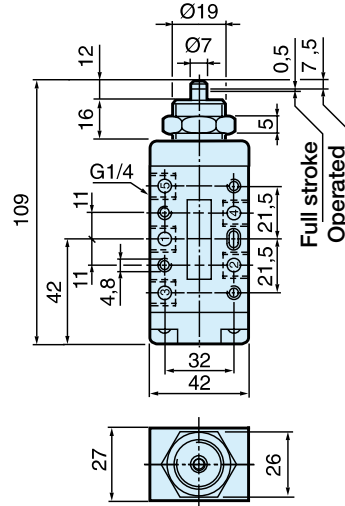
**3/2 valves**

Plunger operated spring return



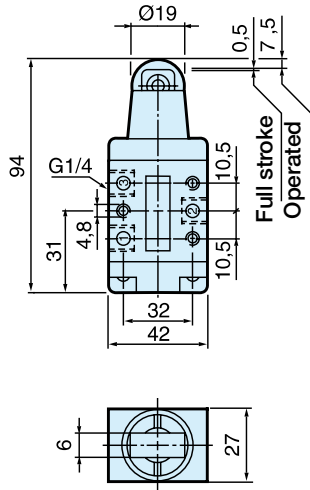
**5/2 valves**

Plunger operated spring return



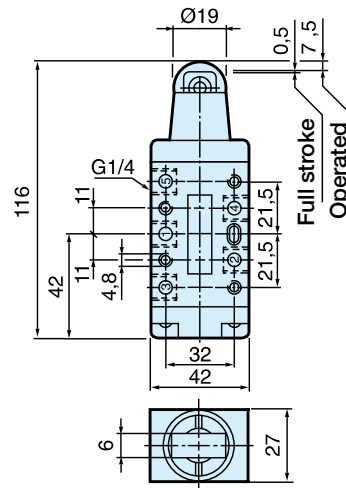
**3/2 valves**

Roller operated spring return

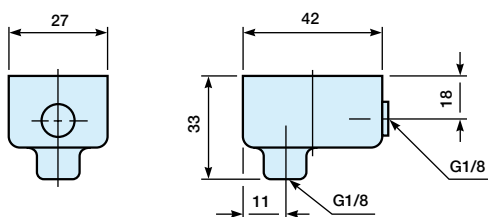


**5/2 valves**

Roller operated spring return



Air Pilot Return



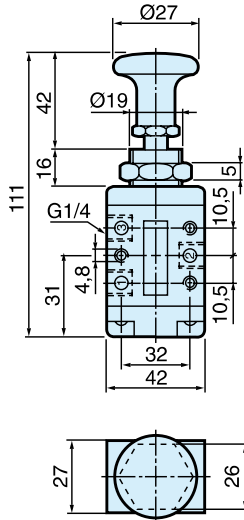
**Dimensions, G1/4 ported spool valves**

All dimensions in mm unless otherwise stated

**Manually operated valves**

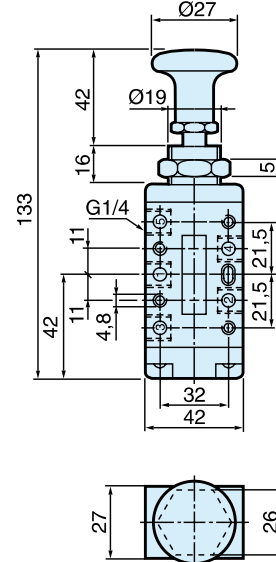
**3/2 valves**

Button operated spring return  
or button returned



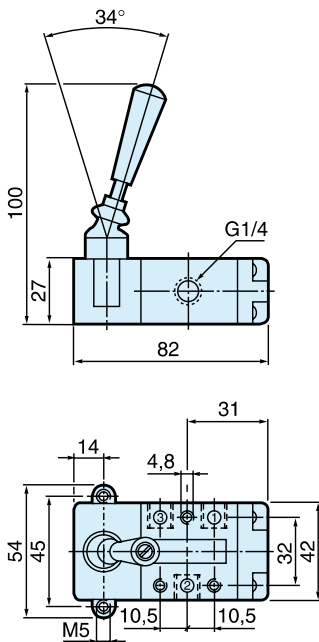
**5/2 valves**

Button operated spring return  
or button returned



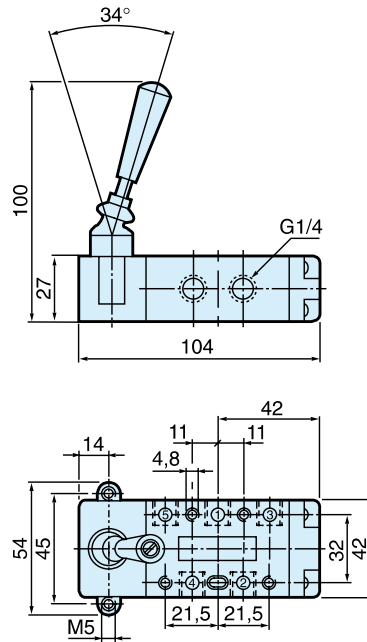
**3/2 valves**

Lever operated

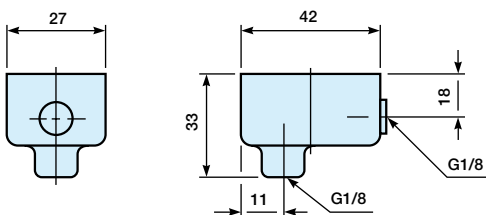


**5/2 valves**

Lever operated



Air Pilot Return





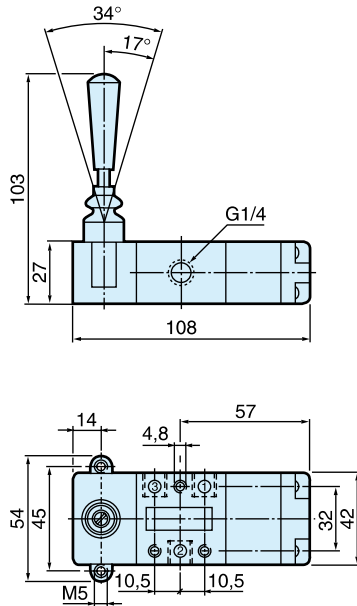
**Dimensions, G1/4 ported spool valves**

All dimensions in mm unless otherwise stated

**Manually operated valves**

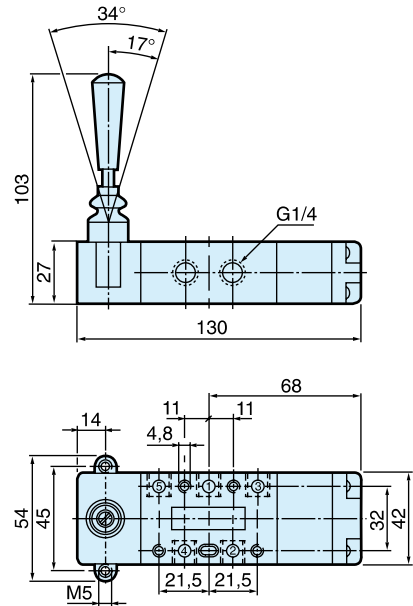
**3/3 valves (Self centring)**

Lever operated



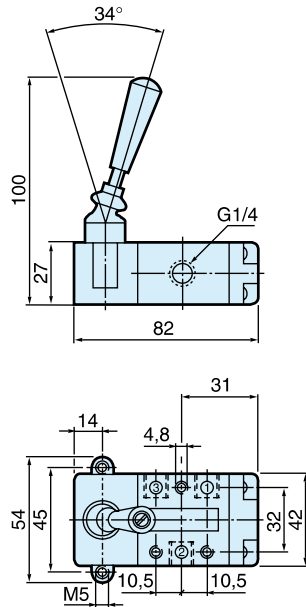
**5/3 valves (Self centring)**

Lever operated



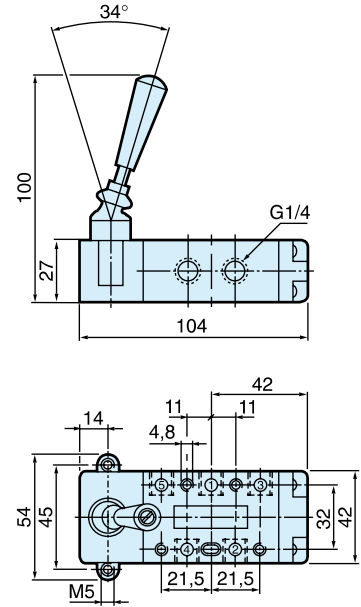
**3/3 valves (3 positions)**

Lever operated

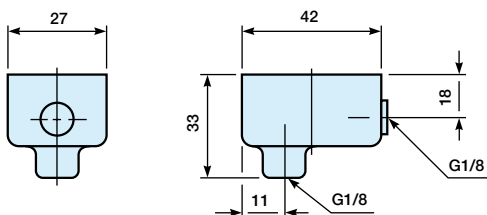


**5/3 valves (3 positions)**

Lever operated



Air Pilot Return



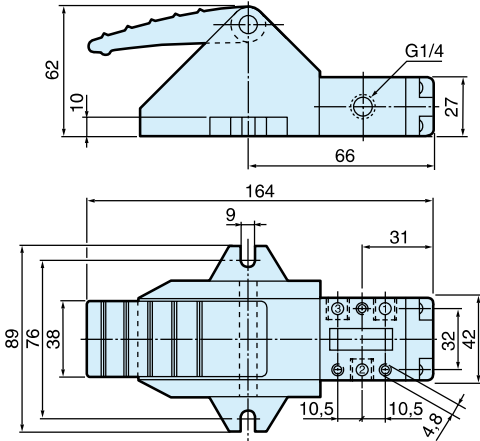
**Dimensions, G1/4 ported spool valves**

All dimensions in mm unless otherwise stated

**Manually operated valves**

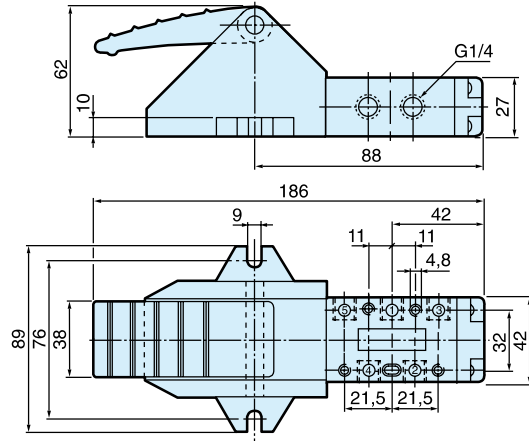
**3/2 valves**

Foot pedal operated spring return



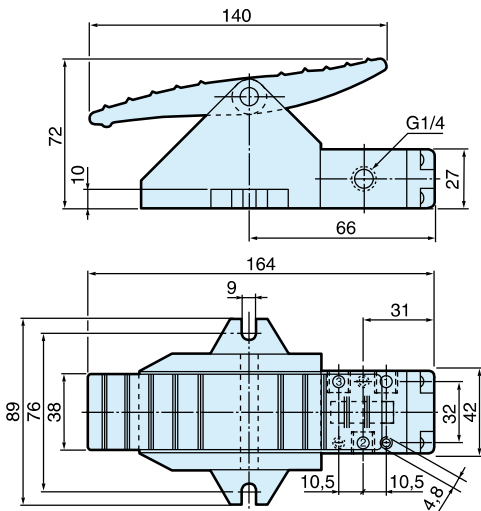
**5/2 valves**

Foot pedal operated spring return



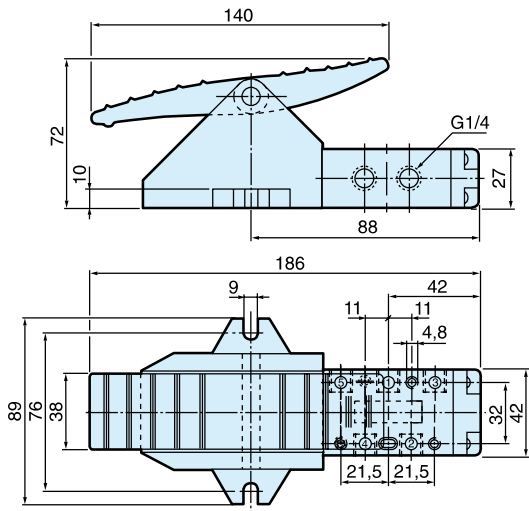
**3/2 valves**

Foot pedal operated



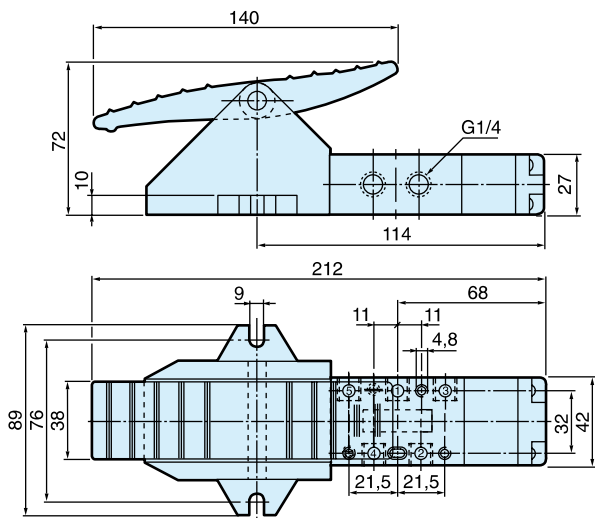
**5/2 valves**

Foot pedal operated



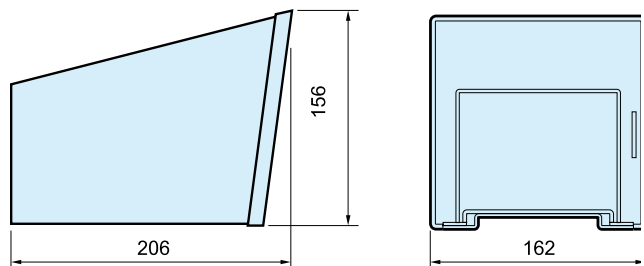
**5/3 valves**

Foot pedal operated



**Foot guard kit**

3117



## Service and Replacement Parts

### B43 Series Manually Operated Valves

Order code	Actuator	Replacement actuator	Repair kit
<b>B43003BXS</b>	Button	43004BX-100	
<b>B43004BXS</b>	Button		
<b>B43004HXS</b>	Button, Push/Pull	43004H-100	Body seal 43007A
<b>B43003LS</b>	Lockdown lever		
<b>B43004LS</b>	Lockdown lever	43004L-200	

### B53 Series Manually Operated Valves

Order code	Actuator	Replacement actuator	Repair kit
<b>B53003HXS</b>	Button		
<b>B53004HXS</b>	Button		
<b>B53003HX</b>	Button, Push/Pull		
<b>B53004HX</b>	Button, Push/Pull	53004HX-100	Body seal 53007
<b>B53004HXX</b>	Button, Self centring		53007
<b>B53004HXY</b>	Button, Self centring		
<b>B53004HXZ</b>	Button, Self centring		
<b>B53003FS</b>	Foot		
<b>B53004FS</b>	Foot	53004F-100	
<b>B53003LS</b>	Lever		
<b>B53004LS</b>	Lever	53004L-198	
<b>B53003LT</b>	Lever, 2 positions		Body seal 53007
<b>B53004LT</b>	Lever, 2 positions	53004L-196	53007
<b>B53004L</b>	Lever, 3 positions		Lever kit 53004L-300R
<b>B53004LW</b>	Lever, 3 positions	53004L-100	
<b>B53004LX</b>	Lever, Self centring		
<b>B53004LY</b>	Lever, Self centring	53004L-198	

### B43 Series Mechanically Operated Valves

Order code	Actuator	Replacement actuator	Repair kit
<b>B43003CS</b>	Plunger		
<b>B43004CS</b>	Plunger	43004C-100	Body seal 43007A
<b>B43003RS</b>	Roller Lever		
<b>B43004RS</b>	Roller Lever	43004R-200	

### B53 Series Mechanically Operated Valves

Order code	Actuator	Replacement actuator	Repair kit
<b>B53003CS</b>	Plunger		
<b>B53004CS</b>	Plunger	53004C-100	Body seal 53007
<b>B53003RS</b>	Roller		
<b>B53004RS</b>	Roller	53004R-100	



**Rugged** brass bodies with excellent corrosion resistance make these valves the ideal choice for arduous applications. Large and robust manual actuators are available together with air pilot actuators.

- Rugged valves for heavy duty applications
- Large and robust actuators for easy operation
- Excellent corrosion resistance
- Integral mounting holes
- Panel mounting versions



**Operating information**

Working temperature	-40 °C to +70 °C
Working pressure	Max 10 bar
Flow (Qmax):	380 l/min
For more information see <a href="http://www.parker.com/euro_pneumatic">www.parker.com/euro_pneumatic</a>	

**Push button valves, VA13 Series - G<sup>1</sup>/<sub>8</sub>**

Symbol	Actuator	Return	Operating force at 6 bar, N	Mounting	Order code
	Flush-Push button, red	Spring	32,5	Panel	<b>VA13-HIS4</b>
	Flush-Push button, black	Spring	32,5	Panel	<b>VA13-HIS4A06</b>
	Hand lever Held in 2 positions	Hand lever	8	Panel	<b>VA13-HB24</b>
	Hand lever Held in 2 positions	Hand lever	8	Side	<b>VA13-HB2</b>
	Button, red, 2 positions	Button	3	Panel	<b>VA13-KL24</b>
	Button, red	Spring	31,5	Panel	<b>VA13-KS4</b>
	Button, red, 2 positions	Button	3	Side	<b>VA13-KL2</b>
	Button, red	Spring	31,5	Side	<b>VA13-KS</b>
	Button, red, 2 positions	Knob/Air signal	6	Side	<b>VA13-KL2A</b>

**Accessories for VA13/15HI... Series valves**

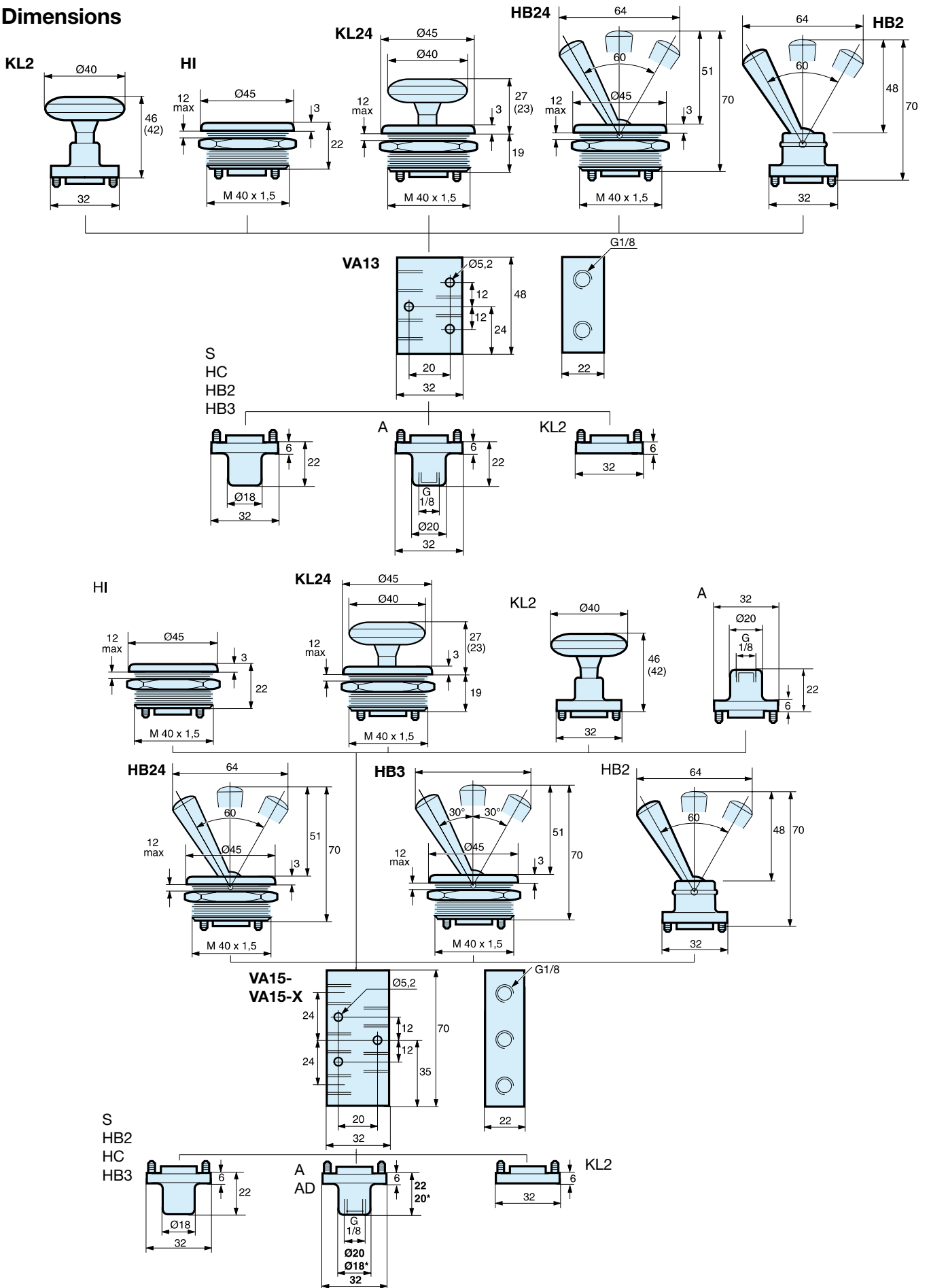
	Description	Order code
	Diaphragm, black	<b>9127359331</b>
	Diaphragm, yellow	<b>9127359332</b>
	Mounting ring	<b>9127359334</b>

**Push button valves, VA15 Series - G<sup>1</sup>/<sub>8</sub> connection**

Symbol	Actuator	Return	Operating force at 6 bar, N	Mounting	Order code
	Flush-Push button, red	Spring	34,5	Panel	<b>VA15-HIS4</b>
	Hand lever Held in 2 positions	Hand lever	9	Panel	<b>VA15-HB24</b>
	Hand lever Held in 3 positions closed centre position	Hand lever	9	Panel	<b>VA15-HB34</b>
	Hand lever Held in 3 positions vented centre position	Hand lever	9	Panel	<b>VA15-XHB34</b>
	Hand lever 3 positions closed centre position	Hand lever	9	Panel	<b>VA15-HC4</b>
	Hand lever 3 positions vented centre position	Hand lever self centring	9	Panel	<b>VA15-XHC4</b>
	Hand lever Held in 2 positions	Hand lever	9	Side	<b>VA15-HB2</b>
	Button, red red 2 positions	Button	5	Panel	<b>VA15-KL24</b>
	Button, red, 2 positions	Button	5	Side	<b>VA15-KL2</b>
	Air signal	Air signal	3/3	Side	<b>VA15-AA</b>
	Air signal	Spring	4/-	Side	<b>VA15-AS</b>

All 3/2 type VA13 valves can be connected either as normally closed 3/2 valve (NC) or normally open 3/2 valve (NO) as required, by connecting the primary air supply to port 1 or port 3

**Dimensions**



**Heavy duty poppet valves  
2/2 & 3/2 - G<sup>3/8</sup>" & G<sup>1/2</sup>"**

These valves use the well proven poppet principle to give high flow rates with short valve travel, both the 2/2 and 3/2 valves in the range are available in G<sup>3/8</sup>" and G<sup>1/2</sup>" port sizes. This means that each actuator is available in four configurations i.e. 3/8" ports 2/2 or 3/2 and G<sup>1/2</sup>" ports 2/2 or 3/2. All valves are normally closed.

The bodies are of block form construction for ease of mounting. Springs are stainless steel; internal seals being of nitrile rubber.

The 2/2 body allows air in one direction only, 3/2 versions having the facility of exhausting air through the actuator unit. This exhaust vent is unthreaded on all valves except the pilot and solenoid types which allows the piping away of exhaust air.

All mechanisms are spring returned.



Operating information		Material specification	
Working pressure	0 - 10 bar	Body	Zinc die cast
Working temperature	-10°C to +80°C	Roller	Zinc plated steel
Solenoid version	-10°C to +50°C	Mechanical arm	Zinc plated steel
Minimum pilot pressure	1.9 bar @ 6 bar supply	Poppet	Stainless steel
Response time (solenoid energised)	14 msec	Seals	Nitrile
Response time (solenoid de-energised)	75 msec	Spring	Stainless steel
		Bush	Aluminium
		Piston	Aluminium
Flow capacities in accordance with ISO6358			
Flow;	<b>B102-B103</b> C = 7,54 b = 0,29 Qn = 33 l/s Qmax = 54 l/s Cv = 2,65	<b>B202-B203</b> C = 10,75 NI/s x bar b = 0,24 Qn = 43 l/s Qmax = 75 l/s Cv = 3,20	

**Working medium, air quality**

Working medium: Dry, filtered compressed air to ISO 8573-1 class 3.4.3.

**Recommended air quality for valves**

For best possible service life and trouble free operation, ISO 8573-1 quality class 3.4.3 should be used. This means 5µm filter (standard filter) dew point +3°C for indoor operation (a lower dew point should be selected for outdoor operation) and oil concentration 1.0 mg oil/m<sup>3</sup>, which is what a standard compressor with a standard filter gives.

**ISO 8573-1 quality classes**

Quality class	Pollution		Water max. press. dew point (°C)	Oil max. concentration (mg/m <sup>3</sup> )
	particle size (µm)	max. concentration (mg/m <sup>3</sup> )		
1	0,1	0,1	-70	0,01
2	1	1	-40	0,1
3	5	5	-20	1,0
4	15	8	+3	5,0
5	40	10	+7	25
6	-	-	+10	-

Part number configurator for solenoid valves

<b>D</b>	<b>B</b>	<b>1</b>	<b>2</b>	<b>2</b>	<b>A</b>	<b>4</b>	<b>9</b>
----------	----------	----------	----------	----------	----------	----------	----------

Valve family	
DB	HD poppet solenoid operated

Thread port	
1	3/8 BSP
2	1/2 BSP

Air supply to solenoid	
2	Internal

Overrides	
A	None
C	Flush - Locking
D	Extended - non locking

Voltage <sup>1</sup>			
	AC		DC
	60Hz	50Hz	
40	12		
42	24	22	
45			12
49			24
53	120	110	
57	240	230	
XX	valve less solenoid/coil		

<sup>1</sup> Shaded part numbers are standard  
 Unshaded part numbers are available on request but will be subject to minimum order quantities  
 Otherwise order XX version and order coil separately.

Part number configurator for manual & mechanical operated poppet valves

<b>B</b>	<b>1</b>	<b>0</b>	<b>2</b>	<b>P</b>
----------	----------	----------	----------	----------

Valve family	
B	HD poppet manual & mechanical

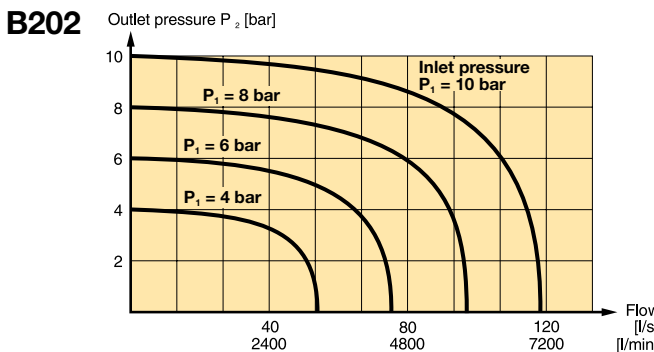
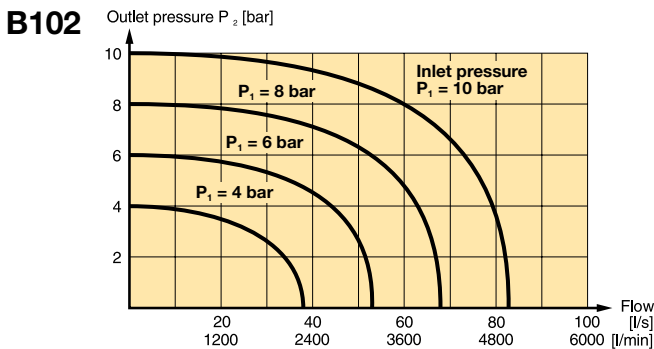
Thread port	
1	3/8 BSP
2	1/2 BSP

Function	
2	2/2 NC
3	3/2 NC

Operator	
C	Ball
L	Lever
P	Pilot pressure
R	Roller lever

Flow characteristics

Flow capacities in accordance with ISO6358  
 Flow measured with valve on manifold  
 All pressures = effective pressure



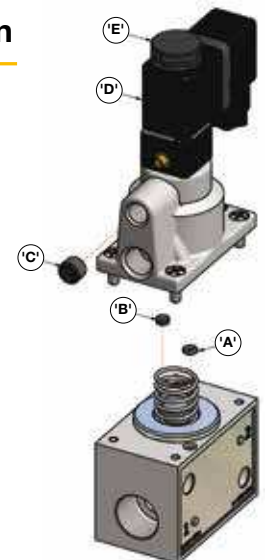
Electrical Information

Power consumption	Inrush	Hold
	AC VA	8.5VA
	DC	4.8 Watt
	Rating	100% continuous
Isolation class	F	
Protection class	IP 65 (P 54) DIN 40 050	
Connection	DIN 43 650 Form B	
Solenoid response	milliseconds at 7 bar	









External pilot supply option

Solenoid pilot operated valves have an internal pilot air supply, but provisions for external pilot supply is provided. To use with external supply interchange 'O'-ring (Item 'A') and Plug (Item 'B') to block off the internal pilot supply. Remove hexagon socket plug (Item 'C') from the external pilot supply port, connecting an air supply as desired.

Orientation of the solenoid coil (Item 'D') can be altered through 90° increments by loosening the diffuser nut (Item 'E').







## Main data for mechanically operated valves, Heavy duty poppet series (NC only)

Symbol	Type	Connection	Actuator	Return	Operating force at 6 bar, N	Weight Kg	Order code
	2/2	G3/8	Solenoid pilot	Spring	24VDC Less solenoid	0.70 0.65	<b>DB122A49</b> <b>DB122AXX</b>
	3/2	G3/8	Solenoid pilot	Spring	24VDC Less solenoid	0.70 0.65	<b>DB123A49</b> <b>DB123AXX</b>
	2/2	G1/2	Solenoid pilot	Spring	24VDC Less solenoid	0.70 0.65	<b>DB222A49</b> <b>DB222AXX</b>
	3/2	G1/2	Solenoid pilot	Spring	24VDC Less solenoid	0.70 0.65	<b>DB223A49</b> <b>DB223AXX</b>
	2/2	G3/8	Air pilot	Spring		0.61	<b>B102P</b>
	3/2	G3/8	Air pilot	Spring		0.61	<b>B103P</b>
	2/2	G1/2	Air pilot	Spring		0.61	<b>B202P</b>
	3/2	G1/2	Air pilot	Spring		0.61	<b>B203P</b>

Order electrical connectors for solenoids separately.

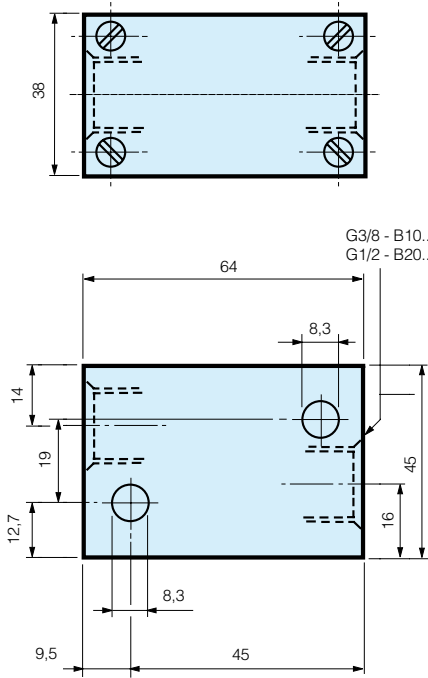
## Main data for mechanically operated valves, Heavy duty poppet series (NC only)

Symbol	Type	Connection	Actuator	Return	Operating force at 6 bar, N	Weight Kg	Order code
	2/2	G3/8	Lever	Lever	22	0.65	<b>B102L</b>
	3/2	G3/8	Lock down	Lever lever	22	0.65	<b>B103L</b>
	2/2	G1/2	Lock down	Lever lever	22	0.65	<b>B202L</b>
	3/2	G1/2	Lock down	Lever lever	22	0.65	<b>B203L</b>
	2/2	G3/8	Roller lever	Spring	36	0.642	<b>B102R</b>
	3/2	G3/8	Roller lever	Spring	36	0.630	<b>B103R</b>
	2/2	G1/2	Roller lever	Spring	36	0.614	<b>B202R</b>
	3/2	G1/2	Roller lever	Spring	36	0.604	<b>B203R</b>
	2/2	G3/8	Ball	Spring	220	0.542	<b>B102C</b>
	3/2	G3/8	Ball	Spring	220	0.532	<b>B103C</b>
	2/2	G1/2	Ball	Spring	220	0.530	<b>B202C</b>
	3/2	G1/2	Ball	Spring	220	0.520	<b>B203C</b>

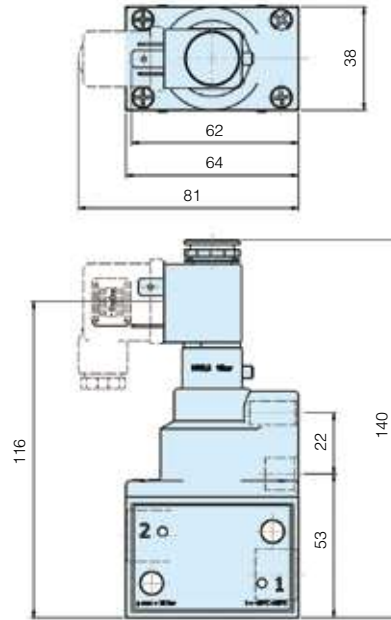


**Mechanically operated valves - 2/2, 3/2 valves**

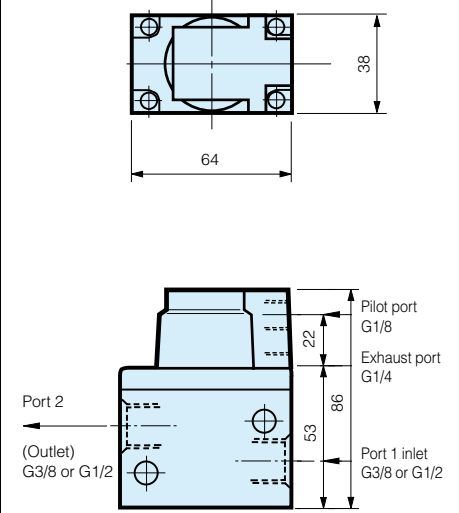
**Basic body dimensions**



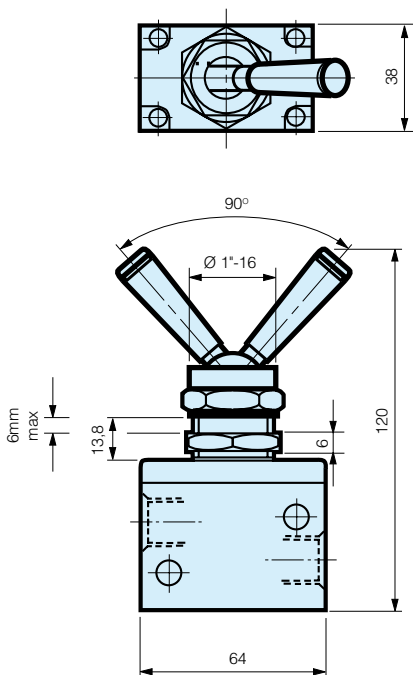
**Solenoid pilot operated spring return**  
 DB122, DB123, DB222, DB223



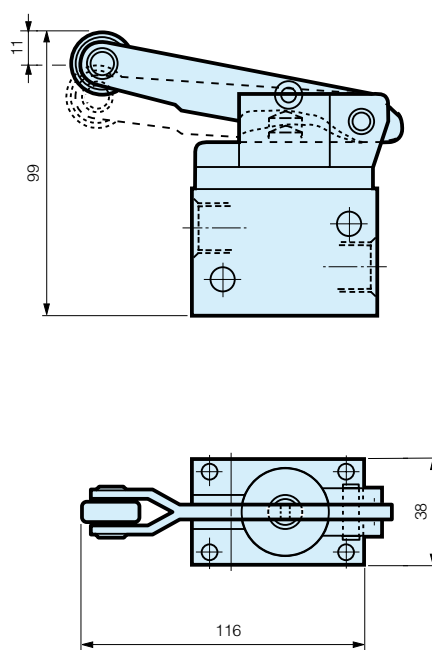
**Air pilot operated spring return**  
 B102P, B103P, B202P, B203P



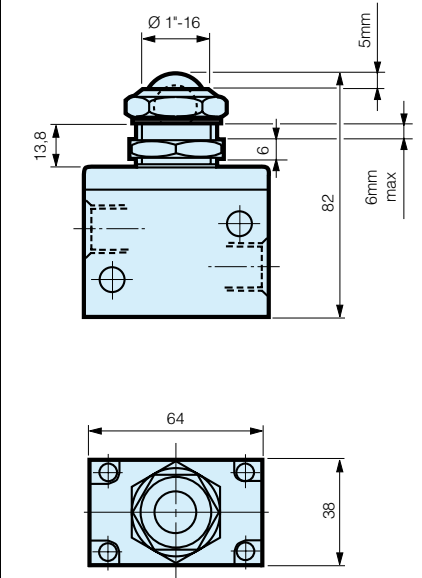
**Lock down lever**  
 B102L, B103L, B202L, B203L



**Roller lever operated spring return**  
 B102R, B103R, B202R, B203R



**Ball operated spring return**  
 B102C, B103C, B202C, B203C



All dimensions in mm unless otherwise stated

**22mm solenoid operator part numbers and spares**

**Solenoid coils for 22mm solenoid operators**

Voltage	Order code Form B	Weight (Kg)
12V 60Hz	<b>P2FCB440</b>	0.093
24V 50/60Hz	<b>P2FCB442</b>	0.093
12V DC	<b>P2FCB445</b>	0.093
12V DC Mobile	<b>P2FCB447</b>	0.093
24v DC Mobile	<b>P2FCB448</b>	0.093
24V DC	<b>P2FCB449</b>	0.093
48V DC	<b>P2FCB451</b>	0.093
110V/50Hz, 120V/60Hz	<b>P2FCB453</b>	0.093
230V/50Hz, 230V/60Hz	<b>P2FCB457</b>	0.093

**Spare Solenoid Nuts**

Valves with vented exhaust are fitted with diffuser plastic nut

Order Code
<b>P2FND</b>

**Spare Solenoid Operators**

**Solenoid pilot operator 22mm NC, Normal duty (Max Operating pressure 10bar, Temp -10°C to +50°C)**

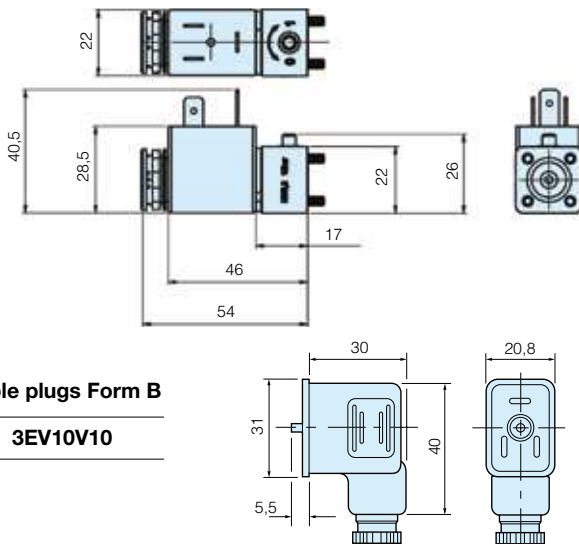
<b>Order code</b> (with locking bi-stable m/o)	Weight Kg
<b>P2FP13N4C</b>	0.05
<b>Order code</b> (with Non-locking monostable m/o)	Weight Kg
<b>P2FP13N4D</b>	0.05
<b>Order code</b> (with no m/o)	Weight Kg
<b>P2FP13N4A</b>	0.05

**Note.**

The operators are supplied with mounting screws and interface 'O' rings. **Coils and connectors must be ordered separately.**

**Cable Plug Dimensions (mm)**

Solenoid operators P2E-•V...

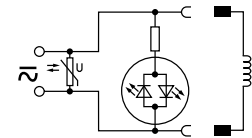
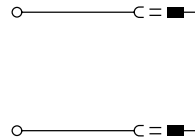


**Cable plugs Form B**

**3EV10V10**

**Solenoid Connectors / Cable Plugs EN175301-803**

Description	Order code
22mm Industrial Form B	
With standard screw Standard IP65 without flying lead	<b>3EV10V10</b>
With LED and protection 24V AC/DC	<b>3EV10V20-24</b>
With LED and protection 110V AC	<b>3EV10V20-110</b>
With LED and protection 230V AC	<b>3EV10V20-230</b>
With cable 24V AC/DC, 5m cable LED and protection IP65	<b>3EV10V20-24L5</b>
110V AC/DC, 5m cable LED and protection IP65	<b>3EV10V20-110L5</b>
230V AC, 5m cable LED and protection IP65	<b>3EV10V20-230L5</b>



**3EV10V10**

**3EV10V20-24**

**3EV10V20-24L5**

**3EV10V20-110**

**3EV10V20-110L5**

**3EV10V20-230**

**3EV10V20-230L5**

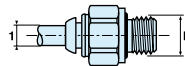
**Accessories**

**Sintered bronze series silencers**



Port	Order code	Pack Qty
G1/4	<b>P6M-BAA2</b>	1

**Male straight connectors - Parallel thread**



Tube Ø1	Thread B	Order code	Box Qty
4	1/8	<b>F4PMB4-1/8</b>	20
6	1/8	<b>F4PMB6-1/8</b>	30
6	1/4	<b>F4PMB6-1/4</b>	30
8	1/8	<b>F4PB8-1/8</b>	40
8	1/4	<b>F4PB8-1/4</b>	30
8	3/8	<b>F4PB8-3/8</b>	20
10	1/4	<b>F4PB10-1/4</b>	20
10	3/8	<b>F4PB10-3/8</b>	20
10	1/2	<b>F4PB10-1/2</b>	10
12	1/4	<b>F4PB12-1/4</b>	10
12	3/8	<b>F4PB12-3/8</b>	10
12	1/2	<b>F4PB12-1/2</b>	10
14	3/8	<b>F4PB14-3/8</b>	10
14	1/2	<b>F4PB14-1/2</b>	10

# DX Global ISO Valves

A complete range of pneumatic  
**ISO valves**



## Rust and corrosion resistant body

With the valve body in polyamide reinforced fiberglass and the casting in anodised aluminium, the Isomax range presents a comprehensive modern design to suit most industrial environments.

- **ISO 15407-1 Sizes 02 & 01 and ISO 5599-1 Sizes 1, 2 & 3**
- **Ceramic technology for long life operation**
- **From vacuum up to 12 bar applications**
- **Internal or external pilot supply with same valves**
- **M12 on each coil**
- **Common M12**

Ceramic slide valves for maximum operational life. Solenoid or air pilot actuation. Vacuum to 10 bar general applications.

- Size 01 and 02 (26 and 18 mm)
- Ceramic technology for long life operation
- From vacuum up to 10 bar applications
- Internal or external pilot supply with same valves
- Capture solenoid exhaust



**Operation information**

Working pressure :	-0,9 to 10 bar	
Working temperature :	-10 to +60°C	
	<b>DX02</b>	<b>DX01</b>
Flow (Qmax.) :	630 l/min	1000 l/min
Flow (Qn) :	385 l/min	585 l/min

**Ceramic technology**

All ISOMAX products use high-tech ceramic switching technology :

• **Excellent reliability :**

- Long life in excess of 100 million operations\*.
- Operates with lubricated or non lubricated air.
- Low sensitivity to air quality changes switching without seal.
- Stiction free.

• **High performances :**

Slide valve concept allows high flow / size ratio and short response time due to short slide stroke and low friction.



• **Switchable selector**

Valves fitted with switchable selector to give internal or external pilot supply

**Ceramic plate**




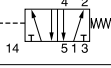
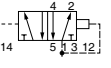
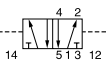
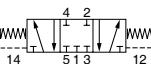
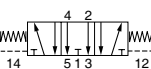
• **Size 02 & Size 01**

Solenoid exhaust pilot


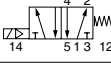
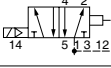
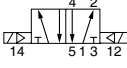
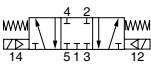
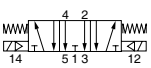
• **Stable long lasting performances**

Low friction switching : minimum wear of the valve member/seal assembly.

**Isomax - ISO 15407-1 - Sizes 02 & 01**  
**Pneumatic remote pilot operated**  
**Without valve spool manual override**


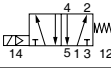
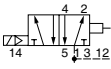
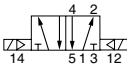
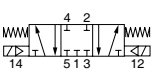
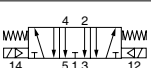
	Symbol	Description	Size	Weight (g)	Order code
		5/2 Air pilot - Spring return	02 - 18 mm	90	<b>DX02-421-60</b>
			01 - 26mm	130	<b>DX01-421-60</b>
		5/2 Air pilot - Differential	02 - 18 mm	90	<b>DX02-451-60</b>
			01 - 26mm	130	<b>DX01-451-60</b>
		5/2 Double air pilot	02 - 18 mm	90	<b>DX02-406-60</b>
			01 - 26mm	130	<b>DX01-406-60</b>
		5/3 Closed Centre (APB)	02 - 18 mm	90	<b>DX02-416-60</b>
			01 - 26mm	130	<b>DX01-416-60</b>
		5/3 Vented Center	02 - 18 mm	90	<b>DX02-411-60</b>
			01 - 26mm	130	<b>DX01-411-60</b>

**Isomax - ISO 15407-1 - Sizes 02 & 01**  
**15 mm DIN C / 24 Vdc / 1,2 W solenoid valve operator**

	Symbol	Description	Size	Weight (g)	Order code
		5/2 Single solenoid - Spring return	02 - 18 mm	130	<b>DX02-621-951M</b>
			01 - 26mm	170	<b>DX01-621-951M</b>
		5/2 Single solenoid - Differential	02 - 18 mm	130	<b>DX02-651-951M</b>
			01 - 26mm	170	<b>DX01-651-951M</b>
		5/2 Double solenoid	02 - 18 mm	130	<b>DX02-606-951M</b>
			01 - 26mm	170	<b>DX01-606-951M</b>
		5/3 Closed Centre (APB)	02 - 18 mm	130	<b>DX02-616-951M</b>
			01 - 26mm	170	<b>DX01-616-951M</b>
		5/3 Vented Center	02 - 18 mm	160	<b>DX02-611-951M</b>
			01 - 26mm	170	<b>DX01-611-951M</b>

Solenoid connectors & cable plugs to be ordered separately. See solenoid section

**Isomax - ISO 15407-1 - Sizes 02 & 01**  
**Without 15 mm DIN C solenoid valve operator**

	Symbol	Description	Size	Weight (g)	Order code
		5/2 Single solenoid - Spring return	02 - 18 mm	130	<b>DX02-621-60</b>
			01 - 26mm	170	<b>DX01-621-60</b>
		5/2 Single solenoid - Differential	02 - 18 mm	130	<b>DX02-651-60</b>
			01 - 26mm	170	<b>DX01-651-60</b>
		5/2 Double solenoid	02 - 18 mm	130	<b>DX02-606-60</b>
			01 - 26mm	170	<b>DX01-606-60</b>
		5/3 Closed Centre (APB)	02 - 18 mm	130	<b>DX02-616-60</b>
			01 - 26mm	170	<b>DX01-616-60</b>
		5/3 Vented Center	02 - 18 mm	160	<b>DX02-611-60</b>
			01 - 26mm	170	<b>DX01-611-60</b>

15mm solenoid valve operator, solenoid connectors & cable plug to be ordered separately. See solenoid section

Ceramic slide valves for maximum operational life. Solenoid or air pilot operated with a wide choice of bases and manifolds. Vacuum to 12 bar general applications.

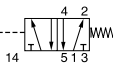
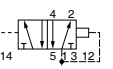
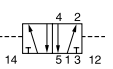
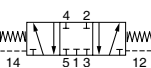
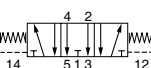
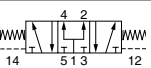
- Size 1, 2 and 3
- Ceramic technology for long life operation
- From vacuum up to 12 bar applications
- Internal or external pilot supply with same valves
- M12 on each coil
- Common M12



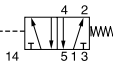
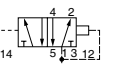
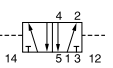
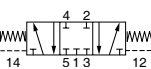
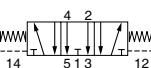
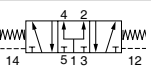
 **For ATEX specific products contact Sales Office**

**Isomax - ISO 5599-1 - Sizes 1, 2 & 3  
Pneumatic remote pilot operated  
With direct valve spool manual override**

Operation information			
Working pressure :	-0,9 to 12 bar		
Working temperature :	-10 to +60°C		
	<b>DX1</b>	<b>DX2</b>	<b>DX3</b>
Flow (Qmax.) :	1680 l/min	3640 l/min	6420 l/min
Flow (Qn.) :	1150 l/min	2330 l/min	4050 l/min
ATEX approval:	CE Ex II 2 GD c 85°C		

Symbol	Description	Size	Weight (g)	Order code
	5/2 Air pilot - Spring return	1 - 43 mm	350	<b>DX1-421-70</b>
		2 - 56 mm	600	<b>DX2-421-70</b>
		3 - 71 mm	1100	<b>DX3-421-70</b>
	5/2 Air pilot - Differential	1 - 43 mm	350	<b>DX1-451-70</b>
		2 - 56 mm	600	<b>DX2-451-70</b>
		3 - 71 mm	1100	<b>DX3-451-70</b>
	5/2 Double air pilot	1 - 43 mm	350	<b>DX1-406-70</b>
		2 - 56 mm	600	<b>DX2-406-70</b>
		3 - 71 mm	1100	<b>DX3-406-70</b>
	5/3 Closed Center (APB)	1 - 43 mm	350	<b>DX1-416-70</b>
		2 - 56 mm	600	<b>DX2-416-70</b>
		3 - 71 mm	1100	<b>DX3-416-70</b>
	5/3 Vented Center	1 - 43 mm	350	<b>DX1-411-70</b>
		2 - 56 mm	600	<b>DX2-411-70</b>
		3 - 71 mm	1100	<b>DX3-411-70</b>
	5/3 Pressurised Center	1 - 43 mm	350	<b>DX1-413-70</b>
		2 - 56 mm	600	<b>DX2-413-70</b>


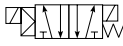
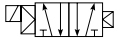

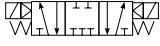
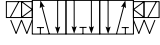
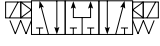
**Isomax - ISO 5599-1 - Sizes 1, 2 & 3  
Pneumatic remote pilot operated  
Without direct valve spool manual override**

Symbol	Description	Size	Weight (g)	Order code
	5/2 Air pilot - Spring return	1 - 43 mm	350	<b>DX1-421-60</b>
		2 - 56 mm	600	<b>DX2-421-60</b>
		3 - 71 mm	1100	<b>DX3-421-60</b>
	5/2 Air pilot - Differential	1 - 43 mm	350	<b>DX1-451-60</b>
		2 - 56 mm	600	<b>DX2-451-60</b>
		3 - 71 mm	1100	<b>DX3-451-60</b>
	5/2 Double air pilot	1 - 43 mm	350	<b>DX1-406-60</b>
		2 - 56 mm	600	<b>DX2-406-60</b>
		3 - 71 mm	1100	<b>DX3-406-60</b>
	5/3 Closed Center (APB)	1 - 43 mm	350	<b>DX1-416-60</b>
		2 - 56 mm	600	<b>DX2-416-60</b>
		3 - 71 mm	1100	<b>DX3-416-60</b>
	5/3 Vented Center	1 - 43 mm	350	<b>DX1-411-60</b>
		2 - 56 mm	600	<b>DX2-411-60</b>
		3 - 71 mm	1100	<b>DX3-411-60</b>
	5/3 Pressurised Center	1 - 43 mm	350	<b>DX1-413-60</b>
		2 - 56 mm	600	<b>DX2-413-60</b>

**Isomax - ISO 5599-1 - Sizes 1, 2 & 3**

**CNOMO operator with 30 x 30 DIN Form A / 24 Vdc / 2,7 W solenoid**

With non locking manual override on solenoid valve operator - Without direct valve spool manual override



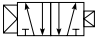

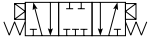
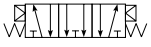
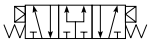
Symbol	Description	Size	Weight (g)	Order code
		1 - 43 mm	500	<b>DX1-621-BL49</b>
		2 - 56 mm	750	<b>DX2-621-BL49</b>
		3 - 71 mm	1250	<b>DX3-621-BL49</b>
		1 - 43 mm	500	<b>DX1-651-BL49</b>
		2 - 56 mm	750	<b>DX2-651-BL49</b>
		3 - 71 mm	1250	<b>DX3-651-BL49</b>
		1 - 43 mm	650	<b>DX1-606-BL49</b>
		2 - 56 mm	900	<b>DX2-606-BL49</b>
		3 - 71 mm	1400	<b>DX3-606-BL49</b>
	1 - 43 mm	560	<b>DX1-616-BL49</b>	
	2 - 56 mm	900	<b>DX2-616-BL49</b>	
	3 - 71 mm	1400	<b>DX3-616-BL49</b>	
	1 - 43 mm	650	<b>DX1-611-BL49</b>	
	2 - 56 mm	900	<b>DX2-611-BL49</b>	
	3 - 71 mm	1400	<b>DX3-611-BL49</b>	
	1 - 43 mm	650	<b>DX1-613-BL49</b>	
	2 - 56 mm	900	<b>DX2-613-BL49</b>	

Solenoid connectors & cable plug to be ordered separately. See solenoid section

**Isomax - ISO 5599-1 - Sizes 1, 2 & 3**

**CNOMO operator without coil**

With non locking manual override on solenoid valve operator - Without direct valve spool manual override





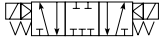
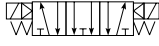
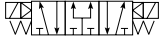
Symbol	Description	Size	Weight (g)	Order code
		1 - 43 mm	400	<b>DX1-621-BN</b>
		2 - 56 mm	650	<b>DX2-621-BN</b>
		3 - 71 mm	1150	<b>DX3-621-BN</b>
		1 - 43 mm	400	<b>DX1-651-BN</b>
		2 - 56 mm	650	<b>DX2-651-BN</b>
		3 - 71 mm	1150	<b>DX3-651-BN</b>
		1 - 43 mm	550	<b>DX1-606-BN</b>
		2 - 56 mm	800	<b>DX2-606-BN</b>
		3 - 71 mm	1300	<b>DX3-606-BN</b>
	1 - 43 mm	550	<b>DX1-616-BN</b>	
	2 - 56 mm	800	<b>DX2-616-BN</b>	
	3 - 71 mm	1300	<b>DX3-616-BN</b>	
	1 - 43 mm	550	<b>DX1-611-BN</b>	
	2 - 56 mm	800	<b>DX2-611-BN</b>	
	3 - 71 mm	1300	<b>DX3-611-BN</b>	
	1 - 43 mm	550	<b>DX1-613-BN</b>	
	2 - 56 mm	800	<b>DX2-613-BN</b>	

30 x 30 DIN Form A or 22 x 30 DIN Form B coil & coil connectors to be ordered separately. See solenoid section

## Isomax - ISO 5599-1 - Sizes 1, 2 &amp; 3

## Valve alone without operator





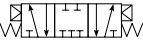
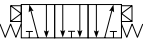
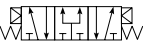
## With direct valve spool manual override

Symbol	Description	Size	Weight (g)	Order code
	5/2 Air pilot - Spring return 	1 - 43 mm	350	<b>DX1-621-70</b>
		2 - 56 mm	600	<b>DX2-621-70</b>
		3 - 71 mm	1100	<b>DX3-621-70</b>
	5/2 Air pilot - Differential 	1 - 43 mm	350	<b>DX1-651-70</b>
		2 - 56 mm	600	<b>DX2-651-70</b>
		3 - 71 mm	1100	<b>DX3-651-70</b>
	5/2 Double air pilot 	1 - 43 mm	350	<b>DX1-606-70</b>
		2 - 56 mm	600	<b>DX2-606-70</b>
		3 - 71 mm	1100	<b>DX3-606-70</b>
5/3 Closed Center (APB) 	1 - 43 mm	350	<b>DX1-616-70</b>	
	2 - 56 mm	600	<b>DX2-616-70</b>	
	3 - 71 mm	1100	<b>DX3-616-70</b>	
5/3 Vented Center 	1 - 43 mm	350	<b>DX1-611-70</b>	
	2 - 56 mm	600	<b>DX2-611-70</b>	
	3 - 71 mm	1100	<b>DX3-611-70</b>	
5/3 Pressurised Center 	1 - 43 mm	350	<b>DX1-613-70</b>	
	2 - 56 mm	600	<b>DX2-613-70</b>	

## Isomax - ISO 5599-1 - Sizes 1, 2 &amp; 3








## Valve alone without operator

## Without direct valve spool manual override

Symbol	Description	Size	Weight (g)	Order code
	5/2 Air pilot - Spring return 	1 - 43 mm	350	<b>DX1-621-60</b>
		2 - 56 mm	600	<b>DX2-621-60</b>
		3 - 71 mm	1100	<b>DX3-621-60</b>
	5/2 Air pilot - Differential 	1 - 43 mm	350	<b>DX1-621-60</b>
		2 - 56 mm	600	<b>DX2-621-60</b>
		3 - 71 mm	1100	<b>DX3-621-60</b>
	5/2 Double air pilot 	1 - 43 mm	350	<b>DX1-606-60</b>
		2 - 56 mm	600	<b>DX2-606-60</b>
		3 - 71 mm	1100	<b>DX3-606-60</b>
5/3 Closed Center (APB) 	1 - 43 mm	350	<b>DX1-616-60</b>	
	2 - 56 mm	600	<b>DX2-616-60</b>	
	3 - 71 mm	1100	<b>DX3-616-60</b>	
5/3 Vented Center 	1 - 43 mm	350	<b>DX1-611-60</b>	
	2 - 56 mm	600	<b>DX2-611-60</b>	
	3 - 71 mm	1100	<b>DX3-611-60</b>	
5/3 Pressurised Center 	1 - 43 mm	350	<b>DX1-613-60</b>	
	2 - 56 mm	600	<b>DX2-613-60</b>	




**15 mm DIN Form C (8mm spacing) pilot solenoid valve - Standard version**

	Manual Overrides			Flush (Not Extended)		Extended	
	Voltage	W (g)	Without Manual Override Order code	Blue Override, non locking Order code	Yellow Override, Locking Order code	Blue Override, non locking Order code	Yellow Override, Locking Order code
 <p>Pins/Air Opposite (Pins UP)</p>	12 Vdc	38	 <b>P2E-KV32B0</b>	<b>P2E-KV32B1</b>	<b>P2E-KV32B2</b>	<b>P2E-KV32B3</b>	<b>P2E-KV32B4</b>
	24 Vdc	38	 <b>P2E-KV32C0</b>	<b>P2E-KV32C1</b>	<b>P2E-KV32C2</b>	<b>P2E-KV32C3</b>	<b>P2E-KV32C4</b>
	48 Vdc	38	 <b>P2E-KV32D0</b>	<b>P2E-KV32D1</b>	<b>P2E-KV32D2</b>	<b>P2E-KV32D3</b>	<b>P2E-KV32D4</b>
	24 Vac 50Hz	38	 <b>P2E-KV31C0</b>	<b>P2E-KV31C1</b>	<b>P2E-KV31C2</b>	<b>P2E-KV31C3</b>	<b>P2E-KV31C4</b>
	48 Vac 50/60Hz	38	 <b>P2E-KV34D0</b>	<b>P2E-KV34D1</b>	<b>P2E-KV34D2</b>	<b>P2E-KV34D3</b>	<b>P2E-KV34D4</b>
	115 Vac 50Hz	38	 <b>P2E-KV31F0</b>	<b>P2E-KV31F1</b>	<b>P2E-KV31F2</b>	<b>P2E-KV31F3</b>	<b>P2E-KV31F4</b>
	120 Vac 60 Hz	38					
	230 Vac 50Hz	38	<b>P2E-KV31J0</b>	<b>P2E-KV31J1</b>	<b>P2E-KV31J2</b>	<b>P2E-KV31J3</b>	<b>P2E-KV31J4</b>
	240 Vac 60 Hz	38					

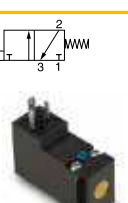





Mounting screws included with the DX valve body

**15mm DIN Form C (8mm spacing) pilot solenoid valve - Mobile version**

	Voltage	W (g)	Without Manual Override	Not Extended Blue Override non locking flush
			Order code	Order code
	12 Vdc	38	<b>P2E-MV35B0</b>	<b>P2E-MV35B1</b>
	24 Vdc	38	<b>P2E-MV35C0</b>	<b>P2E-MV35C1</b>
	37,5 Vdc	38	<b>P2E-MV35W0</b>	<b>P2E-MV35W1</b>
	48 Vdc	38	<b>P2E-MV35D0</b>	<b>P2E-MV35D1</b>
	72 Vdc	38	<b>P2E-MV35T0</b>	<b>P2E-MV35T1</b>
	78 Vdc	38	<b>P2E-MV35Y0</b>	<b>P2E-MV35Y1</b>
	96 Vdc	38	<b>P2E-MV35V0</b>	<b>P2E-MV35V1</b>
	110 Vdc	38	<b>P2E-MV35E0</b>	<b>P2E-MV35E1</b>



Mounting screws included with the DX valve body

**15mm DIN Form C (8mm spacing) pilot solenoid valve - Food Industry version**

	Voltage	W (g)	Without Manual Override	Not Extended		Extended	
			Order code	Blue Override non locking flush Order code	Yellow Override Locking flush Order code	Blue Override non locking flush Order code	Yellow Override Locking flush Order code
	24 Vdc	38	 <b>P2E-QV32C0</b>	<b>P2E-QV32C1</b>	<b>P2E-QV32C2</b>	<b>P2E-QV32C3</b>	<b>P2E-QV32C4</b>
	48 Vdc	38	 <b>P2E-QV32D0</b>	<b>P2E-QV32D1</b>	<b>P2E-QV32D2</b>		
	24 Vac 50 Hz	38	 <b>P2E-QV31C0</b>	<b>P2E-QV31C1</b>	<b>P2E-QV31C2</b>	<b>P2E-QV31C3</b>	<b>P2E-QV31C4</b>
	48 Vac 50/60Hz	38	 <b>P2E-QV34D0</b>	<b>P2E-QV34D1</b>	<b>P2E-QV34D2</b>		
	115 Vac 50Hz/120 Vac 60Hz	38	 <b>P2E-QV31F0</b>	<b>P2E-QV31F1</b>	<b>P2E-QV31F2</b>	<b>P2E-QV31F3</b>	<b>P2E-QV31F4</b>
	230 Vac 50Hz	38	<b>P2E-QV31J0</b>	<b>P2E-QV31J1</b>	<b>P2E-QV31J2</b>	<b>P2E-QV31J3</b>	<b>P2E-QV31J4</b>
	240 Vac 60Hz/						




Mounting screws included with the DX valve body

**Solenoid Connectors 15 mm DIN Form C / ISO15217**


Description	Characteristic	Visualisation	Cable length	W (g)	Order code	
 <p>With large headed screw suitable for mounting in inaccessible or recess position</p>	Standard IP65	No LED	No cable	20	<b>P8C-C</b>	
		24 Vdc LED	No cable	20	<b>P8C-C26C</b>	
		110 Vac LED	No cable	20	<b>P8C-C21E</b>	
 <p>With standard screw</p>	Standard IP65	No LED	No cable	15	<b>P8C-D</b>	
			No cable	2 meters	115	<b>P8L-C2</b>
			No cable	5 meters	240	<b>P8L-C5</b>
		24 Vdc/Vac LED	No cable	15	<b>P8C-D26C</b>	
			2 meters	170	<b>P8L-C226C</b>	
			5 meters	240	<b>P8L-C526C</b>	
			10 meters	440	<b>P8L-CA26C</b>	
		110 Vac LED	No cable	115	<b>P8C-D21E</b>	
			2 meters	115	<b>P8L-C221E</b>	
			5 meters	230	<b>P8L-C521E</b>	

In accordance with the EU Machine Directive, EN 983, solenoid valves with manual override should have spring-return operating arms for safety.


### 3/2 N.C. CNOMO Operator - Without Coil

Description	Manual override	W (g)	Order code
 Solenoid operator for 30 x 30 DIN Form A Coil Dedicated to Low Power 2,5W / 3VA Coil	No manual override	65	<b>P2FP23N4A</b>
	Pulse non locking	65	<b>P2FP23N4B</b>
	Locking	65	<b>P2FP23N4C</b>
 Solenoid operator for 30 x 30 DIN Form A Coil Dedicated to High Power 4,5W / 5VA Coil	No manual override	65	<b>EV3000100</b>
	Pulse non locking	65	<b>EV3001100</b>
	Locking	65	<b>EV3003100</b>
 Solenoid operator for 22 x 30 DIN Form B Coil Dedicated to Low Power 2,5W / 4,5VA Coil	No manual override	65	<b>1EV0*310</b>
	Pulse non locking	65	<b>1EV1*310</b>
	Locking	65	<b>1EV3*310</b>



### 30 x 30 DIN Form A and 22 x 30 DIN Form B Coils for CNOMO Operator

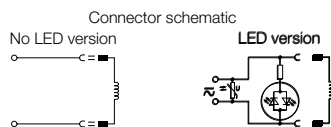
Voltage	W (g)	30 x 30 DIN Form A		22 x 30 DIN Form B		
		Low Power (to be used with P2FP23N4x) Order code	High Power (to be used with EV300x100) Order code	Low Power (to be used with 1EVx*310) W (g)	Order code	
	12 Vdc	105	<b>P2FCA445</b>	<b>P2FCA545</b>	93	<b>P2FCB345</b>
	24 Vdc	105	<b>P2FCA449</b>	<b>P2FCA549</b>	93	<b>P2FCB349</b>
	48 Vdc	105	<b>P2FCA451</b>	<b>P2FCA551</b>	93	<b>P2FCB351</b>
	12 Vac 50/60 Hz	105	<b>P2FCA440</b>	<b>P2FCA540</b>	93	<b>P2FCB340</b>
	24 Vac 50/60 Hz	105	<b>P2FCA445</b>	<b>P2FCA545</b>	93	<b>P2FCB345</b>
	48 Vac 50/60 Hz	105	<b>P2FCA449</b>	<b>P2FCA549</b>	93	<b>P2FCB349</b>
	110 Vac 50 Hz / 120 Vac 60 Hz	105	<b>P2FCA453</b>	<b>P2FCA553</b>	93	<b>P2FCB353</b>
	230 Vac 50 Hz / 240 Vac 60 Hz	105	<b>P2FCA457</b>	<b>P2FCA557</b>	93	<b>P2FCB357</b>

### Spare Solenoid Nuts


Description	Usage	W (g)	Order code	
	Plastic knurled nut	For valve requiring Captured exhaust	5	<b>P2FNPA</b>
	Diffuser plastic nut	For valve requiring Vented exhaust	5	<b>P2FNDA</b>

### 30 x 30 DIN Form A and 22 x 30 DIN Form B Solenoid Connectors

Description	Characteristic	Visualisation	Cable length	W (g)	Order code
 30 x 30 DIN Form A connector With standard screw	Standard IP65	No LED	No cable	15	<b>3EV290V10</b>
		24 Vdc/Vac LED	No cable	30	<b>3EV290V20-24</b>
			5 meters	355	<b>3EV290V20-24L5</b>
		110 Vac LED	No cable	30	<b>3EV290V20-110</b>
			5 meters	470	<b>3EV290V20-110L5</b>
		230 Vac LED	No cable	30	<b>3EV290V20-230</b>
5 meters	350		<b>3EV290V20-230L5</b>		
 22 x 30 DIN Form B connector With standard screw	Standard IP65	No LED	No cable	15	<b>3EV10V10</b>
		24 Vdc/Vac LED	No cable	20	<b>3EV10V20-24</b>
			5 meters	350	<b>3EV10V20-24L5</b>
		110 Vac LED	No cable	25	<b>3EV10V20-110</b>
			5 meters	355	<b>3EV10V20-110L5</b>
		230 Vac LED	No cable	25	<b>3EV10V20-230</b>
5 meters	360		<b>3EV10V20-230L5</b>		



### M12 Adaptor for 30 x 30 DIN Form A Coil

Description	Characteristics	Visualisation	Cable	W (g)	Order code
 M12 Connector for one coil	24 V AC/DC - 4A	LED	No cable	30	<b>P8C-A626C</b>
			M12 Connector for two coils	24 V AC/DC - 4A	LED

**Note:** Solenoid pilot operators are fitted to the ISO valve range.  
 Order the above part numbers for spares.  
 The operators are supplied with mounting screws and interface 'O' rings.  
**Coils and connectors must be ordered separately.**

# ISYS ISO Valves

A complete range of pneumatic  
**ISO valves**



## Flexibility, fast response, and high performance

Parker's ISYS valve line offers a complete ISO valve package, from ISO 15407 18mm and 26mm valves, to the larger ISO 5599 size 1, 2, and 3 valves, all available in either plug-in -2 or individual connector -1 options.

- **ISO 15407-1 & 15407-2 Sizes 02 & 01 and ISO 5599-1 & 5599-2 Sizes 1, 2 & 3**
- **From vacuum up to 10 bar applications**
- **Internal or external pilot supply with same valves**

## Isys ISO - Heavy Duty Applications

### Market Applications

- Automotive
- Machine tools
- Mobile



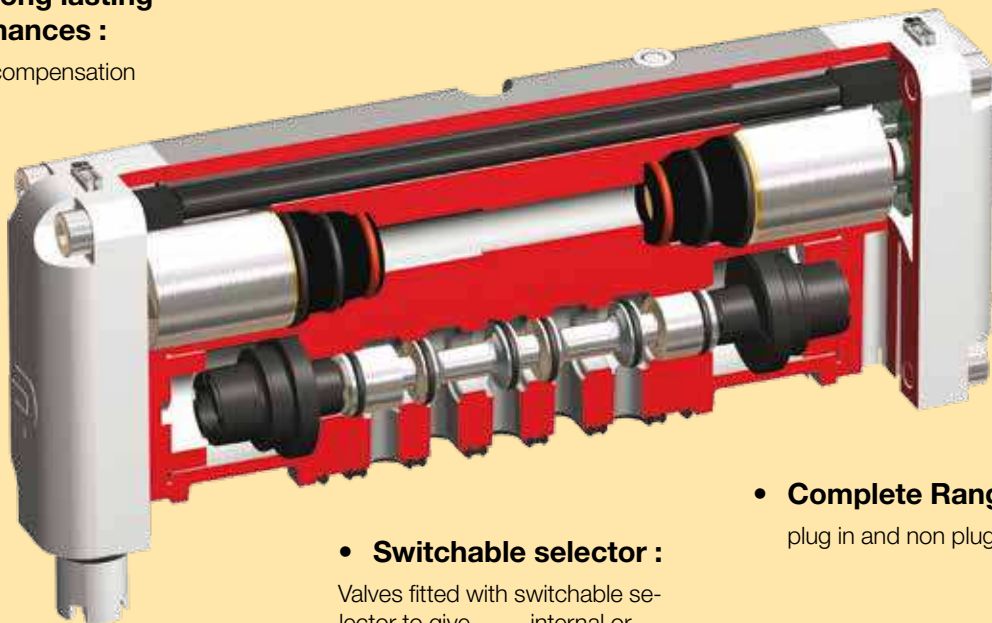
- **Excellent reliability :**

Long life in excess of 30 million operations.

- **Heavy Duty Metal Body**

- **Stable long lasting performances :**

due to wear compensation

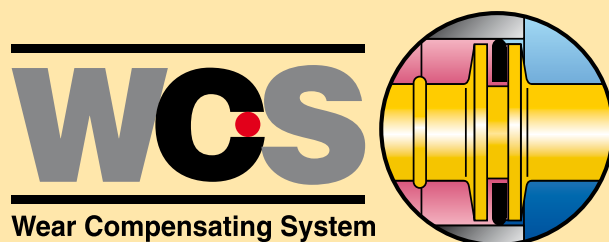


- **Complete Range :**  
plug in and non plug in

- **Switchable selector :**

Valves fitted with switchable selector to give internal or external pilot supply

- **WCS Spool Technology**




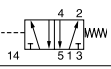
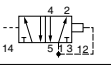
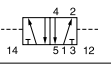
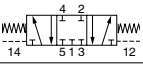

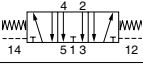
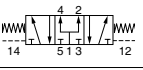
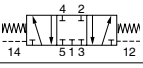
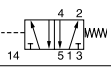
Solenoid or air pilot actuation. Vacuum to 10 bar heavy duty applications.

- Size HA and HB (26mm and 18mm)
- Heavy duty and corrosion resistant body
- Internal led & rectifier
- Internal or external pilot supply with same valve
- M12 common wiring


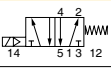
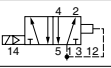
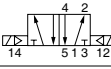
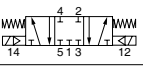

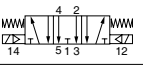
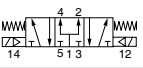
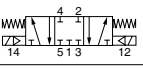
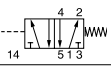


Operation information		
Working pressure :	2,0 to 10 bar	
Working temperature :	-15 to +50°C	
	<b>Size 02</b>	<b>Size 01</b>
Flow (Qmax.) :	10,8 l/s	25,3 l/s
Flow (Qn) :	6,5 l/s	15,3 l/s

**Isys ISO 15407-1 - Sizes 02 & 01  
Pneumatic remote pilot operated**

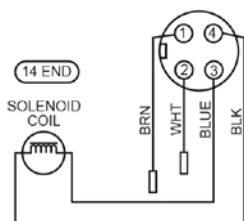
	Symbol	Description	Size	Weight (g)	Order code
 HB 18 mm		5/2 Air pilot - Spring return	02 - 18 mm	150	<b>HBFWX000XXA</b>
		5/2 Air pilot - Differential	02 - 18 mm	150	<b>HB3WX000XXA</b>
		5/2 Double air pilot	02 - 18 mm	165	<b>HB4WX000XXA</b>
		5/3 Closed Center (APB)	02 - 18 mm	165	<b>HB8WX000XXA</b>
 HA 26 mm		5/3 Vented Center	02 - 18 mm	165	<b>HB9WX000XXA</b>
		5/3 Pressurised Center	02 - 18 mm	165	<b>HB0WX000XXA</b>
		5/3 Closed Center (APB)	01 - 26 mm	265	<b>HA8WX000XXA</b>
		5/2 Air pilot - Spring return	01 - 26 mm	250	<b>HAFWX000XXA</b>

**Isys ISO 15407-1 - Sizes 02 & 01  
With 24 Vdc / 1 W built-in coil - Integrated M12 connector  
Oriented side 14, LED & Surge suppressor**

	Symbol	Description	Size	Weight (g)	Order code
 HB 18 mm		5/2 Air pilot - Spring return	02 - 18 mm	150	<b>HBEWXBG2G9000FA</b>
		5/2 Air pilot - Differential	02 - 18 mm	150	<b>HB1WXBG2G9000FA</b>
		5/2 Double air pilot	02 - 18 mm	165	<b>HB2WXBG2G9000FA</b>
		5/3 Closed Center (APB)	02 - 18 mm	165	<b>HB5WXBG2G9000FA</b>
 HA 26 mm		5/3 Vented Center	02 - 18 mm	165	<b>HB6WXBG2G9000FA</b>
		5/3 Pressurised Center	02 - 18 mm	165	<b>HB7WXBG2G9000FA</b>
		5/3 Closed Center (APB)	01 - 26 mm	265	<b>HA5WXBG2G9000FA</b>
		5/2 Air pilot - Spring return	01 - 26 mm	250	<b>HAEWXBG2G9000FA</b>

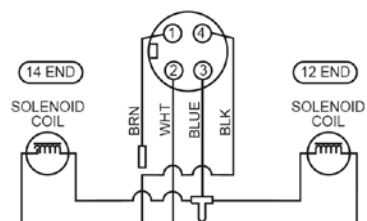
**ISO 20401  
4-Pin Male / Single Solenoid**

4-PIN Micro (Top Cover)



**ISO 20401  
4-Pin Male / Double Solenoid**

4-PIN Micro (Top Cover)



Heavy duty valve. Solenoid or air pilot. Vacuum to 10 bar. Wide choice of electrical connections.

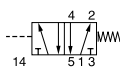
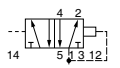
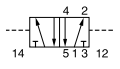
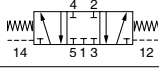

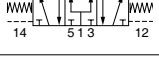
- Size 1, 2, 3
- Heavy duty and corrosion resistant body
- Vacuum to 10 bar
- Internal or external pilot supply with same valve
- Din A, M12, M23 connections



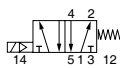
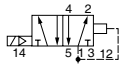
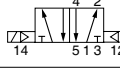
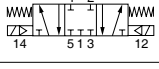
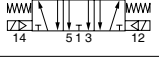
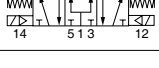
**Operation information**

Working pressure :	2,0 to 10 bar		
Working temperature :	-15 to +50°C		
	<b>Size 1</b>	<b>Size 2</b>	<b>Size 3</b>
Flow (Qmax.) :	34,5 l/s	69,0 l/s	130,8 l/s
Flow (Qn) :	20,8 l/s	42,0 l/s	83,7 l/s

**Isys ISO 5599-1 - Sizes 1, 2 & 3  
Pneumatic Remote Pilot operated valve**

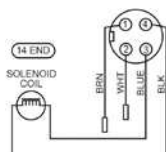
Symbol	Description	Size	Weight (g)	Order code
	5/2 Single solenoid - Spring return	1 - 43 mm	600	<b>H1FWX000XXD</b>
		2 - 56 mm	1020	<b>H2FWX000XXD</b>
		3 - 71 mm	1300	<b>H3FWX000XXD</b>
	5/2 Single solenoid - Differential	1 - 43 mm	600	<b>H13WX000XXD</b>
		2 - 56 mm	1020	<b>H23WX000XXD</b>
		3 - 71 mm	1300	<b>H33WX000XXD</b>
	5/2 Double solenoid	1 - 43 mm	600	<b>H14WX000XXD</b>
		2 - 56 mm	1020	<b>H24WX000XXD</b>
		3 - 71 mm	1300	<b>H34WX000XXD</b>
	5/3 Closed Center (APB)	1 - 43 mm	600	<b>H18WX000XXD</b>
		2 - 56 mm	1020	<b>H28WX000XXD</b>
		3 - 71 mm	1300	<b>H38WX000XXD</b>
	5/3 Vented Center	1 - 43 mm	600	<b>H19WX000XXD</b>
		2 - 56 mm	1020	<b>H29WX000XXD</b>
		3 - 71 mm	1300	<b>H39WX000XXD</b>
	5/3 Pressurised Center	1 - 43 mm	600	<b>H10WX000XXD</b>
		2 - 56 mm	1020	<b>H20WX000XXD</b>
		3 - 71 mm	1300	<b>H30WX000XXD</b>

**Isys ISO 5599-1 - Sizes 1, 2 & 3  
CNOMO operator with Central M12 connector / 24 Vdc / 2,7 W solenoid**

Symbol	Description	Size	Weight (g)	Order code
	5/2 Single solenoid - Spring return	1 - 43 mm	770	<b>H1EWXBG2B9000FD</b>
		2 - 56 mm	1290	<b>H2EWXBG2B9000FD</b>
		3 - 71 mm	1570	<b>H3EWXBG2B9000FD</b>
	5/2 Single solenoid - Differential	1 - 43 mm	770	<b>H11WXBG2B9000FD</b>
		2 - 56 mm	1290	<b>H21WXBG2B9000FD</b>
		3 - 71 mm	1570	<b>H31WXBG2B9000FD</b>
	5/2 Double solenoid	1 - 43 mm	1040	<b>H12WXBG2B9000FD</b>
		2 - 56 mm	1460	<b>H22WXBG2B9000FD</b>
		3 - 71 mm	1740	<b>H32WXBG2B9000FD</b>
	5/3 Closed Center (APB)	1 - 43 mm	1040	<b>H15WXBG2B9000FD</b>
		2 - 56 mm	1460	<b>H25WXBG2B9000FD</b>
		3 - 71 mm	1740	<b>H35WXBG2B9000FD</b>
	5/3 Vented Center	1 - 43 mm	1040	<b>H16WXBG2B9000FD</b>
		2 - 56 mm	1460	<b>H26WXBG2B9000FD</b>
		3 - 71 mm	1740	<b>H36WXBG2B9000FD</b>
	5/3 Pressurised Center	1 - 43 mm	1040	<b>H17WXBG2B9000FD</b>
		2 - 56 mm	1460	<b>H27WXBG2B9000FD</b>
		3 - 71 mm	1740	<b>H37WXBG2B9000FD</b>

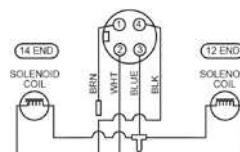
**ISO 20401  
4-Pin Male / Single Solenoid**

4-PIN Micro (Top Cover)


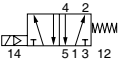
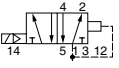
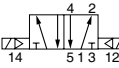

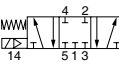
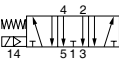
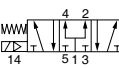


**ISO 20401  
4-Pin Male / Double Solenoid**

4-PIN Micro (Top Cover)


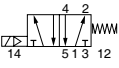
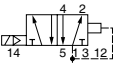
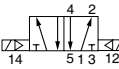
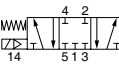
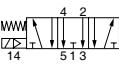
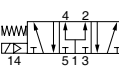


**Isys ISO 5599-1 - Sizes 1, 2 & 3  
CNOMO operator with 30 x 30 DIN Form A / 24 Vdc / 2,7 W solenoid**

Symbol	Description	Size	Weight (g)	Order code	
		5/2 Single solenoid - Spring return	1 - 43 mm	770	<b>H1EWXBBL49D</b>
		2 - 56 mm	1190	<b>H2EWXBBL49D</b>	
		3 - 71 mm	1470	<b>H3EWXBBL49D</b>	
	5/2 Single solenoid - Differential	1 - 43 mm	770	<b>H11WXBBL49D</b>	
		2 - 56 mm	1190	<b>H21WXBBL49D</b>	
		3 - 71 mm	1470	<b>H31WXBBL49D</b>	
	5/2 Double solenoid	1 - 43 mm	940	<b>H12WXBBL49D</b>	
		2 - 56 mm	1360	<b>H22WXBBL49D</b>	
		3 - 71 mm	1640	<b>H32WXBBL49D</b>	
		5/3 Closed Center (APB)	1 - 43 mm	940	<b>H15WXBBL49D</b>
		2 - 56 mm	1360	<b>H25WXBBL49D</b>	
		3 - 71 mm	1640	<b>H35WXBBL49D</b>	
	5/3 Vented Center	1 - 43 mm	940	<b>H16WXBBL49D</b>	
		2 - 56 mm	1360	<b>H26WXBBL49D</b>	
		3 - 71 mm	1640	<b>H36WXBBL49D</b>	
	5/3 Pressurised Center	1 - 43 mm	940	<b>H17WXBBL49D</b>	
		2 - 56 mm	1360	<b>H27WXBBL49D</b>	
		3 - 71 mm	1640	<b>H37WXBBL49D</b>	


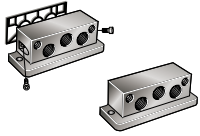


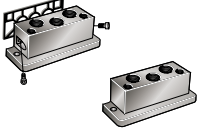


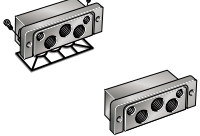


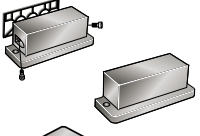


Solenoid connectors & cable plug to be ordered separately. See solenoid section

**Isys ISO 5599-1 - Sizes 1, 2 & 3  
CNOMO operator without coil**

Symbol	Description	Size	Weight (g)	Order code	
		5/2 Single solenoid - Spring return	1 - 43 mm	650	<b>H1EWXBBNXXD</b>
		2 - 56 mm	1070	<b>H2EWXBBNXXD</b>	
		3 - 71 mm	1350	<b>H3EWXBBNXXD</b>	
	5/2 Single solenoid - Differential	1 - 43 mm	650	<b>H11WXBBNXXD</b>	
		2 - 56 mm	1070	<b>H21WXBBNXXD</b>	
		3 - 71 mm	1350	<b>H31WXBBNXXD</b>	
	5/2 Double solenoid	1 - 43 mm	700	<b>H12WXBBNXXD</b>	
		2 - 56 mm	1120	<b>H22WXBBNXXD</b>	
		3 - 71 mm	1400	<b>H32WXBBNXXD</b>	
	5/3 Closed Center (APB)	1 - 43 mm	700	<b>H15WXBBNXXD</b>	
		2 - 56 mm	1120	<b>H25WXBBNXXD</b>	
		3 - 71 mm	1400	<b>H35WXBBNXXD</b>	
	5/3 Vented Center	1 - 43 mm	700	<b>H16WXBBNXXD</b>	
		2 - 56 mm	1120	<b>H26WXBBNXXD</b>	
		3 - 71 mm	1400	<b>H36WXBBNXXD</b>	
	5/3 Pressurised Center	1 - 43 mm	700	<b>H17WXBBNXXD</b>	
		2 - 56 mm	1120	<b>H27WXBBNXXD</b>	
		3 - 71 mm	1400	<b>H37WXBBNXXD</b>	

30 x 30 DIN Form A or 22 x 30 DIN Form B solenoid & solenoid connectors to be ordered separately. See solenoid section




## Bottom ported manifold &amp; End plate - ISO 15407-1 - Sizes 02 &amp; 01

Description		Size	Port Size	Weight (g)	Order code
 <b>Two valve position manifold</b> Int. pilot supply Including seal, fitting screws and plugs.		02 - 18 mm	1/8 BSPP	200	<b>P2V-AM511PB</b>
		01 - 26 mm	1/4 BSPP	400	<b>P2V-BM512PB</b>
		02 - 18 mm	1/8 BSPP	200	<b>P2V-AM511NB</b>
		01 - 26 mm	1/4 BSPP	400	<b>P2V-BM512NB</b>
 <b>Side ported</b>	 Left end plate Including seal and fitting screws	02 - 18 mm	1/4 BSPP	180	<b>P2V-AM512GS</b>
		01 - 26 mm	3/8 BSPP	210	<b>P2V-BM513GS</b>
	 Right end plate	02 - 18 mm	1/4 BSPP	180	<b>P2V-AM512HS</b>
		01 - 26 mm	3/8 BSPP	210	<b>P2V-BM513HS</b>
 <b>Top ported</b>	 Left end plate Including seal and fitting screws	02 - 18 mm	1/4 BSPP	180	<b>P2V-AM512GT</b>
		01 - 26 mm	3/8 BSPP	210	<b>P2V-BM513GT</b>
	 Right end plate	02 - 18 mm	1/4 BSPP	180	<b>P2V-AM512HT</b>
		01 - 26 mm	3/8 BSPP	210	<b>P2V-BM513HT</b>
 <b>Bottom ported</b>	 Left end plate Including seal and fitting screws	02 - 18 mm	1/4 BSPP	180	<b>P2V-AM512GB</b>
		01 - 26 mm	3/8 BSPP	220	<b>P2V-BM513GB</b>
	 Right end plate	02 - 18 mm	1/4 BSPP	180	<b>P2V-AM512HB</b>
		01 - 26 mm	3/8 BSPP	220	<b>P2V-BM513HB</b>
 <b>End cover</b>	 Left end plate Including seal and fitting screws	02 - 18 mm		190	<b>P2V-AM500G0</b>
		01 - 26 mm		240	<b>P2V-BM500G0</b>
	 Right end plate	02 - 18 mm		190	<b>P2V-AM500H0</b>
		01 - 26 mm		240	<b>P2V-BM500H0</b>
<b>Size manifolds adaptor plate</b>		02 to 01		330	<b>P2V-AM500BE</b>
<b>Plug</b>	Left end plate	02 - 18 mm		4	<b>P2V-AK0P</b>
		01 - 26 mm		10	<b>P2V-BK0P</b>


## Side ported individual subbase - ISO 15407-1 - Sizes 02 &amp; 01

Description	Size	Port Size	Weight (g)	Order code
 <b>Individual Subbase</b> Can be used for External pilot supply or Single or Double pneumatic remote pilot	02 - 18 mm	1/8 BSPP	70	<b>PL02-01-70</b>
		1/8 NPT	70	<b>PL02-01-80</b>
	01 - 26 mm	1/4 BSPP	120	<b>PL01-02-70</b>
		1/4 NPT	120	<b>PL01-02-80</b>

## Front ported manifold &amp; End plate - ISO 15407-1 - Sizes 02 &amp; 01


Description	Size	Port Size	Weight (g)	Order code
 <b>Two position manifold base</b> Can be used for External pilot supply Cannot be used for remote pilot	02 - 18 mm	1/8 BSPP	140	<b>PJLP02-201-70</b>
		1/8 NPT	140	<b>PJLP02-201-80</b>
	01 - 26 mm	1/4 BSPP	700	<b>PJLP01-202-70</b>
		1/4 NPT	700	<b>PJLP01-202-80</b>
 <b>Two position manifold base</b> Can be used for External pilot supply using #14 or Single or Double pneumatic remote pilot	01 - 26 mm	1/4 BSPP	730	<b>PJL01-202-70</b>
		1/4 NPT	730	<b>PJL01-202-80</b>
 <b>End plate kit</b>	02 - 18 mm	1/4 BSPP	150	<b>PEJ02-02-70</b>
		1/4 NPT	150	<b>PEJ02-02-80</b>
	01 - 26 mm	3/8 BSPP	520	<b>PEJ01-03-70</b>
		3/8 NPT	520	<b>PEJ01-03-80</b>

## Accessories



Description	Size	Weight (g)	Order code
 <b>Blanking plate</b>	02 - 18 mm	40	<b>DX02BLK</b>
	01 - 26 mm	50	<b>DX01BLK</b>
<b>Blanking plug</b>	02 - 18 mm	10	<b>D02BD0</b>
	01 - 26 mm	20	<b>D01BD0</b>
<b>Bolt, Washer and Nut</b>	02 - 18 mm & 01 - 26 mm	120	<b>DX02M2MB</b>




## VDMA Side Ported Subbases

Description	Size	Port size	Weight (g)	Order code
 <b>Subbases VDMA</b> Side port according to VDMA	1 - 43mm	G1/4	160	<b>P2N-VS512SD</b>
	2 - 56mm	G3/8	280	<b>P2N-WS513SD</b>
	3 - 71mm	G1/2	350	<b>P2N-YS514SD</b>


## VDMA Bottom Ported Manifold

Description	Size	Port size	Weight (g)	Order code
 <b>VDMA Form C</b> Bottom port according to VDMA	1 - 43mm	G1/4	240	<b>P2N-VM512MB</b>
	2 - 56mm	G3/8	360	<b>P2N-WM513MB</b>
	3 - 71mm	G1/2	700	<b>P2N-YM514MB</b>
<b>VDMA Transition plate</b> Size 1 to Size 3 <b>Kit includes:</b> Transition plate only	1 to 3	G1/4		<b>P2N-VM500AK</b>
 <b>VDMA Form D - End plate</b> According to VDMA	1 - 43mm	G3/8	210	<b>P2N-VM513ES</b>
	2 - 56mm	G1/2	360	<b>P2N-WM514ES</b>
	3 - 71mm	G1	680	<b>P2N-YM518ES</b>
<b>VDMA Isolation - Main galley</b> According to VDMA <b>Kit includes:</b> (1) Isolator plug.	1 - 43mm			<b>P2N-VK0P</b>
	2 - 56mm			<b>P2N-WK0P</b>
	3 - 71mm			<b>P2N-YK0P</b>


## Accessories

Description	Size	Port size	Weight (g)	Order code
 <b>Blanking plate</b> <b>Kit includes:</b> (1) Blanking plate, (1) Gasket and (4) Mounting bolts	1 - 43mm	G1/4	100	<b>P2N-AA5B</b>
	2 - 56mm	G3/8	150	<b>P2N-BA5B</b>
	3 - 71mm	G1/2	200	<b>P2N-CA5B</b>


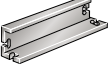


## Side ported subbases

Description	Size	Port size	Weight	Order code BSP	Order code NPT
 <b>Single subbase with side ports</b> 1 3 5 2 4 ports & 12 14	1 - 43mm	G1/4	0.16	<b>PL1-1/4-70</b>	<b>PL1-1/4-80</b>
	1 - 43mm	G3/8	0.16	<b>PL1-3/8-70</b>	
	2 - 56mm	G3/8	0.28	<b>PL2-3/8-70</b>	<b>PL2-3/8-80</b>
	2 - 56mm	G1/2		<b>P2N-HS514SS</b>	
	3 - 71mm	G1/2		<b>PL3-1/2-70</b>	<b>PL3-1/2-80</b>
	3 - 71mm	G3/4		<b>P2N-JS516SD</b>	



## Bottom ported subbases

Description	Size	Port size	Weight	Order code BSP	Order code NPT
 <b>Single subbase with bottom ports</b> 1 3 5 2 4 ports & 12 14	1 - 43mm	G1/4	0.37	<b>PD1-1/4-70</b>	<b>PD1-1/4-80</b>
	2 - 56mm	G3/8	0.59	<b>PD2-3/8-70</b>	<b>PD2-3/8-80</b>
	3 - 71mm	G1/2	0.59	<b>PD3-1/2-70</b>	

## Size 1 bottom ported manifold

Description	Size	Port size	Weight	Order code
 <b>Manifold</b> with bottom ports low profile	1 - 43mm	G1/4	0.2	<b>P2N-AM512MB</b>
	<b>Connecting block</b> Top or bottom ported connecting block for above manifold "low profile"	1 - 43mm	G3/8	0.15
 <b>End</b> End piece for above manifold "low profile"	1 - 43mm	no	0.06	<b>P2N-AM500J</b>
 <b>Intermediate supply</b> Top or bottom ported intermediate supply for above manifold "low profile"	1 - 43mm	G3/8	0.14	<b>P2N-AM513BT</b>
 <b>Isolation plugs</b> isolating seal for above manifold "low profile"	1 - 43mm		0.07	<b>P2N-AK0P</b>


## Sizes 1 & 2 side ported manifold

Description	Size	Port size	Weight	Order code
 <b>Manifold</b> Manifold with side port	1 - 43mm	G1/4	0.24	<b>P2N-EM512MD</b>
	2 - 56mm	G3/8	0.21	<b>P2N-FM513MD</b>
 <b>End</b> Side ported connecting kit for above manifold with side ports	1 - 43mm	G3/8	0.36	<b>P2N-EM513ES</b>
	2 - 56mm	G1/2	0.29	<b>P2N-FM514ES</b>






## Plug-in 15407-2, Size 02 (18mm - HB) & 01 (26mm - HA) End Plate Kits

Left and Right end plates, with pressure exhaust and auxilliary ports


### Individual connection

	Description	ISO Size	Port size	Weight (g)	Order code
	No connector To be used with individually wired base	02 & 01	G3/8"	-	<b>PS5631011P</b>




### Multiwiring connection

	Description	ISO Size	Port size	Weight (g)	Order code
	16-Points Terminal Strip	02 & 01	G3/8"	-	<b>PS5620L51P</b>
	25-Pin, D-Sub	02 & 01	G3/8"	-	<b>PS5620L21P</b>
	19-Pin, Round, Brad Harrison	02 & 01	G3/8"	-	<b>PS5620L31P</b>
	M23, 12-Pin	02 & 01	G3/8"	-	<b>PS5620L41P</b>
	M23, 19-Pin	02 & 01	G3/8"	-	<b>PS5620M21P</b>

### Accessories

	Description	Protection	Length	Weight (g)	Order code
	25-Pin - D-Sub cable	IP40	3 meters	380	<b>P8LMH25M3A</b>
			9 meters	780	<b>P8LMH25M9A</b>
		IP65	9 meters	790	<b>P8LMH25B9A</b>


### Adaptors for Industrial Communication

	Description	ISO Size	Port size	Weight (g)	Order code
	Turck BL76 Valve Driver Module Without 16 DO module 16 outputs and blank module to be ordered seaparely (See Turck BL67 section)	02 & 01	G3/8"	-	<b>PS5620T01P</b>
	Turck BL76 Valve Driver Module For configuration up to 16 solenoids Including 1 x 16 DO & 1 blank module	02 & 01	G3/8"	-	<b>PS5620T11P</b>
	Turck BL76 Valve Driver Module For configuration up to 32 solenoids Including 2 x 16 DO modules	02 & 01	G3/8"	-	<b>PS5620T21P</b>
	Isysnet Valve Driver Module For configuration up to 32 solenoids	02 & 01	G3/8"	-	<b>PS5620L61P</b>
	Moduflex Fieldbus module adaptor	02 & 01	G3/8"	-	<b>PS5620M41P</b>


For Turck BL67, Isysnet, Moduflex communication gateways and I/O modules, refer to respective sections in following pages.

Plug-in 15407-2, Size 02 (18mm - HB) & 01 (26mm - HA) Manifold Kits


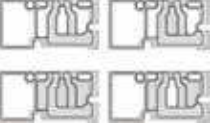
2 Position Front Ported Manifold

Description		ISO Size	Port size	Weight (g)	Order code
	Non collective wiring Terminal strip For single or double solenoid valves	01	G1/4"	520	<b>PS551154CP</b>
	Collective wiring Single address board For single solenoid valves	02	G1/8"	450	<b>PS561152JP</b>
		01	G1/4"	520	<b>PS551154JP</b>
	Double address board For double solenoid valves	02	G1/8"	450	<b>PS561152MP</b>
		01	G1/4"	520	<b>PS551154MP</b>
	Extension Manifold Including ribbon cable	Single address board For single solenoid valves	02	G1/8"	450
01			G1/4"	520	<b>PS551154NP</b>
Double address board For double solenoid valves		02	G1/8"	450	<b>PS561152PP</b>
		01	G1/4"	520	<b>PS551154PP</b>

2 Position Front and Bottom Ported Manifold

Description		ISO Size	Port size	Weight (g)	Order code
	Non collective wiring Terminal strip For single or double solenoid valves	01	G1/4"	520	<b>PS551164CP</b>
	Collective wiring Single address board For single solenoid valves	02	G1/8"	450	<b>PS561162JP</b>
		01	G1/4"	520	<b>PS551164JP</b>
	Double address board For double solenoid valves	02	G1/8"	450	<b>PS561162MP</b>
		01	G1/4"	520	<b>PS551164MP</b>
	Extension Manifold Including ribbon cable	Single address board For single solenoid valves	02	G1/8"	450
01			G1/4"	520	<b>PS551164NP</b>
Double address board For double solenoid valves	02	G1/8"	450	<b>PS561162PP</b>	
	01	G1/4"	520	<b>PS551164PP</b>	

Accessories

Description	Blocked ports	ISO Size	Port size	Weight (g)	Order code
		02	G1/8"	-	<b>PS5634P</b>
		01	G1/4"	-	<b>PS5534P</b>
	No port plugged	02 & 01		-	<b>PS5611AP</b>
	#1	02 & 01		-	<b>PS5611BP</b>
	#1, 3 & 5	02 & 01		-	<b>PS5611CP</b>
	#3 & 5	02 & 01		-	<b>PS5611DP</b>

Solenoid actuated Iso valve for multiple and centralised field bus (Plug-in)

- Size HA and HB (26mm and 18mm)
- Heavy duty and corrosion resistant body
- Internal led & rectifier
- Internal or external pilot supply with same valve
- Multiple connection, Sub D25, M23, Terminal block
- Communication with Turck BL67 Remote I/O System, Isysnet System or Moduflex Bus




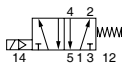

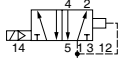

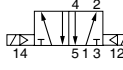

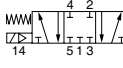

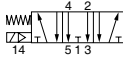

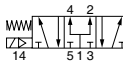
**Operation information**

Working pressure :	2,0 to 10 bar	
Working temperature :	-15 to +50°C	
	<b>Size 02</b>	<b>Size 01</b>
Flow (Qmax.) :	10,8 l/s	25,3 l/s
Flow (Qn) :	6,5 l/s	15,3 l/s

**Isys ISO Plug-in 15407-2 - Sizes 02 & 01**

**With 24 Vdc / 1 W built-in coil**


**Manual override non locking, LED & surge suppressor**

	Symbol	Description	Size	Weight (g)	Order code
		5/2 single solenoid - Spring return	02 - 18mm	130	<b>HBEVXBG0G9A</b>
			01 - 26mm	230	<b>HAEVXBG0G9A</b>
		5/2 single solenoid - Differential	02 - 18mm	130	<b>HB1VXBG0G9A</b>
			01 - 26mm	230	<b>HA1VXBG0G9A</b>
		5/2 double solenoid	02 - 18mm	145	<b>HB2VXBG0G9A</b>
			01 - 26mm	245	<b>HA2VXBG0G9A</b>
		5/3 Closed center (APB)	02 - 18mm	145	<b>HB5VXBG0G9A</b>
			01 - 26mm	245	<b>HA5VXBG0G9A</b>
		5/3 Vented center	02 - 18mm	145	<b>HB6VXBG0G9A</b>
			01 - 26mm	245	<b>HA6VXBG0G9A</b>
		5/3 Pressurised center	02 - 18mm	145	<b>HB7VXBG0G9A</b>
			01 - 26mm	245	<b>HA7VXBG0G9A</b>





## Plug-in 5599-2, Sizes 1, 2 & 3 End Plate Kits

Left and Right end plates, with pressure exhaust and auxilliary ports


### Individual connection

Description	ISO Size	Port size	Weight (g)	Order code
 No connector To be used with individually wired base	Size 1	G1/2"	1360	<b>PS4031011CP</b>
	Size 2	G3/4"	1600	<b>PS4131011CP</b>
	Size 3	G3/4"	2800	<b>PS4231011CP</b>






### Multiwiring connection

Description	ISO Size	Port size	Weight (g)	Order code
 25-Pin, D-Sub	Size 1	G1/2"	1360	<b>PS4020L21CP</b>
	Size 2	G3/4"	1600	<b>PS4120L21CP</b>
	Size 3	G3/4"	2800	<b>PS4220L21CP</b>
 19-Pin, Round, Brad Harrison	Size 1	G1/2"	1360	<b>PS4020L31CP</b>
	Size 2	G3/4"	1600	<b>PS4120L31CP</b>
	Size 3	G3/4"	2800	<b>PS4220L31CP</b>
 19-Pin, M23	Size 1	G1/2"	1360	<b>PS4020M21CP</b>
	Size 2	G3/4"	1600	<b>PS4120M21CP</b>
	Size 3	G3/4"	2800	<b>PS4220M21CP</b>
 12-Pin, M23	Size 1	G1/2"	1360	<b>PS4020L41CP</b>
	Size 2	G3/4"	1600	<b>PS4120L41CP</b>
	Size 3	G3/4"	2800	<b>PS4220L41CP</b>

### Accessories

Description	Protection	Length	Weight (g)	Order code
 25-Pin - D-Sub cable	IP40	3 meters	380	<b>P8LMH25M3A</b>
		9 meters	780	<b>P8LMH25M9A</b>
	IP65	9 meters	790	<b>P8LMH25B9A</b>


### Adaptors for Industrial Communication

Description	ISO Size	Port size	Weight (g)	Order code
 Turck BL76 Valve Driver Module Without 16 DO module 16 outputs and blank module to be ordered seaparely (See Turck BL67 section)	Size 1	G1/2"	1400	<b>PS4020T01CP</b>
	Size 2	G3/4"	1600	<b>PS4120T01CP</b>
	Size 3	G3/4"	2800	<b>PS4220T01CP</b>
 Turck BL76 Valve Driver Module For configuration up to 16 solenoids Including 1 x 16 DO & 1 blank module	Size 1	G1/2"	1520	<b>PS4020T11CP</b>
	Size 2	G3/4"	1720	<b>PS4120T11CP</b>
	Size 3	G3/4"	2920	<b>PS4220T11CP</b>
 Turck BL76 Valve Driver Module For configuration up to 32 solenoids Including 2 x 16 DO modules	Size 1	G1/2"	1520	<b>PS4020T21CP</b>
	Size 2	G3/4"	1720	<b>PS4120T21CP</b>
	Size 3	G3/4"	2920	<b>PS4220T21CP</b>
 Isysnet Valve Driver Module For configuration up to 32 solenoids	Size 1	G1/2"	1580	<b>PS4020L61CP</b>
	Size 2	G3/4"	1800	<b>PS4120L61CP</b>
	Size 3	G3/4"	3000	<b>PS4220L61CP</b>
 Moduflex Fieldbus module adaptor	Size 1	G1/2"	1300	<b>PS4020M41CP</b>
	Size 2	G3/4"	1500	<b>PS4120M41CP</b>
	Size 3	G3/4"	2700	<b>PS4220M41CP</b>


For Turck BL67, Isysnet, Moduflex communication gateways and I/O modules, refer to respective sections in following pages.

## Plug-in 5599-2, Sizes 1, 2 & 3 Manifold Kits




### Single Position Front Ported Manifold

Description		ISO Size	Port size	Weight (g)	Order code	
	Non collective wiring	Terminal strip For single or double solenoid valves	2 - 56 mm	G1/2"	-	<b>PS411158CCP</b>
			3 - 71 mm	G3/4"	-	<b>PS421150CCP</b>
	Collective wiring	Single address board For single solenoid valves	2 - 56 mm	G1/2"	-	<b>PS411158JCP</b>
			3 - 71 mm	G3/4"	-	<b>PS421150JCP</b>
		Double address board For double solenoid valves	2 - 56 mm	G1/2"	-	<b>PS411158MCP</b>
			3 - 71 mm	G3/4"	-	<b>PS421150MCP</b>

### Single Position Front & Bottom Ported Manifold

Description		ISO Size	Port size	Weight (g)	Order code	
	Non collective wiring	Terminal strip For single or double solenoid valves	1 - 43 mm	G3/8"	-	<b>PS401166CCP</b>
			2 - 56 mm	G1/2"	-	<b>PS411168CCP</b>
			3 - 71 mm	G3/4"	-	<b>PS421160CCP</b>
	Collective wiring	Single address board For single solenoid valves	1 - 43 mm	G3/8"	-	<b>PS401166JCP</b>
			2 - 56 mm	G1/2"	-	<b>PS411168JCP</b>
			3 - 71 mm	G3/4"	-	<b>PS421160JCP</b>
		Double address board For double solenoid valves	1 - 43 mm	G3/8"	-	<b>PS401166MCP</b>
			2 - 56 mm	G1/2"	-	<b>PS411168MCP</b>
			3 - 71 mm	G3/4"	-	<b>PS421160MCP</b>

### Accessories

Description		ISO Size	Port size	Weight (g)	Order code
	Blanking Plate	1 - 43 mm	G3/8"	-	<b>PS4034CP</b>
		2 - 56 mm	G1/2"	-	<b>PS4134CP</b>
		3 - 71 mm	G3/4"	-	<b>PS4234CP</b>
	Insulating Plugs	1 - 43 mm	G3/8"	-	<b>PS4032CP</b>
		2 - 56 mm	G1/2"	-	<b>PS4132CP</b>
		3 - 71 mm	G3/4"	-	<b>PS4232CP</b>
	Manifold to Manifold Gasket Kit	1 - 43 mm	G3/8"	-	<b>PS4013P</b>
		2 - 56 mm	G1/2"	-	<b>PS4113P</b>
		3 - 71 mm	G3/4"	-	<b>PS4213P</b>

Solenoid actuator Iso valve for multiple and centralised field bus

- Size 1, 2, 3
- Heavy duty and corrosion resistant body
- Internal led rectifier
- Internal or external pilot supply with same valve
- Multiple connection, SubD25, M23, Terminal block
- Communication with Turck BL67 Remote I/O System, Isysnet System or Moduflex Bus

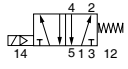
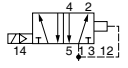
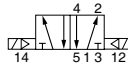
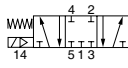
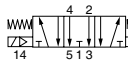
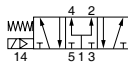


**Operation information**

Working pressure :	2,0 to 10 bar		
Working temperature :	-15 to +50°C		
	<b>Size 1</b>	<b>Size 2</b>	<b>Size 3</b>
Flow (Qmax.) :	34,5 l/s	69,0 l/s	130,8 l/s
Flow (Qn) :	20,8 l/s	42,0 l/s	83,7 l/s

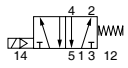
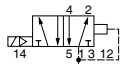
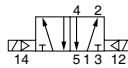
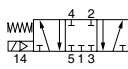

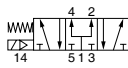
**Isys ISO 5599-2 - Sizes 1, 2 & 3**

**Solenoid operated ISO valve with operator and 24 Vdc / 2,7 W Plug-in coil**


Symbol	Description	Size	Weight (g)	Order code
	5/2 single solenoid - Spring return	1 - 43 mmm	770	<b>H1EVXBG0B9D</b>
		2 - 56 mm	1190	<b>H2EVXBG0B9D</b>
		3 - 71 mm	1470	<b>H3EVXBG0B9D</b>
	5/2 single solenoid - Differential	1 - 43 mmm	770	<b>H11VXBG0B9D</b>
		2 - 56 mm	1190	<b>H21VXBG0B9D</b>
		3 - 71 mm	1470	<b>H31VXBG0B9D</b>
	5/2 double solenoid	1 - 43 mmm	940	<b>H12VXBG0B9D</b>
		2 - 56 mm	1360	<b>H22VXBG0B9D</b>
		3 - 71 mm	1640	<b>H32VXBG0B9D</b>
	5/3 Closed center (APB)	1 - 43 mmm	940	<b>H15VXBG0B9D</b>
		2 - 56 mm	1360	<b>H25VXBG0B9D</b>
		3 - 71 mm	1640	<b>H35VXBG0B9D</b>
	5/3 Vented center	1 - 43 mmm	940	<b>H16VXBG0B9D</b>
		2 - 56 mm	1360	<b>H26VXBG0B9D</b>
		3 - 71 mm	1640	<b>H36VXBG0B9D</b>
	5/3 Pressurised center	1 - 43 mmm	940	<b>H17VXBG0B9D</b>
		2 - 56 mm	1360	<b>H27VXBG0B9D</b>
		3 - 71 mm	1640	<b>H37VXBG0B9D</b>

**Isys ISO 5599-2 - Sizes 1, 2 & 3**

**Solenoid operated ISO valve with operator without Plug-in coil**

Symbol	Description	Size	Weight (g)	Order code
	5/2 single solenoid - Spring return	1 - 43 mmm	650	<b>H1EVXBGNXDD</b>
		2 - 56 mm	1070	<b>H2EVXBGNXDD</b>
		3 - 71 mm	1350	<b>H3EVXBGNXDD</b>
	5/2 single solenoid - Differential	1 - 43 mmm	650	<b>H11VXBGNXDD</b>
		2 - 56 mm	1070	<b>H21VXBGNXDD</b>
		3 - 71 mm	1350	<b>H31VXBGNXDD</b>
	5/2 double solenoid	1 - 43 mmm	700	<b>H12VXBGNXDD</b>
		2 - 56 mm	1120	<b>H22VXBGNXDD</b>
		3 - 71 mm	1400	<b>H32VXBGNXDD</b>
	5/3 Closed center (APB)	1 - 43 mmm	700	<b>H15VXBGNXDD</b>
		2 - 56 mm	1120	<b>H25VXBGNXDD</b>
		3 - 71 mm	1400	<b>H35VXBGNXDD</b>
	5/3 Vented center	1 - 43 mmm	700	<b>H16VXBGNXDD</b>
		2 - 56 mm	1120	<b>H26VXBGNXDD</b>
		3 - 71 mm	1400	<b>H36VXBGNXDD</b>
	5/3 Pressurised center	1 - 43 mmm	700	<b>H17VXBGNXDD</b>
		2 - 56 mm	1120	<b>H27VXBGNXDD</b>
		3 - 71 mm	1400	<b>H37VXBGNXDD</b>

**Plug-in Coil for 5599-2 ISO Valve - Sizes 1, 2 & 3**

Description	Voltage	Weight (g)	Order code	
	Plug-in coil	-	<b>PS404145P</b>	
		12 Vdc	-	<b>PS4041B9P</b>
		24 Vdc	-	<b>PS404142P</b>
		24 Vac	-	<b>PS404123P</b>
		120 Vac	-	<b>PS404123P</b>
		240 Vac	-	<b>PS404157P</b>

Sandwich regulator for Plug-in or not Plug-in ISO 15407 (Sizes 02 & 01) and 5599 (Sizes 1, 2 & 3)

Order chart

Function Description see below

**PS40 37 1 6 6 CP**

ISO Size	
<b>ISO 15407</b>	
<b>PS56</b>	Size 02 (HB - 18 mm)
<b>PS55</b>	Size 01 (HA - 26 mm)
<b>ISO 5599</b>	
<b>PS40</b>	Size 1 (H1 - 43 mm)
<b>PS41</b>	Size 2 (H2 - 56 mm)
<b>PS42</b>	Size 3 (H3 - 71 mm)

ISO Version	
<b>P</b>	For ISO 15407
<b>CP</b>	For ISO 5599

Connecting version	
<b>37</b>	ISO-1 : For Non Plug-in Valve
<b>38</b>	ISO-2 : For Plug-in Valve

Regulator function	
<b>1</b>	Common Pressure Regulator
<b>2</b>	Independent Pressure Regulator

Port 4	Port 2
<b>Port Regulator / Gauge*</b>	
<b>0</b>	Line By-Pass Plate**
<b>1</b>	0-2 Bar - without gauge
<b>2</b>	0-4 Bar - without gauge
<b>3</b>	0-8 Bar - without gauge
<b>4</b>	0-2 Bar - with gauge
<b>5</b>	0-4 Bar - with gauge
<b>6</b>	0-8 Bar - with gauge

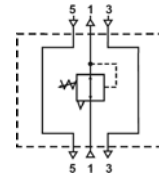
\* For Common Pressure Regulator Option, Regulator Gauge callout must be the same number for both port #4 and Port #2 (Example: 166)

\*\* For H1, H2 & H3 only. Pressure Line By-Pass Option can only be used with Independent Pressure Regulators

Pressure Regulators functions

Common port regulation

Provides adjustable regulated air pressure to the valves #1 port which gives the same regulated pressure to both the #2 and #4 port of the manifold or subbase. The regulator is always on the 14 end of the valve.



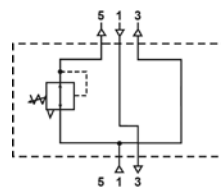
Independent port regulation

Single Port Regulator

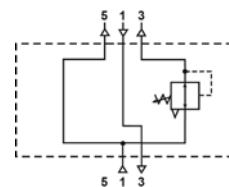
Provides regulated pressure to both ports. Pressure regulation can occur out of the #2 or #4 port of the valve. Full line pressure would be provided with a pass plate.



Regulation on port #4



Regulation on port #2

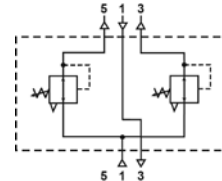


Dual Port Regulator

When using an independent Pressure Sandwich Regulator, the cylinder outlet ports are reversed. The 12 end energizes the #2 port. The 3-position CE and PC functions are also reversed.








Regulation on both ports #4 & #2





### Sandwich regulator with Gauge

	ISO Size	Regulator function	Pressure On port 4 and / or port 2	Order code	
				ISO-1 Non Plug-in	ISO-2 Plug-in
	02 - 18 mm	Common	0 to 4 bar	<b>PS5637155P</b>	<b>PS5638155P</b>
			0 to 8 bar	<b>PS5637166P</b>	<b>PS5638166P</b>
	Independent		0 to 4 bar	<b>PS5637255P</b>	<b>PS5638255P</b>
			0 to 8 bar	<b>PS5637266P</b>	<b>PS5638266P</b>
	01 - 26 mm	Common	0 to 4 bar	<b>PS5537155P</b>	<b>PS5538155P</b>
			0 to 8 bar	<b>PS5537166P</b>	<b>PS5538166P</b>
	Independent		0 to 4 bar	<b>PS5537255P</b>	<b>PS5538255P</b>
			0 to 8 bar	<b>PS5537266P</b>	<b>PS5538266P</b>
	1 - 43 mm	Common	0 to 4 bar	<b>PS4037155CP</b>	<b>PS4038155CP</b>
			0 to 8 bar	<b>PS4037166CP</b>	<b>PS4038166CP</b>
	Independent		0 to 4 bar	<b>PS4037255CP</b>	<b>PS4038255CP</b>
			0 to 8 bar	<b>PS4037266CP</b>	<b>PS4038266CP</b>
	2 - 56 mm	Common	0 to 4 bar	<b>PS4137155CP</b>	<b>PS4138155CP</b>
			0 to 8 bar	<b>PS4137166CP</b>	<b>PS4138166CP</b>
	Independent		0 to 4 bar	<b>PS4137255CP</b>	<b>PS4138255CP</b>
			0 to 8 bar	<b>PS4137266CP</b>	<b>PS4138266CP</b>
	3 - 71 mm	Common	0 to 4 bar	<b>PS4237155CP</b>	<b>PS4238155CP</b>
			0 to 8 bar	<b>PS4237166CP</b>	<b>PS4238166CP</b>
	Independent		0 to 4 bar	<b>PS4237255CP</b>	<b>PS4238255CP</b>
			0 to 8 bar	<b>PS4237266CP</b>	<b>PS4238266CP</b>

### How to Configure Sandwich Regulator / Valve Combinations

#### Ordering Components

- Manifold or Subbase Kit required.
- Sandwich Regulator Kit configured for Internal Pilot as standard.
- Order valve as External Pilot.


#### Internal Pilot Configuration

Pressure in Base Port 1 feeds regulator configured for Internal Pilot which feeds valve configured for External Pilot.


#### External Pilot Configuration - H1, H2, H3

An External Pilot pressure in port 12 or 14 of the base feeds through the Sandwich Regulator 12 or 14 galley directly to the 12/14 pilot of the valve. This configuration takes an External Pilot from the 12 port of the base and passes it through the regulator to feed the 12 galley of the valve.

### Sandwich Regulator Accessories

	Description	Pressure range	w (g)	Order code
	Gauge kit Including: Gauge 1/8" female to 1/8" female coupling 1/8" male to 1/8" male long nipple	0 to 8 bar	80	<b>PS5651160P</b>

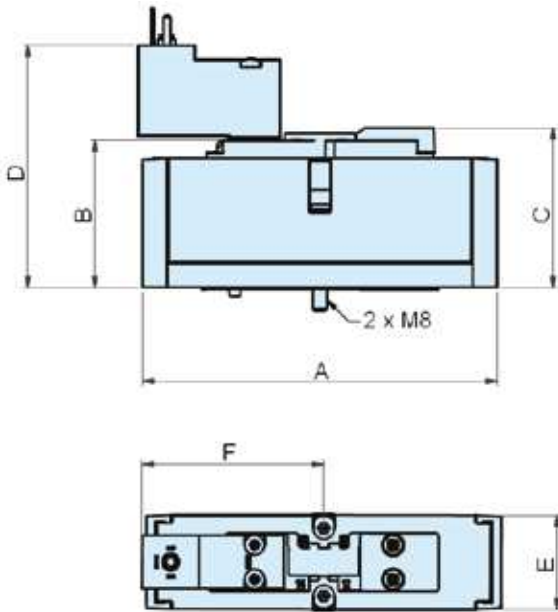
### Sandwich Flow Control

	ISO Size	w (g)	Order code	
			ISO-1 Non Plug-in	ISO-2 Plug-in
	02 - 18 mm	180	<b>PS5635P</b>	<b>PS5642P</b>
	01 - 26 mm	240	<b>PS5535P</b>	<b>PS5542P</b>
	1 - 43 mm	340	<b>PS4035CP</b>	<b>PS4042CP</b>
	2 - 56 mm	520	<b>PS4135CP</b>	<b>PS4142CP</b>
	3 - 71 mm	1180	<b>PS4235CP</b>	<b>PS4242CP</b>

#### Note:

- Both adjustment screws are located on the same 12 end of the unit
- Sandwich Flow Control mounts with its own studs, which means the valve uses standard bolts for mounting
- Sandwich Flow Control is not to be used as a shut off device and is not bubble tight when needles are fully turned down

## ISOMAX - ISO 15407-1 - Sizes 02 & 01

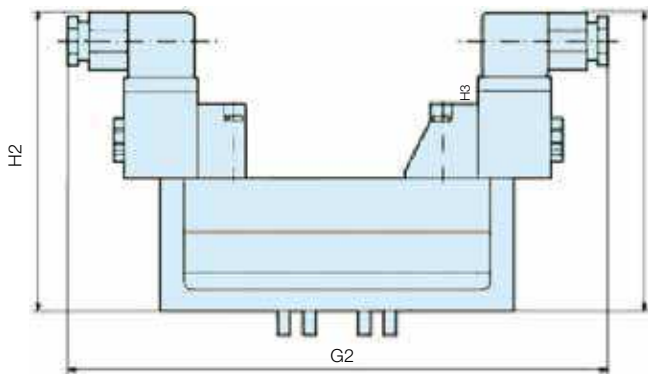


	A	B	C	D	E	F
<b>ISOMAX 02</b>	80	41	44,5	67,8	18	51,2
<b>ISOMAX 01</b>	100	42	45,5	68,8	26	51,2

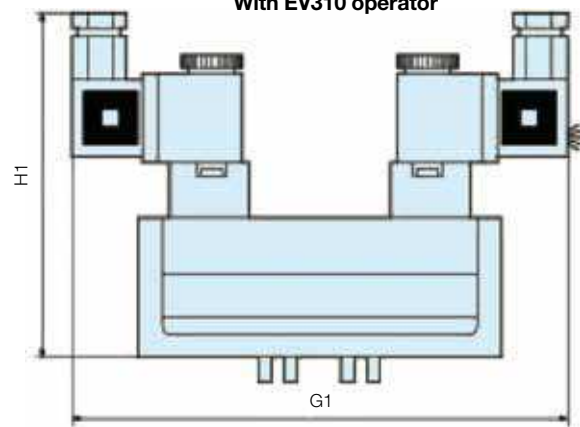
## ISOMAX - ISO 5599-1 - Sizes 1, 2 & 3

With P2F operator

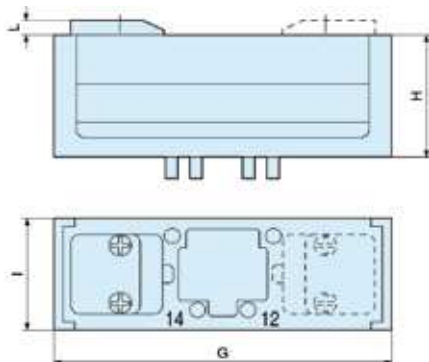
With EV30 operator



With EV310 operator



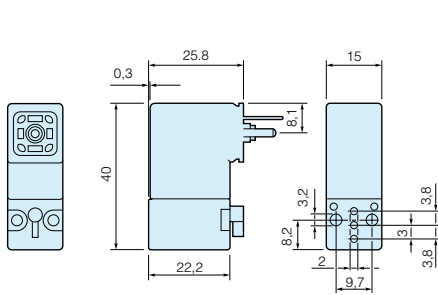
Pneumatically actuated



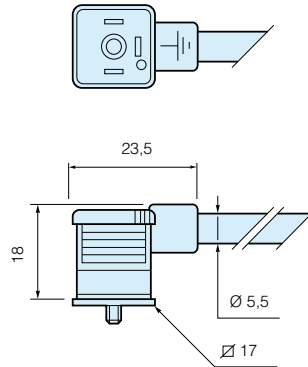
	G	G1	G2	H	H1	H2	I	L
<b>Size 1</b>	120	164	202,5	47	115	119	42	5
<b>Size 2</b>	140	179,5	218	58,5	126,5	130	54	5
<b>Size 3</b>	170	198	235,5	71	139	142,5	68	5

**15 mm DIN Form C solenoid operators and connectors**

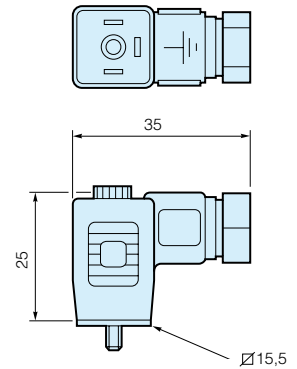
**P2E Operator**



**Connector with standard screw**

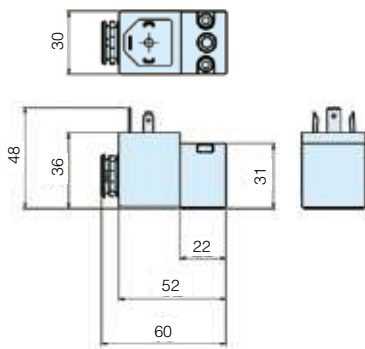


**Connector with large headed screw**

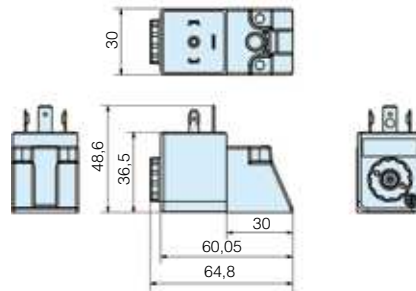


**CNOMO 22 x 30 solenoid operators and connectors**

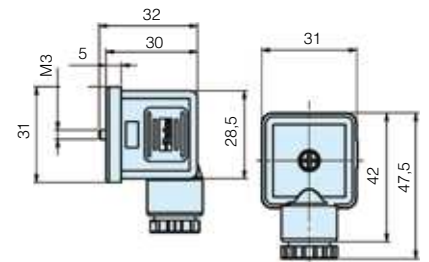
**P2F Operator with 30 x 30 DIN form A coil**



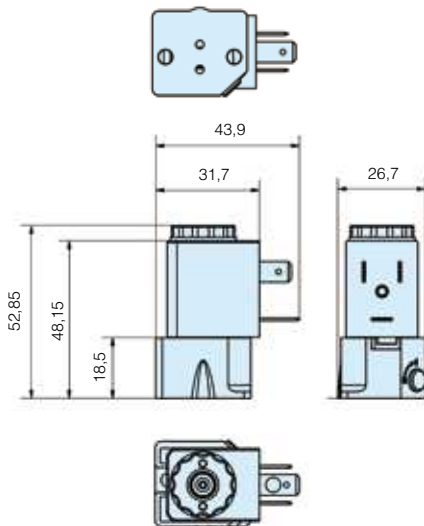
**EV30 Operator with 30 x 30 DIN form A coil**



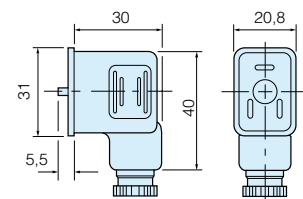
**30 x 30 DIN form A connector**



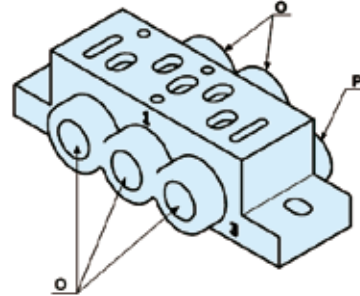
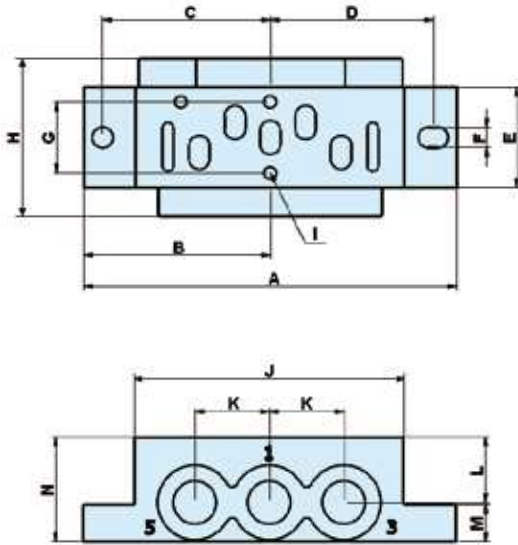
**EV310 Operator with 22 x 30 DIN form B coil**



**22 x 30 DIN form B connector**



Side ported individual subbase - ISO 15407-1 - Sizes 02 & 01

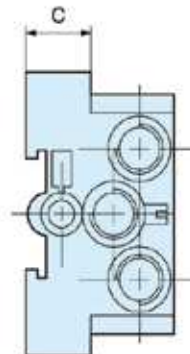
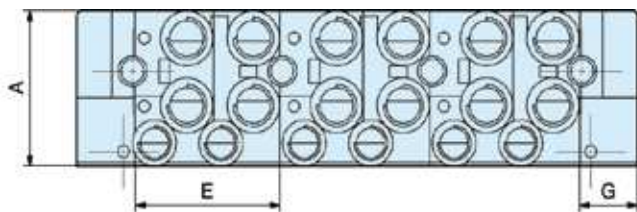


		Size	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
PL02-01-70	BSPP	02	80	40	35	33.75	19	5.5	12.5	27	M8	50	16	14	8	22.5	1/8	1/8
PL02-01-80	NPT	02	80	40	35	33.75	19	5.5	12.5	27	M8	50	16	14	8	22.5	1/8	1/8
PL01-02-70	BSPP	01	100	50	45	43.75	27	5.5	19	42,5	M8	72	20	17,5	10	28	1/4	1/8
PL01-02-80	NPT	01	100	50	45	43.75	27	5.5	19	42,5	M8	72	20	17,5	10	28	1/4	1/8

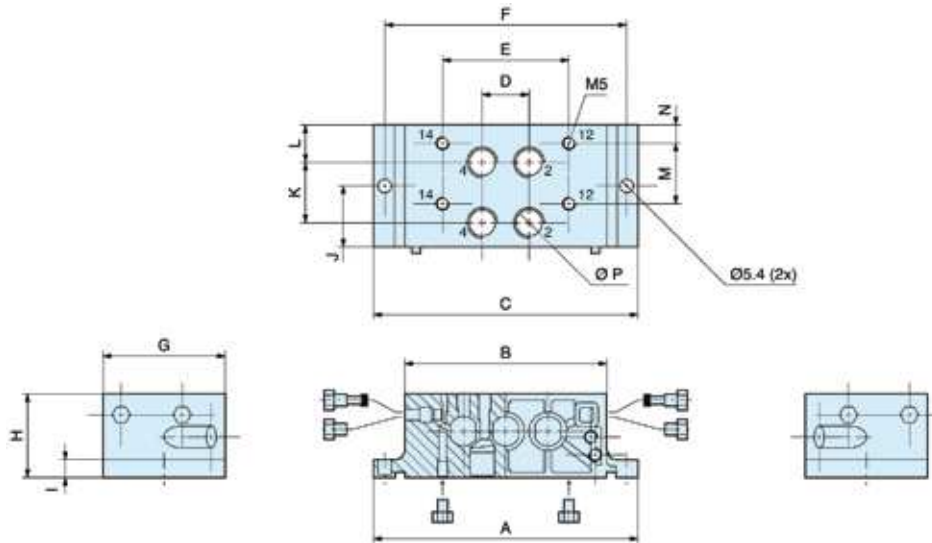
Front ported manifold & End plate - ISO 15407-1 - Sizes 02 & 01

		Size	A	B	C	D	E	F	G	H
PJLP02-201-70	BSPP	02	38,5	80	-	-	38	-	-	-
PJLP02-201-80	NPT	02	38,5	80	-	-	38	-	-	-
PJLP01-202-70	BSPP	01	55	100	-	-	54	-	-	-
PJLP01-202-80	NPT	01	55	100	-	-	54	-	-	-
PJL01-202-70	BSPP	01	55	100	-	-	54	-	-	-
PJL01-202-80	NPT	01	55	100	-	-	54	-	-	-
PEJ02-02-70	BSPP	02	38,5	80	12	Ø4,2	-	14	18	70
PEJ02-02-80	NPT	02	38,5	80	12	Ø4,2	-	14	18	70
PEJ01-03-70	BSPP	01	55	100	24	Ø5,5	-	17	22	90
PEJ01-03-80	NPT	01	55	100	24	Ø5,5	-	17	22	90

PJLP01-201-70  
PJLP01-202-70

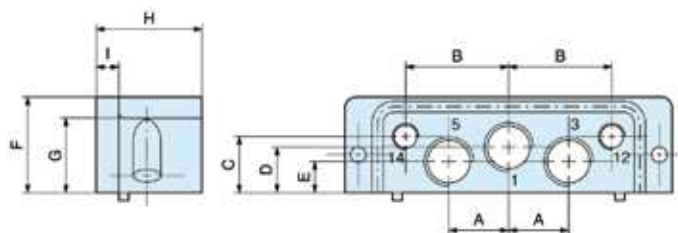


**Bottom ported manifold - ISO 15407-1 - Sizes 02 & 01**



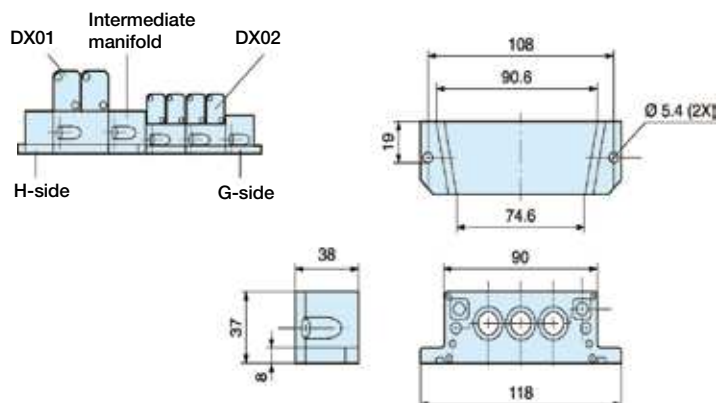
	Size	A	B	C	D	E	F	G	H	I	J	K	L	M	N	P
P2V-AM511PB	02	102	74	74,6	16	43	92	38	26	7	19	19	11	19	5	G1/8
P2V-BM512PB	01	118	90	90,6	21	56,5	108	54	37	8	27	27	16,5	27	8	G1/4

**Bottom ported End plate - ISO 15407-1 - Sizes 02 & 01**



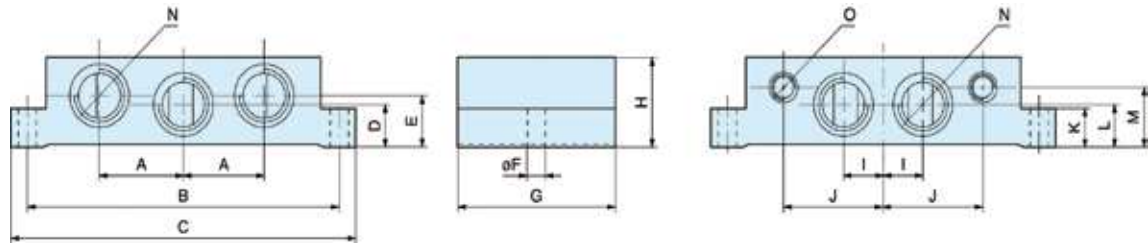
	Size	Port size 1,2,3	Port size 12, 14	A	B	C	D	E	F	G	H	I
P2V-AM512XX and P2V-AM512XX	02	G1/4	G1/8	17	29	21	18,5	9,5	35,5	28	33	7
P2V-BM513XX and P2V-BM513XX	01	G3/8	G1/8	21,5	37	20	16	11	34,5	28	38	8

**Transfer plate size 01 to size 02 for above bottom ported manifold**



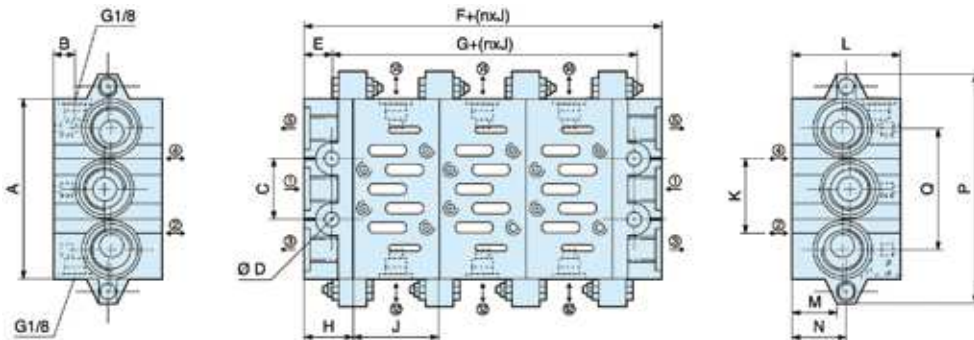
ISO 5599-1 Subbase & Manifolds

VDMA Side Ported Subbases



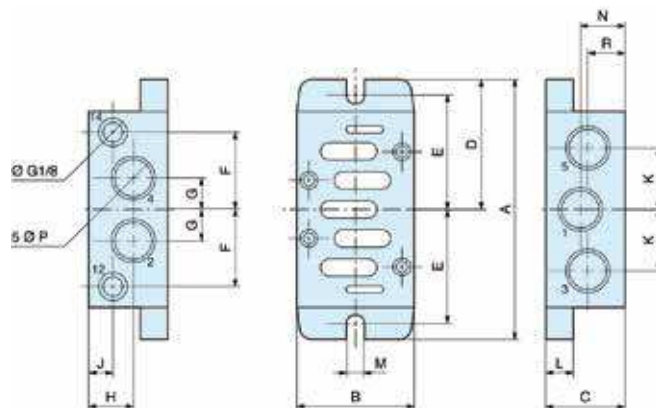
Order code	ISO Size	Port Size	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
P2N-VS512SD	1	G1/4	21,5	98	110	11	20	5,5	48	32	12	29	10	11	23	G1/4	G1/8
P2N-WS513SD	2	G3/8	28	112	124	14	26	6,6	56	40	15	37	13	14	30	G3/8	G1/8
P2N-YS514SD	3	G1/2	34	136	149	17	17	6,6	71	32	16	45	18	17	22	G1/2	G1/8

VDMA Bottom Ported Manifold



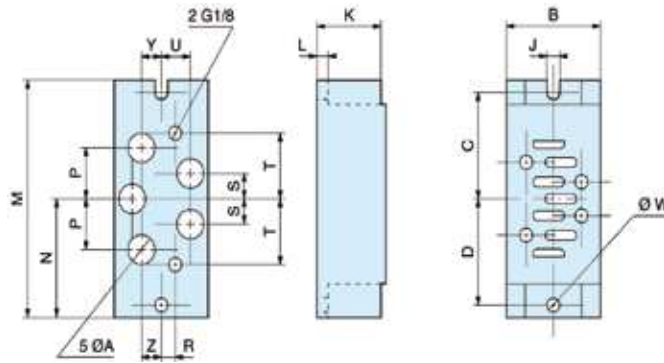
Order code	ISO Size	Port 1, 3, 5	Port 2, 4	A	B	C	D	E	F	G	H	J	K	L	M	N	O	P
P2N-VM512MB	1	G3/8	G1/4	85	8,5	28	7	11	44	22	22	43	26	46	21	24	56	110
P2N-WM513MB	2	G1/2	G3/8	100	9	35	9	13	52	26	26	56	30	47	22	24	68	135
P2N-YM514MB	3	G1	G1/2	140	10	52	12	15	60	30	30	71	38	56	31	34	104	190

Side ported subbases



Order code	ISO Size	ØP	A	B	C	D	E	F	G	H	J	K	L	M	N	R
PL1-1/4-70	1	G1/4	110	46	29	55	49	30	11	17,75	17,75	22	6	5,5	17,75	17,75
PL2-3/8-70	2	G3/8	124	56	37	62	55	37	14,5	22,5	14	28	6	5,5	22,5	14,5
P2N-JS516SD	3	G3/4	149	71	60	74,5	68	45	21	33	10	40	18	6,6	37,5	22,5

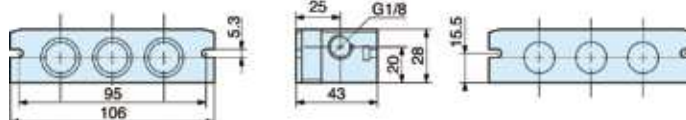
## Bottom ported subbases



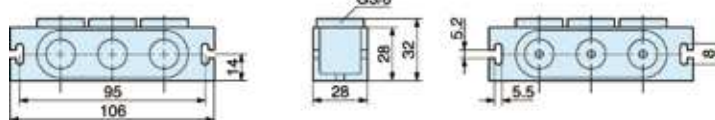
Order code	ISO Size	A	B	C	D	J	K	L	M	N	P	R	S	T	U	W	Y	Z
PD1-1/4-70	1	G1/4	46	49	49	5,5	29	6	110	55	22	10	11	30	10	5,5	10	10
PD2-3/8-70	2	G3/8	56	55	55	5,5	37	6	124	62	29	10	14,5	37	12,5	5,5	12,5	12,5
PD3-1/2-70	3	G1/2	77	68	68	6,6	32	18	149	74,5	34	10	17	45	17	6,5	17	17

## Size 1 bottom ported manifold

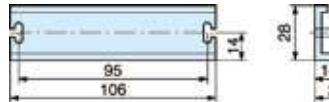
Manifold P2N-AM512MB



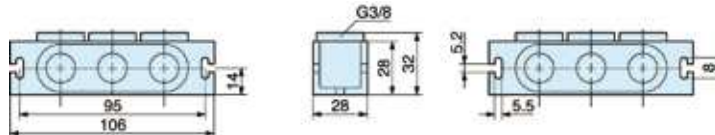
Connecting block P2N-AM513GT



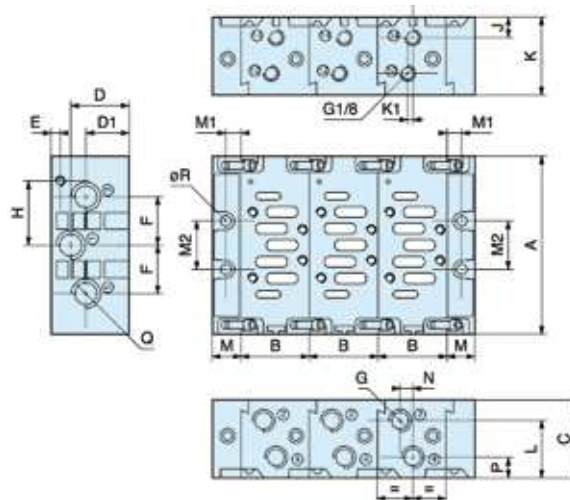
End piece P2N-AM500J



Intermediate supply P2N-AM513BT



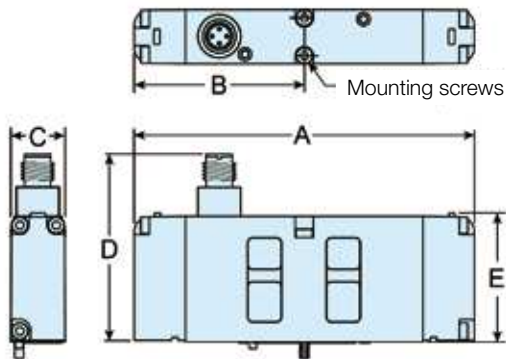
## Sizes 1 & 2 side ported manifold



Order code	A	B	C	D	D1	E	F	G	H	J	K	K1	L	M	M1	M2	N	P	Q	R
P2N-EM ...	110	43	48	35,5	26,5	5,5	28	G1/4	36	15,5	35	3	32	20	11	28	12	12,5	G3/8	6
P2N-FM ...	129	56	60	44,5	35,5	6	34,5	G3/8	45	16	41,5	3	41	24	13	35	12,5	16	G1/2	8

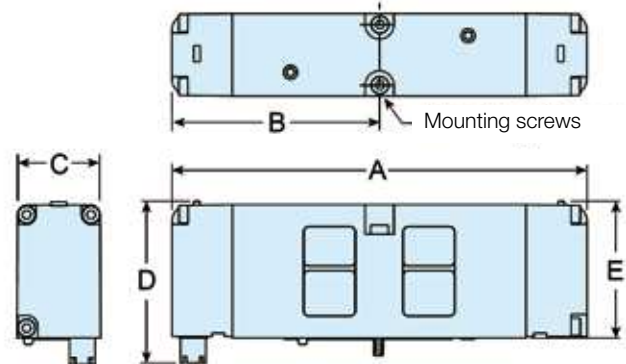
**Isys ISO Valves**

**HA / HB Series - ISO 15407-1**



	A	B	C	D	E
<b>HB</b>	113	56	18	61	43
<b>HA</b>	130	65	26	61	42

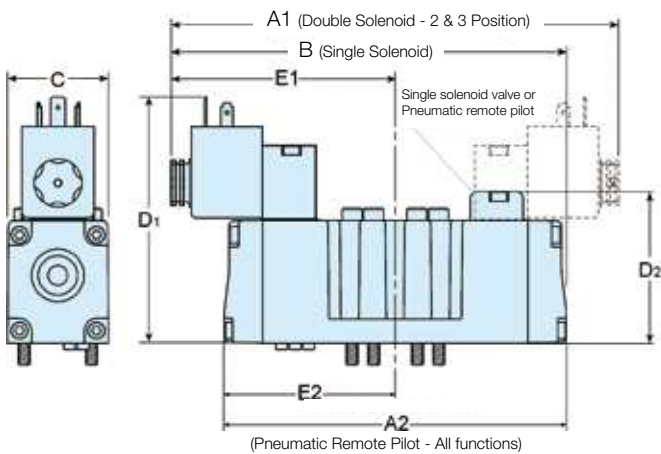
**HA / HB Series - ISO 15407-2**



	A	B	C	D	E
<b>HB</b>	113	56	18	50	43
<b>HA</b>	130	65	26	50	42

**H1 / H2 / H3 Series - ISO 5599-1**

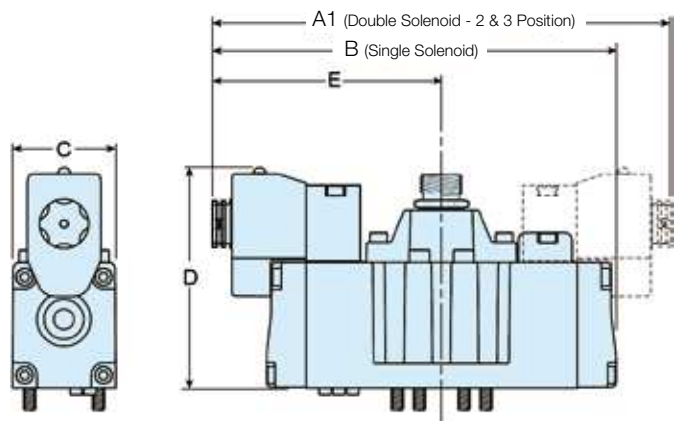
CNOMO Operator or Remote Pilot



	A1	A2	B	C	D1	D2	E1	E2
<b>H1</b>	186	142	164	42	109	63,5	93	71
<b>H2</b>	212	168	190	55	122	76	106	84
<b>H3</b>	241	177	209	55	122	76	121	89

**H1 / H2 / H3 Series - ISO 5599-2**

Plug-in and M12 Connector Versions

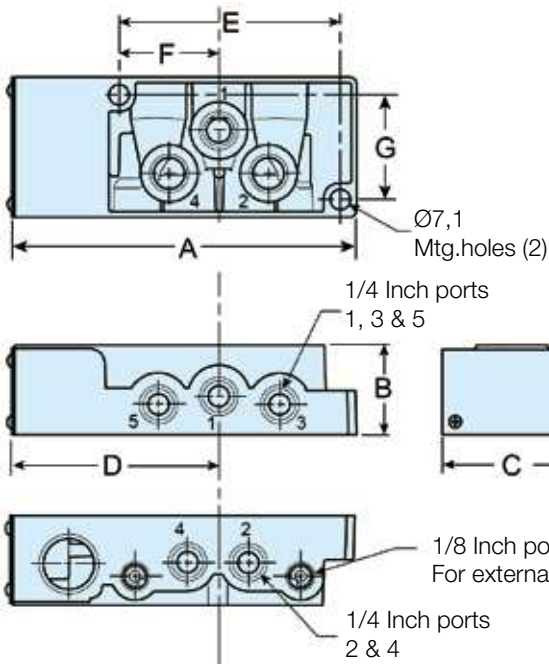


	A	B	C	D	E
<b>H1</b>	186	164	42	90	93
<b>H2</b>	212	190	55	103	106
<b>H3</b>	241	209	55	103	121



**Isys ISO Subbases**

**HA Series - ISO 15407-1 & -2**

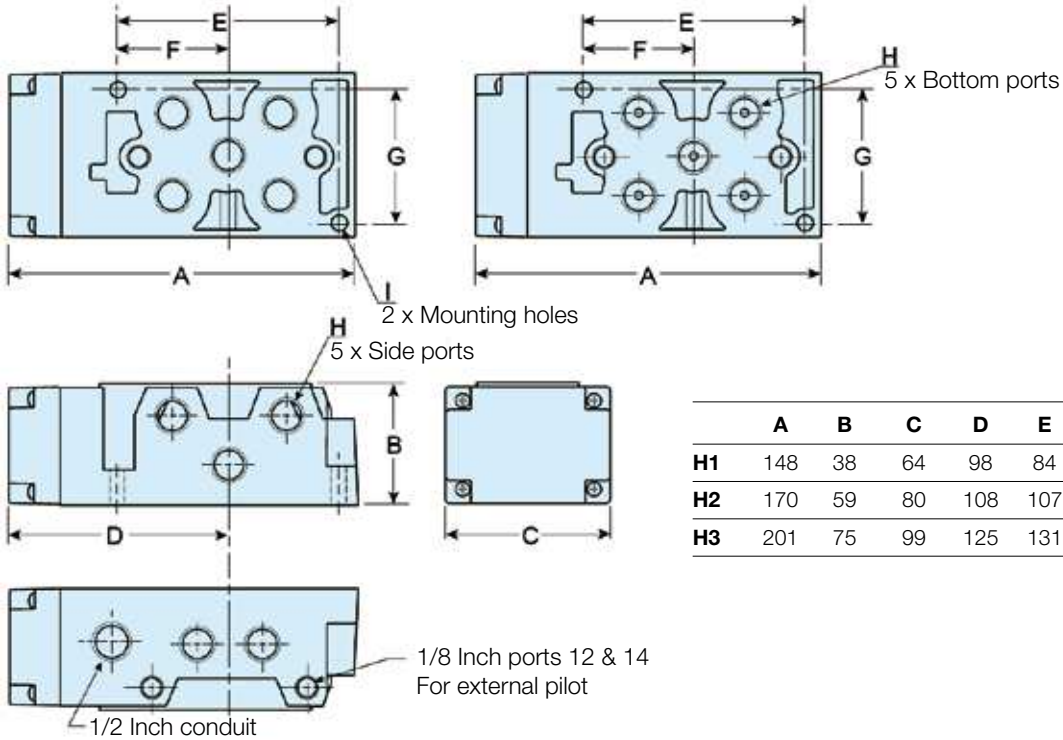


	A	B	C	D	E	F	G
<b>HA</b>	124	32,5	50,8	74	36,2	80,2	37,9

**H1 / H2 / H3 Series - ISO 5599-1 & -2**

**Side Ported Subbase**

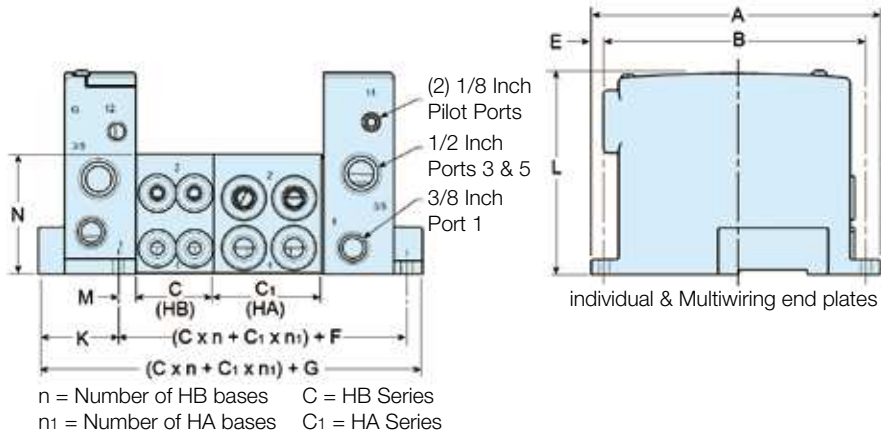
**Bottom Ported Subbase**



	A	B	C	D	E	F	G	H	I
<b>H1</b>	148	38	64	98	84	40	51	3/8"	5,5
<b>H2</b>	170	59	80	108	107	52	65	1/2"	7,1
<b>H3</b>	201	75	99	125	131	64	82	3/4"	9

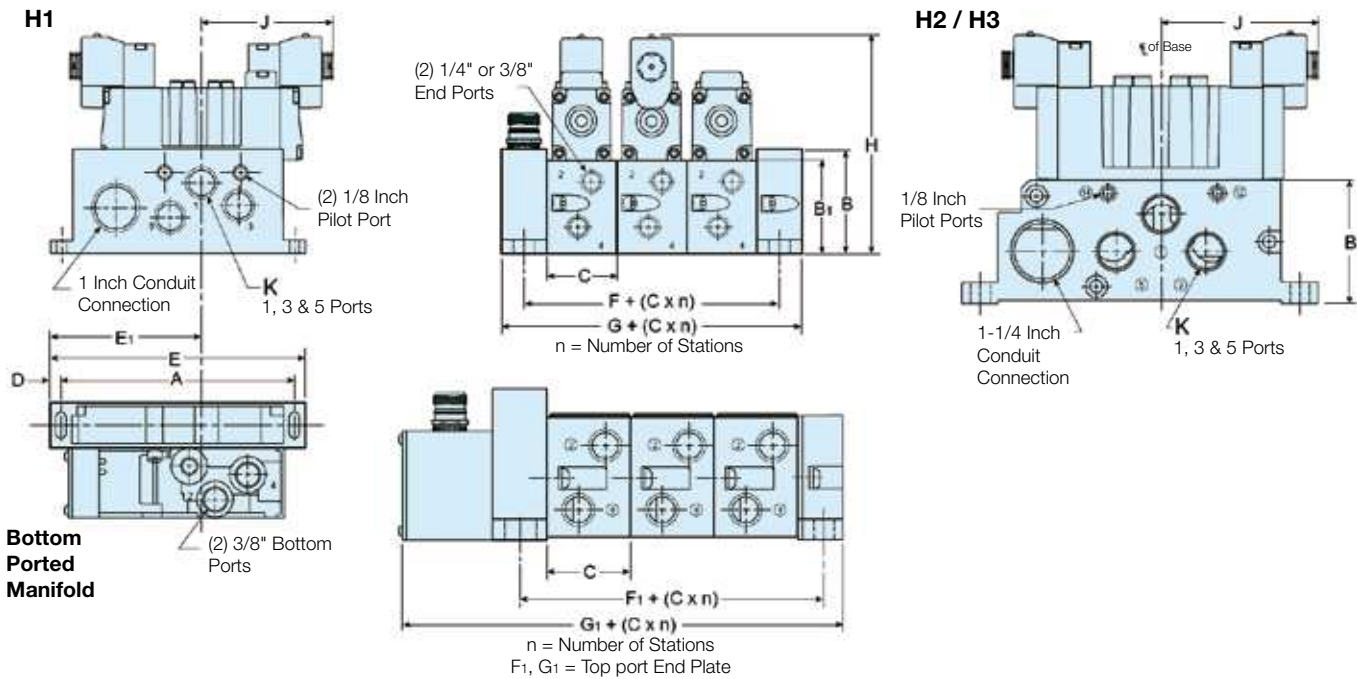
**Isys ISO Manifolds**

**HA/HB Series - ISO 15407-2**



	A	B	C	C1	D	E	F
HA/HB	152	137	40,8	56,8	16	7,5	54,4
	G	H	J	K	L	M	N
HA/HB	104,6	109,8	4	42,7	106	8,4	63

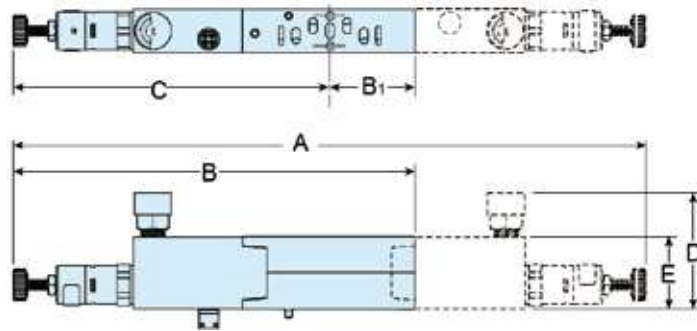
**H1 / H2 / H3 Series - ISO 5599-2**



	A	B	B1	C	D	E	E1	F	F1	G	G1	H	J	K
H1	165	73	67	50	8	182	108	32	-	63,5	86	157	93	1/2"
H2	215	85	-	56	12	239	134	30	33	60	96	188	106	3/4"
H2	265	105	-	71	15	295	159	33	41	63	111	208	-	1"

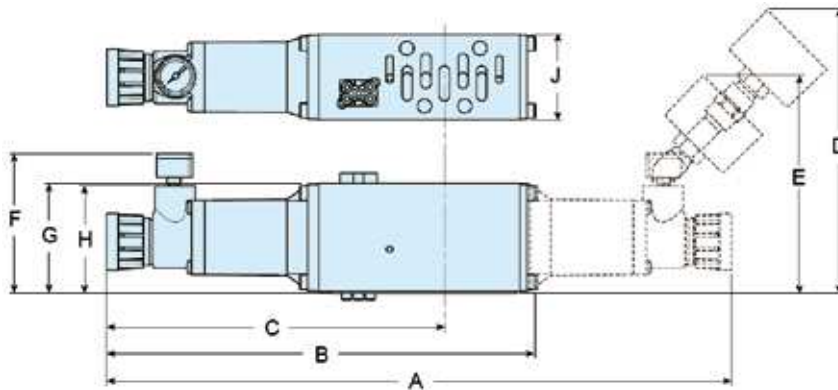
**Sandwich Regulator with Gauge**

**HA / HB Series**



	A	B	B1	C	D	E
<b>HB</b>	261	156	26	130	66	30
<b>HA</b>	254	163	36	127	69	30

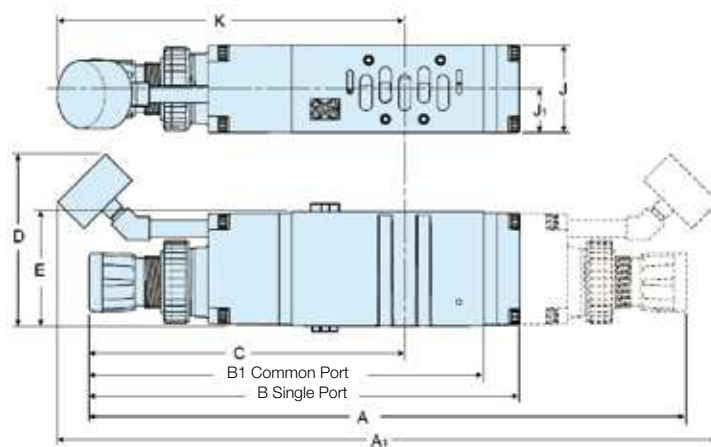
**H1 Series**



Liquid Gauge &  
 Large Air Gauge  
 Dimensions

	A	B	C	D	E	F	G	H	J
<b>H1</b>	301	207	163	138	108	72	53	52	41

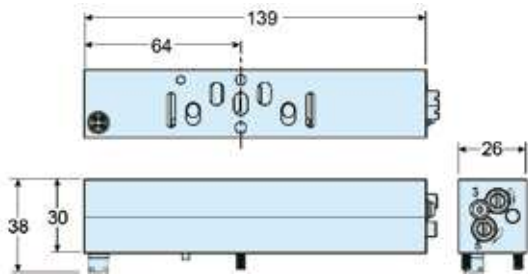
**H2 / H3 Series**



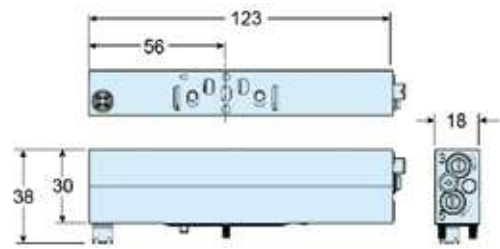
	A	A1	B	B1	C	D	E	J	J1	K
<b>H2</b>	372	411	268	250	196	107	71	55	27	216
<b>H3</b>	398	436	293	271	213	107	75	64	32	231

**Sandwich Flow Control**

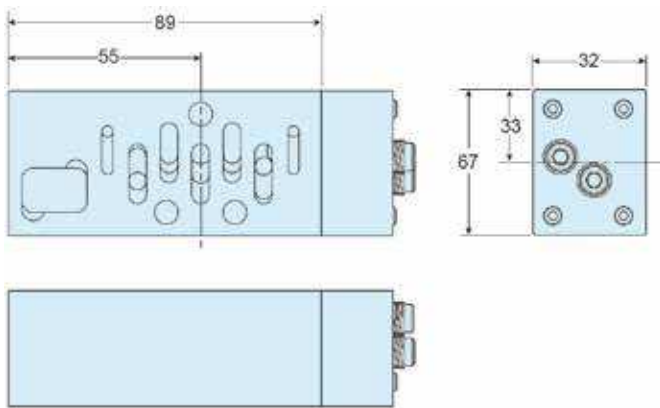
**HA Series**



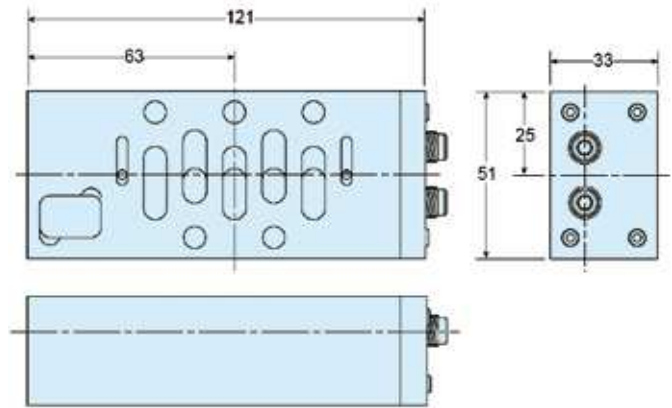
**HB Series**



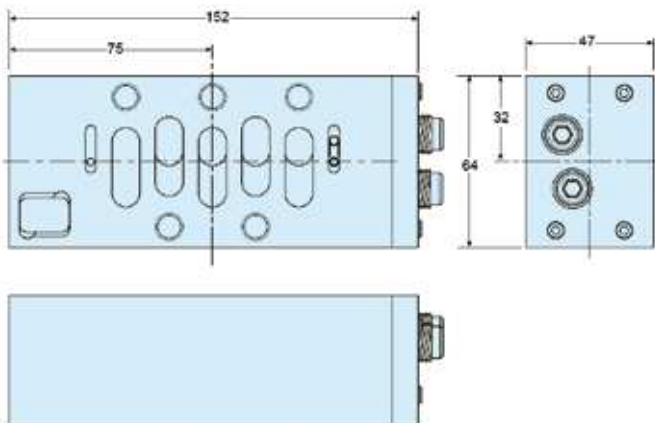
**H1 Series**



**H2 Series**



**H3 Series**

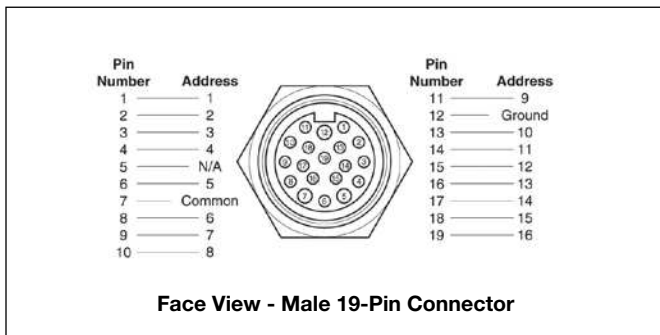


### Maximum Solenoids Energized Simultaneously

HA HB code	Voltage D-Sub	25-pin round	19-pin M23	Single 12-pin Isysnet		
24 V DC	B9 / G9	24	16	8	32	
120 V AC*	23	24	16	8	32	
H1 H2 H3	Voltage code	25-pin D-Sub	19-pin round	Single 12-pin M23	Isysnet	SAM 3.0
12 V DC	45	13	13	8	N/A	N/A
24 V AC*	42	24	16	8	N/A	N/A
24 V DC	B9	20	16	8	21	4
120 V AC*	23	24	16	8	N/A	N/A

\* Not CSA certified for 25-pin, D-Sub option.

### 19-Pin Round Brad Harrison



### 19-Pin Round Cable Specifications

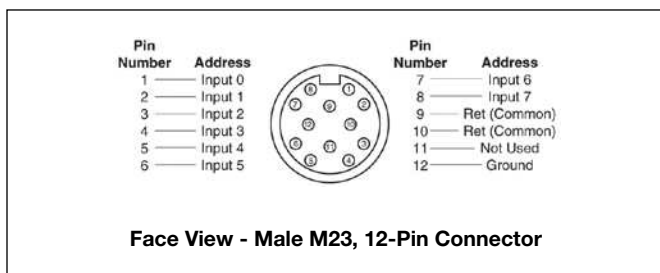
Common Pin "7" is rated for 8 amps. Cable common wire must be greater than total amperage of solenoids on Add-A-Fold assembly.

**Example:-** 8 station manifold, 16 solenoids,  
120VAC - 16 x .039 amps = .63 total amp rating.  
NEMA 4 rated with properly assembled NEMA 4 rated cable.

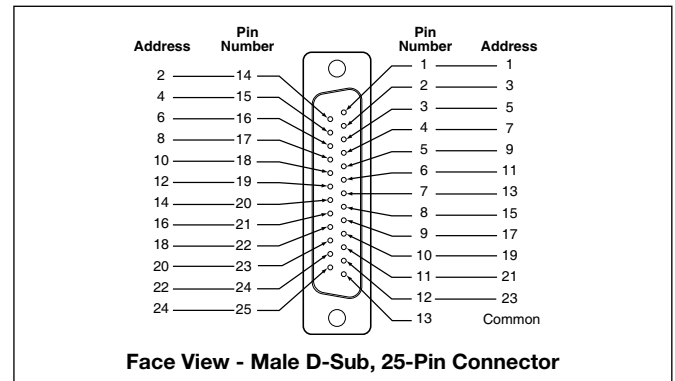
Brad Harrison #333030P80M050 16.40 ft. (Female to Male Cable)

Brad Harrison #333030P80M0100 32.80 ft. (Female to Male Cable)

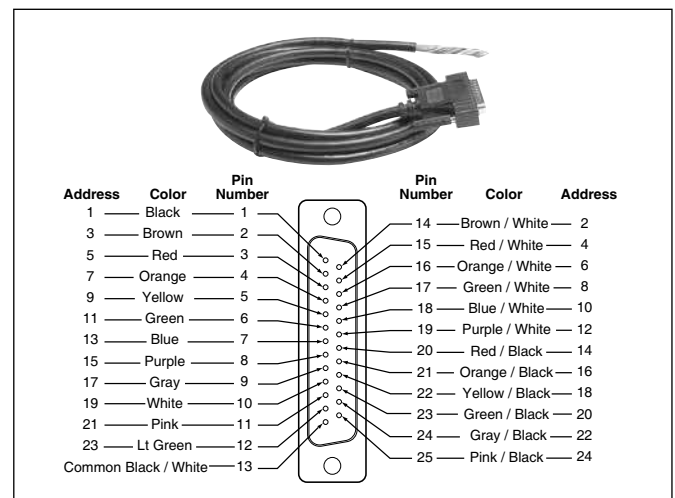
### M23, 12-Pin Round Connector (Male)



### 25-Pin, D-Sub Connector (Male)



### 25-Pin, D-Sub Cable (Female)

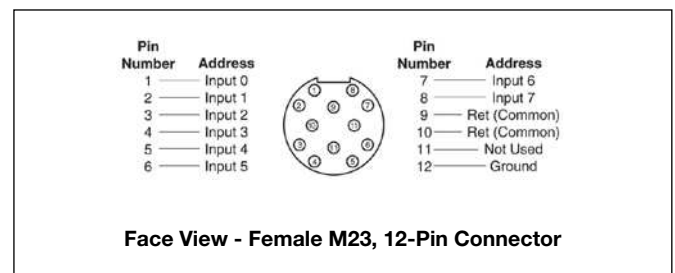


### 25-Pin, D-Sub Cable Specifications

Common Pin "13" is rated for 3 amps. Common wire rating must be greater than total amperage of all solenoids on a Add-A-Fold assembly.

IP65 rated with properly assembled IP65 rated cable.

### M23, 12-Pin Round Connector (Female)

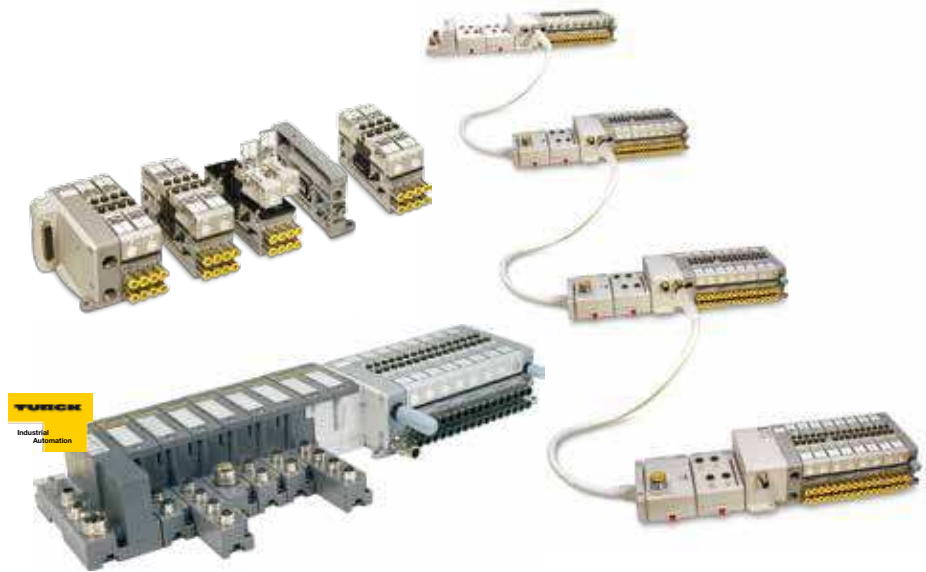




# Isys Micro

## Plug-in valve island

*Parker's newest and most innovative valve design offers functionality for **every** machine configuration.*



The Isys Micro valve redefines flexibility for pneumatic users. When either configured from basic components or ordered as pre-assembled and tested valve islands, Isys Micro valves are the answer to all your needs.

### **Flexible in use**

The Isys Micro range is fully dedicated to centralized applications where a high quantity of valves have to be concentrated in a single location.

Solenoid valve island can also be implemented with digital or analogical electrical I/O.

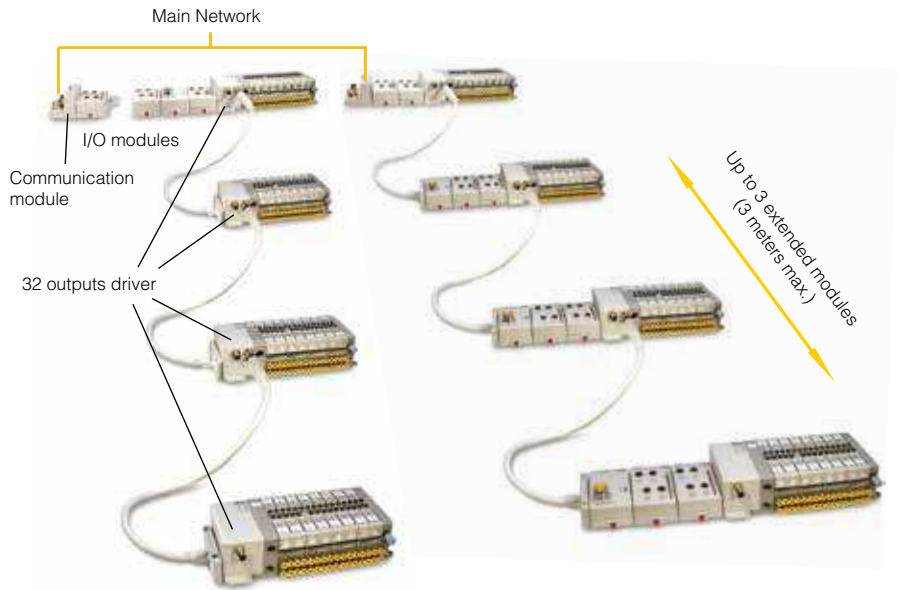
From a centralized application high complexity level to a basic configuration, with industrial communication or traditional multi-connection, an Isys Micro valve island can be designed.

**One communication module for 256 Inputs and 256 Outputs**

The combination of 32 output drivers and electrical I/O modules linked to the main communication module allows Isys Micro valve islands to drive up to 512 I/O, including up to 128 solenoids split between 4 interconnected devices.

Both electrical inputs and outputs modules can also be assembled either on the main or extended islands.

Expansion power supply may be used to provide additional Pointbus backplane current.



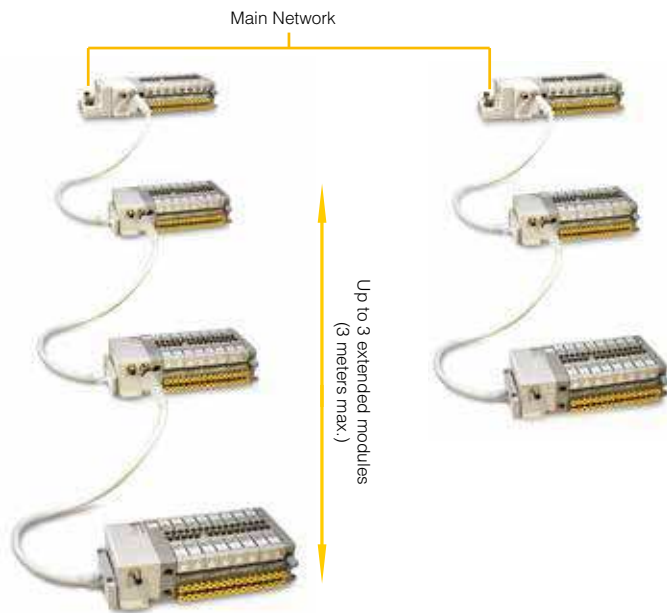
**Up to 128 solenoid valves configuration**

If a high quantity of valves is required in a centralized application, up to 3 extended islands can be connected to the main device communication module.

All extended islands are connected through a bus extension cable PSSVEXT1 (including 1 m cable and head plate).

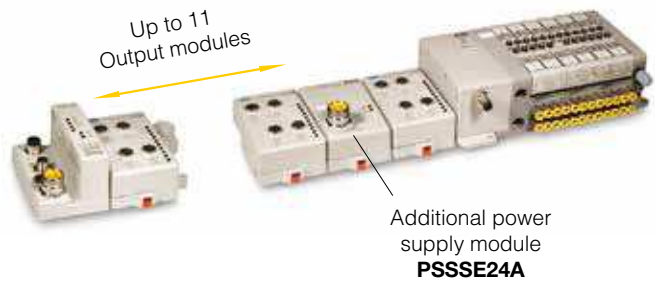
In this configuration, the 32 outputs driver module, on the main island and the extended island, have to be equipped with a "bus extention" M12 connector, excepted for the last extended island.

All 32 outputs driver modules need to be equipped with a M12 solenoids power supply connector.



**Up to 256 electrical outputs including 32 solenoid valves**

Communication modules include a main 24 VDC power supply for the Bus and up to 10 digital or analogical output modules. Additional power supply is only requested if there are more than 11 output modules.



**Up to 32 solenoid valves**

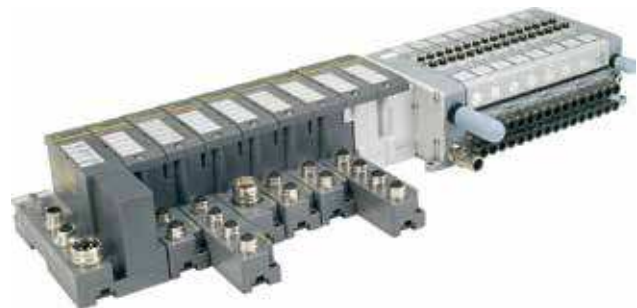
Communication modules include a main 24 VDC power supply for the bus and the 32 output driver modules. All solenoids can be energized at the same time.



**Island up to 16 or 32 solenoid valves linked to the Turck BL67 remote I/O device series**



This electro-mechanical interface allows, with its modularity up to 16 or 32 solenoid valves, an inter-connection to the TURCK BL67 Series, offering a wide choice of industrial communication with Field bus and Industrial Ethernet protocols and a complete range of electrical I/O modules.



**Island for fieldbus communication in decentralized application**

In a decentralized application where a serial communication is required and only a few valves are necessary, different fieldbus protocol modules are also available.

In that case, the valve island has to be equipped with a bus communication head module adaptor.

Depending on the protocol, the head module can pilot up to 16 solenoid valves.



**Island with multi-pole connection**

In a decentralized application, when a multi-pole connection is required, the valve island head module can be equipped with a standard Sub-D25 connector.

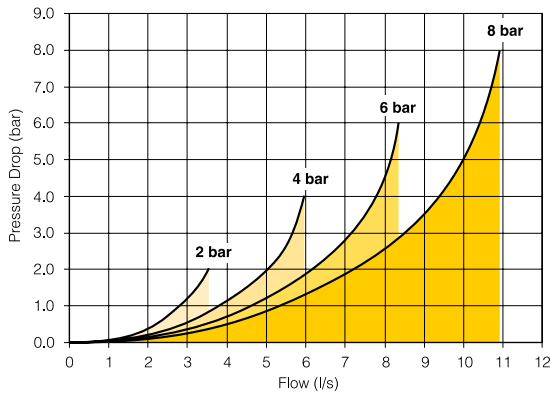
With this Sub-D25 connection, up to 24 solenoid valves can be piloted.





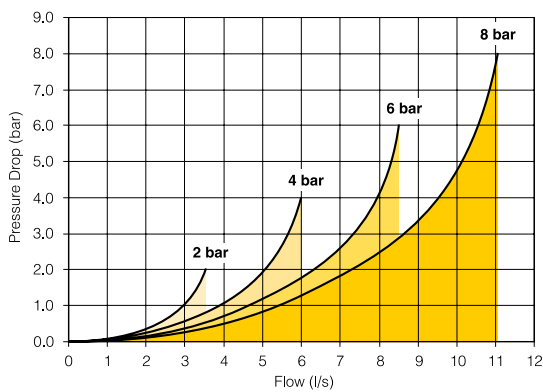
**Flow Characteristics**

**Dual 3/2**



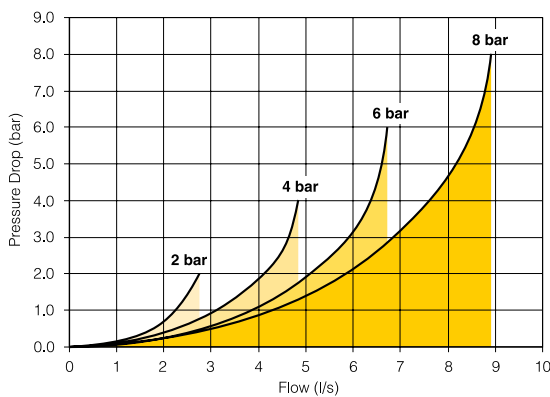
Operating pressure :	2,7 to 8,3 bar
Change-over time (side 14)	Actua. 15 ms Return 20 ms P = 6b
Change-over time (side 12)	15 ms / 25 ms P = 6b
Flow (acc. to ISO 6358) :	c = 1,2 NI/s x bar b = 0,13 Qn = 4,6 NI/s Qmax = 8,4 NI/s

**5/2 single and double solenoid**



Operating pressure single solenoid:	2,7 to 8,3 bar
Operating pressure double solenoid:	1,7 to 8,3 bar
Change-over time single solenoid:	Actua. 15 ms Return 25 ms P = 6b
Change-over time double solenoid:	13 ms / 13 ms P = 6b
Flow (acc. to ISO 6358) :	c = 1,2 NI/s x bar b = 0,13 Qn = 4,7 NI/s Qmax = 8,5 NI/s

**5/3 all ports blocked**













Operating pressure :	2,7 to 8,3 bar
Change-over time	Actua. 20 ms Return 20 ms P = 6b
Flow (acc. to ISO 6358) :	c = 1 NI/s x bar b = 0,14 Qn = 3,8 NI/s Qmax = 6,7 NI/s



**Characteristics**

Fluid :	Air or inert gas Filtered 40 µ Class 5 (according to ISO 8573-1)  Dry class 4 (according to ISO 8573-1) Non-lubricated or lubricated	Operating pressure :	-0.9 to 8,3 bar with external pressure 6 bar
Storage temperature :	-40 °C to + 70 °C	Piloting pressure :	2.7 to 8.3 bar
Working temperature	-15 °C to + 50°C	Exhaust collection :	Independant exhaust collection
Vibration :	according to IEC 68-2-6 2G to 150 Hz	Rated coil voltage :	24 VDC -15 % / +10 %
Shock :	according to IEC 68-2-27 15G 11 ms	Electrical connection:	Not polarised
		Coil insulation :	Class B
		Power consumption :	1 W (42 mA) with LED
		Duty factor :	100 % at 20°C











Solenoid operated valve fitted with 24 VDC solenoid

	Symbol	Description	Weight (g)	Order code
 <p>Including multi-function manual override cap</p>		Double 3/2 NC + NC	60	<b>HMNVX2049A</b>
		Double 3/2 NO + NO	60	<b>HMPVX2049A</b>
		Double 3/2 NC + NO	60	<b>HMQVX2049A</b>
		5/2 single solenoid - Spring return	49	<b>HMEVX2049A</b>
		5/2 double solenoid	60	<b>HM2VX2049A</b>
		5/3 all ports blocked (APB)	65	<b>HM5VX2049A</b>
		Blanking module kit (including two M7 plugs for manifold)	30	<b>HMBVX00XXA</b>
		Additional pressure module	30	<b>HMCVX00XXA</b>



Metal manifold for 4 valves (M7 threaded)

	Description	Weight (g)	Order code
 <p>Side ported</p>	4 position manifold single electrical address	332	<b>PSM21JAP</b>
	4 position manifold double electrical address	332	<b>PSM21MAP</b>
 <p>Bottom ported</p>	4 position manifold single electrical address	310	<b>PSM22JAP</b>
	4 position manifold double electrical address	310	<b>PSM22MAP</b>


Complete manifold without fitting (M7 threaded)

	Symbol	Description	Weight (g)	Order code
 <p>Side ported</p>		4 x Double 3/2 NC + NC	572	<b>PSM31MAPN0N0N0N0</b>
		4 x 5/2 single solenoid - Spring return	528	<b>PSM31JAPE0E0E0E0</b>
		4 x 5/2 double solenoid	572	<b>PSM31MAP20202020</b>
		4 x 5/3 all ports blocked (APB)	592	<b>PSM31MAP50505050</b>
 <p>Bottom ported</p>		4 x Double 3/2 NC + NC	550	<b>PSM32MAPN0N0N0N0</b>
		4 x 5/2 single solenoid - Spring return	506	<b>PSM32JAPE0E0E0E0</b>
		4 x 5/2 double solenoid	550	<b>PSM32MAP20202020</b>
		4 x 5/3 all ports blocked (APB)	570	<b>PSM32MAP50505050</b>


**Pneumatic accessories**

	Description	Size	Tube OD	Material	Order code	
	Straight pneumatic connector for sub-base and <b>Px</b>	M7	4 mm	Metal	<b>F28PMB4M7MD</b>	
		M7	6 mm	Metal	<b>F28PMB6M7MD</b>	
	Straight pneumatic connector for Pressure and Exhaust ports	for <b>Ex</b>	1/8"	6 mm	Metal	<b>F4PMB6-1/8</b>
			3/8"	8 mm	Metal	<b>F4PB8-3/8</b>
			3/8"	10 mm	Metal	<b>F4PB10-3/8</b>
			3/8"	12 mm	Metal	<b>F4PB12-3/8</b>
	Muffler for <b>Ex</b>	1/8"		Metal	<b>ESB12MC</b>	
		1/8"		Plastic	<b>P6M-PAB1</b>	
	Muffler for exhaust port	3/8"		Metal	<b>ESB37MC</b>	


**Multi-pressure inter-manifold seal plate**

	Description	Pressure port	Exhaust port	Weight (g)	Order code
	Inter-manifold seal plate	Passing / Passing	Passing	16	<b>PSM0001</b>
		Passing / Block	Passing	20	<b>PSM0002</b>
		Passing / Block	Block	30	<b>PSM0003</b>
		Block / Block	Block	40	<b>PSM0004</b>

**Spare parts**

	Description	Weight (g)	Order code
	24 VDC Pilot solenoid with screws	11	<b>PSM0010</b>
	Set of 10 multifunction manual override caps	15	<b>PSM0011</b>
	Set of 5 valve manifold gaskets and 10 screws	25	<b>PSM0012</b>
	Set of 10 M7 plugs for auxiliary pressure selection	30	<b>PSM0013</b>
	Set of 10 labels (in the P/N, <b>x</b> has to be replaced with the valve function letter)	5	<b>PSM002x</b>
	Set of 10 manifold to manifold M3 screws	20	<b>PSM0014</b>

Isysnet 32 output driver end modules ordering chart



P	S	M	L	6	1	A	P
---	---	---	---	---	---	---	---

**ISYSNET 32 Output driver end modules**

	24VDC power supply connector	Extender bus connector
<b>L6</b>	NO	NO
<b>M5</b>	NO	YES
<b>M6</b>	YES	NO
<b>M7</b>	YES	YES

	Ported design	Thread type
<b>1</b>	Side ported	3/8" BSPP
<b>2</b>	Bottom ported	3/8" BSPP
<b>5</b>	Side ported	3/8" NPT
<b>6</b>	Bottom ported	3/8" NPT

32 outputs driver selection guide :

**L6 type**

- Isysnet 32 outputs driver with internal solenoids power supply from the communication head module
- Extended valve island not possible



**M6 type**

- Isysnet 32 outputs driver with external solenoids power supply by M12 male connector
- Extended valve island not possible



**M7 type**

- Isysnet 32 outputs driver with external solenoids power supply by separated M12 male connector
- Extended Bus link connection for additional valve islands by separate M12 female connector



**M5 type**

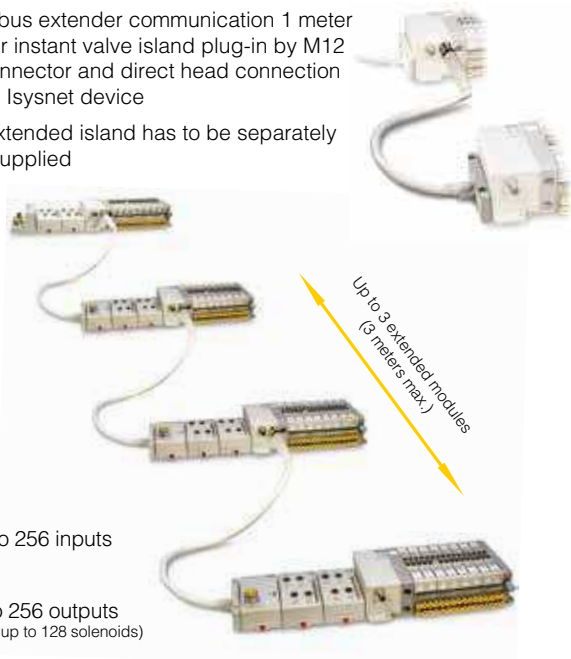
- Isysnet 32 outputs driver with internal solenoids power supply from the communication head module
- Extended Bus link connection for additional valve islands by separate M12 female connector



**Isysnet bus extender**

Isysnet bus extender communication 1 meter cable for instant valve island plug-in by M12 male connector and direct head connection plate on Isysnet device

Every extended island has to be separately power supplied



Up to 256 inputs





Up to 256 outputs  
(including up to 128 solenoids)

**Technical data**


**Isysnet 32 Outputs driver modules**

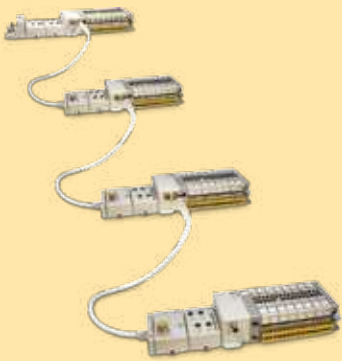
- Number of Outputs : 32
- Operating Voltage Range : 20,4 to 26.4 VDC
- Output current rating Nom. : 50 mA per chanel (100 mA Max)  
3.2A per module
- Pointbus current : 200 mA
- Working temperature : -15°C to 50°C
- Dust and water protection : IP65

**Isysnet 32 outputs driver modules**

	Sub-base design	Thread type	24 VDC power supply	Extender bus	Weight (g)	Order code
	Side ported	3/8" BSPP	NO	NO	400	<b>PSML61AP</b>
	Bottom ported	3/8" BSPP	NO	NO	400	<b>PSML62AP</b>
	Side ported	3/8" BSPP	YES	NO	400	<b>PSMM61AP</b>
	Bottom ported	3/8" BSPP	YES	NO	400	<b>PSMM62AP</b>
	Side ported	3/8" BSPP	NO	YES	400	<b>PSMM51AP</b>
	Bottom ported	3/8" BSPP	NO	YES	400	<b>PSMM52AP</b>
	Side ported	3/8" BSPP	YES	YES	400	<b>PSMM71AP</b>
	Bottom ported	3/8" BSPP	YES	YES	400	<b>PSMM72AP</b>

**Isysnet bus extender**

	Description	Weight (g)	Order code
	Head plate 1 meter cable / M12 male connector for extended island inter-connection	380	<b>PSSVEXT1</b>



Communication modules :

- Fieldbus
- Industrial Ethernet

Digital and Analogical I/O modules  
 Extended power supply module  
 IP67 modules

**Isysnet Communication and I/O modules**

**Isysnet Communication modules**

Isysnet communication modules are available in :

- DeviceNet
- Profibus DP
- Ethernet I/P
- ControlNet



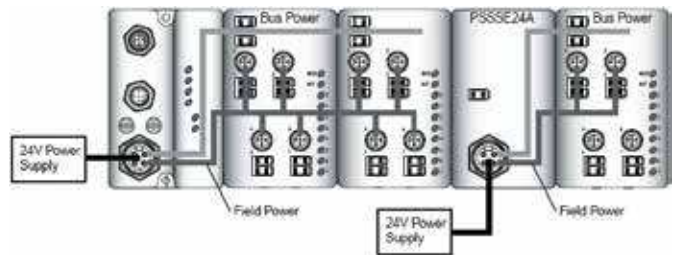
**Digital or Analogical electrical I/O modules**

Some modules have diagnostic features, electronic fusing, or individually isolated inputs/outputs. The Isysnet family provides a wide range of input and output modules to span many applications, from highspeed discrete to process control. Isysnet supports producer/consumer technology, which allows input information and output status to be shared among multiple Logix controllers.



**Isysnet Extension Power Unit**

The auxiliary power supports up to 10 I/O modules and 32 output driver with a maximum of 10 A field power. The 24 VDC extension power unit (PSSSE24A) extends the backplane bus power to support up to 10 more I/O modules. Connect additional extension power units to expand the I/O assembly up to 63 I/O modules



**Technical data**

**Isysnet Communication modules & Extension power unit**

Bus power supply : 24 VDC at 400 mA  
 Power supply input voltage : 24 VDC  
 Operative voltage range : 10 to 28.8 VDC  
 Input overvoltage protection : Reverse polarity protected

**Isysnet Analogue Input modules**

Number of Outputs : 2  
 Input signal Range : 4 to 20 mA / 0 to 10 VDC  
 Pointbus current : 75 mA

**Isysnet Analogue Output modules**

Number of Outputs : 2  
 Input signal Range : 4 to 20 mA / 0 to 10 VDC  
 Pointbus current : 75 mA

**Isysnet Digital Input modules**

Number of Outputs : 8 – PNP or NPN  
 Operating Voltage Range : 10 to 28.8 VDC  
 Input current on-state : 2 to 5 mA  
 Input current off-state : 1,5 mA  
 Pointbus current : 75 mA


**Isysnet Digital Output modules**

Number of Outputs : 8  
 Operating Voltage Range : 10 to 28.8 VDC  
 Output current rating Max. : 1 A per channel  
 3 A per module  
 Pointbus current : 75 mA






**Isysnet Relay Output modules**

Number of Outputs : 4 – NO contacts  
 Operating Voltage Range : 5 to 28.8 VDC  
 Output current rating Max. : 2 A per channel  
 8 A per module  
 Pointbus current : 90 mA


## Isysnet communication modules

	Description	Fieldbus connection	Power supply connector	Weight (g)	Order code	
	DeviceNet	M18	7/8" - 4 pins	400	<b>PSSCDM18PA</b>	
		M12 - A coding	7/8" - 4 pins	400	<b>PSSCDM12A</b>	
		Profibus DP	M12 - B coding	7/8" - 5 pins	380	<b>PSSCPBA</b>
		Ethernet I/P	M12 - D coding	7/8" - 4 pins	380	<b>PSSCENA</b>
		ControlNet	M12 - D coding	7/8" - 4 pins	380	<b>PSSCCNA</b>



## Isysnet electrical I/O modules

	Description	Polarity	Connector type	Weight (g)	Order code
	8 Digital Inputs	PNP	8 x M8	400	<b>PSSN8M8A</b>
			4 x M12	380	<b>PSSN8M12A</b>
		NPN	4 x M12	380	<b>PSSP8M12A</b>
	8 Digital Outputs	PNP	8 x M8	400	<b>PSST8M8A</b>
			4 x M12	380	<b>PSST8M12A</b>
			1 x M23	400	<b>PSST8M23A</b>
	4 Digital Outputs	Relay	4 x M12	410	<b>PSSTR4M12A</b>
			2 Analogue Inputs	0 - 10 V	2 x M12
	2 Analogue Inputs	4 - 20 mA	2 x M12	400	<b>PSSNACM12A</b>
			2 Analogue Outputs	0 - 10 V	2x M12
	2 Analogue Outputs	4 - 20 mA	2 x M12	400	<b>PSSTACM12A</b>




## Isysnet auxiliary electrical modules

	Description	Connector type	Weight (g)	Order code
	24 VDC expansion power unit	7/8" - 4 pins	420	<b>PSSSE24A</b>


## Isysnet bus extender

	Description	Length	Weight (g)	Order code
	Bus extender cable for Isysnet module interconnection	1 meter	380	<b>PSSVEXT1</b>
		3 meters	760	<b>PSSVEXT3</b>
	Isysnet termination module		200	<b>PSSTERM</b>

## Isysnet accessories

	Description	Bus protocol	Connector type	Weight (g)	Order code	
	Power supply connector	DeviceNet, ControlNet & Ethernet	7/8" - 4 pins	40	<b>P8CS7804AA</b>	
		Profibus DP	7/8" - 5 pins	40	<b>P8CS7805AA</b>	
	Line termination	DeviceNet	M12 - A coding	25	<b>P8BPA00MA</b>	
		Profibus DP	M12 - B coding	25	<b>P8BPA00MB</b>	
		Bus IN female connector	DeviceNet	M12 - A coding	25	<b>P8CS1205AA</b>
		Profibus DP	M12 - B coding	25	<b>P8CS1205AB</b>	
	Bus OUT male connector	DeviceNet	M12 - A coding	25	<b>P8CS1205BA</b>	
		Profibus DP	M12 - B coding	25	<b>P8CS1205BB</b>	
	Cable quick connect connector		M8	25	<b>P8CS0803J</b>	
			M12 - A coding	25	<b>P8CS1204J</b>	
	"Y" shape, thread to thread		M12 - 2 x M12	25	<b>P8CSY1212A</b>	

16 Outputs Moduflex Bus ends module adaptor



<b>P</b>	<b>S</b>	<b>M</b>	<b>T</b>	<b>2</b>	<b>1</b>	<b>A</b>	<b>P</b>
----------	----------	----------	----------	----------	----------	----------	----------

TURCK BL67 Series adaptor		Ported design	Thread type
<b>T0</b>	Valve Driver Module without output module	<b>1</b>	Side ported
<b>T1</b>	Valve Driver Module for 16 Outputs	<b>2</b>	Bottom ported
<b>T2</b>	Valve Driver Module for 32 Outputs	<b>5</b>	Side ported
		<b>6</b>	Bottom ported

For T0 version, 16 output module and blank module can be ordered separately from the next page or directly from TURCK under the same part number.

Valve driver Module for 16 or 32 Outputs

Modularity up to 16 or 32 Outputs :

- Populated with 1 or 2 standard TURCK 16 Output modules BL67-16DO-0. 1A-P, the Valve Driver Module can handle up to 16 or 32 solenoid valves.
- For a 16 Outputs configuration, the second slot has to be populated with 1 standard TURCK blank module BL67-E.



TURCK BL67 communication gateway

Industrial Communication :

- Linked to a TURCK BL67 communication module (programmable or not programmable), the device can be connected to a wide choice of Field Bus or Industrial Ethernet protocols.



TURCK BL67 I/O and Base modules

The 2 piece design allows to complete the device with a choice through a full digital or analogue **I/O modules** range populating the **base module** existing with a multiple choice of electrical connection (M8, M12, M23, 7/8")

The complete resulting configuration can handle :


- Up to 32 electrical modules (up to 2 in the Valve Driver Module)
- Up to 256 digital I/O (up to 32 outputs in the Valve Driver Module)
- Up to 64 analog I/O




Full description of TURCK BL67 Series on <http://www.turck.com>



**Valve Driver Module - TURCK BL67 adaptor**

	Description	Solenoid Valves	Sub-base design	Thread type	Weight (g)	Order code
	Valve Driver Module	0	Side ported	3/8" BSPP	200	<b>PSMT01AP</b>
		Without 16 O module	Bottom ported	3/8" BSPP	200	<b>PSMT02AP</b>
	16 Outputs or blank module to be ordered separately (see below)					
		16	Side ported	3/8" BSPP	270	<b>PSMT11AP</b>
		Including : - 1 x 16 O module - 1 blank module	Bottom ported	3/8" BSPP	270	<b>PSMT12AP</b>
		32	Side ported	3/8" BSPP	310	<b>PSMT21AP</b>
	Including : - 2 x 16 O modules	Bottom ported	3/8" BSPP	310	<b>PSMT22AP</b>	

**Standard TURCK BL67 module**


	Description	Weight (g)	Order code
	16 Outputs module for 16 or 32 solenoid valves configuration	55	<b>BL67-16DO-0.1A-P</b>
	Blank module for 16 solenoid valves configuration	15	<b>BL67-E</b>

Both standard TURCK BL67 Outputs module and Blank module can be ordered directly from TURCK under the same part number.

**16 Outputs module BL67-16DO-0.1A-P technical specifications**

Number of channels	16	Dimensions (W x L x H)	32 x 91 x 59 mm
Nominal voltage $V_O$	24 VDC	Approvals	CE, cULus
Rated current from field supply	≤ 100 mA	Operating temperature	Refer to solenoid valve
Rated current from module bus	≤ 30 mA	Storage temperature	-40°C to +70°C
Power loss, typical	≤ 1.5 W	Vibration	According to IEC68-2-6 : 2g to 150 Hz
		Shock test	According to IEC68-2-27 : 15g to 11 ms
Output type	PNP	Electro-magnetic compatibility	acc. to EN61131-2
Output voltage	24 VDC	Protection class	IP 65
Output current per channel	140 mA rated current (with VN 01-05 or higher)	Tightening torque fixing screws	0.9 ... 1.2 Nm
Output delay	3 ms		
Load type	resistive, inductive		
Short-circuit protection	yes		
Simultaneity factor	1		
Electrical isolation	electronics for the field level		

## 16 Outputs Moduflex Bus ends module adaptor



P	S	M	M	C	1	A	P
---	---	---	---	---	---	---	---

Moduflex 16 Outputs adaptor		Ported design		Thread type	
M4	Adaptor without bus module	1	Side ported	3/8" BSPP	
MC	Adaptor with CANopen module	2	Bottom ported	3/8" BSPP	
MD	Adaptor with DeviceNet module	5	Side ported	3/8" NPT	
MP	Adaptor with Profibus DP module	6	Bottom ported	3/8" NPT	

For AS-i communication, use M4 and see Moduflex Valve catalogue for AS-i module part number.

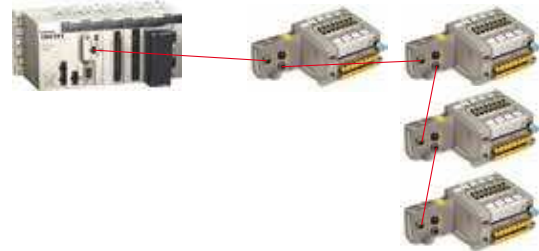
### Moduflex Bus 16 Outputs

16 solenoids fieldbus modules available in DeviceNet, CANopen, and Profibus DP protocols.



### Closer to the cylinder

Decentralized application when solenoid valves have to be closer to the pneumatic actuators.




### Technical data

#### Moduflex Bus communication modules

Bus power supply :	20 to 30 VDC	Water and dust Protection :	IP65
Power supply output voltage :	24 VDC	Output protection :	overload protected
Module consumption :			
• DeviceNet :	1,5 W		
• CANopen :	1,5 W		
• Profibus DP :	1,5 W		

### Moduflex Bus modules


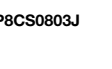
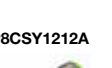

Description	Bus protocol	Sub-base design	Thread type	Weight (g)	Order code
 Moduflex Bus module	CANopen	Side ported	3/8" BSPP	250	<b>PSMMC1AP</b>
		Bottom ported	3/8" BSPP	250	<b>PSMMC2AP</b>
	DeviceNet	Side ported	3/8" BSPP	250	<b>PSMMD1AP</b>
		Bottom ported	3/8" BSPP	250	<b>PSMMD2AP</b>
	Profibus DP	Side ported	3/8" BSPP	250	<b>PSMMP1AP</b>
		Bottom ported	3/8" BSPP	250	<b>PSMMP2AP</b>

Also available, AS-i interface protocol, standard version or extended version (A - B coded). See Moduflex Valve catalogue.


 End modules adaptor without Moduflex Bus module	All	Side ported	3/8" BSPP	200	<b>PSMM41AP</b>
		Bottom ported	3/8" BSPP	200	<b>PSMM42AP</b>

For configuration files, go to : <http://www.parker.com/pneu/moduflex>.

### Decentralized Device bus accessories

Description	Bus protocol	Connector type	Weight (g)	Order code
 Power supply female straight connector	All	M12 - A coding	25	<b>P8CS1205AA</b>
	DeviceNet CANopen Profibus DP	M12 - A coding	25	<b>P8BPA00MA</b>
		M12 - B coding	25	<b>P8BPA00MB</b>
 Bus IN female connector	DeviceNet CANopen Profibus DP	M12 - A coding	25	<b>P8CS1205AA</b>
		M12 - B coding	25	<b>P8CS1205AB</b>
 Bus OUT male connector	DeviceNet CANopen Profibus DP	M12 - A coding	25	<b>P8CS1205BA</b>
		M12 - B coding	25	<b>P8CS1205BB</b>
 Cable quick connect connector		M8	25	<b>P8CS0803J</b>
		M12 - A coding	25	<b>P8CS1204J</b>
	"Y" shape, thread to thread	M12 - 2 x M12 - A coding	25	<b>P8CSY1212A</b>

**Multi-connection head module**



P
S
M
L
2
1
A
P

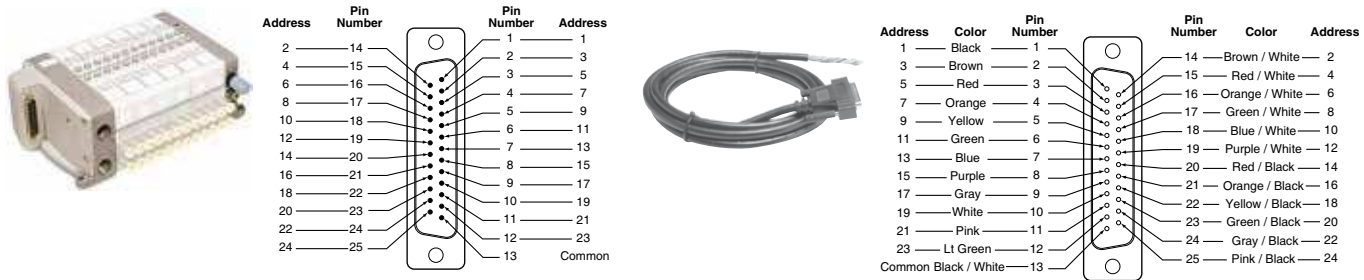
Multi-wire connection		Ported design	Thread type
<b>L2</b>	Sub-D25 connector	<b>1</b> Side ported	3/8" BSPP
		<b>2</b> Bottom ported	3/8" BSPP
		<b>5</b> Side ported	3/8" NPT
		<b>6</b> Bottom ported	3/8" NPT

**Sub-D25 connection**

Up to 24 solenoids on standard Sub-D25 connector.



**Technical data**




Address	Pin Number	Pin Number	Address
2	14	1	1
4	15	2	3
6	16	3	5
8	17	4	7
10	18	5	9
12	19	6	11
14	20	7	13
16	21	8	15
18	22	9	17
20	23	10	19
22	24	11	21
24	25	12	23
		13	Common


Address	Color	Pin Number	Pin Number	Color	Address
1	Black	1	14	Brown / White	2
3	Brown	2	15	Red / White	4
5	Red	3	16	Orange / White	6
7	Orange	4	17	Green / White	8
9	Yellow	5	18	Blue / White	10
11	Green	6	19	Purple / White	12
13	Blue	7	20	Red / Black	14
15	Purple	8	21	Orange / Black	16
17	Gray	9	22	Yellow / Black	18
19	White	10	23	Green / Black	20
21	Pink	11	24	Gray / Black	22
23	Lt Green	12	25	Pink / Black	24
		13			

Rated voltage :	24 VDC
Maximum addresses :	24
Maximum energised simultaneously :	24
Electrical connection :	Sub-D25 pin DIN 41652, MIL-C-24308, NFC93425 type HE5
Polarity :	PNP and NPN compatible (solenoids not polarized)
Dust and water protection :	IP65 rated with properly assembled IP65 rated cable

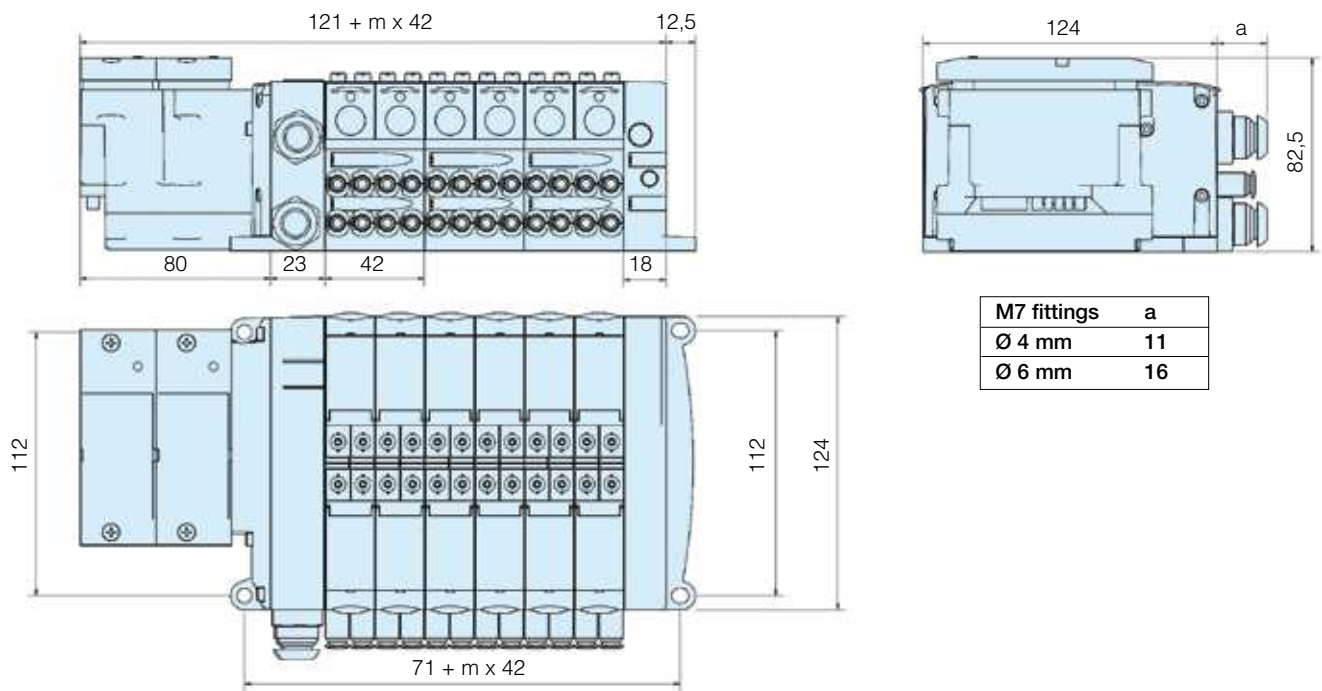
**Electrical multi-pole end modules**

	Description	Sub-base design	Thread type	Weight (g)	Order code
	Sub-D25 ends module	Side ported	3/8" BSPP	250	<b>PSML21AP</b>
		Bottom ported	3/8" BSPP	250	<b>PSML22AP</b>

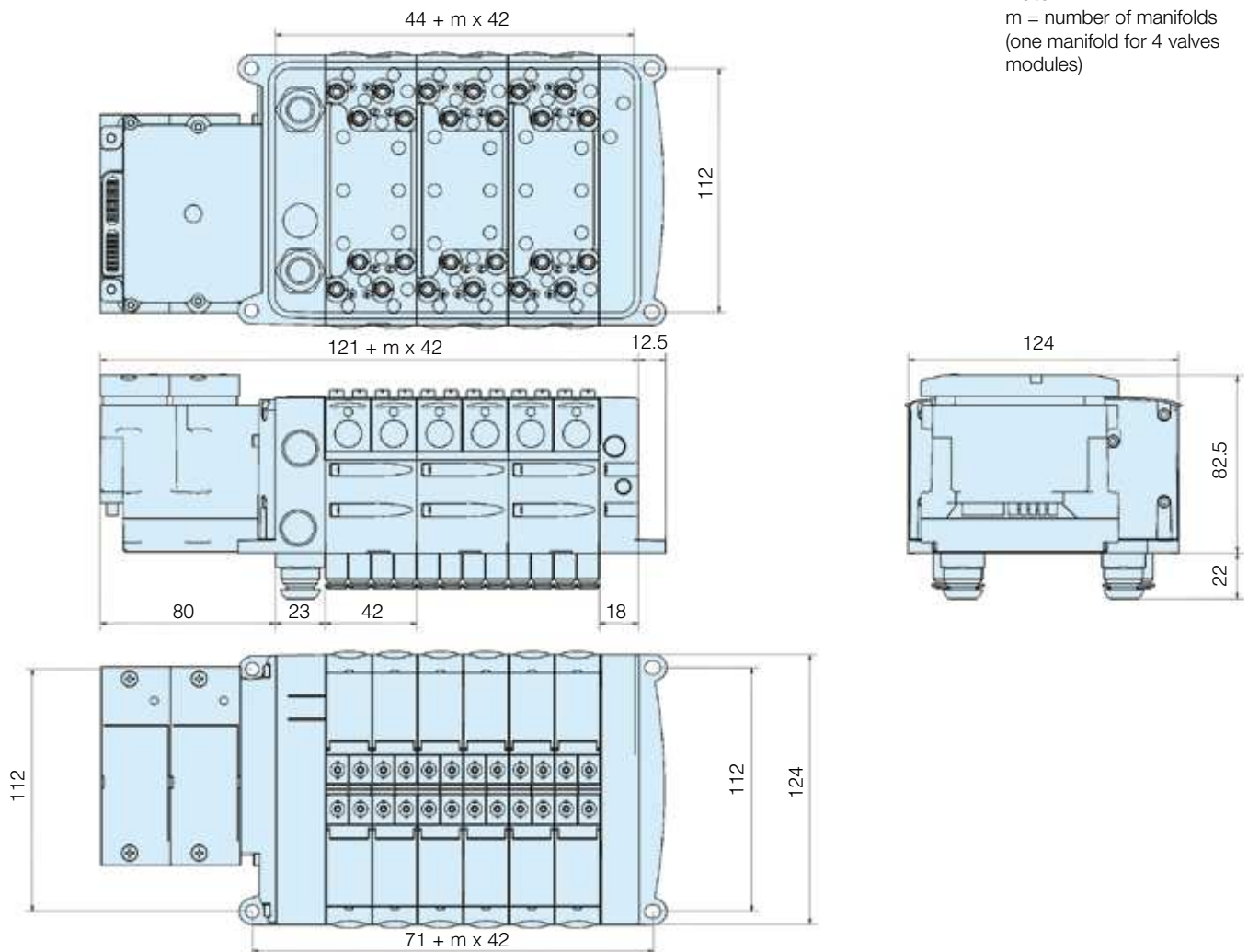
**Electrical accessories**

	Description	Cable length	Weight (g)	Order code
	Sub-D25 connector IP40 with flying leads multi-cable	3 m	380	<b>P8LMH25M3A</b>
		9 m	780	<b>P8LMH25M9A</b>
<b>P8LMH25M3A</b>	Sub-D25 connector IP65 with flying leads multi-cable	9 m	790	<b>P8LMH25B9A</b>

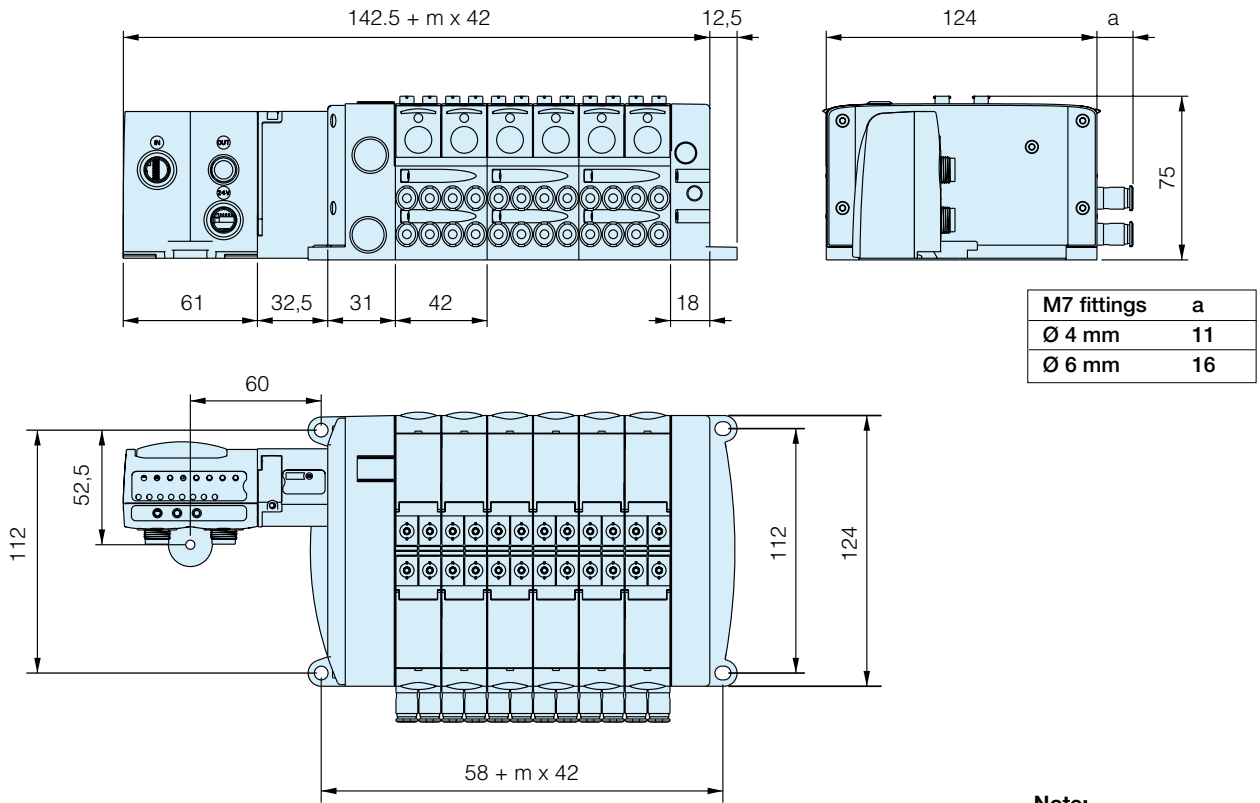
**Isys Micro with TURCK BL67 adaptor - Side ported**



**Isys Micro with TURCK BL67 adaptor - Bottom ported**

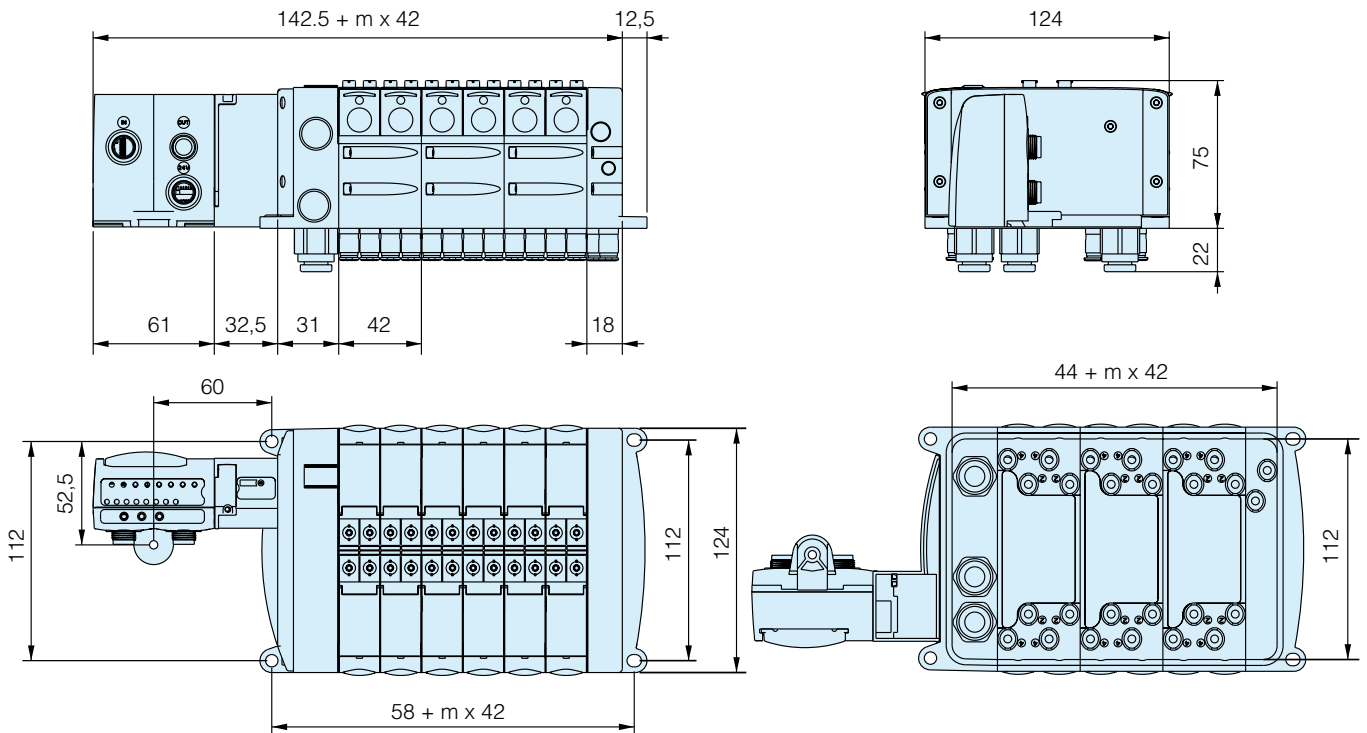


**Fieldbus - Side ported**

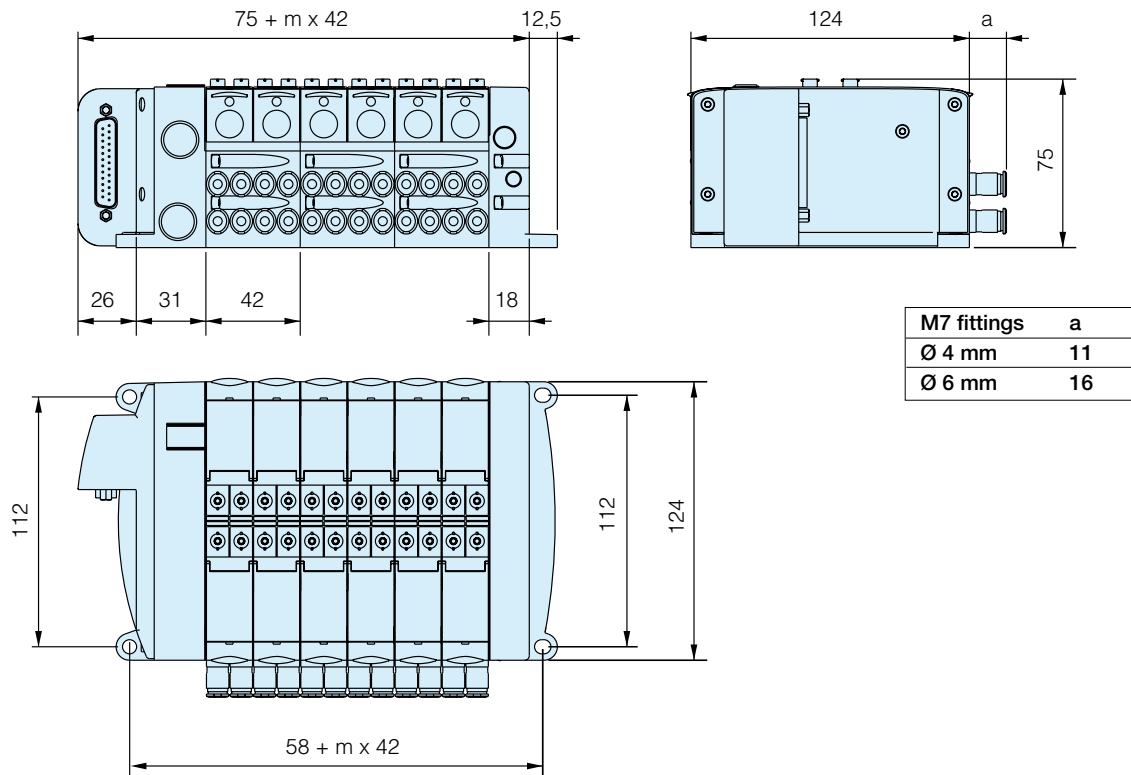


**Note:**  
 m = number of manifolds  
 (one manifold for 4 valves  
 modules)

**Fieldbus - Bottom ported**

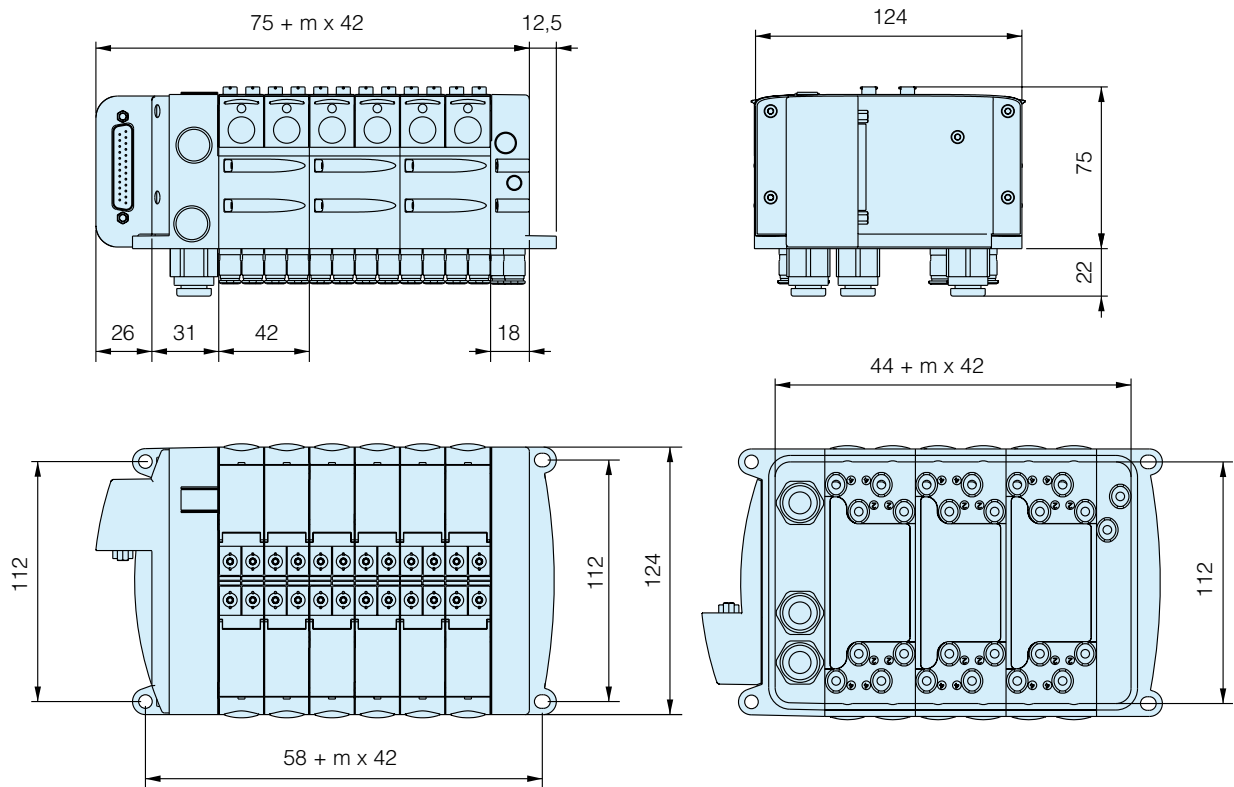


SubD25 - Side ported



**Note:**  
m = number of manifolds  
(one manifold for 4 valves  
modules)

SubD25 - Bottom ported



# Moduflex Valve System®

## Flexibility for pneumatic users

Whether configured from basic components or ordered as a pre-assembled and tested valve island, **Moduflex flexibility** is unmatched in the market place.



### Innovative

The 6 patents awarded to the Moduflex Valve System reflect that innovation is core to the Parker design process. Maintaining a clear understanding of our customer's expectations has defined the individuality of the Moduflex, and clearly differentiated it as a leading automation solution.

### Adaptive

No other system can be adapted so simply once specified. Unique, captive fitting release system, quick release electrical connectors and single mechanical screw connection between manifolds offer the ultimate capability for late system design changes.

### Multi-Functional

From stand-alone valves to fieldbus ready valve islands, from cylinder flow controls to vacuum generators with integrated blow-off, the Moduflex Valve System meets the requirements of the whole automation spectrum.

## Moduflex Valve System

The Moduflex Valve System redefines flexibility for pneumatic users. Whether configured from basic components or ordered as a pre-assembled and tested valve island, Moduflex flexibility is unmatched in the market place.



### V Series



### T Series



Lockable Connector IP67



Clip Connector IP40

New for 2015

### S Series



Lockable Connector IP67



Clip Connector IP40

New for 2015

### P Series



### Innovative

The 6 patents awarded to the Moduflex Valve System reflect that innovation is core to the Parker design process. Maintaining a clear understanding of our customer's expectations has defined the individuality of the Moduflex, and clearly differentiated it as a leading automation solution.

### Adaptive

No other system can be adapted so simply once specified. Unique, captive fitting release system, quick release electrical connectors and single mechanical screw connection between manifolds offer the ultimate capability for late system design changes.

### Multi-Functional

From stand-alone valves to fieldbus ready valve islands, from cylinder flow controls to vacuum generators with integrated blow-off, the Moduflex Valve System meets the requirements of the whole automation spectrum.

### Light-weight

An As-i compatible valve manifold with 8 electrical inputs and 8 pneumatic outputs weighs a mere 800grams, making the Moduflex Valve System the perfect choice for end of arm tooling application.



## Moduflex Valve technology

Two technology platforms enable the compact design and high performance of the Moduflex Valve System.

The compact dual 4/2 and 3/2 valves utilize well proven Parker seal technology. The standard 4/2 valves adopt the long life super durable ceramic switching technology.

**Dual 4/2 valve**

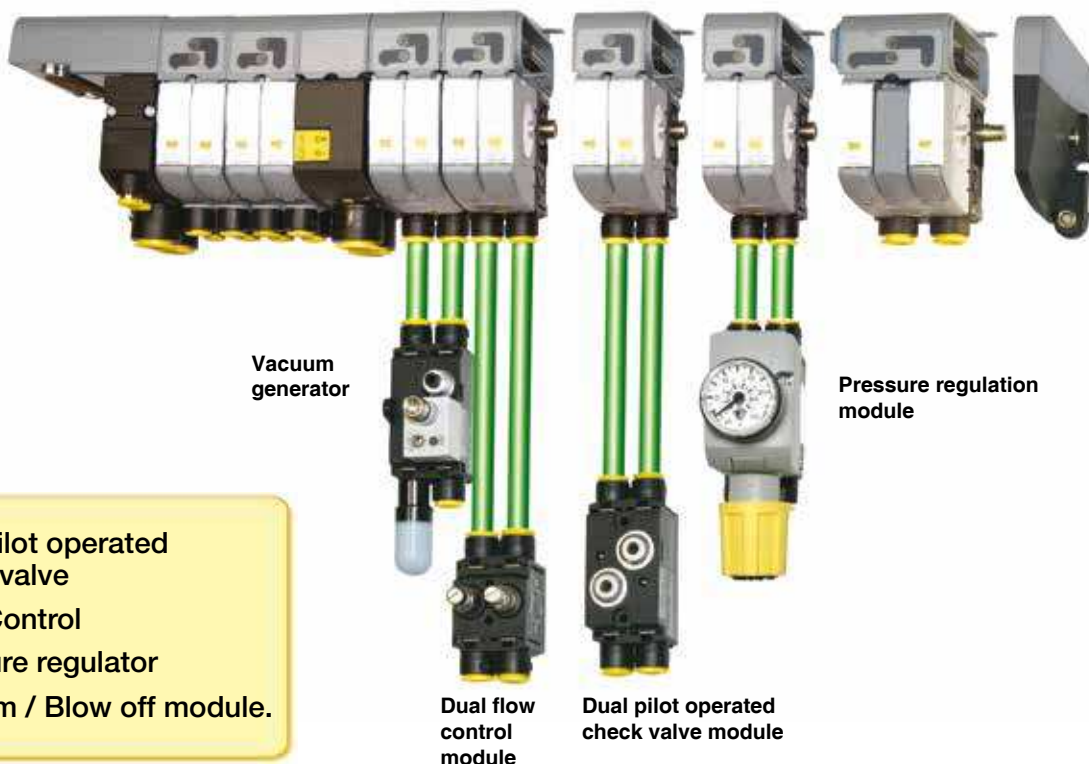


**4/2 Valve**



## Moduflex Complete Control

With the introduction of the dual 4/2 size 1 valves, Moduflex now offers unrivaled ability of matching valves to exact flow requirements, ensuring cost and space are minimized. In addition, Moduflex Valve System offers all the necessary control peripherals to provide a complete automation solution. Moduflex is the complete control package.



- Dual pilot operated check valve
- Flow Control
- Pressure regulator
- Vacuum / Blow off module.

With high performance technology, Moduflex opens a new era in the field of electro-pneumatic automation. Valves are easily assembled into compact islands that conform to any application requirement.

## Adaptive pneumatic

With the Moduflex Valve design, pneumatic automation is now totally flexible.

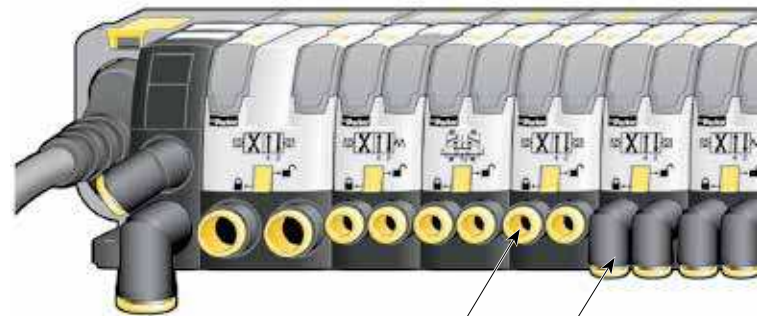
- Valves may be stand-alone or assembled into short or long islands, depending on application.
- IP 65-67 water and dust protection allows valve to be installed near the cylinders for shorter response time and lower air consumption.
- The IP40 water and dust protection allows an optimized electrical connection for applications into cabinet or soft and none aggressive environments.
- Valve island electrical connections may be integrated.
- Push-in pneumatic connectors may be straight or elbow, for 4, 6, 8 or 10 mm OD tubes.
- A given island may incorporate different valve sizes in order to fulfill each cylinder flow requirement. A single island will accommodate all cylinders, up to 100 mm bore size.
- Island modifications are easy : add or remove a valve, change a valve function, change tubing size, change piloting in minutes.
- Manual overrides are also adaptive : locking for set up, non-locking for production, ...



stand-alone valve



short valve island

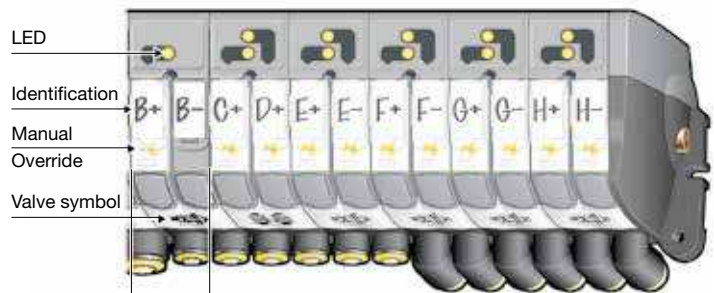


or long valve island

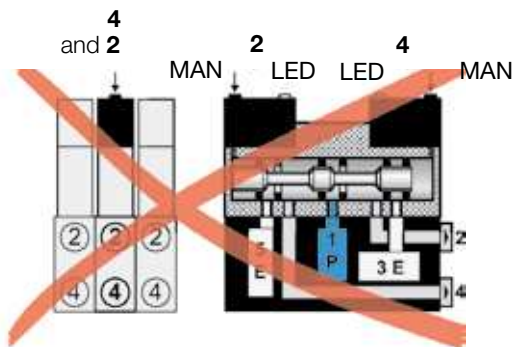
straight or elbow pneumatics connectors

## Easy man-machine dialog

- Moduflex incorporates LED indicators, manual overrides (MAN), in conjunction with valve symbols and identification.
- As compared to traditional 5/2 valve islands, Moduflex offers a more user friendly dialog : each marking, LED and MAN are all lined up with the corresponding cylinder output.



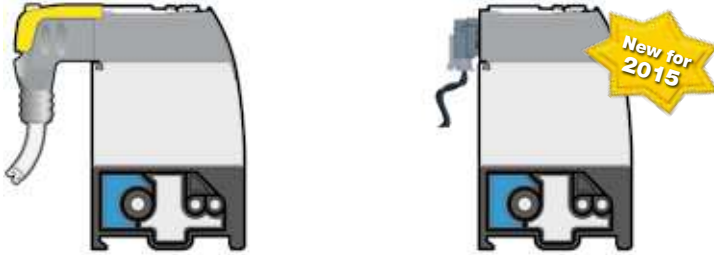
**Island with traditional 5/2 spool valves :**  
Before any action, LED and MAN have to be carefully related to the corresponding output. Man-machine dialog is difficult.



**Island with Moduflex 4/2 slides valves:**  
Each marking, LED and MAN line up with the corresponding output. Man-machine dialog is easy.

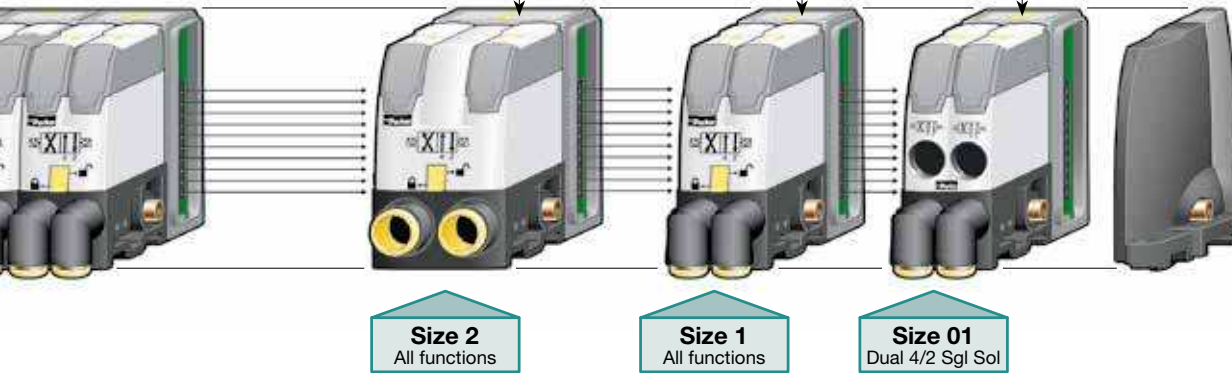
## Adaptive design

individual electrical connector  
 Lockable M8 Connector - IP67 or Clip Connector - IP40



or Valve Bank with integrated IP65 electrical connections

3 valves sizes in the same valve bank

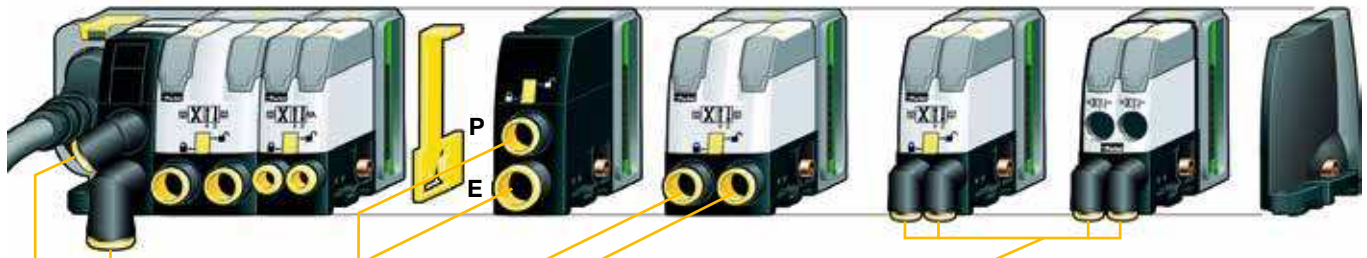


## Flows and tube connections

Optimal nominal section for a full flow with appropriate fitting

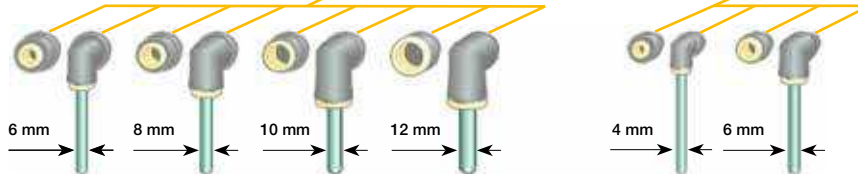
**3 valve sizes lead to a global choice of tube sizes, thus covering all usual applications**

Size 2		Size 1		Size 01	
Nominal section 40 mm <sup>2</sup>		Nominal section 12 mm <sup>2</sup>		Nominal section 4 mm <sup>2</sup>	
Qn 800 NI/mn* Qmax 1340 NI/mn*		Qn 310 NI/mn* Qmax 510 NI/mn*		Qn 165 NI/mn* Qmax 275 NI/mn*	
*) For 3/2 functions Qn 450 NI/mn Qmax 800 NI/mn		*) For 3/2 functions Qn 230 NI/mn Qmax 415 NI/mn			
Tube size to cylinder	Ø Ext. 10 mm	Ø Ext. 8 mm	Ø Ext. 6 mm	Ø Ext. 4 mm	Ø Ext. 4 mm
Cylinder bore size	Ø 63 to Ø 100 mm	Ø 40 to Ø 63 mm	Ø 25 to Ø 40 mm	Ø 6 to Ø 25 mm	Ø 6 to Ø 25 mm



### Adaptive pneumatic connection

Valve outputs are equipped with clip-on push-in tube connectors with a choice of straight or elbow in different sizes



Typical cylinder speeds are shown on next pages. Module size, tube diameter and length, cylinder size, load and exhaust collection are taken into account.

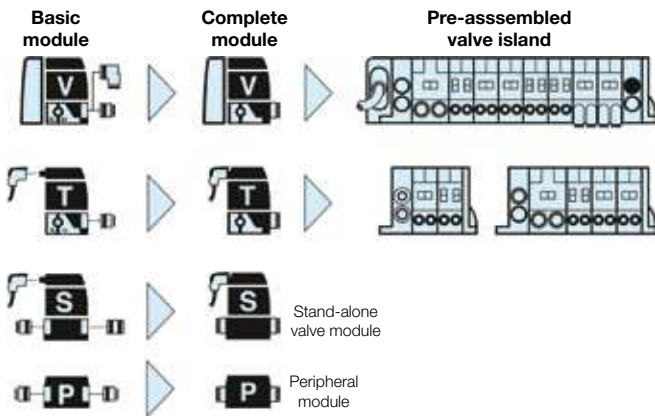
**Operating information**

Working pressure	-0,9 to 8 bar
Pilot pressure	3 to 8 bar *
Working temperature	-15 °C to 60 °C
Protection individual connectors	IP 67 NEMA4
Protection integrated connectors	IP 65
Voltage	24 V DC
* Single and double 3/2	3,5 to 8 bar

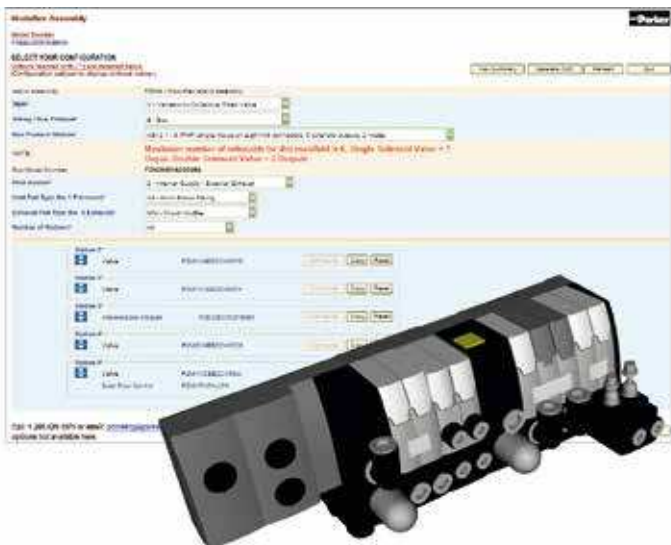
		Dual 4/2	Dual 3/2	3/2	4/2
<b>Size 1</b>	<b>Qmax.</b>	275 l/min	415 l/min	415 l/min	510 l/min
	<b>Qn</b>	165 l/min	235 l/min	235 l/min	310 l/min
<b>Size 2</b>	<b>Qmax.</b>	-	805 l/min	805 l/min	1340 l/min
	<b>Qn</b>	-	450 l/min	440 l/min	800 l/min

**Total ordering flexibility**

Additionally to the complete product adaptability, the Moduflex Valve range offers for V, T, S and P series an ordering flexibility with 3 different designs; from all components separately ordered (basic module) to pre-assembled and tested valve island.



The Moduflex Valve Island in-line e-Configurator software is the easy way to, step by step, configure and order the required valve island for the application.



**Ordering options**

**1 - Basic modules ordering**

Using this option, all basic components are separately ordered :

- Head and Tail set
- Valve modules
- Intermediate module kit
- Peripheral modules
- Pneumatic connectors, mufflers and plugs
- Electrical connection or fieldbus module

The complete bill of material needed for the valve island assembly can be easily details using page 1 of the Moduflex Valve Configurator software report.

**2 - Complete modules ordering**

Using this option, modules are defined, ordered and supplied, pneumatic connectors and electrical connection equipped. One part number defines :

- Function module
- Pneumatic connectors, muffler and plugs
- Electrical connection and cable

For an entire valve island configuration, the list of complete modules can be easily details using page 3 of the Moduflex Valve Configurator software report.

**3 - Pre-assembled valve islands ordering**

Using this option, the complete valves island configuration has to be defined, and may be ordered, delivered fully assembly and tested under one part number.

The Moduflex Valve in-line e-Configurator software is an easy way for a clear definition of the requested valve island configuration.

**V series**

**Integrated connection field bus or multi-connector valve island**



**T series**

**Individual connector valve islands**  
 Solenoid clip or lockable connector or remote air pilot



**S series**

**Stand alone valves**  
 Solenoid clip or lockable connector or remote air pilot

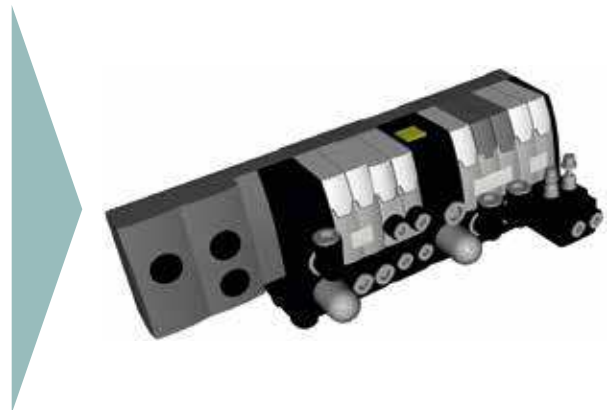


**P series**

**Peripheral modules**  
 Flow control, check valves, pressure regulator, vacuum



**Moduflex Valve in-line e-Configurator**



**Integrated connections valve islands : V series**

In a V series Moduflex valve island, electrical controls are all received by the head module and transmitted to the concerned valve modules through the modular integrated circuit.

The head module may either be a cable multi-connector or a Fieldbus communication module : the next pages show multi-connector cable and a complete choice of bus protocols.

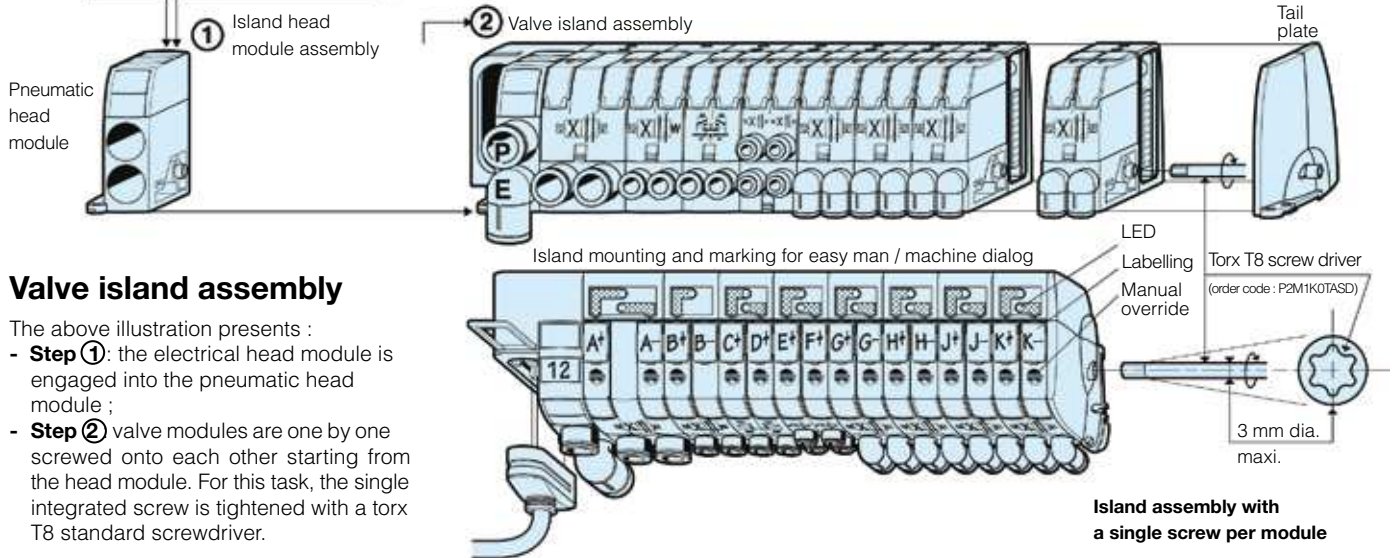
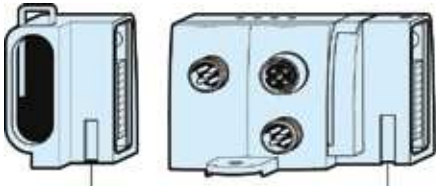


**Valve island configuration**

The following page shows all valve sizes and functions that may enter into a V series valve island and, for each valve size, a choice of clip-on pneumatic connectors : tubing size, straight, elbow...  
To receive its pressure supply and collect its exhaust, the island also requires a pneumatic

head and tail module set and sometimes an intermediate module set with 4 configuration plates for different functions. To receive its electrical controls, the island is completed by an electrical head module, either a multi-connector or by a bus module to be chosen from the next pages.

Valve island electrical head module : multi-connector or field bus connection



**Valve island assembly**

The above illustration presents :

- **Step 1** : the electrical head module is engaged into the pneumatic head module ;
- **Step 2** valve modules are one by one screwed onto each other starting from the head module. For this task, the single integrated screw is tightened with a torx T8 standard screwdriver.

The pneumatic connectors may be clipped or unclipped at any stage.

With a LED, a manual override and a labelling for each valve pilot (see illustration), the island front face eases the "man / machine" dialog.

The resulting valve island length is expressed by the drawing below, while further size details and mountings are presented on dimensions pages.

**Modules and island ordering**

Choice between 3 approaches :

**1 - Basic modules ordering :**

The following page shows these modules supplied without connector, together with the choice of clip-on connectors separately supplied (10 units packs). This approach gives the maximum flexibility.

**2 - Complete modules ordering :**

Page 265 shows the ordering chart for modules supplied with their connectors.

**3 - Assembled island ordering :**

Page 268 shows the valve island configurator CD-Rom to specify a valve island that may be delivered assembled.

Field bus head module :  
■ width : 94 mm

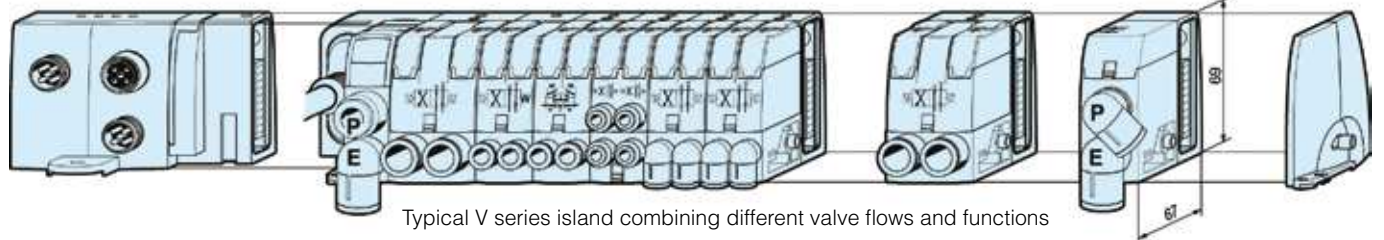
Multi-connector head module :  
■ guillotine, width : 47 mm  
■ sub-D 25, width : 56 mm

Valve modules size 1 :  
■ width : 25 mm

Valve module size 2 :  
■ width : 37.5 mm











Intermediate module :  
■ width : 25 mm

Tail plate :  
■ width : 16 mm




Typical V series island combining different valve flows and functions




Basic modules (without connector)

Valve Modules			Size 1		Size 2	
	Symbol	Description	Weight (g)	Order code	Weight (g)	Order code
 <p>Size 1</p>		4/2 Solenoid spring	94	<b>P2M1V4ES2CV</b>	100	<b>P2M2V4ES2CV</b>
		4/2 Double solenoid	103	<b>P2M1V4EE2CV</b>	110	<b>P2M2V4EE2CV</b>
		2 x 3/2 NC + NC with exhaust check valves	106	<b>P2M1VDEE2CV</b>	115	<b>P2M2VDEE2CV</b>
		2 x 3/2 NO + NO with exhaust check valves	106	<b>P2M1VCEE2CV</b>	115	<b>P2M2VCEE2CV</b>
 <p>Size 2</p>		2 x 3/2 NC + NO with exhaust check valves	106	<b>P2M1VEEE2CV</b>	115	<b>P2M2VEEE2CV</b>
		2 x 4/2 Solenoid spring with exhaust check valves	114	<b>P2M1VJEE2CV</b>		
		3/2 NC with exhaust check valves	102	<b>P2M1V3ES2CV</b>	110	<b>P2M2V3ES2CV</b>
		4/3 Centre exhaust 2 x 3/2 NC + NC without exhaust check valves	106	<b>P2M1VGEE2CV</b>	115	<b>P2M2VGEE2CV</b>

Island head and intermediate module sets

Valve Modules	Description	Weight (g)	Order code
 <p>P2M2HXT01</p>	Valve island pneumatic head and tail module set	64	<b>P2M2HXT01</b>
	Valve island intermediate supply module with a set of 4 configuration plates	68	<b>P2M2BXV0A</b>

Clip-On pneumatic connectors \*



Valve Modules			Size 1		Size 2	
	Description	Tube OD	Weight (g)	Order code	Weight (g)	Order code
	Straight connector	G1/8"	2	<b>FMDG1-1</b>		
		4 mm	2	<b>FMD04-1</b>		
		6 mm	3	<b>FMD06-1</b>	3	<b>FMD06-2</b>
		8 mm			4	<b>FMD08-2</b>
		10 mm			5	<b>FMD10-2</b>
		12 mm			6	<b>FMD12-2</b>
	Elbow connector	G1/8"	3	<b>CMDG1-1</b>		
		4 mm	3	<b>CMD04-1</b>		
		6 mm	5	<b>CMD06-1</b>	5	<b>CMD06-2</b>
		8 mm			6	<b>CMD08-2</b>
		10 mm			7	<b>CMD10-2</b>
		12 mm			8	<b>CMD12-2</b>
	Silencer				5	<b>MMDVA2</b>
	Plug		3	<b>PMDXX1</b>	5	<b>PMDXX2</b>

\* Fittings and plugs pack quantity : 10

Electrical multi-connection and field bus head modules

Multiconnector or field bus head module to be chosen from next pages.



V series valve island : Electrical multi-connector head module

Description	Protection	Cable length	Weight (g)	Order code	
 <p><b>Guillotine type</b></p> <p>Multi-connection head module</p>			38	<b>P2M2HEV0A</b>	
	Guillotine connector	IP65	2 m	335	<b>P8LMH20M2A</b>
	with flying leads		5 m	802	<b>P8LMH20M5A</b>
	multi-cable		9 m	1425	<b>P8LMH20M9A</b>
 <p><b>Standard Sub-D 25 type</b></p> <p>Multi-connection head module</p>			60	<b>P2M2HEV0D</b>	
	Sub-D 25 connector	IP40	3 m	435	<b>P8LMH25M3A</b>
	with flying leads		9 m	1425	<b>P8LMH25M9A</b>
	multi-cable	IP65	9 m	1425	<b>P8LMH25B9A</b>


V series valve island : Electrical field bus head modules for AS-i protocol




Standard AS-i protocol (up to 31 nodes) electrical head modules

 <p>Electrical module for <b>8 outputs</b> max.</p> <ul style="list-style-type: none"> <li>V series islands may have up to 8 solenoid pilots</li> <li>2 nodes per module, 4 I / 4 O per node</li> </ul>	Input connections	Weight(g)	Order code
	no input	150	<b>P2M2HBVA10800</b>
	8 M8 inputs	200	<b>P2M2HBVA10808A</b>
	8 inputs on 4 M12	200	<b>P2M2HBVA10808B</b>
 <p>Electrical module for <b>4 outputs</b> max.</p> <ul style="list-style-type: none"> <li>V series islands may have up to 4 solenoid pilots</li> <li>1 node per module, 4 I / 4 O</li> </ul>	No inputs	150	<b>P2M2HBVA10400</b>
	4 inputs on 4 M12	200	<b>P2M2HBVA10404B</b>

AS-i version 2-1 protocol (up to 62 nodes) electrical head modules

 <p>Electrical module for <b>6 outputs</b> max.</p> <ul style="list-style-type: none"> <li>V series islands may have up to 6 solenoid pilots</li> <li>2 nodes per module, 4 I / 3 O per node</li> </ul>	none	150	<b>P2M2HBVA20600</b>
	8 M8 Inputs	200	<b>P2M2HBVA20608A</b>
	8 inputs on 4 M12	200	<b>P2M2HBVA20608B</b>


AS-i head module accessories

Description	Connector type	Weight (g)	Order code
 <p><b>P8CS0803J</b></p> <p><b>P8CSY1212A</b></p>	M8 Male	25	<b>P8CS0803J</b>
	M12 Male - A coding	25	<b>P8CS1204J</b>
	« Y » shape	M12 Male - 2 x M12 Female	25
Addressing cable 1 meter	M12 Male - Jack	100	<b>P8LS12JACK</b>




**V series valve island : Electrical field bus head modules for device bus**

Electrical modules for 16 outputs  
 (The V series modules may have up to 16 solenoid pilot valves)

Description	Bus Protocol	Bus In / Bus Out	Power supply	Weight (g)	Order code
	<b>Profibus DP</b>	M12 - B coding	M12 - A coding	250	<b>P2M2HBVP21600</b>
	For GSD file, go to <a href="http://www.parker.com/pneu/moduflex">http://www.parker.com/pneu/moduflex</a>				
	<b>DeviceNet</b>	M12 - A coding	M12 - A coding	250	<b>P2M2HBVD21600</b>
		M12 - B coding		250	<b>P2M2HBVD11600</b>
	For EDS file, go to <a href="http://www.parker.com/pneu/moduflex">http://www.parker.com/pneu/moduflex</a>				
	<b>CANopen</b>	M12 - A coding	M12 - A coding	250	<b>P2M2HBVC21600</b>
		M12 - B coding	250	<b>P2M2HBVC11600</b>	
For EDS file, go to <a href="http://www.parker.com/pneu/moduflex">http://www.parker.com/pneu/moduflex</a>					
<b>InterBus-S</b>		M23 - 9 Pins	M12 - A coding	300	<b>P2M2HBVS11600</b>

**Device Bus connection accessories**

Description	Bus Protocol	Connector type	Weight (g)	Order code
	All	M12 - A coding	25	<b>P8CS1205AA</b>
	DeviceNet	M12 - B coding	25	<b>P8CS1205AB</b>
	CANopen			
Bus IN female connector	DeviceNet	M12 - A coding	25	<b>P8CS1205AA</b>
	CANopen			
Bus OUT male connector	DeviceNet	M12 - A coding	25	<b>P8CS1205BA</b>
	CANopen			
Line termination	DeviceNet	M12 - A coding	25	<b>P8BPA00MA</b>
	CANopen			
	Profibus DP	M12 - B coding	25	<b>P8BPA00MB</b>



M12 - A coding connector



M12 - B coding connector

### Individual connection valve islands : T series

In a T series valve island, electrical controls are individually connected to each valve module, onto its solenoid pilot.

As an alternative, air pilot valve modules are also available, to be controlled by individual pneumatic signals.



### Valve island assembly

As shown by the above illustration, the valve modules are one by one screwed onto each other, starting from the head module. For this task, the single integrated screw is tightened with a torx T8 standard screwdriver.

The pneumatic connectors may be clipped or unclipped at any stage.

With a LED, a manual override and a labelling for each valve pilot (see above illustration), the island front face eases the "man / machine" dialog.

The resulting valve island length is expressed by the drawing below, while further size details and mountings are presented on dimensions pages.

### Valve island configuration

The following page presents all valve sizes and functions that may enter into a T series valve island and, for each valve size, a choice of clip-on pneumatic connectors : tubing size, straight, elbow... To receive its pressure supply and collect its exhaust, the island also requires a

pneumatic head and tail module set and sometimes an intermediate module set including 4 configuration plates for different functions. Valve modules may either be solenoid versions or air pilot versions. Mixing both versions into the same valve island is possible.

### Valve pilot connections

#### 1 - Solenoid valve modules



In its IP40 version, each solenoid shows Clip connection integrating LED and voltage surge protection. The clip connector with flying leads may be ordered separately with independent or interconnected common.

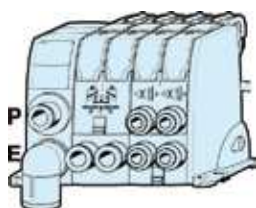
In its IP67 version, each solenoid shows a M8 connection. Lockable connectors, IP67 protected, with LED voltage surge protection and flying lead cable may be ordered for the required length.

#### 2 - Air pilot valve modules



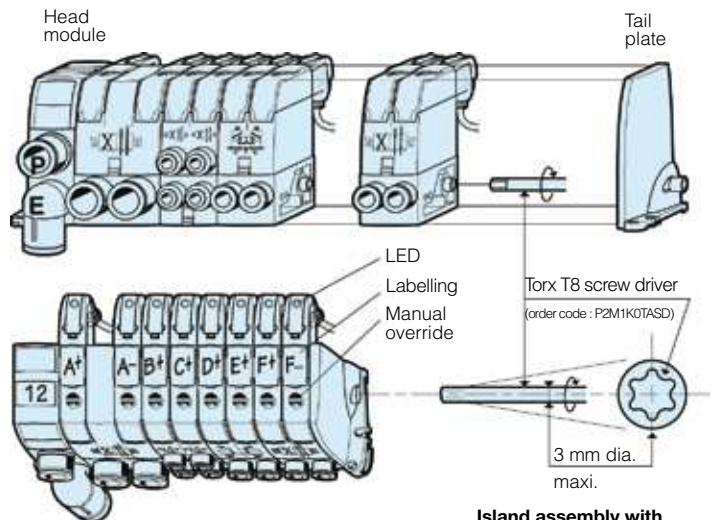
No connector has to be ordered : each pneumatic pilot port includes its integrated swivable elbow 4 mm OD tube push-in connector.

Typical T series short island for single or double acting small cylinders.



#### Valve island assembly

#### Island mounting and marking for easy man / machine dialog



Island assembly with a single screw per module

### Modules and island ordering

Choice between 3 approaches :

#### 1 - Basic modules ordering :

The following page shows these modules supplied without connector, together with the choice of clip-on connectors separately supplied (10 units packs). This approach gives the maximum flexibility.

#### 2 - Complete modules ordering :

Page 265 shows the ordering chart for modules supplied with their connectors.

#### 3 - Assembled island ordering :

Page 268 shows the valve island configurator CD-Rom to specify a valve island that may be delivered assembled.

Pneumatic head module :  
width : 32 mm

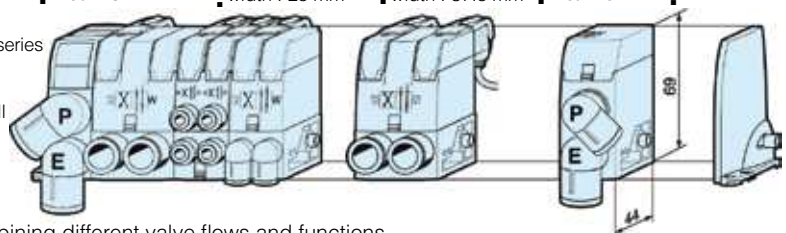
Valve module size 1 :  
width : 25 mm

Valve module size 2 :  
width : 37.5 mm

Intermediate module :  
width : 25 mm


Tail plate :  
width : 16 mm

Typical T series high flow island for both small and large cylinders.





Typical T series islands combining different valve flows and functions



## Basic modules (without connector)

Valve Modules					Size 1		Size 2	
Symbol	Description	Actuator	Pilot connector	W (g)	Order code	W (g)	Order code	
	4/2 Spring return	Solenoid	M8 Lockable	68	<b>P2M1T4ES2C</b>	74	<b>P2M2T4ES2C</b>	
		Air pilot	Clip	68	<b>P2M1T4ES2CW</b>	74	<b>P2M2T4ES2CW</b>	
	4/2 Double pilot	Solenoid	M8 Lockable	77	<b>P2M1T4EE2C</b>	83	<b>P2M2T4EE2C</b>	
		Air pilot	Clip	77	<b>P2M1T4EE2CW</b>	83	<b>P2M2T4EE2CW</b>	
	2 x 3/2 NC + NC with exhaust check valves	Solenoid	M8 Lockable	80	<b>P2M1TDEE2C</b>	94	<b>P2M2TDEE2C</b>	
		Air pilot	Clip	80	<b>P2M1TDEE2CW</b>	94	<b>P2M2TDEE2CW</b>	
2 x 3/2 NO + NO with exhaust check valves	Solenoid	M8 Lockable	80	<b>P2M1TCEE2C</b>	94	<b>P2M2TCEE2C</b>		
	Air pilot	Clip	80	<b>P2M1TCEE2CW</b>	94	<b>P2M2TCEE2CW</b>		
2 x 3/2 NC + NO with exhaust check valves	Solenoid	M8 Lockable	80	<b>P2M1TEEE2C</b>	94	<b>P2M2TEEE2C</b>		
	Air pilot	Clip	80	<b>P2M1TEEE2CW</b>	94	<b>P2M2TEEE2CW</b>		
2 x 4/2 Spring return with exhaust check valves	Solenoid	M8 Lockable	88	<b>P2M1TJEE2C</b>				
	Air pilot	Clip	88	<b>P2M1TJEE2CW</b>				
3/2 NC with exhaust check valves	Solenoid	M8 Lockable	76	<b>P2M1T3ES2C</b>	90	<b>P2M2T3ES2C</b>		
	Air pilot	Clip	76	<b>P2M1T3ES2CW</b>	90	<b>P2M2T3ES2CW</b>		
4/3 Centre exhaust 2 x 3/2 NC + NC without exhaust check valves	Solenoid	M8 Lockable	80	<b>P2M1TGEE2C</b>	94	<b>P2M2TGEE2C</b>		
	Air pilot	Clip	80	<b>P2M1TGEE2CW</b>	94	<b>P2M2TGEE2CW</b>		
		Air pilot	Clip	70	<b>P2M1TGPP</b>	84	<b>P2M2TGPP</b>	

## Island head and intermediate module sets


Valve Modules					Size 2	
Description		W (g)	Order code			
 P2M2HXT01	Valve island pneumatic head and tail module set	64	<b>P2M2HXT01</b>			
 P2M2BXT0A	Valve island intermediate supply module with a set of 4 configuration plates	64	<b>P2M2BXT0A</b>			

## Clip-On pneumatic connectors \*

Valve Modules					Size 1		Size 2	
Description	Tube OD	W (g)	Order code	W (g)	Order code			
	Straight connector	G1/8"	2	<b>FMDG1-1</b>				
		4 mm	2	<b>FMD04-1</b>				
		6 mm	3	<b>FMD06-1</b>	3	<b>FMD06-2</b>		
		8 mm			4	<b>FMD08-2</b>		
		10 mm			5	<b>FMD10-2</b>		
	Elbow connector	12 mm			6	<b>FMD12-2</b>		
		G1/8"	3	<b>CMDG1-1</b>				
		4 mm	3	<b>CMD04-1</b>				
		6 mm	5	<b>CMD06-1</b>	5	<b>CMD06-2</b>		
		8 mm			6	<b>CMD08-2</b>		
	Silencer	10 mm			7	<b>CMD10-2</b>		
		12 mm			8	<b>CMD12-2</b>		
		Plug	3	<b>PMDXX1</b>	5	<b>MMDVA2</b>		
				5	<b>PMDXX2</b>			

\* Fittings and plugs pack quantity : 10

## Electrical connectors

M8 connector					Size 1		Size 2	
Description	Connector type	Cable length	W (g)	Order code				
 Clip connector	Individual Clip-on connector – IP67 Including LED and surge protection 2 Flying leads	2 meters	62	<b>P8LS08L226C</b>				
		5 meters	155	<b>P8LS08L526C</b>				
		9 meters	180	<b>P8LS08L926C</b>				
Clip-on connector – IP40	Individual : Including 2 flying leads Multiple : Including 1 common (0 Vdc) and 1 flying lead per connector	1 x Clip connector	1 meter	8	<b>P8LW021C</b>			
		2 x Clip connectors	1 meter	12	<b>P8LW021C02</b>			
		4 x Clip connectors	1 meter	20	<b>P8LW021C04</b>			
		8 x Clip connectors	1 meter	36	<b>P8LW021C08</b>			
Straight cable quick connect to thread connector, IP67 protected	M8		12	<b>P8CS0803J</b>				
		M12	15	<b>P8CS1204J</b>				

**Stand-Alone Valve Modules : S series**

Very useful to control isolated cylinders, these stand-alone valves module are compact and easy to mount on the machines with neat electrical and pneumatic connections.

As an alternative to electrical controls, valves with air pilots are also available, to be controlled by individual pneumatic signals.



**Valve functions**

The following page shows all valve sizes and functions and, for each valve size, a choice of clip-on pneumatic connectors : tubing size, straight, elbow, ...

**Valve main connections**

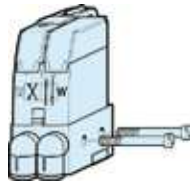
- Outlets to cylinders (ports 2 and 4) on one side.
- Supply P (port 1) and exhaust E (port 3) on the other side. At port 3, exhaust may be collected or receive a clip-on muffler.



**Valve mounting**

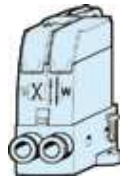
All valves may be mounted either with side screws or with their integrated retractable brackets.

**Side screw mounting**



The brackets are then retracted.

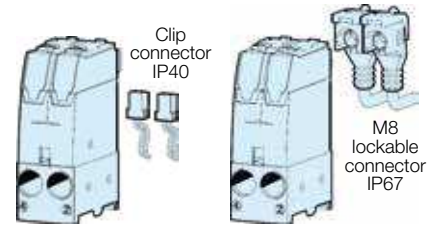
**Optional foot mounting**



The brackets are then extended.

**Valve pilot connections**

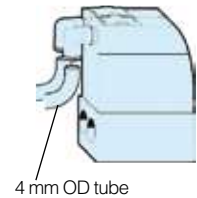
**1- Solenoid valve modules**



In its IP40 version, each solenoid shows Clip connection integrating LED and voltage surge protection. The clip connector with flying leads may be ordered separately with independent or interconnected common. In its IP67 version, each solenoid shows a M8 connection. Lockable connectors, IP67 protected, with LED voltage surge protection and flying lead cable may be ordered for the required length.

**2- Air pilot valve modules**

No connector has to be ordered : each pneumatic pilot port includes its integrated swivable elbow 4 mm OD tube push-in connector.



**Modules and island ordering**

Choice between 2 approaches :

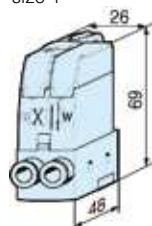
**1 - Basic modules ordering :**

The following page shows these modules supplied without connector, together with the choice of clip-on connectors separately supplied (10 units packs). This approach gives the maximum flexibility.

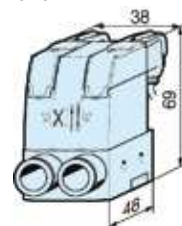
**2 - Complete modules ordering :**

Ordering chart for modules supplied with their pneumatic and electrical connectors and muffler.










Valve module size 1



Valve module size 2





**Valve Modules**

					Size 1		Size 2	
Symbol	Description	Actuator	Pilot connector	W (g)	Order code	W (g)	Order code	
 <p><b>Size 1</b></p>	 <p>4/2 Spring return</p>	Solenoid	M8 Lockable	72	<b>P2M1S4ES2C</b>	78	<b>P2M2S4ES2C</b>	
			Clip		72	<b>P2M1S4ES2CW</b>	78	<b>P2M2S4ES2CW</b>
	 <p>4/2 Double pilot</p>	Solenoid	M8 Lockable	87	<b>P2M1S4EE2C</b>	93	<b>P2M2S4EE2C</b>	
			Clip		87	<b>P2M1S4EE2CW</b>	93	<b>P2M2S4EE2CW</b>
	 <p>2 x 3/2 NC + NC with exhaust check valves</p>	Solenoid	M8 Lockable	85	<b>P2M1SDEE2C</b>	91	<b>P2M2SDEE2C</b>	
			Clip		85	<b>P2M1SDEE2CW</b>	91	<b>P2M2SDEE2CW</b>
 <p><b>Size 2</b></p>	 <p>2 x 3/2 NO + NO with exhaust check valves</p>	Solenoid	M8 Lockable	85	<b>P2M1SCEE2C</b>	91	<b>P2M2SCEE2C</b>	
			Clip		85	<b>P2M1SCEE2CW</b>	91	<b>P2M2SCEE2CW</b>
	 <p>2 x 3/2 NC + NO with exhaust check valves</p>	Solenoid	M8 Lockable	85	<b>P2M1SEEE2C</b>	91	<b>P2M2SEEE2C</b>	
			Clip		85	<b>P2M1SEEE2CW</b>	91	<b>P2M2SEEE2CW</b>
	 <p>3/2 NC with exhaust check valves</p>	Solenoid	M8 Lockable	80	<b>P2M1S3ES2C</b>	86	<b>P2M2S3ES2C</b>	
			Clip		80	<b>P2M1S3ES2CW</b>	86	<b>P2M2S3ES2CW</b>
 <p>4/3 Centre exhaust 2 x 3/2 NC + NC without exhaust check valves</p>	Solenoid	M8 Lockable	85	<b>P2M1SGEE2C</b>	91	<b>P2M2SGEE2C</b>		
		Clip		85	<b>P2M1SGEE2CW</b>	91	<b>P2M2SGEE2CW</b>	
		Air pilot		75	<b>P2M1SGPP</b>	81	<b>P2M2SGPP</b>	




**Clip-On pneumatic connectors \***

**Valve Modules**

		Size 1		Size 2	
Description	Tube OD	W (g)	Order code	W (g)	Order code
 <p>Straight connector</p>	G1/8"	2	<b>FMDG1-1</b>		
	4 mm	2	<b>FMD04-1</b>		
	6 mm	3	<b>FMD06-1</b>	3	<b>FMD06-2</b>
	8 mm			4	<b>FMD08-2</b>
	10 mm			5	<b>FMD10-2</b>
	12 mm			6	<b>FMD12-2</b>
 <p>Elbow connector</p>	G1/8"	3	<b>CMDG1-1</b>		
	4 mm	3	<b>CMD04-1</b>		
	6 mm	5	<b>CMD06-1</b>	5	<b>CMD06-2</b>
	8 mm			6	<b>CMD08-2</b>
	10 mm			7	<b>CMD10-2</b>
	12 mm			8	<b>CMD12-2</b>
Silencer		3	<b>MMDVA1</b>	5	<b>MMDVA2</b>
Plug		3	<b>PMDXX1</b>	5	<b>PMDXX2</b>

\* Fittings and plugs pack quantity : 10

**Electrical connectors**

		Connector type	Cable length	W (g)	Order code
 <p><b>M8 connector</b></p>  <p><b>Clip connector</b></p> 	Description	M8 / 2 x Flying leads	2 meters	62	<b>P8LS08L226C</b>
	Individual Clip-on connector – IP67		5 meters	155	<b>P8LS08L526C</b>
	Including LED and surge protection		9 meters	180	<b>P8LS08L926C</b>
	2 Flying leads	1 x Clip connector	1 meter	8	<b>P8LW021C</b>
	Clip-on connector – IP40	2 x Clip connectors	1 meter	12	<b>P8LW021C02</b>
	Individual : Including 2 flying leads	4 x Clip connectors	1 meter	20	<b>P8LW021C04</b>
	Multiple : Including 1 common (0 Vdc) and 1 flying lead per connector	8 x Clip connectors	1 meter	36	<b>P8LW021C08</b>
	Straight cable quick connect to thread connector, IP67 protected	M8		12	<b>P8CS0803J</b>
		M12		15	<b>P8CS1204J</b>

**Peripheral Valve Modules : P series**

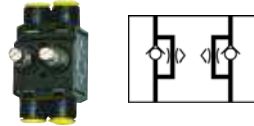
- Four additional peripheral modules complete the valve system in order to facilitate the installation of specific cylinder controls :
- Dual flow control, for cylinder speed adjusting;
  - Dual pilot operated check valve, for cylinder positioning;
  - Pressure regulator, for cylinder thrust adjusting;
  - Vacuum generator, for vacuum pad controls.



**Module function selection**

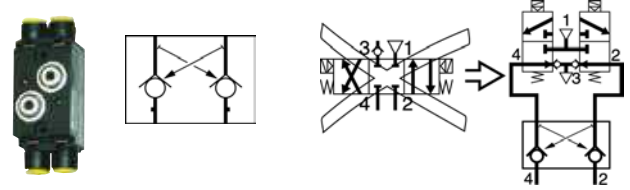
**Dual flow control**

By controlling the exhaust flows of a double acting cylinder, this module can adjust both speeds : forward and backward.



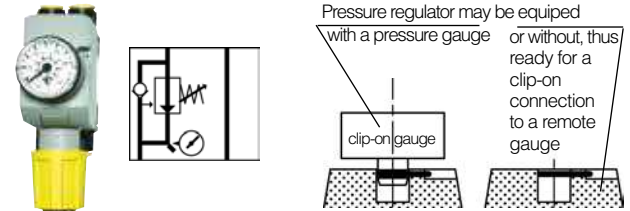
**Dual pilot operated check valve**

Combined with a double 3/2 NC + NC valve, this module will block flows and stop cylinder movement as soon as the valve outputs are both exhausted. Better than a 3 position closed centre valve, it provides accurate positioning when mounted close to the cylinder.



**Pressure regulator**

The thrust developed by a cylinder often requires adjustment by controlling the pressure to the front or back of the piston. This pressure regulator module enables manual adjustment of pressure on one side of the piston, with visual indication provided by the pressure gauge.

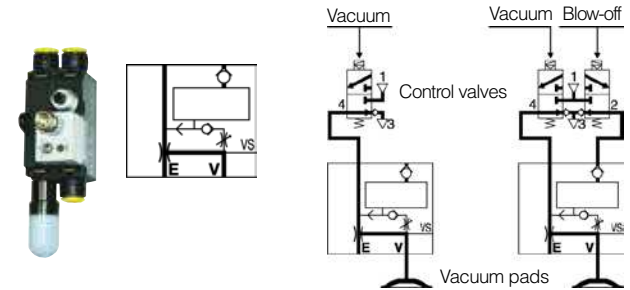


**Vacuum generator**

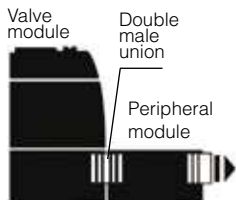
This multi-purpose module controls vacuum pads with a choice between two basics schematics :

- Controlled with only one 3/2 NC valve, the vacuum generator provides vacuum to the pads during valve actuation and then blow-off supplied from an integrated chamber.
- Controlled with a double 3/2 NC + NC, the vacuum generator provides vacuum during the first valve actuation, and then strong blow-off from the second valve.

Integrated blow-off flow controller. Optional plug-in vacuum sensor.



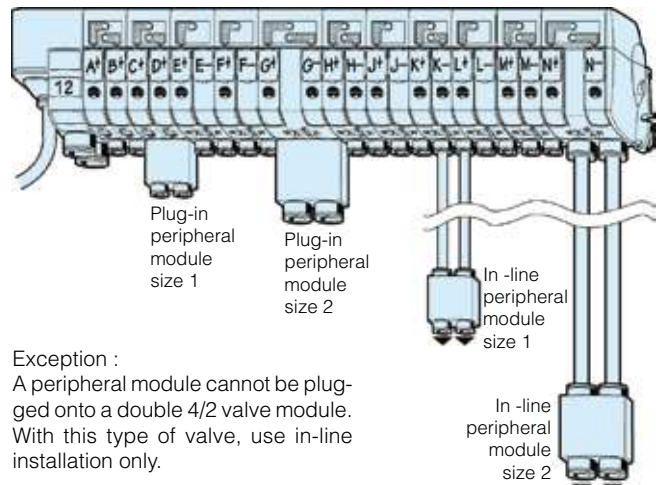
**Module installation selection**



Stand alone valve complete with a plug-in peripheral module

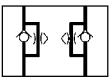
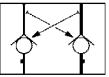
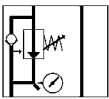
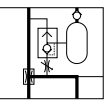


- Peripheral modules may either be mounted :
- Plugged into the valve module through double male unions;
  - Or in line, close to the cylinder to control it better.






Exception :  
A peripheral module cannot be plugged onto a double 4/2 valve module. With this type of valve, use in-line installation only.

Basic peripheral modules (without connector)




Peripheral Modules		Size 1		Size 2			
Symbol	Description	Weight (g)	Order code	Weight (g)	Order code		
	Dual flow control	50	<b>P2M1PXFA</b>	50	<b>P2M2PXFA</b>		
	Dual P.O. check valve	50	<b>P2M1PXCA</b>	50	<b>P2M2PXCA</b>		
	Pressure regulator	Pressure range	Gauge				
		0 - 2 bar	0 - 4 bar	135	<b>P2M1PXSR</b>	135	<b>P2M2PXSR</b>
			Without	105	<b>P2M1PXST</b>	165	<b>P2M2PXST</b>
		0 - 4 bar	0 - 7 bar	135	<b>P2M1PXSM</b>	135	<b>P2M2PXSM</b>
			Without	105	<b>P2M1PXSL</b>	165	<b>P2M2PXSL</b>
		0 - 8 bar	0 - 11 bar	135	<b>P2M1PXSG</b>	135	<b>P2M2PXSG</b>
	Without	105	<b>P2M1PXSN</b>	165	<b>P2M2PXSN</b>		
	90% Vacuum generator	30	<b>P2M1PXVA</b>				

Clip-On pneumatic connectors \*

Valve Modules		Size 1		Size 2		
Description	Tube OD	Weight (g)	Order code	Weight (g)	Order code	
	Straight connector	G1/8"	2	<b>FMDG1-1</b>		
		4 mm	2	<b>FMD04-1</b>		
		6 mm	3	<b>FMD06-1</b>	3	<b>FMD06-2</b>
		8 mm			4	<b>FMD08-2</b>
		10 mm			5	<b>FMD10-2</b>
		12 mm			6	<b>FMD12-2</b>
	Elbow connector	G1/8"	3	<b>CMDG1-1</b>		
		4 mm	3	<b>CMD04-1</b>		
		6 mm	5	<b>CMD06-1</b>	5	<b>CMD06-2</b>
		8 mm			6	<b>CMD08-2</b>
		10 mm			7	<b>CMD10-2</b>
		12 mm			8	<b>CMD12-2</b>
	Double male union	5	<b>HMDXX1</b>	8	<b>HMDXX2</b>	
	Silencer	3	<b>MMDVA1</b>			
	Plug	3	<b>PMDXX1</b>	5	<b>PMDXX2</b>	

\* Fittings and plugs pack quantity : 10

Clip-on accessories

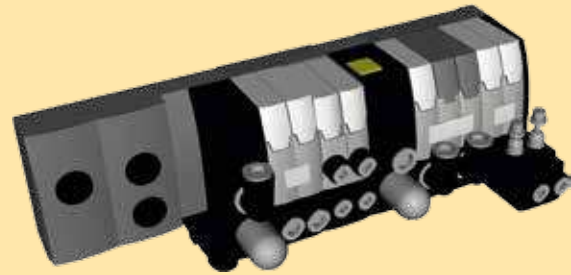
Description	Connection	Pressure range	Weight (g)	Order code	
	Clip-on	0 to 4 bar	30	<b>P2M1K0GT</b>	
		0 to 7 bar	30	<b>P2M1K0GL</b>	
		0 to 11 bar	30	<b>P2M1K0GN</b>	
	Analog (1 - 5 Vdc) Vacuum Sensor	Diam. 4 mm tube	0 to -1 bar	25	<b>MPS-V8T4-AG</b>
	Flying lead 2 meter cable	Diam. 6 mm tube	0 to -1 bar	25	<b>MPS-V8T-AG</b>
	Dig. PNP / Ana (4 - 20 mA) Vacuum Sensor	G 1/8" male	0 to -1 bar	45	<b>MPS-V34G-PCI</b>
	15 cm cable - M8 4 pin's connector				

**Moduflex Valve Island e-Configurator**

The comprehensive **Moduflex Valve CAD e-Configurator** enable online Moduflex Valve Island configuration giving Bill of Material and 3D or 2D CAD download

Go to <http://www.parker.com/pde/cad> to start

Stacking Air Valve  
 Moduflex P2M Series



**Valve island configuration practice :**

**Moduflex Assembly**

Model Number  
 P2MAVB2C8MM05

**SELECT YOUR CONFIGURATION**  
Options marked with (\*) are required items.  
 (Configuration subject to change without notice.)

Island Assembly: P2MA - Moduflex Island Assembly

Style\*: V - Valvebonic Collective Wired Valve

Wiring / Bus Protocol\*: B - Bus

Bus Protocol Module\*: ASI 2.1 - 8 (PnP) single inputs on eight 3.0 connectors, 6 solenoid outputs, 2 nodes

**NOTE:**  
Maximum number of solenoids for this manifold is 6. Single Solenoid Valve = 1 Output. Double Solenoid Valve = 2 Outputs

Bus Model Number: P2M2HBVA2068A

Pilot Source\*: 2 - Internal Supply / External Exhaust

Inlet Port Type (No. 1 Pressure)\*: CS - 8mm Elbow Fitting

Exhaust Port Type (No. 3 Exhaust)\*: MM - Clip-In Muffler

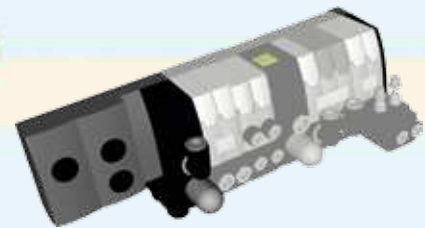
Number of Stations\*: 05

---

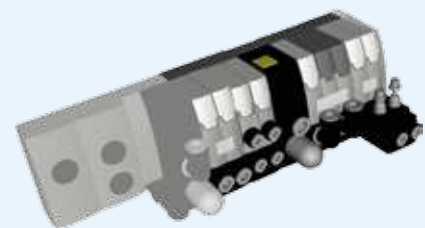
Station #	Component	Part Number	Buttons
Station 1*	Valve	P2M1V4EE2CV00R6	Configure Copy Reset
Station 2*	Valve	P2M1V4EE2CV00F4	Configure Copy Reset
Station 3*	Intermediate Module	P2M2B3V02F8MM	Configure Copy Reset
Station 4*	Valve	P2M2V4EE2CV00C8	Configure Copy Reset
Station 5*	Valve	P2M1V0EE2CV00JJ	Configure Copy Reset
	Dual Flow Control	P2M1FXFAJJF4	

Call: 1.269.629.5575 or email: [pdnmtkg@parker.com](mailto:pdnmtkg@parker.com) for special options not available here.

**Step 1 : Head and tail definition**



**Step 2 : Valves definition**



**Get the bill of material**

By clicking on  button :

- View the bill of material :
  - Head and Tail Set
  - Valves detail
- Click to Print

**Download 2D or 3D CAD**

By clicking on  button :

- Select to view, download or e-mail your CAD file
- Select your best file format
- Submit Request



1 - Multi-connector or sub-D 25 valve island

Multi-connector or sub-D 25 electrical head module width : 15 mm

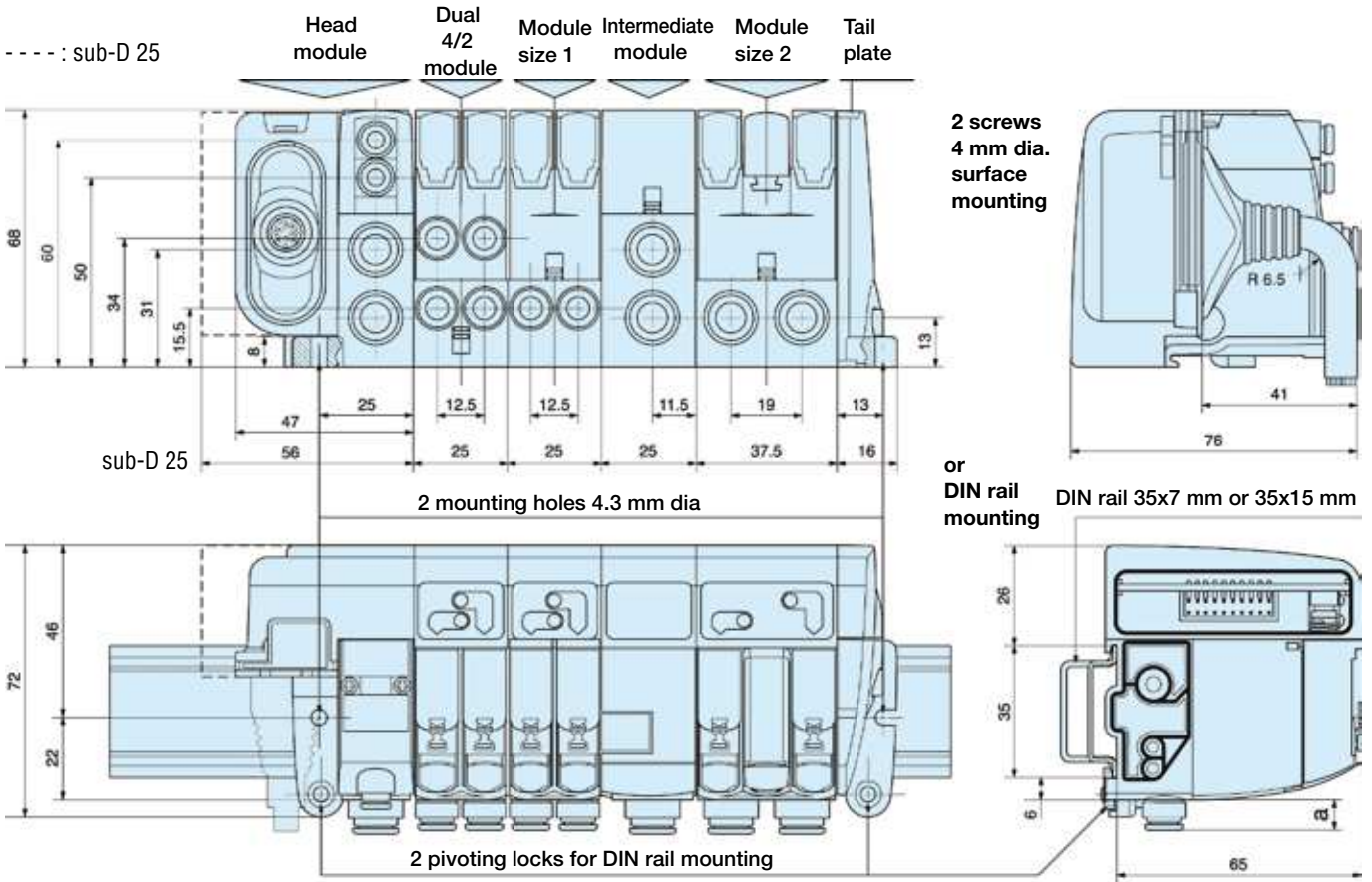
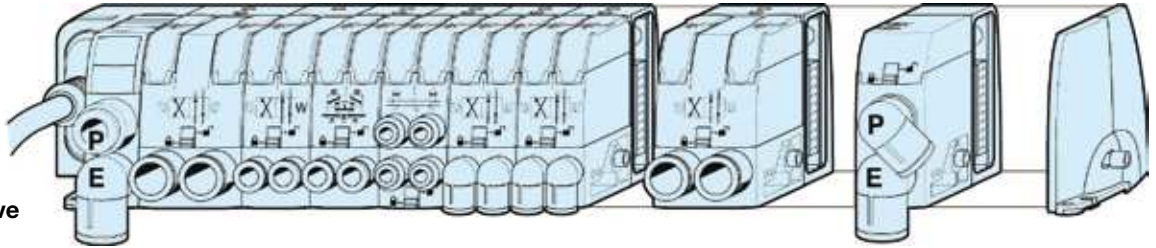
Head and tail pneumatic module set width : 48 mm

Modules size 1 width : 25 mm

Modules size 2 width : 37.5 mm

Intermediate module width : 25 mm

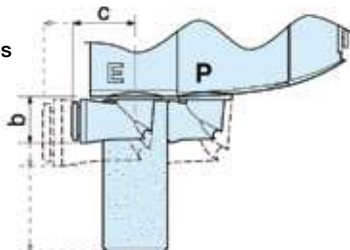
Island total width depending on valve composition



Special case : 4/3 closed centre function within island version : Add the dimensions of the dual P.O. check valve module plugged into the island.

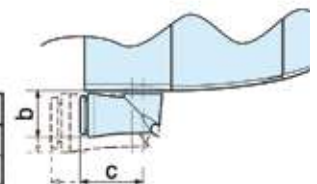
Island head and intermediate modules

	a	b	c
6 mm tube OD	8	13	16
8 mm tube OD	9	16	19
10 mm tube OD	13	18	22
12 mm tube OD	13	19	25
muffler		40	



Island valves modules

	OD tube	a	b	c
Size 1 modules	4 mm	8	10	12
	6 mm	8	13	16
Size 2 modules	8 mm	9	16	19
	10 mm	13	18	22



2 - Field bus connected islands

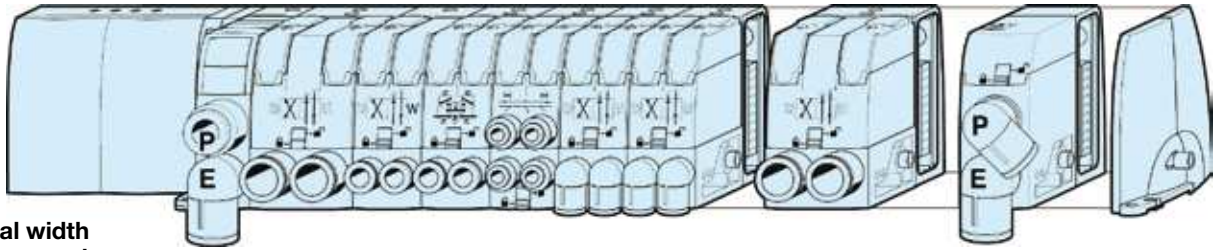
Electrical field bus head module width : 62 mm

Head and tail pneumatic module set width : 48 mm

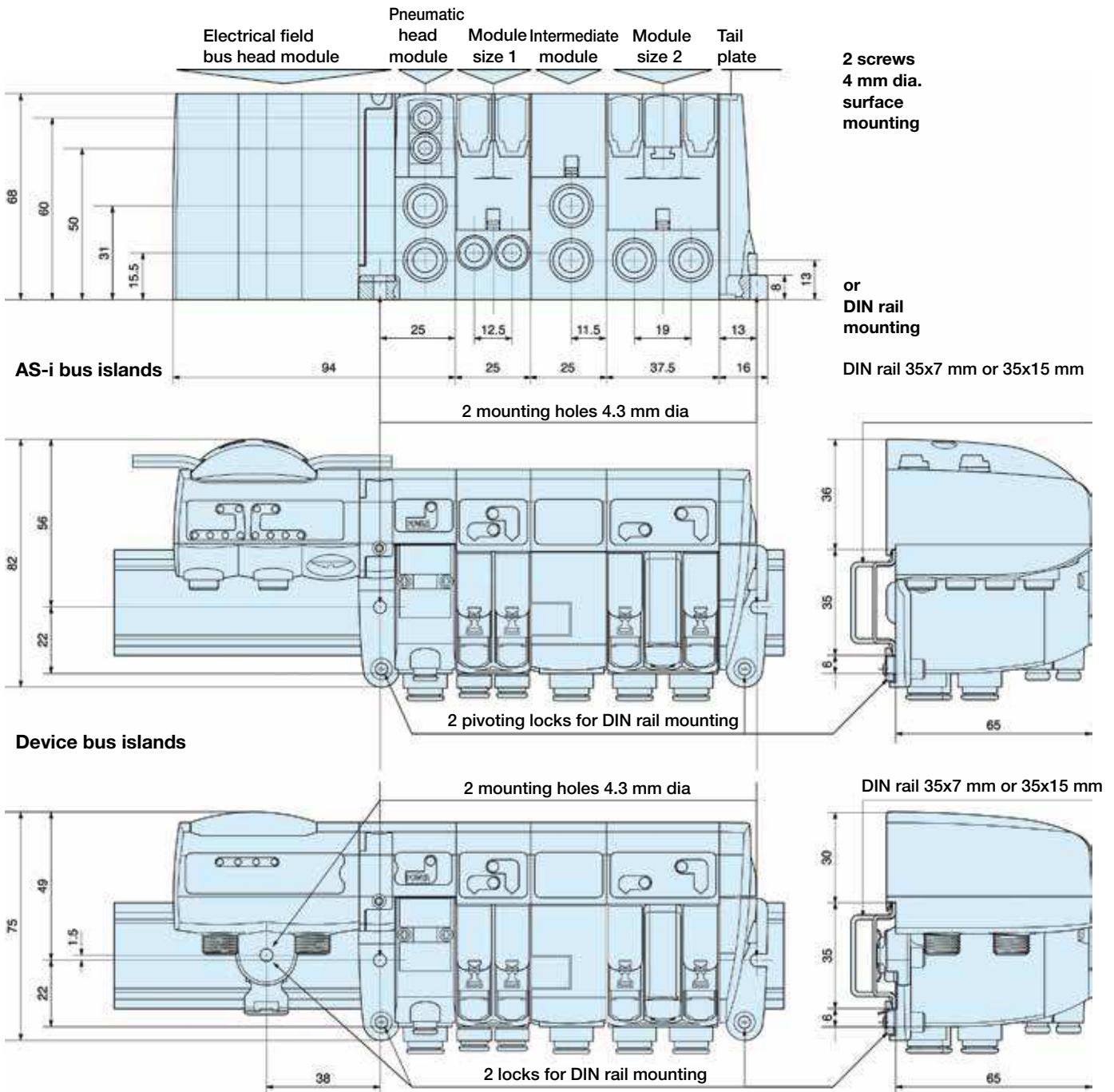
Modules size 1 width : 25 mm

Modules size 2 width : 37.5 mm

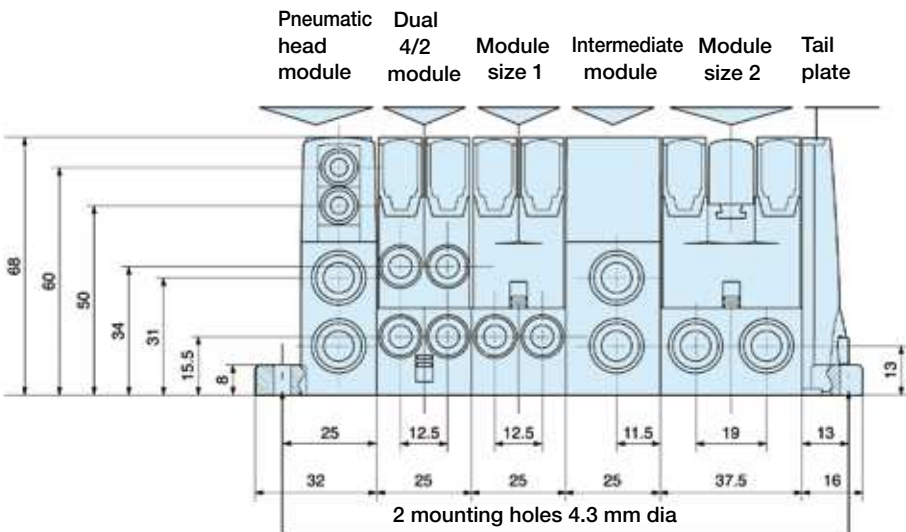
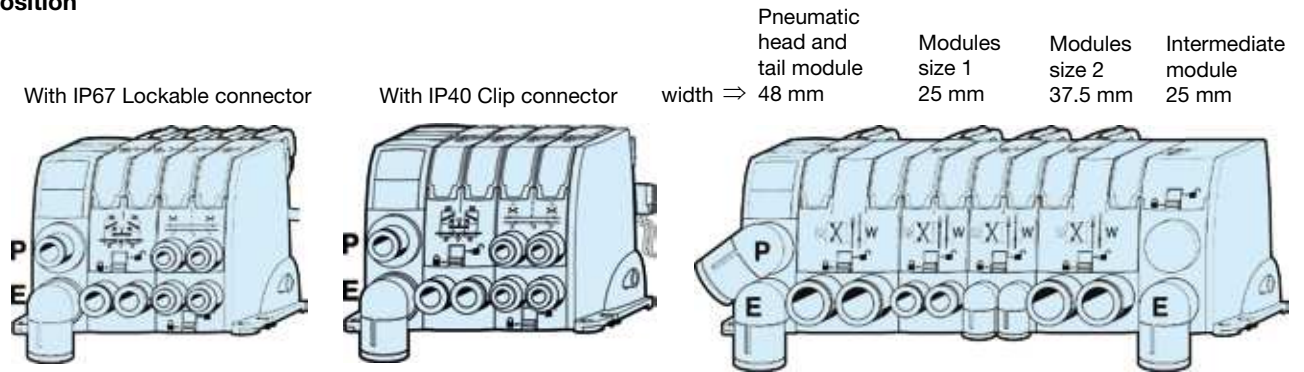
Intermediate module width : 25 mm



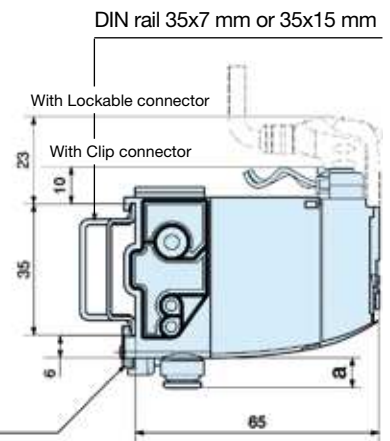
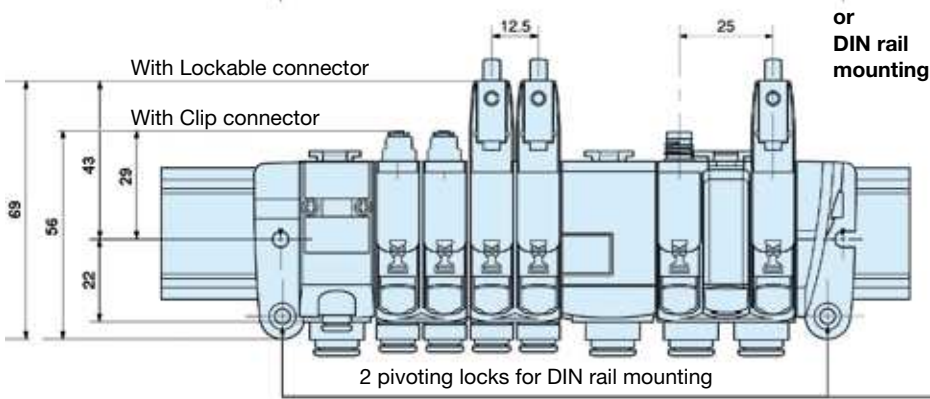
Island total width depending on valve composition



**Island total width depending on valve composition**



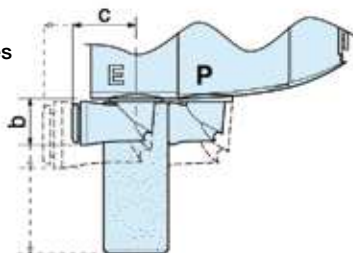
2 screws  
 4 mm dia.  
 surface  
 mounting



Special case : 4/3 closed centre function within island version :  
 Add the dimensions of the dual P.O. check valve module plugged into the island.

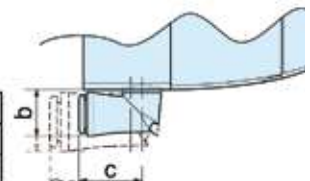
**Island head and intermediate modules**

	a	b	c
6 mm tube OD	8	13	16
8 mm tube OD	9	16	19
10 mm tube OD	13	18	22
12 mm tube OD	13	19	25
muffler		40	



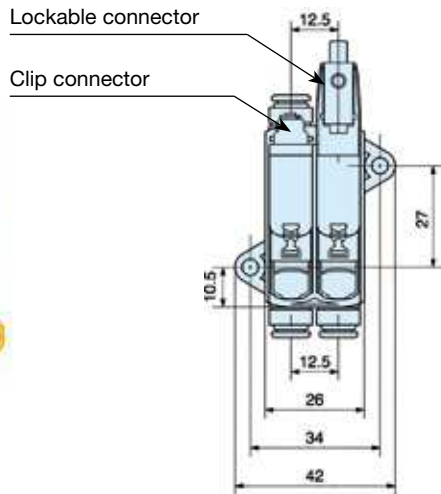
**Island valves modules**

	OD tube	a	b	c
Size 1 modules	4 mm	8	10	12
	6 mm	8	13	16
Size 2 modules	8 mm	9	16	19
	10 mm	13	18	22

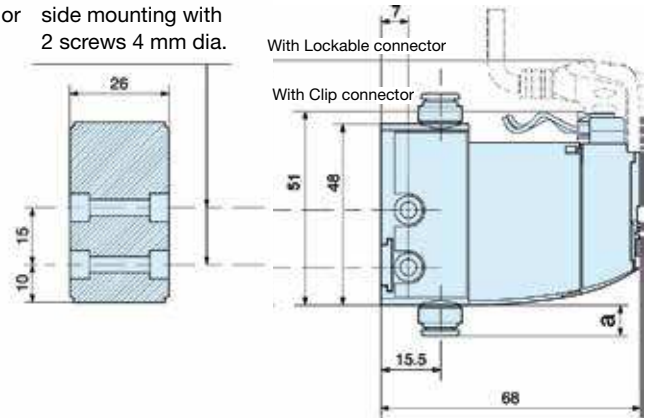


**Stand-alone valve size 1**

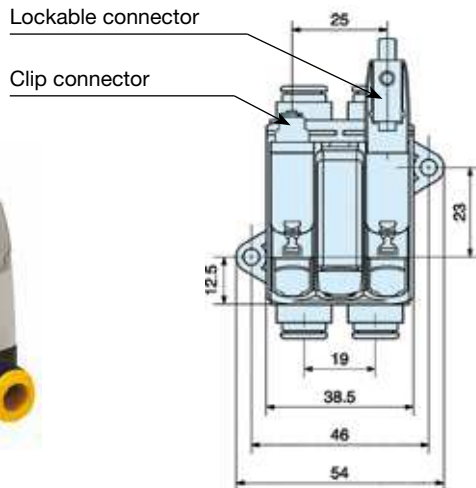
surface mounting with screws  
 4 mm dia. into retractable brackets 3 mm thick



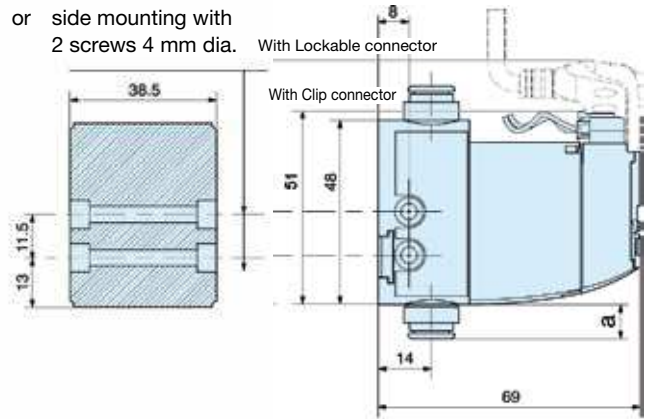
or side mounting with 2 screws 4 mm dia.



**Stand-alone valve size 2**



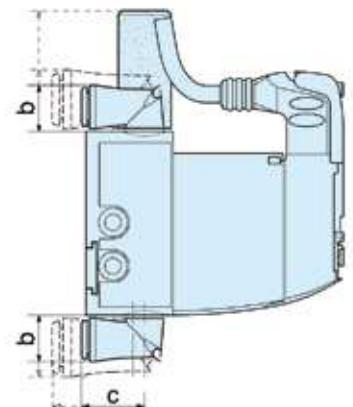
or side mounting with 2 screws 4 mm dia.



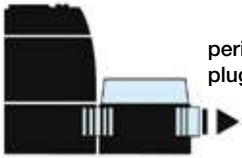
Dimensions and mountings of the stand-alone valves 4/2, double and single 3/2, 4/3 vented centre and 4/3 pressure centre.

Special case : 4/3 closed centre. Add the dual P.O. check valve module that has been plugged in the basic valve.

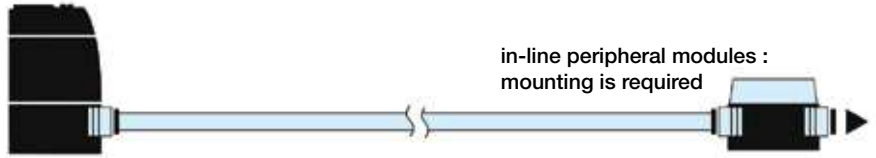
		a	b	c
Size 1 modules	4 mm tube OD	8	10	12
	6 mm tube OD	8	13	16
	muffler		31	
Size 2 modules	8 mm tube OD	9	16	19
	10 mm tube OD	13	18	22
	muffler		40	



Reminder : peripheral modules may either be plugged in a valve or mounted in line separate from the valve

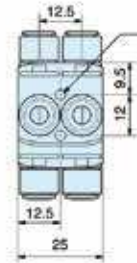
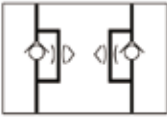


peripheral module plugged in a valve or an island

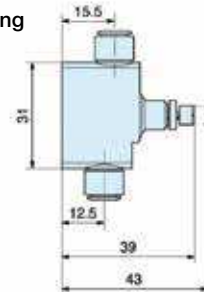


in-line peripheral modules : mounting is required

Dual flow control module size 1

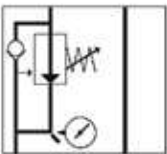


possible mounting with 2 screws 3 mm dia.

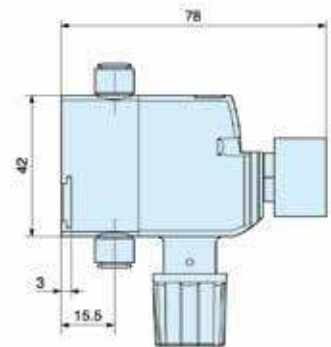
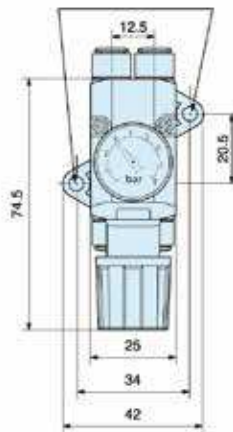


Pressure regulation module size 1

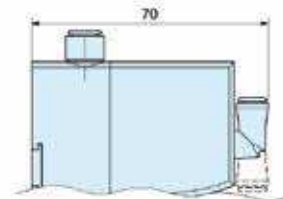
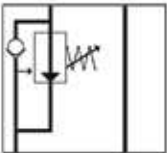
- with gauge



mounting with 2 screws 4 mm dia. on retractable brackets

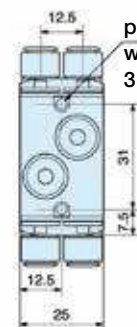
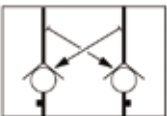


- without gauge



swivel elbow push-in connector 4 mm OD tube

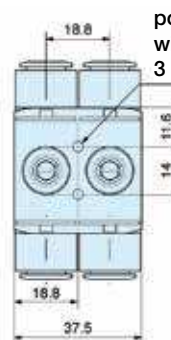
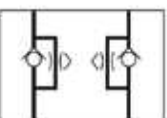
Dual P.O. check valve module size 1



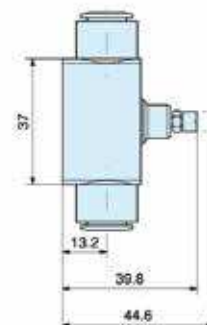
possible mounting with 2 screws 3 mm dia.



Dual flow control module size 2

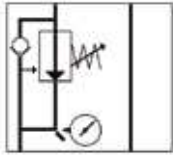


possible mounting with 2 screws 3 mm dia.

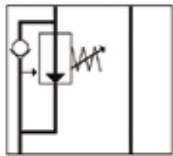


**Pressure regulation module size 2**

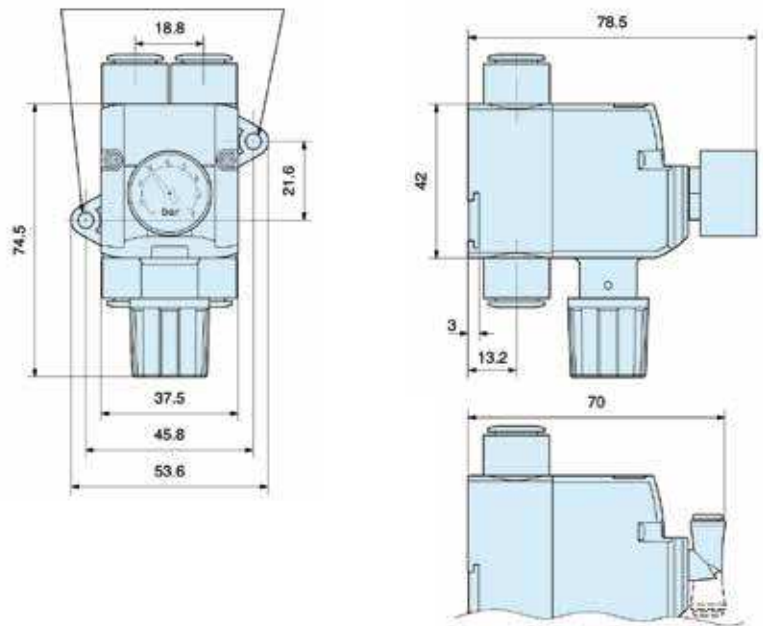
- with gauge



- without gauge

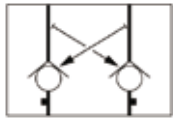


mounting with 2 screws 4 mm dia.  
on retractable brackets

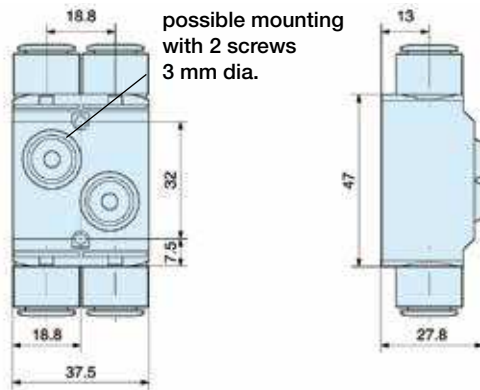


swivel elbow push-in  
connector 4 mm OD tube

**Dual P.O. check valve module size 2**



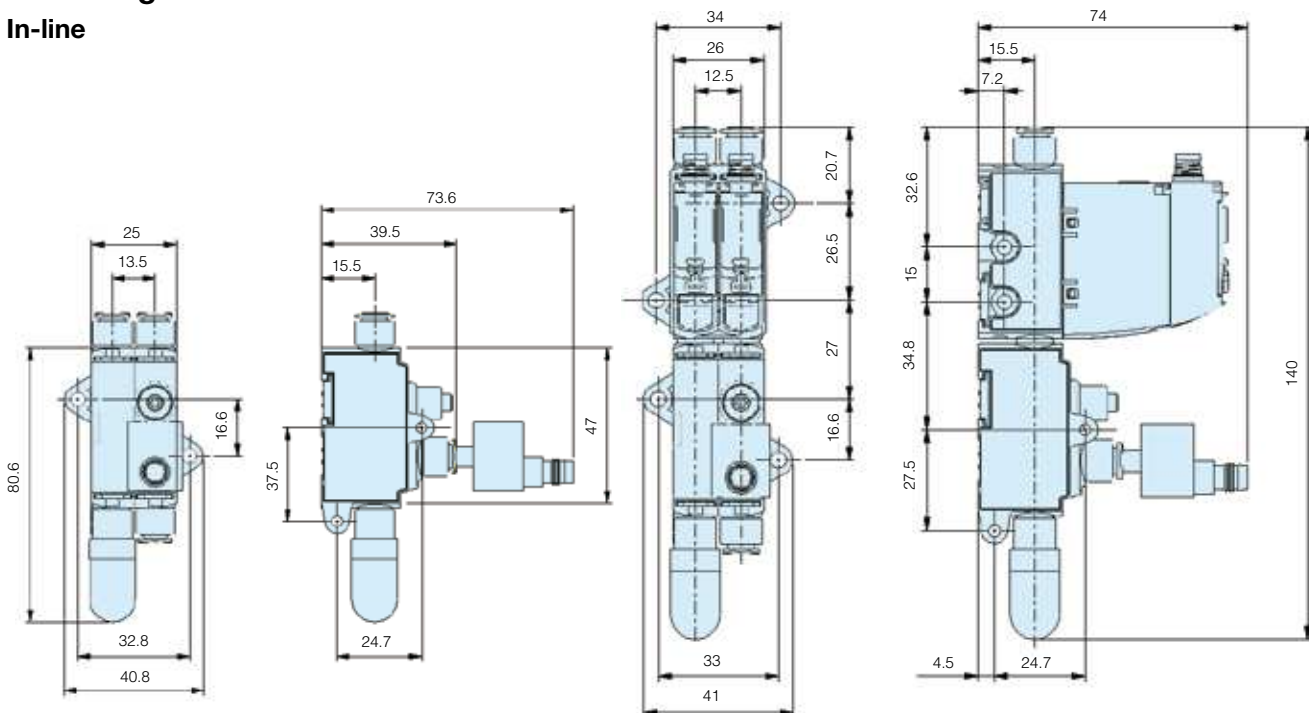
possible mounting  
with 2 screws  
3 mm dia.



**Vacuum generator module**

In-line

With Moduflex valve





# Industrial Communication System

Isysnet / Moduflex Bus / TURCK BL67

Isysnet system for **centralised** and **decentralised** applications



## Isysnet System for Centralised applications

Isysnet System has 4 major components :

- **Communication interface modules** provide the network-interface circuitry
- **I/O modules** provide the field interface, system-interface circuitry, and bases for mounting
- **Power distribution module** provide the solution to expandability of the Isysnet system or multiple power supply

## Moduflex Bus System for Decentralised applications

The Moduflex communication module is directly attach the either, a Moduflex, Isys Micro or Isys ISO manifold in a compact valve island directly connectable to the industrial network.

Pneumatic variants using Isysnet Industrial communication system for Centralised applications

Isysnet device with electric modules only



Isysnet with Isys Micro extended device



Isysnet with Isys Micro Valves island



Isysnet with Isys ISO valves island

Isys ISO 15407-2 – HA & HB  
Isys ISO 5599-2 – H1 to H3



Pneumatic variants using Moduflex Fieldbus modules for Decentralised applications

Moduflex Bus with Moduflex Valve System



Moduflex Bus with Isys Micro Valves island



Moduflex Bus With Isys ISO 15407-2 or 5599-2 valves island

Isys ISO 15407-2 – HA & HB  
Isys ISO 5599-2 – H1 to H3



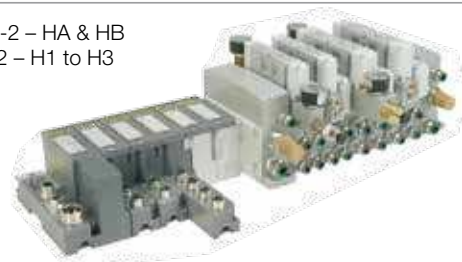
Pneumatic variants using TURCK BL67 Industrial communication system for Centralised applications

TURCK BL67 with Isys Micro Valves Island



TURCK BL67 with Isys ISO Valves Island

Isys ISO 15407-2 – HA & HB  
Isys ISO 5599-2 – H1 to H3





**Isysnet Device constitution overview for a Centralised application**

**For main device**

**For both main and extended devices**



**For extended device**



**Communication modules :**

- Fieldbus or Industrial Ethernet protocol
- Network connection
- Separated 24VDC for logic and user power supply
- Configuration with coding wells and bus status display by LED

**Bus extender cable :**

- Cable linking extended device through the Sub-network
- Sub-network connection from Isysnet module or Isys Micro Valve driver
- Transferring both sub-network communication and 5VDC for bus power supply

**I/O modules :**

- Choice of Digital or Analogic I/O modules offering multiple industrial connection types
- Connection to the Sub-network and the separated 24VDC for both logic and user through the socket
- I/O and sub-network status display by LEDs

**Power extender module :**

- Additional separated 24VDC power supply for logic and user allowing multiple permanent or safety power supply recommendations
- Both Logic and User electrical power supply display by separated LEDs

**Isysnet end section :**

- Specific socket or valve driver without extender bus connector for Isysnet end section

**Isysnet prologation section :**

- Specific socket with sub-network extender cable and extended device head plate
- Valve driver including extender bus connector for sub-network continuity

**Moduflex constitution overview for a Decentralised application**



**Communication module :**

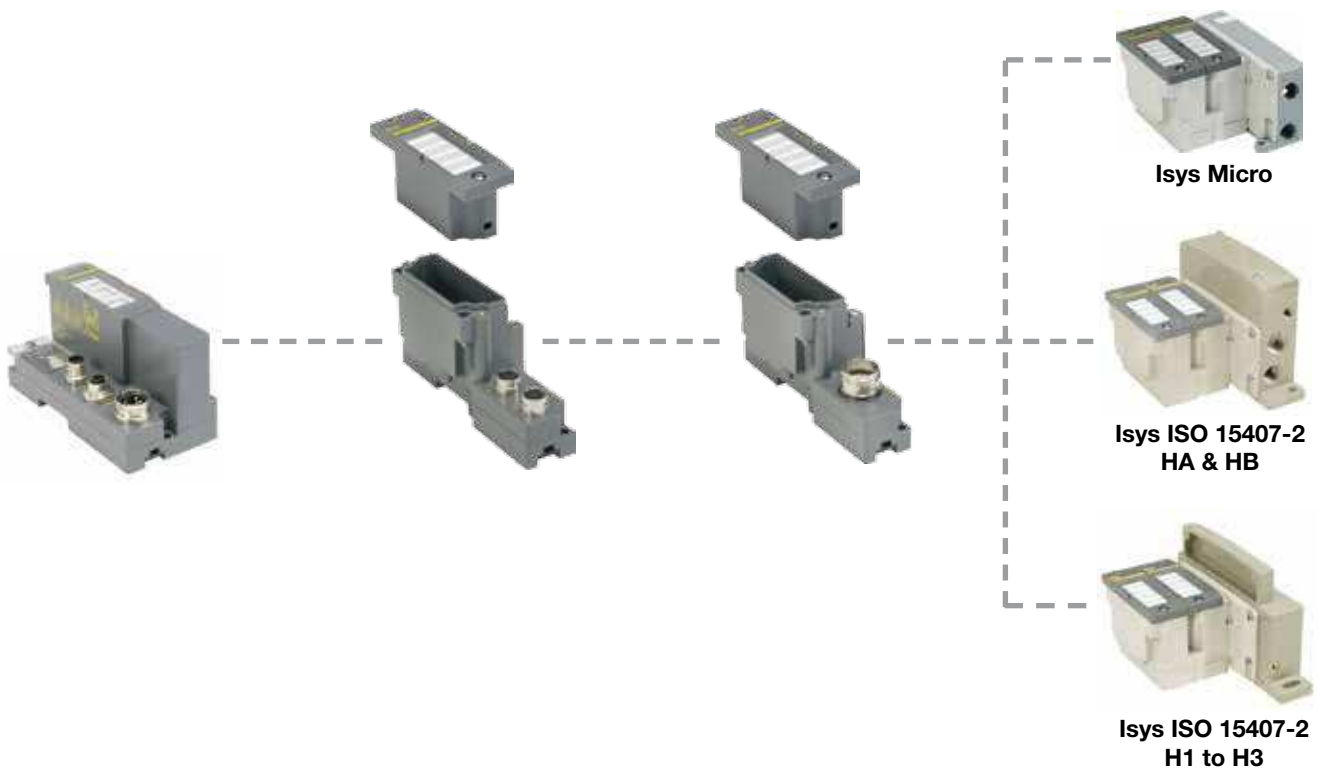
- Fieldbus protocols
- Network connection
- Separated power supply for communication and solenoid valves
- Addressing and speed communication configuration by coding wells
- Bus status display by LED

**Bus module adaptor :**

Using the appropriate adaptor, the Moduflex Bus module can be assembled to :

- Moduflex Valve System
- Isys Micro
- Isys ISO 15407-2 – HA & HB
- Isys ISO 5599-2 – H1

TURCK BL67 Device constitution overview for a Centralised application



**TURCK BL67 communication gateway**

**Industrial Communication :**

- Linked to a TURCK BL67 communication module (programmable or not programmable), the device can be connected to a wide choice of Fieldbus or Industrial Ethernet protocols.

**TURCK BL67 I/O and Base modules**

The separation between electronic and base module for connectivity allows to complete the device with a choice through a full digital or analogue **I/O modules** range populating the **base module** existing with a multiple choice of electrical connection (M8, M12, M23)

The complete resulting configuration can handle :

- Up to 32 electrical modules (up to 2 in the Valve Driver Module)
- Up to 512 digital I/O (up to 32 outputs in the Valve Driver Module)
- Up to 128 analog I/O

**Other TURCK BL67 Electronic modules**

Other electronic modules, as CANopen gateway allowing a sub-network connectivity with other CANopen slaves, RFID System or counting modules complet the full TURCK BL67 Remote I/O System.

**Valve driver Module for 16 or 32 Outputs**

**Modularity up to 16 or 32 Outputs :**

Thanks to its modularity, the Isys Micro Valve Driver Module to Turck BL67 Remote I/O System adaptor can be configure up to either a 16 or 32 solenoid valves configuration :

For a light configuration up to 16 solenoid valves (2 double address or 4 single address manifolds), the Valve Driver Module can be optimized being populated with:

- 1 Standard Turck 16 DO module BL67-16DO-0.1A-P in slot 1
- 1 blank module BL67-E in slot 2

For a full configuration up to 32 solenoid valves (4 double address or 8 single address manifolds), the Valve Driver Module must be fully populated with 1 Standard Turck 16 DO module BL67-16DO-0.1A-P in each slot.

### Isysnet Industrial Communication modules



A choice of different protocols to connect the Isysnet device to the requested industrial network :

- DeviceNet
- Profibus DP
- ControlNet
- Ethernet I/P

### Digital and Analogue Isysnet I/O modules :



Application always needs a wide sensor quantity, diversity and additional electric actuators as well, with an appropriate electrical connection.

With a modularity from 2 to 16 channels, the wide Isysnet range of digital or analogue inputs and outputs modules offers a choice of industrial connection :

- M8 -3 PINs
- M12 -5 PINs
- M23 - 12 PINs

### Isysnet extension power supply module :



The auxiliary power from the communication module supports up to 10 I/O modules. Also, for application needing a huge I/O modules quantity, this 24VDC extension power module extends the backplane bus power to support up to 10 more I/O modules.

Also, when safety recommendations require multiple permanent and safety power supplies, this 24VDC extension power module avoids to get a separated power supply section in the Isysnet device.

### Isysnet and Isys Micro bus extender cable



An Isysnet device can be split into the Isysnet section or, from an Isys Micro valve manifold to an extended Isysnet section. Both cables avoid the backplane Bus power and communication.

The Isysnet device has to be closed with a 32 output driver (internally ending the backplane bus) or using the Isysnet terminating base module

**Isysnet 32 Outputs driver for valve islands in centralised applications**

**Isysnet 32 Outputs driver for Isys Micro Valve Islands**



- Isys Micro valve nominal flow up to 280 NI/mn
- 32 outputs per module to handle up to 32 solenoids per valve island
- Up to 4 valve islands linked through the internal sub-network for a total of 128 solenoids per device
- With or without additional user power supply
- With or without bus extender

**Isysnet 32 Outputs driver for Isys ISO Valve Islands**



ISO 15407-2

ISO 5599-2

- ISO 15407-2    Size 02 (HB)    18 mm    380 NI/mn
- ISO 15407-2    Size 01 (HA)    26 mm    590 NI/mn
- ISO 5599-2    Size 1 (H1)    42 mm    1030 NI/mn
- 32 outputs per module to handle up to 32 solenoids per valve island.

**Moduflex fieldbus modules for valve islands in decentralised applications**

**Moduflex fieldbus adaptor for Isys Micro and Isys ISO valve islands**



Moduflex valve system



Isys Micro

- Compatible with all Moduflex fieldbus protocol modules handling up to 16 solenoids:
  - DeviceNet
  - CANopen
  - Profibus DP
  - InterBus-S
  - AS-i standard and extended a-b coding versions.



ISO 15407-2  
HA - HB



ISO 5599-2  
H1

**TURCK BL67 Industrial Communication modules**



- A choice of different protocols to connect the TURCK BL67 device to the requested industrial network:
  - CANopen
  - DeviceNet
  - Profibus DP
  - Ethernet Modbus TCP, EtherNet/IP™ and PROFINET

Programmable versions



**TURCK BL67 Electronic and Base Modules**



The separation between electronic and base module for connectivity allows to complete the device with a choice through a full digital or analogue **I/O modules** range populating the **base module** existing with a multiple choice of electrical connection (M8, M12, M23)

The complete resulting configuration can handle :

- Up to 32 electrical modules (up to 2 in the Valve Driver Module)
- Up to 512 digital I/O (up to 32 outputs in the Valve Driver Module)
- Up to 128 analog I/O

**Isys 32 Outputs Driver for Isys Micro and Isys ISO Valve Islands**



Isys Micro



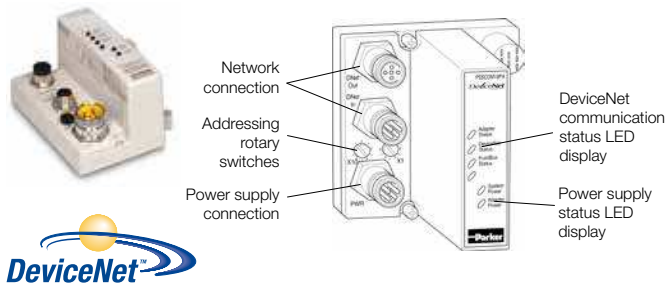
Isys ISO 15407-2  
 HA & HB



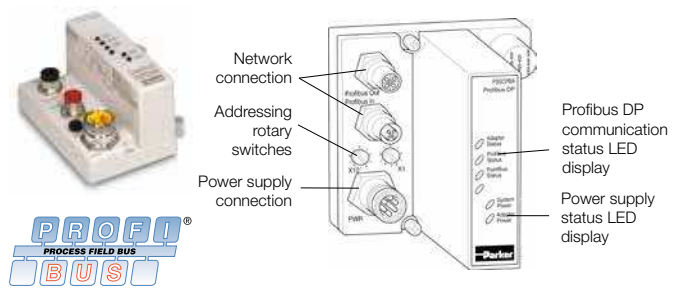
Isys ISO 15407-2  
 H1 to H3

- Isys Micro      4 valve function in 42 mm      280 NI/mn
  - ISO 15407-2    Size 02 (HB)      18 mm      390 NI/mn
  - ISO 15407-2    Size 01 (HA)      26 mm      920 NI/mn
  - ISO 5599-2     Size 1 (H1)      42 mm      1200 NI/mn
  - ISO 5599-2     Size 2 (H2)      56 mm      2500 NI/mn
  - ISO 5599-2     Size 3 (H3)      71 mm      5000 NI/mn
- Modularity of 16 or 32 outputs per module to handle up to 32 solenoids per valve island.

**DeviceNet communication module**



**Profibus DP communication module**



DeviceNet Adapters	
DeviceNet module order code	
<b>PSSCDM12A</b>	<b>PSSCDM18PA</b>
Adapters connection	
Power supply connection 7/8" - 4 PINs - Male :	
	- PIN 1 : User power + - PIN 2 : Adapter power + - PIN 3 : Adapter power - - PIN 4 : User power -
Bus IN connection	
M12 - 5 PINs - Male - A coding 	M18 - 5 PINs - Male : 
- PIN 1 : Drain - PIN 2 : DeviceNet V+ - PIN 3 : DeviceNet V- - PIN 4 : CAN High - PIN 5 : CAN Low	
Bus OUT connection	
M12 - 5 PINs - Female - A coding 	M18 - 5 PINs - Female : 
- PIN 1 : Drain - PIN 2 : V+ - PIN 3 : V- - PIN 4 : CAN High - PIN 5 : CAN Low	
LED display 1 - Adapter status : green/red 2 - DeviceNet status : green/red 3 - Status : green/red 4 - System power (5V power) : green 5 - Adapter power (24V from field supply) : green	

Profibus DP Adapters	
Profibus DP module order code	
<b>PSSCPBA</b>	
Adapters connection	
Power supply connection 7/8" - 5 PINs - Male :	
	- PIN 1 : User power + - PIN 2 : Adapter power + - PIN 3 : Protective GND - PIN 4 : Adapter power - - PIN 5 : User power -
Bus IN connection	
M12 - 5 PINs - Male - B coding 	- PIN 1 : + 5 VDC Bus - PIN 2 : A - Line - PIN 3 : GND Bus - PIN 4 : B - Line - PIN 5 : Shield
Bus OUT connection	
M12 - 5 PINs - Female - B coding 	- PIN 1 : + 5 VDC Bus - PIN 2 : A - Line - PIN 3 : GND Bus - PIN 4 : B - Line - PIN 5 : Shield
LED display 1 - Adapter status : green/red 2 - Profibus DP status : green/red 3 - Bus status : green/red 4 - System power (5V power) : green 5 - Adapter power (24V from field supply) : green	

**DeviceNet communication module connection accessories**



P8CS1205BA

**Profibus DP communication module connection accessories**

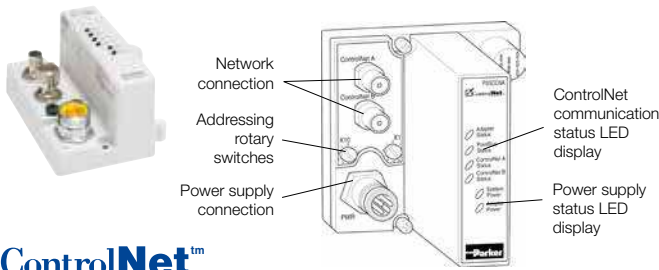


P8CS1205BB

Description	Connector type	W (g)	Order code
Power supply connector	7/8" - 4 PINs	40	<b>P8CS7804AA</b>
Bus IN connector	M12 female - A coding	25	<b>P8CS1205AA</b>
Bus OUT connector	M12 male - A coding	25	<b>P8CS1205BA</b>
Line terminaiton	M12 male - A coding	25	<b>P8BPA00MA</b>

Description	Connector type	W (g)	Order code
Power supply connector	7/8" - 5 PINs	40	<b>P8CS7805AA</b>
Bus IN connector	M12 female - B coding	25	<b>P8CS1205AB</b>
Bus OUT connector	M12 male - B coding	25	<b>P8CS1205BB</b>
Line terminaiton	M12 male - B coding	25	<b>P8BPA00MB</b>

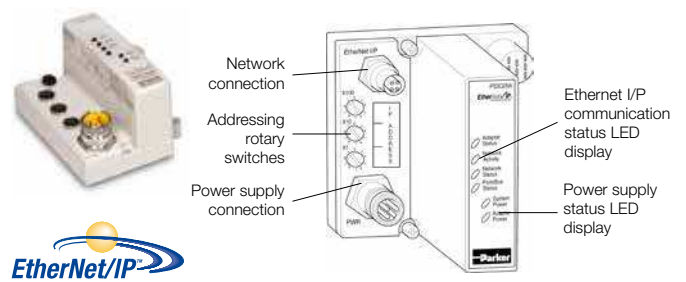
**ControlNet communication module**



**ControlNet™**

<b>ControlNet Adapters</b>	
ControlNet module order code	
<b>PSSCCNA</b>	
<b>Adapters connection</b>	
Power supply connection 7/8" - 4 PINs - Male :	
	- PIN 1 : User power + - PIN 2 : Adapter power + - PIN 3 : Adapter power - - PIN 4 : User power -
ControlNet IN connection	TNC style connector
ControlNet OUT connection	TNC style connector
LED display	
1 - Adapter status : green/red	
2 - Bus status : green/red	
3 - ControlNet A status : green/red	
4 - ControlNet B status : green/red	
5 - System power (Bus 5V power) : green	
6 - Adapter power (24V from field supply) : green	

**Ethernet I/P communication module**



**EtherNet/IP™**

<b>Ethernet I/P Adapters</b>	
Ethernet I/P module order code	
<b>PSSCENA</b>	
<b>Adapters connection</b>	
Power supply connection 7/8" - 4 PINs - Male :	
	- PIN 1 : User power + - PIN 2 : Adapter power + - PIN 3 : Adapter power - - PIN 4 : User power -
Ethernet I/P connection	
M12 - 4 PINs - Female - D coding :	
	- PIN 1 : Tx + - PIN 2 : Rx + - PIN 3 : Tx - - PIN 4 : Rx -
LED display	
1 - Adapter status : green/red	
2 - Network activity : green	
3 - Network status : green/red	
4 - Bus status : green/red	
5 - System power (Bus 5V power) : green	
6 - Adapter power (24V from field supply) : green	

**ControlNet communication module connection accessories**



P8CS7804AA

Description	Connector type	W (g)	Order code
Power supply connector	7/8" - 4 PINs	40	<b>P8CS7804AA</b>

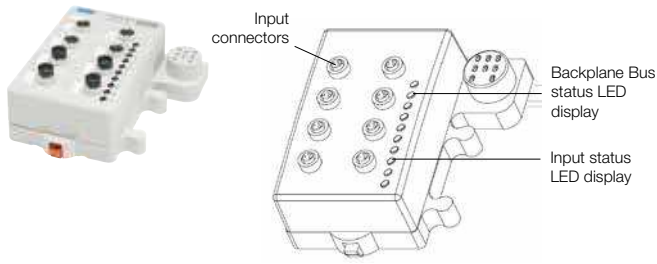
**Ethernet I/P communication module connection accessories**



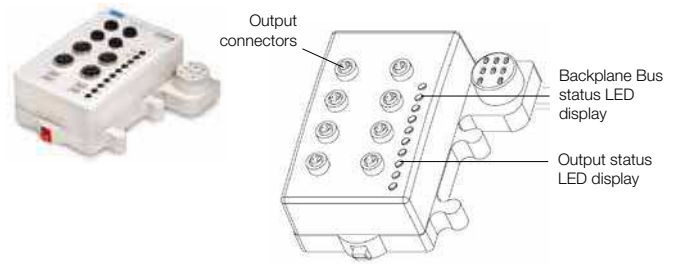
P8CS7804AA

Description	Connector type	W (g)	Order code
Power supply connector	7/8" - 4 PINs	40	<b>P8CS7804AA</b>

Isysnet Digital Input modules



Isysnet Digital Output modules



Isysnet Digital DC Input modules		
Input module order code		
PSSN8M8A	PSSN8M12A	PSSP8M12A
Nb of Inputs		
8	8	8
Nb of Input connectors		
8 x M8	4 x M12	4 x M12
Input density/connector		
1	2	2
Sensor polarity		
PNP	PNP	NPN
Input module connection		
Input connector		
M8 - 3 PINs Female	M12 - 5 PINs Female	
 - PIN 1 : +24 VDC - PIN 3 : Common - PIN 4 : Input	 - PIN 1 : +24 VDC - PIN 2 : Odd input (1, 3, 5, 7) - PIN 3 : Common - PIN 4 : Even input (0, 2, 4, 6) - PIN 5 : n/a	
Input status LED display (Logic side)		
8 x Yellow / Red		
Backplane Bus status LED display (Logic side)		
Module status : 1 x green / red Network status : 1 x green / red		

Isysnet Digital DC Output modules			
Output module order code			
PSST8M8A	PSST8M12A	PSST8M23A	PSSTR4M12A
Nb of Outputs			
8	8	8	8
Nb of Output connectors			
8 x M8	4 x M12	1 x M23	4 x M12
Output density/connector			
1	2	8	1
Output module connection			
Output connector			
M8 - 3 PINs Female	M12 - 5 PINs Female	M23 - 12 PINs Female	M12 - 5 PINs Female
 - PIN 1 : +24 VDC - PIN 3 : Common - PIN 4 : Outputs (0 to 7)	 - PIN 1 : +24 VDC - PIN 2 : Odd output (1, 3, 5, 7) - PIN 3 : Common - PIN 4 : Even output (0, 2, 4, 6) - PIN 5 : n/a	 - PIN 1 : Output 0 - PIN 2 : Output 1 - PIN 3 : Output 2 - PIN 4 : Output 3 - PIN 5 : Output 4 - PIN 6 : Output 5 - PIN 7 : Output 6 - PIN 8 : Output 7 - PIN 9 : Return (common) - PIN 10 : Return (common) - PIN 11 : +24 VDC - PIN 12 : Chassis	 - PIN 1 : +24 VDC - PIN 2 : Odd outputs - PIN 3 : Common - PIN 4 : Even outputs - PIN 5 : n/a
Output status LED display (Logic side)			
8 x Yellow / Red			4 x Yellow/Red
Backplane Bus status LED display (Logic side)			
Module status : 1 x green / red Network status : 1 x green / red			

Isysnet Backplane Bus accessories



Description	Cable length	W (g)	Order code
Backplane Bus extender	1 meter	380	PSSEXT1
	3 meter	760	PSSEXT3
Termination module		200	PSSTERM

Isysnet Backplane Bus accessories



Description	Cable length	W (g)	Order code
Backplane Bus extender	1 meter	380	PSSEXT1
	3 meter	760	PSSEXT3
Termination module		200	PSSTERM

Connectors for outputs



Description	Connector type	W (g)	Order code
Cable quick connect connector	M8 male	25	P8CS0803J
Y shape	M12 male - 2 x M12 female	25	P8CSY1212A

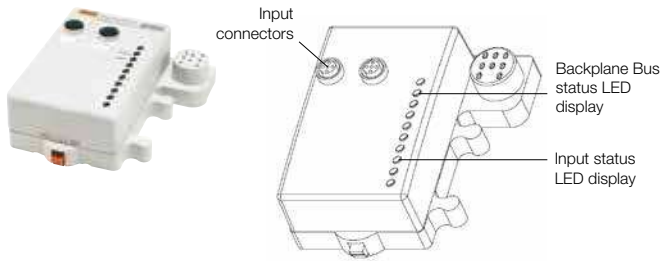
Connectors for outputs



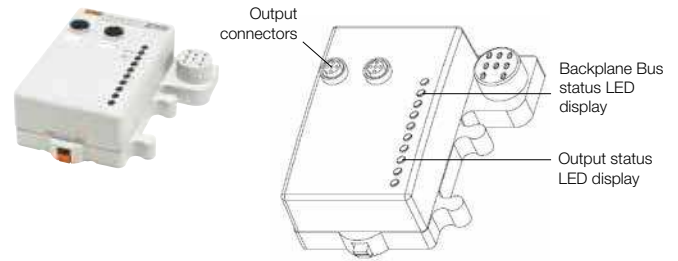
Description	Connector type	W (g)	Order code
Cable quick connect connector	M8 male	25	P8CS0803J
Y shape	M12 male - 2 x M12 female	25	P8CSY1212A


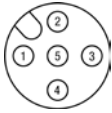



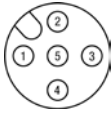
**Isysnet Analogue Input modules**



**Isysnet Analogue Output modules**



<b>Isysnet Analogue Input modules</b>		
Input module order code	<b>PSSNAVM12A</b>	<b>PSSNACM12A</b>
		
Nb of Inputs	2	2
Nb of Input connectors	2 x M12	2 x M12
Input density/connector	1	1
Input signal	0 - 10 V	4 - 20 mA
<b>Analogue Input module connection</b>		
Input connector	M12 - 5 PINs - Female	
	 - PIN 1 : +24 VDC - PIN 2 : Inputs - PIN 3 : Common - PIN 4 : Common - PIN 5 : n/a	
Input status LED display (Logic side)	2 x green / red	
Backplane Bus status LED display (Logic side)	Module status : 1 x green / red Network status : 1 x green / red	

<b>Isysnet Analogue Output modules</b>		
Output module order code	<b>PSSTAVM12A</b>	<b>PSSTACM12A</b>
		
Nb of Outputs	2	2
Nb of Output connectors	2 x M12	2 x M12
Output density/connector	1	1
Output signal	0 - 10 V	4 - 20 mA
<b>Analogue Output module connection</b>		
Output connector	M12 - 5 PINs - Female	
	 - PIN 1 : Outputs - PIN 2 : +24 VDC - PIN 3 : Common - PIN 4 : Common - PIN 5 : n/a	
Output status LED display (Logic side)	2 x green / red	
Backplane Bus status LED display (Logic side)	Module status : 1 x green / red Network status : 1 x green / red	

**Isysnet Backplane Bus accessories**



Description	Cable length	W (g)	<b>Order code</b>
Backplane Bus extender	1 meter	380	<b>PSSEXT1</b>
	3 meter	760	<b>PSSEXT3</b>
Termination module		200	<b>PSSTERM</b>

**Connectors for inputs**



Description	Connector type	W (g)	<b>Order code</b>
Straight connector	M12 male - A coding	25	<b>P8CS1205BA</b>

**Isysnet Backplane Bus accessories**



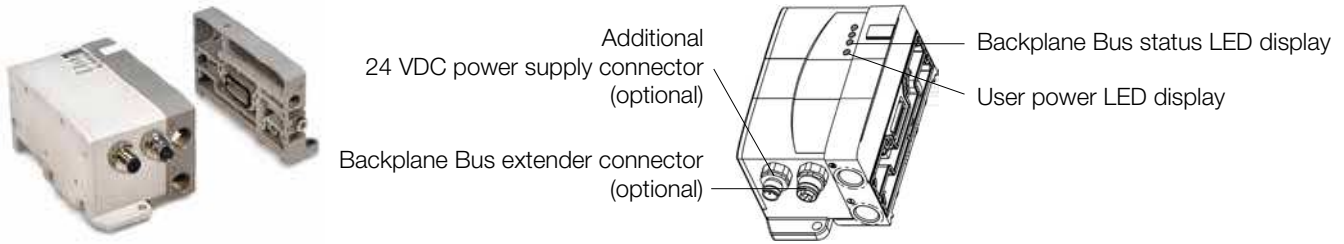
Description	Cable length	W (g)	<b>Order code</b>
Backplane Bus extender	1 meter	380	<b>PSSEXT1</b>
	3 meter	760	<b>PSSEXT3</b>
Termination module		200	<b>PSSTERM</b>

**Connectors for outputs**



Description	Connector type	W (g)	<b>Order code</b>
Straight connector	M12 male - A coding	25	<b>P8CS1205BA</b>

**Isysnet 32 Output drivers**



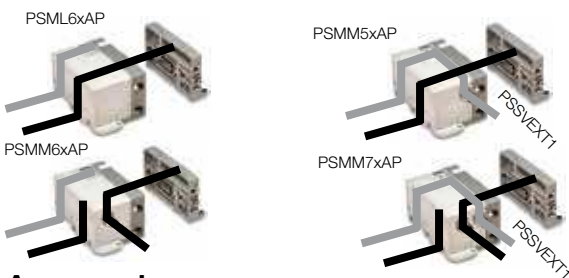
Dedicated valve range		Isys Micro				Isys ISO 15407-2	Isys ISO 5599-2
32 Output driver modules order code	Side ported	<b>PSML61AP</b>	<b>PSMM61AP</b>	<b>PSMM71AP</b>	<b>PSMM51AP</b>	<b>PS5620L61P</b>	<b>PS4020L61CP</b>
	Bottom ported	<b>PSML62AP</b>	<b>PSMM62AP</b>	<b>PSMM72AP</b>	<b>PSMM52AP</b>		
Pneumatic port sizes		Power supply		G3/8"			
		Exhaust		G3/8"			
Pneumatic pilot port sizes		Internal or M7				Internal	
		Exhaust				Internal	

**32 Output driver module connection**

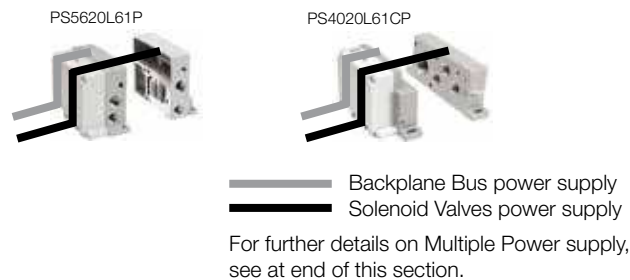
24 VDC power supply connector	NO	YES	YES	NO	NO	NO
		M12 - 5 PINs - Male  - PIN 1 : +24 VDC - PIN 2 : n/a - PIN 3 : Common - PIN 4 : n/a - PIN 5 : Protective Earth				
Backplane Bus Extender connector	NO	NO	YES	YES	NO	NO
			M12 - 5 PINs - Female To use with PSSVEXT1  - PIN 1 : CAN SHLD - PIN 2 : CAN V+ - PIN 3 : CAN GND - PIN 4 : CAN High - PIN 5 : CAN Low			
Backplane Bus status LED display (Logic side)	Backplane Bus power supply : 1 x green / red Backplane Bus status : 1 x green / red Output fault : 1 x red Valve power supply : 1 x green				Module status : 1 x green / red Backplane Bus status : 1 x green/red Output fault : 1 x yellow / red	

**Backplane Bus and Solenoid Valves Power Supply Sourcing :**

**Isys Micro 32 output driver modules**



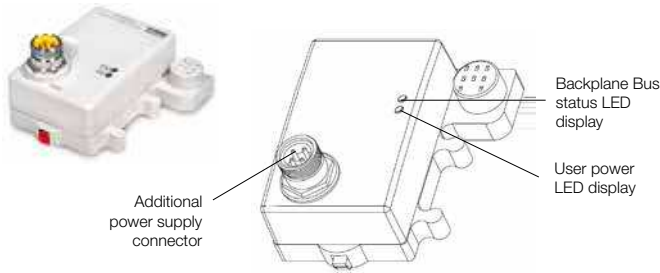
**Isys ISO 32 output driver modules**



**Accessories**

	Description	Connector type	W (g)	Order code
	Backplane Bus extension cable with 1 meter cable	M12 male - A coding Head plate	380	<b>PSSVEXT1</b>
	Connector for 24 VDC power supply connector	M12 Female - A coding	25	<b>P8CS1205AA</b>
	Line terminaison	M12 Male - A coding	25	<b>P8BPA00MA</b>

### Isysnet Power Extender module



Backplane Bus Extension Power Supply module	
Power Supply Extender module order code	<b>PSSE24A</b>
Extender module connection	
Power supply connection	7/8" - 4 PINs - Male  - PIN 1 : User power + - PIN 2 : Backplane bus power + - PIN 3 : Backplane bus power + - PIN 4 : User power -
Status LED display (Logic side) 1 x green	Field power status : 1 x green 5 VDC system power status:

### Isysnet Backplane Bus connector



P8CS7804AA

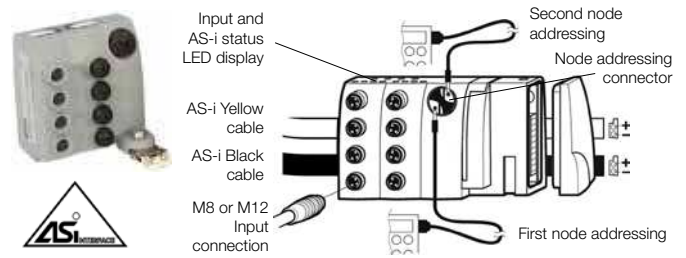
Description	Connector type	W (g)	Order code
Power supply connector	7/8" - 4 PINs	40	<b>P8CS7804AA</b>

### Isysnet Backplane Bus accessories



Description	Cable length	W (g)	Order code
Backplane Bus extender from Isysnet module	1 meter 3 meter	380 760	<b>PSSEXT1</b> <b>PSSEXT3</b>
Backplane Bus extender cable from 32 outputs driver	1 meter	380	<b>PSSVEXT1</b>

### AS-interface communication module



#### AS-i Adapters

P2M2HBVA 10400	P2M2HBVA 10800	P2M2HBVA 20600	P2M2HBVA 10808A	P2M2HBVA 20608A	P2M2HBVA 10404B	P2M2HBVA 10404B	P2M2HBVA 20608B
AS-i Version							
V2.0	V2.0	V2.1	V2.0	V2.1	V2.0	V2.0	V2.1
Number of addresses							
1 / 31	2 / 31	2 / 31a + 31b	2 / 31	2 / 31a + 31b	1 / 31	2 / 31	2 / 31a + 31b
Nb of outputs for solenoid valves							
4	8	6	8	8	4	8	6
Nb of Inputs							
-			8	8	4	8	8
Nb of Input connectors							
-			8 x M8	8 x M8	4 x M12	4 x M12	4 x M12
Input density / connector							
-			1	1	1	2	2

#### Adapter connection

Yellow cable		
Bus signal Bus module and sensors power supply		
Black cable		
24 VDC outputs for solenoid valves		
INPUTS connection	M8 - 3 Pins - Female	M12 - 5 Pins Female
	- PIN 1 : +24 VDC - PIN 3 : Common - PIN 4 : Input	PIN 1: +24 VDC PIN 2: Input 2 & 3 PIN 3: Common PIN 4: Input 0 to 3 PIN 5: n/a *on left connectors only
		PIN 1: +24 VDC PIN 2: Odd Input PIN 3: Common PIN 4: Even Input PIN 5: n/a
LED Display		
Node status : 2 x green/red per node Input status : 4 x yellow per node Valve power (24V from field supply) : 1 x green / red		

### Valve range adapters



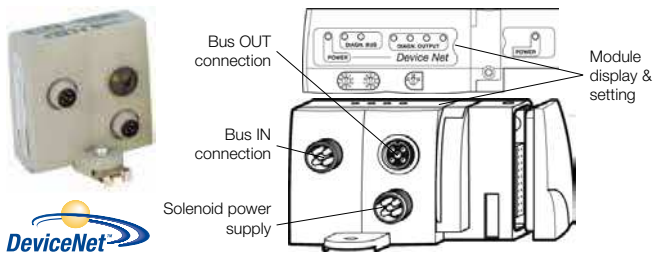
Description	Valve range	W (g)	Order code	
Moduflex Bus adapter without communication module	Moduflex Valve	30	<b>P2M2HEV0B</b>	
	Isys Micro	Side ported	200	<b>PSMM41AP</b>
		Bottom ported	200	<b>PSMM42AP</b>
	Isys ISO 15407-2-HA-HB	200	<b>PS5620M41P</b>	
Isys ISO 5599-2 - H1	300	<b>PS4020M41CP</b>		

### Connectors for Inputs



Description	Valve range	W (g)	Order code
Cable quick connect connector	M8 Male	25	<b>P8CS0803J</b>
	M12 Male - A coding	25	<b>P8CS1204J</b>
"Y" shape	M12 Male - 2 x M12 Female	25	<b>P8CSY1212A</b>
Addressing cable	M12 Male - Jack	100	<b>P8LS12JACK</b>

DeviceNet 16 outputs communication module



DeviceNet Adapters	
Moduflex Valve System	Isys Micro
<b>P2M2HBVD11600</b>	<b>P2M2HBVD21600</b>
	<b>Side ported : PSMMD1AP</b>
	<b>Bottom ported : PSMMD2AP</b>

Adapter connection	
Power supply connection	
M12 - 5 PINS Male - B coding	M12 - 5 PINS Male - A coding
 - PIN 1 : n/a - PIN 2 : n/a - PIN 3 : 0 VDC Solenoid - PIN 4 : 24 VDC Solenoid - PIN 5 : Protected earth (PE)	 - PIN 1 : n/a - PIN 2 : n/a - PIN 3 : 0 VDC Solenoid - PIN 4 : 24 VDC Solenoid - PIN 5 : Protected earth (PE)
Bus IN connection	
M12 - 5 PINS - Male - A coding	
 - PIN 1 : Drain - PIN 2 : CAN V+ - PIN 3 : CAN V- - PIN 4 : CAN High - PIN 5 : CAN Low	
Bus OUT connection	
M12 - 5 PINS - Female - A coding	
 - PIN 1 : Drain - PIN 2 : CAN V+ - PIN 3 : CAN V- - PIN 4 : CAN High - PIN 5 : CAN Low	
LED Display	
Adapter power : 1 x green DeviceNet status : 2 x green/red Solenoid pilots power : 1 x green/red Solenoid pilots diagnostic : 4 x red	

Valve range adapters



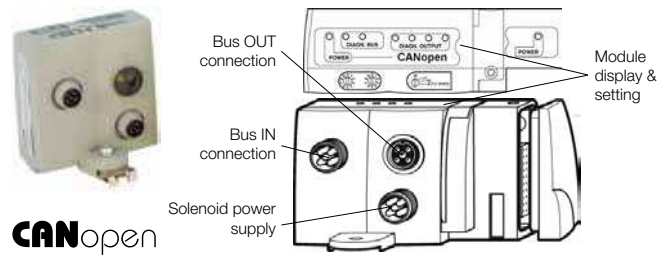
Description	Valve range	W (g)	Order code	
Moduflex Bus adapter without communication module	Moduflex Valve	30	<b>P2M2HEV0B</b>	
	Isys Micro	Side ported	200	<b>PSMM41AP</b>
		Bottom ported	200	<b>PSMM42AP</b>
	Isys ISO 15407-2-HA-HB	200	<b>PS5620M41P</b>	
Isys ISO 5599-2 - H1	300	<b>PS4020M41CP</b>		

DeviceNet communication module connection accessories



Description	Connector type	W (g)	Order code
Power supply connection	M12 Female - A coding	40	<b>P8CS1205AA</b>
	M12 Female - B coding	40	<b>P8CS1205AB</b>
Bus IN connector	M12 Female - A coding	25	<b>P8CS1205AA</b>
Bus OUT connector	M12 Male - A coding	25	<b>P8CS1205BA</b>
Line termination	M12 Male - A coding	25	<b>P8BPA00MA</b>

CANopen 16 outputs communication module



CANopen Adapters	
Moduflex Valve System	Isys Micro
<b>P2M2HBVC11600</b>	<b>P2M2HBVC21600</b>
	<b>Side ported : PSMMC1AP</b>
	<b>Bottom ported : PSMMC2AP</b>

Adapter connection	
Power supply connection	
M12 - 5 PINS Male - B coding	M12 - 5 PINS Male - A coding
 - PIN 1 : n/a - PIN 2 : n/a - PIN 3 : 0 VDC Solenoid - PIN 4 : 24 VDC Solenoid - PIN 5 : Protected earth (PE)	 - PIN 1 : n/a - PIN 2 : n/a - PIN 3 : 0 VDC Solenoid - PIN 4 : 24 VDC Solenoid - PIN 5 : Protected earth (PE)
Bus IN connection	
M12 - 5 PINS - Male - A coding	
 - PIN 1 : Drain - PIN 2 : CAN V+ - PIN 3 : CAN V- - PIN 4 : CAN High - PIN 5 : CAN Low	
Bus OUT connection	
M12 - 5 PINS - Female - A coding	
 - PIN 1 : Drain - PIN 2 : CAN V+ - PIN 3 : CAN V- - PIN 4 : CAN High - PIN 5 : CAN Low	
LED Display	
Adapter power : 1 x green CANopen status : 2 x green/red Solenoid pilots power : 1 x green/red Solenoid pilots diagnostic : 4 x red	

Valve range adapters



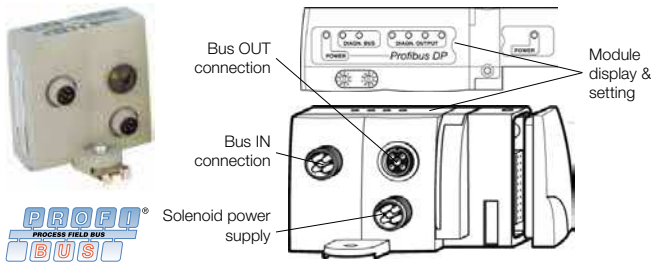
Description	Valve range	W (g)	Order code	
Moduflex Bus adapter without communication module	Moduflex Valve	30	<b>P2M2HEV0B</b>	
	Isys Micro	Side ported	200	<b>PSMM41AP</b>
		Bottom ported	200	<b>PSMM42AP</b>
	Isys ISO 15407-2-HA-HB	200	<b>PS5620M41P</b>	
Isys ISO 5599-2 - H1	300	<b>PS4020M41CP</b>		

CANopen communication module connection accessories



Description	Connector type	W (g)	Order code
Power supply connection	M12 Female - A coding	40	<b>P8CS1205AA</b>
	M12 Female - B coding	40	<b>P8CS1205AB</b>
Bus IN connector	M12 Female - A coding	25	<b>P8CS1205AA</b>
Bus OUT connector	M12 Male - A coding	25	<b>P8CS1205BA</b>
Line termination	M12 Male - A coding	25	<b>P8BPA00MA</b>

**Profibus DP 16 outputs communication module**



Profibus DP Adapters	
Moduflex Valve System	Isys Micro
<b>P2M2HBVC11600</b>	<b>Side ported : PSMC1AP</b> <b>Bottom ported : PSMC2AP</b>
<b>Adapter connection</b>	
Power supply connection	
M12 - 5 PINs - Male - A coding	
	<ul style="list-style-type: none"> <li>- PIN 1 : +24 VDC adapter</li> <li>- PIN 2 : n/a</li> <li>- PIN 3 : 0 VDC Adapter &amp; Solenoids</li> <li>- PIN 4 : 24 VDC Solenoids</li> <li>- PIN 5 : Protected earth (PE)</li> </ul>
Bus IN connection	
M12 - 5 PINs - Male - B coding	
	<ul style="list-style-type: none"> <li>- PIN 1 : +5 VDC Bus</li> <li>- PIN 2 : A - Line</li> <li>- PIN 3 : GND Bus</li> <li>- PIN 4 : B - Line</li> <li>- PIN 5 : Shield</li> </ul>
Bus OUT connection	
M12 - 5 PINs - Female - B coding	
	<ul style="list-style-type: none"> <li>- PIN 1 : +5 VDC Bus</li> <li>- PIN 2 : A - Line</li> <li>- PIN 3 : GND Bus</li> <li>- PIN 4 : B - Line</li> <li>- PIN 5 : Shield</li> </ul>
LED Display	
Adapter power : 1 x green Profibus DP status : 2 x green/red Solenoid pilots power : 1 x green/red Solenoid pilots diagnostic : 4 x red	

**Valve range adapters**



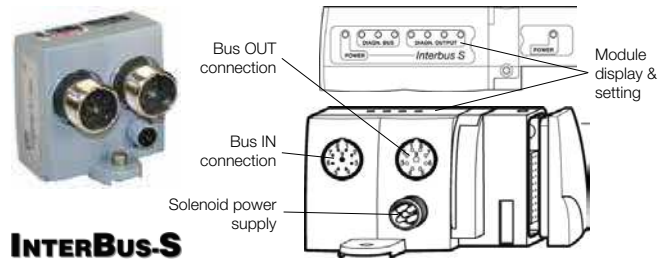
Description	Valve range	W (g)	Order code
Moduflex Bus adapter without communication module	Moduflex Valve	30	<b>P2M2HEV0B</b>
	Isys Micro Side ported	200	<b>PSMM41AP</b>
	Bottom ported	200	<b>PSMM42AP</b>
	Isys ISO 15407-2-HA-HB	200	<b>PS5620M41P</b>
	Isys ISO 5599-2 - H1	300	<b>PS4020M41CP</b>

**Profibus DP communication module connection accessories**



Description	Connector type	W (g)	Order code
Power supply connection	M12 Female - A coding	40	<b>P8CS1205AA</b>
Bus IN connector	M12 Female - B coding	25	<b>P8CS1205AB</b>
Bus OUT connector	M12 Male - B coding	25	<b>P8CS1205BB</b>
Line termination	M12 Male - B coding	25	<b>P8BPA00MB</b>

**InterBus-S 16 outputs communication module**



InterBus-S Adapters	
Moduflex Valve System	
<b>P2M2HBVS11600</b>	
<b>Adapter connection</b>	
Power supply connection	
M12 - 5 PINs - Male - A coding	
	<ul style="list-style-type: none"> <li>- PIN 1 : +24 VDC adapter</li> <li>- PIN 2 : n/a</li> <li>- PIN 3 : 0 VDC Adapter &amp; Solenoids</li> <li>- PIN 4 : 24 VDC Solenoids</li> <li>- PIN 5 : Protected earth (PE)</li> </ul>
Bus IN connection	
M23 - 9 PINs - Male	
	<ul style="list-style-type: none"> <li>- PIN 1 : DO</li> <li>- PIN 2 : DO</li> <li>- PIN 3 : DI</li> <li>- PIN 4 : DI</li> <li>- PIN 5 : Ground</li> <li>- PIN 6 : n/a</li> <li>- PIN 7 : n/a</li> <li>- PIN 8 : n/a</li> <li>- PIN 9 : n/a</li> </ul>
Bus OUT connection	
M23 - 9 PINs - Female	
	<ul style="list-style-type: none"> <li>- PIN 1 : DO</li> <li>- PIN 2 : DO</li> <li>- PIN 3 : DI</li> <li>- PIN 4 : DI</li> <li>- PIN 5 : Ground</li> <li>- PIN 6 : n/a</li> <li>- PIN 7 : n/a</li> <li>- PIN 8 : n/a</li> <li>- PIN 9 : RBST</li> </ul>
LED Display	
Adapter power : 1 x green InterBus S status : 2 x green/red Solenoid pilots power : 1 x green/red Solenoid pilots diagnostic : 4 x red	

**Valve range adapters**




Description	Valve range	W (g)	Order code
Moduflex Bus adapter without communication module	Moduflex Valve	30	<b>P2M2HEV0B</b>
	Isys Micro Side ported	200	<b>PSMM41AP</b>
	Bottom ported	200	<b>PSMM42AP</b>
	Isys ISO 15407-2-HA-HB	200	<b>PS5620M41P</b>
	Isys ISO 5599-2 - H1	300	<b>PS4020M41CP</b>

**InterBus S communication module connection accessories**




Description	Connector type	W (g)	Order code
Power supply connection	M12 Female - A coding	40	<b>P8CS1205AA</b>

## TURCK BL67 Communication Gateway

	Protocol	Network connection	Power Sup. Connection	Weight (g)	Order code
	CANopen (Bus IN & OUT)	M12 - A coding	7/8" - 5 Pin's	375	<b>BL67-GW-CO</b>
	DeviceNet™	7/8" - 5 Pin's	7/8" - 5 Pin's	360	<b>BL67-GW-DN</b>
	Profibus-DP (DPV0/DPV1)	M12 - B coding	7/8" - 5 Pin's	370	<b>BL67-GW-DPV1</b>
	Multiprotocol Ethernet: Modbus TCP, EtherNet/IP™ and PROFINET	M12 - D coding	7/8" - 5 Pin's	375	<b>BL67-GW-EN</b>


All TURCK BL67 System Modules can be ordered directly from TURCK under the same part number

## TURCK BL67 Programmable Communication Gateway

	Protocol	Network connection	Power Sup. Connection	Weight (g)	Order code
	Profibus-DP	M12 - B coding	7/8" - 5 Pin's	380	<b>BL67-PG-DP</b>
	EtherNet/IP™	M12 - D coding	7/8" - 5 Pin's	375	<b>BL67-PG-EN-IP</b>
	Modbus TCP	M12 - D coding	7/8" - 5 Pin's	375	<b>BL67-PG-EN</b>

All TURCK BL67 System Modules can be ordered directly from TURCK under the same part number

## TURCK BL67 Electronic Modules

	Description	Characteristic	Polarity	Weight (g)	Order code	
	Blank module			15	<b>BL67-E</b>	
	4 Digital Inputs			PNP	55	<b>BL67-4DI-P</b>
				NPN	55	<b>BL67-4DI-N</b>
	8 Digital Inputs	Channel diagnostics		PNP	55	<b>BL67-4DI-PD</b>
				PNP	55	<b>BL67-8DI-P</b>
				NPN	55	<b>BL67-8DI-N</b>
				PNP	55	<b>BL67-8DI-PD</b>
	16 Digital Inputs			PNP	55	<b>BL67-16DI-P</b>
	4 Digital Outputs	0.5 A		PNP	55	<b>BL67-4DO-0.5A-P</b>
				PNP	55	<b>BL67-4DO-2A-P</b>
				NPN	55	<b>BL67-4DO-2A-N</b>
				PNP	55	<b>BL67-4DO-4A-P</b>
	8 Digital Outputs	0.5 A		PNP	55	<b>BL67-8DO-0.5A-P</b>
				NPN	55	<b>BL67-8DO-0.5A-N</b>
	16 Digital Outputs	0.1 A		PNP	55	<b>BL67-16DO-0.1A-P</b>
	4 Digital Inputs & Outputs	0.5 A - Channel Diagnostic		PNP	55	<b>BL67-4DI4DO-PD</b>
8 Configurable Digital Channels	0.5 A		PNP	55	<b>BL67-8XSG-P</b>	
	0.5 A - Channel Diagnostics		PNP	55	<b>BL67-8XSG-PD</b>	
8 Isolated Relay Outputs	Normally open			55	<b>BL67-8DO-R-NO</b>	
2 analogue Inputs	16 bit resolution		Current	55	<b>BL67-2AI-I</b>	
			Voltage	55	<b>BL67-2AI-V</b>	
				55	<b>BL67-2AI-PT</b>	
				55	<b>BL67-2AI-TC</b>	
4 analogue Inputs	16 bit resolution		Current / Voltage	55	<b>BL67-4AI-V/I</b>	
				55	<b>BL67-4AI-TC</b>	
2 analogue Outputs	16 bit resolution		Current	55	<b>BL67-2AO-I</b>	
			Voltage	55	<b>BL67-2AO-V</b>	
4 analogue Outputs	16 bit resolution		Voltage	55	<b>BL67-4AO-V</b>	

All TURCK BL67 System Modules can be ordered directly from TURCK under the same part number

The complete TURCK BL67 Remote I/O System range on <http://www.turck.com> and <http://www.parker.com/pneu/fieldbus>

**TURCK BL67 Base modules for Digital and Analog I/O Modules**



Description	Connector Type	Con. Number	Weight (g)	Order code
Base Modules	M8, 3-pole, female	4	160	<b>BL67-B-4M8</b>
		8	215	<b>BL67-B-8M8</b>
	M8, 4-pole, female	8	215	<b>BL67-B-8M8-4</b>
	M12, 5-pole, female, A-coded	2	185	<b>BL67-B-2M12</b>
	M12, 5-pole, female, A-coded, paired	2	185	<b>BL67-B-2M12-P</b>
	M12, 5-pole, female, A-coded	4	245	<b>BL67-B-4M12</b>
	M12, 5-pole, female, A-coded, paired	4	245	<b>BL67-B-4M12-P</b>
	M23, 12-pole, female	1	190	<b>BL67-B-1M23</b>
	M23, 19-pole, female	1	190	<b>BL67-B-1M23-19</b>

All TURCK BL67 System Modules can be ordered directly from TURCK under the same part number

**Electronic and Base Module Combinations**

	BL67-B-4M8	BL67-B-8M8	BL67-B-2M12	BL67-B-2M12-P	BL67-B-4M12	BL67-B-4M12-P	BL67-B-1M23	BL67-B-1M23-19	BL67-B-8M8-4
<b>Digital Input Modules</b>									
BL67-4DI-P	✓		✓	✓	✓		✓		
BL67-4DI-N	✓		✓	✓	✓		✓		
BL67-4DI-PD	✓		✓	✓	✓				
BL67-8DI-P		✓			✓	✓	✓		
BL67-8DI-N		✓			✓	✓	✓		
BL67-8DI-PD		✓			✓	✓			
BL67-16DI-P							✓	✓	
<b>Digital Output Modules</b>									
BL67-4DO-0.5A-P	✓		✓	✓	✓		✓		
BL67-4DO-2A-P	✓		✓	✓	✓		✓		
BL67-4DO-2A-N	✓		✓	✓	✓		✓		
BL67-4DO-4A-P	✓		✓	✓	✓		✓		
BL67-8DO-0.5A-P		✓			✓	✓	✓		
BL67-8DO-0.5A-N		✓			✓	✓	✓		
BL67-16DO-0.1A-P							✓	✓	
BL67-4DI4DO-PD		✓			✓	✓			
<b>Configurable Digital Input/Output Modules</b>									
BL67-8XSG-P		✓			✓	✓			
BL67-8XSG-PD		✓			✓	✓			
<b>Relay Output Module</b>									
BL67-8DO-R-NO						✓			
<b>Analogue Input Module</b>									
BL67-2AI-I			✓						
BL67-2AI-V			✓						
BL67-2AI-PT			✓						
BL67-2AI-TC			✓						
BL67-4AI-V/I					✓				
BL67-4AI-TC					✓				
<b>Analogue Output Module</b>									
BL67-2AO-I			✓						
BL67-2AO-V			✓						
BL67-4AO-V					✓				

The complete TURCK BL67 Remote I/O System range on <http://www.turck.com>

**TURCK BL67 Power Feeding and Base Modules**



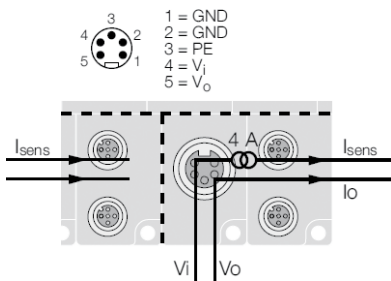
Description	Connector Type	Weight (g)	Order code
Power Feeding Module for 24 VDC additional sourcing		55	<b>BL67-PF-24VDC</b>
Base Modules	1 x 7/8", 5-pole, male	VI / VO Sourcing	<b>BL67-B-1RSM</b>
		VO Sourcing	<b>BL67-B-1RSM-VO</b>
	1 x 7/8", 4-pole, male	55	<b>BL67-B-1RSM-4</b>

All TURCK BL67 System Modules can be ordered directly from TURCK under the same part number

**Power Feeding Base Modules Connection**

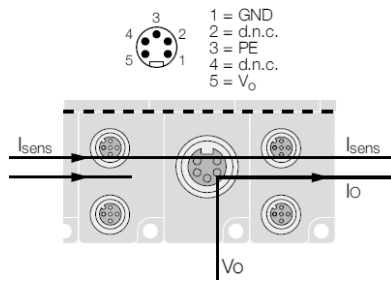
**Standard version**

**BL67-B-1RSM**

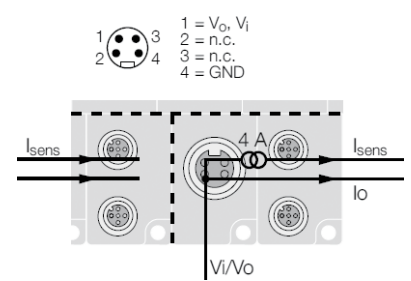


**Other possible versions**

**BL67-B-1RSM-VO**



**BL67-B-1RSM-4**



**TURCK BL67 CANopen Gateway and Base Module**



Description	Connector Type	Weight (g)	Order code
CANopen Gateway Module for CANopen Valve Island Interface		55	<b>BL67-1CVI</b>
Base Modules	1 x M12, 5-pole, female, A-coded	170	<b>BL67-B-1M12</b>

All TURCK BL67 System Modules can be ordered directly from TURCK under the same part number



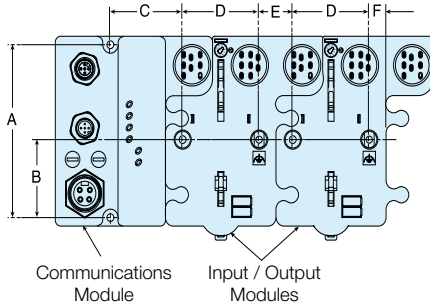
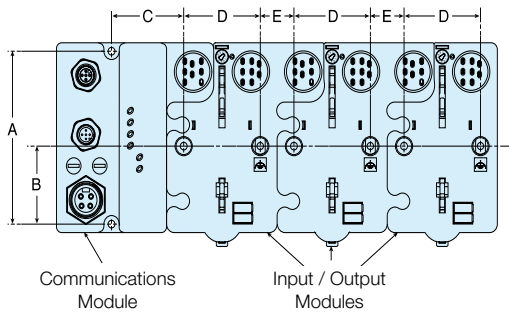
**BL67-1CVI electronic module with BL67-B-1M12**

- Offering a CANopen Sub-Network connectivity up to 8 CANopen slaves

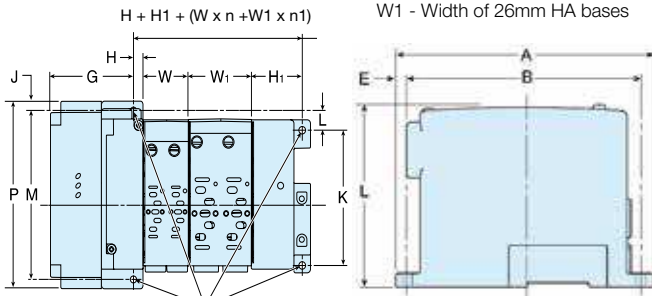
The complete TURCK BL67 Remote I/O System range on <http://www.turck.com>



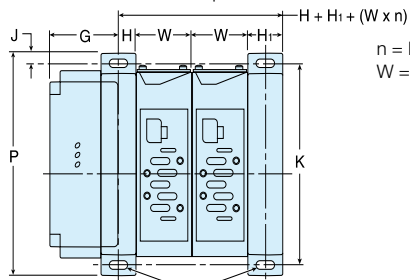
Isys ISO 15407-2 & 5599-2 Sizes 02 to 3 with Isysnet Fieldbus System



n = Number of 18mm HB bases  
 N1 = Number of 26mm HA bases  
 W = Width of 18mm HB bases  
 W1 = Width of 26mm HA bases

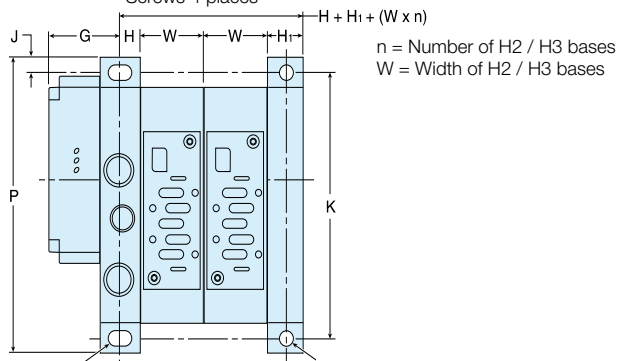


Holes for M6 (or 1/4")  
 Screws 4 places



n = Number of H1 bases  
 W = Width of H1 bases

Slots for M6 (or 1/4")  
 Screws 4 places



n = Number of H2 / H3 bases  
 W = Width of H2 / H3 bases

Slots for M10 (or 7/16")  
 Screws 2 places

Holes for M10 (or 7/16")  
 Screws 2 places

HA / HB Dimensions

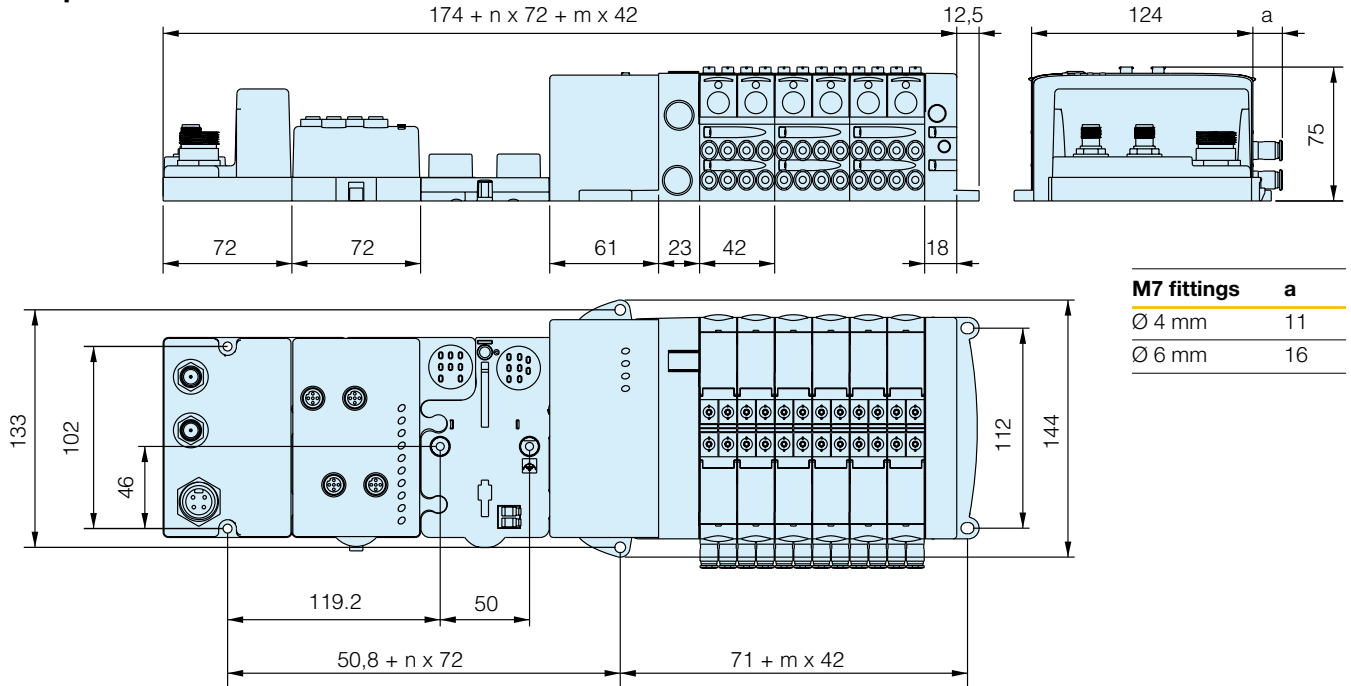
	A	B	C	D	E	F
HA/HB	102	46	48	51	22	11

	A	B	E	L	G	H	H <sub>1</sub>
HA/HB	152	137	7,5	106	68	8,4	45,8
	J	K	L	M	P	W	W <sub>1</sub>
HA/HB	4	110	16	137	152	40,8	56,8

	G	H	H <sub>1</sub>	J	K	P	W
H1	56	15,9	15,9	8,5	165	182	49
H2	58	18	15	12	215	239	56
H3	64	24	16,5	15	265	295	71

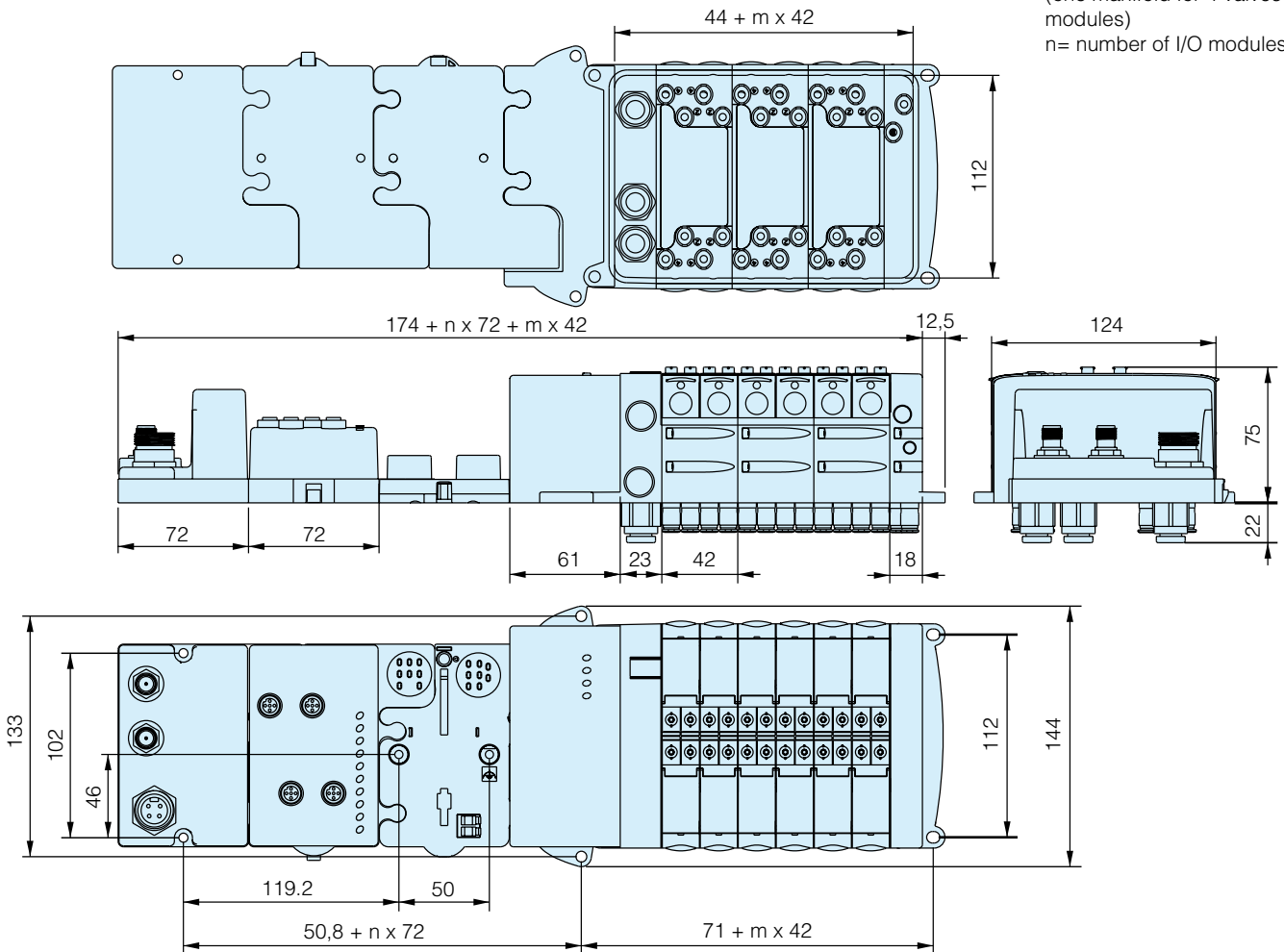
Isysnet with Isys Micro Valves

Side ported



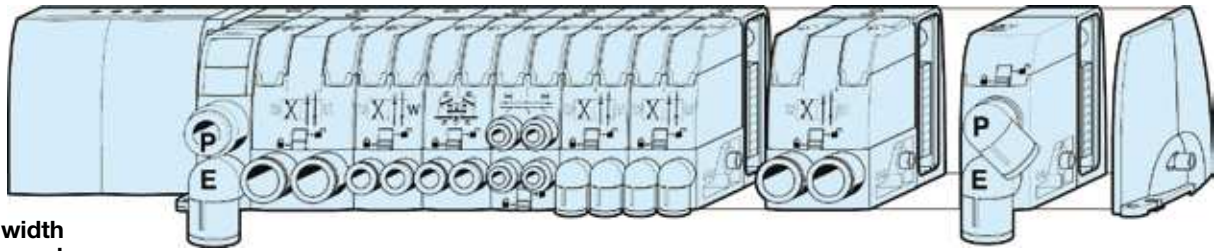
**Note:**  
 m = number of manifolds  
 (one manifold for 4 valves  
 modules)  
 n = number of I/O modules

Bottom ported

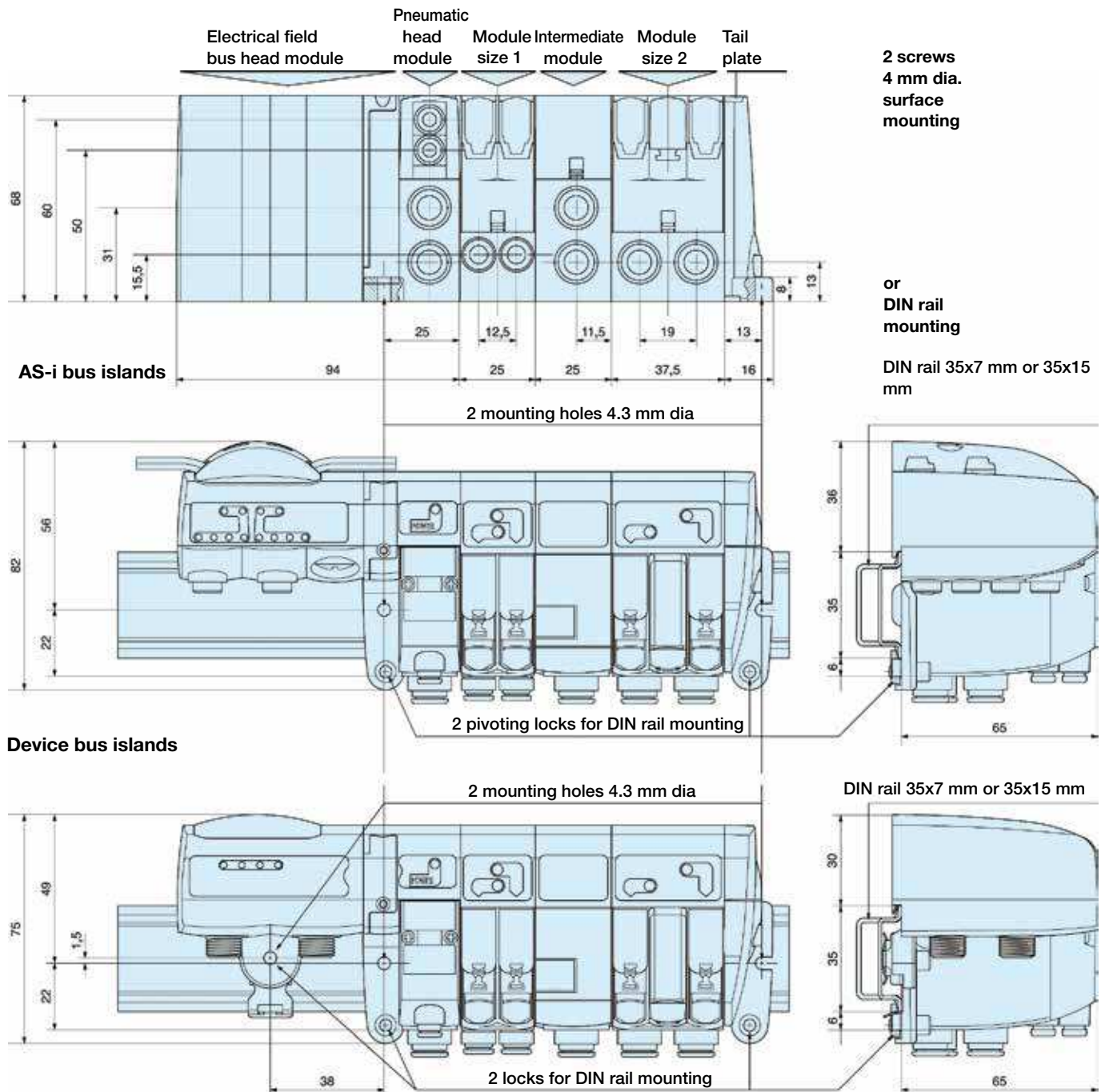


**Moduflex Bus with Moduflex Valve**

Electrical field bus head module width : 62 mm	Head and tail pneumatic module set width : 48 mm	Modules size 1 width : 25 mm	Modules size 2 width : 37.5 mm	Intermediate module width :25 mm
---	---	---------------------------------	-----------------------------------	-------------------------------------

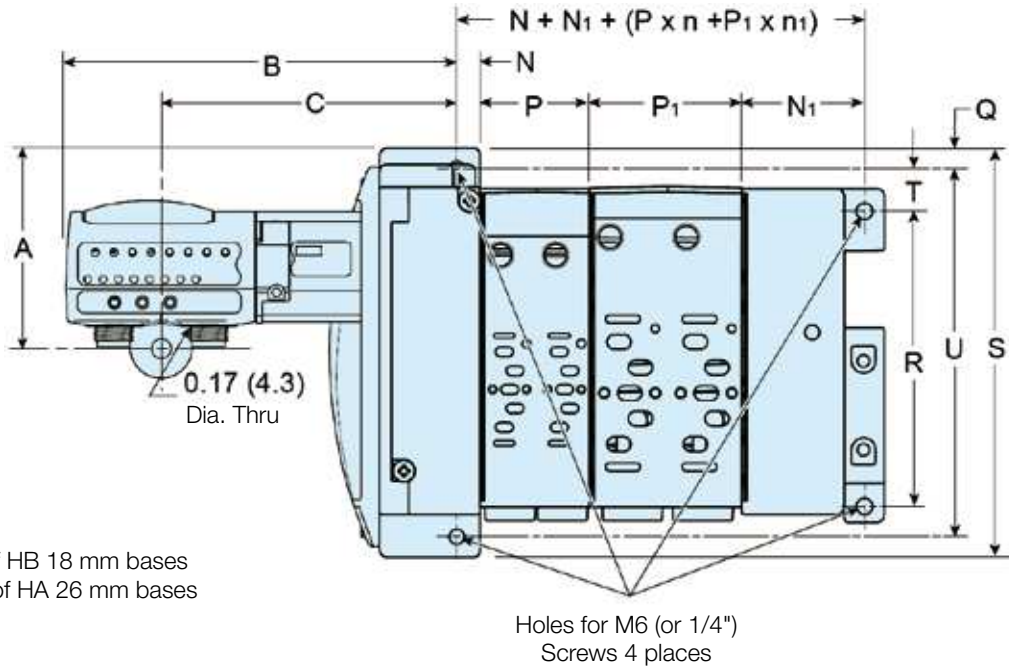


Island total width depending on valve composition



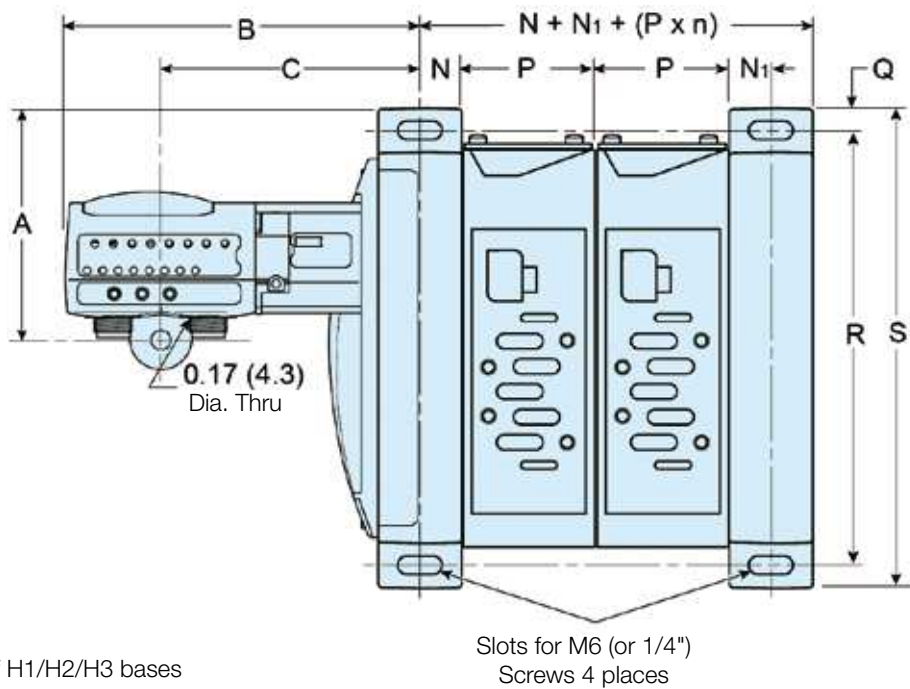
**Isys ISO 15407-2 & 5599-2 Sizes 02 to 3 with Moduflex Bus**

**HA/HB Series**



n = Number of HB 18 mm bases  
 n1 = Number of HA 26 mm bases

**H1/H2/H3 Series**

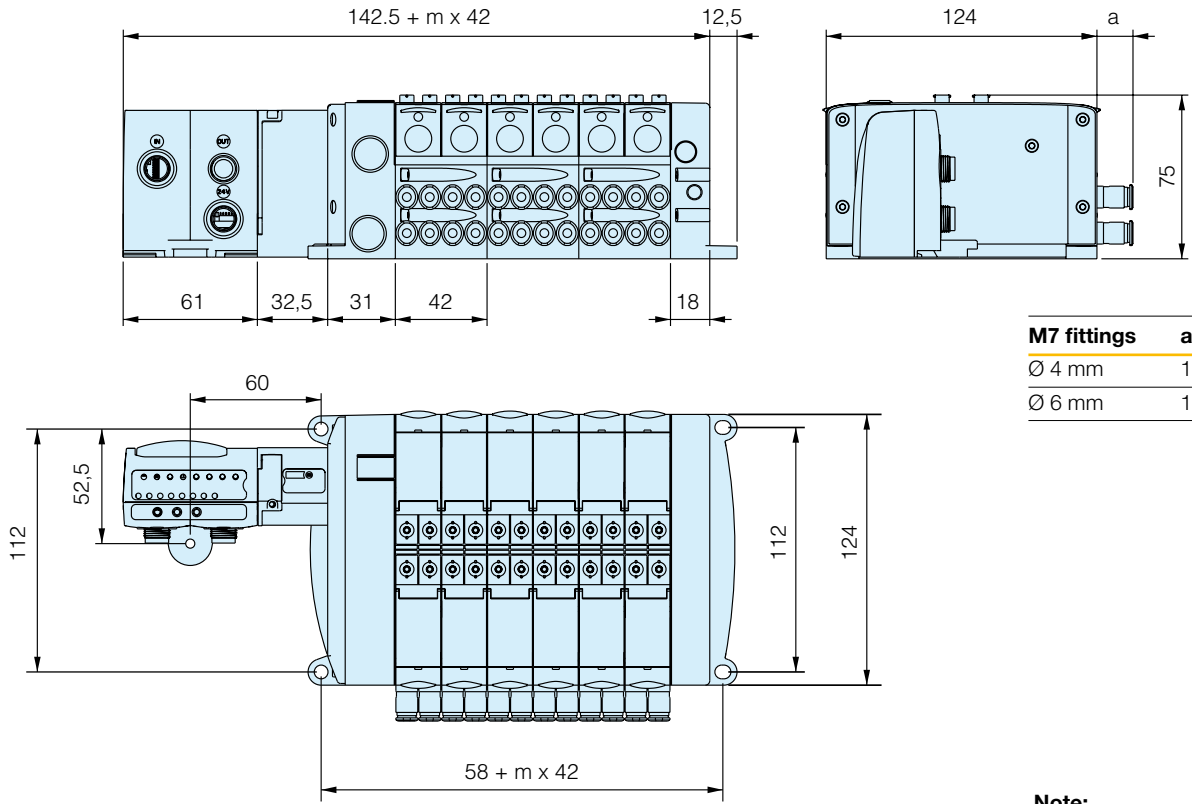


n = Number of H1/H2/H3 bases

	A	B	C	N	N <sub>1</sub>	P	P <sub>1</sub>	Q	R	S	T	U
<b>HA/HB</b>	69,8	142,5	111,8	8,4	45,8	40,8	56,8	4	110	152	16	137
<b>H1</b>	82	130,2	160,9	15,9	15,9	49	-	8,5	165	182	-	-
<b>H2</b>	78,2	130,3	161	18	15	56	-	12	215	239	-	-
<b>H3</b>	84,2	138,2	168,9	24	16,5	71	-	15	265	295	-	-

**Moduflex Bus with Isys Micro Valves**

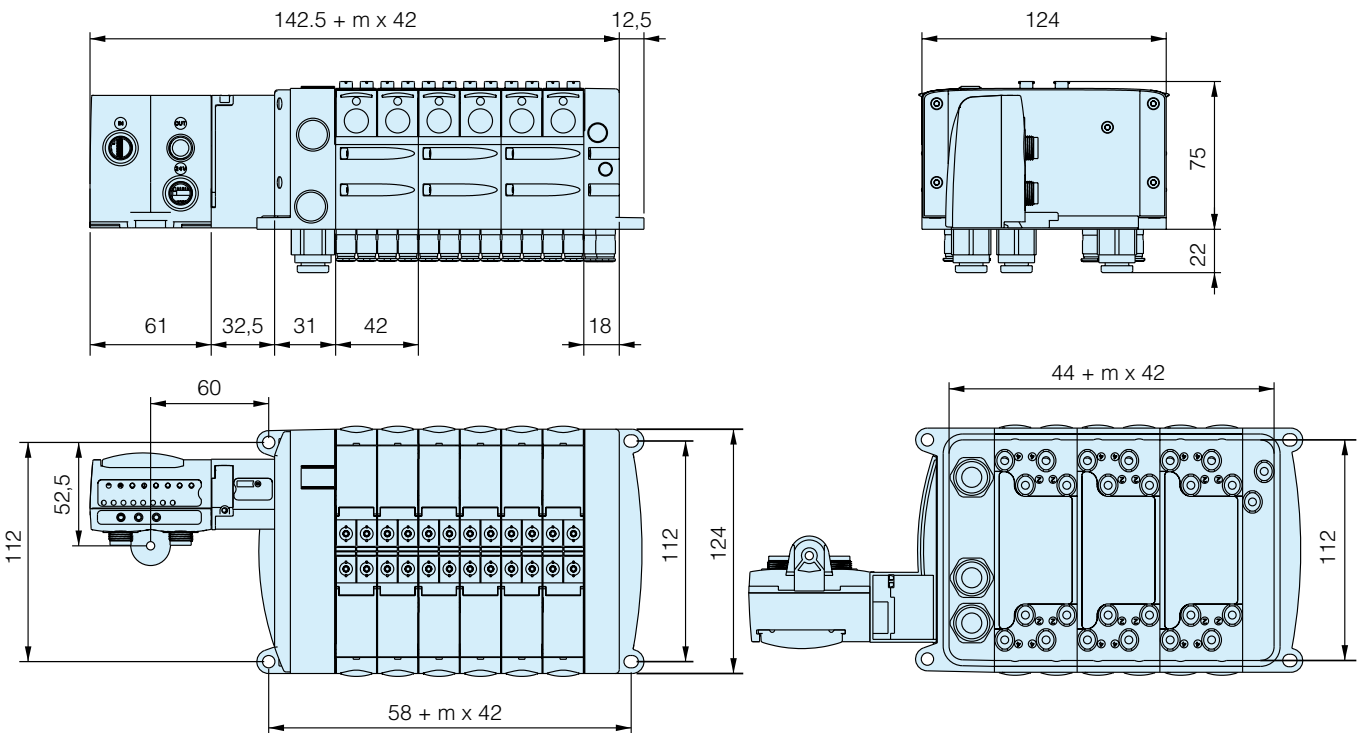
**Side ported**



M7 fittings	a
Ø 4 mm	11
Ø 6 mm	16

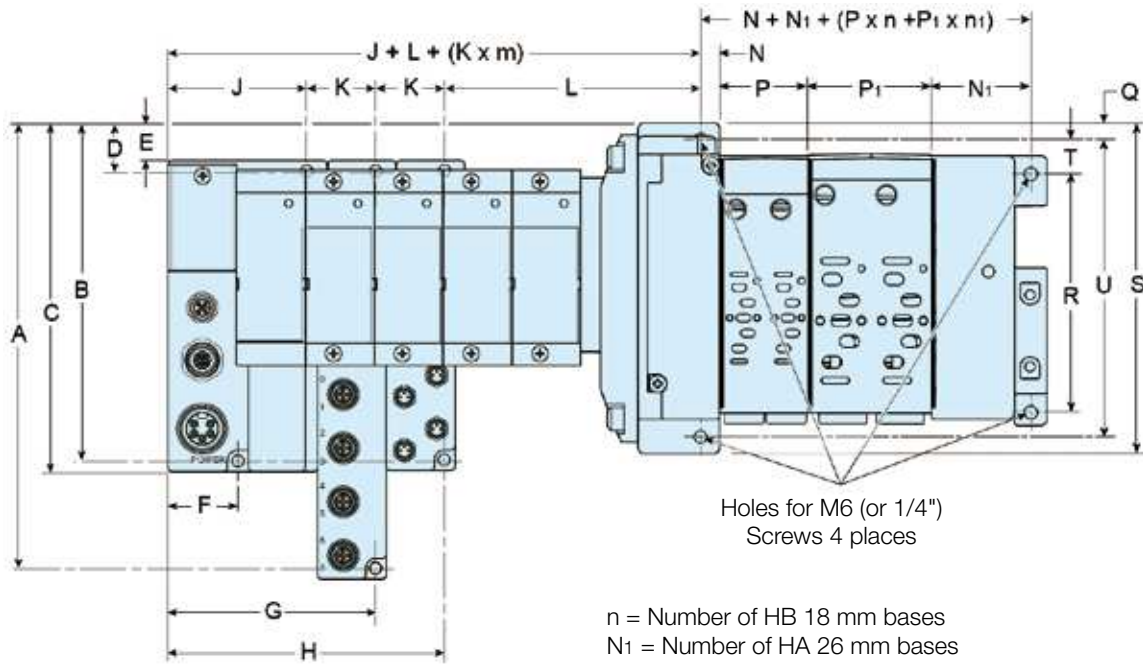
**Note:**  
 m = number of manifolds  
 (one manifold for 4 valves  
 modules)

**Bottom ported**

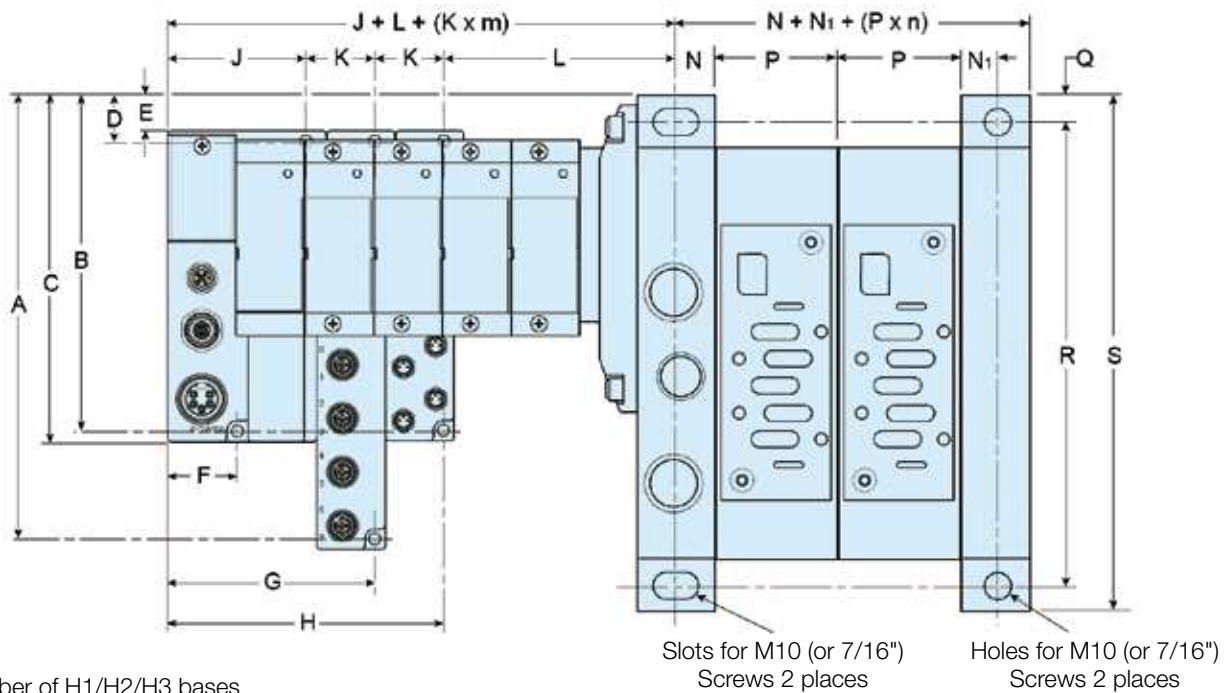


Isys ISO 15407-2 & 5599-2 Sizes 02 to 3 with Turck BL67 Remote IO System

HA/HB Series

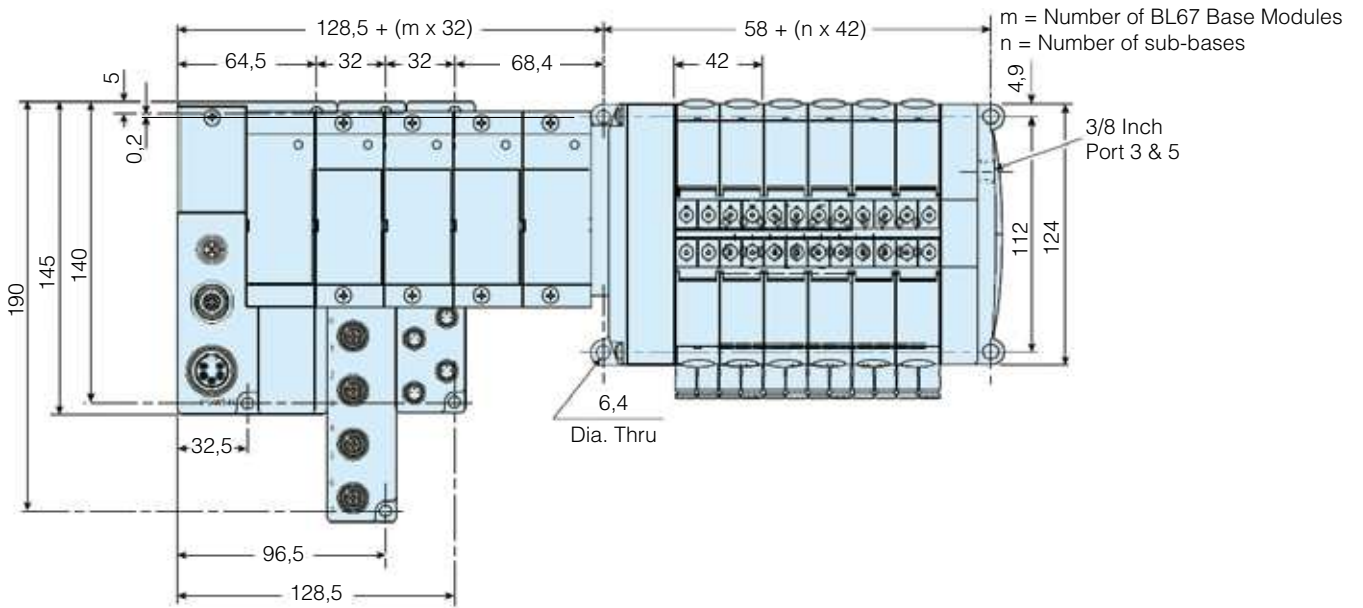


H1/H2/H3 Series

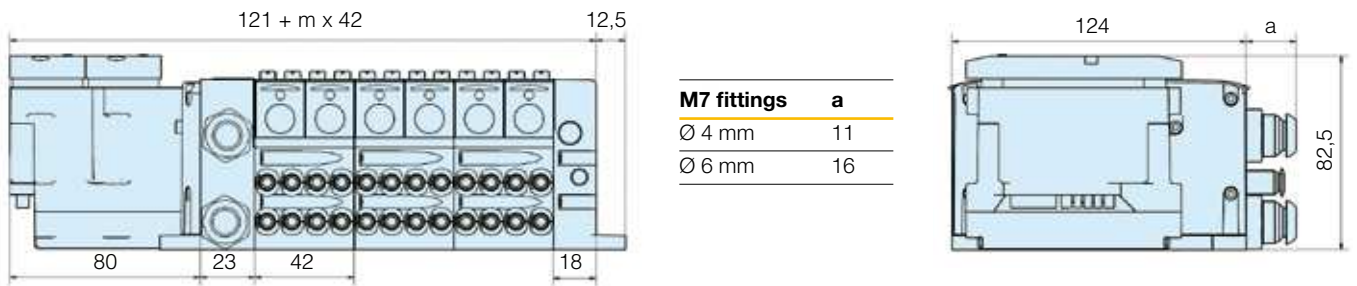


	A	B	C	D	E	F	G	H	J	K	L	N	N <sub>1</sub>	P	P <sub>1</sub>	Q	R	S	T	U
<b>HA/HB</b>	204,5	154,5	159,5	19,5	14,5	32,5	96,5	128,5	64,5	32	120,8	8,4	45,8	40,8	56,8	4	110	152	16	137
<b>H1</b>	216,7	166,7	171,7	31,7	26,7	32,5	96,5	128,5	64,5	32	108,5	15,9	15,9	49	-	8,5	165	182	-	-
<b>H2</b>	212,9	162,9	167,9	27,9	22,9	32,5	96,5	128,5	64,5	32	108,6	18	15	56	-	12	215	239	-	-
<b>H3</b>	218,9	168,9	173,9	33,9	28,9	32,5	96,5	128,5	64,5	32	116,6	24	16,5	71	-	15	265	295	-	-

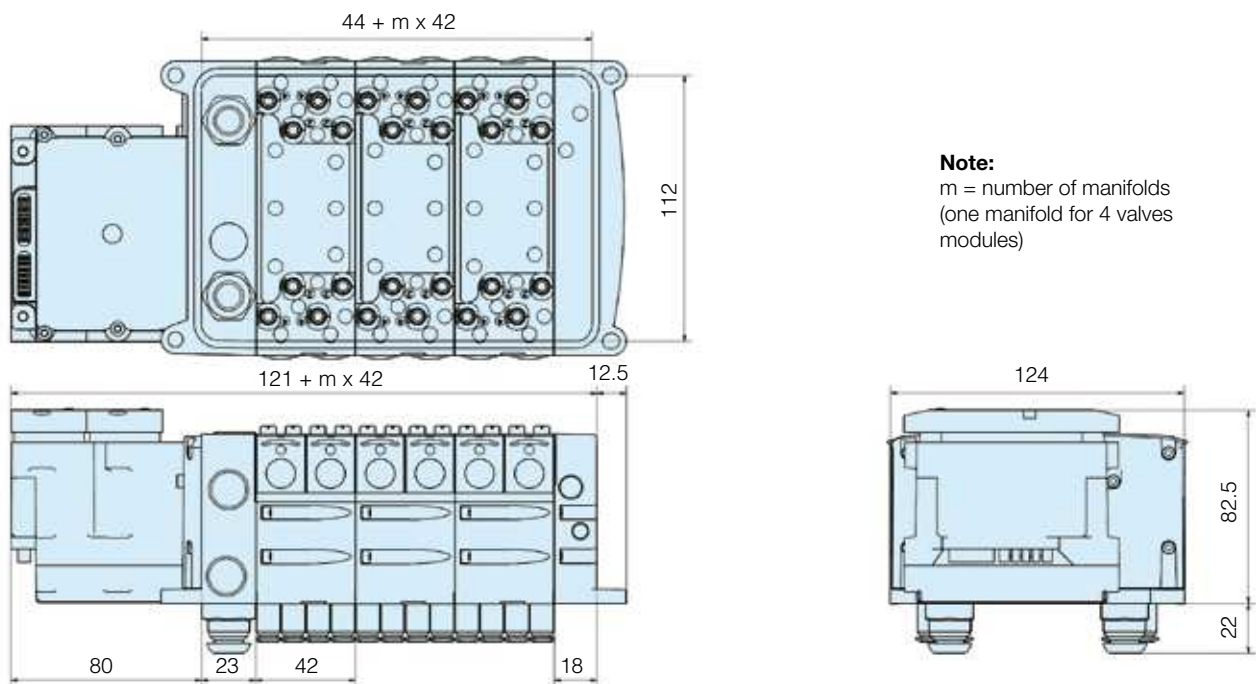
**ISYS Micro with TURCK BL67 Remote I/O System**



**ISYS Micro with TURCK BL67 adaptor - Side ported**



**ISYS Micro with TURCK BL67 adaptor - Bottom ported**



High speed poppet type solenoid valves with individual electrical connections. Light weight plastic bodies with DIN rail manifold. Ideal for cabinet installations.

- High speed poppet valve
- Push-in connection
- Built-in terminal block
- Pneumatic output indicator
- DIN rail mounting






Poppet valve, not suitable for use with Soft or Slow start Valves. When pressure is applied, the double solenoid interface takes a pre-determined position (non activated). In the absence of electrical signal, output 2 (yellow indicator) is activated, output 4 (red indicator) is non activated. Double solenoid version is delivered as standard with Non locking flush override.

**Operating information**

Working pressure;	
3/2 and 4/2:	3-8 bar
Low pressure interface 3/2:	1-8 bar
Flow (Qmax):	200 l/min
Working temperature	-15 °C to +60 °C
For more information see <a href="http://www.parker.com/euro_pneumatic">www.parker.com/euro_pneumatic</a>	

**Head and tail sets - intermediate supply modules**

For 3/2 and 4/2 interface modules

	Description	Characteristics	Pneumatic connection	Weight (g)	Order code
	Set for single air supply connection	1 electrical common terminal 1 main air supply port 1 exhaust port	Push-in Ø 6 mm  G1/8	100  100	<b>PS1-E101</b>  <b>PS1-E1018</b>
	Set for double air supply connection	1 electrical common terminal 2 main air supply ports 2 exhaust ports	Push-in Ø 6 mm  G1/8	125  125	<b>PS1-E102</b>  <b>PS1-E1028</b>
	Intermediate air supply module	1 air supply port 1 exhaust port <i>(see description below)</i>	G1/8	45	<b>PS1-E1038</b>

Incorporating an intermediate air supply module into a group of electro-pneumatic modules gives the following options :

**Air supply connection**

- Additional G1/8 port to supplement the air supply to the manifold
- Blank the common air supply, enabling different pressures to be supplied to groups of modules within the manifold.

**Exhaust connection**









- Additional exhaust flow through the G1/8 port
- Blank the common exhaust, enabling separation of exhaust from module groups

The intermediate air supply module is supplied with 4 interchangeable connectors to enable the above supply options to be achieved.

**Electro-pneumatic modules**

Modules without solenoid valve

Visual indication of pneumatic output status : Closed = Red      Open = Yellow


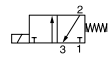
	Symbol function	Description	Pneumatic connection	Weight (g)	Order code
		3/2 normally closed (NC)	Push-in Ø 4 mm	52	<b>PS1-E111</b>
			M5	55	<b>PS1-E115</b>
			Push-in Ø 6 mm	55	<b>PS1-E116</b>
		3/2 normally open (NO)	Push-in Ø 4 mm	52	<b>PS1-E121</b>
			M5	55	<b>PS1-E125</b>
			Push-in Ø 6 mm	55	<b>PS1-E126</b>
		4/2 single solenoid / spring return	Push-in Ø 4 mm	120	<b>PS1-E181</b>
			M5	120	<b>PS1-E185</b>
			Push-in Ø 6 mm	125	<b>PS1-E186</b>
		4/2 double solenoid	Push-in Ø 4 mm	120	<b>PS1-E191</b>
			M5	120	<b>PS1-E195</b>
			Push-in Ø 6 mm	125	<b>PS1-E196</b>



**Low pressure Electro-Pneumatic modules 3/2 (1 to 8 bar)**











Modules without solenoid valve

Visual indication of pneumatic output status : Closed = Red Open = Yellow

	Symbol	Description	Pneumatic connection	Weight (g)	Order code
		3/2 normally closed (NC)	Push-in Ø 4 mm	52	<b>PS1-E311</b>
			M5	52	<b>PS1-E315</b>
			Push-in Ø 6 mm	52	<b>PS1-E316</b>

**15mm DIN Form C (8mm spacing) pilot solenoid valve**



For use with Valve module

	Manual Overrides		Flush (Not Extended)		Extended		
	Voltage	W (g)	Without Manual Override <b>Order code</b>	Blue Override, non locking <b>Order code</b>	Yellow Override, Locking <b>Order code</b>	Blue Override, non locking <b>Order code</b>	Yellow Override, Locking <b>Order code</b>
 Pins/Air Same (Pins DOWN)	12 Vdc	38	 <b>P2E-KS32B0</b>	<b>P2E-KS32B1</b>	<b>P2E-KS32B2</b>	<b>P2E-KS32B3</b>	<b>P2E-KS32B4</b>
	24 Vdc	38	 <b>P2E-KS32C0</b>	<b>P2E-KS32C1</b>	<b>P2E-KS32C2</b>	<b>P2E-KS32C3</b>	<b>P2E-KS32C4</b>
	48 Vdc	38	 <b>P2E-KS32D0</b>	<b>P2E-KS32D1</b>	<b>P2E-KS32D2</b>	<b>P2E-KS32D3</b>	<b>P2E-KS32D4</b>
	24 Vac 50Hz	38	 <b>P2E-KS31C0</b>	<b>P2E-KS31C1</b>	<b>P2E-KS31C2</b>	<b>P2E-KS31C3</b>	<b>P2E-KS31C4</b>
	48 Vac 50/60Hz	38	 <b>P2E-KS34D0</b>	<b>P2E-KS34D1</b>	<b>P2E-KS34D2</b>	<b>P2E-KS34D3</b>	<b>P2E-KS34D4</b>
	115 Vac 50Hz	38	 <b>P2E-KS31F0</b>	<b>P2E-KS31F1</b>	<b>P2E-KS31F2</b>	<b>P2E-KS31F3</b>	<b>P2E-KS31F4</b>
	120 Vac 60 Hz	38	 <b>P2E-KS31F0</b>	<b>P2E-KS31F1</b>	<b>P2E-KS31F2</b>	<b>P2E-KS31F3</b>	<b>P2E-KS31F4</b>
	230 Vac 50Hz	38	 <b>P2E-KS31J0</b>	<b>P2E-KS31J1</b>	<b>P2E-KS31J2</b>	<b>P2E-KS31J3</b>	<b>P2E-KS31J4</b>
	240 Vac 60 Hz	38	 <b>P2E-KS31J0</b>	<b>P2E-KS31J1</b>	<b>P2E-KS31J2</b>	<b>P2E-KS31J3</b>	<b>P2E-KS31J4</b>

Mounting screws included with the valve module

**Suppressor and LED indicators**


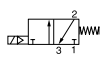

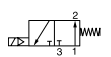

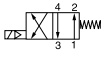

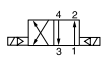
For 8 mm solenoid pin spacing - For mounting between the valve body and the 15 mm pilot solenoid valve

	Symbol	Description	Pneumatic connection	Weight (g)	Order code
		LED indicator	24 VAC/DC	3	<b>P8V-CR26C</b>
			115 VAC 50 Hz - 120 VAC 60 Hz	3	<b>P8V-CR24F</b>
			230 VAC 50 Hz - 240 VAC 60 Hz	3	<b>P8V-CR24J</b>

**Electro-pneumatic modules**

Modules including 24 VDC solenoid valve - Flush non locking manual override (using P2E-KS32C1 solenoid)

Visual indication of pneumatic output status : Closed = Red Open = Yellow

	Symbol	Description	Manual override	Pneumatic connection	Weight (g)	Order code
		3/2 normally closed (NC) Spring return	Push-in Ø 4 mm 90	PS1-E21102B	90	<b>PS1-E21102B</b>
		3/2 normally open (NO) Spring return	Spring return	Push-in Ø 4 mm	90	<b>PS1-E22102B</b>
		4/2 single solenoid / spring return	Spring return	Push-in Ø 4 mm	160	<b>PS1-E28102B</b>
		4/2 double solenoid	-	Push-in Ø 4 mm	200	<b>PS1-E29102B</b>


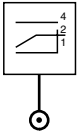
**Maintenance avertissement - Solenoid pin spacing**



The electro-pneumatic interface modules have been re-designed to accept both 8 mm and 9,4 mm solenoid pin spacing. If you are purchasing a solenoid or a suppressor & LED indicator for maintenance on an electro-pneumatic interface module purchased before June 2004, above solenoid P2E-KS3xxx and P8V-CRxxx (8 mm pin spacing) will not be compatible. Please, contact your Parker customer service.

**Accessories : Pressure switch**

With Ø4 push in connection (pneumatic input)  
 With electrical terminals 1,5 mm<sup>2</sup> (electric output)

Type	Symbol	Electrical characteristics	Pneumatic characteristics	Override	Weight (g)	Order code
		Pressure switch 1 CO contact 5 A/250 V	Fixed operating threshold < 1,3 bar	Manual override	50	<b>PS1-P1081</b>
			Adjustable operating threshold 2 to 5 bar	Manual override	50	<b>PS1-P1091</b>

**Technical characteristics : Pressure switch**

- Effective detection for preventing hazardous risks linked with equipments operating at to low pressure
- Manual override
- Easy clip on DIN rail mounting
- Fixed or adjustable threshold versions
- Recessed Electrical Terminals

Working pressure	Max 10 bar
Working temperature	-15 °C to +60 °C
Minimum actuating pressure, non adjustable	≤1,3 bar
Minimum actuating pressure, adjustable 2 to 5 bar	
Operating frequency	Max 10 Hz
Nominal isolation voltage	660 V AC or DC
Nominal thermal current	10 A
Operating voltage	250 V
Pending current	5 A
Protection level	IP 40
According Power switches (inductive load)	

**Electrical durability**

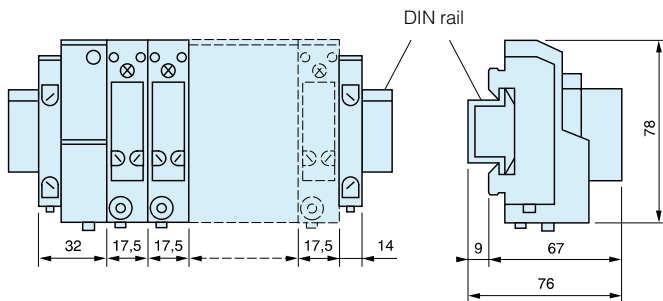
	24 VAC	48 VAC	115 VAC	24 VDC	48 VDC	115 VDC
1 million	25 VA	56 VA	115 VA	24 W	37 W	50 W
2 million	-	-	-	14 W	25 W	40 W
5 million	10 VA	14 VA	19 VA	-	-	-

**Dimensions, PS1 valve Series**

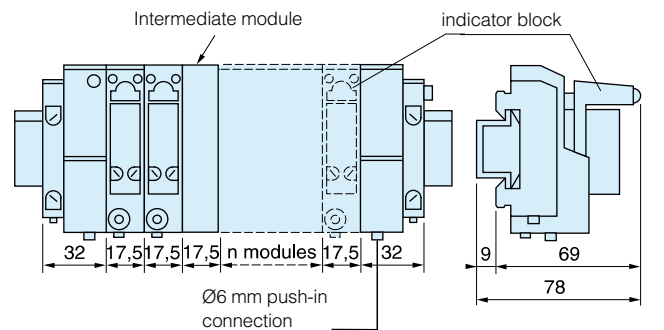
**Electropneumatic interface modules 3/2 NC or NO**

3/2 modules equipped with solenoid  
 Head and tail set for single air supply connection

3/2 modules equipped with solenoid, suppressor and LED indicator  
 Head and tail set for double air supply connection



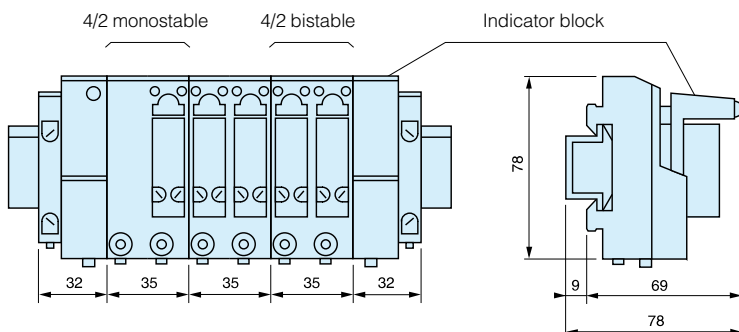
**Total length (mm)**  
 $L = 46 + (n \times 17,5)$   
 n = number of modules



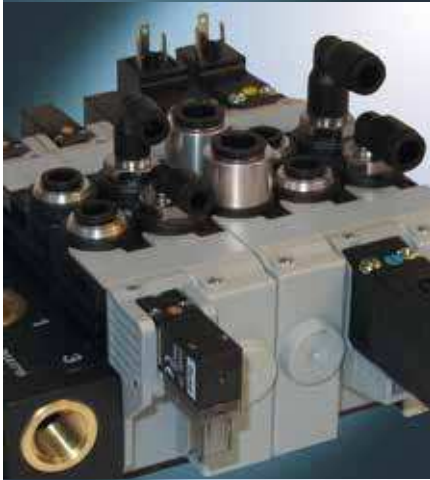
**Total length (mm)**  
 $L = 64 + (n \times 17,5)$   
 n = number of modules

**Electropneumatic interface modules 4/2 single or double solenoid**

4/2 modules equipped with solenoid, suppressor and LED indicator  
 Head and tail set for double air supply connection



**Total length (mm)**  
 $L = 64 + (n \times 35)$   
 n = number of modules



# PVL-B2

## Stackable and Stand-alone Inline Valves



### PVL-B21 - Stand-alone Series

Stand-alone high flow valves with 10 or 15mm DIN C Pilot Solenoid Valve. Light weight plastic bodies feature push-in or threaded connection.

### PVL-B22 - Stackable Series

Stacking high flow valves with 10 or 15mm DIN C Pilot Solenoid Valve. Light weight plastic bodies feature push-in or threaded connection. Stacking valves feature modular inlet and exhaust facility.

- **High flow – Compact size with a 18 mm width body**
- **Push-in fitting diameter 6mm, 8mm or threaded G1/8"**
- **DIN rail or surface mounting**
- **Economic clip connector (IP40) or DIN Form C connection (IP65)**
- **Light weight construction**

**PVL-B2 Valve Range**

18mm width

**10mm 24 Vdc Pilot Valve**

Economic electrical connection (IP40)



**15mm Pilot Valve**

Standard DIN form C electrical connection (IP65)



**10mm Pilot Valve**

**Series Overview**

**15mm Pilot Valve**



**PVL-B21 : Stand- alone Series – Traditional wiring**

Very useful to control isolated cylinders, these stand-alone valve Series are compact and easy to mount on the machines close to the actuator with neat electrical pilot. Available with either 15 or 10 mm pilot solenoid valve traditional wiring, these Series can also be stacked and mixed into a stacking valve island Series



**PVL-B22 : Stackable Series – Traditional wiring**

The PVL-B2 Series stacking system permits assembly of several valves into one stack. Supply is connected at either a single or a dual head/tail set. Two common exhaust galleries are provided. Connections to outlet ports 2 and 4 on each valve can be accomplished by G1/8" threaded pipe or instant tube fittings, 6 or 8 mm OD. Electrical connection is made to each solenoid using either a 15 mm - 3 pin - 8 mm spacing DIN Form C connector plug or Clip Connector. Each stack assembly can handle any combination of single or double solenoid valves



**Compatibility with original PVL-B & PVL-C Series**

Issued from the original PVL-B Series, the new PVL-B2 Series can be associated in one configuration mixing PVL-B & PVL-C Valves. For further details on the PVL-B & PVL-C Series, you can refer to the dedicated technical catalogue PDE2628TCUK



# PVL-B2

## 3 Porting options for an optimized flow

### Push-In Fittings

- 6 mm OD Qn 490 NI/mn (Qmax. 780 NI/mn)
- 8 mm OD Qn 710 NI/mn (Qmax. 1100 NI/mn)

### Threaded ports

- G1/8" Qn 640 NI/mn (Qmax. 900 NI/mn)

## 2 Electrical Pilot options 10 mm Pilot Solenoid Valve

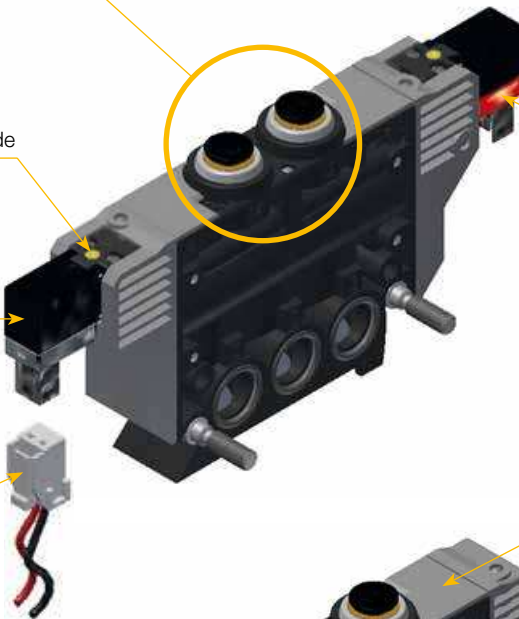
Pins-UP option



Non locking Manual Override

24 Vdc – Low power (1W)

Economic electrical connection  
 by Clip Connector – IP40



Integrated  
 LED Indicator



Pneumatic Symbol

## 15 mm DIN For C Pilot Solenoid Valve



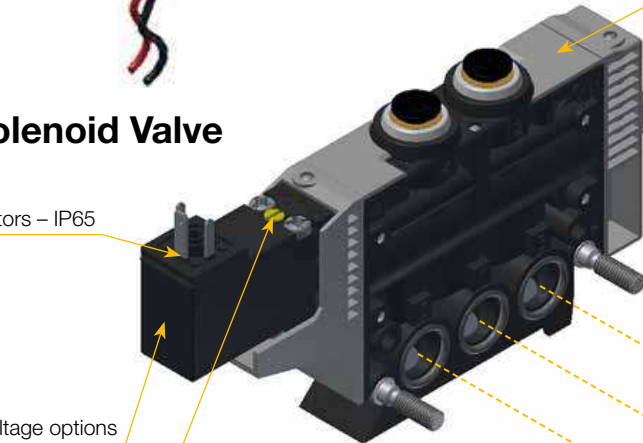
Standard DIN Form C connectors – IP65  
 8 mm spacing



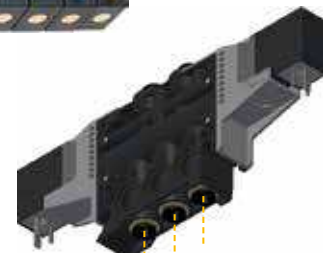
Pins-DOWN option

Wide range of DC and AC Voltage options

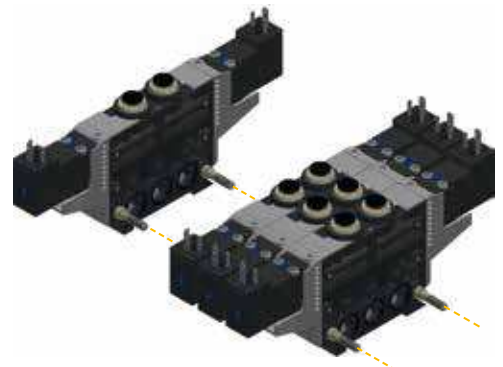
5 manual override options



Common Supply and Exhaust Channels  
 for stackable design



Supply and Exhaust Bottom Ported  
 for Stand-alone design



**PVL-B22 - Stackable Series**

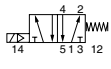
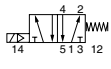
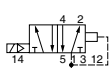
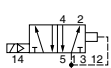
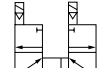
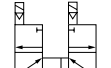
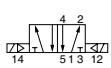
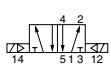
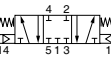
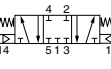




Stacking high flow valves with 10 or 15mm DIN C Pilot Solenoid Valve. Light weight plastic bodies feature push-in or threaded connection. Stacking valves feature modular inlet and exhaust facility.

- High flow – Compact size with a 18 mm width body
- Push-in fitting diameter 6mm, 8mm or threaded G1/8"
- DIN rail or surface mounting
- Economic clip connector (IP40) or DIN Form C connection (IP65)
- Light weight construction




**PVL-B22 - Valve module**

Equipped with 10mm - 24 Vdc - 1W pilot solenoid valve – LED Indicator – Pins Down\*

	Symbol	Description	Pilot Man. Overr.	Connection	W (g)	Order code
		5/2 single acting spring return	Non-locking flush	Push-in 6mm	165	<b>PVL-B2213062C1</b>
				Push-in 8mm	165	<b>PVL-B2213082C1</b>
				G1/8"	165	<b>PVL-B2213182C1</b>
		5/2 single acting air spring return	Non-locking flush	Push-in 6mm	165	<b>PVL-B2233062C1</b>
				Push-in 8mm	165	<b>PVL-B2233082C1</b>
				G1/8"	165	<b>PVL-B2233182C1</b>
		Dual 3/2 N.C. air spring return	Non-locking flush	Push-in 6mm	210	<b>PVL-B2253062C1</b>
				Push-in 8mm	210	<b>PVL-B2253082C1</b>
				G1/8"	210	<b>PVL-B2253182C1</b>
		5/2 Double acting	Non-locking flush	Push-in 6mm	200	<b>PVL-B2223062C1</b>
				Push-in 8mm	200	<b>PVL-B2223082C1</b>
				G1/8"	200	<b>PVL-B2223182C1</b>
		5/3 Closed center (APB)	Non-locking flush	Push-in 6mm	210	<b>PVL-B2273062C1</b>
				Push-in 8mm	210	<b>PVL-B2273082C1</b>
				G1/8"	210	<b>PVL-B2273182C1</b>
		5/3 Vented center	Non-locking flush	Push-in 6mm	210	<b>PVL-B2283062C1</b>
				Push-in 8mm	210	<b>PVL-B2283082C1</b>
				G1/8"	210	<b>PVL-B2283182C1</b>
		5/3 Pressurised center	Non-locking flush	Push-in 6mm	210	<b>PVL-B2293062C1</b>
				Push-in 8mm	210	<b>PVL-B2293082C1</b>
				G1/8"	210	<b>PVL-B2293182C1</b>

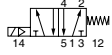

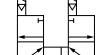
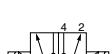
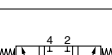

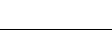
\* Other electrical connection orientations or low voltages DC on demand (can be subject to quantity)

**10 mm Pilot solenoid valve electrical clip connector**

Description	Connector type	Cable length	W (g)	Order code
 Clip-on connector – IP40 Individual : Including 2 flying leads Multiple : Including 1 common (0 Vdc) and 1 flying lead per connector	1 clip connector	1 meter	8	<b>P8LW021C</b>
	2 clip connectors	1 meter	12	<b>P8LW021C02</b>
	4 clip connectors	1 meter	20	<b>P8LW021C04</b>
	8 clip connectors	1 meter	36	<b>P8LW021C08</b>

**PVL-B22 - Valve module**

Equipped with 15mm DIN Form C (8mm spacing) - 24 Vdc - 1,2W pilot solenoid valve – Pins Up



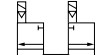

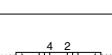
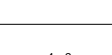
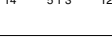
Symbol	Description	Pilot Man. Overr.	Connection	W (g)	Order code
	5/2 single acting spring return	Locking flush	Push-in 6mm	165	<b>PVL-B2216062C2</b>
			Push-in 8mm	165	<b>PVL-B2216082C2</b>
			G1/8"	165	<b>PVL-B2216182C2</b>
	5/2 single acting air spring return	Locking flush	Push-in 6mm	165	<b>PVL-B2236062C2</b>
			Push-in 8mm	165	<b>PVL-B2236082C2</b>
			G1/8"	165	<b>PVL-B2236182C2</b>
	Dual 3/2 N.C. air spring return	Locking flush	Push-in 6mm	210	<b>PVL-B2256062C2</b>
			Push-in 8mm	210	<b>PVL-B2256082C2</b>
			G1/8"	210	<b>PVL-B2256182C2</b>
	5/2 Double acting	Non-locking flush	Push-in 6mm	200	<b>PVL-B2226062C1</b>
			Push-in 8mm	200	<b>PVL-B2226082C1</b>
			G1/8"	200	<b>PVL-B2226182C1</b>
	5/3 Closed center (APB)	Locking flush	Push-in 6mm	210	<b>PVL-B2276062C2</b>
			Push-in 8mm	210	<b>PVL-B2276082C2</b>
			G1/8"	210	<b>PVL-B2276182C2</b>
	5/3 Vented center	Locking flush	Push-in 6mm	210	<b>PVL-B2286062C2</b>
			Push-in 8mm	210	<b>PVL-B2286082C2</b>
			G1/8"	210	<b>PVL-B2286182C2</b>
	5/3 Pressurised center	Locking flush	Push-in 6mm	210	<b>PVL-B2296062C2</b>
			Push-in 8mm	210	<b>PVL-B2296082C2</b>
			G1/8"	210	<b>PVL-B2296182C2</b>

For other 15mm pilot valve options (voltage, manual override or pins orientation), valve body and 15mm pilot valve must be ordered separately (see below)

**PVL-B22 - Valve module**


(Without Pilot solenoid valve – including 2 mounting screws for Pilot solenoid valve)

For use with 15mm DIN Form C (8mm spacing) Pins UP or Pins DOWN pilot solenoid valve



Symbol	Description	Connection	W (g)	Order code
	5/2 single acting spring return	Push-in 6mm	125	<b>PVL-B221606</b>
		Push-in 8mm	125	<b>PVL-B221608</b>
		G1/8"	125	<b>PVL-B221618</b>
	5/2 single acting air spring return	Push-in 6mm	125	<b>PVL-B223606</b>
		Push-in 8mm	125	<b>PVL-B223608</b>
		G1/8"	125	<b>PVL-B223618</b>
	Dual 3/2 N.C. air spring return	Push-in 6mm	130	<b>PVL-B225606</b>
		Push-in 8mm	130	<b>PVL-B225608</b>
		G1/8"	130	<b>PVL-B225618</b>
	5/2 Double acting	Push-in 6mm	120	<b>PVL-B222606</b>
		Push-in 8mm	120	<b>PVL-B222608</b>
		G1/8"	120	<b>PVL-B222618</b>
	5/3 Closed center (APB)	Push-in 6mm	130	<b>PVL-B227606</b>
		Push-in 8mm	130	<b>PVL-B227608</b>
		G1/8"	130	<b>PVL-B227618</b>
	5/3 Vented center	Push-in 6mm	130	<b>PVL-B228606</b>
		Push-in 8mm	130	<b>PVL-B228608</b>
		G1/8"	130	<b>PVL-B228618</b>
	5/3 Pressurised center	Push-in 6mm	130	<b>PVL-B229606</b>
		Push-in 8mm	130	<b>PVL-B229608</b>
		G1/8"	130	<b>PVL-B229618</b>

15mm DIN Form C (8mm spacing) pilot solenoid valve – Pin's UP or Pin's DOWN – must be ordered separately (Refer to 15 mm pilot valve section)






## Head and Tail sets – Intermediate supply modules

	Description	Mounting	Air supply	Port size	W (g)	Order code
	Head and tail set	On DIN rail	Left end	G1/4"	175	<b>PVL-B1719</b>
			Both left and right ends	G1/4"	195	<b>PVL-B1729</b>
	Intermediate module	On surface	Left end	G1/8"	175	<b>PVL-B1818</b>
			Both left and right ends	G1/8"	195	<b>PVL-B1828</b>
Intermediate module	On DIN rail	Up side	G1/8"	150	<b>PVU-LBB118</b>	

## Pneumatic accessories

	Description	Size	Orientation	Material	Tube OD	W (g)	Order code
	Push-in fitting for Pressure and Exhaust ports	G1/4"	Straight	Metal	8 mm	16	<b>3101 08 13</b>
					10 mm	18	<b>3101 10 13</b>
					12 mm	27	<b>3101 12 13</b>
			Elbow	Metal/Plastic	8 mm	21	<b>3199 08 13</b>
					10 mm	28	<b>3199 10 13</b>
					12 mm	44	<b>3199 12 13</b>
	Silencer	G1/4"	Straight	Plastic		10	<b>P6M-PAB2</b>
				Sintered metal		20	<b>P6M-BAA2</b>
	Push-in fitting for PVL-B2 Valve	G1/8"	Straight	Metal	4 mm	6	<b>3101 04 10</b>
					6 mm	7	<b>3101 06 10</b>
					8 mm	11	<b>3101 08 10</b>
			Elbow prolonged	Plastic	4 mm	8	<b>3169 04 10</b>
					6 mm	11	<b>3169 06 10</b>
					8 mm	18	<b>3169 08 10</b>
			Elbow short	Plastic	4 mm	6	<b>3199 04 10</b>
					6 mm	6	<b>3199 06 10</b>
					8 mm	9	<b>3199 08 10</b>
		6 mm	Elbow prolonged	Plastic	4 mm	2	<b>3184 04 06</b>
					6 mm	4	<b>3184 06 00</b>
					Elbow short	Plastic	4 mm
					6 mm	1	<b>3182 06 00</b>
					8 mm	7	<b>3184 06 08</b>
					8 mm	10	<b>3184 08 00</b>
			Elbow short	Plastic	6 mm	7	<b>3182 06 08</b>
					8 mm	10	<b>3182 08 00</b>
					8 mm	10	<b>3182 08 00</b>

## Spare mounting and assembly kits

	Description	W (g)	Order code
	Sealing kit for supply/exhaust common channels Included :	35	<b>PVL-B1901</b>
	• 3 common blanking plugs		
	• 2 drilled and threaded rods		
	• 2 screws for extended tie rod		
	Pack of 10 common blanking	35	<b>PVL-B1902</b>
	Pack of 10 stacking rods	35	<b>PPR-V21</b>
	Pack of 20 rail clip assembly	70	<b>PPR-L09</b>
	Pack of 30 O-ring seals for supply/exhaust common channels	15	<b>PPR-V23</b>



**Mounting on 35 mm DIN Rail**

Valve stacks mount quickly and easily to 35 mm DIN rail with the use of a pneumatic head / tail set. The dual head / tail set provides input and exhaust ports at both ends and is recommended if more than 5 valves are to be operated simultaneously.

**Surface mounting**

**For single or dual air supply**

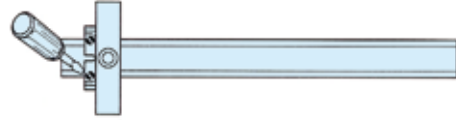
This mounting does not use DIN rail and can be directly fixed on the panel. Particularly compact and threaded G1/8", it is recommended for combinations of only a few power valves (maximum 5 valves) since the supply and exhaust common ports 1-3-5 are not G1/4" oversized.

**Removal or Replacement**

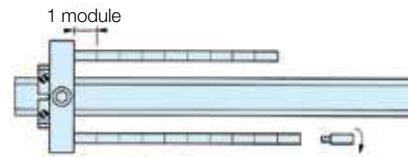
Modules are removed in reverse of the order shown at right. Before removing a module for service or replacement, loosen the pneumatic tail piece.

**Mounting Procedure**

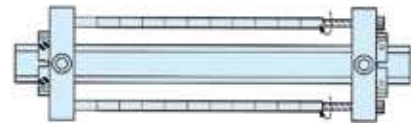
1 - Clip on and tighten the pneumatic head piece.



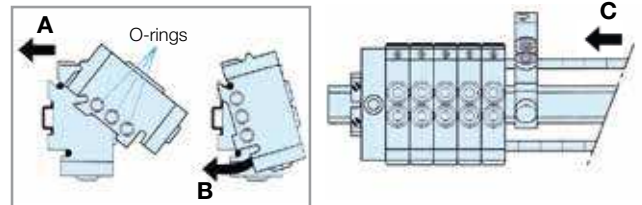
2 - Assemble the two parallel mounting rods using cross rod provided with modules.



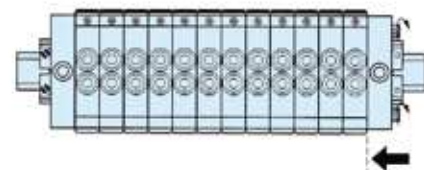
3 - Clip on the pneumatic tail piece. Start screws into mounting rod but leave loose for modules insertion.



4 - To mount valves, position upper slot then push-lock lower slot. Mount modules (valves, modules, transition pieces, etc...) and press together.



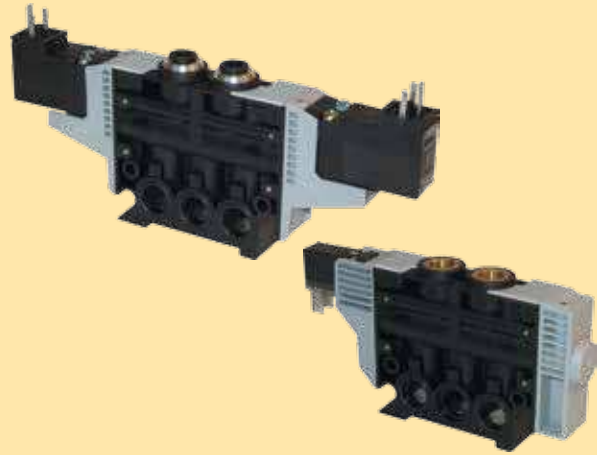
5 - Tighten the assembly.



**PVL-B21 - Stand-alone Series**

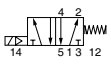
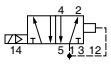
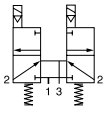
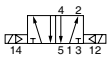
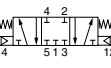
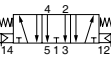
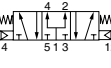
Stand-alone high flow valves with 10 or 15mm DIN C Pilot Solenoid Valve. Light weight plastic bodies feature push-in or threaded connection.

- High flow – Compact size with a 18 mm width body
- Push-in fitting diameter 6mm, 8mm or threaded G1/8"
- Economic clip connector (IP40) or DIN Form C connection (IP65)
- Light weight construction
- Compatible with stackable version




**PVL-B21 - Valve module**

Equipped with 10mm - 24 Vdc - 1W pilot solenoid valve – LED Indicator – Pins Down\*

Symbol	Description	Pilot Man. Overr.	Connection	W (g)	Order code
	5/2 single acting spring return	Non-locking flush	Push-in 6mm	165	<b>PVL-B2113062C1</b>
			Push-in 8mm	165	<b>PVL-B2113082C1</b>
			G1/8"	165	<b>PVL-B2113182C1</b>
	5/2 single acting air spring return	Non-locking flush	Push-in 6mm	165	<b>PVL-B2133062C1</b>
			Push-in 8mm	165	<b>PVL-B2133082C1</b>
			G1/8"	165	<b>PVL-B2133182C1</b>
	Dual 3/2 N.C. air spring return	Non-locking flush	Push-in 6mm	210	<b>PVL-B2153062C1</b>
			Push-in 8mm	210	<b>PVL-B2153082C1</b>
			G1/8"	210	<b>PVL-B2153182C1</b>
	5/2 Double acting	Non-locking flush	Push-in 6mm	200	<b>PVL-B2123062C1</b>
			Push-in 8mm	200	<b>PVL-B2123082C1</b>
			G1/8"	200	<b>PVL-B2123182C1</b>
	5/3 Closed center (APB)	Non-locking flush	Push-in 6mm	210	<b>PVL-B2173062C1</b>
			Push-in 8mm	210	<b>PVL-B2173082C1</b>
			G1/8"	210	<b>PVL-B2173182C1</b>
	5/3 Vented center	Non-locking flush	Push-in 6mm	210	<b>PVL-B2183062C1</b>
			Push-in 8mm	210	<b>PVL-B2183082C1</b>
			G1/8"	210	<b>PVL-B2183182C1</b>
	5/3 Pressurised center	Non-locking flush	Push-in 6mm	210	<b>PVL-B2193062C1</b>
			Push-in 8mm	210	<b>PVL-B2193082C1</b>
			G1/8"	210	<b>PVL-B2193182C1</b>

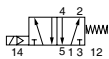
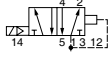
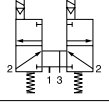
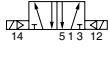


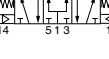
\* Other electrical connection orientations or low voltages DC on demand (can be subject to quantity)

**10 mm Pilot solenoid valve electrical clip connector**

Description	Connector type	Cable length	W (g)	Order code
 <p>Clip-on connector – IP40                      Individual : Including 2 flying leads                      Multiple : Including 1 common (0 Vdc) and 1 flying lead per connector</p>	1 clip connector	1 meter	8	<b>P8LW021C</b>
	2 clip connectors	1 meter	12	<b>P8LW021C02</b>
	4 clip connectors	1 meter	20	<b>P8LW021C04</b>
	8 clip connectors	1 meter	36	<b>P8LW021C08</b>

**PVL-B21 - Valve module**

Equipped with 15mm DIN Form C (8mm spacing) - 24 Vdc - 1,2W pilot solenoid valve – Pins Up

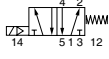
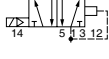
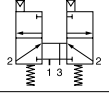
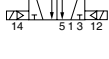


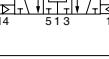
Symbol	Description	Pilot Man. Overr.	Connection	W (g)	Order code
	5/2 single acting spring return	Locking flush	Push-in 6mm	165	<b>PVL-B2116062C2</b>
			Push-in 8mm	165	<b>PVL-B2116082C2</b>
			G1/8"	165	<b>PVL-B2116182C2</b>
	5/2 single acting air spring return	Locking flush	Push-in 6mm	165	<b>PVL-B2136062C2</b>
			Push-in 8mm	165	<b>PVL-B2136082C2</b>
			G1/8"	165	<b>PVL-B2136182C2</b>
	Dual 3/2 N.C. air spring return	Locking flush	Push-in 6mm	210	<b>PVL-B2156062C2</b>
			Push-in 8mm	210	<b>PVL-B2156082C2</b>
			G1/8"	210	<b>PVL-B2156182C2</b>
	5/2 Double acting	Non-locking flush	Push-in 6mm	200	<b>PVL-B2126062C1</b>
			Push-in 8mm	200	<b>PVL-B2126082C1</b>
			G1/8"	200	<b>PVL-B2126182C1</b>
	5/3 Closed center (APB)	Locking flush	Push-in 6mm	210	<b>PVL-B2176062C2</b>
			Push-in 8mm	210	<b>PVL-B2176082C2</b>
			G1/8"	210	<b>PVL-B2176182C2</b>
	5/3 Vented center	Locking flush	Push-in 6mm	210	<b>PVL-B2186062C2</b>
			Push-in 8mm	210	<b>PVL-B2186082C2</b>
			G1/8"	210	<b>PVL-B2186182C2</b>
	5/3 Pressurised center	Locking flush	Push-in 6mm	210	<b>PVL-B2196062C2</b>
			Push-in 8mm	210	<b>PVL-B2196082C2</b>
			G1/8"	210	<b>PVL-B2196182C2</b>

For other 15mm pilot valve options (voltage, manual override or pins orientation), valve body and 15mm pilot valve must be ordered separately (see below)

**PVL-B21 - Valve module**




(Without Pilot solenoid valve – including 2 mounting screws for Pilot solenoid valve)

For use with 15mm DIN Form C (8mm spacing) Pins UP or Pins DOWN pilot solenoid valve

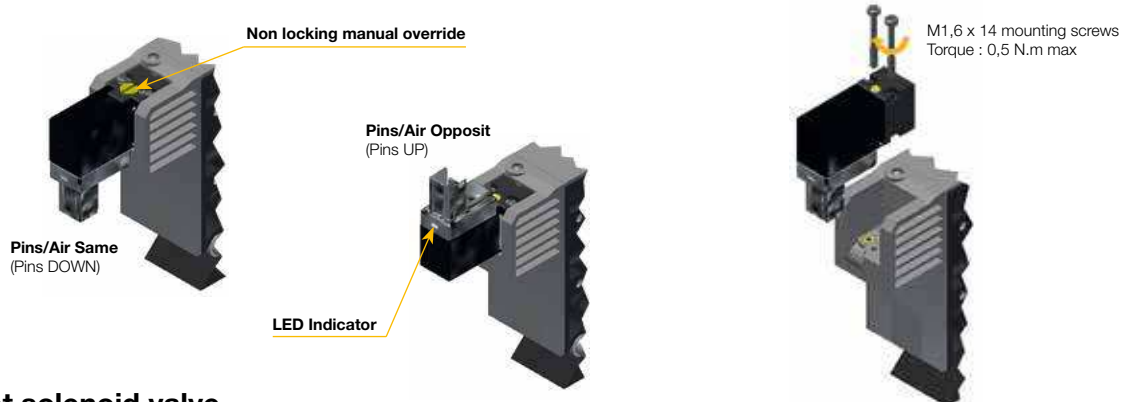
Symbol	Description	Connection	W (g)	Order code
	Dual 3/2 N.C. air spring return	Push-in 6mm	130	<b>PVL-B215606</b>
		Push-in 8mm	130	<b>PVL-B215608</b>
		G1/8"	130	<b>PVL-B215618</b>
	5/2 single acting spring return	Push-in 6mm	125	<b>PVL-B211606</b>
		Push-in 8mm	125	<b>PVL-B211608</b>
		G1/8"	125	<b>PVL-B211618</b>
	5/2 single acting air spring return	Push-in 6mm	125	<b>PVL-B213606</b>
		Push-in 8mm	125	<b>PVL-B213608</b>
		G1/8"	125	<b>PVL-B213618</b>
	5/2 Double acting	Push-in 6mm	120	<b>PVL-B212606</b>
		Push-in 8mm	120	<b>PVL-B212608</b>
		G1/8"	120	<b>PVL-B212618</b>
	5/3 Closed center (APB)	Push-in 6mm	130	<b>PVL-B217606</b>
		Push-in 8mm	130	<b>PVL-B217608</b>
		G1/8"	130	<b>PVL-B217618</b>
	5/3 Vented center	Push-in 6mm	130	<b>PVL-B218606</b>
		Push-in 8mm	130	<b>PVL-B218608</b>
		G1/8"	130	<b>PVL-B218618</b>
	5/3 Pressurised center	Push-in 6mm	130	<b>PVL-B219606</b>
		Push-in 8mm	130	<b>PVL-B219608</b>
		G1/8"	130	<b>PVL-B219618</b>

15mm DIN Form C (8mm spacing) pilot solenoid valve – Pin's UP or Pin's DOWN – must be ordered separately (Refer to 15 mm pilot valve section)


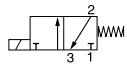
Pneumatic accessories

	Description	Size	Orientation	Material	Tube OD	W (g)	Order code		
 <p>3101 ...</p>	Push-in fitting for PVL-B2 Valve	G1/8"	Straight	Metal	4 mm	6	<b>3101 04 10</b>		
					6 mm	7	<b>3101 06 10</b>		
					8 mm	11	<b>3101 08 10</b>		
 <p>3169 ...</p> <p>3199 ...</p>			Elbow prolonged	Plastic	4 mm	8	<b>3169 04 10</b>		
					6 mm	11	<b>3169 06 10</b>		
					8 mm	18	<b>3169 08 10</b>		
					Elbow short	Plastic	4 mm	6	<b>3199 04 10</b>
							6 mm	6	<b>3199 06 10</b>
							8 mm	9	<b>3199 08 10</b>
 <p>3184 ...</p> <p>3182 ...</p>		6 mm	Elbow prolonged	Plastic	4 mm	2	<b>3184 04 06</b>		
					6 mm	4	<b>3184 06 00</b>		
			Elbow short	Plastic	4 mm	3	<b>3182 04 06</b>		
					6 mm	1	<b>3182 06 00</b>		
			8 mm	Elbow prolonged	Plastic	6 mm	7	<b>3184 06 08</b>	
						8 mm	10	<b>3184 08 00</b>	
Elbow short	Plastic	6 mm	7	<b>3182 06 08</b>					
		8 mm	10	<b>3182 08 00</b>					

PVL-B2 – 10 mm pilot solenoid valve options




10 mm pilot solenoid valve

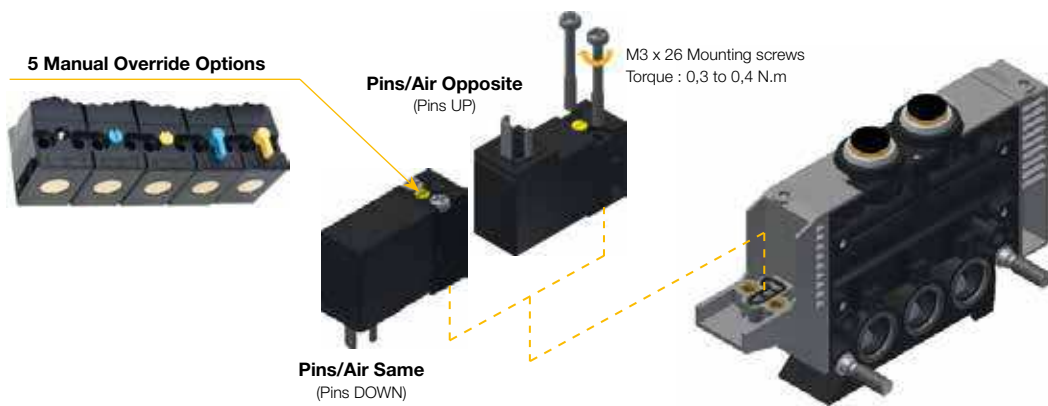
	Voltage	Electrical connection orientation	Manual Override	W (g)	Order code
 	24 Vdc	PINs /AIR same (PINs down)	Non-locking flush	20	<b>P2D-KS32C1</b>
		PINs/AIR opposit (PINs UP)	Non-locking flush	20	<b>P2D-KV32C1</b>

Other electrical connection orientations or low voltages DC on demand (can be subject to quantity)

10 mm Pilot solenoid valve electrical clip connector

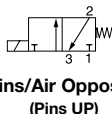



















Description	Connector type	Cable length	W (g)	Order code
 <p>Clip-on connector – IP40</p> <p>Individual : Including 2 flying leads</p> <p>Multiple : Including 1 common (0 Vdc) and 1 flying lead per connector</p>	1 clip connector	1 meter	8	<b>P8LW021C</b>
	2 clip connectors	1 meter	12	<b>P8LW021C02</b>
	4 clip connectors	1 meter	20	<b>P8LW021C04</b>
	8 clip connectors	1 meter	36	<b>P8LW021C08</b>

**PVL-B2 – 15 mm pilot solenoid valve options**



**15mm DIN Form C (8mm spacing) pilot solenoid valve**

For use with 15mm pilot solenoid valve PVL-B2 body

	Manual Overrides		Flush (Not Extended)		Extended		
	Without Manual Override	Order code	Blue Override, non locking	Yellow Override, Locking	Blue Override, non locking	Yellow Override, Locking	
 Pins/Air Opposite (Pins UP)	Voltage	W (g)	Order code	Order code	Order code	Order code	
	12 Vdc	38	 P2E-KV32B0	P2E-KV32B1	P2E-KV32B2	P2E-KV32B3	P2E-KV32B4
	24 Vdc	38	 P2E-KV32C0	P2E-KV32C1	P2E-KV32C2	P2E-KV32C3	P2E-KV32C4
	48 Vdc	38	 P2E-KV32D0	P2E-KV32D1	P2E-KV32D2	P2E-KV32D3	P2E-KV32D4
	24 Vac 50Hz	38	 P2E-KV31C0	P2E-KV31C1	P2E-KV31C2	P2E-KV31C3	P2E-KV31C4
	48 Vac 50/60Hz	38	 P2E-KV34D0	P2E-KV34D1	P2E-KV34D2	P2E-KV34D3	P2E-KV34D4
	115 Vac 50Hz	38	 P2E-KV31F0	P2E-KV31F1	P2E-KV31F2	P2E-KV31F3	P2E-KV31F4
	120 Vac 60 Hz	38	 P2E-KV31J0	P2E-KV31J1	P2E-KV31J2	P2E-KV31J3	P2E-KV31J4
	230 Vac 50Hz	38	 P2E-KS32B0	P2E-KS32B1	P2E-KS32B2	P2E-KS32B3	P2E-KS32B4
	240 Vac 60 Hz	38	 P2E-KS32C0	P2E-KS32C1	P2E-KS32C2	P2E-KS32C3	P2E-KS32C4
 Pins/Air Same (Pins DOWN)	12 Vdc	38	 P2E-KS32B0	P2E-KS32B1	P2E-KS32B2	P2E-KS32B3	P2E-KS32B4
	24 Vdc	38	 P2E-KS32C0	P2E-KS32C1	P2E-KS32C2	P2E-KS32C3	P2E-KS32C4
	48 Vdc	38	 P2E-KS32D0	P2E-KS32D1	P2E-KS32D2	P2E-KS32D3	P2E-KS32D4
	24 Vac 50Hz	38	 P2E-KS31C0	P2E-KS31C1	P2E-KS31C2	P2E-KS31C3	P2E-KS31C4
	48 Vac 50/60Hz	38	 P2E-KS34D0	P2E-KS34D1	P2E-KS34D2	P2E-KS34D3	P2E-KS34D4
	115 Vac 50Hz	38	 P2E-KS31F0	P2E-KS31F1	P2E-KS31F2	P2E-KS31F3	P2E-KS31F4
	120 Vac 60 Hz	38	 P2E-KS31J0	P2E-KS31J1	P2E-KS31J2	P2E-KS31J3	P2E-KS31J4
	230 Vac 50Hz	38	 P2E-KS31J0	P2E-KS31J1	P2E-KS31J2	P2E-KS31J3	P2E-KS31J4
	240 Vac 60 Hz	38	 P2E-KS31J0	P2E-KS31J1	P2E-KS31J2	P2E-KS31J3	P2E-KS31J4


Mounting screws included with the valve body

**Pilot solenoid valve mounting screw**

Description	Size	Material	W (g)	Order code
 Kit of 10 mounting screws	M23 x 26	Steel	20	P2E-KP026PM3



**Cable plugs 15 mm - IP65**

(8 mm pin spacing)

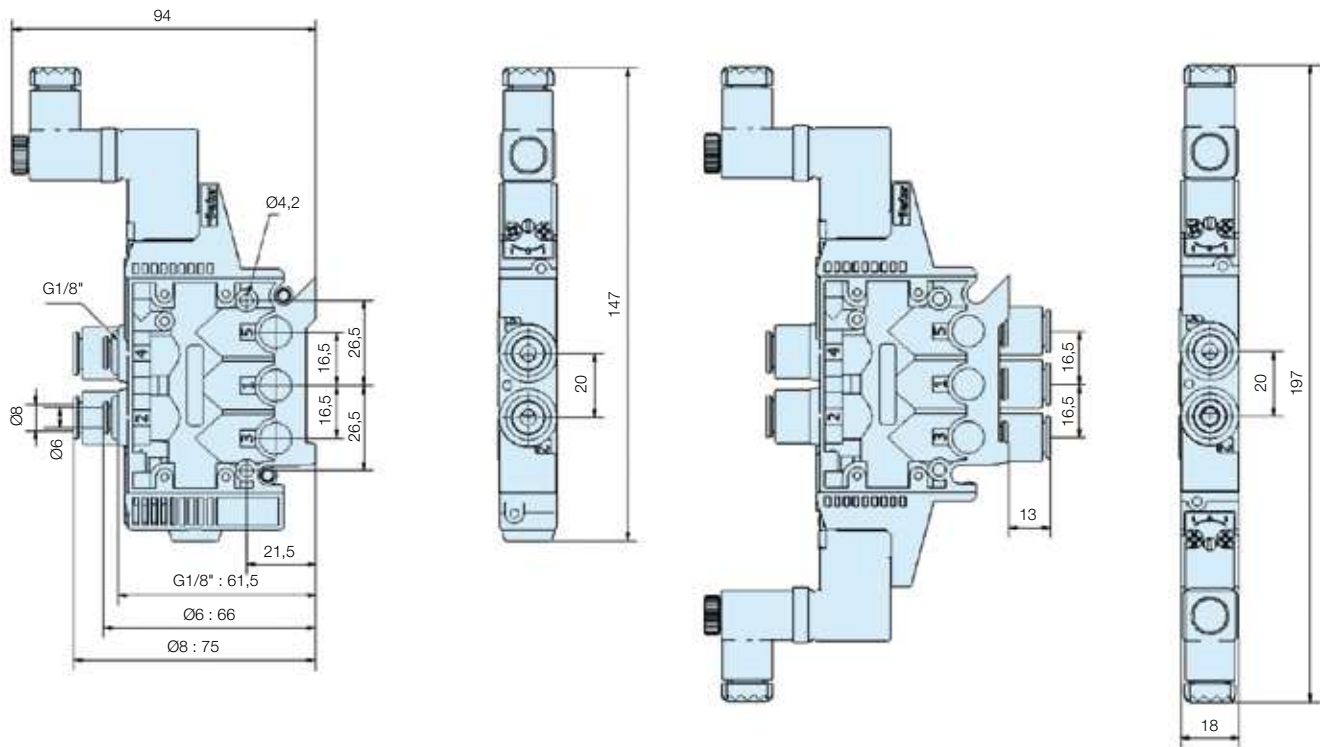
Description	Electrical protection	Cable length	W (g)	Order code	
	 Standard screw	No protection	No cable	11	P8C-D
LED + Protection 24 VDC		LED + Protection 24 VDC/AC	2 meter	97	P8L-C2
			5 meter	228	P8L-C5
			No cable	11	P8C-D26C
			2 meter	97	P8L-C226C
			5 meter	229	P8L-C526C

**Suppressor and LED indicators**

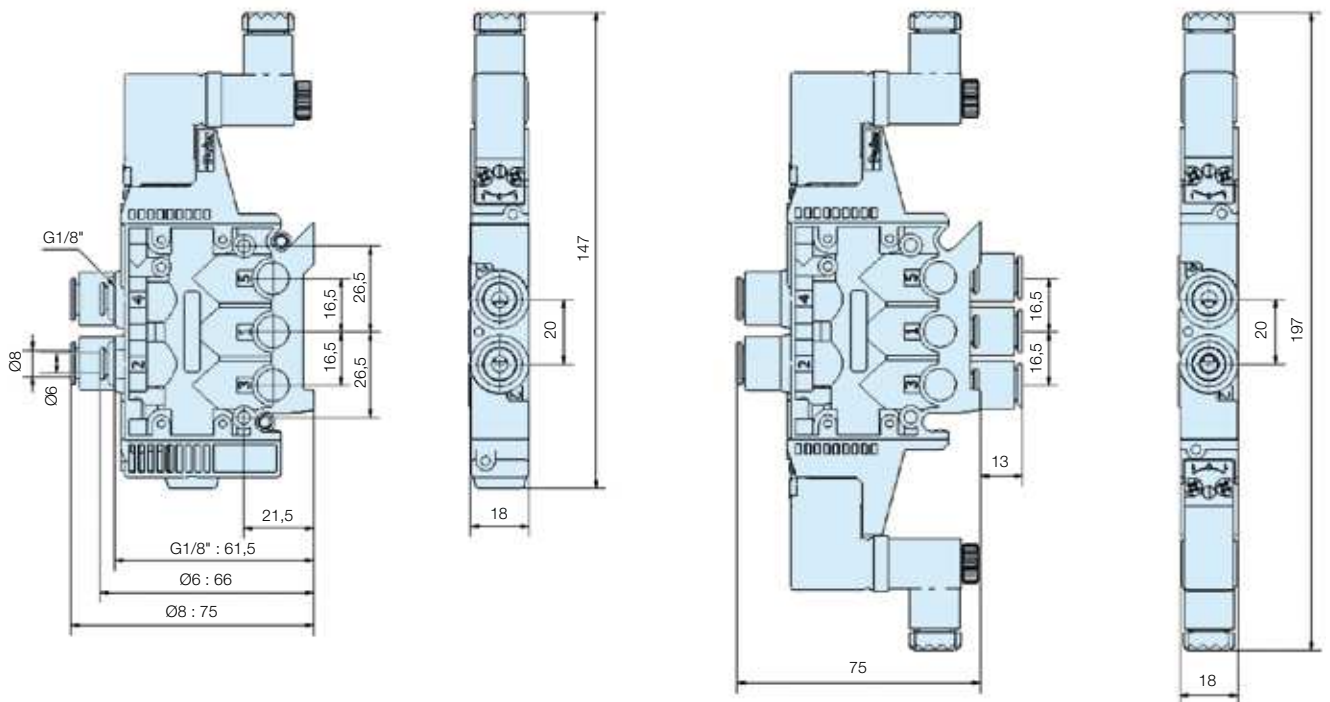
For 8 mm solenoid pin spacing - For mounting between the solenoid valve and the cable plug

Symbol	Description	Pneumatic connection	W (g)	Order code
 	LED indicator	24 VAC/DC	3	P8V-CR26C
		115 VAC 50 Hz - 120 VAC 60 Hz	3	P8V-CR24F
		230 VAC 50 Hz - 240 VAC 60 Hz	3	P8V-CR24J

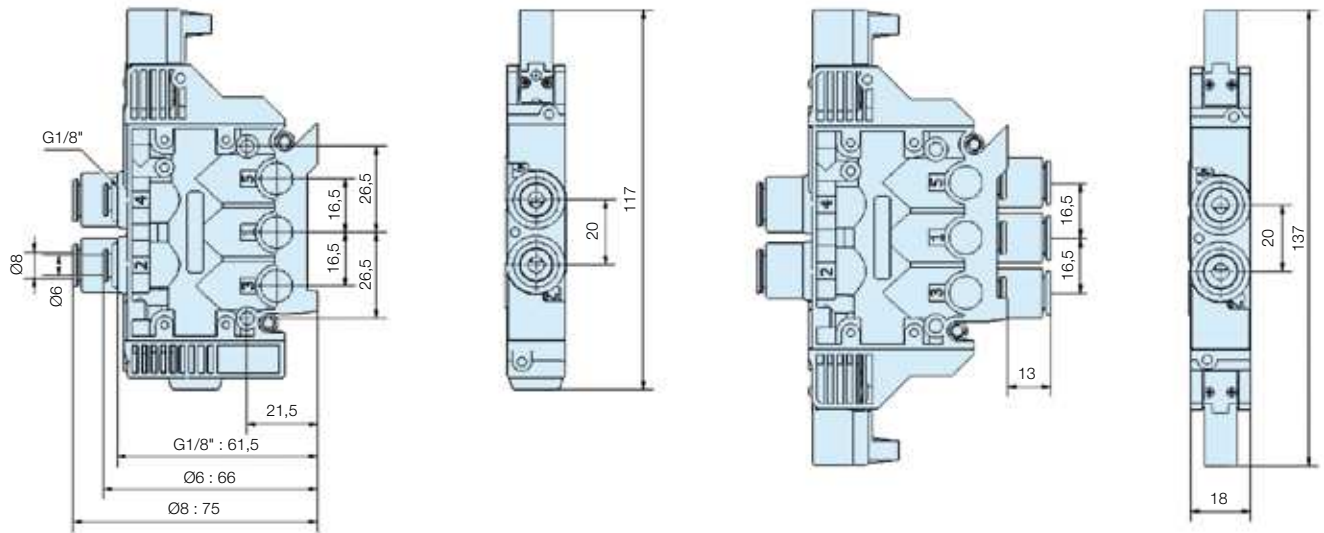
**PVL-B21 (Stand-alone) & PVL-B22 (Stackable) – with 15 mm pilot solenoid valve – Pins UP**



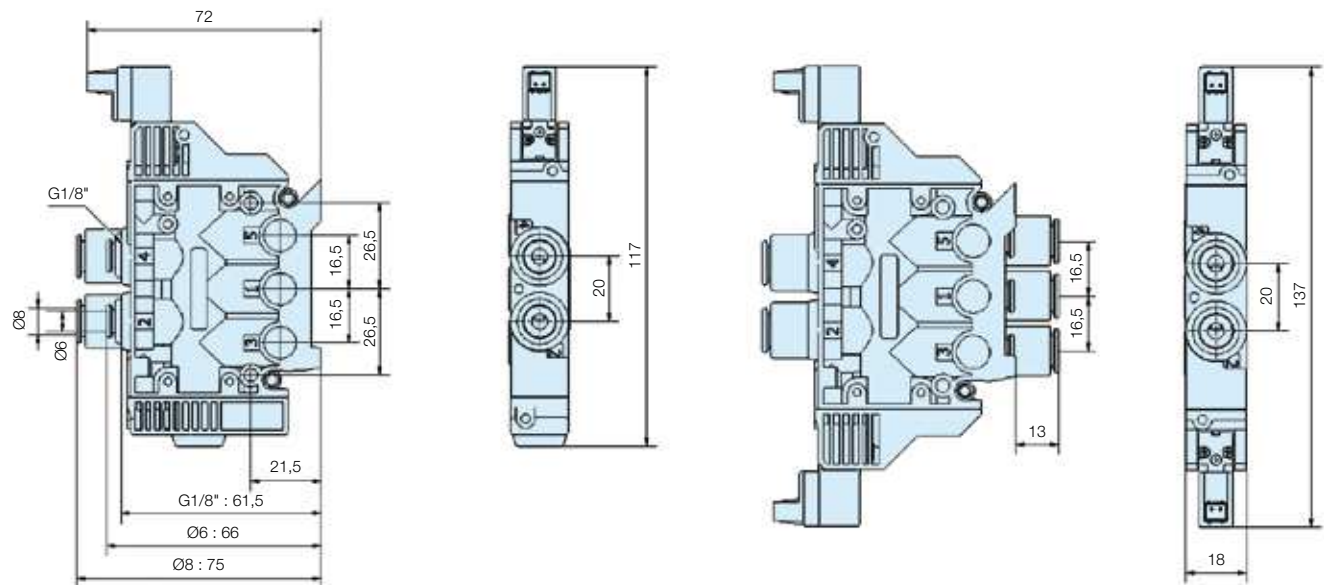
**PVL-B21 (Stand-alone) & PVL-B22 (Stackable) – with 15 mm pilot solenoid valve – Pins DOWN**



**PVL-B21 (Stand-alone) & PVL-B22 (Stackable) – with 10 mm pilot solenoid valve – Pins DOWN**

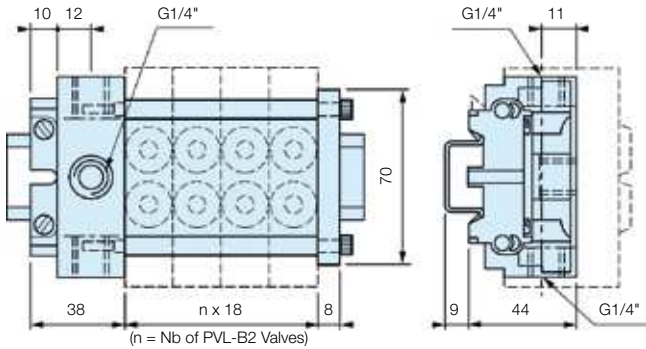


**PVL-B21 (Stand-alone) & PVL-B22 (Stackable) – with 10 mm pilot solenoid valve – Pins UP**

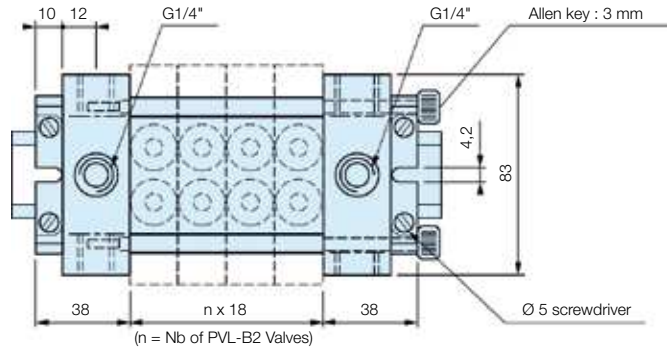


**PVL-B22 (Stackable) – Head and Tail sets – DIN rail mounting**

**Single air supply – PVL-B1719**

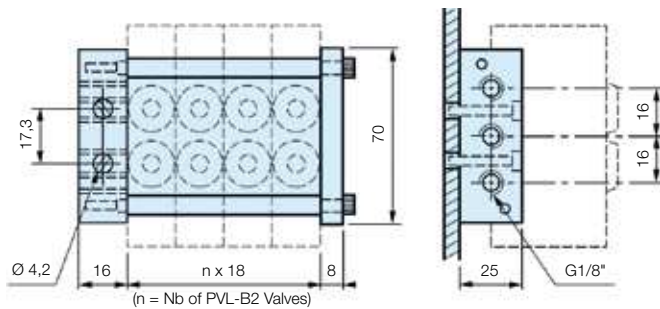


**Dual air supply – PVL-B1729**

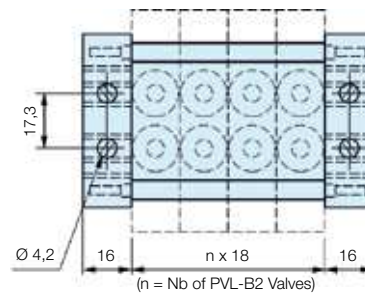


**PVL-B22 (Stackable) – Head and Tail sets – Surface mounting**

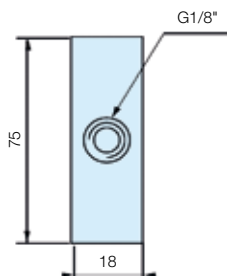
**Single air supply – PVL-B1818**



**Dual air supply – PVL-B1828**



**PVL-B22 (Stackable) – Intermediate supply module – PVU-LBB118**





Stacking high flow valves with air pilot or solenoid actuation. Lightweight plastic bodies feature push-in or threaded connections. Stacking valves feature modular inlet and exhaust facility.



- High flow, compact size
- Push-in or threaded connection
- DIN rail or block mounting
- Light weight construction

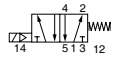
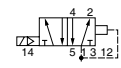
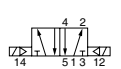

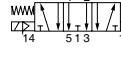
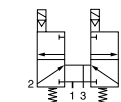
 **For ATEX specific products contact Sales Office**

**Operating information**





Working pressure;		
Pneumatically operated:	2-10 bar	
Electrically operated, bistable:	2-10 bar	
Electrically operated, monostable:	3-10 bar	
Working temperature	-15 °C to +60 °C	
	<b>PVL-B</b>	<b>PVL-C</b>
Flow (Qmax):	900 l/min	1800 l/min
Flow Qn:	540 l/min	1100 l/min
Flow measured with valve stacked in island.		

**PVL-B & PVL-C Valve body - Stand alone and stackable design - Without pilot**

Pneumatic or 15 mm electric pilot must be ordered separately


Symbol	Description	Valve size	Connection	Weight (g)	Stand Alone	Stackable
					Order code	Order code
	5/2 single acting / Spring return	PVL-B	Push-in Ø 6 mm	125	<b>PVL-B111606</b>	<b>PVL-B121606</b>
			G 1/8	125	<b>PVL-B111618</b>	<b>PVL-B121618</b>
		PVL-C	Push-in Ø 8 mm	240	<b>PVL-C111608</b>	<b>PVL-C121608</b>
			G 1/4	240	<b>PVL-C111619</b>	<b>PVL-C121619</b>
	5/2 single acting / Air spring return	PVL-B	Push-in Ø 6 mm	125	<b>PVL-B113606</b>	<b>PVL-B123606</b>
			G 1/8	125	<b>PVL-B113618</b>	<b>PVL-B123618</b>
		PVL-C	Push-in Ø 8 mm	240	<b>PVL-C113608</b>	<b>PVL-C123608</b>
			G 1/4	240	<b>PVL-C113619</b>	<b>PVL-C123619</b>
	5/2 double acting	PVL-B	Push-in Ø 6 mm	120	<b>PVL-B112606</b>	<b>PVL-B122606</b>
			G 1/8	120	<b>PVL-B112618</b>	<b>PVL-B122618</b>
		PVL-C	Push-in Ø 8 mm	230	<b>PVL-C112608</b>	<b>PVL-C122608</b>
			G 1/4	230	<b>PVL-C112619</b>	<b>PVL-C122619</b>
	5/3 APB (All Ports Blocked)	PVL-B	Push-in Ø 6 mm	130	<b>PVL-B117606</b>	<b>PVL-B127606</b>
			G 1/8	130	<b>PVL-B117618</b>	<b>PVL-B127618</b>
		PVL-C	Push-in Ø 8 mm	250	<b>PVL-C117608</b>	<b>PVL-C127608</b>
			G 1/4	250	<b>PVL-C117619</b>	<b>PVL-C127619</b>
	5/3 Vented centre	PVL-B	Push-in Ø 6 mm	130	<b>PVL-B118606</b>	<b>PVL-B128606</b>
			G 1/8	130	<b>PVL-B118618</b>	<b>PVL-B128618</b>
		PVL-C	Push-in Ø 8 mm	250	<b>PVL-C118608</b>	<b>PVL-C128608</b>
			G 1/4	250	<b>PVL-C118619</b>	<b>PVL-C128619</b>
	Double 3/2 Normally Closed (NC)	PVL-B	Push-in Ø 6 mm	130	<b>PVL-B115606</b>	<b>PVL-B125606</b>
			G 1/8	130	<b>PVL-B115618</b>	<b>PVL-B125618</b>

## Head and tail sets and intermediate supply modules

	Type of mounting	Description	Valve size	Port size	Weight (g)	Order code
	On DIN rail	Single air supply	PVL-B	G1/4	175	<b>PVL-B1719</b>
		head and tail set	PVL-C	G3/8	195	<b>PVL-C1713</b>
		Dual air supply	PVL-B	G1/4	245	<b>PVL-B1729</b>
		head and tail set	PVL-C	G3/8	285	<b>PVL-C1723</b>
	Surface	Single air supply	PVL-B	G1/8	200	<b>PVL-B1818</b>
		head and tail set	PVL-C	G1/4	225	<b>PVL-C1819</b>
		Dual air supply	PVL-B	G1/8	260	<b>PVL-B1828</b>
		head and tail set	PVL-C	G1/4	280	<b>PVL-C1829</b>
	On DIN rail	Intermediate	PVL-B	G1/8	150	<b>PVU-LBB118</b>
		supply module	PVL-C	G1/4	200	<b>PVU-LCC119</b>
	On DIN rail	Kit for stacking	PVL-C/B	G1/4-G1/8	640	<b>PVU-LCB119</b>
		PVL-B & PVL-C				
		Including :				
		- 1 transfer / take-off module				
		- 1 PVL-C head module				
		- 1 PVL-B end plate				







## Air-pilot actuator for PVL-B and PVL-C valve

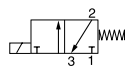
For use with PVL-B and PVL-C valve body

	Description	Pneumatic connection	Weight (g)	Order code
	Air-pilot actuator for PVL-B & PVL-C 15mm solenoid body	Push-in Ø 4 mm	7	<b>PVA-P111</b>
		Threaded M5	2	<b>PVA-P115</b>

## 15mm DIN Form C (8mm spacing) pilot solenoid valve

For use with PVL-B and PVL-C valve body

	Manual Overrides		Flush (Not Extended)			Extended	
		Without Manual Override	Blue Override, non locking	Yellow Override, Locking	Blue Override, non locking	Yellow Override, Locking	
Voltage	W (g)	Order code	Order code	Order code	Order code	Order code	
12 Vdc	38	 <b>P2E-KV32B0</b>	<b>P2E-KV32B1</b>	<b>P2E-KV32B2</b>	<b>P2E-KV32B3</b>	<b>P2E-KV32B4</b>	
24 Vdc	38	 <b>P2E-KV32C0</b>	<b>P2E-KV32C1</b>	<b>P2E-KV32C2</b>	<b>P2E-KV32C3</b>	<b>P2E-KV32C4</b>	
48 Vdc	38	 <b>P2E-KV32D0</b>	<b>P2E-KV32D1</b>	<b>P2E-KV32D2</b>	<b>P2E-KV32D3</b>	<b>P2E-KV32D4</b>	
24 Vac 50Hz	38	 <b>P2E-KV31C0</b>	<b>P2E-KV31C1</b>	<b>P2E-KV31C2</b>	<b>P2E-KV31C3</b>	<b>P2E-KV31C4</b>	
48 Vac 50/60Hz	38	 <b>P2E-KV34D0</b>	<b>P2E-KV34D1</b>	<b>P2E-KV34D2</b>	<b>P2E-KV34D3</b>	<b>P2E-KV34D4</b>	
115 Vac 50Hz 120 Vac 60 Hz	38	 <b>P2E-KV31F0</b>	<b>P2E-KV31F1</b>	<b>P2E-KV31F2</b>	<b>P2E-KV31F3</b>	<b>P2E-KV31F4</b>	
230 Vac 50Hz 240 Vac 60 Hz	38	<b>P2E-KV31J0</b>	<b>P2E-KV31J1</b>	<b>P2E-KV31J2</b>	<b>P2E-KV31J3</b>	<b>P2E-KV31J4</b>	



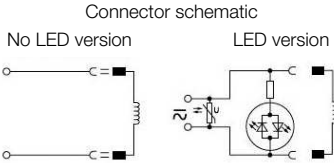


Pins/Air Opposite  
(Pins UP)




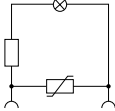
**Cable plugs 15 mm - IP65**

(8mm pin spacing)


	Description	Electrical protection	Cable length	Weight (g)	Order code
	Large headed screw	No protection	No cable	16	<b>P8C-C</b>
	For inaccessible or recess position	LED + Protection 24 VDC	No cable	16	<b>P8C-C26C</b>
	Standard screw	No protection	No cable	11	<b>P8C-D</b>
			2 m cable	97	<b>P8L-C2</b>
	Connector schematic No LED version      LED version	LED + Protection 24 VDC	5 m cable	228	<b>P8L-C5</b>
			No cable	11	<b>P8C-D26C</b>
			2 m cable	97	<b>P8L-C226C</b>
			5 m cable	229	<b>P8L-C526C</b>

**Suppressor and LED indicators**

For 8 mm solenoid pin spacing - For mounting between the solenoid valve and the cable plug

	Symbol	Description	Pneumatic connection	Weight (g)	Order code
		LED indicator	24 VAC/DC	3	<b>P8V-CR26C</b>
			115 VAC 50 Hz - 120 VAC 60 Hz	3	<b>P8V-CR24F</b>
			230 VAC 50 Hz - 240 VAC 60 Hz	3	<b>P8V-CR24J</b>

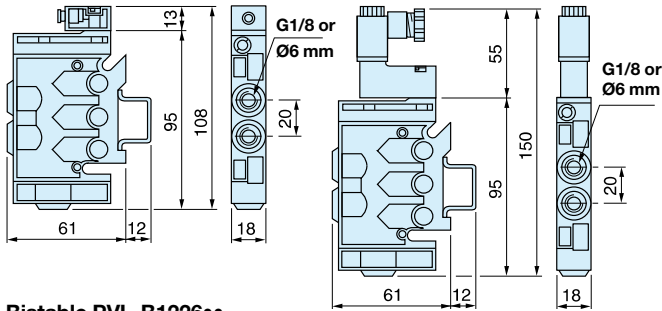
**Spare mounting and assembly kits**

	Description	Valve size	Port size	Weight (g)	Order code
	Kit for sealing the inlet/exhaust common gallery including : - 3 common blanking plugs - 2 drilled and threaded rods - 2 screws for extended tie rod	PVL-B		35	<b>PVL-B1901</b>
		PVL-C		65	<b>PVL-C1901</b>

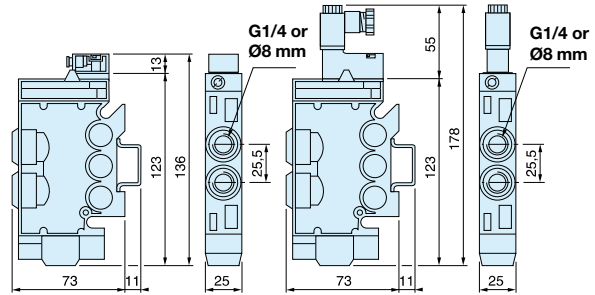
**Dimensions, PVL valve Series**

All dimensions in mm unless otherwise stated

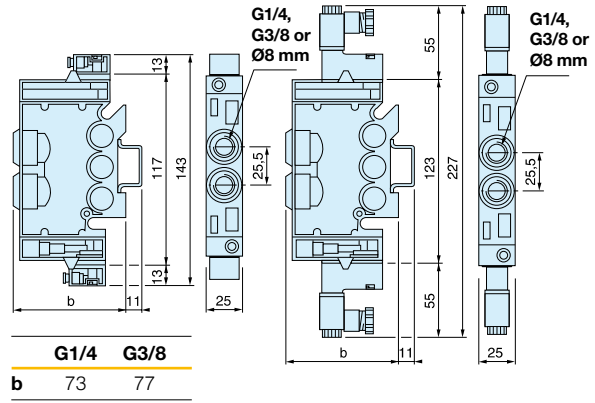
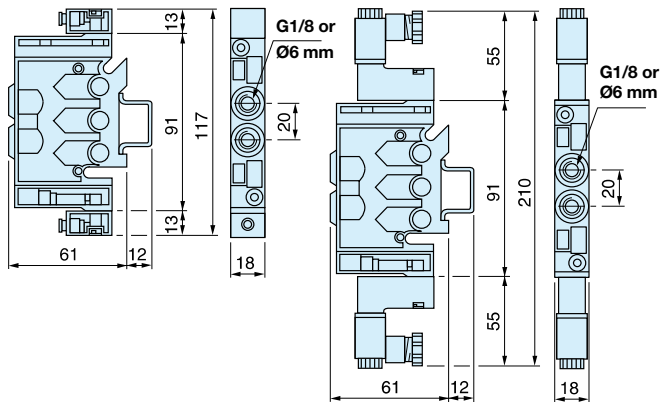
**Stacking power valves 1/8" with pneumatic or electrical piloting - Monostable PVL-B1216••, PVL-B1236••**



**Stacking power valves 1/4" with pneumatic or electrical control - With 1 W solenoid actuator and suitable pneumatic connector - Monostable PVL-C1216••, PVL-C1236••**

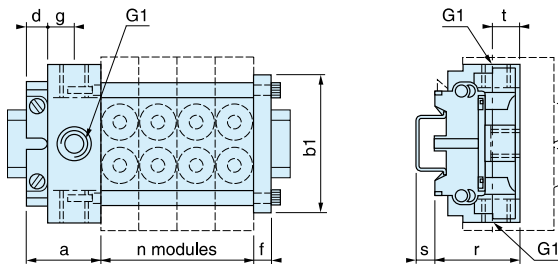


**Bistable PVL-B1226••**

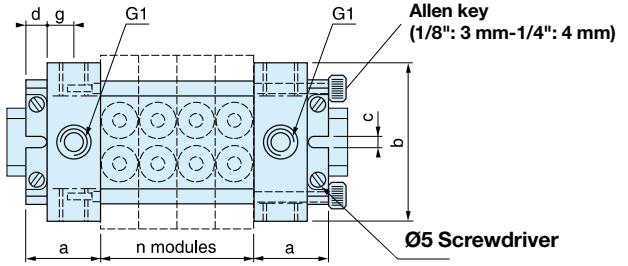


**Head and tail sets**

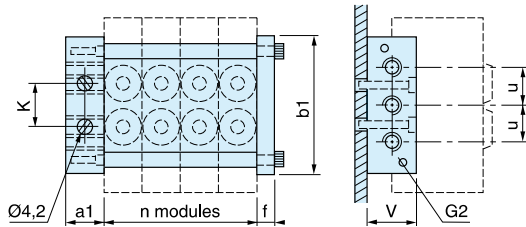
**Single air supply  
PVL-B1719, PVL-C1713, mounting on DIN rail**



**Dual air supply  
PVL-B1729, PVL-C1723, mounting on DIN rail**

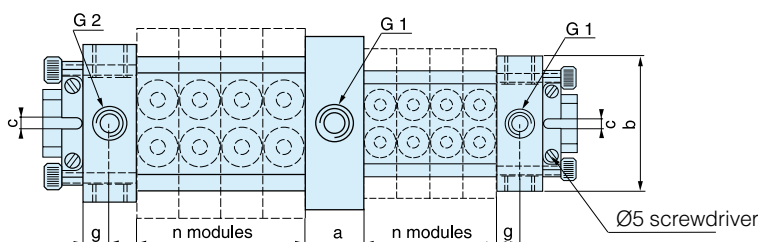


**Single air supply  
PVL-B1818, PVL-C1819, "stack mounting"**

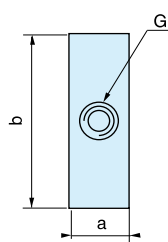


	a	a1	b	b1	c	d	f	g	G1	G2	k	r	s	t	u	v
1/8"	38	16	83	70	4,2	10	8	12	1/4"	1/8"	17,3	44	9	11	16	25
1/4"	38	20	108	100	4,2	10	8	12	3/8"	1/4"	63,5	55	9	13	20	30

**"Transfer / take-off" module, intermediate supply module  
For combination of sizes 1/4" - 1/8" - PVU-LCB119**



**PVUL-BB118 - PVU-LCC119**



	a	b	G
1/8"	18	75	1/8
1/4"	25	100	1/4

Miniature high-speed valves in stand alone, stackable or combined modules, incorporating standard logic functions. The range also includes timers and impulse modules.

- Complete range
- Stand alone, stackable or combinable modules
- Very fast response time
- Flexible and highly maintainable system
- DIN rail mounting
- Ø 4mm connection



**Operating information**

Working pressure	3 to 8 bar
Working temperature	-15 °C to 60 °C
Flow (Qmax)	180 l/min (PRD = 60 l/min)
ATEX approval:	CE Ex II 2 GD c 85°C
For more information see <a href="http://www.parker.com/euro_pneumatic">www.parker.com/euro_pneumatic</a>	

 **For ATEX specific products contact Sales Office**

**Logic sequencer**

**Step modules**



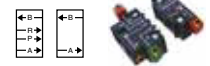
	Order code
Without sub base	<b>PSM-A10</b>
Pneumatic output	<b>PSM-A12</b>
Visual indication of pneumatic output and manual override	<b>PSM-B12</b>
With sub base	<b>PSM-B12</b>
Without manual override	

**Step module subbase**



	Order code
Subbase	<b>PSB-A12</b>
Additional interlock	<b>PSV-A12</b>

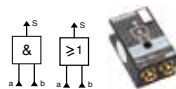
**Set of head and tail modules and deviation modules**



	Order code
Head & tail set	<b>PSE-A12</b>
Deviation standard	<b>PSD-A12</b>
Deviation for remote	<b>PSD-B12</b>

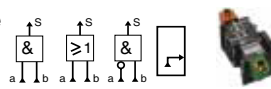
**Logic elements**

**Line mounted elements**



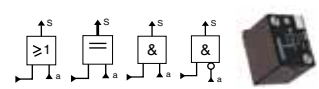
Logic Function	Order code
AND	<b>PLL-A11</b>
OR	<b>PLK-A11</b>
Clip on Din-rail	<b>PZM-L199</b>

**Combinable elements**



Logic Function	Order code
AND	<b>PLL-B12</b>
OR	<b>PLK-B12</b>
NOT	<b>PLN-B12</b>
INPUT	<b>PLE-B12</b>

**Subbase mounted elements**



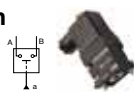
Logic Function	Order code
AND	<b>PLL-C10</b>
NOT inhibit standard	<b>PLN-C10</b>
NOT inhibit threshold	<b>PLN-D10</b>
OR	<b>PLK-C10</b>
YES regenerated	<b>PLJ-C10</b>

3 port subbase to be ordered separately.

**Logic relays**

**Pressure switch**

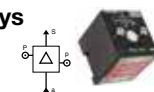
To be used with 3 port subbase



	Order code
With subbase	<b>PRE-A12</b>
Without subbase	<b>PRE-A10</b>

**Amplifier relays**

To be used with 4 port subbase



	Order code
With subbase	<b>PRD-A12</b>
Without subbase	<b>PRD-A10</b>

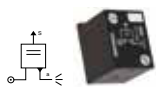
**Memory relays**

To be used with 4 port subbase



	Order code
With subbase	<b>PLM-A12</b>
Without subbase	<b>PLM-A10</b>

**Sensor relays**



	Order code
With subbase	<b>PRF-A12</b>
Without subbase	<b>PRF-A10</b>

**Time delay relays**

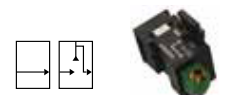
To be mounted on 3 port subbase



Function	Timing	Order code
Output after timed period	0,1 to 3s	<b>PRT-E10</b>
	0,1 to 30s	<b>PRT-A10</b>
	10 to 180s	<b>PRT-B10</b>
With subbase	0,1 to 30s	<b>PRT-A12</b>
Output during timed period	0,1 to 3s	<b>PRT-F10</b>
	0,1 to 30s	<b>PRT-C10</b>
	10 to 180s	<b>PRT-D10</b>

**Subbase for logic elements and relays**

3 port and 4 port subbases

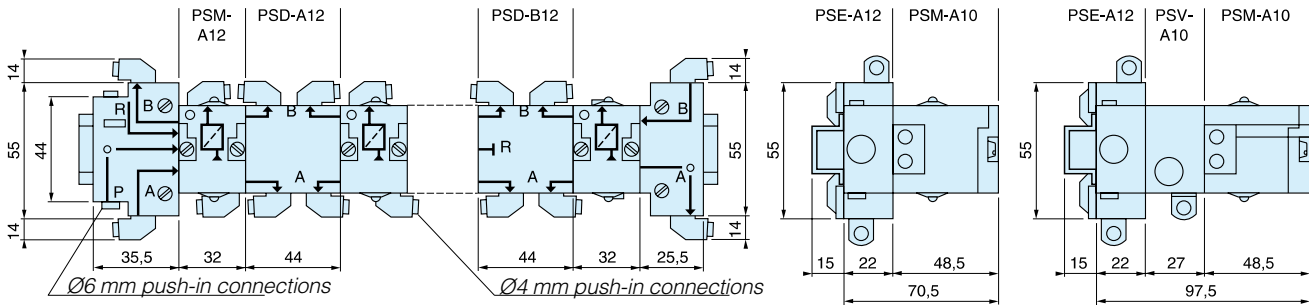


	Order code
Input module	<b>PZU-E12</b>
3 port "common input"	<b>PZU-A12</b>
3 port "cascade"	<b>PZU-C12</b>
4 port subbase*	<b>PZU-B12</b>

\* For combination with memory relay and amplified relay.

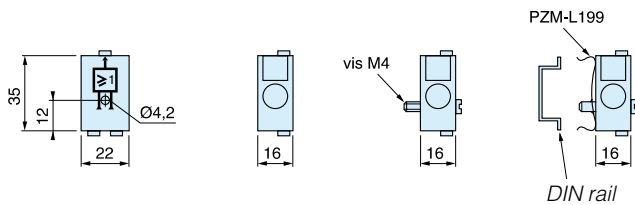
**Dimensions, Logic processing**

**Modular sequencer**



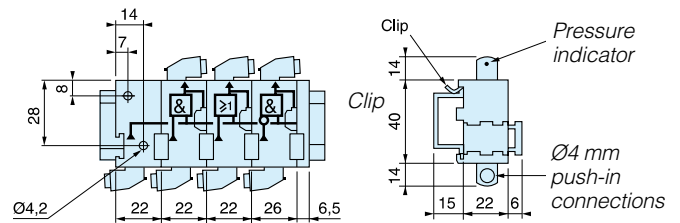
**Line mounted logic elements**

PLL-A11 and PLK-A11



**Combinable logic elements**

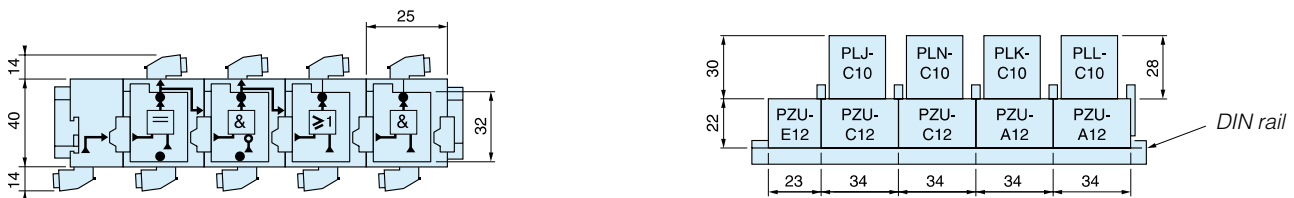
PLE-B12 — PLL-B12 — PLK-B12 and PLN-B12



**Logic elements mounted on 3-port modular subbases**

PZU-E12

PLJ-C10 — PLN-C10 — PLK-C10 and PLL-C10 mounted on PZU-C12 and PZU-A12

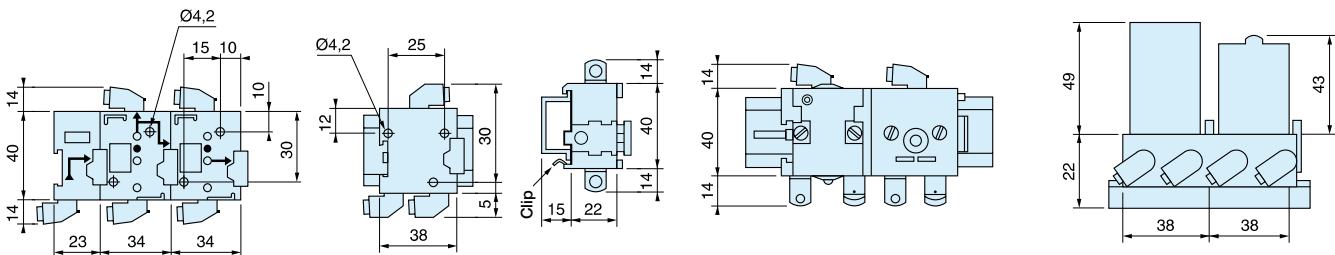


**3 and 4-port modular subbases**

PZU-E12 — PZU-C12 — PZU-A12 PZU-B12

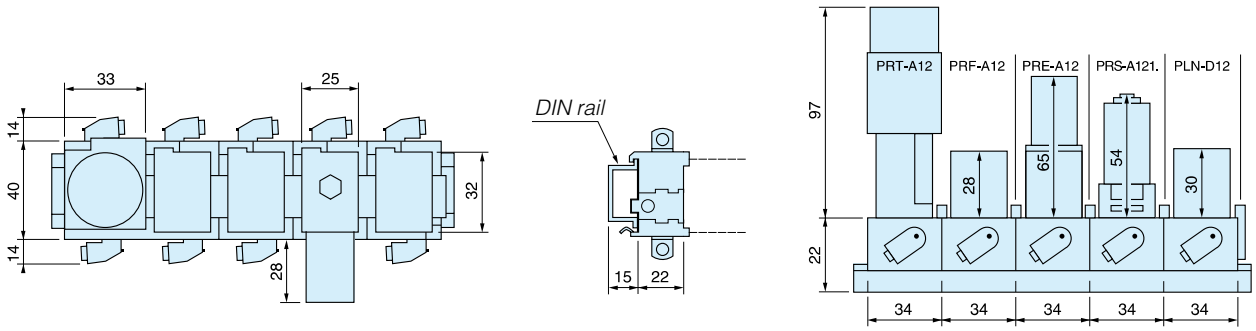
**Relays mounted on 4-port modular subbases**

PLM-A12 and PRD-A12



**Relays mounted on 3-port modular subbases**

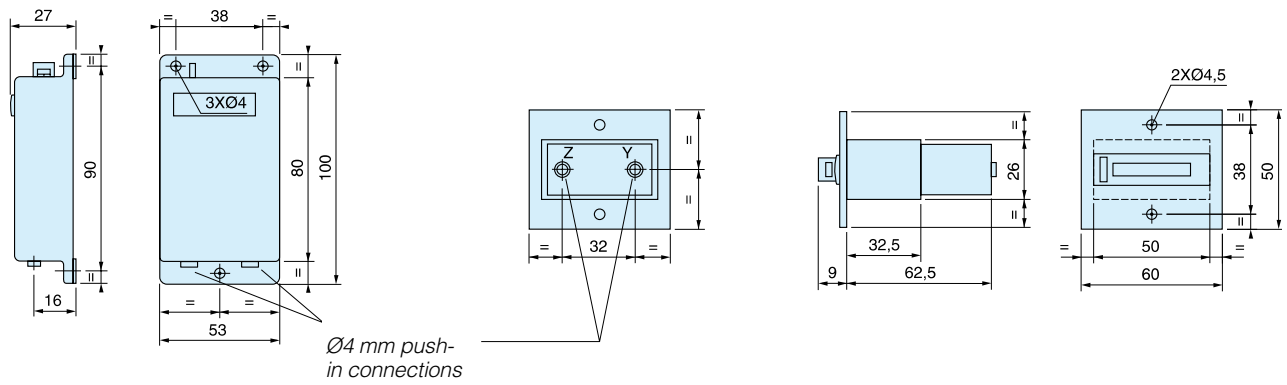
PRT-A12 — PRF-A12 — PRE-A12 — PRS-A121 and PLN-D12



**Totalling counters**

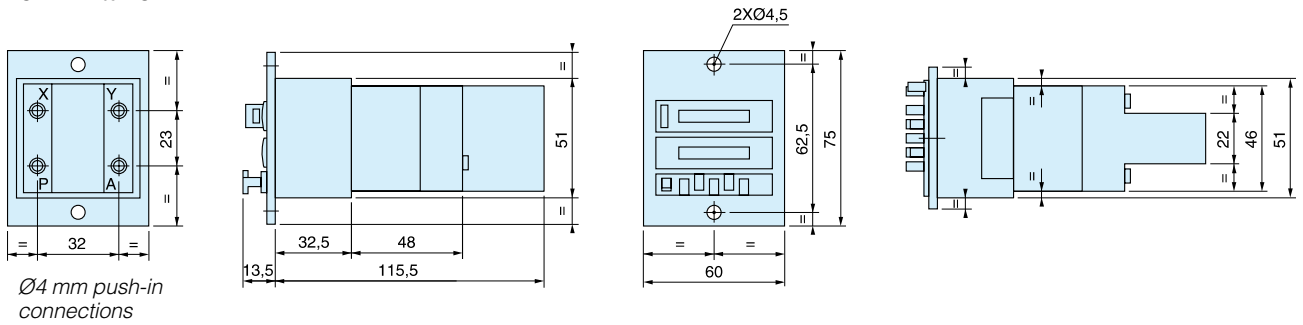
PCT-A11

PCT-B11



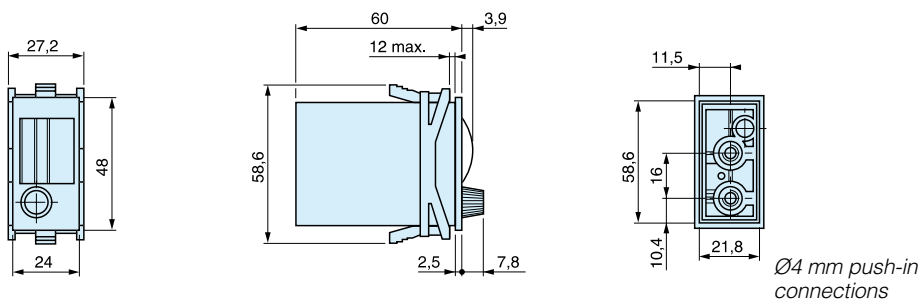
**Digital display timers**

PCM-A11 to PCM-B11



**Timers with calibrated dial**

PCM-F11 and PCM-G11



# Air Saver Unit ASC/ASV Series

An easy solution to your environmental protection efforts!  
 The air saving unit contributes to power savings and CO2 reduction.

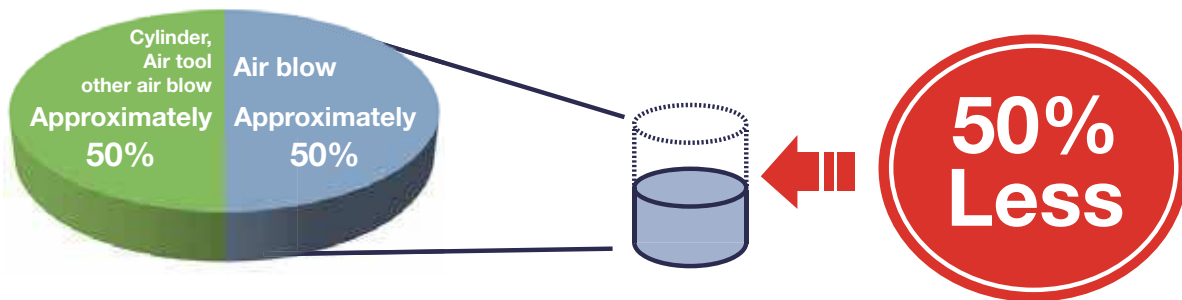


**ASV2000**



**ASV5000**

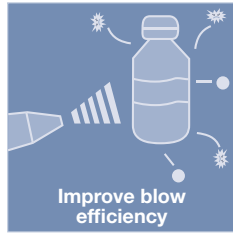
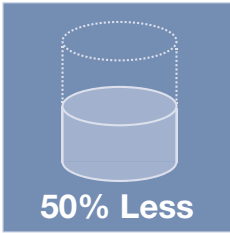
The air Saver Unit can reduce air consumption by up to 50% and improves blow efficiency in air blow applications.



**Savings example (Using 100 ASC500, Unit 8 hours/day and 20 days)**

<b>Power Consumption</b>	<b>53,600kW / month</b>	<b>➡</b>	<b>26,800kW / month</b>
<b>CO<sub>2</sub> discharge</b>	<b>17 t</b>	<b>➡</b>	<b>8.5 t</b>
<b>Cost</b>	<b>EUR 7,000 / month</b>	<b>➡</b>	<b>EUR 3,500 / month</b>





**ASV200**

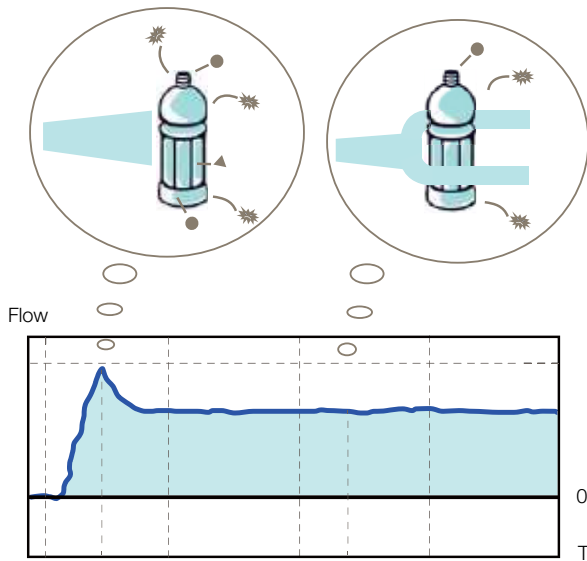


**ASC/ASO500**

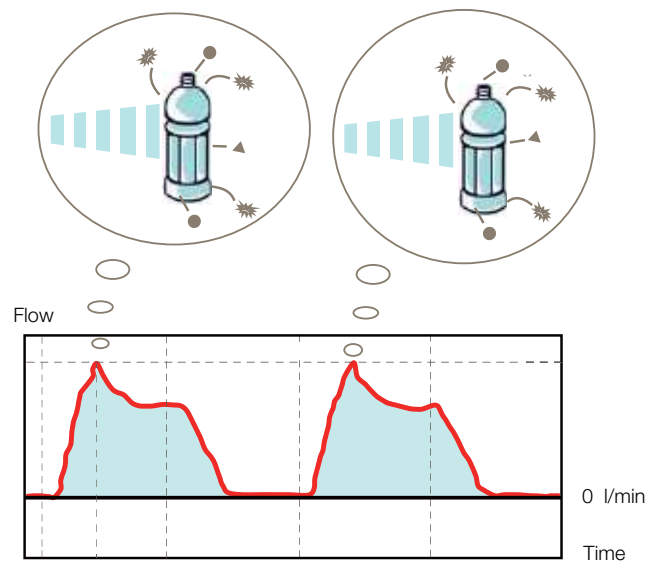
**Pulsed air by Air Saver Unit reduces air consumption.**

The Air saver unit is a valve that converts a continuous air blow to a pulsed air blow without the need for any other external control. Air is blown with a series of ON and OFF pulses. When the blow is OFF, there is no air consumption. This is how the air saver unit contributes to reduction in air consumption.

**Continuous air blow**



**Pulsed air blow**



Compared to continuous air blow, the pulsed air blow hits the work repeatedly, improving the efficiency of the air blow.

When an air saver unit is used, several positive effects can be expected. Air blow accounts for almost 50% of all compressed air used in plants. The air saver unit with a switching valve technology for air blow. Can reduce air consumption by up to 50% !

- Large reductions in plant air consumption.
- Savings in plant compressor power consumption.
- Reduction in plant CO<sub>2</sub> emissions.
- Big contribution to energy-saving activities.



**Operating information**

	ASV200	ASV2000	ASV5000	ASV13000	ASV15000	ASC500	ASO500
<b>Function</b>	Normally closed						Normally open
<b>Fluid</b>	Non lubricated air						
<b>Flow l/min (ANR) (at 5 bar)</b>	150	2000	5000	13000	15000	450	450
<b>Port size (BSPP)</b>	M5	3/8	1/2	1"	1 1/4"	1/8	1/8
<b>Operating temperature</b>	-5 to +50° C						
<b>Pressure range (bar)</b>	3 - 8	0 - 8				2 - 7	2 - 5
<b>Pilot air supply (bar)</b>	3 - 8	3 - 8				Internal pilot	
<b>Blow</b>	Pulse blow					Pulse/Continuous blow	
<b>Rated voltage (V)</b>	Electrical power is not necessary					DC 24 V	
<b>Power consumption (W)</b>						1.2 W	
<b>Grade of Insulation</b>						JIS grade E	
<b>Permissible voltage fluctuation</b>						± 10 %	
<b>Wiring</b>						e-CON standard 4 pole sockets	

- (1) In case of using the Unit under 5°C, complete dry air by air dryer shall be supplied to prevent from freezing.  
 (2) Please note that supply air for port 1 should be more than 2 bar.  
 (3) Please note that supply air for port 1 should be more than 3 bar.

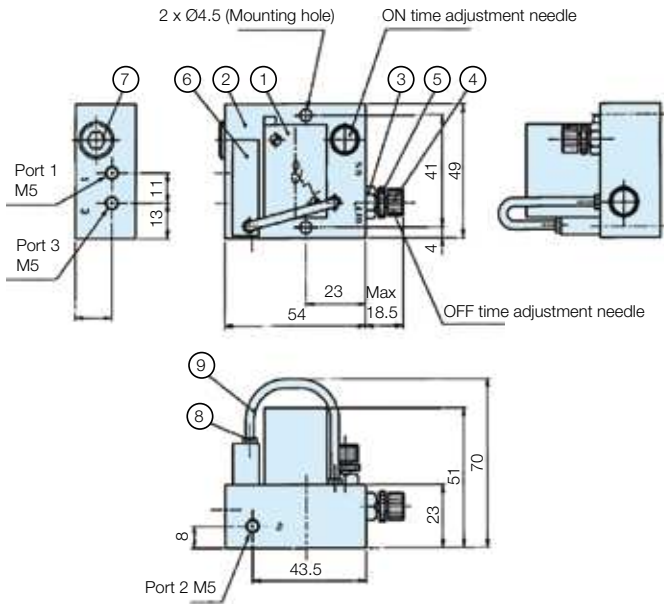
**Order key**

**WP AS V 2000 - AA - 17**

<b>Grease</b>	<b>Type / Flow rate</b>	<b>Port Size</b>
<b>Blank</b> Standard grease	<b>200</b> 2-position, internal air pilot / 200 liter/min	<b>M5</b> M5 (ASV200 only)
<b>WP</b> Petrolatum grease (for painting applications.)	<b>500</b> 2-position, single solenoid / 500 liter/min	<b>10</b> BSPP 1/8 (ASC/O500 only)
<b>Series</b>	<b>2000</b> 2-position, external air pilot / 2000 liter/min	<b>17</b> BSPP 3/8 (ASV2000 only)
<b>AS</b> Air Saver Unit	<b>5000</b> 2-position, external air pilot / 5000 liter/min	<b>21</b> BSPP 1/2 (ASV5000 only)
<b>Operation method / Function</b>	<b>13000</b> 2-position, external air pilot / 13000 liter/min	<b>34</b> BSPP 1 (ASV13000 only)
<b>V</b> Pneumatic operated Normally Closed.	<b>15000</b> 2-position, external air pilot / 15000 liter/min	<b>42</b> BSPP 1 1/4 (ASV15000 only)
<b>C</b> Electrical actuated. Normal Close. (ASC500 only)		<b>Operation / Voltage</b>
<b>O</b> Electrical actuated. Normal Open. (ASO500 only)		<b>AA</b> Pneumatic operated (WP)ASV200, 2000, 5000, ASV13000 and 15000
		<b>1W</b> Electrical operated 24VDC (ASC/O500)

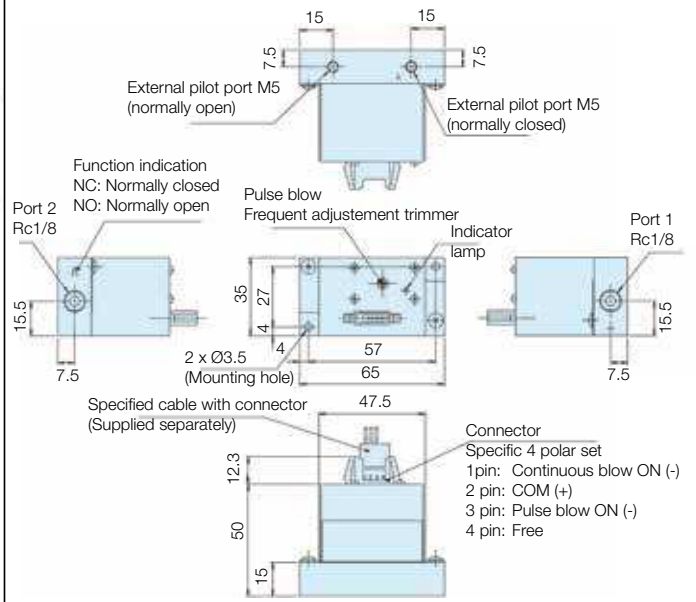
**Note:** Cable with e-CON connector (Model No. ASC-D24-CL10) will be ordered separately.

**ASV200-AA-M5**



Part name	Qty	Material treatment
1 PLN-D10	1	Assembly
2 Flicker base	1	Aluminium alloy
3 Cover	2	Brass
4 Needle	2	Aluminium alloy
5 Lock nut	2	Aluminium alloy
6 VCC232-NB-Z12-005	1	Assembly
7 Plug R1/4	1	Black oxide finish
8 BC-03-M3	2	Stainless
9 TN-3.2	8cm	Polyamide resin

**ASC500-1W-10 / ASO500-1W-10**

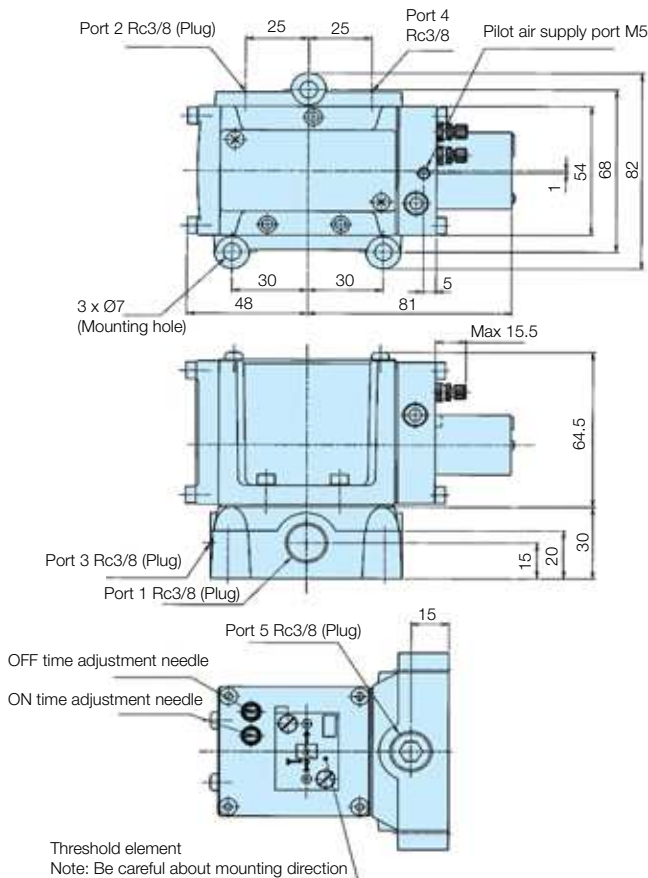


Pin no.	Colour
1	Black
2	Red
3	Yellow
4	(Free)

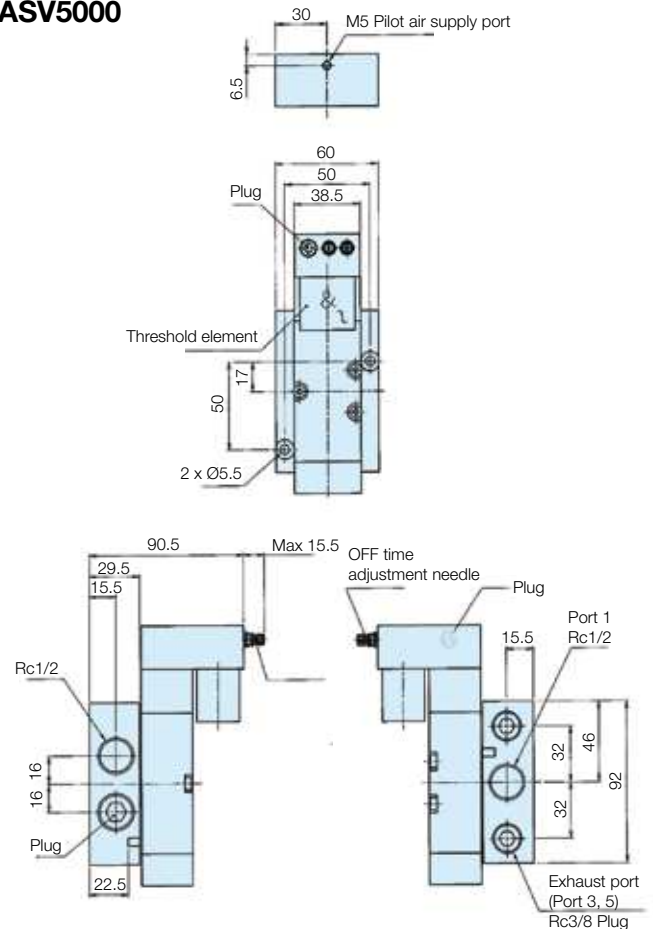


\*Cable with specific connector "ASC-D24-CL10" (AWG26 ASC/ASO in common)

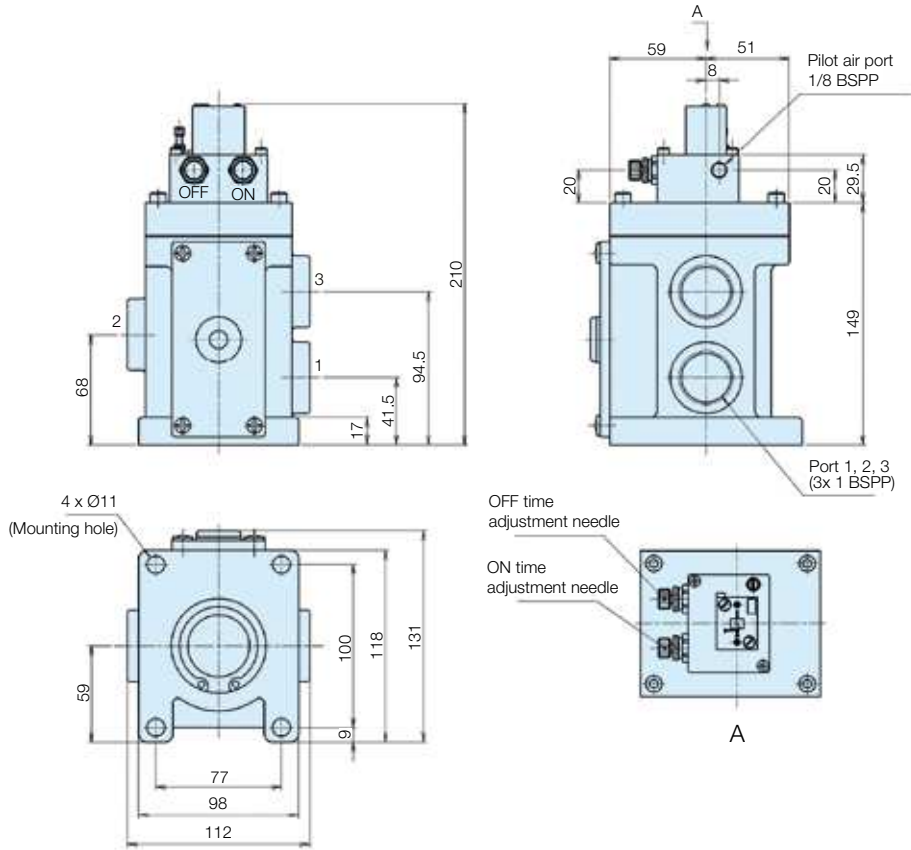
**ASV2000**



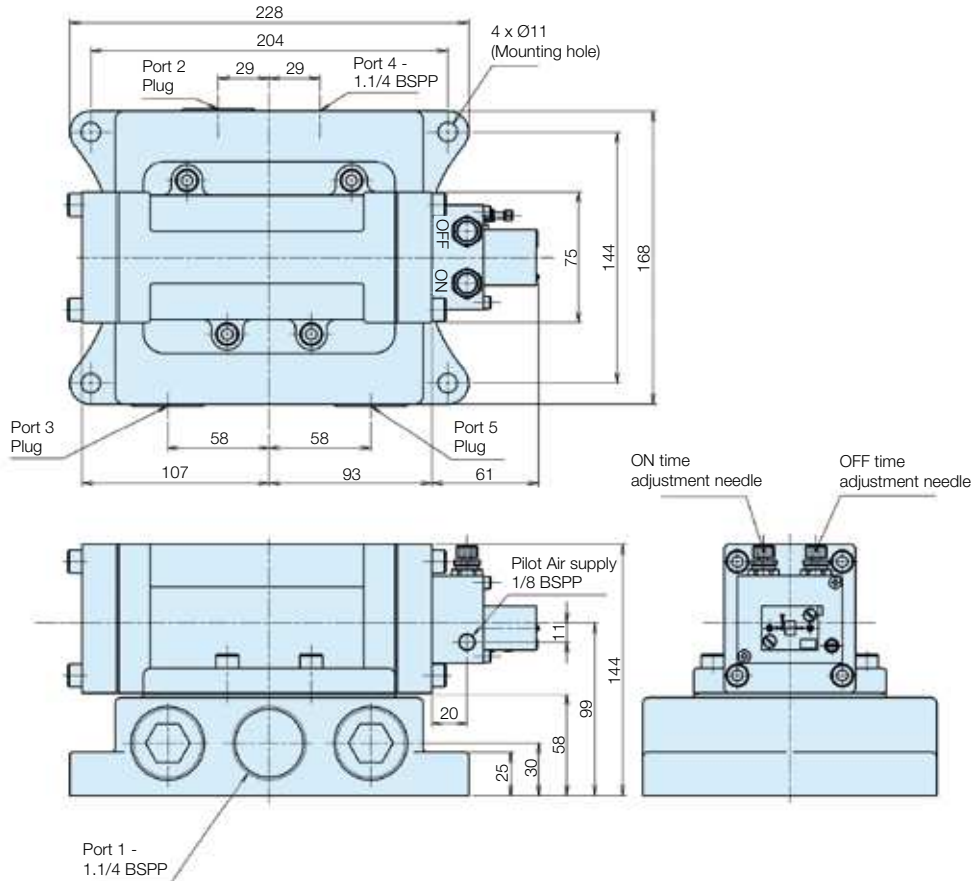
**ASV5000**



**ASV13000\_AA\_34**



**ASV15000\_AA\_42**



Designed to fit the standard electrical Ø22mm knock out, they can provide dual pneumatic and electrical output signals. A variety of button and switch actuators are available.

- Facia mounted operation
- 3/2 NO or NC
- Modular construction
- Wide range of actuators
- Dual pneumatic and electrical output signal



 **For ATEX specific products contact Sales Office**


**Flow characteristics**

<b>PXB-B3••</b>	Q <sub>max</sub> = 60 l/min Q <sub>n</sub> = 30 l/min
<b>PXB-B4••</b>	Q <sub>max</sub> = 240 l/min Q <sub>n</sub> = 120 l/min
Connections	Ø 4 mm push-in


**Operating information**

<b>Push button valves - Visual indicators</b>	
Working pressure	
PXB-B3••	1 to 9 bar
PXB-B4••	1 to 10 bar
PXV-••	1 to 8 bar
Working temperature	-15°C to +60°C
ATEX approval:	CE Ex II 3 GD


**Spring return push buttons**

Symbol	Flow	Order code
	60 l/min	<b>PXB-B3111BA2</b>
	240 l/min	<b>PXB-B4131BA2</b>

Black - With 1 NC valve


Symbol	Flow	Order code
	60 l/min	<b>PXB-B3111BA4</b>
	240 l/min	<b>PXB-B4131BA4</b>

Red - With 1 NC valve


Symbol	Flow	Order code
	60 l/min	<b>PXB-B3111BA3</b>
	240 l/min	<b>PXB-B4131BA3</b>

Green - With 1 NC valve

**Mushroom head push buttons**


Symbol	Flow	Order code
	60 l/min	<b>PXB-B3111BC2</b>
	240 l/min	<b>PXB-B4131BC2</b>

Black - Spring return - With 1 NC valve

Symbol	Flow	Order code
	60 l/min	<b>PXB-B3111BT4</b>
	240 l/min	<b>PXB-B4131BT4</b>

Red - Latching - With 1 NC valve

**Selector switches**

Symbol	Flow	Order code
	60 l/min	<b>PXB-B3111BD2</b>
	240 l/min	<b>PXB-B4131BD2</b>

Black - 2 positions - With 1 NC valve

**Additional switch valves, electrical contact block and mounting brackets**

Symbol	Flow	Order code
	60 l/min NC	<b>PXB-B3911</b>
	240 l/min NC	<b>PXB-B4931</b>
	60 l/min NO	<b>PXB-B3921</b>
	240 l/min NO	<b>PXB-B4931</b>
	60 l/min NC	<b>PXB-B3912</b>
	60 l/min NO	<b>PXB-B3922</b>

Symbol	Flow	Order code
	60 l/min NC	<b>PXB-B3111B</b>
	60 l/min NO	<b>PXB-B3121B</b>

Contact	Order code
Normally open NO	<b>ZBE-101</b>
Normally closed NC	<b>ZBE-102</b>

All PXB-B4 valves can be connected either as normally closed 3/2 valve (NC) or normally open 3/2 valve (NO) as required, by connecting the primary air supply to port 1 or port 3.

Description	Order code
Mounting block	<b>ZB4-BZ009</b>

**Spring return push buttons**

Colour	Order code
Black	<b>ZB4-BA2</b>
Green	<b>ZB4-BA3</b>
Red	<b>ZB4-BA4</b>

Flush

Colour	Order code
Black	<b>ZB4-BC2</b>
Green	<b>ZB4-BC3</b>
Red	<b>ZB4-BC4</b>

Ø40 mm  
spring return

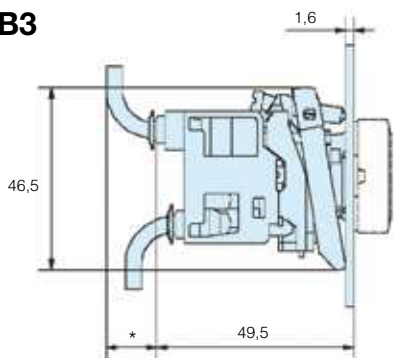
**Selector switches**

Function	Order code
2 positions fixed	<b>ZB4-BD2</b>
3 positions fixed	<b>ZB4-BD3</b>

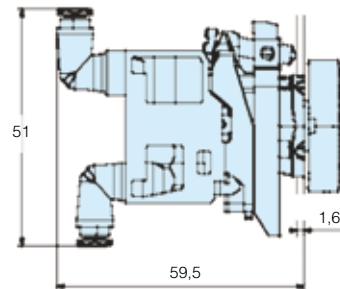
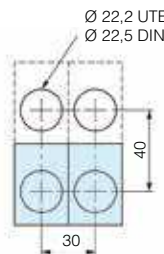
Standard

Colour actuated	Colour unactuated	Order code
Green	Black	<b>PXV-F131</b>
Red	Black	<b>PXV-F141</b>
Yellow	Black	<b>PXV-F151</b>
Blue	Black	<b>PXV-F161</b>
White	Black	<b>PXV-F111</b>
Green	Red	<b>PXV-F1314</b>

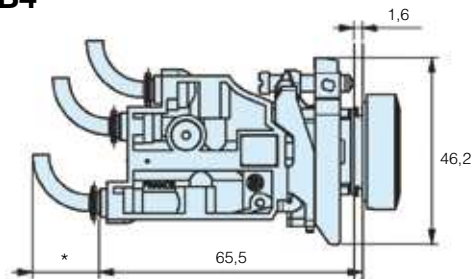
**PXB-B3**



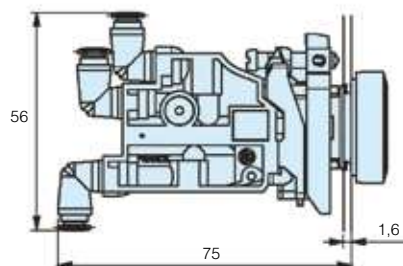
Body width 30mm  
\* With 2 x 4mm tube = 10  
With 2,7 x 4mm tube = 15



**PXB-B4**



Body width 30mm  
\* With 2 x 4mm tube = 10  
With 2,7 x 4mm tube = 15



Compact 3/2 normally closed metal bodied valves with push-in air connections. Designed for the process duty cycle with high durability. Ideal for the process or packaging industry.

- High durability
- Very good repeat accuracy
- Design for process duty cycle
- Push-in connection
- Versatile and easily maintained
- Miniature size

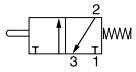
 **For ATEX specific products contact Sales Office**



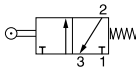
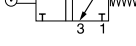
**Operating information**

Working pressure; PXC-M	3 to 8 bar		
Working temperature	-15 °C to +60 °C		
<b>PXC-M111</b>	<b>PXC-M121</b>	<b>PXC-M521</b>	<b>PXC-M601</b>
Flow (Qmax):	60 l/min	85 l/min	250 l/min 250 l/min
For more information see <a href="http://www.parker.com/euro_pneumatic">www.parker.com/euro_pneumatic</a>			

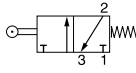
**Bore Ø1,5 mm, flow 60 NI/min**

Symbol	Actuator	Return at 6 bar, N	Operating forces	Order code
	Steel plunger	Spring	11	<b>PXC-M111</b>

**Bore Ø1,5 mm, flow 85 NI/min**

Symbol	Actuator	Return at 6 bar, N	Operating forces	Order code
	Plastic roller	Spring	4,5	<b>PXC-M121</b>
	Steel roller	Spring	4,5	<b>PXC-M131</b>

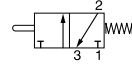
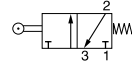
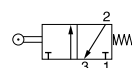
**Bore Ø2,5 mm, flow 250 NI/min**

Symbol	Actuator	Return at 6 bar, N	Operating forces	Order code
	Plastic roller	Spring	7	<b>PXC-M521</b>

**3/2 compact limit switches -**

With Ø4mm Push-in connections with pipeable exhaust port

**Bore Ø2,5mm, flow 250 NI/min - With plunger head**

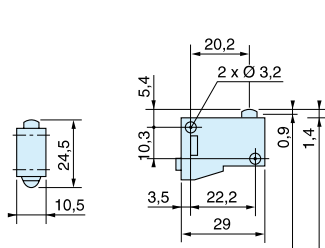
Symbol	Actuator	Return at 6 bar, N	Operating forces	Order code
	Steel plunger	Spring	24	<b>PXC-M601A110</b>
	Steel roller plunger	Spring	24	<b>PXC-M601A102</b>
	90° Steel roller plunger	Spring	24	<b>PXC-M601A103</b>

**Dimensions, Limit switches, Series PXC**

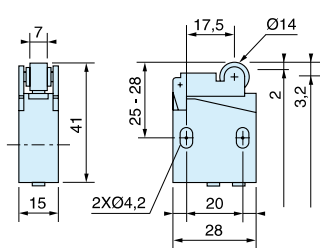
All dimensions in mm unless otherwise stated

**3/2 miniature limit switches**

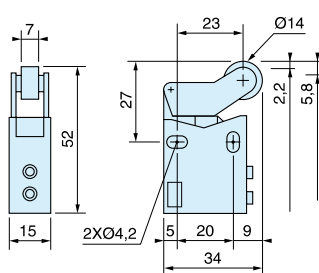
**PXC-M111      PXC-Z12      PXC-Z11**



**PXC-M121 - PXC-M131**

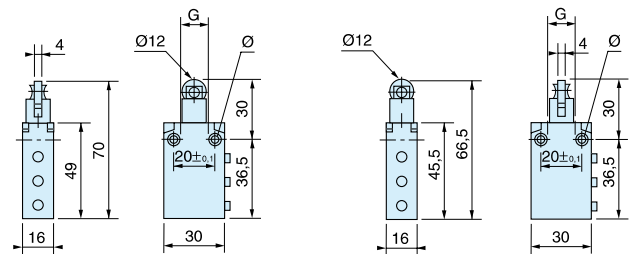


**PXC-M521**

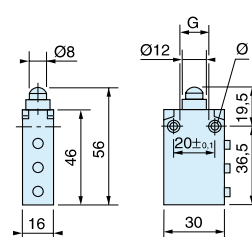


**3/2 compact limit switches**

**PXC-M601A102      PXC-M601A103**



**PXC-M601A110**



Ergonomically designed units to provide protection against accidental operation of machines. Completely sealed units prevent tampering and comply with latest European safety standards.



- Ergonomic design
- Robust polymer or metal enclosure
- Meets requirements for protection against accidental operation and tampering
- Metal enclosure features a wrist-rest bar which helps prevent illness due to repetitive actions
- Conforms to EN574 and EN954-1 requirements

**Operating information**

Working pressure	3 to 8 bar
Working temperature	-5 °C to +60 °C
For more information see <a href="http://www.parker.com/euro_pneumatic">www.parker.com/euro_pneumatic</a>	

**Control module only**

Symbol	Connections	Order code
	Ø4 mm Push-in	<b>PXP-A11</b>

**Complete units**

Polymer enclosure, with two Ø40 mm push button with protective guards and control module

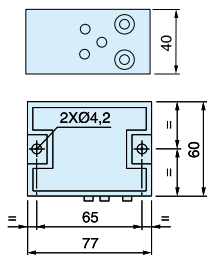
Symbol	Connections	Number of control modules	Order code
	Ø4 mm Push-in	1	<b>PXP-C111</b>
	Ø4 mm Push-in	2	<b>PXP-D121</b>

Metal enclosure, with two Ø60 push buttons, wrist restbar, built in protective guard and control module

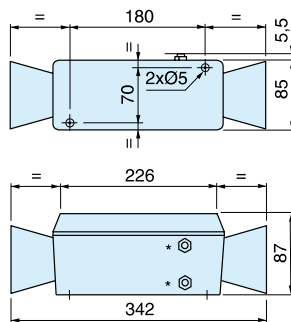
Symbol	Connections	Number of control modules	Order code
	Push-in Ø6 mm for supply Ø4 mm for output	1	<b>PXP-S111</b>
	Push-in Ø6 mm for supply Ø4 mm for output	2	<b>PXP-S121</b>

**Dimensions**

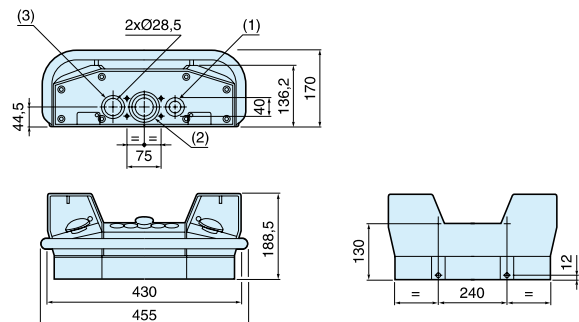
**PXP-A11**



**PXP-C111 and PXP-D121**



**PXP-S111 and PXP-S121**



\* Ø4 mm push-in connections  
\*\* Ø6 mm push-in connections



- 12 mm solenoids sub-base mounting type
- Instant push-in fittings for inlet (Ø 8 mm) and outlets (Ø 4 mm)
- Brass silencer
- Quick response time
- Multi-functional manual override



Operating Information		Materials	
Working pressure	0,9 to 8 bar	Manifold complete :	Polyamide      Aluminium
Power DC	1 W	Armature tube:	Brass            Stainless steel
Voltage	24 VDC	Plunger & core:	Corrosion resistant Cr-Ni steel
Voltage tolerance	+/- 10 %	Seals:	FKM (Viton™)    Low temp FKM
Electrical connection	M8	Screws:	Zinc plated        Stainless steel
Flow rate at 6 bar input, 1 bar pressure drop	15NI/min	<b>Coil</b>	
Valve function	3/2 NC	Encapsulation material:	Thermoplastic as standard thermoset resin for M12 connection
Response time	5 ms		
Frequency	200 cycles/min		

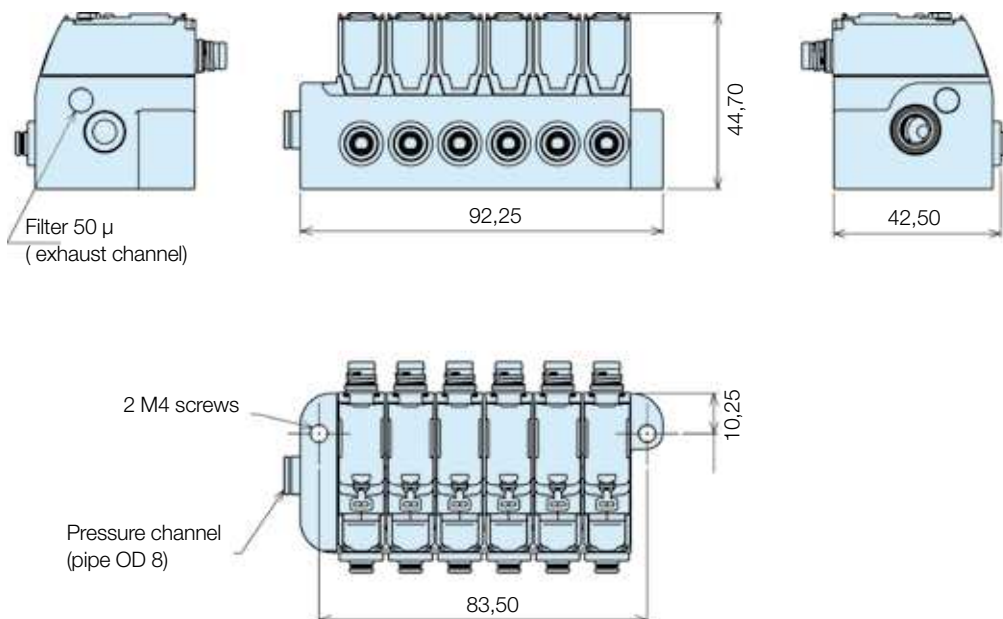
**Order codes**

Designation		Weight (kg)	Order code
5 stations manifold complete		0,130	<b>P2DFIX5PC</b>
6 stations manifold complete		0,155	<b>P2DFIX6PC</b>
Electrical connector *	2 m	-	<b>P8LS08L226C</b>
	5 m	-	<b>P8LS08L526C</b>
	9 m	-	<b>P8LS08L926C</b>

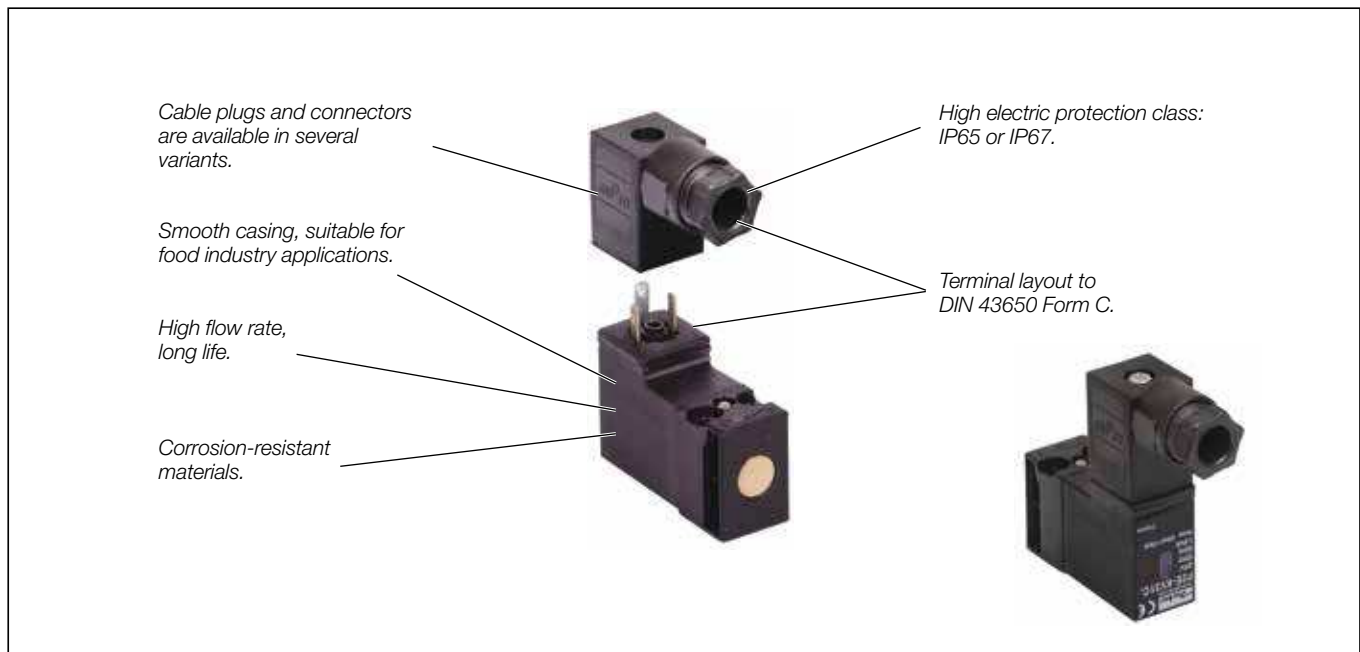


\* Clip-on individual electrical connector, for each solenoid pilot, IP67 protected, including LED, voltage surge protection and flying lead cable

**Dimensions (mm)**



## Solenoid operators - 15 mm



### The P2E-•V solenoid operator range

The P2E-•V range of operators are normally closed (NC) 3/2 solenoid valves, with exceedingly compact dimensions in relation to their capacity.

#### International standard

The port connection pattern complies with a new French CNOMO standard (in process of drafting), with cable plug connections in accordance with DIN 43650 Form C.

#### Compact design

Overall dimensions of the P2E-•V operators are substantially less than those of earlier generations of solenoid operators.

#### High flow capacity

High flow capacity relative to the electrical operating power as a result of optimised internal flow paths.

#### Corrosion-resistant design

The valve is made of thermoplastic material and stainless steel, with Viton™ and nitrile rubber seals for excellent corrosion resistance.

#### Clean lines suitable for food industry applications, P2E-QV

The valve has been designed in conjunction with several machine manufacturers and organisations in the food processing industry, with corrosion-resistant materials and smooth lines being important starting points. The valve and its accessories have been designed so that there are no gaps or crevices in which dirt could collect.

#### High reliability

Few moving parts result in high reliability, rapid changeover and very long life.

#### Low power demand

The solenoids have a power demand of 1.2 W at 24 VDC and 1.6 VA at 24 VAC, 115 V AC and 230 VAC.

#### High protection class

The protection class is IP 67 when connected using the cable plug with a moulded cable. When using the standard cable plug for fitting by the user, the protection class is IP65, the valve, with Fast-on connectors, has an encapsulation class of IP 20.

#### Insensitive to dirty air

The use of generously sized flow paths (1.0 mm diameter) means that the valve can be used in normal industrial environments without problems of blocking.

#### Manual override as option

The operators can be supplied with our without manual override. The manual override device is available as a screwdriver groove or with a control arm, and is either spring return (blue) or lockable (yellow).

Order key, solenoid operators (15mm)

<b>P</b>	<b>2</b>	<b>E</b>	<b>-</b>	<b>Q</b>	<b>V</b>	<b>3</b>	<b>2</b>	<b>C</b>	<b>3</b>
----------	----------	----------	----------	----------	----------	----------	----------	----------	----------

Valve family	
<b>P2E</b>	Solenoid operator

Subfamily	
	Solenoid operator, 15 mm wide Electric connection acc. to ISO 15217 Form C EI/supply connection on opposite side
<b>K</b>	Standard version
<b>M</b>	Mobile version
<b>Q</b>	Food industry version
<b>H</b>	Hight flow

Type of current	
<b>1</b>	AC 50 Hz
<b>2</b>	DC
<b>4</b>	AC 50/60 Hz
<b>5</b>	Mobile and wide band only

Voltage	
<b>B</b>	12 V
<b>C</b>	24 V
<b>D</b>	48 V
<b>F</b>	115 V*
<b>J</b>	230 V*
<b>W</b>	37,5 V**
<b>T</b>	72 V**
<b>Y</b>	78 V**
<b>V</b>	96 V**
<b>E</b>	110 V**

Overrides	
<b>0</b>	Without
<b>1</b>	Non locking (blue)
<b>2</b>	Locking (yellow)
<b>3</b>	Extended non locking (blue)
<b>4</b>	Extended locking (yellow)


  

Valve type / Function	
<b>3</b>	3/2 valve, normally closed (NC)
<b>1</b>	3/2 valve, normally opened (NO)

\* For standard and food type only  
\*\* For mobile "M" version only

Technical data

	NC, Standard	NC, Food <sup>1)</sup>	NC, Mobile <sup>2)</sup>	NC, Hight flow
Working pressure	0 to 10 bar	0 to 10 bar	0 to 10 bar	0 to 10 bar
Working temperature	-15 °C to +60 °C	-15 °C to +60 °C	-40 °C to +70 °C	-15 °C to +50 °C
Orifice	1,0 mm	1,0 mm	1,0 mm	1,4 mm
Flow Qmax	33 NI/min	33 NI/min	22 NI/min	50 NI/min
Power, hold	DC 1,2 W / AC 1,6 VA *	DC 1,2 W / AC 1,6 VA *	DC 1,4 W	DC 1,8 W / AC 2,4 VA
Power, surge	DC 1,2 W / AC 3,5 VA *	DC 1,2 W / AC 3,5 VA *	DC 1,4 W	DC 1,8 W / AC 5,5 VA
Connection time	100%	100%	100%	100%
Voltage tolerance	+10%/–15%	+10%/–15%	+25%/–30%	+10%/–15%
Electric connection:	DIN 43650 Form C			
Port pattern:	To future CNOMO standard			
Protection:	IP 65			
Approval:	Standard solenoids are UL 429 recognized and marked with the following symbol 			
Working media:	All neutral media, such as compressed air, water, hydraulic oil and many gases.			
Design:	1) Completely smooth exterior, suitable for food industry.			
2) Mobile standard	According to European standard EN 50 155.			

\* Power , hold for 230VAC 2.4VA  
Power, surge for 230VAC 5.5VA

Transients

Interrupting the current through the solenoid coil produces momentary voltage peaks which, under unfavourable conditions, can amount to several hundred times the rated operating voltage. Normally, these transients do not cause problems, but to achieve the maximum life of relays in the circuit (and particularly of transistors, thyristors and integrated circuits) it is desirable to provide protection by means of voltage-dependent resistors (varistors). All cable plugs with a yellow LED also incorporate such protection.

Service life

With compressed air at 6 bar, 20 °C and complying with the requirements for compressed air quality as set out in ISO8573-1 norm (class 4 for dry and class 5 for filtered air), the valves should have a life of at least 50 million cycles.

Materials

Operator

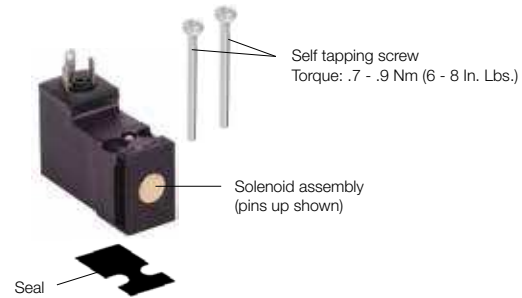
Body, coil casing	Thermoplastic
Internal metal parts	Steel
Screws	Stainless steel
Bottom plug	Thermoplastic
Sealing materials	FPM (Viton™) and nitrile rubber

Cable head

Sheath	Thermoplastic
Retaining screw	Stainless steel, zinc-plated steel

Solenoid Operators - 15 mm

Electrical connection EN175301-803 C/ISO15217 (Ex DIN 43650C)



Solenoids 15 mm NC, standard

(Note! Mounting screws included in basic valve)

	Voltage	Weight kg	Order code Without manual override	Weight kg	Order code Override, blue, non locking flush	Weight kg	Order code Override, yellow, locking flush
	12 VDC	0,038	<b>P2E-KV32B0</b>	0,038	<b>P2E-KV32B1</b>	0,038	<b>P2E-KV32B2</b>
	24 VDC	0,038	<b>P2E-KV32C0</b>	0,038	<b>P2E-KV32C1</b>	0,038	<b>P2E-KV32C2</b>
	48 VDC	0,038	<b>P2E-KV32D0</b>	0,038	<b>P2E-KV32D1</b>	0,038	<b>P2E-KV32D2</b>
	24 VAC 50Hz	0,038	<b>P2E-KV31C0</b>	0,038	<b>P2E-KV31C1</b>	0,038	<b>P2E-KV31C2</b>
	48 VAC 50/60Hz	0,038	<b>P2E-KV34D0</b>	0,038	<b>P2E-KV34D1</b>	0,038	<b>P2E-KV34D2</b>
	115 VAC 50Hz/ 120 VAC 60Hz	0,038	<b>P2E-KV31F0</b>	0,038	<b>P2E-KV31F1</b>	0,038	<b>P2E-KV31F2</b>
	230 VAC 50Hz/ 240 VAC 60Hz	0,038	<b>P2E-KV31J0</b>	0,038	<b>P2E-KV31J1</b>	0,038	<b>P2E-KV31J2</b>

	Voltage	Weight kg	Order code Override extended, blue, non locking flush	Weight kg	Order code Override extended, yellow, locking flush
	24 VDC	0,038	<b>P2E-KV32C3</b>	0,038	<b>P2E-KV32C4</b>
	24 VAC 50Hz	0,038	<b>P2E-KV31C3</b>	0,038	<b>P2E-KV31C4</b>

Solenoids 15 mm NC, mobile

(Note! Mounting screws included in basic valve)

	Voltage	Weight kg	Order code Without manual override	Weight kg	Order code Override, blue, non locking flush
	12 VDC	0,038	<b>P2E-MV35B0</b>	0,038	<b>P2E-MV35B1</b>
	24 VDC	0,038	<b>P2E-MV35C0</b>	0,038	<b>P2E-MV35C1</b>
	37,5 VDC	0,038	<b>P2E-MV35W0</b>	0,038	<b>P2E-MV35W1</b>
	48 VDC	0,038	<b>P2E-MV35D0</b>	0,038	<b>P2E-MV35D1</b>
	72 VDC	0,038	<b>P2E-MV35T0</b>	0,038	<b>P2E-MV35T1</b>
	78 VDC	0,038	<b>P2E-MV35Y0</b>	0,038	<b>P2E-MV35Y1</b>
	96 VDC	0,038	<b>P2E-MV35V0</b>	0,038	<b>P2E-MV35V1</b>
	110 VDC	0,038	<b>P2E-MV35E0</b>	0,038	<b>P2E-MV35E1</b>

Solenoids 15 mm NC, food industry version

(Note! Mounting screws included in basic valve)

	Voltage	Weight kg	Order code Without manual override	Weight kg	Order code Override, blue, non locking flush	Weight kg	Order code Override, yellow, locking flush
	24 VDC	0,038	<b>P2E-QV32C0</b>	0,038	<b>P2E-QV32C1</b>	0,038	<b>P2E-QV32C2</b>
	48 VDC	0,038	<b>P2E-QV32D0</b>	0,038	<b>P2E-QV32D1</b>	0,038	<b>P2E-QV32D2</b>
	24 VAC 50Hz	0,038	<b>P2E-QV31C0</b>	0,038	<b>P2E-QV31C1</b>	0,038	<b>P2E-QV31C2</b>
	48 VAC 50/60Hz	0,038	<b>P2E-QV34D0</b>	0,038	<b>P2E-QV34D1</b>	0,038	<b>P2E-QV34D2</b>
	115 V 50Hz/ 120 V 60Hz	0,038	<b>P2E-QV31F0</b>	0,038	<b>P2E-QV31F1</b>	0,038	<b>P2E-QV31F2</b>
	230 VAC 50Hz/ 240 VAC 60Hz	0,038	<b>P2E-QV31J0</b>	0,038	<b>P2E-QV31J1</b>	0,038	<b>P2E-QV31J2</b>

	Voltage	Weight kg	Order code Override extended, blue, non locking flush	Weight kg	Order code Override extended, yellow, locking flush
	24 VDC	0,038	<b>P2E-QV32C3</b>	0,038	<b>P2E-QV32C4</b>
	24 VAC 50Hz	0,038	<b>P2E-QV31C3</b>	0,038	<b>P2E-QV31C4</b>
	115 VAC 50 Hz	0,038	<b>P2E-QV31F3</b>	0,038	<b>P2E-QV31F4</b>
	230 VAC 50 Hz	0,038	<b>P2E-QV31J3</b>	0,038	<b>P2E-QV31J4</b>

In accordance with the EU Machine Directive, EN 983, solenoid valves with manual override should have spring-return operating arms for safety.

## 2/2-Way Direct Operated Valve

General application valves for dry or lubricated air, neutral gases and liquids

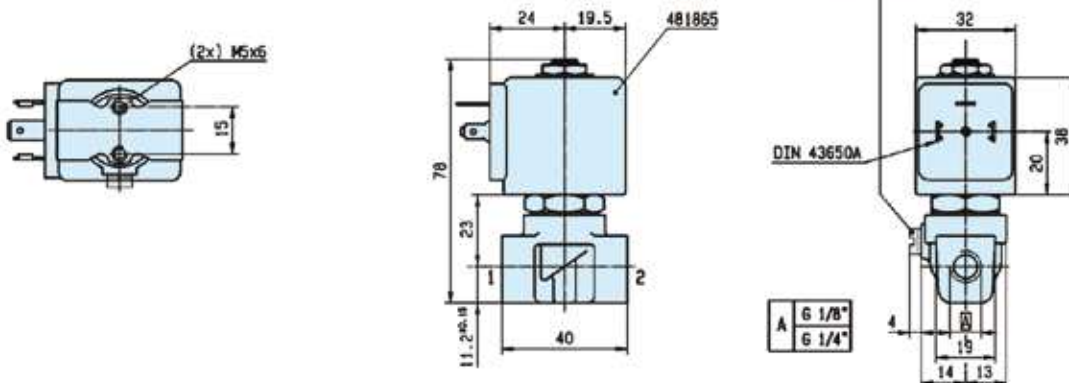


- Description:
- 2/2-Way Direct Operated Valve - Normally Closed.
  - Coil IP65 for 2 P + E plug according to DIN 43650 type A
  - Power Consumption 8W (AC), 9W (DC).
- Applications:
- Shut-off and control (On-Off) of water, air, light oils, steam and inert gases
  - Humidifiers, welding systems, industrial washing machines, automatic dispensers, diesel oil burners, sterilizers, compressors.
- Temperature Range:
- Min: -10°C | Max: see table
- Seals Material:
- See table
- Advantages:
- Versatile product for many 2/2 NC valve requiring applications, robust design.

Port size G	Orifice mm	K <sub>v</sub> l/min	Admissible differential pressure (bar)			Fluid Temp.	Seal Material C°	Reference number Valve	Reference number		Options
			Min.	Max. DC	Max. AC				Housing	Coil	
<b>2/2-Way Direct Operated Valve</b>											Normally CLOSED
1/8"	2.5	3.50	0	10.0	28.0	100°C	Ruby <sup>1</sup>	E121K23	2995	481865	-
1/8"	3.0	4.50	0	7.0	10.0	100°C	FKM	121K1302	2995	481865	-
1/4"	1.2	0.85	0	36.0	80.0	100°C	Ruby <sup>1</sup>	E121K65	2995	481865	-
1/4"	1.5	1.50	0	25.0	60.0	75°C	PCTFE	E121K04	2995	481865	-
1/4"	1.5	1.50	0	25.0	60.0	100°C	Ruby <sup>1</sup>	E121K67	2995	481865	-
1/4"	1.5	1.50	0	20.0	20.0	100°C	FKM	E121K0402	2995	481865	-
1/4"	2.5	3.50	0	10.0	28.0	75°C	PCTFE	E121K07	2995	481865	-
1/4"	2.5	3.50	0	7.0	14.0	100°C	FKM	121K0706	2995	481865	-
1/4"	2.5	3.50	0	10.0	28.0	100°C	Ruby <sup>1</sup>	E121K63	2995	481865	-
1/4"	3.0	4.50	0	7.0	20.0	75°C	PCTFE	E121K03	2995	481865	-
1/4"	3.0	4.50	0	7.0	10.0	100°C	FKM	E121K0302	2995	481865	-
1/4"	3.0	4.50	0	7.0	10.0	100°C	EPDM	121K0323	2995	481865	-
1/4"	3.0	4.50	0	7.0	10.0	100°C	FKM	E121K0352	2995	481865	**
1/4"	3.0	4.50	0	7.0	20.0	100°C	Ruby <sup>1</sup>	E121K64	2995	481865	-
1/4"	4.0	7.50	0	4.0	10.0	100°C	FKM	121K02	2995	481865	-
1/4"	4.0	7.50	0	4.0	10.0	100°C	FKM	121K0250	2995	481865	**
1/4"	5.0	11.00	0	2.0	7.0	100°C	FKM	121K01	2995	481865	-
1/4"	5.0	11.00	0	2.0	7.0	100°C	EPDM	121K0103	2995	481865	-
1/4"	5.0	11.00	0	2.0	7.0	100°C	FKM	121K0150	2995	481865	**
1/4"	5.0	11.00	0	2.0	7.0	100°C	FKM	121K3106	2995	481865	-
3/8"	4.0	7.50	0	4.0	10.0	100°C	FKM	121K3206	2995	481865	-
3/8"	6.0	12.00	0	1.1	5.0	100°C	FKM	121K3303	2995	481865	-
3/8"	6.0	12.00	0	1.1	5.0	100°C	FKM	121K3306	2995	481865	-
1/2"	8.5	25.00	0	0.5	1.1	100°C	FKM	E121K46	2995	481865	-
1/2"	11.0	36.00	0	0.3	0.7	100°C	FKM	E121K45	2995	481865	-

<sup>1</sup> Valve with Ruby seal is only compatible with hydraulic oil and neutral liquids

\*\* Manual override standard



## 2/2 & 3/2 Solenoid Valves for High Pressure pneumatic applications - 40 bar

### Product offering:

- 2/2 valves and 3/2 way valves - pilot operated
- Pipe mounting (G 1/2- 3/4) or sub-base mounting
- 1.5 (2) - 40 bar
- Normally open or closed
- Internal or external pilot pressure supply

### Customer Value Proposition:

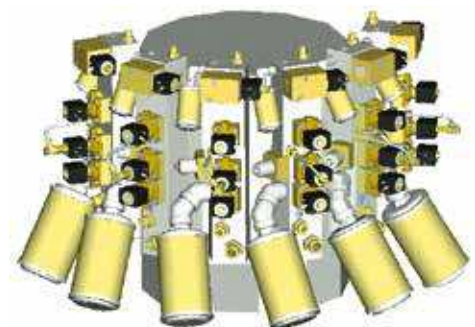
- Safety of operation
- Reliability
- Response time stability
- Repeatability
- No leakage
- Integrated non return valve (421version)

The use of high pressure gases became a necessity in the new technologies developed during the last years.

The control of these fluids can be done through the solenoid valves specially designed by Parker Lucifer for high pressure applications (maximum 50 bar).

The **life expectancy of several millions** of cycles, with **response time of few milliseconds**, allows the use of these valves on intensive applications and on high technology machines, as the plastic bottle blowing machines, or the laser cutting machines.

Parker Lucifer also develops special valves or adapted blocks upon specific customers needs. Please contact your agent for more information.



## Application Example

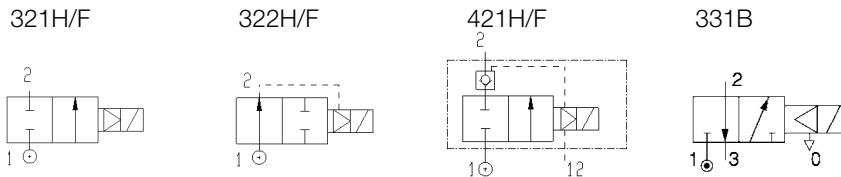
### Main Technical Specifications

#### Function

2/2 pilot operated: Normally closed (with internal pilot pressure) 321H/F type  
 Normally closed (with external pilot pressure) 421H/F type  
 Normally open (with internal pilot pressure) 322H/F type

3/2 pilot operated: normally closed (with internal pressure) 331B type

#### ISO diagram



#### Mounting

- For direct pipe mounting G 1/2" or 3/4" (2/2 Valve type H); G 1/4 (3/2 Valve type B)
- For sub-base mounting (type F)

#### Nominal diameter

15 mm (type H), 14 mm (type F)

#### Pressures

For the version with external pilot pressure, the pilot pressure must always be higher than the controlled pressure

#### External Leakage

0 Ncc/min.

#### Internal Leakage

< 20 Ncc/min.

#### Fluids

Dry lubricated or non lubricated air, Argon, Nitrogen.  
 Oxygen on request

#### Proof pressure

200 bar

#### Filtration

< 1 µm

#### Life expectancy

> 2 10<sup>6</sup> cycles (dry and clean air)  
 > 8 10<sup>6</sup> cycles (lubricated air)

#### Temperatures

Ambient / fluid mini: -10 °C  
 Ambient / fluid maxi: +50 °C

#### Materials specifications

Body/cover: 2/2 Valves: Brass - 3/2 Valves: Aluminium  
 Pilot seals : PUR  
 Main seals : FKM (Viton®) with isolating diaphragm from PUR  
 Tube and plunger : Stainless steel  
 Coil : Encapsulation from PA66 + 30% fiber glass

#### Options

Δp maxi 50 bar on request

#### Response Time

Depends on application

#### Mounting Position

Indifferent

#### Specials

Parker Lucifer also develops special valves or adapted blocks upon specific customers needs.  
 Please contact your agent for more information.

Port size	Orifice	Flow Factor (l/min)	Admissible differential pressure (bar)			Fluid Temp.	Seal Material (C°)	Global Ref. No.	Reference number			Dim. Ref. N°
			Min.	Max. DC	Max. AC				Valve	Housing	Coil	
G	mm	Gaz Qn				Gaz Max.						
<b>2/2 Valves - Direct Pipe Mounting</b>											Normally CLOSED	
1/2"	15	3150	1.5	40	40	50	FKM	-	321H35	2995	481865	1
3/4"	15	3550	1.5	40	40	50	FKM	-	321H36	2995	481865	1
<b>2/2 Valves - Direct Pipe Mounting</b>											Normally OPEN	
1/2"	15	3150	1.5	40	40	50	FKM	-	322H35	2995	481865	2
3/4"	15	3550	1.5	40	40	50	FKM	-	322H36	2995	481865	2
<b>2/2 Valves - Direct Pipe Mounting</b>											External Pilot	Normally CLOSED
1/2"	15	3150	2	40	40	50	FKM	-	421H35	2995	481865	3
3/4"	15	3550	2	40	40	50	FKM	-	421H36	2995	481865	3
<b>2/2 Valves - Sub-base Mounting</b>											Normally CLOSED	
-	14	2100	1.5	40	40	50	FKM	-	321F35	2995	481865	4
-	22	7000	5	40	40	50	FKM	-	321F37	2995	481865	-
<b>2/2 Valves - Sub-base Mounting</b>											Normally OPEN	
-	14	2100	1.5	40	40	50	FKM	-	322F35	2995	481865	5
-	22	7000	1.5	40	40	50	FKM	-	322F37	2995	481865	-
<b>2/2 Valves - Sub-base Mounting</b>											External Pilot	Normally CLOSED
-	14	2100	2	40	40	50	FKM	-	421F35	2995	481865	6
<b>3/2 Valves - Direct Pipe Mounting</b>											Normally CLOSED	
1/4"	8	750	1	40	40	50	PUR	-	331B31	2995	481865	7
<b>3/2 Valves - Sub-base Mounting</b>											Normally CLOSED	
-	8	750	1	40	40	50	PUR	-	331F31	2995	481865	-

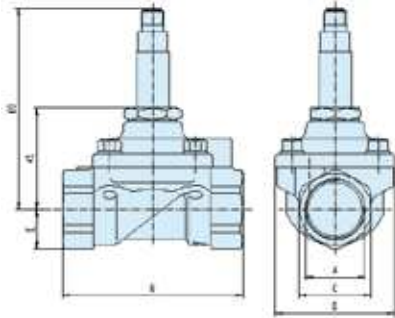
**Available electrical parts:**

You will find standard available coil details on the next pages.

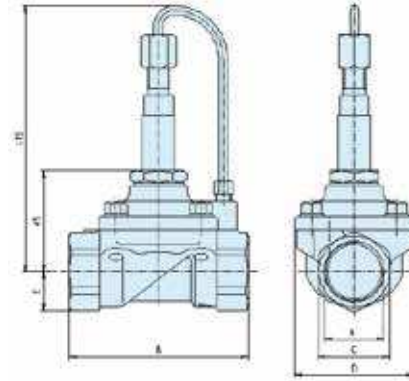


**Dimensions**

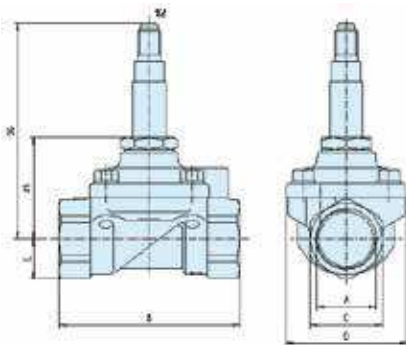
Dimensions Reference N° 1



Dimensions Reference N° 2

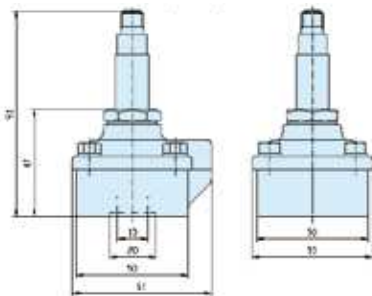


Dimensions Reference N° 3

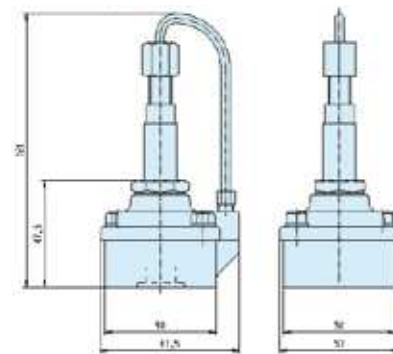


A	B	C	D	E
G3/4"	80	32	53	17.5
G1/2"	75	27	53	13.5

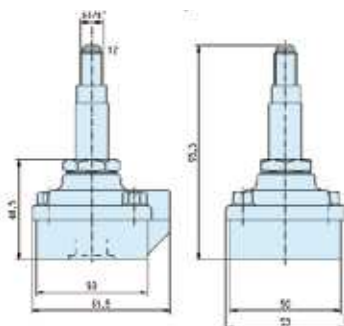
Dimensions Reference N° 4



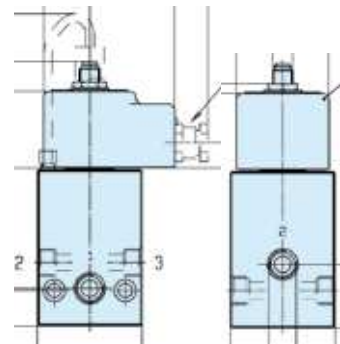
Dimensions Reference N° 5



Dimensions Reference N° 6



Dimensions Reference N° 7



### 3-Way Solenoid Valve - Direct Acting

General application valves for dry or lubricated air, neutral gases and liquids



**Description:**

- 3-Way Solenoid Valve - Direct Acting - Normally Closed.
- Coil IP65 for 2 P + E plug according to DIN 43650 type A
- Power Consumption 8W (AC), 9W (DC).

**Applications:**

- This series is used in applications which require actuation and automatic discharge of moving systems.
- Typical applications can be found in: sterilizers, Cylinder actuation, air compressors, Diesel oil burners, pilot valves, water treatment installations.

**Temperature Range:**

- Min: -10°C | Max: see table

**Seals Material:**

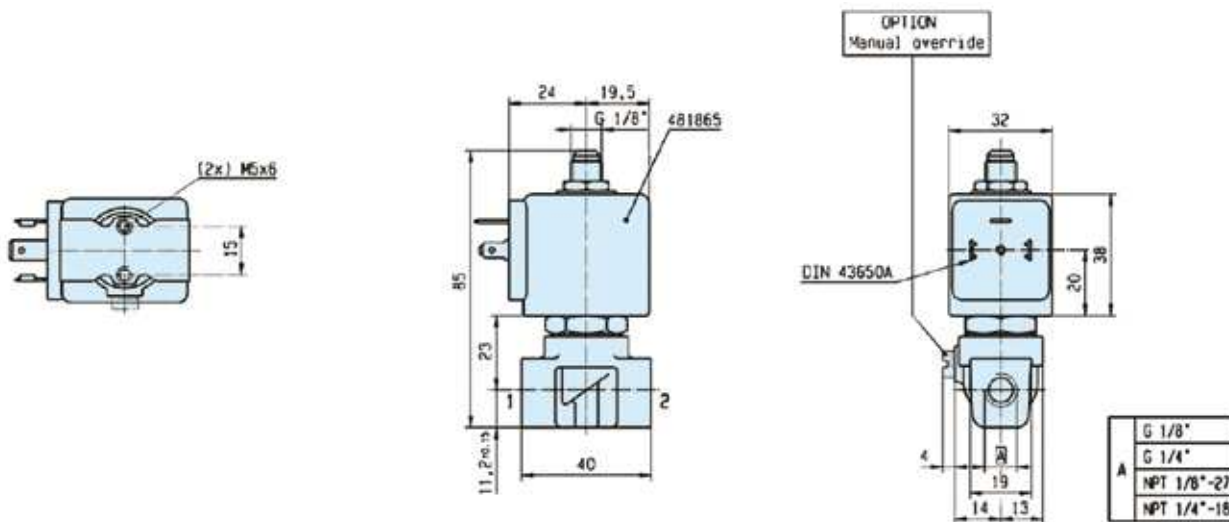
- FKM, PCTFE

**Advantages:**

- Versatile product for many 2/2 NC v alve requiring applications, robust design.

Port size	Orifice	K <sub>v</sub>	Admissible differential pressure (bar)		Fluid Temp.	Seal Material	Reference number	Options		
			Min.	Max.				Valve	Housing	Coil
G	mm	l/min			C°					
<b>3-Way Solenoid Valve - Direct Acting - Normally Closed</b>										Normally CLOSED
1/8"	1.5	1.5	0	15	100°C	FKM	E131K14	2995	481865	-
1/8"	2.0	2.5 (3.5)*	0	10	100°C	FKM	131K16	2995	481865	-
1/8"	2.0	2.5 (3.5)*	0	10	100°C	FKM	131K1650	2995	481865	**
1/8"	2.5	3.5	0	7	100°C	FKM	E131K13	2995	481865	-
1/4"	0.8	0.3	0	40	75°C	PCTFE	131K05	2995	481865	-
1/4"	1.5	1.5	0	15	100°C	FKM	E131K04	2995	481865	-
1/4"	1.5	1.5	0	15	100°C	FKM	E131K0450	2995	481865	**
1/4"	2.0	2.5 (3.5)*	0	10	100°C	FKM	E131K06	2995	481865	-
1/4"	2.0	2.5 (3.5)*	0	10	100°C	FKM	E131K0650	2995	481865	**
1/4"	2.5	3.5	0	7	100°C	FKM	E131K03	2995	481865	-
1/4"	2.5	3.5	0	7	100°C	FKM	E131K0350	2995	481865	**

\* Kv for Exhaust side  
 \*\* Manual override standard



Please consult the "How to Order" part at the end of each coil chapter.

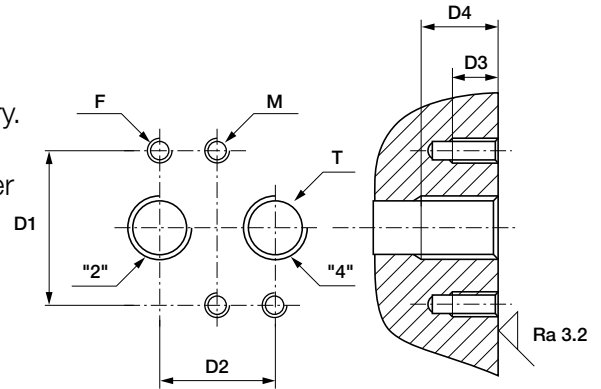
## Valves for Pneumatic Actuator Control

### NAMUR Interfaces 1/4" & 1/2"

NAMUR + piped versions in safe or dangerous areas.

The interface design conforms to the NAMUR standard and to the VDI/VDE 3845 recommendations of the actuator industry. It allows a compact design of the actuator/valve unit. In case of a 3/2 function, the air of the actuator spring chamber also flows through the pilot valve (re-breather function). This prevents corrosion of the actuator springs.

F	T	D1 mm	D2 mm	D3 mm	D4 min. mm	M mm
M5	1/4	32	24	8	12	M5
M6	1/2	45	40	10	16	M6



**F:** 2 mounting holes - **T:** 2 actuators control port - **M:** 2 holes for dowel pins

- High flow: 1.250 l/min (1/4"), 3.000 l/min (1/2")
- Compact design
- Long life expectancy
- N3x & P3x Series compatible with any Parker Lucifer coil (ATEX or not) of electrical group 2 (8/9 W coils)
- Fail safe standard
- Reduced inventory (3/2 & 5/2 functions with the same valve on 341Nx5 series)
- Mechanical part of the valve ATEX certified according standard EN 13463-1 & -5

### General Information

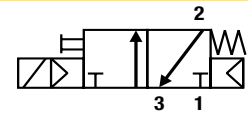
Function:	3/2, 5/2, 3/2 <=> 5/2 and 5/3 valves.
Manual override:	Standard on all versions.
Design:	Nxx & Pxx Series: Solenoid operated spool valve with combined spring and air return & external air pressure operated versions. B0x Series: Solenoid direct acting valve with spring return.
Mounting:	Nxx Series: For direct mounting on NAMUR interface 1/4" & 1/2" Pxx Series: Piped valves G1/4" & G1/2" Bxx Series: Equipped with a banjo bolt G1/8" or G1/4"
Mounting position:	Indifferent.
Material specifications:	Aluminium body. Internal parts of stainless steel. Sealing material from NBR.
Range of admissible pressure drop:	$\Delta p$ min. = see table. $\Delta p$ max. = 10 bar.
Media:	Dry or lubricated air.
Fluid temperature:	Min. 0°C Max. + 50°C
Ambient temperature:	-20°C to +50°C
Electrical part:	N0x / P0x / Bxx Series are compatible with 22 mm coil 496131 / 496482 / 496637 size N3x / P3x Series are compatible with 32/37/40 mm coils part of electrical group 2 (8/9W), including 481865 / 495870 / 495905 Series / N3x90 Series are compatible with coils from electrical group 6,7,8 including coil 495900,495910,483580.
Solenoid duty:	100% ED.
Voltage:	481865 coil: 12 VDC , 24 VDC , 48 VDC , 110VDC, 24 V / 50 AC, 48 V / 50 AC, 110 V / 50 AC, 220-230V/50 AC, 115 V / 60 Hz AC, 230 V / 60 AC.
Voltage tolerance:	± 10% of nominal for 481865 coil.
Class of insulation material:	Class F for 481865 coil.
Standards:	Mechanical ATEX conform to EN 13463-1 & -5.

# NAMUR Valves G1/4" Series

## Solenoid Operated Versions N03-N05 Series with 22 mm Coil

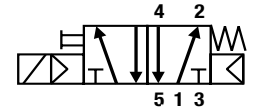
Port size	Orifice	Q <sub>N</sub>	Admissible differential pressure (bar)		Max. admissible fluid temperature (°C)		Seat disc	Reference number			Consumption Power (Watt)		Weight (g)	Dimensions Reference
			max.	min.	DC=	AC~		Air & Neutral gases	Valve	Housing	Coil	DC		

### 3/2 Solenoid operated - Combined spring & air return (monostable)



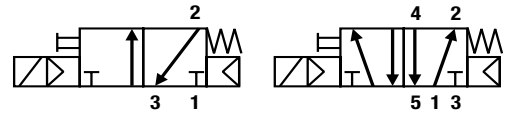
1/4	7	1250	2.5	10	10	50	NBR	<b>331N03</b>	-	<b>496131</b>	3	3	300	1
1/4	7	1250	2.5	10	10	50	NBR	<b>331N03</b>	-	<b>496482</b>	3	3	300	1
1/4	7	1250	2.5	10	10	50	NBR	<b>331N03</b>	-	<b>496637</b>	3	3	300	1

### 5/2 Solenoid operated - Combined spring & air return (monostable)



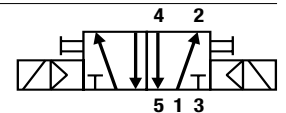
1/4	7	1250	2.5	10	10	50	NBR	<b>341N03</b>	-	<b>496131</b>	3	3	300	2
1/4	7	1250	2.5	10	10	50	NBR	<b>341N03</b>	-	<b>496482</b>	3	3	300	2
1/4	7	1250	2.5	10	10	50	NBR	<b>341N03</b>	-	<b>496637</b>	3	3	300	2

### 3/2 <=> 5/2 with conversion plate - Solenoid operated Combined spring & air return (monostable)



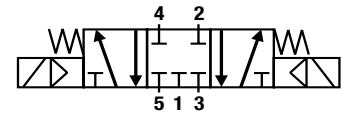
1/4	7	1250	2.5	10	10	50	NBR	<b>341N05</b>	-	<b>496131</b>	3	3	310	3
1/4	7	1250	2.5	10	10	50	NBR	<b>341N05</b>	-	<b>496482</b>	3	3	310	3
1/4	7	1250	2.5	10	10	50	NBR	<b>341N05</b>	-	<b>496637</b>	3	3	310	3
1/4	7	1250	2.5	10	10	50	NBR	<b>341N0502*</b>	-	<b>496131</b>	3	3	310	3
1/4	7	1250	2.5	10	10	50	NBR	<b>341N0502*</b>	-	<b>496482</b>	3	3	310	3
1/4	7	1250	2.5	10	10	50	NBR	<b>341N0502*</b>	-	<b>496637</b>	3	3	310	3

### 5/2 Solenoid operated and return (bistable)



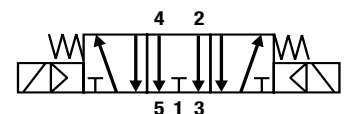
1/4	7	1250	2.5	10	10	50	NBR	<b>347N03</b>	-	<b>496131</b>	3	3	430	4
1/4	7	1250	2.5	10	10	50	NBR	<b>347N03</b>	-	<b>496482</b>	3	3	430	4
1/4	7	1250	2.5	10	10	50	NBR	<b>347N03</b>	-	<b>496637</b>	3	3	430	4

### 5/3 W1 closed in center position - Solenoid operated and return



1/4	7	1250	2.5	10	10	50	NBR	<b>342N03</b>	-	<b>496131</b>	3	3	430	4
1/4	7	1250	2.5	10	10	50	NBR	<b>342N03</b>	-	<b>496482</b>	3	3	430	4
1/4	7	1250	2.5	10	10	50	NBR	<b>342N03</b>	-	<b>496637</b>	3	3	430	4

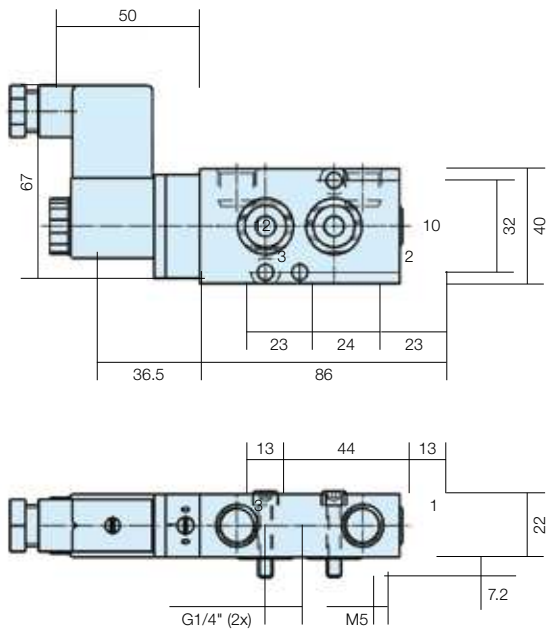
### 5/3 W3 exhausted in center position Solenoid operated and return



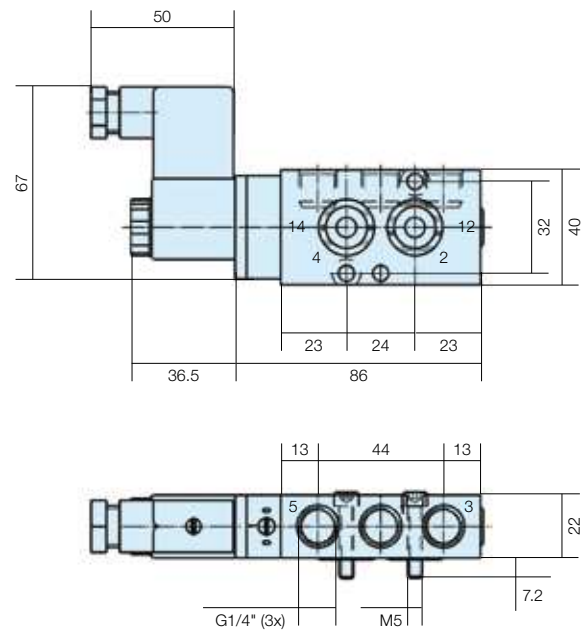
1/4	7	1250	2.5	10	10	50	NBR	<b>343N03</b>	-	<b>496131</b>	3	3	430	4
-----	---	------	-----	----	----	----	-----	---------------	---	---------------	---	---	-----	---

Please consult the "How to Order" part at the end of each coil chapter.

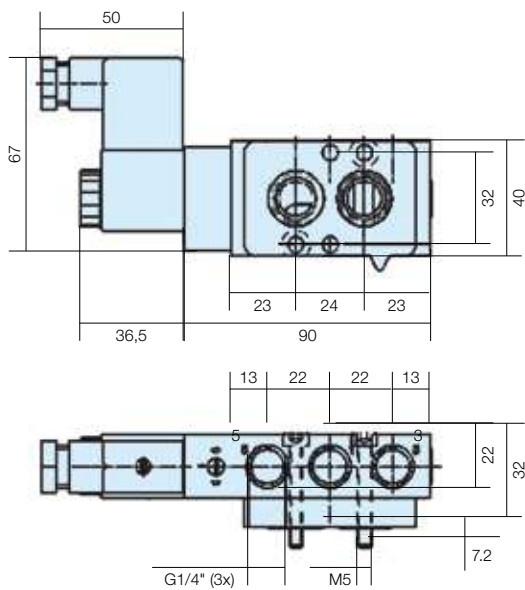
Dimensions Reference 1



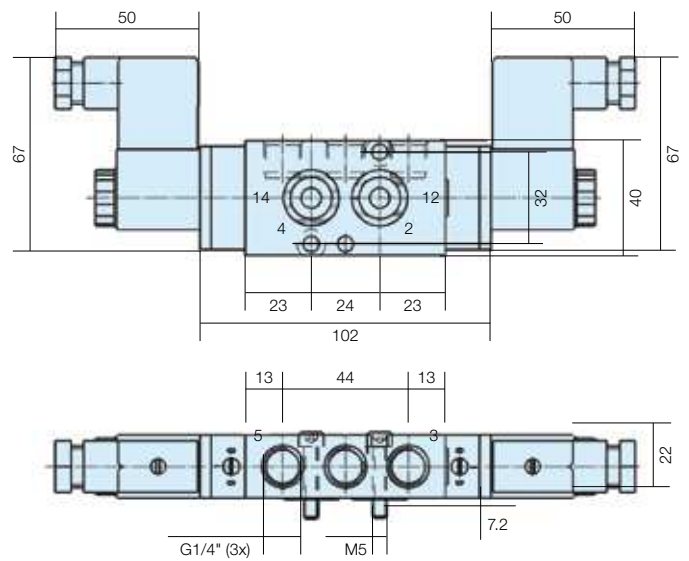
Dimensions Reference 2



Dimensions Reference 3



Dimensions Reference 4



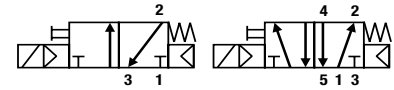
Please consult the "How to Order" part at the end of each coil chapter.

# NAMUR Valves G1/4" Series

## Solenoid Operated Versions N33-N35 Series with 32 / 37 / 40 mm Coil

Port size	Orifice	Q <sub>N</sub>	Admissible differential pressure (bar)			Maximum admissible fluid temperature (°C)		Seat disc	Reference number			Consumption Power (Watt)		Weight (g)	Elect. Group	Dim. Ref.
			maximum	DC=	AC~	Air & Neutral gases	Valve		Housing	Coil	DC	AC				
G	mm	l/min	min	DC=	AC~	Air & Neutral gases										

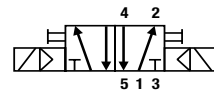
### 3/2 <=> 5/2 with conversion plate - Solenoid operated Combined spring & air return (monostable)



1/4	7	1250	2.5	10	10	50	NBR	<b>341N35</b>	<b>2995</b>	481865	9	8	480	2	5
1/4	7	1250	2.5	10	10	50	NBR	<b>341N35</b>	<b>2995</b>	495870	9	8	700	2	-
1/4	7	1250	2.5	10	10	50	NBR	<b>341N35</b>	-	495905	8	8	740	2	-
1/4	7	1250	2.5	10	10	50	NBR	<b>341N3502*</b>	<b>2995</b>	481865	9	8	480	2	5
1/4	7	1250	2.5	10	10	50	NBR	<b>341N3502*</b>	<b>2995</b>	495870	9	8	700	2	-
1/4	7	1250	2.5	10	10	50	NBR	<b>341N3502*</b>	-	495905	8	8	740	2	-
1/4	7	1250	2.5	10	10	50	NBR	<b>341N3590*</b>	-	483580	0.5-3	-	560	7	5
1/4	7	1250	2.5	10	10	50	NBR	<b>341N3590*</b>	-	495910	0.3-3	-	920	8	-
1/4	7	1250	2.5	10	10	50	NBR	<b>341N3590*</b>	-	495900	2	2,5	920	6	-

\* Valves without manual override

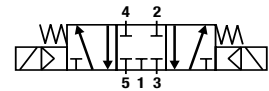
### 5/2 Solenoid operated and return



1/4	7	1250	2.5	10	10	50	NBR	<b>347N33</b>	<b>2995</b>	481865	9	8	750	2	6
1/4	7	1250	2.5	10	10	50	NBR	<b>347N33</b>	<b>2995</b>	495870	9	8	1190	2	-
1/4	7	1250	2.5	10	10	50	NBR	<b>347N33</b>	-	495905	8	8	1270	2	-
1/4	7	1250	2.5	10	10	50	NBR	<b>347N3390*</b>	-	483580	0.5-3	-	700	7	6
1/4	7	1250	2.5	10	10	50	NBR	<b>347N3390*</b>	-	495910	0.3-3	-	1420	8	-
1/4	7	1250	2.5	10	10	50	NBR	<b>347N3390*</b>	-	495900	2	2,5	1420	6	-

\* Valves without manual override

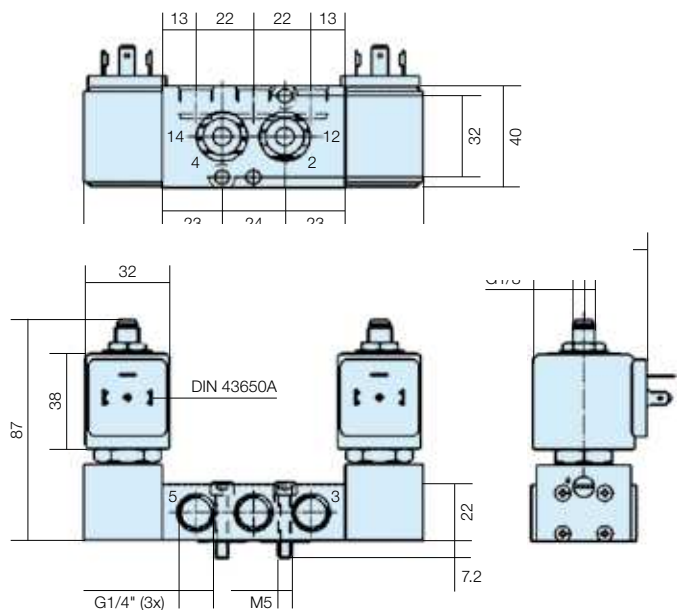
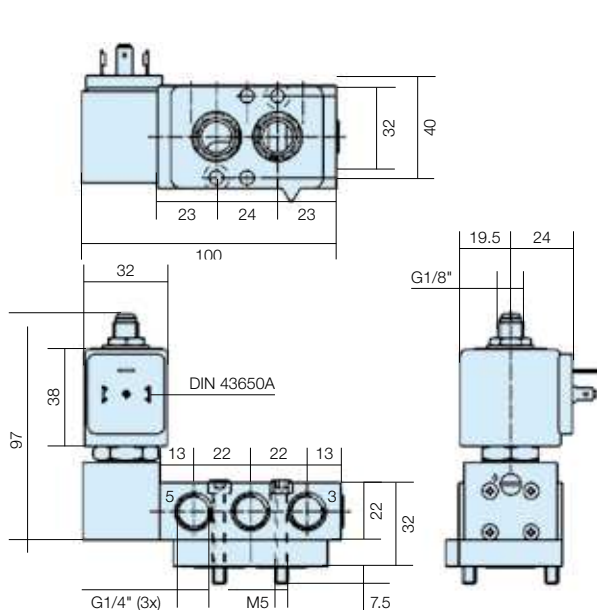
### 5/3 W1 Closed in center position Solenoid operated and return



1/4	7	1250	2.5	10	10	50	NBR	<b>342N33</b>	<b>2995</b>	481865	9	8	750	2	6
1/4	7	1250	2.5	10	10	50	NBR	<b>342N33</b>	<b>2995</b>	495870	9	8	1190	2	-
1/4	7	1250	2.5	10	10	50	NBR	<b>342N33</b>	-	495905	8	8	1270	2	-

### Dimensions Reference 5

### Dimensions Reference 6

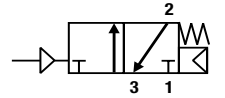


# NAMUR Valves G1/4" Series

## External Pressure Air Operated Series 5xx N03 Series

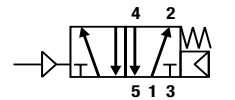
Port size	Orifice	Q <sub>n</sub>	Admissible differential pressure (bar)		Maximum admissible fluid temperature (°C)		Seat disc	Reference number			Consumption Power (Watt)		Weight (g)	Elect. Group	Dim. Ref.
			maximum	DC= AC~	minimum = 0°C	Air & Neutral gases		Valve	Housing	Coil	DC	AC			
G	mm	l/min	min	DC= AC~	min	DC= AC~	Air & Neutral gases	Valve	Housing	Coil	DC	AC			

**3/2 External pressure air operated  
Combined spring & air return (monostable)  
External pressure supply 2.5 to 10 bar**



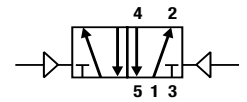
1/4	7	1250	2.5	10	10	50	NBR	<b>531N03</b>	-	w/o	-	-	210	-	7
-----	---	------	-----	----	----	----	-----	---------------	---	-----	---	---	-----	---	---

**5/2 External pressure air operated  
Combined spring & air return (monostable)  
External pressure supply 2.5 to 10 bar**



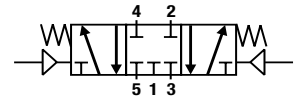
1/4	7	1250	2.5	10	10	50	NBR	<b>541N03</b>	-	w/o	-	-	210	-	8
-----	---	------	-----	----	----	----	-----	---------------	---	-----	---	---	-----	---	---

**5/2 External pressure air operated  
External pressure air return (bistable)  
External pressure supply 2.5 to 10 bar**



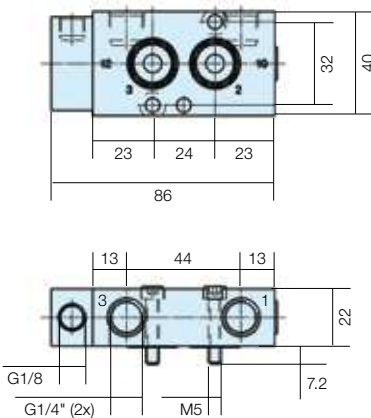
1/4	7	1250	2.5	10	10	50	NBR	<b>547N03</b>	-	w/o	-	-	240	-	9
-----	---	------	-----	----	----	----	-----	---------------	---	-----	---	---	-----	---	---

**5/3 W1 closed in center position - External pressure air operated  
External pressure air return  
External pressure supply 2.5 to 10 bar**

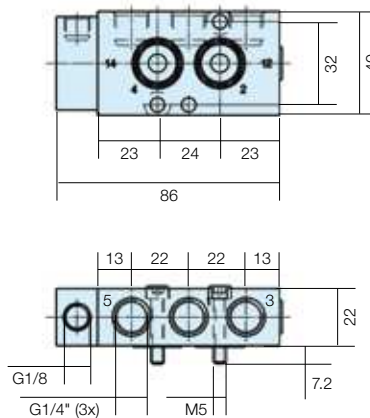


1/4	7	1250	2.5	10	10	50	NBR	<b>542N03</b>	-	w/o	-	-	240	-	9
-----	---	------	-----	----	----	----	-----	---------------	---	-----	---	---	-----	---	---

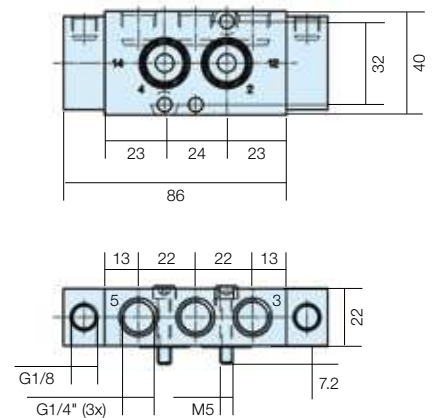
Dimensions Reference 7



Dimensions Reference 8



Dimensions Reference 9

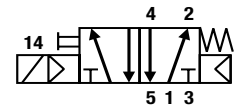


## NAMUR Valves G1/2" Series

### Solenoid Operated Versions N04 Versions with 22 mm Coil

Port size	Orifice	Q <sub>N</sub>	Admissible differential pressure (bar)		Maximum admissible fluid temperature (°C)		Seat disc	Reference number			Consumption Power (Watt)		Weight (g)	Elect. Group	Dim. Ref.
			maximum	AC~	DC=	AC~		Air & Neutral gases	Valve	Housing	Coil	DC			
G	mm	l/min	min	DC=	AC~	min									

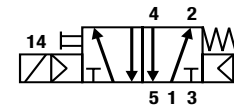
#### 3/2 Solenoid operated Combined spring & air return (monostable)



1/2	12	3000	2.5	10	10	50	NBR	<b>331N04</b>	-	496131	3	3	910	-	10
1/2	12	3000	2.5	10	10	50	NBR	<b>331N04</b>	-	496482	3	3	925	-	10
1/2	12	3000	2.5	10	10	50	NBR	<b>331N04</b>	-	496637	3	3	925	-	10
1/2	12	3000	2.5	10	10	50	NBR	<b>331N0402*</b>	-	496131	3	3	910	-	10
1/2	12	3000	2.5	10	10	50	NBR	<b>331N0402*</b>	-	496482	3	3	925	-	10
1/2	12	3000	2.5	10	10	50	NBR	<b>331N0402*</b>	-	496637	3	3	925	-	10

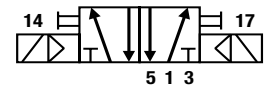
\* Valves without manual override

#### 5/2 Solenoid operated Combined spring & air return (monostable)



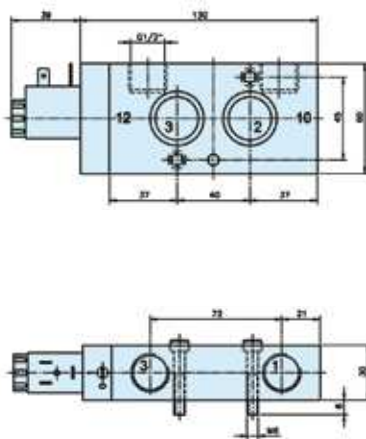
1/2	12	3000	2.5	10	10	50	NBR	<b>341N04</b>	-	496131	3	3	910	-	11
1/2	12	3000	2.5	10	10	50	NBR	<b>341N04</b>	-	496482	3	3	925	-	11
1/2	12	3000	2.5	10	10	50	NBR	<b>341N04</b>	-	496637	3	3	925	-	11

#### 5/2 Solenoid operated and return (bistable)

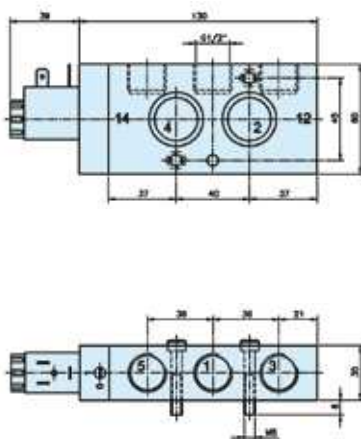


1/2	12	3000	2.5	10	10	50	NBR	<b>347N04</b>	-	496131	3	3	1240	-	12
1/2	12	3000	2.5	10	10	50	NBR	<b>347N04</b>	-	496482	3	3	1255	-	12
1/2	12	3000	2.5	10	10	50	NBR	<b>347N04</b>	-	496637	3	3	1255	-	12

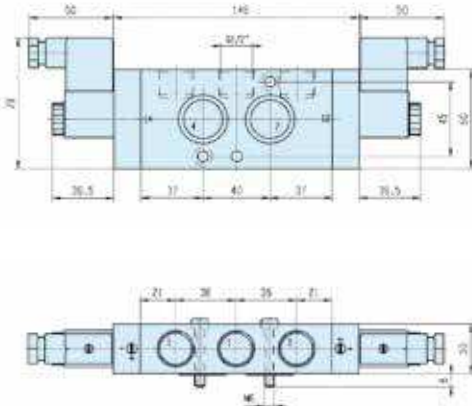
#### Dimensions Reference 10



#### Dimensions Reference 11



#### Dimensions Reference 12



Please consult the "How to Order" part at the end of each coil chapter.

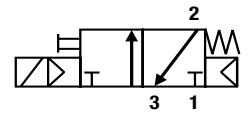


# NAMUR Valves G1/2" Series

## Solenoid Operated Versions N34 Series with 32 / 37 / 40 mm Coil

Port size	Orifice	Q <sub>N</sub>	Admissible differential pressure (bar) maximum		Maximum admissible fluid temperature (°C) minimum = 0°C	Seat disc	Reference number			Consumption Power (Watt)		Weight (g)	Elect. Group	Dim. Ref.
			min	DC= AC~			Valve	Housing	Coil	DC	AC			
G	mm	l/min			Air & Neutral gases									

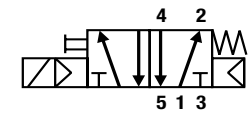
### 3/2 Solenoid operated Combined spring & air return (monostable)



1/2	12	3000	2.5	10	10	50	NBR	<b>331N34</b>	<b>2995</b>	481865	9	8	810	2	13
1/2	12	3000	2.5	10	10	50	NBR	<b>331N34</b>	<b>2995</b>	495870	9	8	830	2	-
1/2	12	3000	2.5	10	10	50	NBR	<b>331N34</b>	-	495905	8	8	1150	2	-
1/2	12	3000	2.5	10	10	50	NBR	<b>331N3402*</b>	<b>2995</b>	481865	9	8	810	2	13
1/2	12	3000	2.5	10	10	50	NBR	<b>331N3402*</b>	<b>2995</b>	495870	9	8	830	2	-
1/2	12	3000	2.5	10	10	50	NBR	<b>331N3402*</b>	-	495905	8	8	1150	2	-

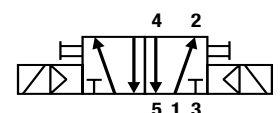
\* Valves without manual override

### 5/2 Solenoid operated Combined spring & air return (monostable)



1/2	12	3000	2.5	10	10	50	NBR	<b>341N34</b>	<b>2995</b>	481865	9	8	800	2	14
1/2	12	3000	2.5	10	10	50	NBR	<b>341N34</b>	<b>2995</b>	495870	9	8	820	2	-
1/2	12	3000	2.5	10	10	50	NBR	<b>341N34</b>	-	495905	8	8	1140	2	-

### 5/2 Solenoid operated and return (bistable)

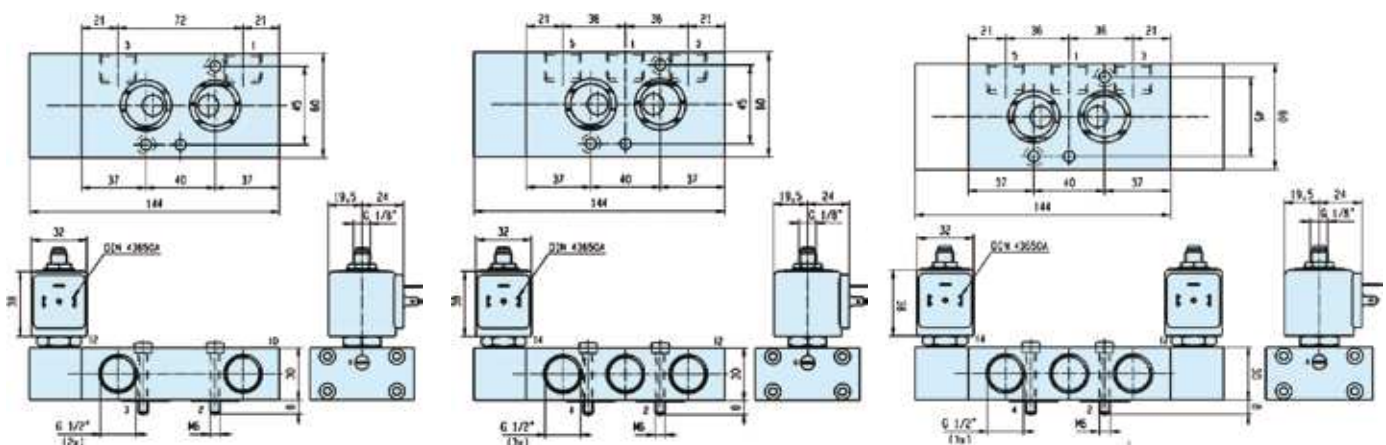


1/2	12	3000	2.5	10	10	50	NBR	<b>347N34</b>	<b>2995</b>	481865	9	8	960	2	15
1/2	12	3000	2.5	10	10	50	NBR	<b>347N34</b>	<b>2995</b>	495870	9	8	1000	2	-
1/2	12	3000	2.5	10	10	50	NBR	<b>347N34</b>	-	495905	8	8	1640	2	-

#### Dimensions Reference 13

#### Dimensions Reference 14

#### Dimensions Reference 15



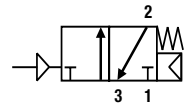
Please consult the "How to Order" part at the end of each coil chapter.

## NAMUR Valves G1/2" Series

### External Pressure Air Operated Series 5 xx N04 Series

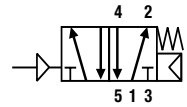
Port size	Orifice	Q <sub>N</sub>	Admissible differential pressure (bar)		Maximum admissible fluid temperature (°C)		Seat disc	Reference number			Consumption Power (Watt)		Weight (g)	Elect. Group	Dim. Ref.
			maximum	DC= AC~	Air & Neutral gases	minimum = 0°C		Valve	Housing	Coil	DC	AC			
G	mm	l/min	min	DC= AC~	Air & Neutral gases	minimum = 0°C		Valve	Housing	Coil	DC	AC			

#### 3/2 External pressure air operated Combined spring & air return (monostable) External pressure supply 2.5 to 10 bar



1/2	12	3000	2.5	10	10	50	NBR	531N04	-	w/o	-	-	620	-	16
-----	----	------	-----	----	----	----	-----	--------	---	-----	---	---	-----	---	----

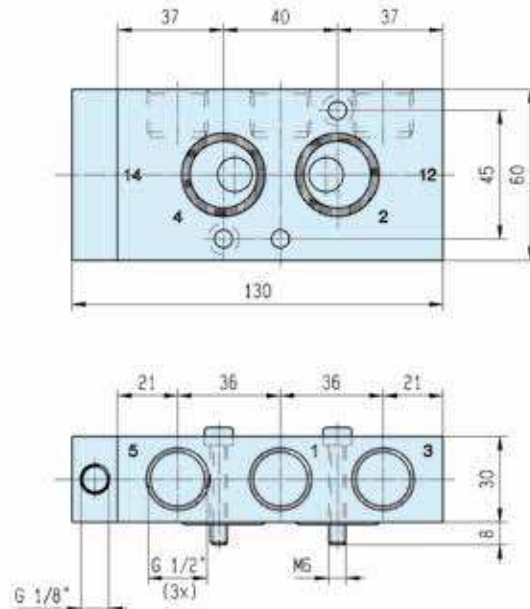
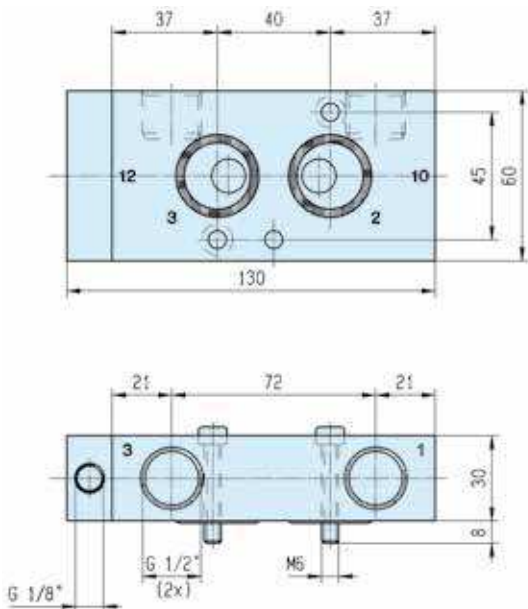
#### 5/2 External pressure air operated Combined spring & air return (monostable) External pressure supply 2.5 to 10 bar



1/2	12	3000	2.5	10	10	50	NBR	541N04	-	w/o	-	-	600	-	17
-----	----	------	-----	----	----	----	-----	--------	---	-----	---	---	-----	---	----

Dimensions Reference 16

Dimensions Reference 17



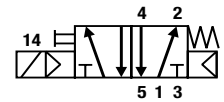
Please consult the "How to Order" part at the end of each coil chapter.

## Piped Valves - G1/4" Series

### Solenoid Operated Versions P03 Versions with 22 mm Coil

Port size	Orifice	Q <sub>N</sub>	Admissible differential pressure (bar) maximum		Maximum admissible fluid temperature (°C)		Seat disc	Reference number			Consumption Power (Watt)		Weight (g)	Elect. Group	Dim. Ref.
			min	DC= AC~	Air & Neutral gases	Valve		Housing	Coil	DC	AC				
G	mm	l/min	min	DC= AC~	Air & Neutral gases			Valve	Housing	Coil	DC	AC			

#### 5/2 Solenoid operated Combined spring & air return (monostable)



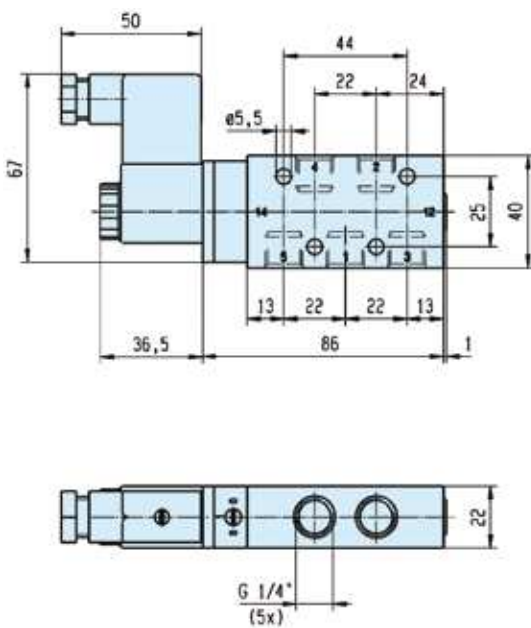
1/4	7	1250	2.5	10	10	50	NBR	<b>341P03</b>	-	496131	3	3	250	-	18
1/4	7	1250	2.5	10	10	50	NBR	<b>341P03</b>	-	496482	3	3	250	-	18
1/4	7	1250	2.5	10	10	50	NBR	<b>341P03</b>	-	496637	3	3	250	-	18

#### 5/2 Solenoid operated and return (bistable)

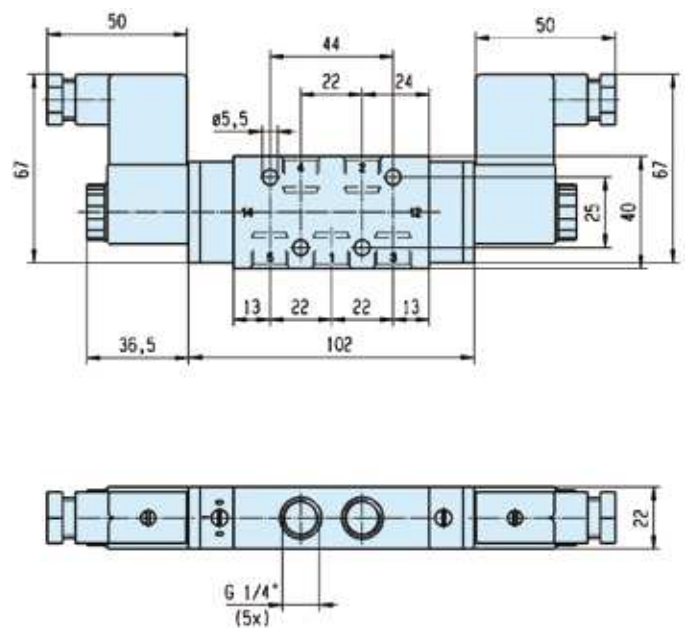


1/4	7	1250	2.5	10	10	50	NBR	<b>347P03</b>	-	496131	3	3	350	-	19
1/4	7	1250	2.5	10	10	50	NBR	<b>347P03</b>	-	496482	3	3	350	-	19
1/4	7	1250	2.5	10	10	50	NBR	<b>347P03</b>	-	496637	3	3	350	-	19

#### Dimensions Reference 18



#### Dimensions Reference 19



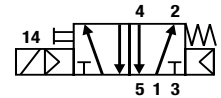
Please consult the "How to Order" part at the end of each coil chapter.

## Piped Valves - G1/4" Series

### Solenoid Operated Versions P33 Versions with 32-37-40 mm Coil

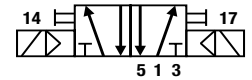
Port size	Orifice	Q <sub>N</sub>	Admissible differential pressure (bar) maximum		Maximum admissible fluid temperature (°C) minimum = 0°C	Seat disc	Reference number			Consumption Power (Watt)		Weight (g)	Elect. Group	Dim. Ref.
			min	DC= AC~			Valve	Housing	Coil	DC	AC			
G	mm	l/min			Air & Neutral gases									

#### 5/2 Solenoid operated Combined spring & air return (monostable)



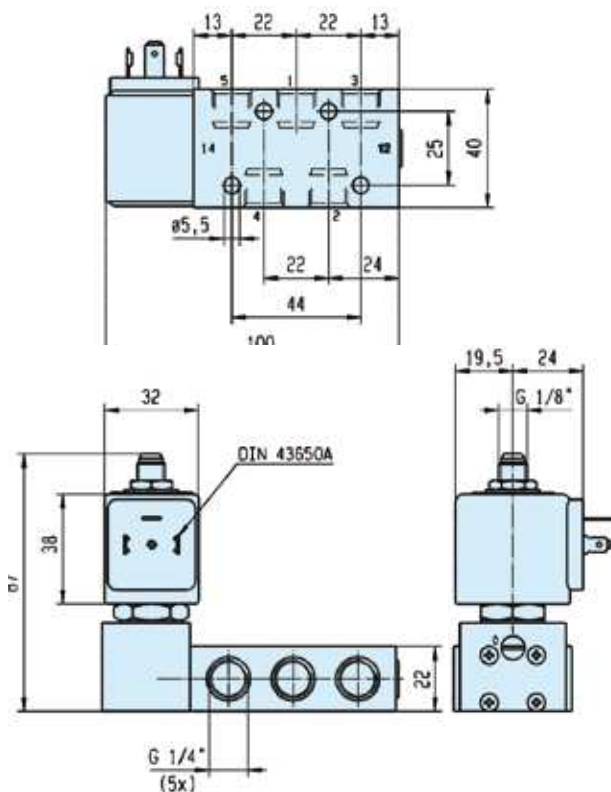
1/4	7	1250	2.5	10	10	50	NBR	<b>341P33</b>	<b>2995</b>	481865	9	8	470	2	20
1/4	7	1250	2.5	10	10	50	NBR	<b>341P33</b>	<b>2995</b>	495870	9	8	490	2	-
1/4	7	1250	2.5	10	10	50	NBR	<b>341P33</b>	-	495905	8	8	810	2	-

#### 5/2 Solenoid operated and return (bistable)

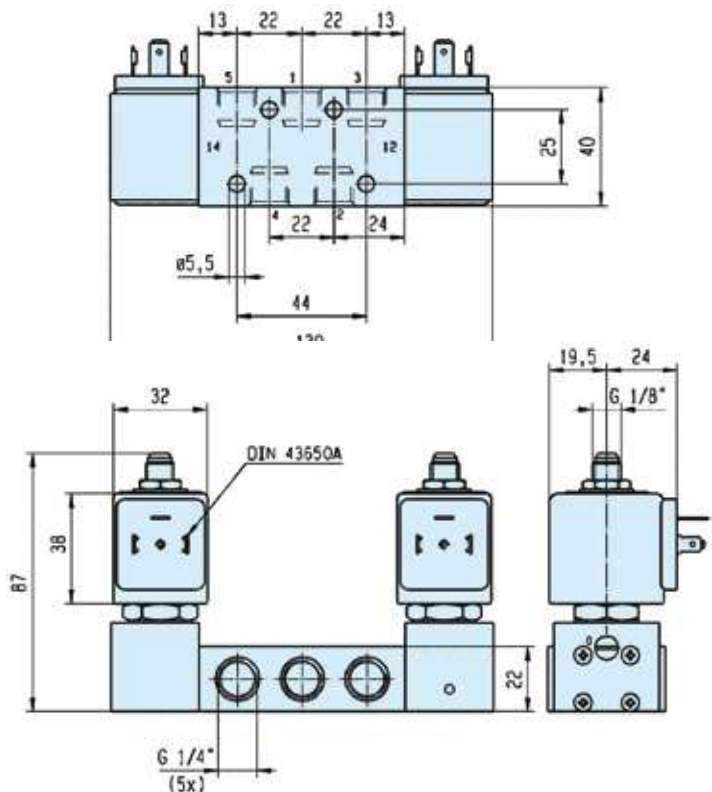


1/4	7	1250	2.5	10	10	50	NBR	<b>347P33</b>	<b>2995</b>	481865	9	8	620	2	21
1/4	7	1250	2.5	10	10	50	NBR	<b>347P33</b>	<b>2995</b>	495870	9	8	640	2	-
1/4	7	1250	2.5	10	10	50	NBR	<b>347P33</b>	-	495905	8	8	960	2	-

Dimensions Reference 20



Dimensions Reference 21

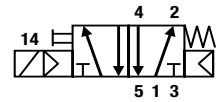


## Piped Valves - G1/2" Series

### Solenoid Operated Versions P04 Versions with 22 mm Coil

Port size	Orifice	Q <sub>N</sub>	Admissible differential pressure (bar) maximum		Maximum admissible fluid temperature (°C)		Seat disc	Reference number			Consumption Power (Watt)		Weight (g)	Elect. Group	Dim. Ref.
			min	DC= AC~	Air & Neutral gases	Valve		Housing	Coil	DC	AC				
G	mm	l/min													

#### 5/2 Solenoid operated Combined spring & air return (monostable)



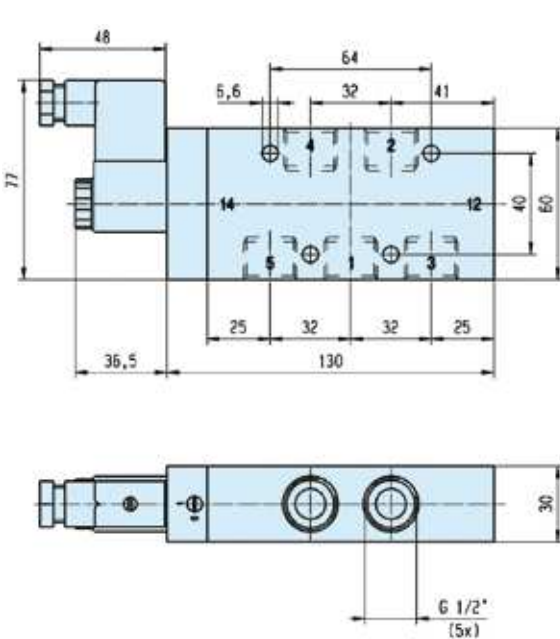
1/2	12	3000	2.5	10	10	50	NBR	<b>341P04</b>	-	496131	3	3	670	-	22
1/2	12	3000	2.5	10	10	50	NBR	<b>341P04</b>	-	496482	3	3	670	-	22
1/2	12	3000	2.5	10	10	50	NBR	<b>341P04</b>	-	496637	3	3	670	-	22

#### 5/2 Solenoid operated and return (bistable)

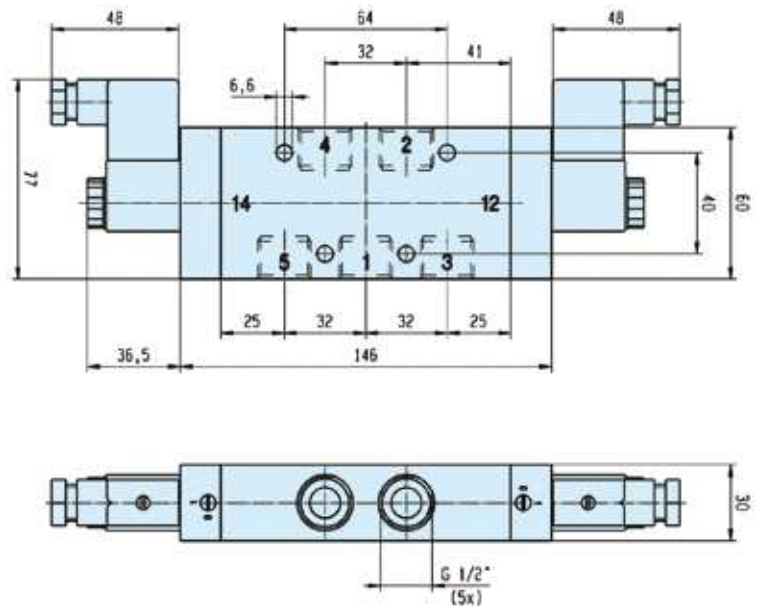


1/2	12	3000	2.5	10	10	50	NBR	<b>347P04</b>	-	496131	3	3	840	-	23
1/2	12	3000	2.5	10	10	50	NBR	<b>347P04</b>	-	496482	3	3	840	-	23
1/2	12	3000	2.5	10	10	50	NBR	<b>347P04</b>	-	496637	3	3	840	-	23

#### Dimensions Reference 22



#### Dimensions Reference 23



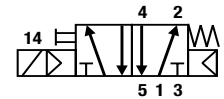
Please consult the "How to Order" part at the end of each coil chapter.

## Piped Valves - G1/2" Series

### Solenoid Operated Versions P34 Versions with 32/37/40 mm Coil

Port size	Orifice	Q <sub>n</sub>	Admissible differential pressure (bar)			Maximum admissible fluid temperature (°C)	Seat disc	Reference number			Consumption Power (Watt)		Weight (g)	Elect. Group	Dim. Ref.
			maximum	DC=	AC~			Valve	Housing	Coil	DC	AC			
G	mm	l/min	min	DC=	AC~	Air & Neutral gases									

#### 5/2 Solenoid operated Combined spring & air return (monostable)



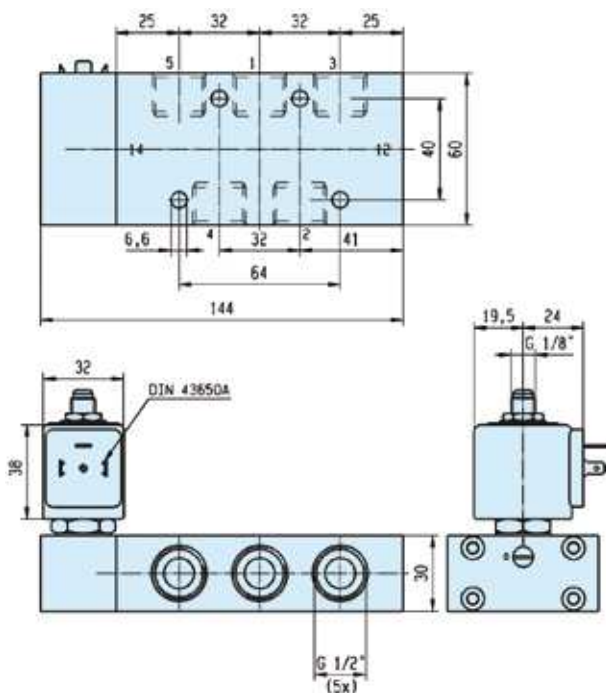
1/2	12	3000	2.5	10	10	50	NBR	<b>341P34</b>	<b>2995</b>	481865	9	8	900	2	24
1/2	12	3000	2.5	10	10	50	NBR	<b>341P34</b>	<b>2995</b>	495870	9	8	920	2	-
1/2	12	3000	2.5	10	10	50	NBR	<b>341P34</b>	-	495905	8	8	1240	2	-

#### 5/2 Solenoid operated and return (bistable)

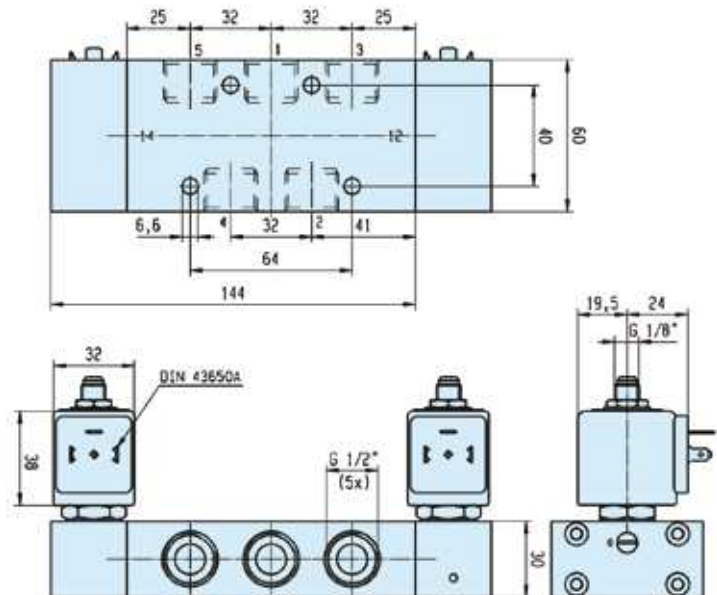


1/2	12	3000	2.5	10	10	50	NBR	<b>347P34</b>	<b>2995</b>	481865	9	8	1240	2	25
1/2	12	3000	2.5	10	10	50	NBR	<b>347P34</b>	<b>2995</b>	495870	9	8	1280	2	-
1/2	12	3000	2.5	10	10	50	NBR	<b>347P34</b>	-	495905	8	8	2080	2	-

#### Dimensions Reference 24



#### Dimensions Reference 25



Please consult the "How to Order" part at the end of each coil chapter.


## Coils and Spare Parts Informations

### Coils 22 mm for N03-N05 Series

#### Safe Area & ATEX Zone 22

**Ref. 496131 / 496482 / 496637**

These coils with connection for 2 P+G DIN 43650 B plug are encapsulated in synthetic material, conform to the IEC/CENELEC safety standards and comply with European low voltage directive 73/23/EC .

- Power: 3W
  - Insulation Class: F (155°C)
  - Degree of Protection: IP65 (with plug)
  - Duty Cycle: 100% ED
  - Ambient Temperature: -10°C to 50°C
- 3 different types are available:**
- Ref. 496131 for a safe area without plug
  - Ref. 496482 for a safe area with plug
  - Ref. 496637 for an ATEX area Zone 22 



496637 coil series with connection 2P + G when mounted together with the supplied Pg9 plug (delivered with the coil) are suitable for use in dangerous areas (dust Zone 22) according to the European directive ATEX 94/9/C. Protection mode: Ex tD A22 IP65 - T95°C

Available Voltages	Safe area without DIN plug Order Code	Safe area with DIN plug Order Code	ATEX Zone 22 EX II 3D Order Code
12 VDC	496131 C1	496482 C1	496637 C1
24 VDC	496131 C2	496482 C2	496637 C2
48 VDC	496131 C4	496482 C4	496637 C4
110 VDC	496131 C5	496482 C5	496637 C5
24/50-60 VAC	496131 P0	496482 P0	496637 P0
48/50-60 VAC	496131 S4	496482 S4	496637 S4
110/50-60 VAC	496131 P2	496482 P2	496637 P2
115/60 VAC	496131 K8	496482 K8	496637 K8
230/50-60 VAC	496131 P9	496482 P9	496637 P9

### How to Order

The housing kit is already included into the coil reference, so it's not needed to add it with the order code:

Valve Reference Number - Coil Reference - Voltage code = Order code

**Example: 341N03 - 496131 C2**

Valves and coils may be ordered also separately.

## Coils 32 mm / 37 mm / 40 mm for N33-N34-N35 Series

### Safe Area

**Ref. 481865**

These coils can be mounted with every Parker solenoid valves corresponding to the specified Coil Group.  
 See column "Coil Group" within valve pages. This is an encapsulated assembly comprising a coil, integral magnetic iron path and snap-on plug connection.

The synthetic material encapsulation provides an effective compact housing, offering full protection against dust, oil, water, etc. Ease of mounting in confined space - offers shock and corrosion protection - simplifies conversion of existing equipment to other requirements, etc.

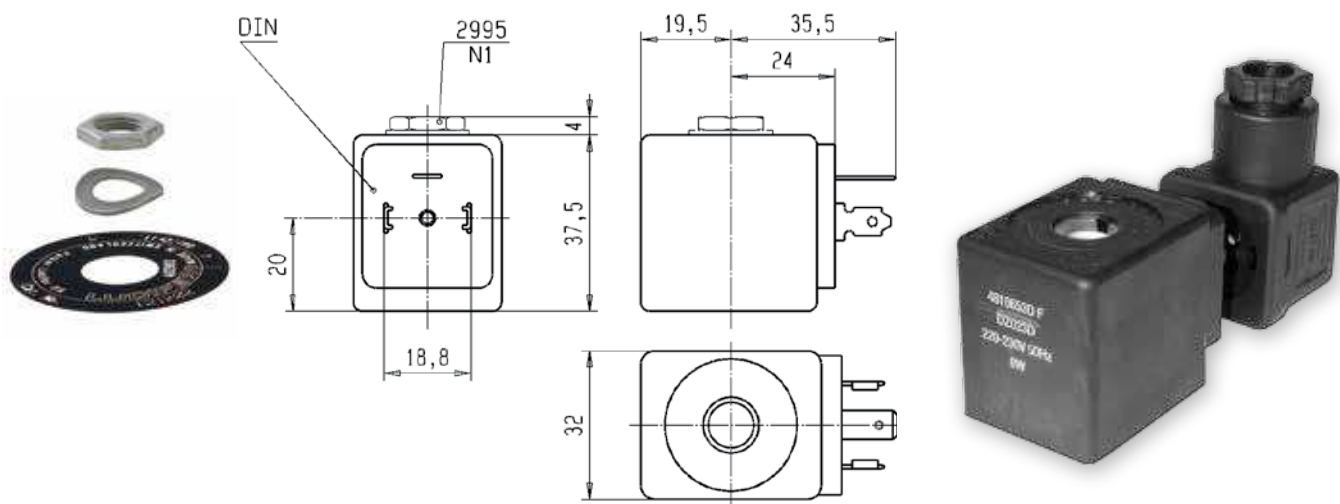
Coils conform to the IEC/CENELEC safety standards and complies with European low-voltage directive.



Specification		Standard	Double frequency				
Ref. (without DIN plug) Ref. (with DIN plug)		<b>481865</b> <b>482725</b>	<b>483510</b> <b>482635</b>				
Coil Group		<b>2.0 / 2.1</b>					
Degree of protection		<b>IP65</b> according to IEC / EN 60529 standards (with DIN plug).					
Class of insulation		F 155°C					
Electrical connection		The coil is connected with a 2 P + E plug according to EN 175301-803 type A					
Ambient temperature		-40°C to +50°C - The application is limited also by the temperature range of the valve.					
Elect. Power	DC	Pn (hot)	9 W		-		
		P (cold) 20°C	12 W		-		
	AC	Pn (holding)	8 W		9 W		
		Attraction cold	26 VA (9 W)		32 VA (10 W)		
Weight		130 g (without plug)					
Voltages "Un"		<b>VAC/Hz</b>	<b>Code</b>	<b>VDC</b>	<b>Code</b>	<b>VAC/Hz</b>	<b>Code</b>
-10% to +10% of the Un		24/50	A2	24	C2	24/50, 24/60	P0
		48/50	A4	48	C4	48/50, 48/60	S4
		110/50	A5	110	C5	110-115/50, 120/60	S5
		220-230/50	3D			220-240/50, 240/60	S6

### These coils must be used with suitable housings, see example below:

The coil assembly kit **Ref. 2995** corresponds to the "housing" of Lucifer® valve numbering system (Valve - housing - coil - voltage). It is composed of a nameplate giving details of the valve type, a round washer and a nut to ensure the fixing between 32 mm coil and the valve.



## How to Order

### To Order a Coil choose Coil Ref + Voltage Code

Example: **481865 for 24VDC = 481865C2**

More voltage possibilities can be found in the table of voltage codes at the end of the coil section.

### To Order a Valve + Coil Combination:

Example: **341N35-2995-481865C2**



## Coils 32 mm / 37 mm / 40 mm for N33-N34-N35 Series

**ATEX Zone 2-22**

**REF. 495870**

These coils can be mounted with every Parker ATEX solenoid valves corresponding to the specified Coil Group. See column "Coil Group" within valve pages.

Application: Control of solenoid valves in dangerous areas where explosion-proof protection Ex nc AC IIC T3 to T6 is required.

Ease of mounting in confined space - offers shock and corrosion protection - simplifies conversion of existing equipment to other requirements, etc. Coils conforms to the IEC/CENELEC safety standards and complies with European low-voltage directive.

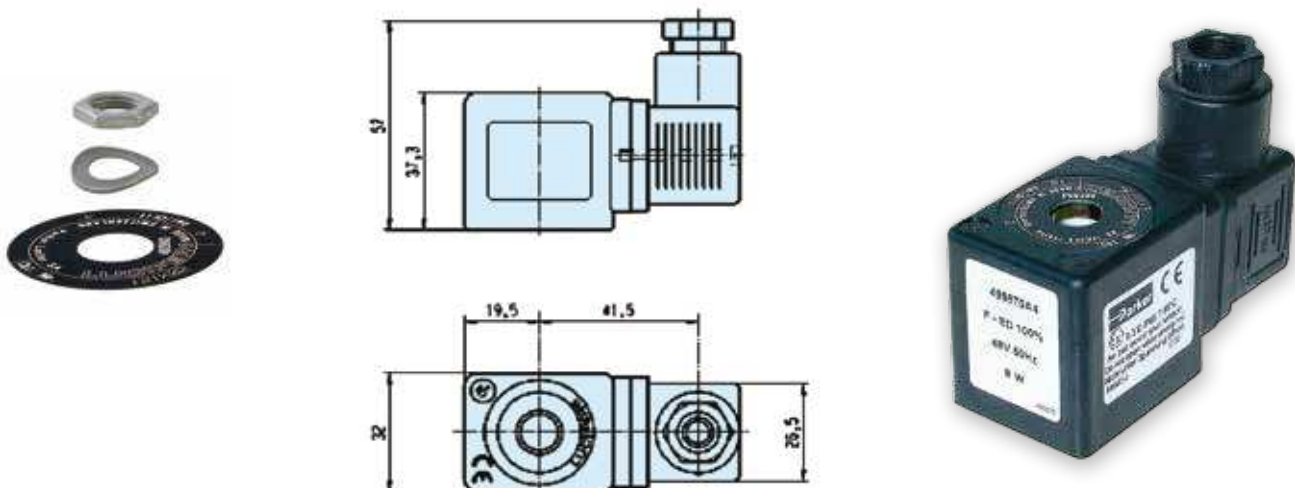
Small size for ease of mounting in confined spaces.



Reference		495870			496110			
Certificate		LCIE 05 ATEX 6003 X						
Coil Group		2.0 / 2.1						
Type of protection	Gas	II 3 G - Ex nc AC IIC T3 / T4			II 3 G - Ex nc AC IIC T3 / T4			
	Dust	II 3 D - Ex tc IIIC - T195°C / T130°C			II 3 D - Ex tc IIIC - T195°C / T130°C			
Degree of protection		IP65 (with plug) according to IEC/EN 60529						
Insulation Class		F (155°C)						
Duty cycle		100%						
Ambiant temperature		-40°C to +50°C The application is limited also by the temperature range of the valve.						
Elect. Power	DC	Pn (hot)	9 W			-		
		P (cold) 20°C	12 W			-		
	AC	Pn (holding)	8 W			9 W		
		Attraction cold	26 VA (9 W)			32 VA (10 W)		
Weight		150 g						
Voltages "Un"		VAC/Hz	Code	VDC	Code	VAC/Hz	Code	
-10% to +10% of the Un		24/50	A2	24	C2	24/50-60	P0	
		48/50	A4	48	C4	48/50-60	S4	
		110/50	A5	110	C5	110/50-60	S5	
		220-230/50	3D			220/50-60	S6	

**These coils must be used with suitable housings, see example below:**

The coil assembly kit **Ref. 2995** corresponds to the "housing" of Lucifer® valve numbering system (Valve - housing - coil - voltage). It is composed of a nameplate giving details of the valve type, a round washer and a nut to ensure the fixing between 32 mm coil and the valve.



## How to Order

**To Order a Coil choose Coil Ref + Voltage Code**

Example: 495870 for 24VDC = 495870C2

**To Order a Valve + Coil Combination:**

Example: 341N35-2995-495870C2

# Coils 32 mm / 37 mm / 40 mm for N33-N34-N35 Series

## ATEX Zone 1-21

Ref. 495905

These coils can be mounted with every Parker ATEX solenoid valves corresponding to the specified Coil Group.

See column "Coil Group" within valve pages.

Application: Control of solenoid valves in dangerous areas where explosion-proof protection Ex db mb IIC T4 is required.

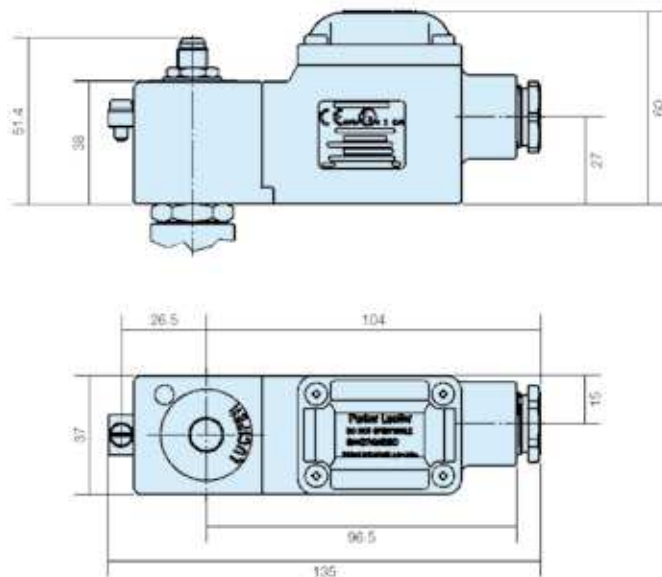
Benefits: Rotatable 360° fibreglass-reinforced plastic housing (class H). Solenoid coil, rectifier (silicium diodes), fuses and varistor protection are completely encapsulated into the coil housing by epoxy resin for shock and corrosion protection.

The plastic housing is delivered with M20 x 1.5 cable gland certified for use "db" protection.

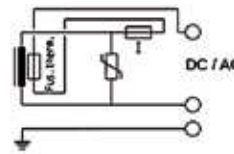
Small size for ease of mounting in confined space.



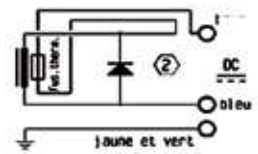
<b>Reference</b>		<b>495905</b>		<b>495905.05</b>	
<b>Certificate</b>		<b>LCIE 03 ATEX 6451 X - IECEx LCI 06.0004 X</b>			
<b>Coil Group</b>		<b>2.0 / 2.1</b>			
<b>Type of protection</b>	<b>Gas</b>	II 2 G - Ex db mb IIC T4			
	<b>Dust</b>	II 2 D - Ex tb IIC - 130°C			
<b>Degree of protection</b>		<b>IP67</b>			
<b>Ambient temperature</b>		-40°C to +65°C The application is limited also by the temperature range of the valve.			
<b>Class of insulation</b>		H (180 °)			
<b>Electrical connection</b>		Electric connection is done in the connection box on an easily accessible connector terminals. The introduction of the cable (Ø min 5 mm, Ømax. 11 mm, section max. 2.5 mm²) in the connection box passes by the built in M20 x 1.5 cable gland.			
<b>Elect. Power</b>	<b>DC</b>	<b>Pn (hot)</b>	8 W		
		<b>P (cold) 20°C</b>	9 W		
	<b>AC</b>	<b>Pn (holding)</b>	8 W		
		<b>Attraction cold</b>	9 W		
<b>Voltages "Un"</b>		<b>VAC/Hz</b>	<b>Code</b>	<b>VDC</b>	<b>Code</b>
-10% to +10% of Un for AC		24/50	A2	24	C2
- 10 % to + 10 % for Un DC.		48/50	A4	48	C4
		115/50	E5	110	C5
		230/50	F4		



495905



\*495905.05



## How to Order

To Order a Coil choose Coil Ref + Voltage Code

Example: 495905 for 24VDC = 495905C2

To Order a Valve + Coil Combination:

Example: 341N35-495905C2



## Spare Parts Mounting Kit and Accessories

### Kit for G1/4" Models without conversion plate (N x 3 Series)



Kit includes the 2 mounting screws M5 x 25 A2, the dowel pin M5 x 10 A2, the 2 O-rings NBR 15 x 2.5

**Order code: 496132**

### Kit for G1/4" Models with conversion plate (N x 5 Series)



Kit includes the 2 mounting screws M5 x 35 A2, the dowel pin M5 x 20 A2, the conversion plate equipped with its seals

**Order code: 496742 (equipped plate)**

**Order code: 496852 (screws + pin)**



### Kit for G1/2" Models (N x 4 Series)

Kit includes the 2 mounting screws M6 x 35 A2, the dowel pin M6 x 12 A2, the 2 O-rings NBR 24 x 3

**Order code: 496133**



## Exhaust Flow Regulators

Material Body:	Brass	Filter element:	Sintered bronze
Spring:	Stainless Steel	Seal:	NBR

**G1/8" Order code: 496551**

**G1/4" Order code: 496552**

**G1/2" Order code: 496553**



### Connector for 22 mm Coil

Connector DIN43650 AB Pg9 2P+E

**Order code: 481043**



### Housing for 22 mm Coil

Plastic nut with O-ring

**Order code: 3125**



### Connector for 32 mm Coil

Connector DIN43650 AA Pg9 2P+E

**Order code: 486586**



**G1/8 - 4/3 Way Flat Slide Valves  
 Series DRS**

**Actuation System:**

- Rotary lever
- Rotary switch



**Operating information**

System	Flat slide valve without automatic return to neutral position	
Mounting	2 Screws M4	
Tube connection	Thread	
Port size	Port P, A, B: G1/8 Port R: M5	
Weight (mass)	0.500 kg	
Installation	In any position	
Ambient temperature range	-10 °C to +55 °C	Note: Please consult us for operating temperatures below 0° C
Medium temperature range	-10 °C to +60 °C	
Medium	Filtered compressed air	
Lubrication	Oil mist lubrication compatible with Buna N	

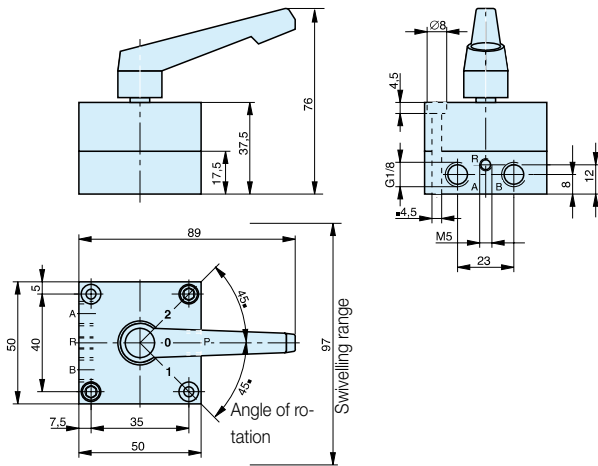
**Pneumatic Characteristics**

Nominal pressure	6 bar
Operating pressure range	0 – 10 bar
Nominal flow	350 l/min

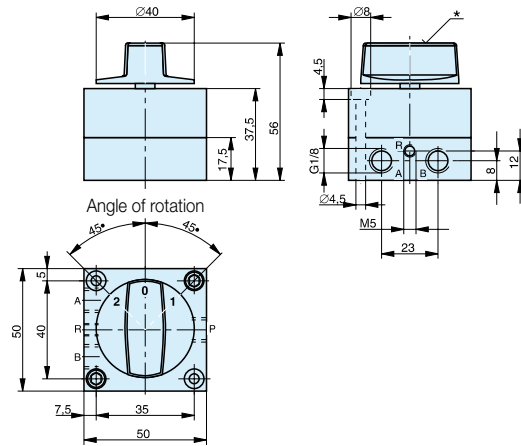
**Actuation**

Manual control	Direct
Actuation force	ca. 6 N

**Rotary Lever – Type: DRS 412 .-1/8**



**Rotary Switch – Type: DRS 417 .-1/8**



Port identification:

- A = 4 Outlet
- B = 2 Outlet
- R = 5 Exhaust
- P = 1 Pressure supply

\* After removing the cover and loosening the mounting screws, the rotary switch is infinitely variable.

**Order Instructions – 4/3 Way Flat Slide Valves, Series DRS**

Actuation	Symbol	Order Instructions	
		Type	Order code
Rotary lever Middle position pressurized		DRS 412 B-1/8	<b>PA 10267</b>
Rotary lever Middle position vented		DRS 412 E-1/8	<b>PA 10266</b>
Rotary lever Middle position closed		DRS 412G-1/8	<b>PA 10268</b>
Rotary switch Middle position pressurized		DRS 417 B-1/8	<b>PA 10264</b>
Rotary switch Middle position vented		DRS 417 E-1/8	<b>PA 10263</b>
Rotary switch Middle position closed		DRS 417 G-1/8	<b>PA 10265</b>

**G1/4 - 3/2 and 5/2 Way Valves  
Pedal Actuated - Series F**

**Actuation System:**

- Pedal

Connections for  
3/2 way version:

**Version**

„Normally closed“: P, B, S

„Normally open“: P, A, R

\* Only for version “both switch positions indexed”  
– return is only effected after actuating the locking pedal.

**Mounting Instruction:**

Use only screw connections with max. wrench size  
across flats of 15.



**Connection designation:**

- A = 4 Outlet
- B = 2 Outlet
- R = 5 Exhaust
- P = 1 Air supply
- S = 3 Exhaust

**Operating information**

Type	Poppet Valve
Mounting	4 Screws M8 <sup>(1)</sup>
Tube connection	Thread
Port size	G1/4
Weight (mass)	1.5 kg
Installation	In any position
Ambient temperature range <sup>(2)</sup>	-10 °C to +55 °C
Medium temperature range <sup>(3)</sup>	-10 °C to +60 °C
Medium	Filtered and oiled or filtered, unoiiled compressed air
Lubrication <sup>(2)</sup>	Oil mist lubrication compatible with Buna N

**Pneumatic Characteristics**

Nominal pressure	6 bar
Operating pressure range	0 – 10 bar
Nominal flow	1400 l/min

**Actuation**

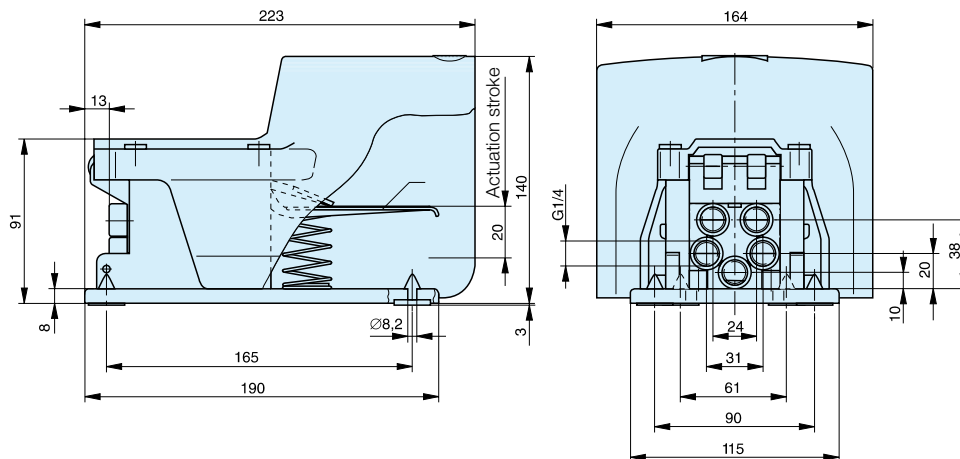
Manual control	Direct
Stroke	2 mm
Actuation force	ca. 30 N

<sup>(1)</sup> After removing the rubber footing

<sup>(2)</sup> We recommend the use of mineral oil type VG 32 to ISO 3448

<sup>(3)</sup> Note: Please consult us for operating temperatures below 0° C

**Pedal actuated – Type: F331..-08., F531..-08**



Dimensions in mm

**Order Instructions – 3/2 and 5/2 Way Valves**

Actuation	Symbol	Order Instructions	
		Type	Order code
Pedal with spring return		F 331RF-08NG*	<b>KZ 4410</b>
		F 331RF-08NO*	<b>KZ 4411</b>
Pedal without reset		F 331-08NG*	<b>KZ 4408</b>
		F 331-08NO*	<b>KZ 4409</b>
Pedal with spring return		F 531RF-08	<b>KZ 4413</b>
Pedal both switch positions indexed		F 531-08	<b>KZ 4412</b>

\* NC – Version normally closed  
 NO – Version normally open



**G1/2 to G2 - 2/2-Way Stop Valves  
 Series ARKV**

**Actuation System:**

- Pneumatic

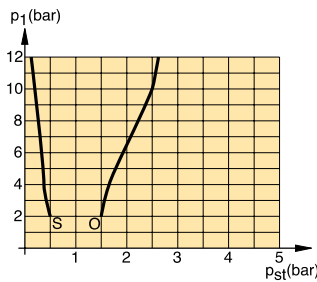


**Operating information**

Description	2/2 Way Valve	Medium	Compressed air, neutral gases, presswater (for low flow- und valve closingspeed only)
Type	Poppet valve normally closed	Actuating medium	filtered compressed air
Mounting	Direct in piping	<b>Pneumatic characteristics</b>	
Tube connection	Thread	Nominal pressure	6.3 bar
Port size	G1/2 G3/4 G1 G1 1/2 G2	Operating pressure range	0–10 bar
Weight (mass) Kg	0.745 1.115 1.365 2.695 4.290	Nominal flow (l/min)	2200 5000 6900 22000 40000
Installation	In any position	<b>Actuation</b>	
Ambient temperature range	-20 °C to +80 °C	Pneumatic	Direct
Medium temperature range	0 °C to +80 °C		

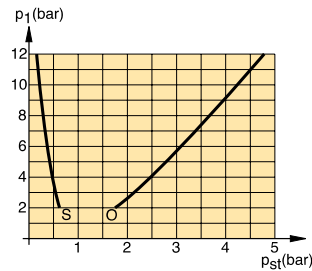
Note:  
Please consult us for operating temperatures below 0 °C

**Actuating Pressure – Type: ARKV-15**



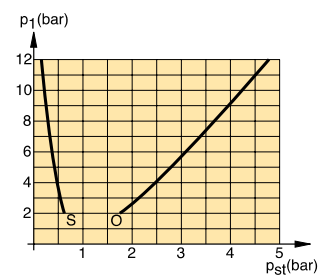
O =  $p_{st \min}$  to open  
 S =  $p_{st \max}$  to close

**Actuating Pressure – Type: ARKV-20**



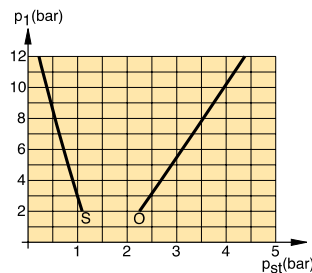
O =  $p_{st \min}$  to open  
 S =  $p_{st \max}$  to close

**Actuating Pressure – Type: ARKV-25**



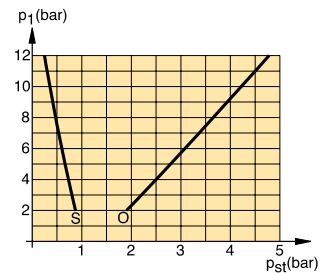
O =  $p_{st \min}$  to open  
 S =  $p_{st \max}$  to close

**Actuating Pressure – Type: ARKV-40**



O =  $p_{st \min}$  to open  
 S =  $p_{st \max}$  to close

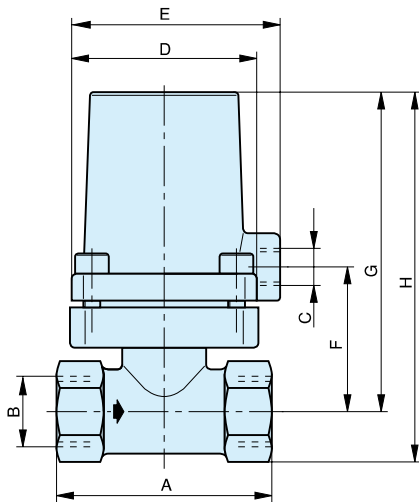
**Actuating Pressure – Type: ARKV-50**



O =  $p_{st \min}$  to open  
 S =  $p_{st \max}$  to close

Dimensions in mm

**Pneumatically actuated – Type: ARKV-..**



**Dimensions**

Type	A	B	C	D	E	F	G	H
ARKV-15 NC	65	G1/2	G1/8	55	61	41.5	95	109.5
ARKV-20 NC	76	G3/4	G1/4	65	75	50	112	129
ARKV-25 NC	91	G1	G1/4	65	75	57	119	139
ARKV-40 NC	123	G1 1/2	G1/4	110	112	67	137	167.5
ARKV-50 NC	150	G2	G1/4	130	134	75	153	190

**Order Instructions**

Actuation System	Symbol	Order data	
		Type	Order code
Pneumatic		ARKV-15 NC	<b>PD 07334</b>
		ARKV-20 NC	<b>PD 07580</b>
		ARKV-25 NC	<b>PD 07581</b>
		ARKV-40 NC	<b>PD 07757</b>
		ARKV-50 NC	<b>PD 07765</b>

## G1/8 - 3/2-Way Valves - Series K9

### Actuation:

- Rotary lever, indexed
- Rotary lever, spring return
- Rotary lever, indexed, secured in two positions
- Pushbutton
- Cam operation
- Toggle cam operation
- Plunger operated
- Cam operated, free cam left or free cam right
- Pivoted lever
- Pedal
- Actuators for panel mounting



### Operating information

System	Poppet Valve	<b>Pneumatic Characteristics</b>
Mounting	2 Screws M4	
Tube connection	Thread	Nominal pressure 6 bar
Port size	G1/8	Operating pressure range 0–10 bar
Installation	In any position	Nominal flow 220 l/min
Ambient temperature range	-10 °C to +55 °C	Flow direction 1 → 2 normally closed 3 → 2 normally open
Medium temperature range	+5 °C* to +60 °C	Actuation Manual, mechanical and pedal actuated
	Note: Please consult us for operating temperatures below 0° C	Stroke 1.5–3 mm
Medium	Filtered and lubricated or filtered and unlubricated air	* -10°C when using dry compressed air
Lubrication	None or oil mist lubrication	

### Actuation Forces, Rotation Angles and Weight

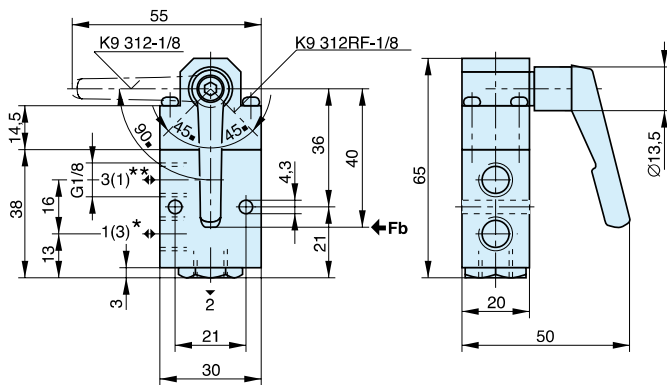
Description	Type	Actuation force (N)	Rotation angle	Weight mass (kg)
Rotary lever, indexed	K9 312-1/8	4.5	±45°, 90°	0.110
Rotary lever, spring return	K9 312RF-1/8	4.5	±45°, 90°	0.110
Rotary lever, indexed secured in both positions	K9 312S-1/8	4.5	±45°, 90°	0.110
Pushbutton	K9 314RF-1/8	25	–	0.075
Cam operation	K9 321RF-1/8	11	–	0.070
Toggle cam operation	K9 324RF-1/8	5	±40°	0.120
Plunger operated	K9 323RF-1/8	32	–	0.050
Cam operated free cam left	K9 325RF-1/8	5	±40°	0.120
Cam operated free cam right	K9 326RF-1/8	5	±40°	0.120
Pivoted lever	K9 329RF-1/8	2*	±40°	0.115
Pedal	K9 331RF-1/8	12	–	0.800
Basic valve for panel mounting actuators	K9 390RF-1/8	35	–	0.060

\* at a distance of 100 mm from fulcrum

## Order Instructions – 3/2 Way Poppet Valves, Series K9

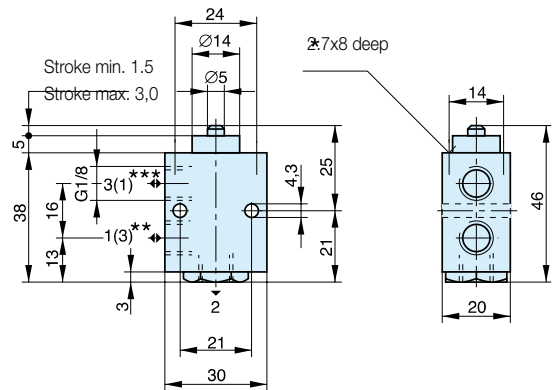
Actuation	Symbol	Mounting Ø (mm)	Order Instructions Type	Order code
Rotary lever, indexed			K9312-1/8	PA 10269
Rotary lever, spring return			K9312RF-1/8	PA 10270
Rotary lever, indexed secured in both positions			K9312S-1/8	PA 10349
Pushbutton			K9314RF-1/8	PA 10271
Cam operation			K9321RF-1/8	PA 10272
Toggle cam operation			K9324RF-1/8	PA 10273
Plunger operated			K9323RF-1/8	PA 10235
Cam operated free cam left			K9325RF-1/8	PA 10274
Cam operated free cam right			K9326RF-1/8	PA 10275
Pivoted lever			K9329RF-1/8	PA 10276
Pedal			K9331RF-1/8	PA 10277
Panel mounting valve with adaptor for interchangeable actuation			K9390RF-1/8	PA 10278
Rotary lever, indexed		22 30	12T-22 12T-30	KX 9355 KX 9314
Rotary lever, spring return		22 30	12T-RF-22 12T-RF-30	KX 9356 KX 9315
Pushbutton		22 30	13T-RF-22 13T-RF-30	KX 9357 KX 9316
Mushroom pushbutton		22 30	15T-RF-22 15T-RF-30	KX 9358 KX 9317
Locking switch		22 30	16T-22 16T-30	KX 9359 KX 9318
Rotary switch		22 30	17T-22 17T-30	KX 9360 KX 9319
Mushroom switch Emergency Shutdown		22 30	18T-22 18T-30	KX 9361 KX 9320

**Rotary Lever – Type: K9 312..-1/8**



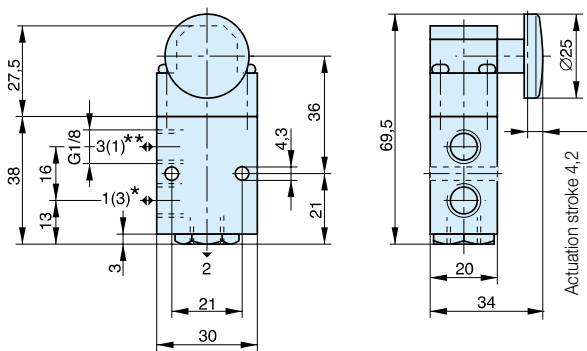
\* = P when used as “normally closed”  
 \*\* = P when used as “normally open”

**Plunger Operated – Type: K9 323RF-1/8**



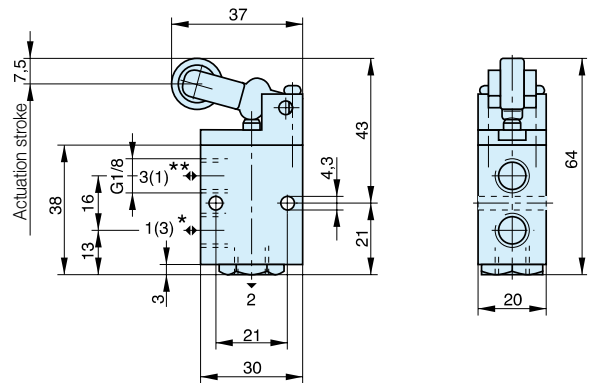
\* Self tapping screws CM 3x.. DIN 7500 to be used  
 \*\* = P when used as “normally closed”  
 \*\*\* = P when used as “normally open”

**Pushbutton – Type: K9 314RF-1/8**



\* = P when used as “normally closed”  
 \*\* = P when used as “normally open”

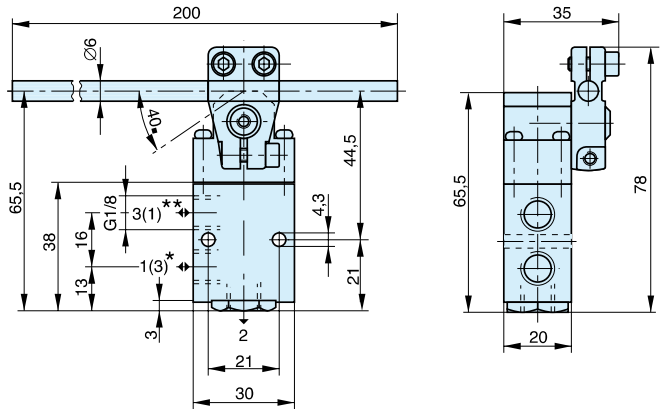
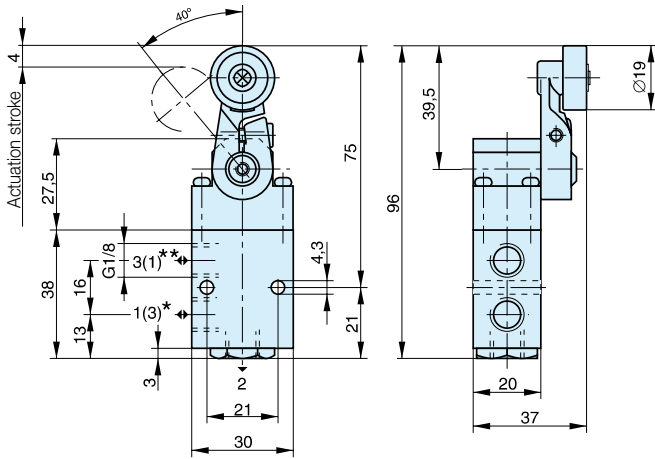
**Cam operation– Type: K9 321RF-1/8**



\* = P when used as “normally closed”  
 \*\* = P when used as “normally open”

**Toggle Cam Operation – Type: K9 324RF-1/8**

**Pivoted Lever – Type: K9 329RF-1/8**

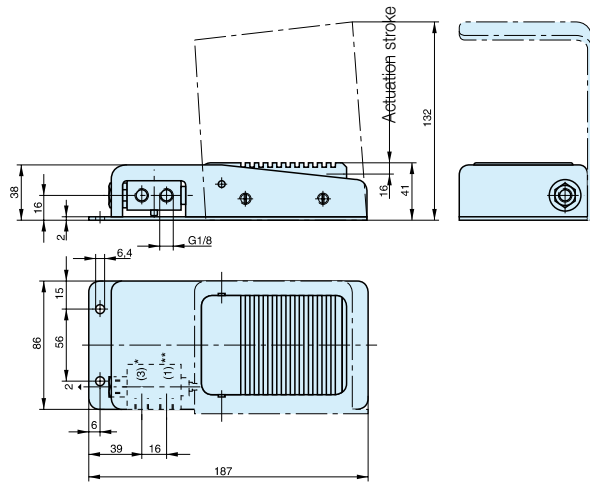
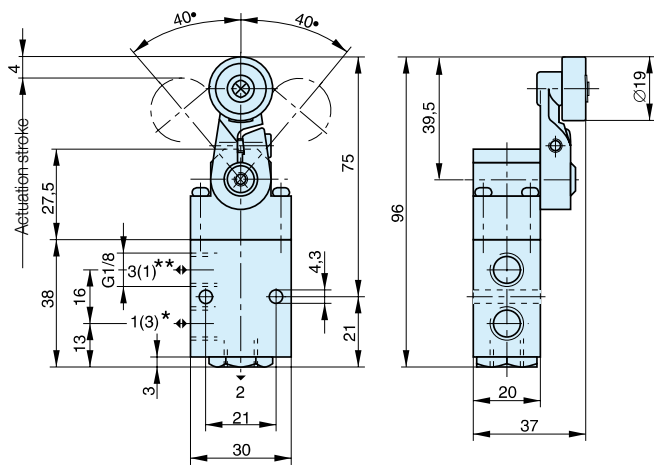


\* = P when used as “normally closed”  
 \*\* = P when used as “normally open”

\* = P when used as “normally closed”  
 \*\* = P when used as “normally open”

**Cam Operated free cam left / right  
 Type: K9 325RF-1/8, K9 326RF-1/8**

**Pedal – Type: K9 331RF-1/8**

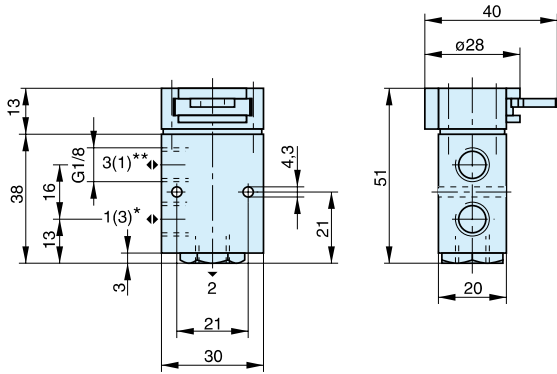


\* = P when used as “normally closed”  
 \*\* = P when used as “normally open”

\* = P when used as “normally closed”  
 \*\* = P when used as “normally open”

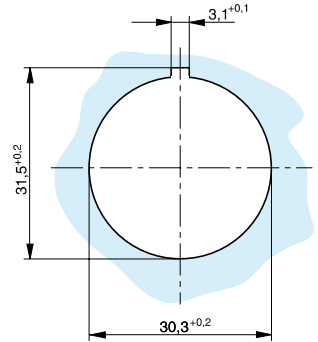
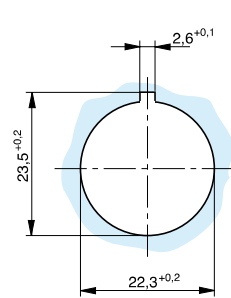
**Basic Valve with adaptor for panel mounting  
Type: K9 390RF-1/8**

**Mounting holes for mounting  
diameters 22 and 30 mm**



Mounting diameter Ø22 mm

Mounting diameter Ø30 mm



\* = P when used as "normally closed"  
\*\* = P when used as "normally open"

**Rotary Lever, indexed – Type: 12T-22, 12T-30**

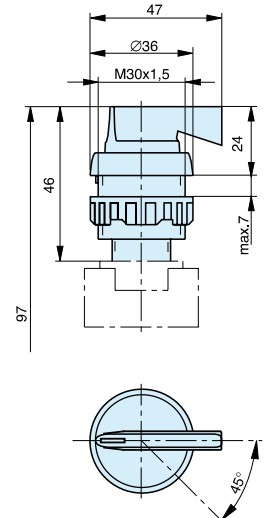
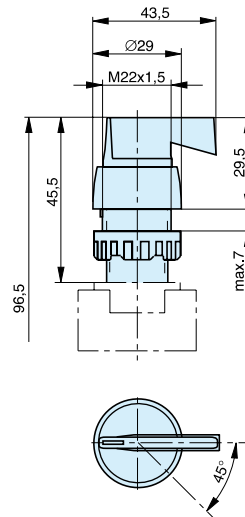
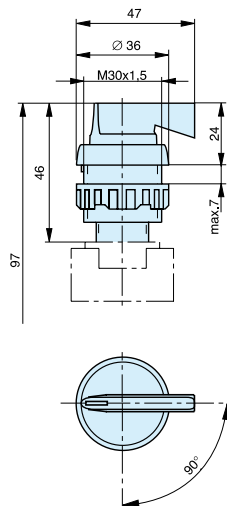
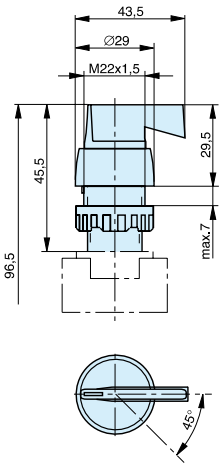
**Rotary Lever with spring return  
Type: 12T-RF-22, 12T-RF-30**

Mounting diameter Ø22 mm

Mounting diameter Ø30 mm

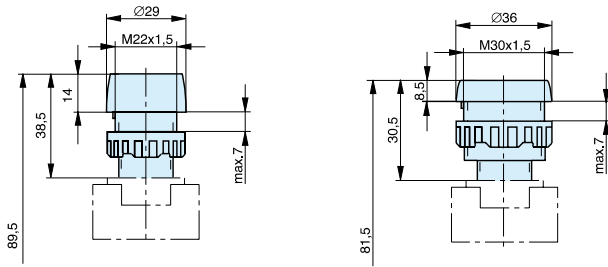
Mounting diameter Ø22 mm

Mounting diameter Ø30 mm



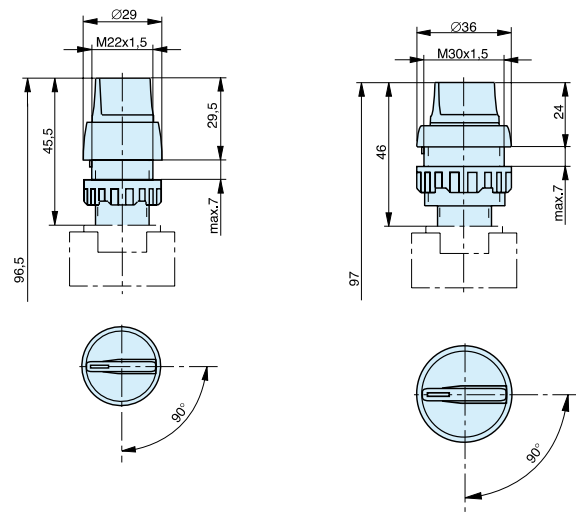
**Pushbutton**  
 Type: 13T-RF-22, 13T-RF-30

Mounting diameter Ø22 mm      Mounting diameter Ø30 mm



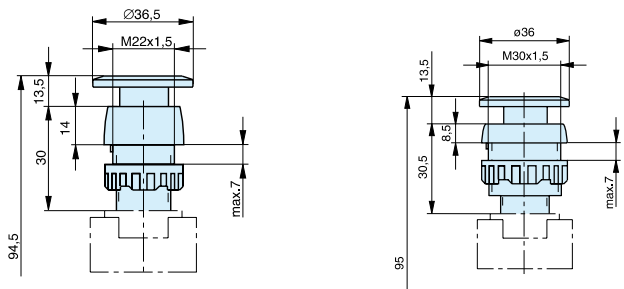
**Rotary Switch**  
 Type: 17T-22, 17T-30

Mounting diameter Ø22 mm      Mounting diameter Ø30 mm



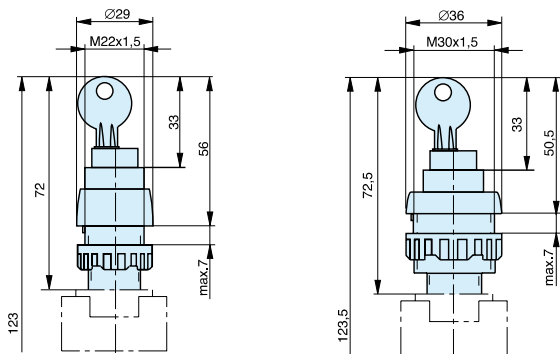
**Mushroom Pushbutton**  
 Type: 15T-RF-22, 15T-RF-30

Mounting diameter Ø22 mm      Mounting diameter Ø30 mm



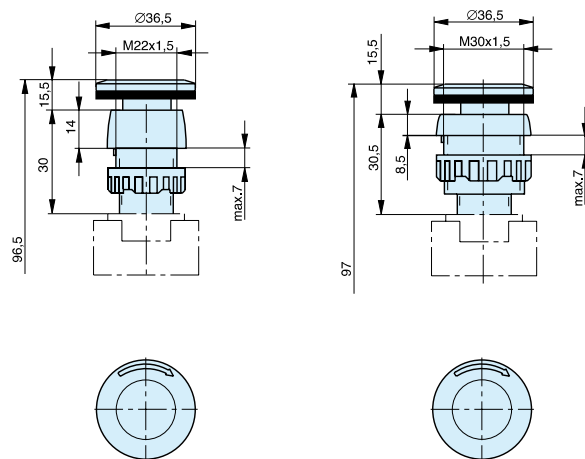
**Locking Switch**  
 Type: 16T-22, 16T-30

Mounting diameter Ø22 mm      Mounting diameter Ø30 mm



**Mushroom Switch (Emergency Shutdown)**  
 Type: 18T-22, 18T-30

Mounting diameter Ø22 mm      Mounting diameter Ø30 mm





## S9 Series Directional Control Valves

### Actuation:

- Hand lever
- Pneumatic
- Electrical pilot operated
- Electrical pilot operated with external pilot air
- Panel mounting actuators for mounting diameter to DIN 43696

### Versions:

- Normally closed
- Normally open
- With external pilot air
- With biased position
- Version to ATEX Standard



**Note:** The “normally open” valve S9 381S-RF-1/8 cannot be used on a P-supply manifold.

### 3/2 Way Valves – Standard versions

Actuation System	Symbol	Mounting Ø (mm)	Order Instructions Type	Order No.
Hand lever, indexed			S9 311-1/8	PA 10293
			S9 311-1/4	PA 12708
			S9 311-1/2	PA 16404
Hand lever, spring return			S9 311RF-1/8	PA 10294
			S9 311RF-1/4	PA 12709
			S9 311RF-1/2	PA 16405
Hand lever secured in 2 switching positions			S9 311S-1/4	PA 12710
			S9 311S-1/2	PA 16406
Rotary lever, indexed			S9 312-1/4	PA 12711
			S9 312-1/2	PA 16407
Rotary lever, spring return			S9 312RF-1/4	PA 12712
			S9 312RF-1/2	PA 16408
Pneumatic, by permanent signal			S9 361RF-1/8	PA 10295
			S9 361RF-1/4	PA 12713
			S9 361RF-1/2	PA 16409
Pneumatic, by impulse			S9 361-1/8	PA 10296
			S9 361-1/4	PA 12714
			S9 361-1/2	PA 16410
Pneumatic, by impulse, with biased position			S9 362-1/4	PA 12715
			S9 362-1/2	PA 16411
Basic valve for panel mounting			S9 390RF-1/8	PA 10307

**3/2 Way Valves – Standard versions**

Actuation System	Symbol	Mounting Ø (mm)	Order Instructions Type	Order No.
Rotary lever, indexed		22	12T-22	<b>KX 9355</b>
		30	12T-30	<b>KX 9314</b>
Rotary lever, spring return		22	12T-RF-22	<b>KX 9356</b>
		30	12T-RF-30	<b>KX 9315</b>
Pushbutton		22	13T-RF-22	<b>KX 9357</b>
		30	13T-RF-30	<b>KX 9316</b>
Mushroom pushbutton		22	15T-RF-22	<b>KX 9358</b>
		30	15T-RF-30	<b>KX 9317</b>
Locking switch		22	16T-22	<b>KX 9359</b>
		30	16T-30	<b>KX 9318</b>
Rotary switch		22	17T-22	<b>KX 9360</b>
		30	17T-30	<b>KX 9319</b>
Mushroom pushbutton emergency-Off		22	18T-22	<b>KX 9361</b>
		30	18T-30	<b>KX 9320</b>
Electrical by permanent signal			S9 381RF-1/8-NC-..	<b>PA 10297-...33</b>
			S9 381RF-1/4-NC-..	<b>PA 12716-...33</b>
			S9 381RF-1/2-NC-..	<b>PA 16412-...33</b>
			S9 381RF-1/8-NO-..	<b>PA 10298-...33</b>
			S9 381RF-1/4-NO-..	<b>PA 12717-...33</b>
			S9 381RF-1/2-NO-..	<b>PA 16413-...33</b>
with external pilot air			S9 381S-RF-1/8-..	<b>PA 10300-...33</b>
			S9 381S-RF-1/4-..	<b>PA 12719-...33</b>
			S9 381S-RF-1/2-..	<b>PA 16415-...33</b>
Electrical by impulse			S9 381-1/8-..	<b>PA 10299-...33</b>
			S9 381-1/4-..	<b>PA 12718-...33</b>
			S9 381-1/2-..	<b>PA 16414-...33</b>
Electrical, by impulse, with external pilot air			S9 381S-1/8-..	<b>PA 10301-...33</b>
			S9 381S-1/4-..	<b>PA 12720-...33</b>
			S9 381S-1/2-..	<b>PA 16417-...33</b>
Electrical by impulse, with biased position			S9 382-1/4-..	<b>PA 12721-...33</b>
			S9 382-1/2-..	<b>PA 16418-...33</b>
with external pilot air			S9 382S-1/4-..	<b>PA 12722-...33</b>
			S9 382S-1/2-..	<b>PA 16419-...33</b>
<b>Solenoid version</b>	<b>Nominal voltage</b>	<b>Applicable for</b>	<b>Key code</b>	<b>ATEX Type additon</b>
Standard version	230V 50/60Hz	110 V =	61	–
	24V =	60V 50/60Hz	02	–
Low wattage version	24V =		13	–
	230V 50/60Hz		69	–

## EX Area versions to ATEX Standard Category, type of ignition protection

Single valve: Ⓢ II 2G c T4 T135°C -10°C≤Ta≤+60°C

Solenoid/individual use: Ⓢ II 2G EEx m II T5 -20°C≤Ta≤+50°C

Solenoid/manifold mounting: Ⓢ II 2G EEx m II T5 -20°C≤Ta≤+40°C

Solenoid version	Nominal voltage	Applicable for	Key code	ATEX Type additon
Solenoid	24V =		48	ATEX
- with cable 1.2 m				
- with cable 3 m	24V =		45	ATEX
- with cable 5 m	24V =		46	ATEX
- with cable 10 m	24V =		47	ATEX
- with cable 1.2 m	24V 50/60Hz		99	ATEX
- with cable 1.2 m	110V 50/60Hz		97	ATEX
- with cable 1.2 m	230V 50/60Hz		98	ATEX

Example for valves in ATEX-Version:

- for valves Series S9-G1/8, S9-G1/4, S9-G1/2

Please add behind the Standard Order No. "ATEX"



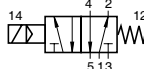

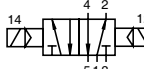
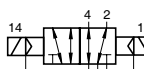
Type: S9 381RF-1/8-NC-4633

Order No. PA10297-4633ATEX

## Order Instructions – 5/2 Way Valves – Standard versions

Actuation System	Symbol	Mounting Ø (mm)	Order Instructions Type	Order No.
Hand lever, indexed			S9 511-1/8	<b>PA 10308</b>
			S9 511-1/4	<b>PA 12671</b>
			S9 511-1/2	<b>PA 16367</b>
Hand lever, spring return			S9 511RF-1/8	<b>PA 10309</b>
			S9 511RF-1/4	<b>PA 12672</b>
			S9 511RF-1/2	<b>PA 16366</b>
Hand lever secured in 2 switching positions			S9 511S-1/8	<b>PA 10368</b>
			S9 511S-1/4	<b>PA 12673</b>
			S9 511S-1/2	<b>PA 16368</b>
Rotary lever, indexed			S9 512-1/4	<b>PA 12674</b>
			S9 512-1/2	<b>PA 16378</b>
Rotary lever, spring return			S9 512RF-1/4	<b>PA 12675</b>
			S9 512RF-1/2	<b>PA 16379</b>
Pneumatic, by permanent signal			S9 561RF-1/8	<b>PA 10310</b>
			S9 561RF-1/4	<b>PA 12676</b>
			S9 561RF-1/2	<b>PA 16165</b>
Pneumatic, by impulse			S9 561-1/8	<b>PA 10311</b>
			S9 561-1/4	<b>PA 12677</b>
			S9 561-1/2	<b>PA 16166</b>
Pneumatic, by impulse, with biased position			S9 562-1/4	<b>PA 12678</b>
			S9 562-1/2	<b>PA 16167</b>
Basic valve for panel mounting			S9 590RF-1/8	<b>PA 10320</b>
Rotary lever, indexed		22	12T-22	<b>KX 9355</b>
		30	12T-30	<b>KX 9314</b>
Rotary lever, spring return		22	12T-RF-22	<b>KX 9356</b>
		30	12T-RF-30	<b>KX 9315</b>
Pushbutton		22	13T-RF-22	<b>KX 9357</b>
		30	13T-RF-30	<b>KX 9316</b>
Mushroom pushbutton		22	15T-RF-22	<b>KX 9358</b>
		30	15T-RF-30	<b>KX 9317</b>
Locking switch		22	16T-22	<b>KX 9359</b>
		30	16T-30	<b>KX 9318</b>

**Order Instructions - 5/2 Way Valves - Standard Versions**

Actuation System	Symbol	Mounting Ø (mm)	Order Instructions Type	Order No.
Rotary switch		22	17T-22	<b>KX 9360</b>
		30	17T-30	<b>KX 9319</b>
Mushroom pushbutton Emergency-Off		22	18T-22	<b>KX 9361</b>
		30	18T-30	<b>KX 9320</b>
Electrical, by permanent signal			S9 581RF-1/8-..	<b>PA 10312-..33</b>
			S9 581RF-1/4-..	<b>PA 12679-..33</b>
			S9 581RF-1/2-..	<b>PA 16171-..33</b>
with external pilot air			S9 581S-RF-1/8-..	<b>PA 10314-..33</b>
			S9 581S-RF-1/4-..	<b>PA 12681-..33</b>
			S9 581S-RF-1/2-..	<b>PA 16174-..33</b>
Electrical, by impulse			S9 581-1/8-..	<b>PA 10313-..33</b>
			S9 581-1/4-..	<b>PA 12680-..33</b>
			S9 581-1/2-..	<b>PA 16172-..33</b>
with external pilot air			S9 581S-1/8-..	<b>PA 10315-..33</b>
			S9 581S-1/4-..	<b>PA 12682-..33</b>
			S9 581S-1/2-..	<b>PA 16175-..33</b>

Solenoid version	Nominal voltage	Applicable for	Key code	ATEX Type additon
Standard version	230V 50/60Hz	110 V =	61	-
	24V =	60V 50/60Hz	02	-
Low wattage version	24V =		13	-
	230V 50/60Hz		69	-

**EX Area versions to ATEX Standard**

**Category, type of ignition protection**

Single valve: Ⓢ II 2G c T4 T135°C -10°C ≤ Ta ≤ +60°C

Solenoid/individual use: Ⓢ II 2G EEx m II T5 -20°C ≤ Ta ≤ +50°C

Solenoid/manifold mounting: Ⓢ II 2G EEx m II T5 -20°C ≤ Ta ≤ +40°C

Solenoid version	Nominal voltage	Applicable for	Key code	ATEX Type additon
Solenoid	24V =		48	ATEX
- with cable 1.2 m				
- with cable 3 m	24V =		45	ATEX
- with cable 5 m	24V =		46	ATEX
- with cable 10 m	24V =		47	ATEX
- with cable 1.2 m	24V 50/60Hz		99	ATEX
- with cable 1.2 m	110V 50/60Hz		97	ATEX
- with cable 1.2 m	230V 50/60Hz		98	ATEX

Example for valves in ATEX-Version:

- for valves Series S9-G1/8, S9-G1/4, S9-G1/2

Please add behind the Standard Order No. "ATEX"

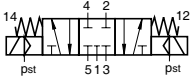
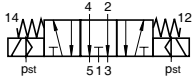
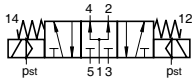
Type: S9 381RF-1/8-NC-4633

Order No. PA10297-4633ATEX

Order Instructions – 5/3 Way Valves – Standard versions

Actuation System	Symbol	Order Instructions Type	Order No.		
Hand lever, secured in 3 operating positions		S9 511G-1/8	PA 10321		
		S9 511G-1/4	PA 12687		
		S9 511G-1/2	PA 16369		
	Hand lever, secured in 3 operating positions		S9 511E-1/8	PA 10322	
			S9 511E-1/4	PA 12688	
			S9 511E-1/2	PA 16370	
		Hand lever, secured in 3 operating positions		S9 511B-1/8	PA 10323
				S9 511B-1/4	PA 12689
				S9 511B-1/2	PA 16371
Hand lever, spring return to middle position		S9 511RFG-1/8	PA 10324		
		S9 511RFG-1/4	PA 12690		
		S9 511RFG-1/2	PA 16372		
	Hand lever, spring return to middle position		S9 511RFE-1/8	PA 10325	
			S9 511RFE-1/4	PA 12691	
			S9 511RFE-1/2	PA 16373	
	Hand lever, spring return to middle position		S9 511RFB-1/8	PA 10326	
			S9 511RFB-1/4	PA 12692	
			S9 511RFB-1/2	PA 16374	
Hand lever, secured in 3 operating positions		S9 511SG-1/8	PA 10327		
		S9 511SG-1/4	PA 12693		
		S9 511SG-1/2	PA 16375		
	Hand lever, secured in 3 operating positions		S9 511SE-1/8	PA 10328	
			S9 511SE-1/4	PA 12694	
			S9 511SE-1/2	PA 16376	
		Hand lever, secured in 3 operating positions		S9 511SB-1/8	PA 10329
				S9 511SB-1/4	PA 12695
				S9 511SB-1/2	PA 16377
Rotary lever, indexed in 3 operating positions		S9 512G-1/4	PA 12696		
		S9 512G-1/2	PA 16380		
		Rotary lever, indexed in 3 operating positions		S9 512E-1/4	PA 12697
	S9 512E-1/2			PA 16381	
	Rotary lever, indexed in 3 operating positions		S9 512B-1/4	PA 12698	
			S9 512B-1/2	PA 16382	

Actuation System	Symbol	Order Instructions Type	Order No.	
Rotary lever, spring return to middle position		S9 512RFG-1/4	PA 12699	
		S9 512RFG-1/2	PA 16383	
		S9 512RFE-1/4	PA 12700	
		S9 512RFE-1/2	PA 16384	
		S9 512RFB-1/4	PA 12701	
		S9 512RFB-1/2	PA 16385	
Pneumatic, by permanent signal		S9 561RFG-1/8	PA 10330	
		S9 561RFG-1/4	PA 12702	
		S9 561RFG-1/2	PA 16168	
	spring return to middle position		S9 561RFE-1/8	PA 10331
			S9 561RFE-1/4	PA 12703
			S9 561RFE-1/2	PA 16169
		S9 561RFB-1/8	PA 10332	
		S9 561RFB-1/4	PA 12704	
		S9 561RFB-1/2	PA 16170	
	Electrical by permanent signal		S9 581RFG-1/8-..	PA 10333-...33
			S9 581RFG-1/4-..	PA 12705-...33
			S9 581RFG-1/2-..	PA 16176-...33
spring return to middle position			S9 581RFE-1/8-..	PA 10334-...33
			S9 581RFE-1/4-..	PA 12706-...33
			S9 581RFE-1/2-..	PA 16177-...33
		S9 581RFB-1/8-..	PA 10335-...33	
		S9 581RFB-1/4-..	PA 12707-...33	
		S9 581RFB-1/2-..	PA 16178-...33	

Actuation System	Symbol	Order Instructions Type	Order No.
Electrical by permanent signal		S9 581S-RFG-1/8-..	<b>PA 10377-..33</b>
		S9 581S-RFG-1/4-..	<b>PA 12925-..33</b>
spring return to middle position		S9 581S-RFE-1/8-..	<b>PA 10379-..33</b>
		S9 581S-RFE-1/4-..	<b>PA 12923-..33</b>
with external pilot air		S9 581S-RFB-1/8-..	<b>PA 10378-..33</b>
		S9 581S-RFB-1/4-..	<b>PA 12924-..33</b>

Solenoid version	Nominal voltage	Applicable for	Key code	ATEX Type addition
Standard version	230V 50/60Hz	110 V =	61	-
	24V =	60V 50/60Hz	02	-
Low wattage version	24V =		13	-
	230V 50/60Hz		69	-

Single valve: ☉ II 2G c T4 T135°C -10°C ≤ Ta ≤ +60°C  
 Solenoid/individual use: ☉ II 2G EEx m II T5 -20°C ≤ Ta ≤ +50°C  
 Solenoid/manifold mounting: ☉ II 2G EEx m II T5 -20°C ≤ Ta ≤ +40°C

Solenoid version	Nominal voltage	Applicable for	Key code	ATEX Type addition
Solenoid	24V =		48	ATEX
- with cable 1.2 m				
- with cable 3 m	24V =		45	ATEX
- with cable 5 m	24V =		46	ATEX
- with cable 10 m	24V =		47	ATEX
- with cable 1.2 m	24V 50/60Hz		99	ATEX
- with cable 1.2 m	110V 50/60Hz		97	ATEX
- with cable 1.2 m	230V 50/60Hz		98	ATEX

Example for valves in ATEX-Version:  
 - for valves Series S9-G1/8, S9-G1/4, S9-G1/2  
 Please add behind the Standard Order No. "ATEX"  
 Type: S9 381RF-1/8-NC-4633  
 Order No. PA10297-4633ATEX



### 3/2, 5/2 and 5/3 Directional Control Valves Series S9-G1/8 / G1/4 / G1/2

Characteristics	Series S9 G1/8			Series S9 G1/4			Series S9 G1/2		
Actuation	Manual control	pneumatic	electrical	Manual control	pneumatic	electrical	Manual control	pneumatic	electrical
General Features									
Type	Spool valve			Spool valve			Spool valve		
Mounting	2 Screws M5			2 Screws M6			2 Screws M6		
Tube connection	Thread			Thread			Thread		
Thread	G1/8 – 7.4 deep			G1/4 – 11 deep			G1/2 – 16 deep		
Installation	In any position			In any position			In any position		
Ambient temperature range (1)	-10 °C to +60 °C *			-10 °C to +60 °C*			-10 °C to +60 °C*		
Medium temperature range (1)	-10 °C to +60 °C *			-10 °C to +60 °C*			-10 °C to +60 °C*		
Medium	Filtered compressed air								
Lubrication	With or without oil mist lubrication (We recommend the use of mineral oil type VG 32 to ISO 3448)								
Pneumatic Characteristics									
Nominal pressure (bar)	6			6			6		
Operating pressure range (bar)	0–10 (10)	–	–	0–10	–	–	0–10	–	–
– permanent signal version (bar)	–	0–10	2–10	–	0–10	2–10	–	0–10	2.2–10
– impulse version (bar)	–	0–10	2–10	–	0–10	2–10	–	0–10	2.2–10
– with external pilot air (bar)	–	–	0–10	–	–	0–10	–	–	0–10
Nominal flow	500 l/min (450 bei 3/2 Way Valve)			1300 l/min(7)			3500 l/min(8)		
Actuation									
Manual control	Direct			Direct			Direct		
Stroke	4.5 mm			6.5 mm			9.4 mm		
Actuation force (N)	7 (2)	10 (3)		10 (2)	15 (3)		15 (2)	40 (3)	
Pneumatic	Direct			Direct			Direct		
Actuation pressure range									
– permanent signal version (bar)	–	2–10	2–10	2–10	2–10	2–10	–	2.2–10(8)	2.2–10
– impulse version (bar)	–	1.5–10	1.5–10	1.5–10	1.5–10(4)	1.5–10(4)	–	1.5–10(5)	1.5–10(4)
Electrical	Electrical pilot operated								
Voltage type	Alternating current (50/60Hz)			Direct current			Alternating current (50/60Hz)		
Nominal voltage									
– Standard version	230 V ±10%			24 V ±10%			Other voltages on request		
– Low wattage version	230 V ±10%			24 V ±10%			230 V ±10%		
Initial power consumption	G1/8	G1/4	G1/2	G1/8	G1/4	G1/2	G1/8	G1/4	G1/2
– Standard version (VA)	8.5	8.5	11.0	2.5	2.5	4.8	8.5	8.5	11.0
– Low wattage version (VA)	6.6	6.6	7.8	2.1	2.1	2.7	6.6	6.6	7.8
Continuous consumption	G1/8	G1/4	G1/2	G1/8	G1/4	G1/2	G1/8	G1/4	G1/2
– Standard version (VA)	6.0	6.0	8.5	2.5	2.5	4.8	6.0	6.0	8.5
– Low wattage version (VA)	3.9	4.9	4.9	2.1	2.1	2.7	3.9	4.9	4.9
Duty cycle	100%			100%			100%		
Electrical protection	IP65 to DIN 40050 (applies only to solenoid with plug)								
Connection	Plug to DIN EN 175301-803 form B – industrial standard (6)								

\* Valve Manifold Assemblies with electrically actuated valves -10 to +50°C

(1) Note: For use below freezing point please contact us

(2) Actuation force for valves without spring return, actuation with rotary lever: 5N

(3) Actuation force for valves with spring return, Actuation with rotary lever: 15N

(4) Only for version with biased position 2 – 10 bar, pneumatically actuated

2 – 10 bar, electrically actuated 2.5 – 10 bar

(5) Version with biased position 2.5 – 10 bar

(6) Low wattage version: Plug to DIN EN 175301-803 form A

(7) Version "middle position vented" 1000 l/min

(8) Version "middle position vented" 3300 l/min Version "middle position pressured" 3600 l/min

(9) 5/3 Way Valve 2.5 – 10 bar

(10) Valves with panel mounting actuators 2 – 10 bar

### 3/2, 5/2 and 5/3 Way Valves for use in EX areas Series S9-G1/8 / G1/4 / G1/2

Characteristics	Series S9 G1/8	Series S9 G1/4	Series S9 G1/2
Actuation	Manual Control pneumatic electrical	Manual Control pneumatic electrical	Manual Control pneumatic electrical
General Features			
Type	Spool valve	Spool valve	Spool valve
Mounting	2 screws M5	2 Screws M6	2 Screws M6
Tube connection	Thread	Thread	Thread
Thread	G1/8 – 7.4 deep	G1/4 – 11 deep	G1/2 – 16 deep
Installation	In any position	In any position	In any position
Ambient temperature range (1)	-10 °C to +60 °C *	-10 °C to +60 °C *	-10 °C to +60 °C *
Medium temperature range (1)	-10 °C to +60 °C *	-10 °C to +60 °C *	-10 °C to +60 °C *
Medium	Filtered, unlubricated compressed air – free from water and dirt to ISO8573-1	Solids: Class 7 particle size <40 µm for gas Water content: pressure dew point + 3°C, Class 4, but at least 5°C below minimum operating temperature	Solids: Class 7 particle size <40 µm for gas Water content: pressure dew point + 3°C, Class 4, but at least 5°C below minimum operating temperature
Pneumatic Characteristics			
Nominal pressure (bar)	6	6	6
Operating pressure range (bar)	0–8 (10) – –	0–8 – –	0–8 – –
– permanent signal version (bar)	– 0–8 2–8	– 0–8 2–8	– 0–8 2.2–8
– impulse version (bar)	– 0–8 1.5–8(4)	– 0–8 1.5–8(4)	– 0–8 1.5–8(4)
– with external pilot air (bar)	– – 0–8	– – 0–8	– – 0–8
Nominal flow	500 l/min (450 bei 3/2 Way Valve)	1300 l/min (7)	3500 l/min (8)
Actuation			
Manual control	Direct	Direct	Direct
Stroke	4.5 mm	6.5 mm	9.4 mm
Actuation force (N)	7 (2) 10 (3)	10 (2) 15 (3)	15 (2) 40 (3)
Pneumatic	Direct	Direct	Direct
Actuation pressure range			
– permanent signal version (bar)	– 2–8 2–8	2–8 2–8 2–8	– 2.2–8(9) 2.2–8
– impulse version (bar)	– 1.5–8 1.5–8(4)	1.5–8 1.5–8(4) 1.5–8(4)	– 1.5–8(5) 1.5–8(4)
Electrical	Electrical pilot operated		
Certification	EC Type Test Certificate for single valve: not required for mechanical units in II 2G	EC Type Test Certificate for solenoid: PTB-No. 03 Ex IEC 2019X and PTB 03 ATEX 2018X toT5	EC Type Test Certificate for solenoid: PTB-No. 03 Ex IEC 2019X and PTB 03 ATEX 2018X toT5
Category, type of ignition protection	Single valve II 2G c T4T135°C-10°C≤Ta≤+60°C	Solenoid/individual use: II 2G EEx m II T5 -20°C≤Ta≤+50°C Solenoid/manifold mounting: II 2G EEx m II T5 -20°C≤Ta≤+40°C	Solenoid/individual use: II 2G EEx m II T5 -20°C≤Ta≤+50°C Solenoid/manifold mounting: II 2G EEx m II T5 -20°C≤Ta≤+40°C
Voltage type	Alternating current (50/60Hz)	Direct current	
Nominal voltage	230 V ±10% 110 V ±10% 24 V ±10%	24 V ±10%	Other voltages on request
Power rating at Un	G1/8, G1/4, G1/2 3.1 VA (230V) 3.0 VA (110V) 2.5 VA (24V)	G1/8, G1/4, G1/2 3.3 VA (24V)	
Max. power at Un (6)	G1/8, G1/4, G1/2 2.9 VA (230V) 2.8 VA (110V) 2.4 VA (24V)	G1/8, G1/4, G1/2 3.0 VA (24V)	
Electrical protection	IP65 (applies only to solenoid with cable)		
Connection	Cable – cable lengths see Order Instructions		

\* Valve Manifold Assemblies with electrically actuated valves -10 to +50°C

(1) Note: For use below freezing point please contact us

(2) Actuation force for valves without spring return, Actuation with rotary lever: 5N

(3) Actuation force for valves with spring return, actuation with rotary lever: 15N

(4) Only for version with biased position pneumatically actuated 2 – 8 bar,

electrically actuated 2.5 – 8 bar

(5) Version with biased position 2.5 – 8 bar

(6) Maximum power if warmed up to thermal load limit

(7) Version "middle position vented" 1000 l/min

(8) Version "middle position vented" 3300 l/min, Version "middle position pressured" 3600 l/min

(9) 5/3 Way Valve 2.5 – 8 bar

(10) Valves with panel mounting actuators 2 – 8 bar

# Valve Combinations with Logic Elements 3/2, 5/2 and 5/3 Way Valves

## Actuation Systems:

- Pneumatic
- AND
- OR
- TIMER
- Electrical pilot operated

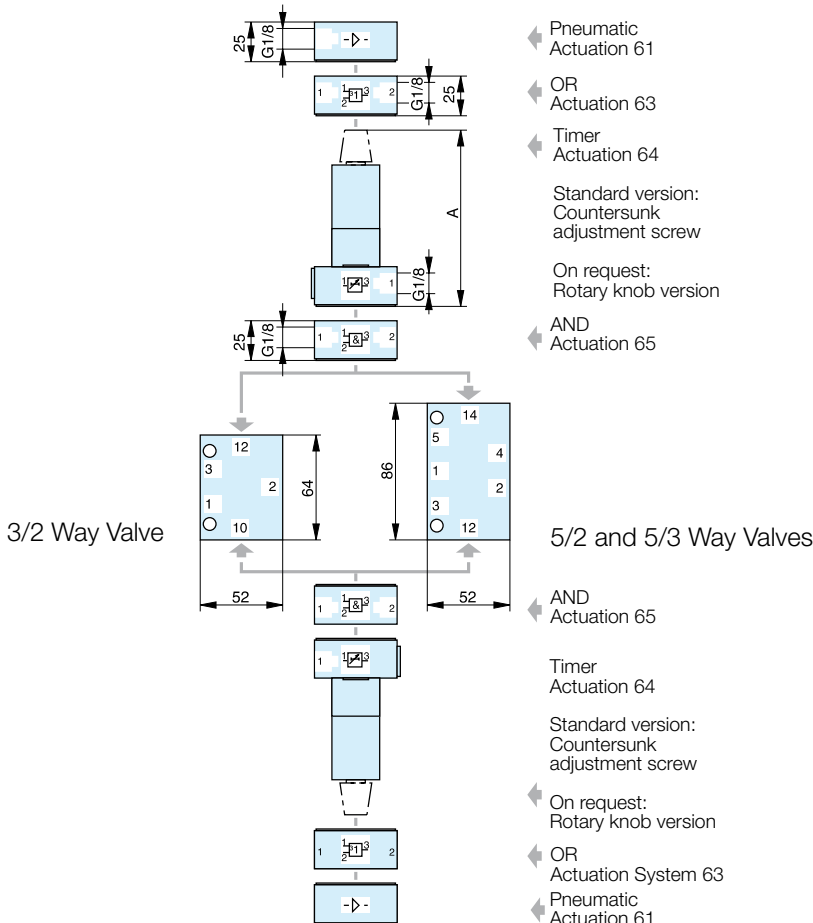
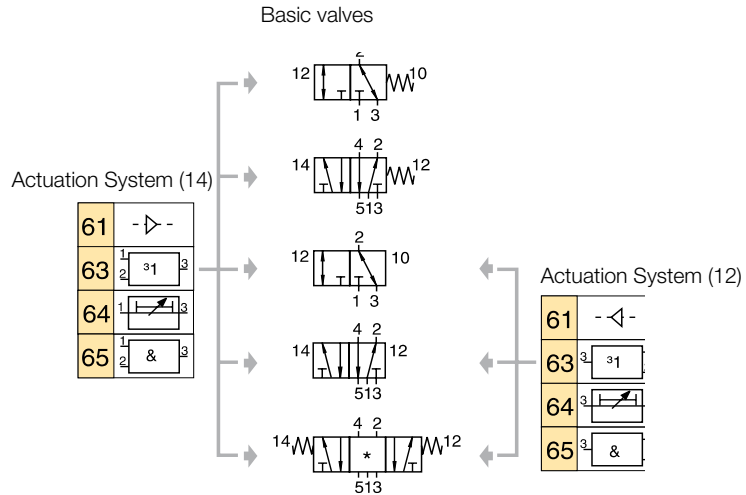
## Versions:

- Freely selectable types
- See Order information
- All Timer-Versions on request



## Possible combinations:

- \* RFG = middle position closed
- RFE = middle position exhausted
- RFB = middle position pressurized



Dimension Table and adjustment ranges	
Adjustment range [s]	Dimension A [mm]
0.1 to 15	103 (133*)
0.1 to 30	117 (147*)
0.1 to 60	150 (180*)

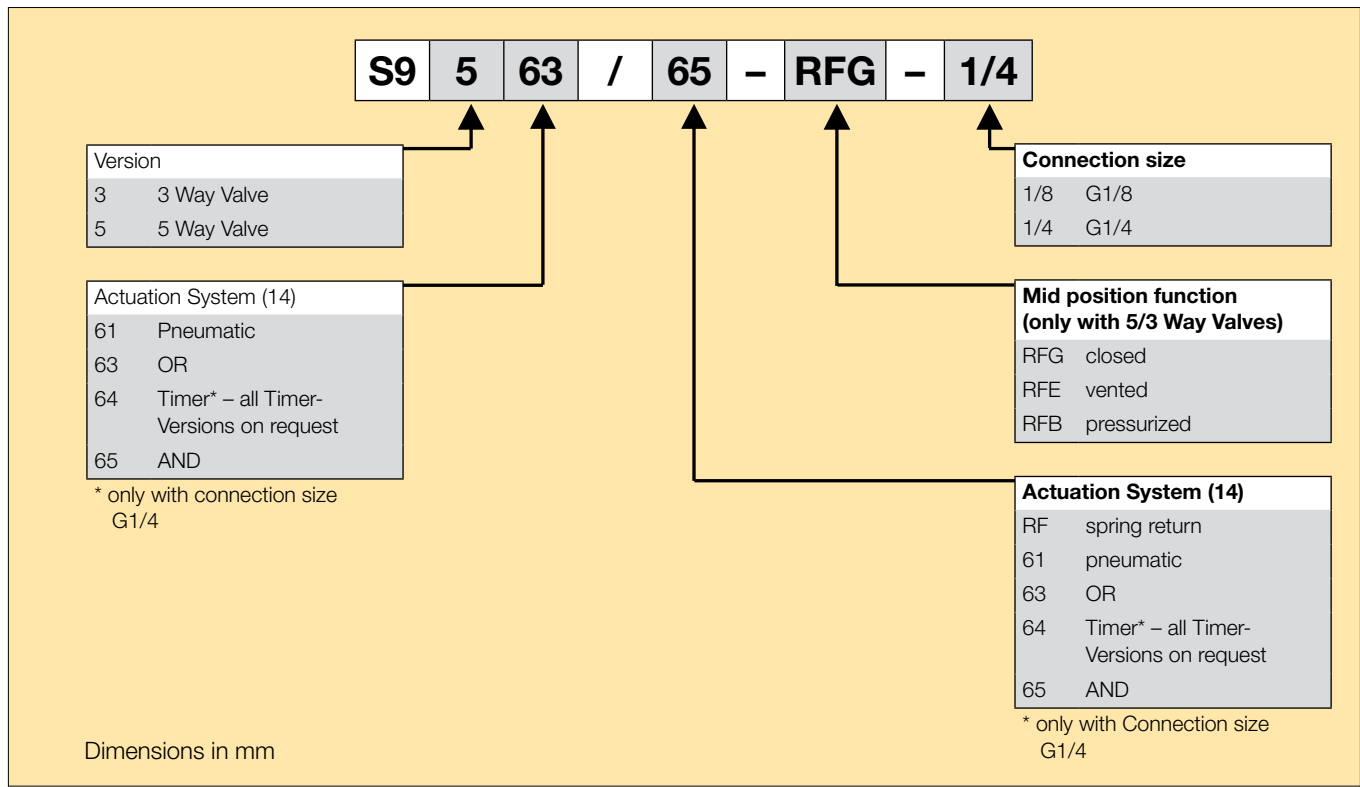
\* Version with rotary knob (optional)

Dimension Table and adjustment ranges	
Adjustment range [s]	Dimension A [mm]
0.1 to 15	103 (133*)
0.1 to 30	117 (147*)
0.1 to 60	150 (180*)

\* Version with rotary knob (optional)

## Valve Combinations with Logic Elements 3/2, 5/2 and 5/3 Way Valves

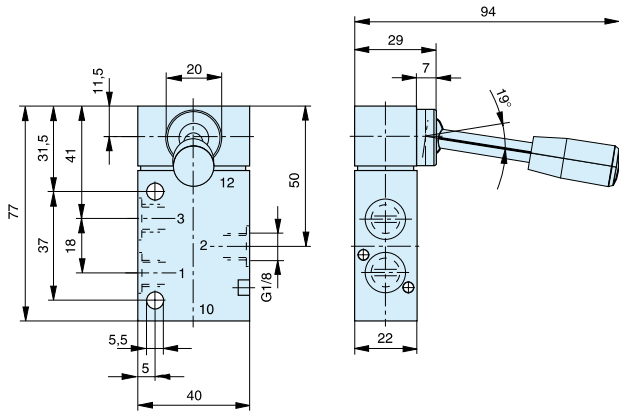
### Order Instructions



### 3/2 Way Lever Operated Valves

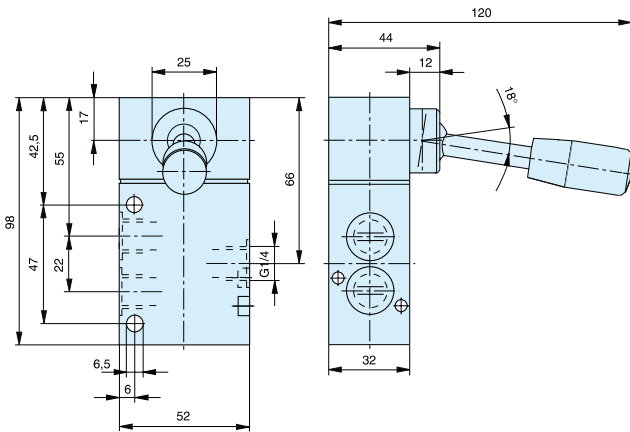
G1/8 Hand lever actuated

Type: S9 311-1/8, S9 311RF-1/8



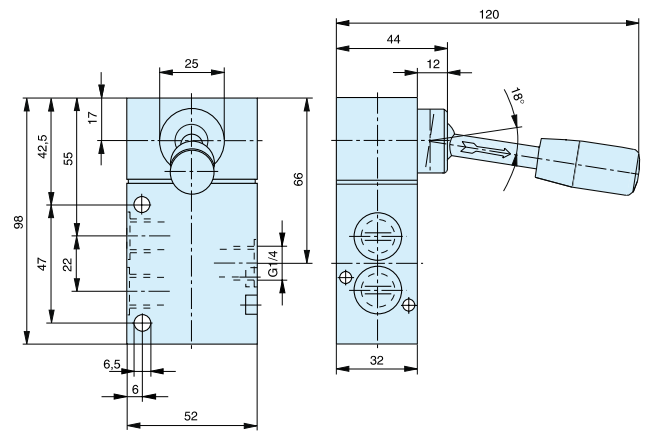
G1/4 Hand lever actuated

Type: S9 311-1/4, S9 311RF-1/4



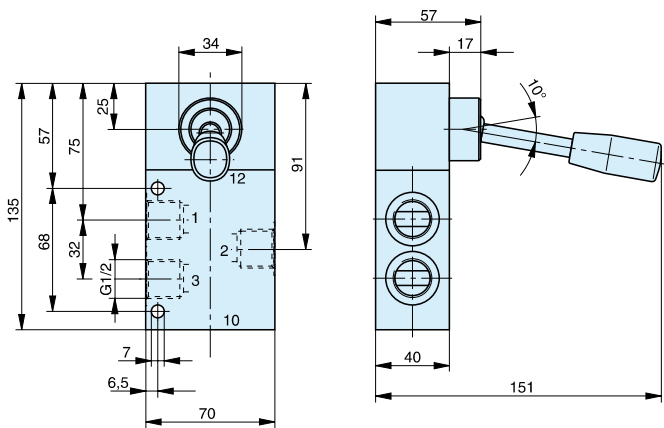
G1/4 Safety hand lever actuated

Type: S9 311S-1/4



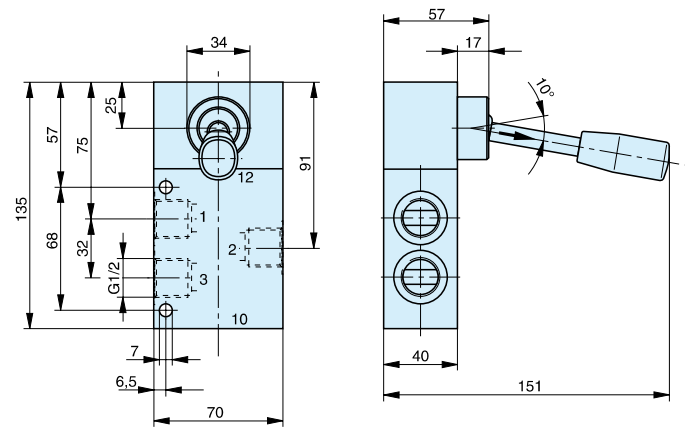
G1/2 Hand lever actuated

Type: S9 311-1/2, S9 311RF-1/2



G1/2 Safety hand lever actuated

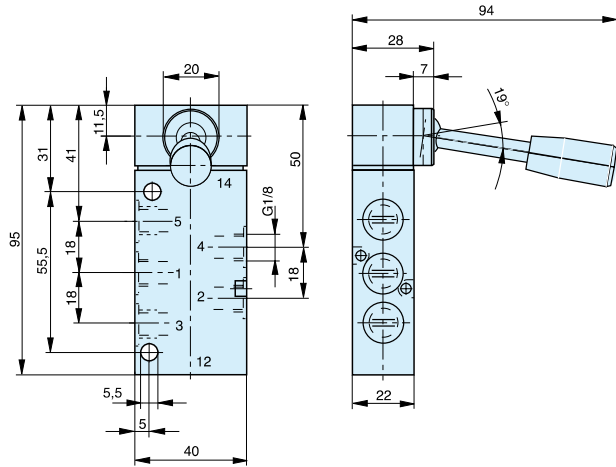
Type: S9 311S-1/2



## 5/2 Way Lever Operated Valves

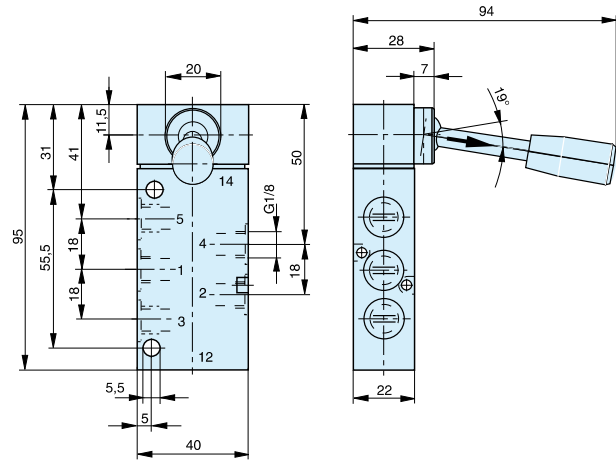
G1/8 Hand lever actuated

Type: S9 511-1/8, S9 511RF-1/8



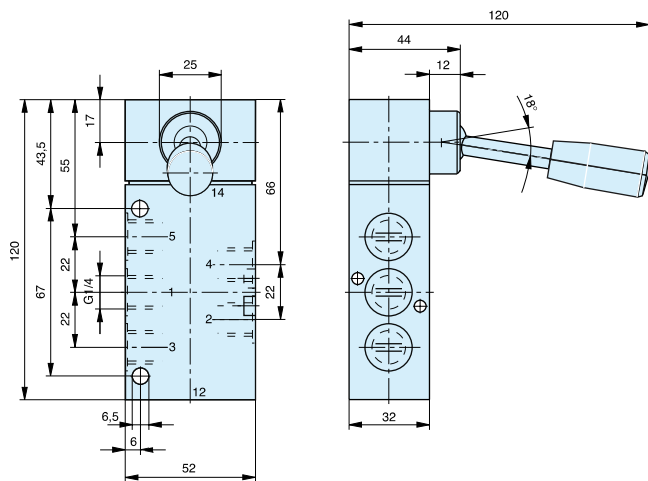
G1/8 Safety Hand lever actuated

Type: S9 511S.-1/8



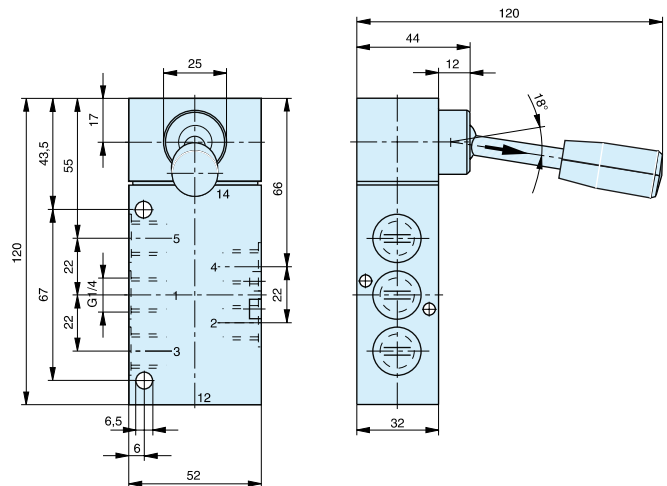
G1/4 Hand lever actuated

Type: S9 511-1/4, S9 511RF-1/4



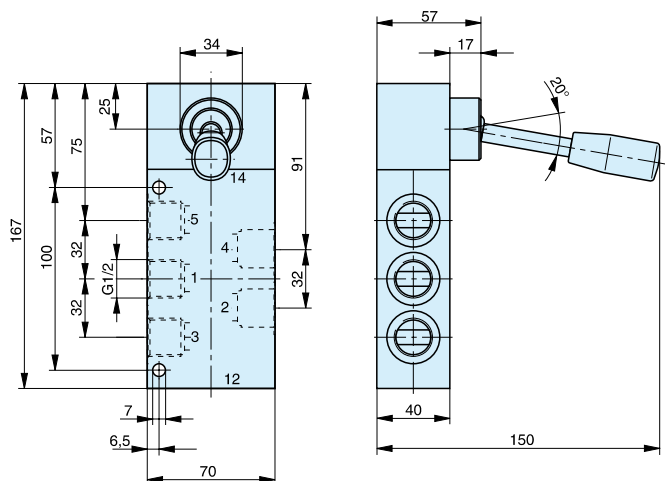
G1/4 Safety hand lever actuated

Type: S9 511S-1/4



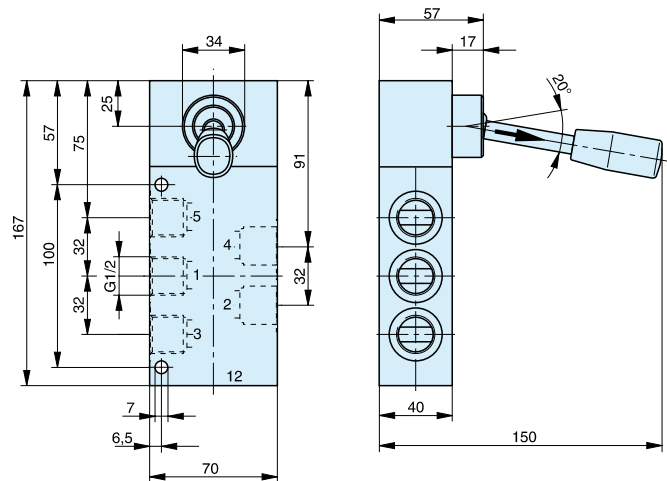
G1/2 Hand lever actuated

Type: S9 511-1/2, S9 511RF-1/2



G1/2 Safety hand lever actuated

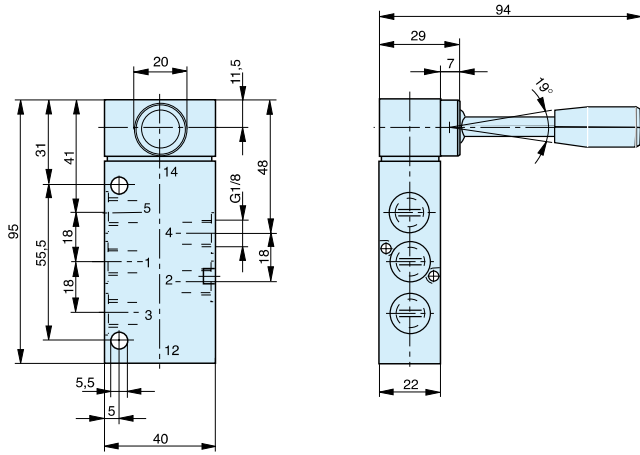
Type: S9 511S-1/2



### 5/3 Way Lever Operated Valves

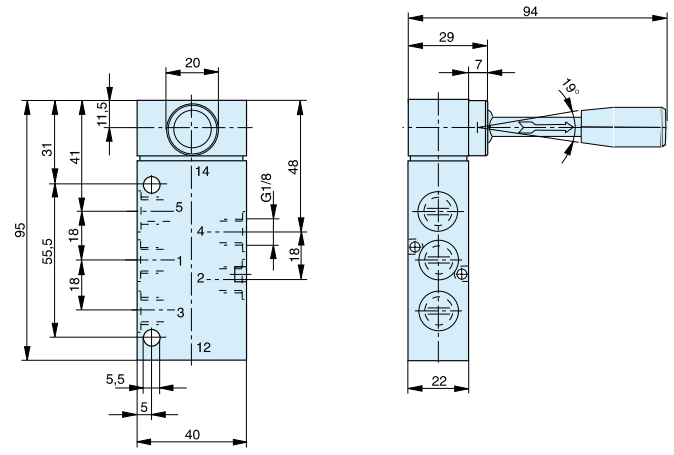
G1/8 Hand lever actuated

Type: S9 511.-1/8, S9 511RF.-1/8



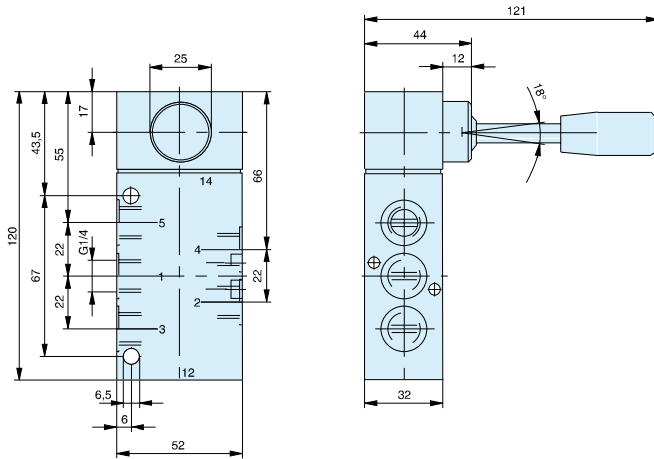
G1/8 Safety Hand lever actuated

Type: S9 511S.-1/8



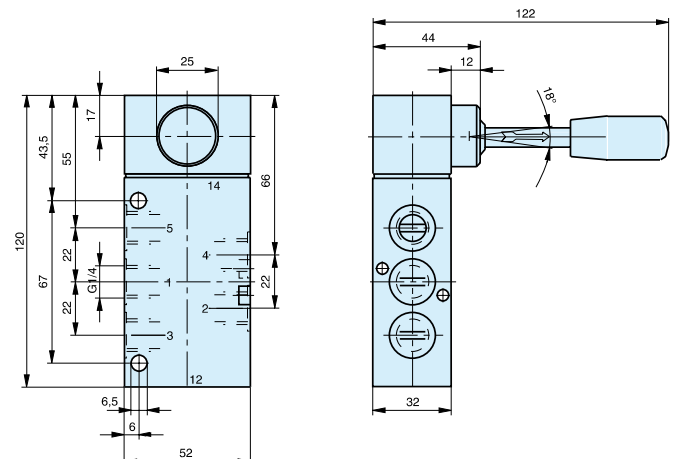
G1/4 Hand lever actuated

Type: S9 511.-1/4, S9 511RF.-1/4



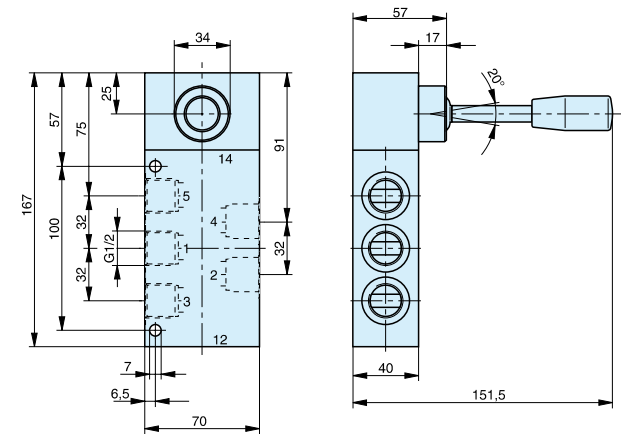
G1/4 Safety hand lever actuated

Type: S9 511S.-1/4



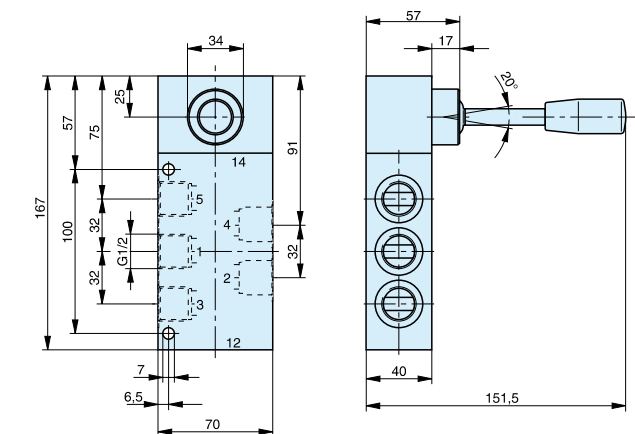
G1/2 Hand lever actuated

Type: S9 511.-1/2, S9 511RF.-1/2



G1/2 Safety hand lever actuated

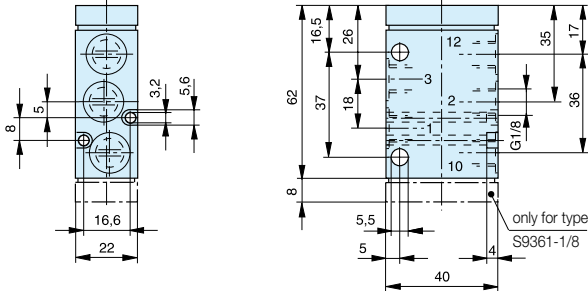
Type: S9 511S.-1/2



### G1/8 - 3/2 Way Valves

Pneumatically actuated

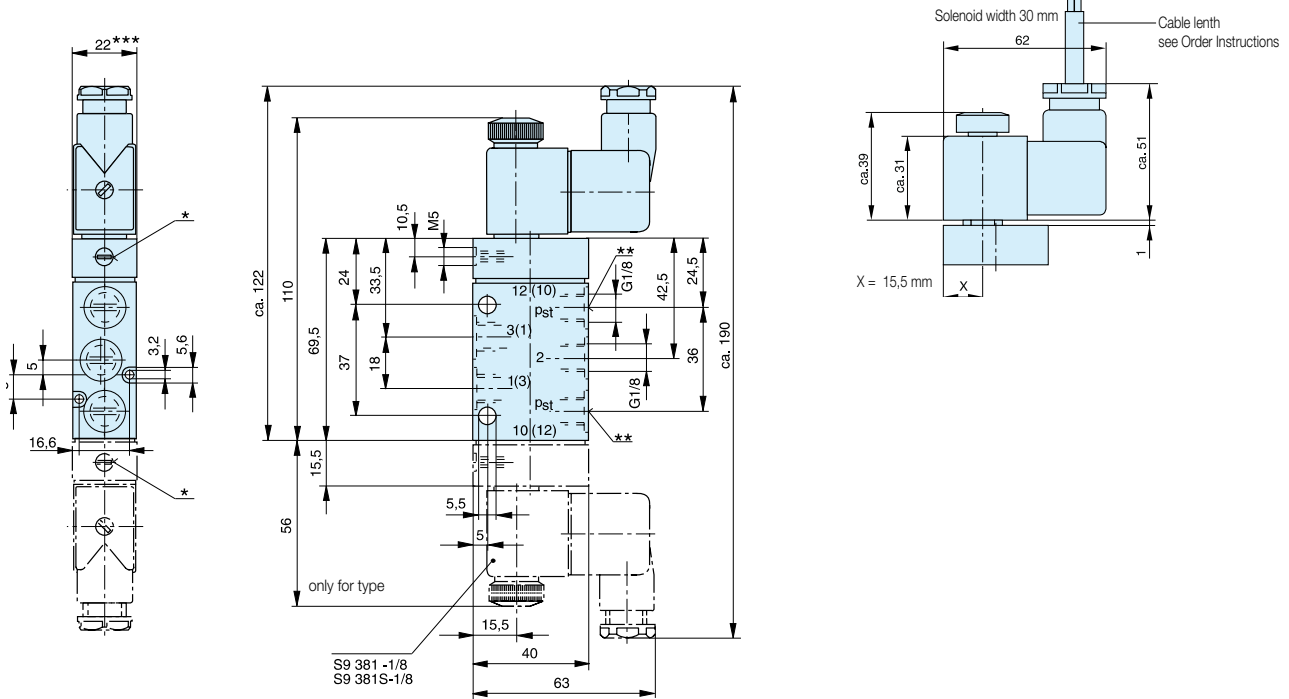
Type: S9 361-1/8, S9 361RF-1/8



Electrically actuated

Type: S9 381(S)-1/8, S9 381(S)RF-1/8

### Solenoid for use in EX areas – Dimensions



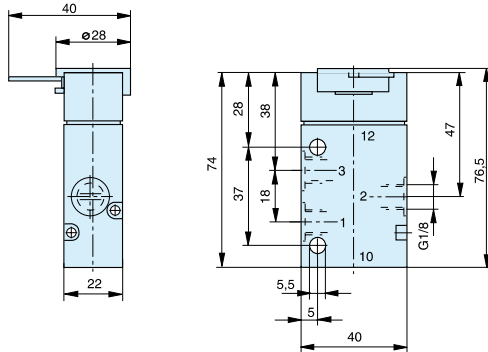
- \* Manual override
- \*\* Operating pressure supply  $p_{st}$  only for type S9 381S
- \*\*\* Solenoid width = 30 mm on low wattage coil version

Dimensions in mm



### G1/8 - 3/2 Way Valves

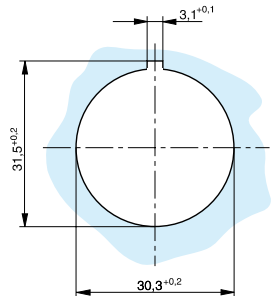
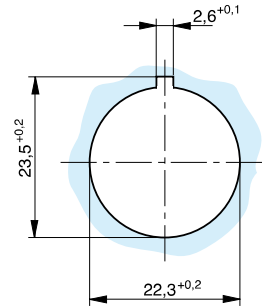
Basic valve for panel mounting actuators  
Type: S9 390RF-1/8



#### Mounting diameter

Mounting diameter Ø22 mm

Mounting diameter Ø30 mm



The actuators for these valves are interchangeable and can be mounted with 180° displacement on the basic valve. The actuators are not mounted upon delivery.

#### Rotary lever, indexed – Type: 12T-22, 12T-30,

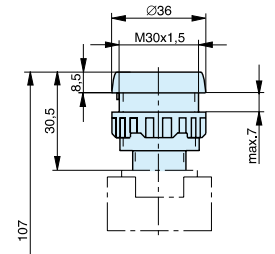
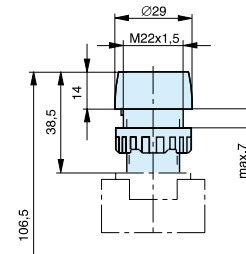
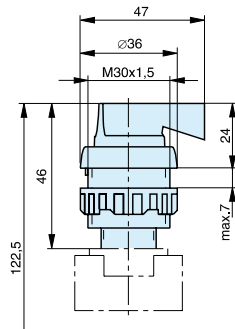
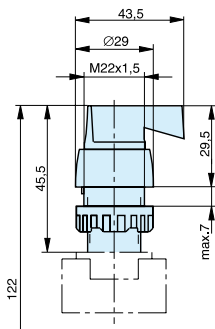
#### Pushbutton – Type: 13T-RF-22, 13T-RF-30

Mounting diameter Ø22 mm

Mounting diameter Ø30 mm

Mounting diameter Ø22 mm

Mounting diameter Ø30 mm



Dimensions in mm

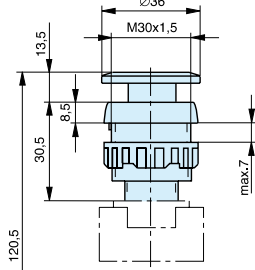
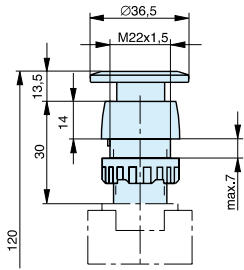
G1/8 - 3/2 Way Valves

Mushroom pushbutton

Type: 15T-RF-22, 15T-RF-30

Mounting diameter Ø22 mm

Mounting diameter Ø30 mm

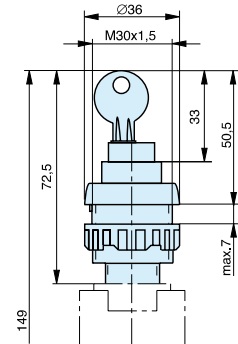
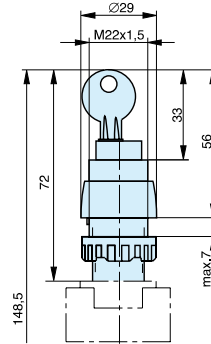


Locking switch

Type: 16T-22, 16T-30

Mounting diameter Ø22 mm

Mounting diameter Ø30 mm

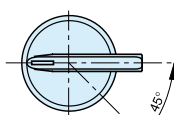
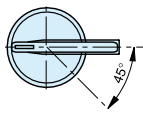
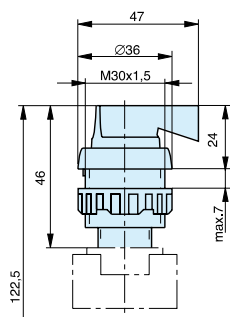
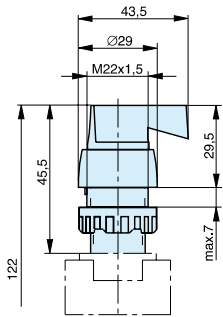


Rotary lever with spring return

Type: 12T-RF-22, 12T-RF-30

Mounting diameter Ø22 mm

Mounting diameter Ø30 mm

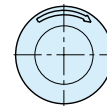
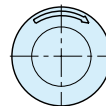
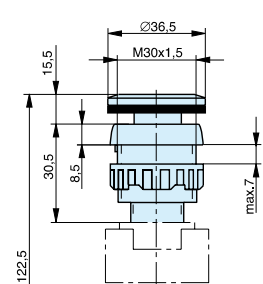
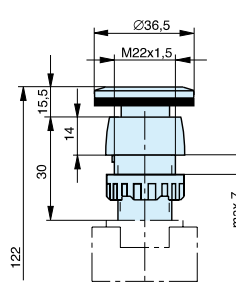


Mushroom pushbutton emergency-Off

Type: 18T-22, 18T-30

Mounting diameter Ø22 mm

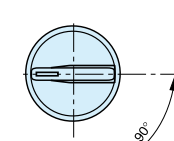
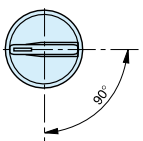
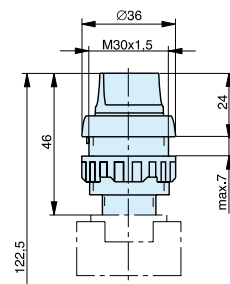
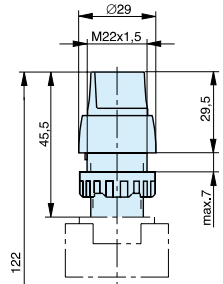
Mounting diameter Ø30 mm



Rotary switch – Type: 17T-22, 17T-30

Mounting diameter Ø22 mm

Mounting diameter Ø30 mm

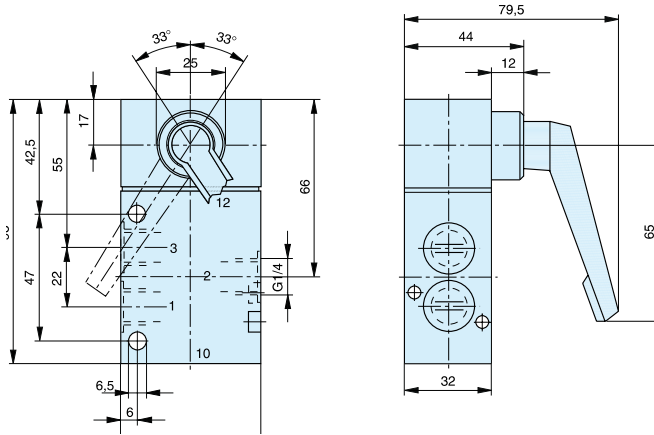


Dimensions in mm

### G1/4 - 3/2 Way Valves

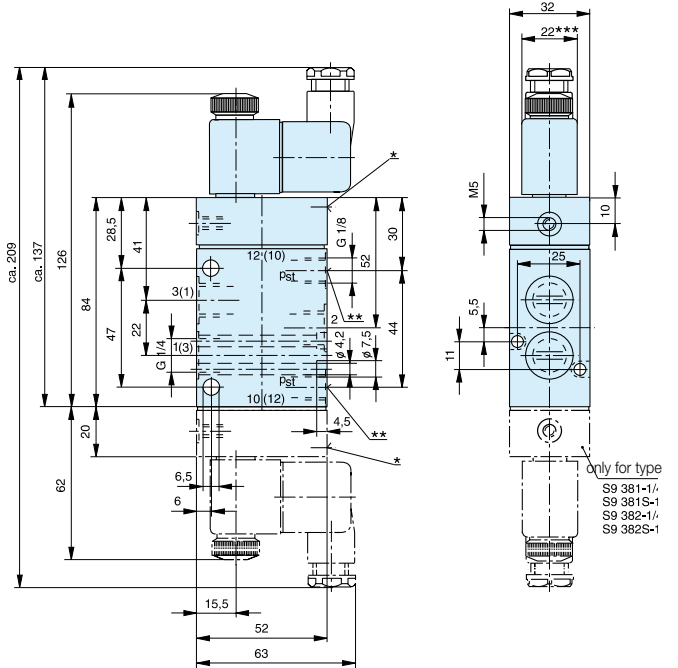
#### Rotary lever actuated

Type: S9 312-1/4, S9 312RF-1/4



#### Electrically actuated

- Type: S9 381(S)-1/4, S9 382(S)-1/4, S9 381(S)RF-1/4



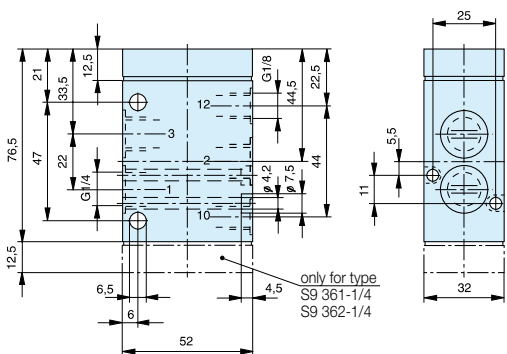
- \* Manual override
- \*\* Operating pressure supply  $p_{st}$  only for type S9 381S
- \*\*\* Solenoid width = 30 mm on low wattage coil version

**Note:**

The "normally open" valve S9 381S-RF-1/4 cannot be used on a P-supply manifold.

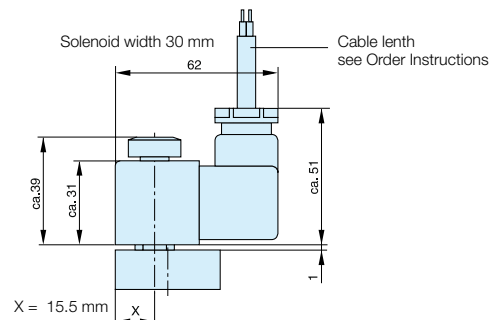
#### Pneumatically actuated

Type: S9 361-1/4, S9 362-1/4, S9 361RF-1/4



#### Solenoid for use in EX areas

##### Dimensions

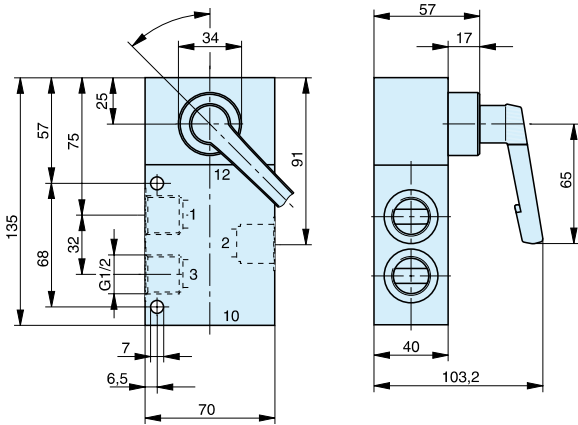


Dimensions in mm

### G1/2 - 3/2 Way Valves

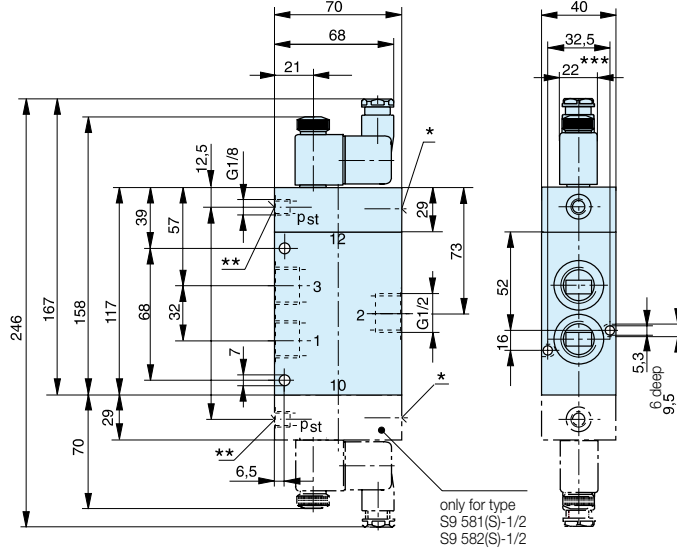
#### Rotary lever actuated

Type: S9 312-1/2, S9 312RF-1/2



#### Electrically actuated

Type: S9 381(S)-1/2, S9 382(S)-1/2, S9 381(S)RF-1/2



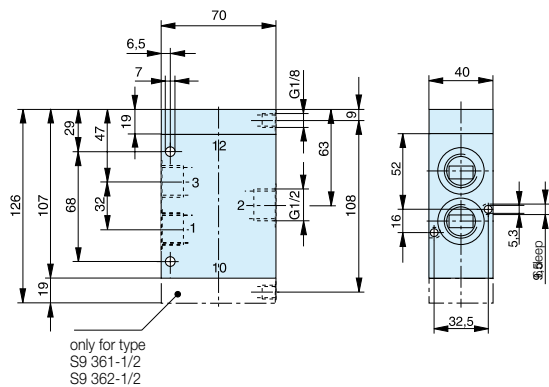
- \* Manual override
- \*\* Operating pressure supply  $p_{st}$  only for type S9 381S
- \*\*\* Solenoid width = 30 mm on low wattage coil version

**Note:**

The "normally open" valve S9 381S-RF-1/2 cannot be used on a P-supply manifold.

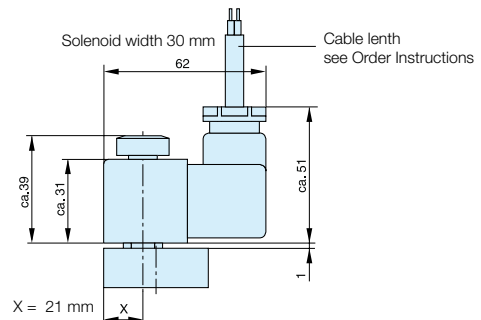
#### Pneumatically actuated

Type: S9 361-1/2, S9 361RF-1/2



#### Solenoid for use in EX areas

##### Dimensions

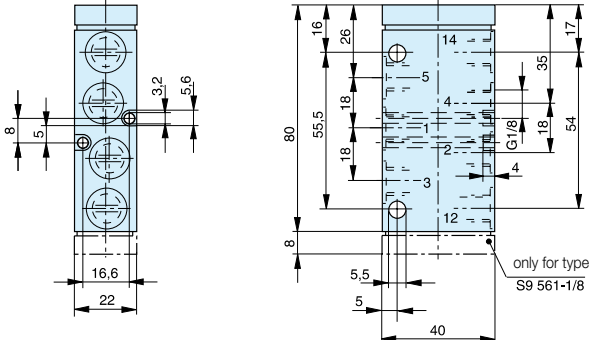


Dimensions in mm

### G1/8 - 5/2 Way Valves

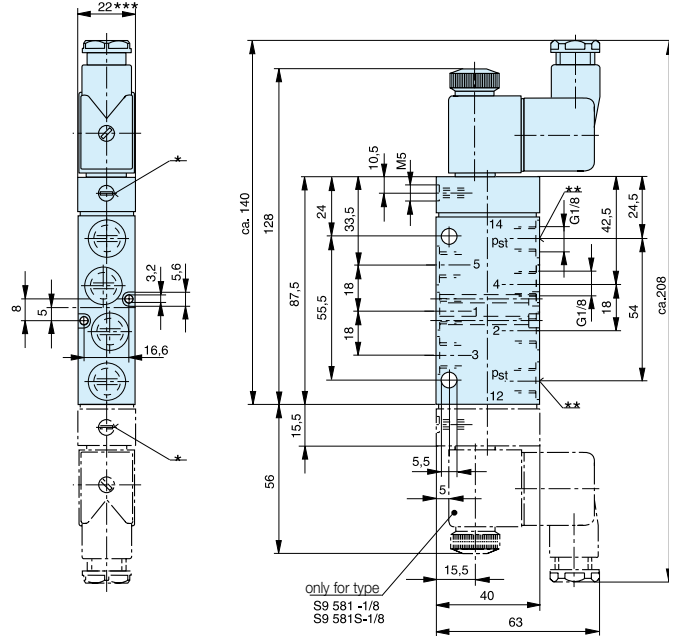
Pneumatically actuated

Type: S9 561-1/8, S9 561RF-1/8



Electrically actuated

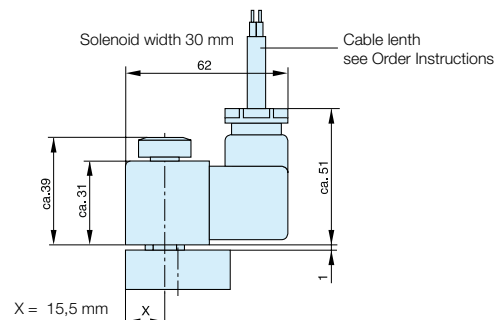
Type: S9 581(S)-1/8, S9 581(S)RF-1/8, S9 582-1/8



- \* Manual override
- \*\* Operating pressure supply  $p_{st}$  only for type S9 581S
- \*\*\* Solenoid width = 30 mm on low wattage coil version

### Solenoid for use in EX areas

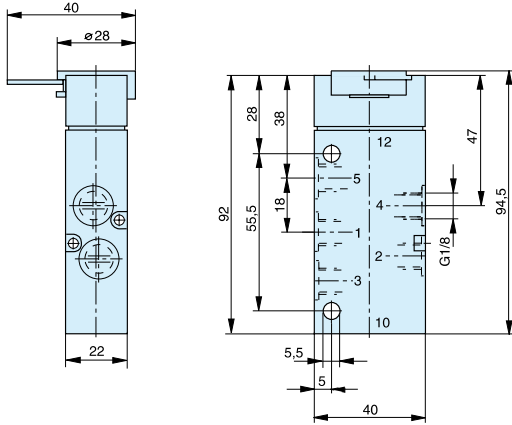
#### Dimensions



Dimensions in mm

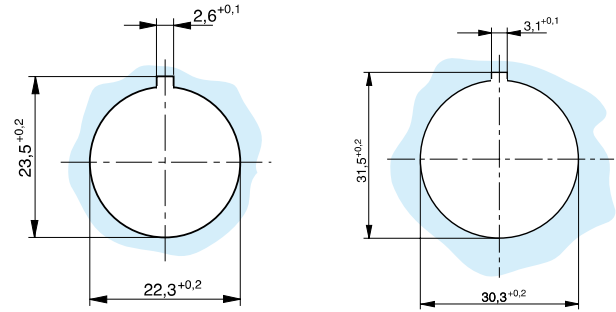
### G1/8 - 5/2 Way Valves

Basic valve for panel mounting actuators  
 Type: S9 590RF-1/8



### Mounting diameter

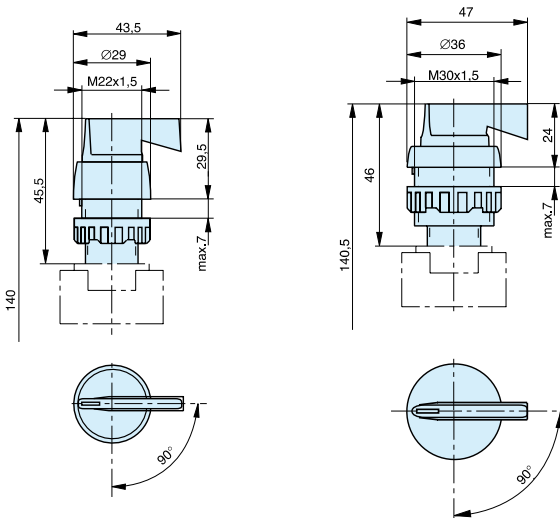
Mounting diameter  $\varnothing 22$  mm    Mounting diameter  $\varnothing 30$  mm



The actuators for these valves are interchangeable and can be mounted with 180° displacement on the basic valve. The actuators are not mounted upon delivery.

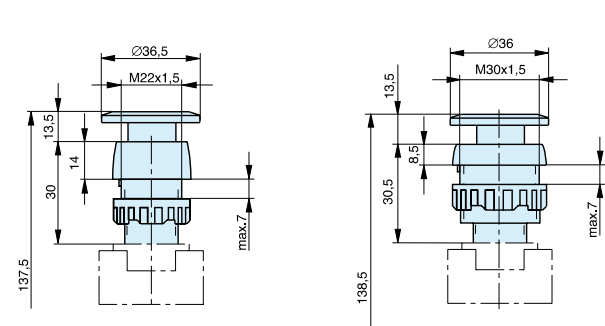
Rotary lever, indexed  
 Type: 12T-22, 12T-30

Mounting diameter  $\varnothing 22$  mm    Mounting diameter  $\varnothing 30$  mm



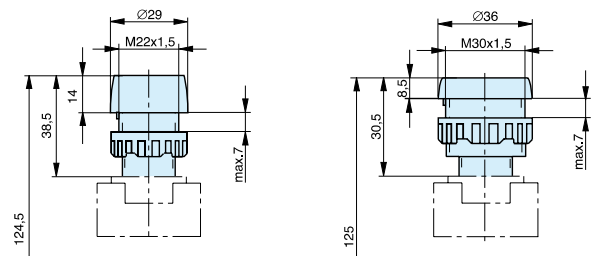
Mushroom pushbutton  
 Type: 15T-RF-22, 15T-RF-30

Mounting diameter  $\varnothing 22$  mm    Mounting diameter  $\varnothing 30$  mm



Pushbutton - Type: 13T-RF-22, 13T-RF-30

Mounting diameter  $\varnothing 22$  mm    Mounting diameter  $\varnothing 30$  mm

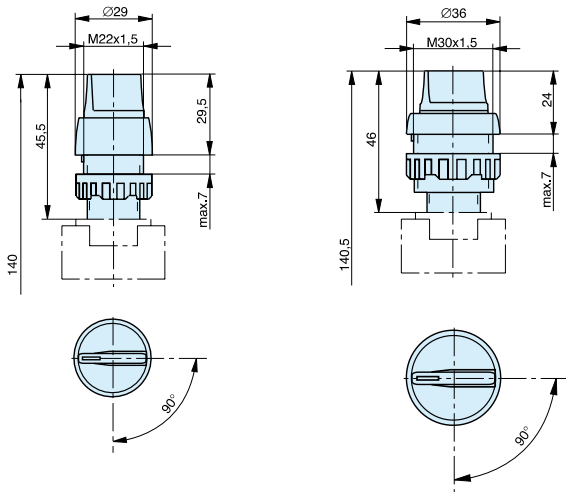


Dimensions in mm

**G1/8 - 5/2 Way Valves**

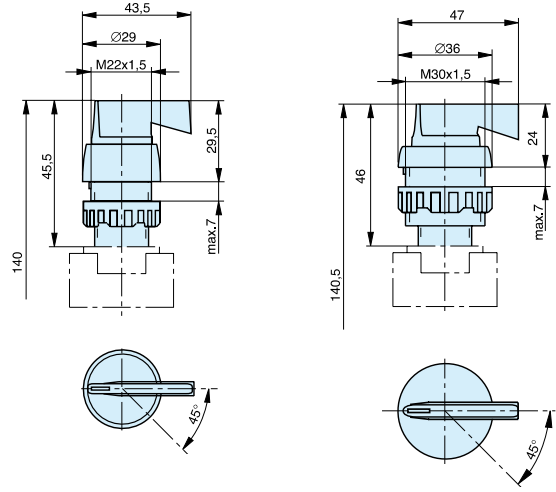
**Rotary switch**  
 Type: 17T-22, 17T-30

Mounting diameter Ø22 mm      Mounting diameter Ø30 mm



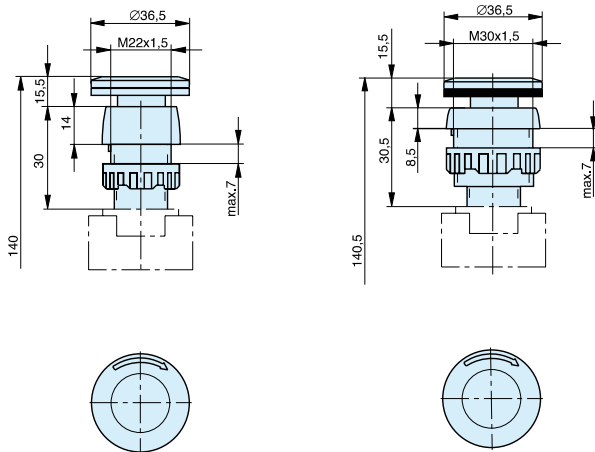
**Rotary lever with spring return**  
 Type: 12T-RF-22, 12T-RF-30

Mounting diameter Ø22 mm      Mounting diameter Ø30 mm



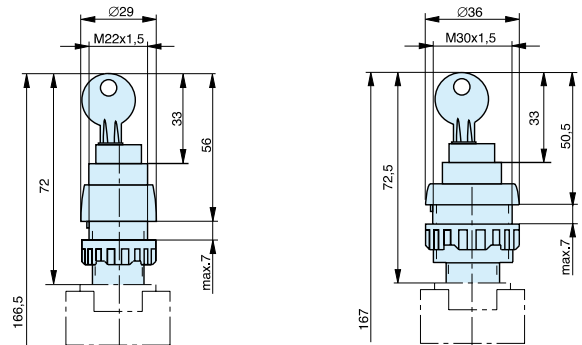
**Mushroom pushbutton emergency-Off**  
 Type: 18T-22, 18T-30

Mounting diameter Ø22 mm      Mounting diameter Ø30 mm



**Locking switch**  
 Type: 16T-22, 16T-30

Mounting diameter Ø22 mm      Mounting diameter Ø30 mm

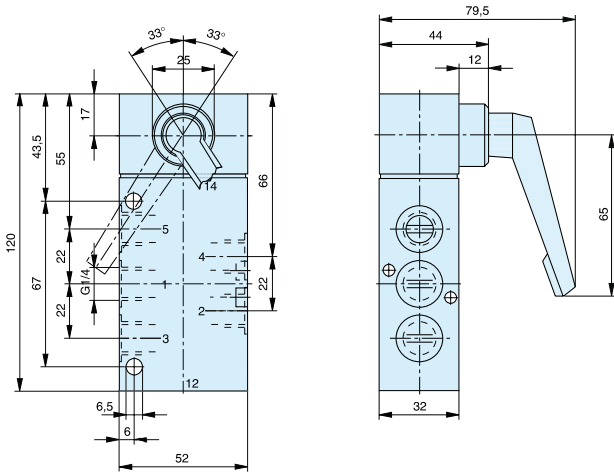


Dimensions in mm

G1/4 - 5/2 Way Valves

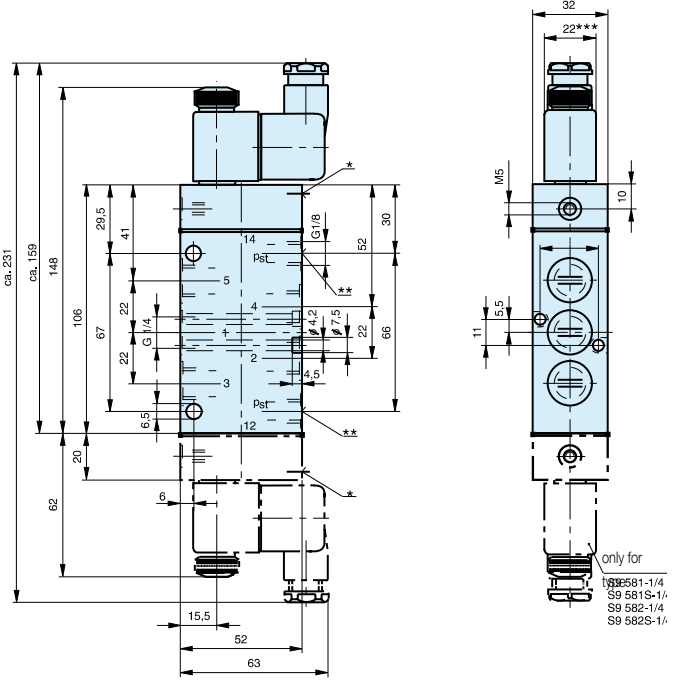
Rotary lever actuated

Type: S9 512-1/4, S9 512RF-1/4



Electrically actuated

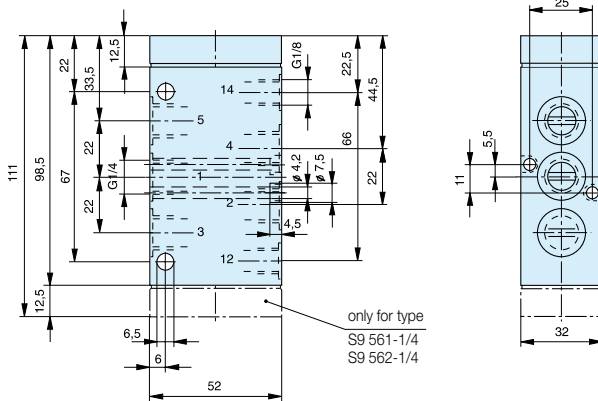
Type: S9 581(S)-1/4, S9 582(S)-1/4, S9 581(S)RF-1/4



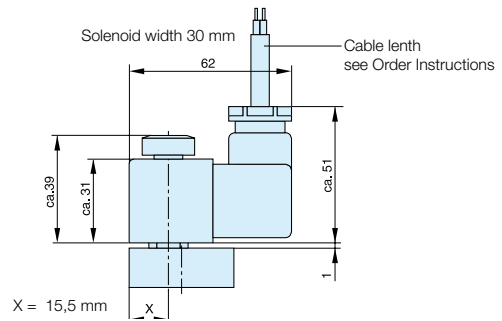
- \* Manual override
- \*\* Operating pressure supply  $p_{st}$  only for type S9 581S
- \*\*\* Solenoid width = 30 mm on low wattage coil version

Pneumatically actuated

Type: S9 561-1/4, S9 562-1/4, S9 561RF-1/4



Solenoid for use in EX areas  
Dimensions



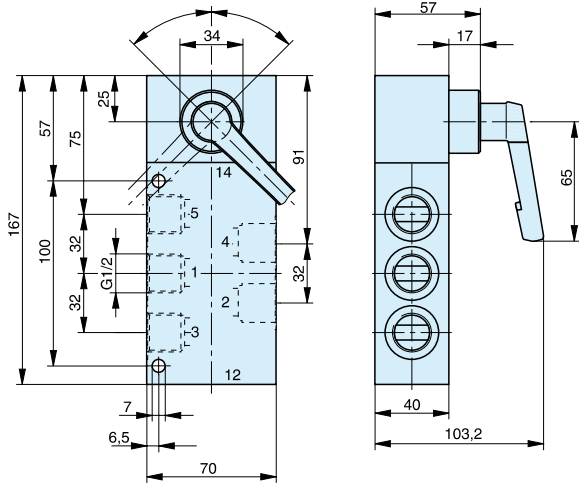
Dimensions in mm



### G1/2 - 5/2 Way Valves

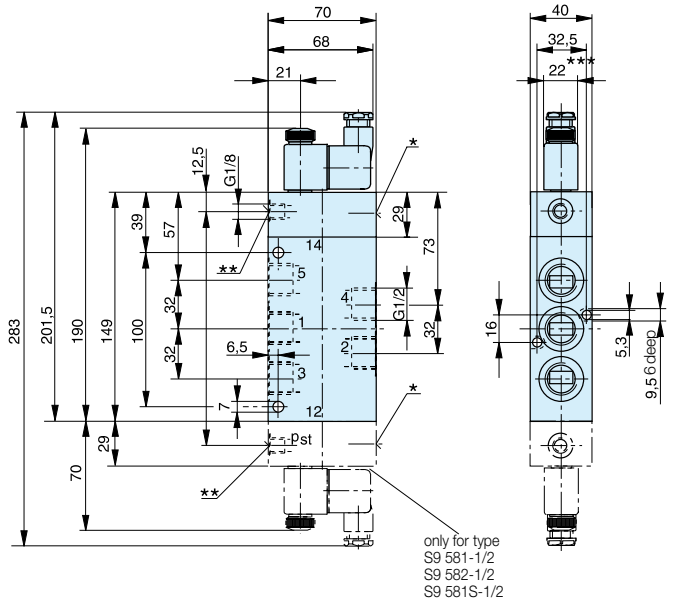
#### Rotary lever actuated

Type: S9 512-1/2, S9 512RF-1/2



#### Electrically actuated

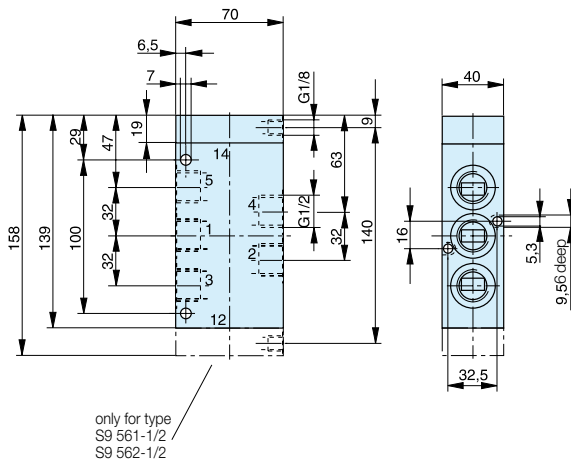
Type: S9 581(S)-1/2, S9 582-1/2, S9 581(S)RF-1/2



- \* Manual override
- \*\* Operating pressure supply  $p_{st}$  only for type S9 581S
- \*\*\* Solenoid width is 30 mm on low wattage coil version

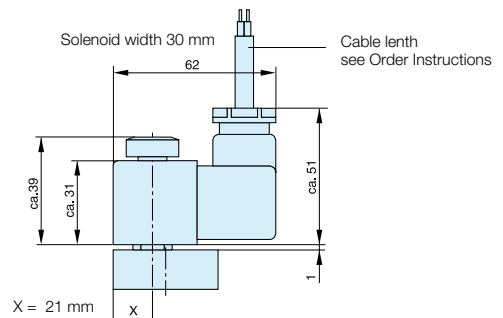
#### Pneumatically actuated

Type: S9 561-1/2, S9 561RF-1/2, S9 562-1/2



#### Solenoid for use in EX areas

##### Dimensions

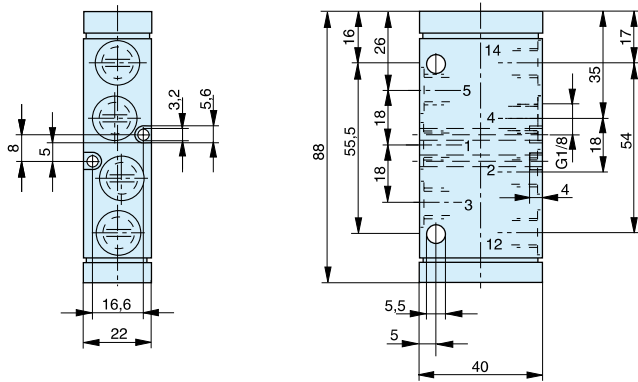


Dimensions in mm

## G1/8 - 5/3 Way Valves

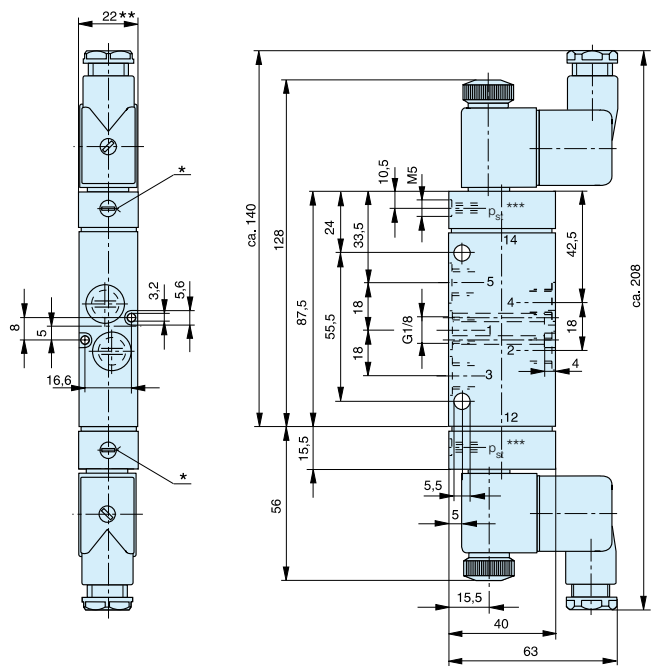
Pneumatically actuated

Type: S9 561RF.-1/8



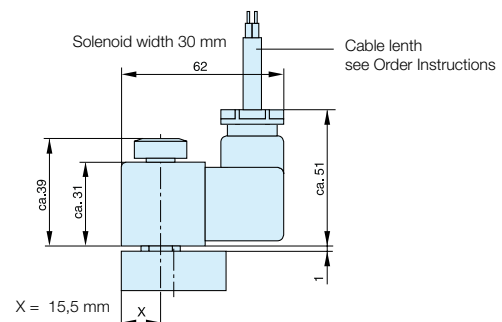
Electrically actuated

Type: S9 581(S)-RF.-1/8



Solenoid for use in EX areas

Dimensions



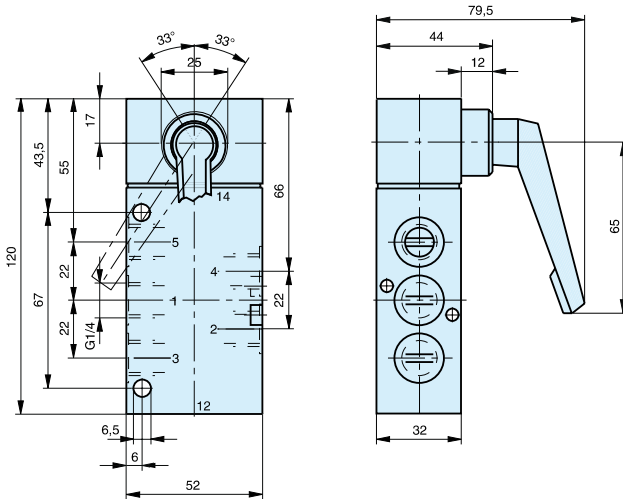
- \* Manual override
- \*\* Solenoid width = 30 mm on low wattage coil version
- \*\*\* Operating pressure supply  $p_{st}$  only for type S9 581S

Dimensions in mm

G1/4 - 5/3 Way Valves

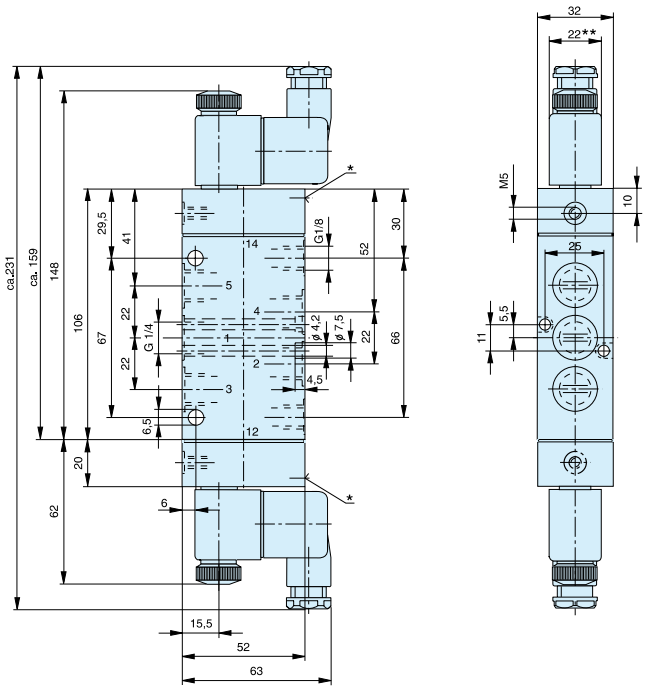
Rotary lever actuated

Type: S9 512.-1/4, S9 512RF.-1/4



Electrically actuated

Type: S9 581RF.-1/4

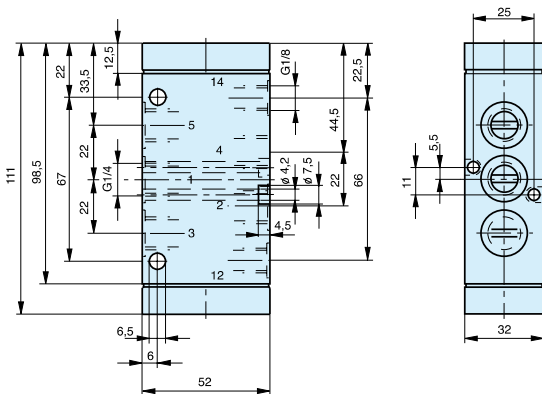


\* Manual override

\*\* Solenoid width is 30 mm on low wattage coil version

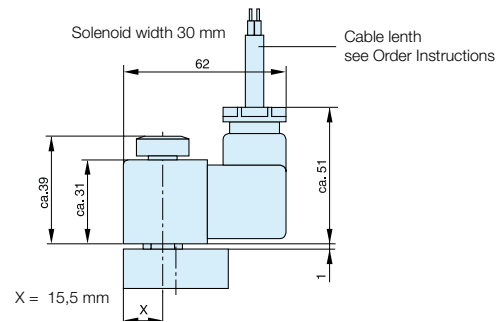
Pneumatically actuated

Type: S9 561RF.-1/4



Solenoid for use in EX areas

Dimensions

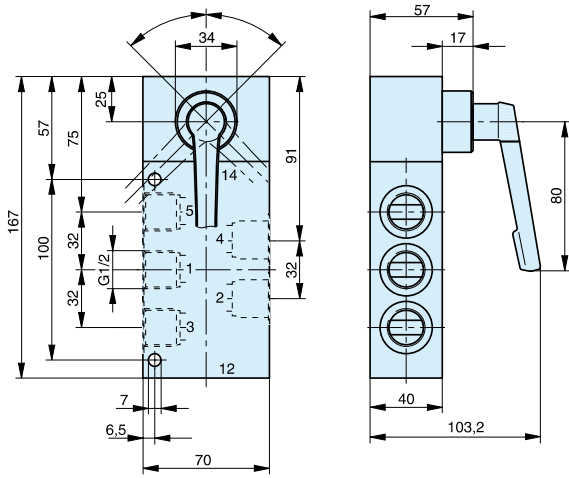


Dimensions in mm

G1/2 - 5/3 Way Valves

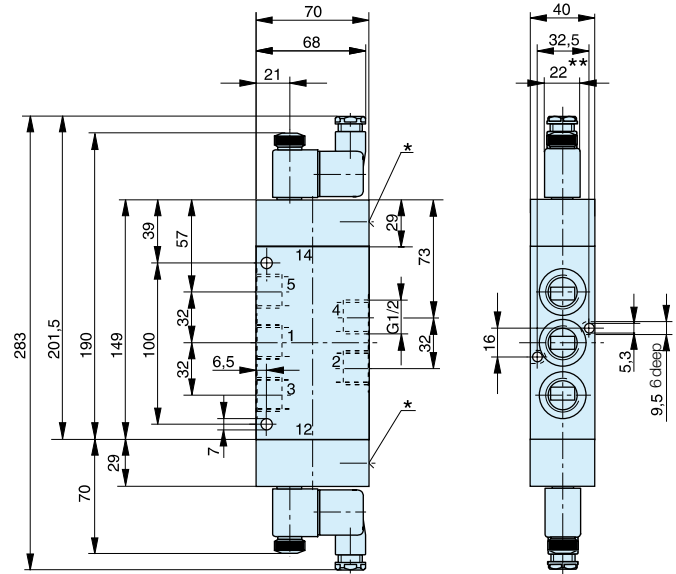
Rotary lever actuated

Type: S9 512.-1/2, S9 512RF.-1/2



Electrically actuated

Type: S9 581RF.-1/2

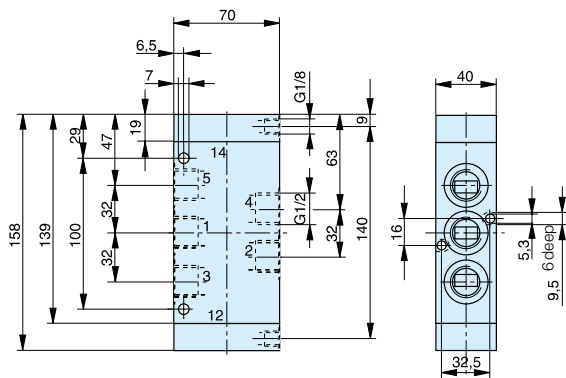


\* Manual override

\*\* Solenoid width is 30 mm on low wattage coil version

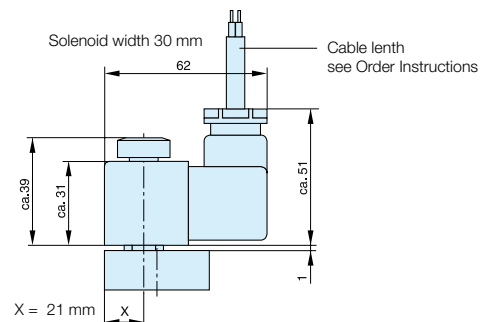
Pneumatically actuated

Type: S9 561RF.-1/2



Solenoid for use in EX areas

Dimensions



Dimensions in mm

## 5/2-Way Oscillating Valves

The oscillating valve generates oscillating movements such as e.g. shaking, hammering, plunging, feed motions etc.

**Function:**

If compressed air is introduced into inlet port 1, the outlet ports 4 and 2 are alternately supplied with compressed air.

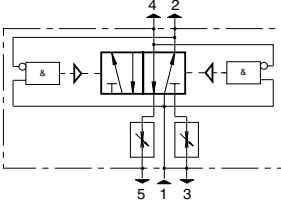
The speed of the operated cylinder and also the stroke frequency are adjusted with two exhaust air throttles.



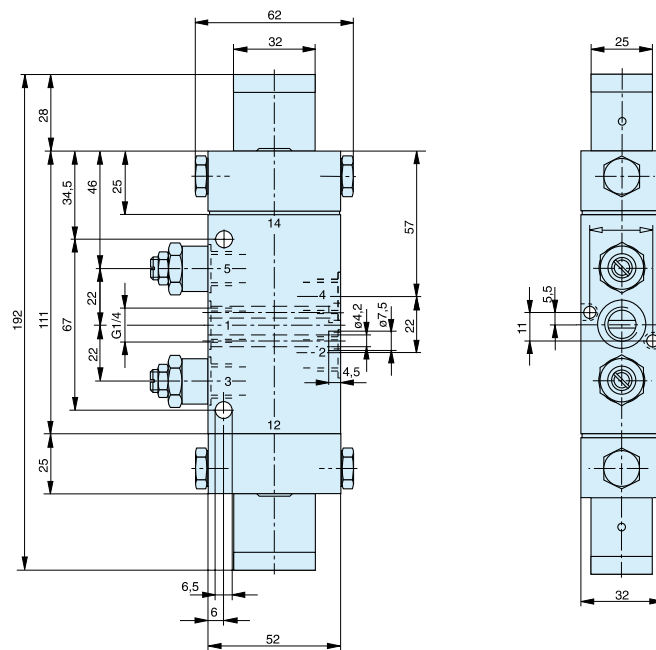
### Operating information

Type	Spool valve	Lubrication *	None or oil mist lubrication
Mounting	2 Screws M6 (M4)	Pneumatic Characteristics	
Tube connection	Thread	Nominal pressure	6 bar
Connection size	G1/4, 11 deep	Operating pressure range	3–8 bar
Weight (mass)	0.65 kg	Nominal flow	1300 l/min
Installation	In any position	Actuation	
Ambient temperature range **	-10 °C to +60 °C	Pneumatic	Direct
Medium temperature range **	-10 °C to +60 °C	Actuation pressure range	3–8 bar
Medium	Filtered and oiled or filtered, unoled compressed air		

\* We recommend the use of mineral oil type VG 32 to ISO 3448  
 \*\* Note: Please consult us for operating temperatures below 0° C

Symbol	Type	Order Code
	S9 568/68-1/4-SO	PD 34796

### Pneumatic oscillating – Type: S9 568/68-1/4-SO



Dimensions in mm

### 3/2-Way Screw-In Valve Series EV



#### Operating information

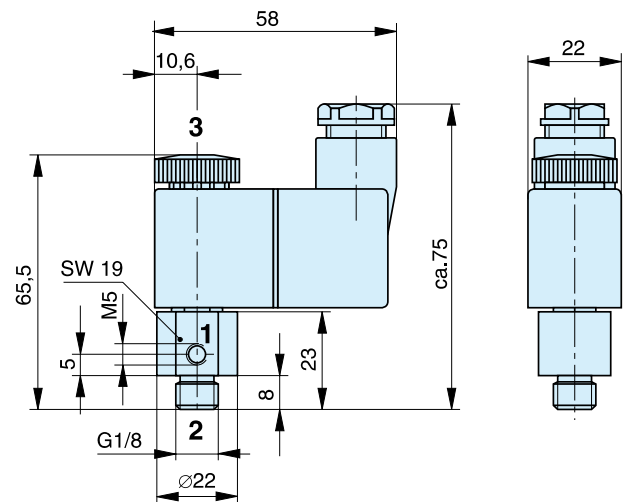
Actuation	Electrical directly operated	<b>Actuation</b>		
Type	Poppet valve, normally closed	Electrical	Direct	
Mounting	Screws into thread G1/8	Voltage type	Alternating current (50/60Hz)	Direct current
Tube connection	Thread	<b>Nominal voltage <sup>(1)</sup></b>		
Port size	Port 1: M5, port 2: G1/8	- Standard version **	230 ±10%	24 ±10%
Weight	0.1 kg	- Low wattage version	230 ±10%	24 ±10%
Nominal diameter	1 mm	<b>Initial power consumption</b>		
Installation	in any position	- Standard version (VA)	11	4.8
Ambient temperature range	-10 °C to +60 °C	- Low wattage version (VA)	7.8	2.7
Medium temperature range	-10 °C to +60 °C	Continuous consumption		
Medium	Filtered compressed air (30µ)	- Standard version (VA)	8.5	4.8
Lubrication	With or without oil mist lubrication (We recommend the use of mineral oil type VG 32 to ISO 3448)	- Low wattage version (VA)	4.9	2.7
<b>Pneumatic Characteristics</b>		Duty cycle	100%	
Nominal pressure	6 bar	Electrical protection	IP 65 to DIN 40050 (applies only to solenoid with plug)	
Operating pressure range	0 – 10 bar	Connection	Plug to DIN EN 175301-803 form B – industrial standard, Low wattage version form A	
Nominal flow	30 l/min			

(<sup>1</sup> see Order Instructions  
\*\* other voltages on request

#### Order Instructions – 3/2 Way Screw-In Valve – Series EV

Actuation	Symbol	Order Instructions
		Type <b>Order code</b>
Electrical, by permanent signal		EV 381RF-M5-.. <b>PD25076-..33</b>
Solenoid version	Nominal voltage	Key code
Cast	24V =	02
encapsulated housing	230V 50/60Hz	61
	Other voltages on request	

#### 3/2 Way Valve – Type: EV 381RF-M5



Dimensions in mm

## 3/2-Way Valve Series V9

NW 1.3 and 2.5

### Actuation System:

- Electrically actuated, directly actuated

### Versions:

Threaded version

- Normally closed
- Normally open
- With manual override



### Operating information

Type	Poppet valve		
Mounting	2 Screws M3 (NW 2.5: 2 x M4)		
Tube connection	Thread		
Thread	G1/8 – 8 deep		
Weight	NW 1.3: 0.140 kg NW 2.5: 0.320 kg		
Installation	In any position		
Ambient temperature range (1)	-10 °C to +60 °C	Note : Please consult us for operating temperatures below 0° C	
Medium temperature range (1)	-10 °C to +70 °C		
Medium	Filtered compressed air		
Lubrication	With or without oil mist lubrication (We recommend the use of mineral oil type VG 32 to ISO 3448)		

### Pneumatic Characteristics

Nominal pressure	6 bar
Operating pressure range	NW 1.3: 0–10 bar NW 2.5: 0-7 bar
Nominal flow	NW 1.3: 37 l/min NW 2.5: 150 l/min

### Actuation

Electrical	Direct	
Voltage type	Alternating current (50/60Hz)	Direct current

### Nominal voltage

– Standard version	230 V ±10%	24 V ±10%	other voltages on request
– Low wattage version	230 V ±10% (not for V9-NW 2.5)	24 V ±10% (not for V9-NW 2.5)	

### Initial power consumption

– Standard version	NW 1.3: 11 VA NW 2.5: 11.5 VA	NW 1.3: 4.8 VA NW 2.5: 10 VA
– Low wattage version	7.8 VA	2.7 VA

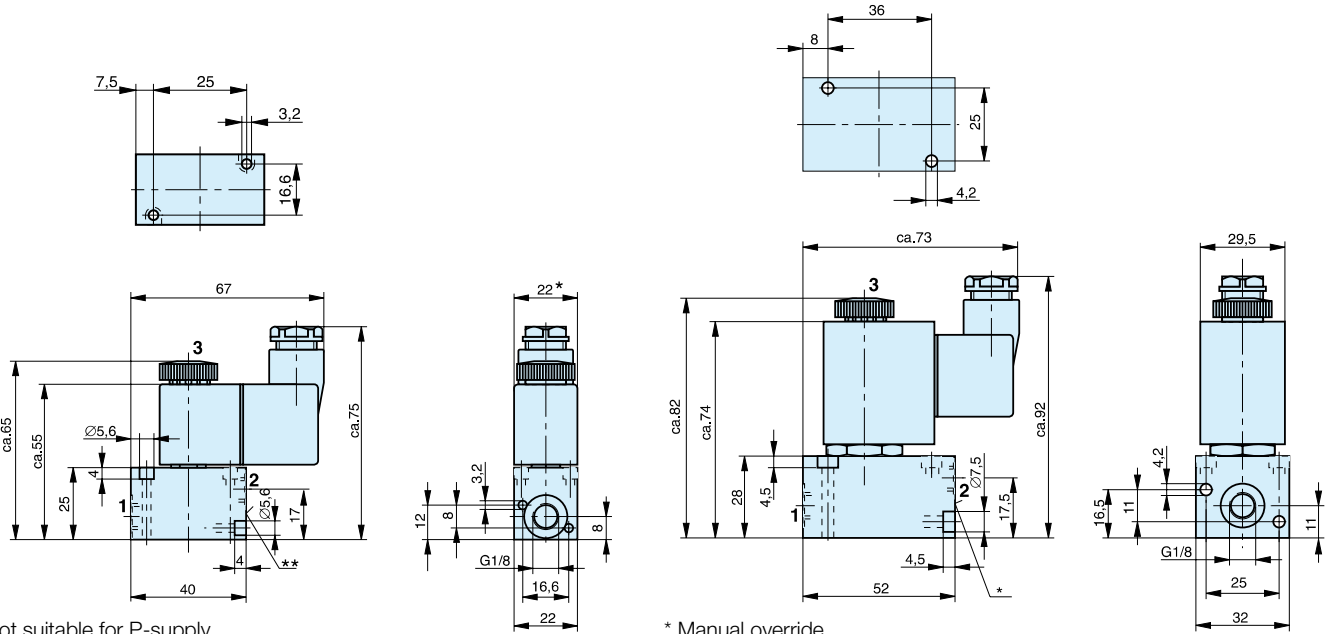
### Continuous consumption

– Standard version	NW 1.3: 8.5 VA NW 2.5: 7.5 VA	NW 1.3: 4.8 VA NW 2.5: 7.5 VA
– Low wattage version	4.9 VA	2.7 VA

Duty cycle	100%
Electrical protection	IP 65 to DIN 40050 (applies only to solenoid with connector)
Connection	NW 1.3: connector to DIN EN 175301-803 form B – industrial standard NW 2.5: connector to DIN EN 175301-803 form A – industrial standard

Type: V9 381RF-1/8NG (NO<sup>(†)</sup>)– NW 1.3  
 Type: V9 381H-RF-1/8NG (NO<sup>(†)</sup>)– NW 1.3

Type: V9 381RF-1/8NG – NW 2.5  
 Type: V9 381H-RF-1/8NG – NW 2.5



<sup>(†)</sup> not suitable for P-supply manifold mounting

\* Manual override  
 Dimensions in mm

**Order Instructions – 3/2 Way Valves – Series V9**

Actuation System	Symbol	Nominal Size (mm)	Order Instructions Type	Order code
Electrical, by permanent signal		NW 1.3	V9 381RF-1/8-NC-..	<b>PA 10362-..33</b>
		NW 2.5	V9 381RF-1/8-NC-..	<b>PA 10369-..33</b>
		NW 1.3	V9 381H-RF-1/8-NC-..	<b>PA 10363-..33</b>
		NW 2.5	V9 381H-RF-1/8-NC-..	<b>PA 10370-..33</b>
		NW 1.3	V9 381H-RF-1/8-NO-..	<b>PA 10367-..33</b>

Solenoid version	Nominal voltage	Applicable for	Key code
Standard version	230V 50/60Hz	110 V =	61
	24V =	48V 50/60Hz	02
Low wattage version	24V =		13
	230V 50/60Hz		69

Other voltages on request

**Order Instructions – Accessories for P-Supply Manifold Mounting**

Description	for NW	Order No.
P-Manifold PL-1/8-..	1.3	PD32763-....*
P-Manifold PLK-1/8-..	1.3	PD37174-....*
P-Manifold PL-1/4-..	2.5	PD32765-....*
P-Manifold PLK-1/4-..	2.5	PD32175-....*

\* Complete order no. with no. of valve

The delivery includes:  
 P-Manifold complete incl. mounting kit











# Air Preparation & Airline Accessories



# Parker Global Air Preparation System

**Global.**  
**Economical.**  
**Modular.**



*Performance you need,  
**wherever** you need it.*

The comprehensive Global Air Preparation System is available in three body sizes with either BSPP or NPT to accommodate thread type requirements.

Full featured filters, regulators, filter/regulators, and lubricators are available with a wide range of standard options to meet air preparation needs.

Individual units can easily be assembled into various combinations, utilizing patented modular lightweight body connectors.

[www.parker.com/globalfrl](http://www.parker.com/globalfrl)

## Validated for transport applications



As you would expect from a member of the Rail Industry Association, the Global FRL meets the test specification standards enabling the Global FRL to be used as a validated product in a variety of rail applications.

RAILWAY INDUSTRY  
ASSOCIATION

CEI/ICE 61373 1999-1 Category 2 (BS EN 61373:1999)






# Application Guide

**FRL to Valve:** The chart below contains recommendations for the correct selection of Global Air Preparation units to suit the number and size of valves in a typical application.

	P31 Mini Series				P32 Compact Series				P33 Standard Series							
	Number of valves that would actuate at once															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
<b>Moduflex 1</b>	Yellow	Yellow	Yellow	Yellow	Yellow	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
<b>Isys Micro</b>	Yellow	Yellow	Yellow	Yellow	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
<b>HB / Viking Xtreme</b>	Yellow	Yellow	Yellow	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
<b>Moduflex 2</b>	Yellow	Yellow	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
<b>HA / Global ISO</b>	Yellow	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
See Larger Parker FRL Offering																

**Actuator to FRL:** The chart below contains recommendations for the correct selection of Global Air Preparation units suitable for each cylinder size. If you have a tube length over 2 m, choose one tube size larger than the chart. The table is based on a Maximum cylinder speed of 0.5m/s

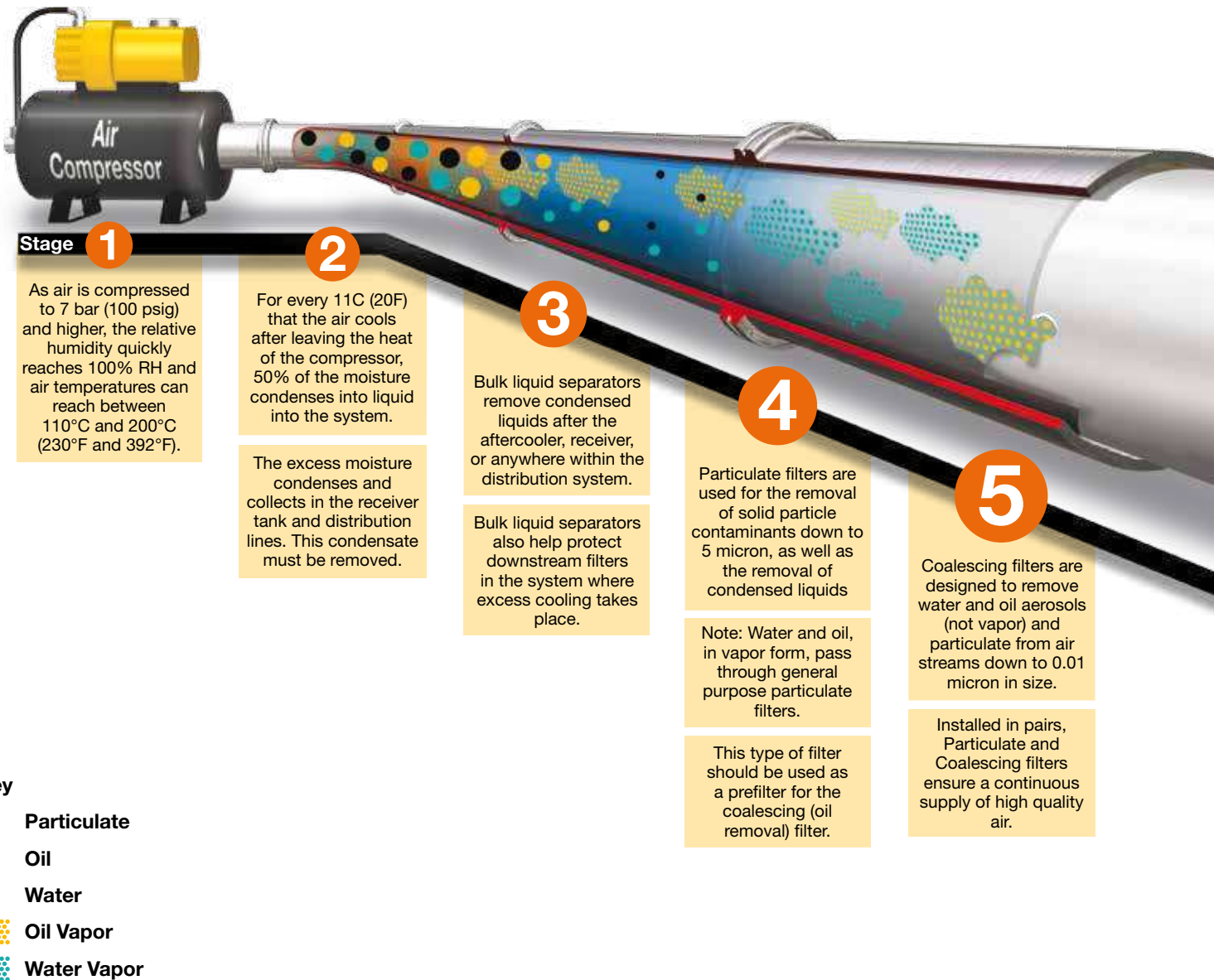
Cyl Ø mm Cyl Ø inches		Cylinder bore size														
		5 (5/16)	10 (7/16)	16 (9/16)	20 (3/4)	25 (1)	28 (1-1/8)	32 (1-1/4)	40 (1-1/2)	45 (1-3/4)	50 (2)	63 (2-1/2)	75 (3)	80 (3-1/4)	100 (4)	
Tube Ø mm Tube Ø inches		Tube diameter external														
		4 (5/32)	4 (5/32)	4 (5/32)	6 (1/4)	6 (1/4)	6 (1/4)	6 (1/4)	8 (5/16)	8 (5/16)	8 (5/16)	10 (3/8)	10 (3/8)	12 (1/2)	12 (1/2)	
Number of cylinders actuating at once	1	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow
	2	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow
	3	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow
	4	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow
	5	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow
	6	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow
	7	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow
	8	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow
	9	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow
	10	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow
		P31 Mini Series				P32 Compact Series				P33 Standard Series				See Larger Parker FRL Offering		
																

**Note:** Data listed above is simply a guideline for a typical application only. Proper sizing and correct flow requirements must be taken into account.

# Together we can power your application with clean, dry air

Fast cycle times, high product quality, and low downtime all require a clean, dry pneumatic system to function properly. Parker has what it takes to make sure pneumatic systems perform at their best.

## Clean, dry pneumatic systems with Parker Global Air Preparation



**Stage 1**  
As air is compressed to 7 bar (100 psig) and higher, the relative humidity quickly reaches 100% RH and air temperatures can reach between 110°C and 200°C (230°F and 392°F).







**2**  
For every 11C (20F) that the air cools after leaving the heat of the compressor, 50% of the moisture condenses into liquid into the system.  
The excess moisture condenses and collects in the receiver tank and distribution lines. This condensate must be removed.

**3**  
Bulk liquid separators remove condensed liquids after the aftercooler, receiver, or anywhere within the distribution system.  
Bulk liquid separators also help protect downstream filters in the system where excess cooling takes place.

**4**  
Particulate filters are used for the removal of solid particle contaminants down to 5 micron, as well as the removal of condensed liquids  
Note: Water and oil, in vapor form, pass through general purpose particulate filters.  
This type of filter should be used as a prefilter for the coalescing (oil removal) filter.

**5**  
Coalescing filters are designed to remove water and oil aerosols (not vapor) and particulate from air streams down to 0.01 micron in size.  
Installed in pairs, Particulate and Coalescing filters ensure a continuous supply of high quality air.

- Key**
- Particulate
  - Oil
  - Water
  - Oil Vapor
  - Water Vapor

						
<b>Stages</b>	<b>1 2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>
<b>Function</b>	<b>Air Compressor</b>	<b>Bulk Liquid Removal</b>	<b>Particulate Filtration</b>	<b>Coalescing Filtration</b>	<b>Air Dryers</b>	<b>Hydrocarbon Removal</b>
<b>Application</b>	All pneumatic systems	Basic pneumatic systems	Basic pneumatic systems	Systems requiring highest quality air.	Systems requiring air with reduced moisture content	Systems requiring highest quality air for critical applications
<b>Description</b>	Air leaving the compressor room at 93°C (200°F) releases 95% of its moisture into the piping system when it cools to 38°C (100°F)	Removes bulk liquid contamination and protects filters where excess cooling takes place in the distribution piping	Removes solid particulates down to 5 micron, and the separation of bulk contaminants.	Removes liquid aerosols and submicron particulates (not vapor) down to 0.01 micron.	Removes water vapor from air stream. Dew point reduced down to -40°C membrane and -70°C desiccant.	Removal of odors and trace vapors for critical applications.
<b>Parker Global Air Preparation Solution</b>	Customer supplied	P3TF Bulk Liquid Separator	P31, P32, P33 Particulate Filter	P31, P32, P33 Coalescing Filter	P3XJ Membrane Dryer P3TJ Regenerative Desiccant Dryer	P31, P32, P33 Activated Carbon (Adsorber) Filter



**6**

Refrigeration, membrane and desiccant dryers lower the air's dew point by removing water vapor, providing appropriately dry air for the downstream application.

**7**

Hydrocarbon and oil vapors are removed using filters utilizing activated carbon. These airborne hydrocarbons are often left over from the compressor oils.



## DECLARATION



We **Parker Hannifin Manufacturing  
Austria GmbH**  
Badener Straße 12  
2700 Wiener Neustadt  
Austria

Product	Series	Category
Filter*	P31FB, P32FB, P33FA	for zone 1, 21
Regulator	P31RB, P32RB, P33RA	for zone 1, 21
Filter regulator*	P31EB, P32EB, P33EA	for zone 1, 21
Lubricator*	P31LB, P32LB, P33LA	for zone 1, 21
Ball Valve & Slide Valve	P31VB, P32VB, P33VB	for zone 1, 21
Manifold	P31MA, P32MA, P33MA	for zone 1, 21
<b>For non-fitted solenoid product</b>		
Soft start & Dump Valve	P31TA, P32TA	for zone 1, 21
Soft Start Valve	P31SA, P32SA	for zone 1, 21
Dump Valve	P31DA, P32DA	for zone 1, 21

\*Filter, Filter Regulator and Lubricator – This evaluation applies to products fitted with metal bowls only.

Following Ignition Hazard Assessments performed on the non-electrical products listed above, in accordance with the requirements of EN 13463-1:2009, it was considered that the equipment does not contain its own source of ignition, and therefore is not within the scope of directive 94/9/EC.

The products can be used in a Group II Category 2 environment assuming that the ATEX Directive and the following conditions are complied with:

- Installation and maintenance of the product must be undertaken by qualified personnel.
- Do not mount the products in an area where impact may occur.
- Filters must be used to limit the introduction of particles and to capture particles generated in service.
- Supply air quality must be within ISO 8573-1:2010 Class 1.4.2.
- Maximum working temperature to be as stated on product label.
- WARNING – pulsating pressure and/or a closed circuit can generate heat.
- Deposits of dust on the product must not exceed 5mm thickness.  
Refer to technical file for surface areas of plastics.  
The unit must be earthed via the compressed air supply line.
- The unit must not come into contact with liquid solvents, acids or alkalis  
Refer to technical file for chemicals known to be incompatible.  
Product cleaning must be undertaken using a method complying with the specifications of the ATEX zone, preferably by using mild soap and water or antistatic products.
- **Regulators, Filter Regulators:**  
Do not use Regulators or Filter Regulators within systems that can create vibration within the Regulator/Filter Regulator unit.
- **Solenoid Operated Valves:**  
Are suitable for use in an ATEX environment, (Group II Category 2) providing ATEX approved solenoids are fitted.
- Technical file available on request.

Approved by:

Engineering Manager – Air Preparation EMEA



**Validated for transport applications**



As you would expect from a member of the Rail Industry Association, Global air preparation meets the test specification standards enabling the Global series to be used as a validated product in a variety of rail applications.



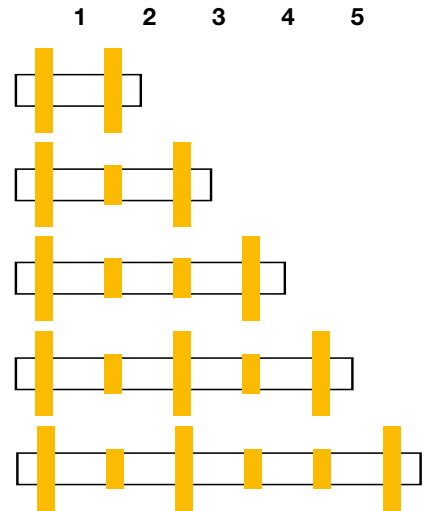
**Railway Industry Association**

**CEI/ICE 61373 1999-1 Category 2 (BS EN 61373:1999)**

**Recommended mounting / fixation method for use in transportation applications.**

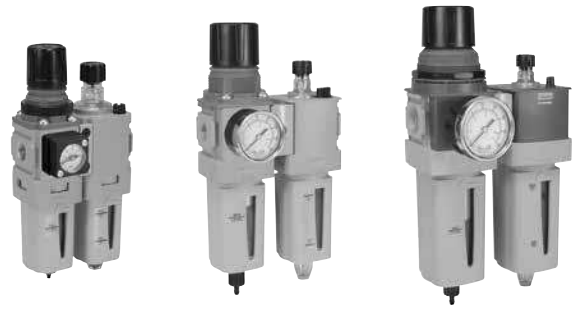
- The use of a port block kit and T-bracket should be used at all times (angle / L-brackets should not be used in rail applications)
- Additional security is recommended with the use of 'vibration proof adhesive' on the wall mounting screws to the port / connector block
- Inlet (P1) and Outlet (P2) ports should always have a T-Bracket fixation to eliminate product cantilever stress
- 'L' brackets should not be used in the use for rail service

**Position of T-Brackets for multiple units**



For illustration purposes only

- High flow modular air-preparation series
- Space saving integral gauge (P31 size only)
- Manifold style regulators available
- OSHA compliant shut-off valves



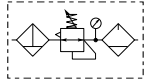
Operating information		Flow characteristics					
Working pressure :		<b>40mm body width</b>		<b>60mm body width</b>		<b>73mm body width</b>	
Plastic bowl: 10 bar max		<b>1/4" Ported</b>		<b>1/4", 3/8", &amp; 1/2" Ported</b>		<b>1/2" &amp; 3/4" Ported</b>	
Metal bowl: 17 bar max		<b>Flow</b>	<b>dm³/s</b>	<b>Flow</b>	<b>dm³/s</b>	<b>Flow</b>	<b>dm³/s</b>
Working temperature :		Filter	12	Filter	39	Filter	40
* Plastic bowl: -10°C to +52°C		Coalescing Filter	3,6	Coalescing Filter	17	Coalescing Filter	34
* Metal bowl: -10°C to +65.5°C		Regulator	32	Regulator	78	Regulator	111
* Refer to Technical Catalogue for individual unit temperatures		Filter Regulator	35	Filter Regulator	64	Filter Regulator	108
		Lubricator	19	Lubricator	42	Lubricator	71

**Popular Combinations - P31 Series**

	<b>Filter + Regulator + Lubricator Combinations + Poly bowl</b>						
	<b>5 micron element, 8 bar Regulator + Gauge and Wall Mounting Brackets</b>						
<b>Inlet pressure 10 bar, Secondary pressure 6.3 bar, 1 bar pressure drop.</b>							
Port size	Flow dm³/s	Flow (scfm)	Manual Drain	Weight	Pulse Drain	Weight	
1/4"	13	27	<b>P31CB12GEMNTLNW</b>	0.46 kg	<b>P31CB12GEBNTLNW</b>	0.46 kg	
	<b>Filter/Regulator + Lubricator Combinations + Poly bowl</b>						
	<b>5 micron element, 8 bar Regulator + Gauge and Wall Mounting Brackets</b>						
<b>Inlet pressure 10 bar, Secondary pressure 6.3 bar, 1 bar pressure drop.</b>							
Port size	Flow dm³/s	Flow (scfm)	Manual Drain	Weight	Pulse Drain	Weight	
1/4"	14	28	<b>P31CA12GEMNTLNW</b>	0.35 kg	<b>P31CA12GEBNTLNW</b>	0.35 kg	
	<b>Ball Valve + Filter/Regulator + Lubricator Combinations + Poly bowl</b>						
	<b>5 micron element, 8 bar Regulator + Gauge and Wall Mounting Brackets</b>						
<b>Inlet pressure 10 bar, Secondary pressure 6.3 bar, 1 bar pressure drop.</b>							
Port size	Flow dm³/s	Flow (scfm)	Manual Drain	Weight	Pulse Drain	Weight	
1/4"	14	28	<b>P31QA12GEMNTLNW</b>	0.54 kg	<b>P31QA12GEBNTLNW</b>	0.54 kg	
	<b>Ball Valve + Filter/Regulator Combinations + Poly bowl</b>						
	<b>5 micron element, 8 bar Regulator + Gauge and Wall Mounting Brackets</b>						
<b>Inlet pressure 10 bar, Secondary pressure 6.3 bar, 1 bar pressure drop.</b>							
Port size	Flow dm³/s	Flow (scfm)	Manual Drain	Weight	Pulse Drain	Weight	
1/4"	14	28	<b>P31QN12GEMNTW</b>	0.4 kg	<b>P31QN12GEBNTW</b>	0.4 kg	

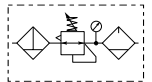
<b>P 3 1</b>					<b>E</b>		<b>N</b>		<b>LN</b>	<b>W</b>
<b>Combination</b>		<b>Thread type</b>		<b>Port size</b>		<b>Drain type</b>		<b>Adjustment range</b>		Add only for options with Lubricator
Combination <b>C</b>		BSPP <b>1</b>		1/4 <b>2</b>		Manual drain <b>M</b>		<b>With square gauge</b>		
Shut off + Combi <sup>1</sup> <b>Q</b>		NPT <b>9</b>				Pulse drain <b>B</b>		2 bar * <b>V</b>		
<b>Combination type</b>		<b>Bowl type</b>						4 bar <b>S</b>		
F/R+L <b>A</b>		Poly bowl with bowl guard <b>G</b>						8 bar ** <b>T</b>		
F+R+L <b>B</b>		Metal bowl without sight glass <b>M</b>						* Unit comes with 0-4 bar, gauge respectively		
F/R <b>N</b>								** Unit comes with 0-10 bar, gauge respectively		
								<sup>1</sup> Option not available with F+R+L		

Popular Combinations - P32 Series



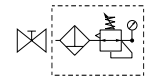
**Filter + Regulator + Lubricator Combinations + Poly bowl**  
**5 micron element, 8 bar Regulator + Gauge and Wall Mounting Brackets**  
**Inlet pressure 10 bar, Secondary pressure 6.3 bar, 1 bar pressure drop.**

Port size	Flow		Manual Drain	Weight	Auto Drain	Weight
	dm <sup>3</sup> /s	(scfm)				
1/4"	20	42	<b>P32CB12GEMNGLNW</b>	1.29 kg	<b>P32CB12GEANGLNW</b>	1.29 kg
3/8"	32	68	<b>P32CB13GEMNGLNW</b>	1.29 kg	<b>P32CB13GEANGLNW</b>	1.29 kg
1/2"	40	85	<b>P32CB14GEMNGLNW</b>	1.29 kg	<b>P32CB14GEANGLNW</b>	1.29 kg



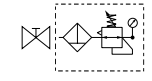
**Filter/Regulator + Lubricator Combinations + Poly bowl**  
**5 micron element, 8 bar Regulator + Gauge and Wall Mounting Brackets**  
**Inlet pressure 10 bar, Secondary pressure 6.3 bar, 1 bar pressure drop.**

Port size	Flow		Manual Drain	Weight	Auto Drain	Weight
	dm <sup>3</sup> /s	(scfm)				
1/4"	22	45	<b>P32CA12GEMNGLNW</b>	1.03 kg	<b>P32CA12GEANGLNW</b>	1.03 kg
3/8"	33	70	<b>P32CA13GEMNGLNW</b>	1.03 kg	<b>P32CA13GEANGLNW</b>	1.03 kg
1/2"	43	90	<b>P32CA14GEMNGLNW</b>	1.03 kg	<b>P32CA14GEANGLNW</b>	1.03 kg



**Ball Valve + Filter/Regulator + Lubricator Combinations + Poly bowl**  
**5 micron element, 8 bar Regulator + Gauge and Wall Mounting Brackets**  
**Inlet pressure 10 bar, Secondary pressure 6.3 bar, 1 bar pressure drop.**

Port size	Flow		Manual Drain	Weight	Auto Drain	Weight
	dm <sup>3</sup> /s	(scfm)				
3/8"	33	70	<b>P32QA13GEMNGLNW</b>	1.5 kg	<b>P32QA13GEANGLNW</b>	1.5 kg
1/2"	43	90	<b>P32QA14GEMNGLNW</b>	1.5 kg	<b>P32QA14GEANGLNW</b>	1.5 kg



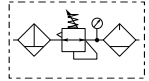
**Ball Valve + Filter/Regulator Combinations + Poly bowl**  
**5 micron element, 8 bar Regulator + Gauge and Wall Mounting Brackets**  
**Inlet pressure 10 bar, Secondary pressure 6.3 bar, 1 bar pressure drop.**

Port size	Flow		Manual Drain	Weight	Auto Drain	Weight
	dm <sup>3</sup> /s	(scfm)				
3/8"	33	70	<b>P32QN13GEMNGW</b>	1.1 kg	<b>P32QN13GEANGW</b>	1.1 kg
1/2"	43	90	<b>P32QN14GEMNGW</b>	1.1 kg	<b>P32QN14GEANGW</b>	1.1 kg

<b>P 3 2</b>					<b>E</b>		<b>N</b>		<b>L N</b>	<b>W</b>
<b>Combination</b>		<b>Thread type</b>		<b>Port size</b>		<b>Drain type</b>		<b>Adjustment range</b>		Add only for options with Lubricator
Combination <b>C</b>		BSPP <b>1</b>		1/4 <b>2</b>		Auto drain <b>A</b>		<b>With round gauge</b>		
Shut off + Combination <sup>1</sup> <b>Q</b>		NPT <b>9</b>		3/8 <b>3</b>		Manual drain <b>M</b>		0-2 bar; 0-30 psi; 0.2 MPa <b>Z</b>		
				1/2 <b>4</b>				4 bar; 60 psi; 0.4 MPa <b>M</b>		
								8 bar; 125 psi; 0.8 MPa <b>G</b>		
<b>Combination type</b>		<b>Bowl type</b>		<b>Note:</b> All bowl types are the same for each component						
F/R+L <b>A</b>		Poly bowl with bowl guard <b>G</b>		<b>Example:</b> If a "G" is specified for a F+L, both units would get a poly bowl with bowl guard.						
F+R+L <b>B</b>		Metal bowl with sight glass <b>S</b>								
F/R <b>N</b>										

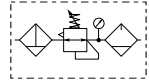
<sup>1</sup> Option not available with F+R+L and 1/4" port size (2)

Popular Combinations - P33 Series



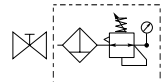
**Filter + Regulator + Lubricator Combinations + Poly bowl**  
**5 micron element, 8 bar Regulator + Gauge and Wall Mounting Brackets**  
**Inlet pressure 10 bar, Secondary pressure 6.3 bar, 1 bar pressure drop.**

Port size	Flow dm <sup>3</sup> /s (scfm)		Manual Drain	Weight	Auto Drain	Weight
1/2"	43	90	<b>P33CB14GEMNGLNW</b>	1.84 kg (4.06 lbs)	<b>P33CB14GEANGLNW</b>	1.84 kg (4.06 lbs)
3/4"	52	110	<b>P33CB16GEMNGLNW</b>	1.84 kg (4.06 lbs)	<b>P33CB16GEANGLNW</b>	1.84 kg (4.06 lbs)



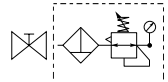
**Filter/Regulator + Lubricator Combinations + Poly bowl**  
**5 micron element, 8 bar Regulator + Gauge and Wall Mounting Brackets**  
**Inlet pressure 10 bar, Secondary pressure 6.3 bar, 1 bar pressure drop.**

Port size	Flow dm <sup>3</sup> /s (scfm)		Manual Drain	Weight	Auto Drain	Weight
1/2"	52	110	<b>P33CA14GEMNGLNW</b>	1.51 kg (3.33 lbs)	<b>P33CA14GEANGLNW</b>	1.51 kg (3.33 lbs)
3/4"	71	150	<b>P33CA16GEMNGLNW</b>	1.51 kg (3.33 lbs)	<b>P33CA16GEANGLNW</b>	1.51 kg (3.33 lbs)



**Ball Valve + Filter/Regulator + Lubricator Combinations + Poly bowl**  
**5 micron element, 8 bar Regulator + Gauge and Wall Mounting Brackets**  
**Inlet pressure 10 bar, Secondary pressure 6.3 bar, 1 bar pressure drop.**

Port size	Flow dm <sup>3</sup> /s (scfm)		Manual Drain	Weight	Auto Drain	Weight
1/2"	52	110	<b>P33QA14GEMNGLNW</b>	2.35 kg (5.2 lbs)	<b>P33QA14GEANGLNW</b>	2.35 kg (5.2 lbs)
3/4"	71	150	<b>P33QA16GEMNGLNW</b>	2.35 kg (5.2 lbs)	<b>P33QA16GEANGLNW</b>	2.35 kg (5.2 lbs)



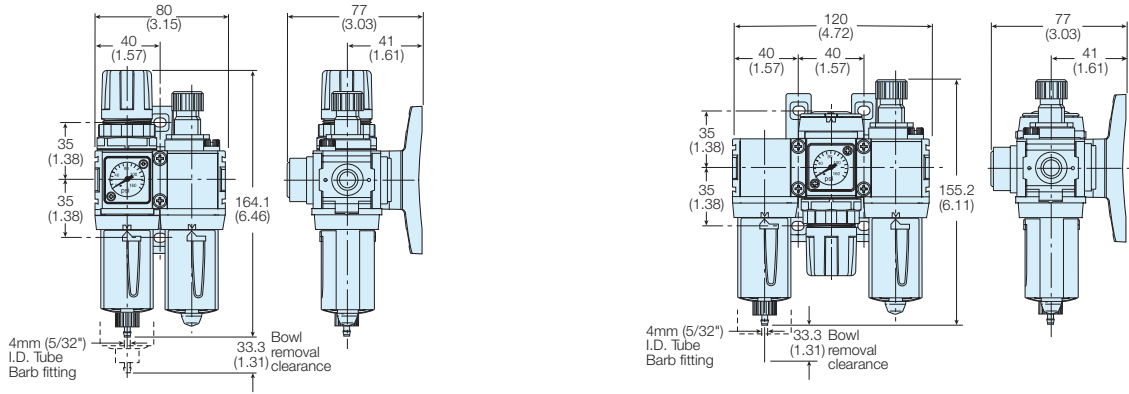
**Ball Valve + Filter/Regulator Combinations + Poly bowl**  
**5 micron element, 8 bar Regulator + Gauge and Wall Mounting Brackets**  
**Inlet pressure 10 bar, Secondary pressure 6.3 bar, 1 bar pressure drop.**

Port size	Flow dm <sup>3</sup> /s (scfm)		Manual Drain	Weight	Auto Drain	Weight
1/2"	52	110	<b>P33QN14GEMNGW</b>	1.7 kg (3.75 lbs)	<b>P33QN14GEANGW</b>	1.7 kg (3.75 lbs)
3/4"	71	150	<b>P33QN16GEMNGW</b>	1.7 kg (3.75 lbs)	<b>P33QN16GEANGW</b>	1.7 kg (3.75 lbs)

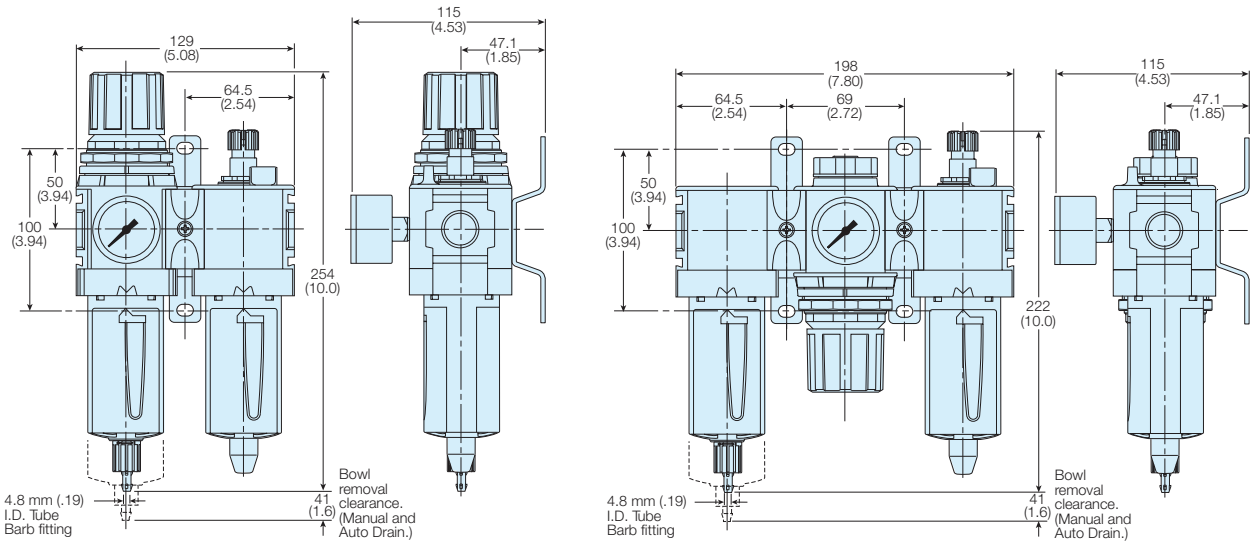
<b>P 33</b>						<b>E</b>		<b>N</b>		<b>LN</b>	<b>W</b>
<b>Combination</b>		<b>Thread type</b>		<b>Port size</b>		<b>Drain type</b>		<b>Adjustment range</b>		Add only for options with Lubricator	
Combination <b>C</b>		BSPP <b>1</b>		1/2 <b>4</b>		Auto drain <b>A</b>		<b>With round gauge</b>			
Shut off + Combination <sup>1</sup> <b>Q</b>		NPT <b>9</b>		3/4 <b>6</b>		Manual drain <b>M</b>		0-2 bar; 0-30 psi; 0.2 MPa <b>Z</b>			
								4 bar; 60 psi; 0.4 MPa <b>M</b>			
								8 bar; 125 psi; 0.8 MPa <b>G</b>			
<sup>1</sup> Option not available with F+R+L		<b>Combination type</b>		<b>Bowl type</b>		<b>Note:</b> All bowl types are the same for each component					
		F/R+L <b>A</b>		Poly bowl with bowl guard <b>G</b>		<b>Example:</b> If a "G" is specified for a F+L, both units would get a poly bowl with bowl guard.					
		F+R+L <b>B</b>		Metal bowl with sight glass <b>S</b>							
		F/R <b>N</b>									

**Popular Combination Dimensions - mm (inches)**

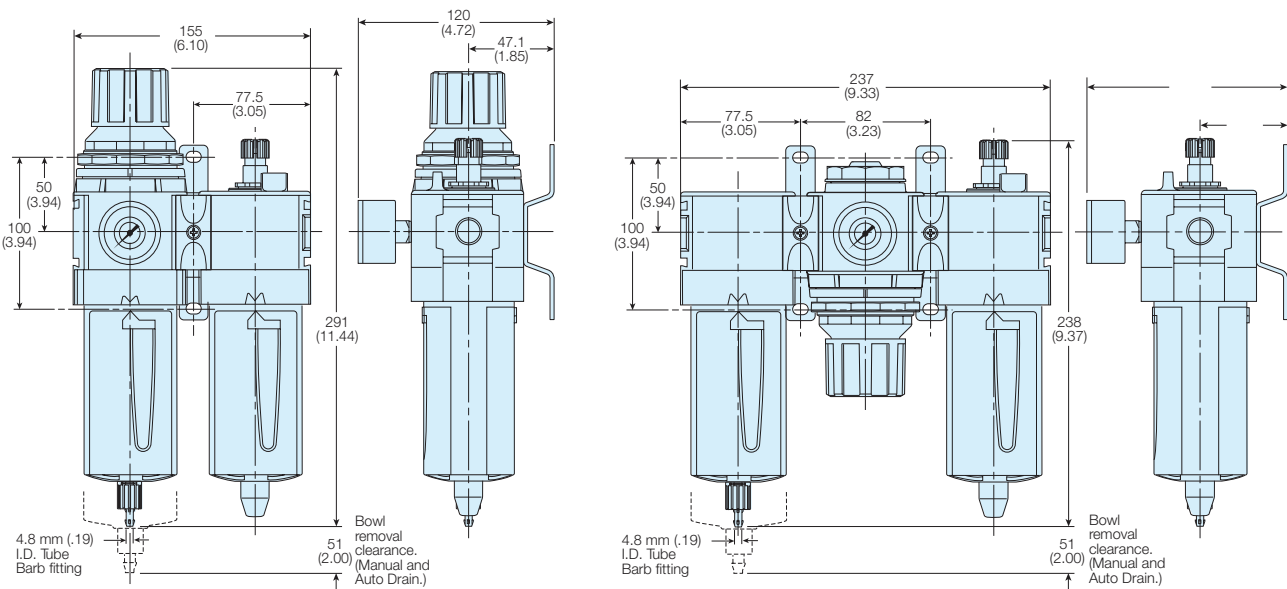
**P31**



**P32**



**P33**





### Filters - 5 µm

Port	Description	Order code
1/4"	Poly bowl - Manual drain	<b>P31FB12EGMN</b>
1/4"	Poly bowl - Pulse drain	<b>P31FB12EGBN</b>
1/4"	Metal bowl - Manual drain	<b>P31FB12EMMN</b>
1/4"	Metal bowl - Pulse drain	<b>P31FB12EMBN</b>
1/4"	Poly bowl - Manual drain	<b>P32FB12EGMN</b>
1/4"	Poly bowl - Auto drain	<b>P32FB12EGAN</b>
1/4"	Metal bowl sight glass - Manual drain	<b>P32FB12ESMN</b>
1/4"	Metal bowl sight glass - Auto drain	<b>P32FB12ESAN</b>
3/8"	Poly bowl - Manual drain	<b>P32FB13EGMN</b>
3/8"	Poly bowl - Auto drain	<b>P32FB13EGAN</b>
3/8"	Metal bowl sight glass - Manual drain	<b>P32FB13ESMN</b>
3/8"	Metal bowl sight glass - Auto drain	<b>P32FB13ESAN</b>
1/2"	Poly bowl - Manual drain	<b>P32FB14EGMN</b>
1/2"	Poly bowl - Auto drain	<b>P32FB14EGAN</b>
1/2"	Metal bowl sight glass - Manual drain	<b>P32FB14ESMN</b>
1/2"	Metal bowl sight glass - Auto drain	<b>P32FB14ESAN</b>
1/2"	Poly bowl - Manual drain	<b>P33FA14EGMN</b>
1/2"	Poly bowl - Auto drain	<b>P33FA14EGAN</b>
1/2"	Metal bowl sight glass - Manual drain	<b>P33FA14ESMN</b>
1/2"	Metal bowl sight glass - Auto drain	<b>P33FA14ESAN</b>
3/4"	Poly bowl - Manual drain	<b>P33FA16EGMN</b>
3/4"	Poly bowl - Auto drain	<b>P33FA16EGAN</b>
3/4"	Metal bowl sight glass - Manual drain	<b>P33FA16ESMN</b>
3/4"	Metal bowl sight glass - Auto drain	<b>P33FA16ESAN</b>



### Regulators

Port	Description	Order code
1/4"	8 bar relieving	<b>P31RB12BNNP</b>
1/4"	8 bar relieving + gauge	<b>P31RB12BNTP</b>
1/4"	8 bar (125 psi) Relieving	<b>P32RB12BNNP</b>
1/4"	8 bar (125 psi) Relieving + Gauge	<b>P32RB12BNGP</b>
3/8"	8 bar (125 psi) Relieving	<b>P32RB13BNNP</b>
3/8"	8 bar (125 psi) Relieving + Gauge	<b>P32RB13BNGP</b>
1/2"	8 bar (125 psi) Relieving	<b>P32RB14BNNP</b>
1/2"	8 bar (125 psi) Relieving + Gauge	<b>P32RB14BNGP</b>
1/2"	8 bar (125 psi) Relieving	<b>P33RA14BNNP</b>
1/2"	8 bar (125 psi) Relieving + Gauge	<b>P33RA14BNGP</b>
3/4"	8 bar (125 psi) Relieving	<b>P33RA16BNNP</b>
3/4"	8 bar (125 psi) Relieving + Gauge	<b>P33RA16BNGP</b>



### Coalescing Filters + Absorbers - 0,01 µm

Port	Description	Order code
1/4"	Poly bowl - 0.01 µm - Manual drain	<b>P31FB12DGMN</b>
1/4"	Poly bowl - 0.01 µm - Pulse drain	<b>P31FB12DGBN</b>
1/4"	Metal bowl - 0.01 µm - Manual drain	<b>P31FB12DMMN</b>
1/4"	Metal bowl - 0.01 µm - Pulse drain	<b>P31FB12DMBN</b>
1/4"	Poly bowl - Adsorber	<b>P31FB12AGMN</b>
1/4"	Metal bowl - Adsorber	<b>P31FB12AMMN</b>
1/4"	Poly bowl - 0.01 µm, Manual drain	<b>P32FB12DGMN</b>
1/4"	Poly bowl - 0.01 µm, Auto drain	<b>P32FB12DGAN</b>
1/4"	Metal bowl sight glass - 0.01 µm, Man. drain	<b>P32FB12DSMN</b>
1/4"	Metal bowl sight glass - 0.01 µm, Auto drain	<b>P32FB12DSAN</b>
3/8"	Poly bowl - 0.01 µm, Manual drain	<b>P32FB13DGMN</b>
3/8"	Poly bowl - 0.01 µm, Auto drain	<b>P32FB13DGAN</b>
3/8"	Metal bowl sight glass - 0.01 µm, Man. drain	<b>P32FB13DSMN</b>
3/8"	Metal bowl sight glass - 0.01 µm, Auto drain	<b>P32FB13DSAN</b>
1/2"	Poly bowl - 0.01 µm, Manual drain	<b>P32FB14DGMN</b>
1/2"	Poly bowl - 0.01 µm, Auto drain	<b>P32FB14DGAN</b>
1/2"	Metal bowl sight glass - 0.01 µm, Man. drain	<b>P32FB14DSMN</b>
1/2"	Metal bowl sight glass - 0.01 µm, Auto drain	<b>P32FB14DSAN</b>
1/4"	Poly bowl - Adsorber	<b>P32FB12AGMN</b>
1/4"	Metal bowl sight glass - Adsorber	<b>P32FB12ASMN</b>
3/8"	Poly bowl - Adsorber	<b>P32FB13AGMN</b>
3/8"	Metal bowl sight glass - Adsorber	<b>P32FB13ASMN</b>
1/2"	Poly bowl - Adsorber	<b>P32FB14AGMN</b>
1/2"	Metal bowl sight glass - Adsorber	<b>P32FB14ASMN</b>
1/2"	Poly bowl - 0.01 µm, Manual drain	<b>P33FA14DGMN</b>
1/2"	Poly bowl - 0.01 µm, Auto drain	<b>P33FA14DGAN</b>
1/2"	Metal bowl sight glass - 0.01 µm, Man. drain	<b>P33FA14DSMN</b>
1/2"	Metal bowl sight glass - 0.01 µm, Auto drain	<b>P33FA14DSAN</b>
3/4"	Poly bowl - 0.01 µm, Manual drain	<b>P33FA16DGMN</b>
3/4"	Poly bowl - 0.01 µm, Auto drain	<b>P33FA16DGAN</b>
3/4"	Metal bowl sight glass - 0.01 µm, Man. drain	<b>P33FA16DSMN</b>
3/4"	Metal bowl sight glass - 0.01 µm, Auto drain	<b>P33FA16DSAN</b>
1/2"	Poly bowl - Adsorber	<b>P33FA14AGMN</b>
1/2"	Metal bowl sight glass - Adsorber	<b>P33FA14ASMN</b>
3/4"	Poly bowl - Adsorber	<b>P33FA16AGMN</b>
3/4"	Metal bowl sight glass - Adsorber	<b>P33FA16ASMN</b>



**Filter Regulators** - (P31) pressures 2 & 4 bar (P32/P33) pressures 2,4 & 17 bar available.

Port	Description	Order code
1/4"	8 bar (125 psi) Relieving - Poly bowl - Manual drain	<b>P31EB12EGMBNTP</b>
1/4"	8 bar (125 psi) Relieving - Poly bowl - Pulse drain	<b>P31EB12EGBBNTP</b>
1/4"	8 bar (125 psi) Relieving - Metal bowl - Manual drain	<b>P31EB12EMMBNTP</b>
1/4"	8 bar (125 psi) Relieving - Metal bowl - Pulse drain	<b>P31EB12EMBBNTP</b>
1/4"	8 bar (125 psi) Relieving - Poly bowl - Manual drain	<b>P32EB12EGMBNGP</b>
1/4"	8 bar (125 psi) Relieving - Poly bowl - Auto drain	<b>P32EB12EGABNGP</b>
1/4"	8 bar (125 psi) Relieving - Metal bowl sight glass - Manual drain	<b>P32EB12ESMBNGP</b>
1/4"	8 bar (125 psi) Relieving - Metal bowl sight glass - Auto drain	<b>P32EB12ESABNGP</b>
3/8"	8 bar (125 psi) Relieving - Poly bowl - Manual drain	<b>P32EB13EGMBNGP</b>
3/8"	8 bar (125 psi) Relieving - Poly bowl - Auto drain	<b>P32EB13EGABNGP</b>
3/8"	8 bar (125 psi) Relieving - Metal bowl sight glass - Manual drain	<b>P32EB13ESMBNGP</b>
3/8"	8 bar (125 psi) Relieving - Metal bowl sight glass - Auto drain	<b>P32EB13ESABNGP</b>
1/2"	8 bar (125 psi) Relieving - Poly bowl - Manual drain	<b>P32EB14EGMBNGP</b>
1/2"	8 bar (125 psi) Relieving - Poly bowl - Auto drain	<b>P32EB14EGABNGP</b>
1/2"	8 bar (125 psi) Relieving - Metal bowl sight glass - Manual drain	<b>P32EB14ESMBNGP</b>
1/2"	8 bar (125 psi) Relieving - Metal bowl sight glass - Auto drain	<b>P32EB14ESABNGP</b>
1/2"	8 bar (125 psi) Relieving - Poly bowl - Manual drain	<b>P33EA14EGMBNGP</b>
1/2"	8 bar (125 psi) Relieving - Poly bowl - Auto drain	<b>P33EA14EGABNGP</b>
1/2"	8 bar (125 psi) Relieving - Metal bowl sight glass - Manual drain	<b>P33EA14ESMBNGP</b>
1/2"	8 bar (125 psi) Relieving - Metal bowl sight glass - Auto drain	<b>P33EA14ESABNGP</b>
3/4"	8 bar (125 psi) Relieving - Poly bowl - Manual drain	<b>P33EA16EGMBNGP</b>
3/4"	8 bar (125 psi) Relieving - Poly bowl - Auto drain	<b>P33EA16EGABNGP</b>
3/4"	8 bar (125 psi) Relieving - Metal bowl sight glass - Manual drain	<b>P33EA16ESMBNGP</b>
3/4"	8 bar (125 psi) Relieving - Metal bowl sight glass - Auto drain	<b>P33EA16ESABNGP</b>



**Lubricators**

Port	Description	Order code
1/4"	Poly bowl - No drain	<b>P31LB12LGNN</b>
1/4"	Metal bowl - No drain	<b>P31LB12LMNN</b>
1/4"	Poly bowl - No drain	<b>P32LB12LGNN</b>
1/4"	Metal bowl - No drain	<b>P32LB12LSNN</b>
3/8"	Poly bowl - No drain	<b>P32LB13LGNN</b>
3/8"	Metal bowl - No drain	<b>P32LB13LSNN</b>
1/2"	Poly bowl - No drain	<b>P32LB14LGNN</b>
1/2"	Metal bowl - No drain	<b>P32LB14LSNN</b>
1/2"	Poly bowl - No drain	<b>P33LA14LGNN</b>
1/2"	Metal bowl - No drain	<b>P33LA14LSNN</b>
3/4"	Poly bowl - No drain	<b>P33LA16LGNN</b>
3/4"	Metal bowl - No drain	<b>P33LA16LSNN</b>

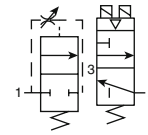


**Gauges**

Port	Description	Order code
P31	Square Flush Mounting Gauge Kit	0-4 bar <b>K4511SCR04B</b> 0-11 bar <b>K4511SCR11B</b>
P31	40mm Round Gauge	0-30 psi / 0-2 bar 1/8" <b>P3D-KAB1AYN</b> 0-60 psi / 0-4.1 bar 1/8" <b>P3D-KAB1ALN</b> 0-160 psi / 0-10 bar 1/8" <b>P3D-KAB1ANN</b>
P32 / P33	40mm Round Gauge	0-60 psi / 0-4.1 bar 1/4" <b>P6G-ERB2040</b> 0-160 psi / 0-10 bar 1/4" <b>P6G-ERB2110</b> 0-300 psi / 0-20 bar 1/4" <b>P6G-ERB2200</b>

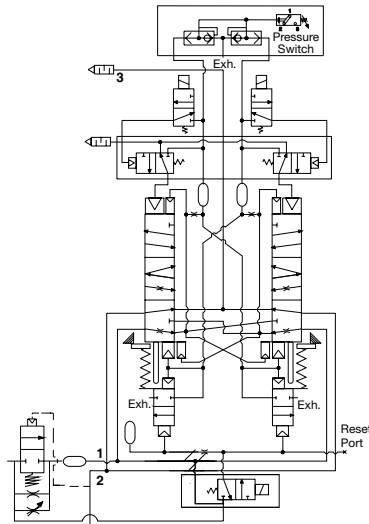
Redundant Safety Exhaust Valve

Symbol



- Proven control reliable technology with integrated soft start
- Soft start application of air to the system when energized; can be adjusted for slower or faster buildup of system pressure
- Rapid exhaust of downstream air when de-energized to remove stored energy and allow safe access
- Memory, monitoring, and air flow control functions are integrated into two identical valve elements. Valves lock-out if asynchronous movement of valve elements occurs during actuation or de-actuation, resulting in a residual outlet pressure of less than 1% of supply.
- Reset can only be accomplished by the integrated electrical (solenoid) reset. Cannot be reset by removing and re-applying supply pressure.
- Basic 3/2 normally closed valve function: Dirt tolerant, wear compensating poppet design for quick response and high flow capacity.
- LED indicators of main solenoid operation, reset solenoid operation, and status indicator condition.
- Optional transducer for monitoring of downstream pressure in the system.
- Dual exhaust silencers included.
- Not for use with clutch / brake applications.
- For use in conjunction with a safety relay or safety PLC.

P33T Schematic



Options:

<b>P33TA</b>		<b>6</b>	<b>R</b>	<b>G</b>	<b>4</b>		<b>2CN</b>
<b>Body size</b>		<b>Port size</b>		<b>Operator</b>		<b>Solenoid</b>	<b>Voltage</b>
Standard <b>P33T</b>		3/4" <b>6</b>		15mm Solenoid <b>G</b>		Dual M12 connector without transducer <b>F</b>	24VDC with manual override <b>2CN</b>
	<b>Thread type</b>	<b>Type</b>		<b>Mounting</b>		Triple M12 connector with transducer <b>G</b>	
	BSPB <b>1</b>	Solenoid pilot + gauge <b>R</b>		Cat 4 w/ bracket <b>4</b>			
	NPT <b>9</b>						

Port size			Cv		Height mm (inches)	Width mm (inches)	Depth mm (inches)	Weight kg (lb)	Part number*
Inlet	Outlet	Transducer	1 to 2	2 to 3					
3/4	3/4	w/o transducer	3.7	8.5	273.8 (10.78)	136.0 (5.35)	147.6 (5.81)	7.3 (16.1)	<b>P33TA16RG4F2CN</b>
3/4	3/4	w/ transducer	3.7	8.5	273.8 (10.78)	136.0 (5.35)	147.6 (5.81)	7.4 (16.3)	<b>P33TA16RG4G2CN</b>

\* BSPB port threads. For NPT threads, replace "1" in the part number with a "9".



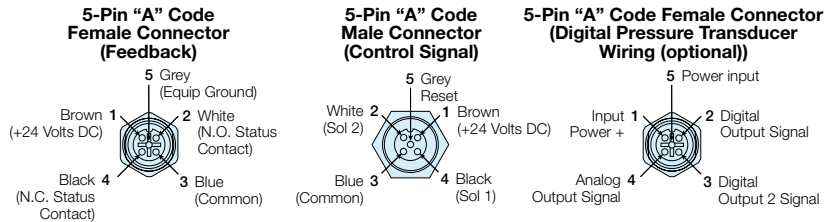
**Technical Information**

Pilot Solenoids:	According to VDE 0580
Enclosure rating:	According to DIN 400 50 IP65
Connector socket:	According to DIN 43650 Form A Three solenoids, rated for continuous duty
Standard voltages:	24VDC
Power consumption (each solenoid): for primary and reset solenoids:	1.2 Watts on DC
Enclosure rating:	IP65, IEC 60529
Electrical connection:	M12, 5-pin
Ambient temperature:	15°F to 122°F (-10°C to 50°C)
Media temperature:	40°F to 175°F (4°C to 80°C)
Flow media:	Compressed Air, Filtered to Minimum 40 Micron
Inlet pressure:	30 to 150 PSIG (2 to 10 bar)
Pressure switch rating (Status indicator):	5 Amps at 30 Volts DC.
Monitoring:	Dynamically, cyclically, internally during each actuating and de-actuating movement. Monitoring function has memory and requires an overt act to reset unit after lockout.
Mounting orientation:	Vertically with pilot solenoids on top
Port threads:	3/4 NPT, 3/4 BSPP
Control reliable:	Category 4 (Cat 4); performance Level e (PLe) in accordance with Machine directive - EN ISO 13849-1 (Certification pending)

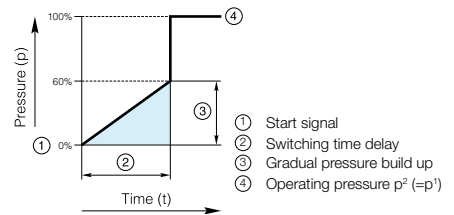
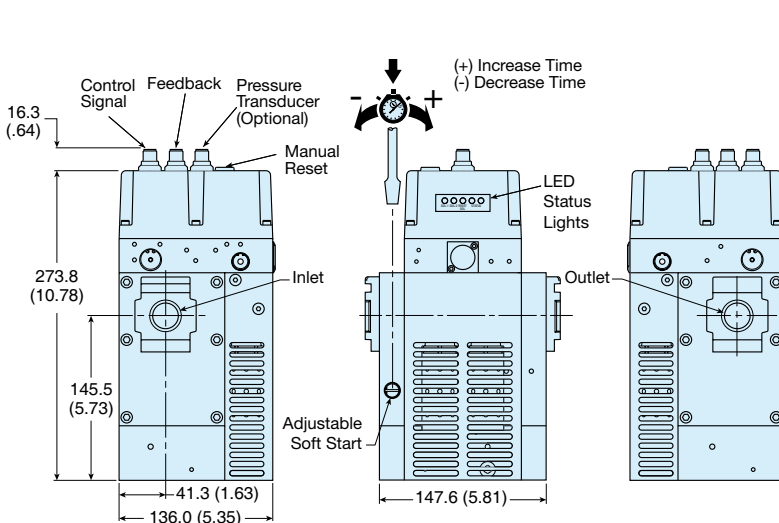
**Repair and Service Kits**

Description	Part number
Black grill	1834C05-001
Body connector	P32KA00CB
Cables	
M12, 5-pin female to flying lead cable, TPE; 2 m (6.6 ft).....	RKC 4.5T-2/S1587
M12, 5-pin male to flying lead cable, TPE; 2 m (6.6 ft).....	RSC 4.5T-2/S1587
Port block kit	
1/2 NPT.....	P32KA94CP
3/4 NPT.....	P32KA96CP
1/2 BSPP.....	P32KA14CP
3/4 BSPP.....	P32KA16CP
Pressure switch	1227A30-001
Pressure transducer (Optional)	1232H30-001
T-bracket w/ body connector	P32KA00MT
T-bracket (Fits to body connector or port block)	P32KA00MB
Silencer(s) 3/4"	5500A5013
Solenoid (Main & reset)	1527B7916-001
Square flush mounting gauge kit, 0-160 psig	K4511SCR160

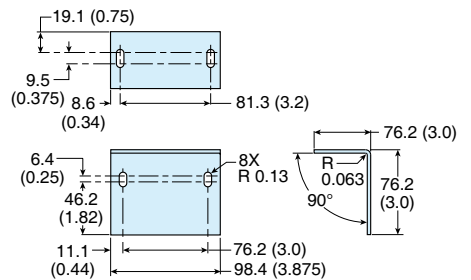
**Valve Wiring**



**Dimensions mm (inches)**



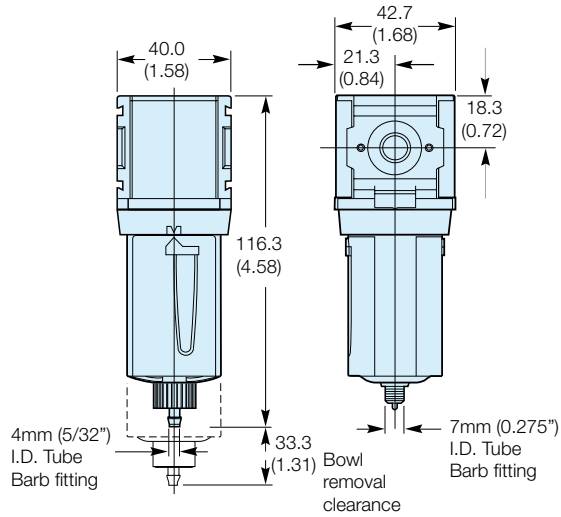
**Angle Mounting Bracket**



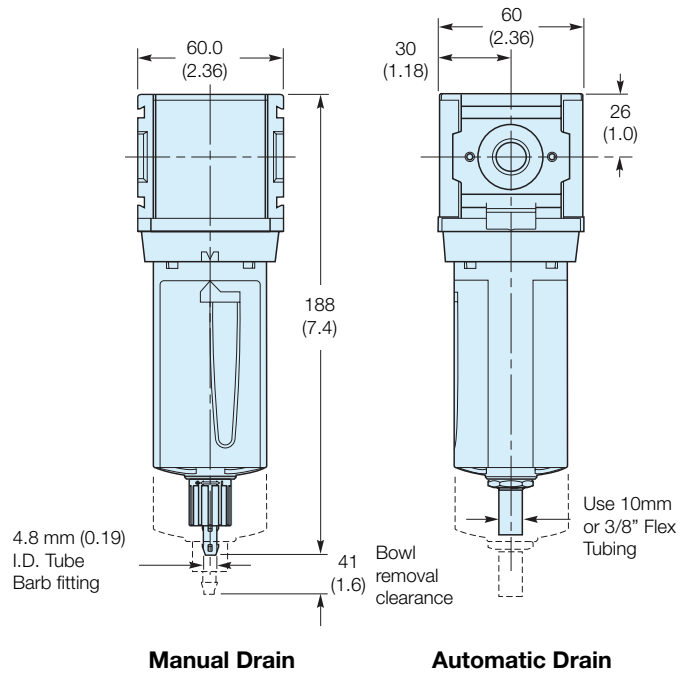
**Note:** Mounting bracket and installation screws included and required to install unit in the system.

Filter Dimensions - mm (inches)

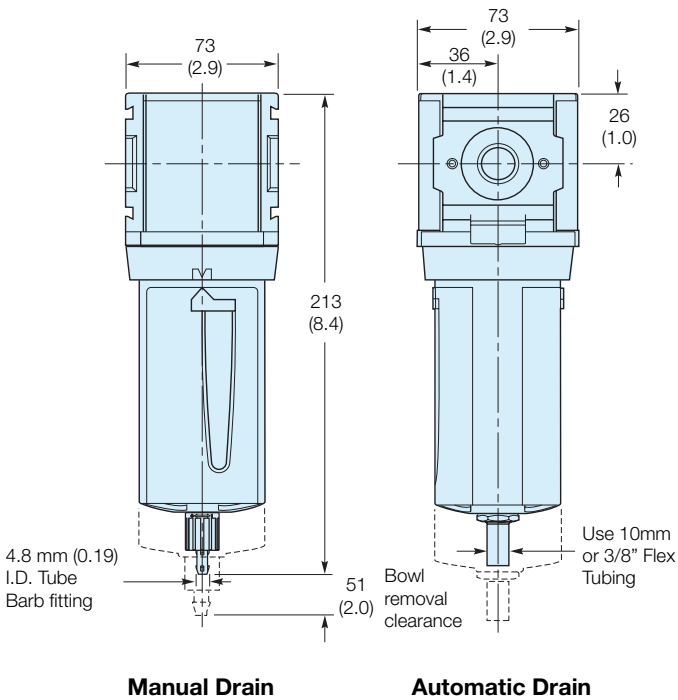
P31



P32

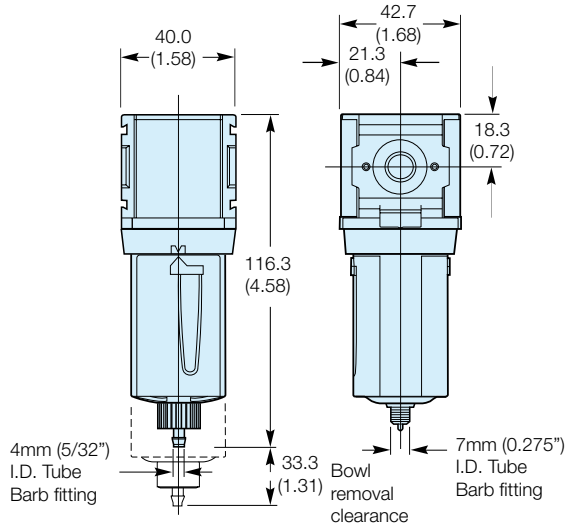


P33

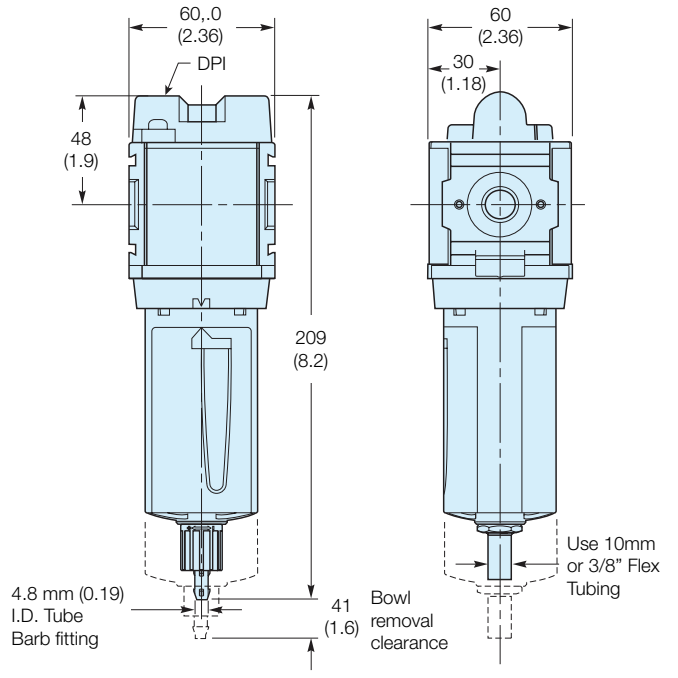


**Coalescing / Adsorber Filter Dimensions - mm (inches)**

**P31**



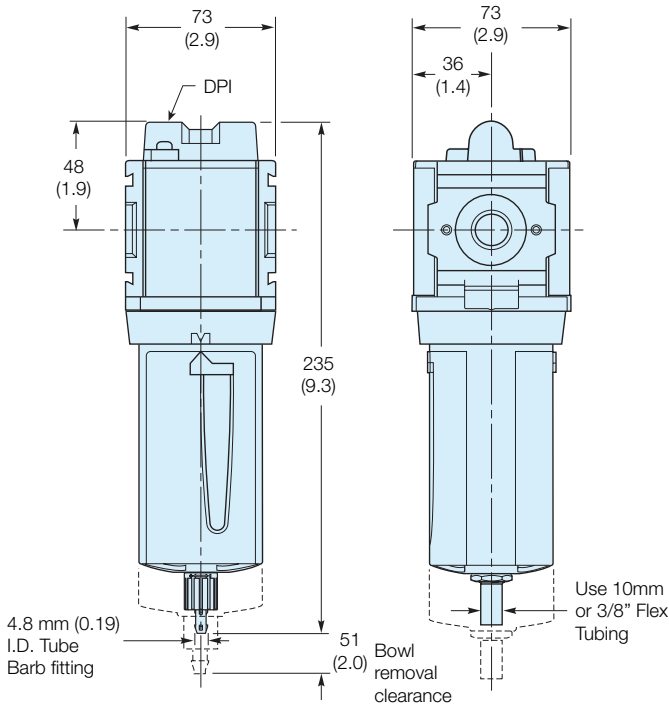
**P32**



**Manual Drain**

**Automatic Drain**

**P33**

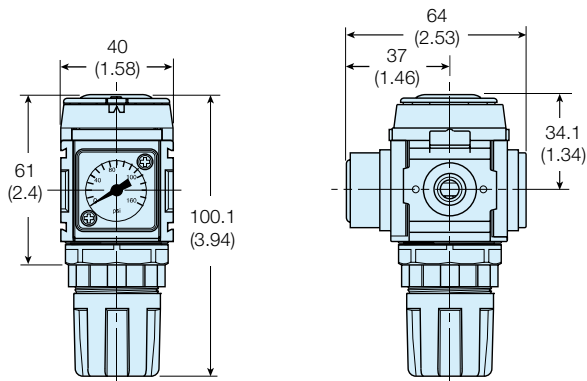


**Manual Drain**

**Automatic Drain**

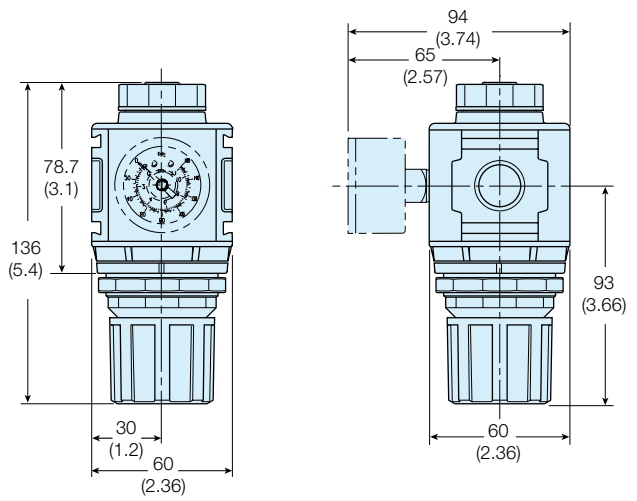
**Regulator Dimensions - mm (inches)**

**P31**



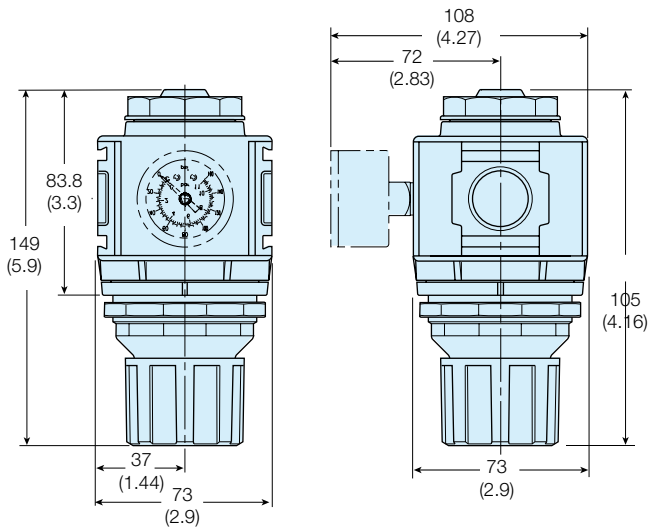
**NOTE:** Ø 30 mm hole required for panel nut mounting.

**P32**



**NOTE:** Ø 47 mm hole required for panel nut mounting.

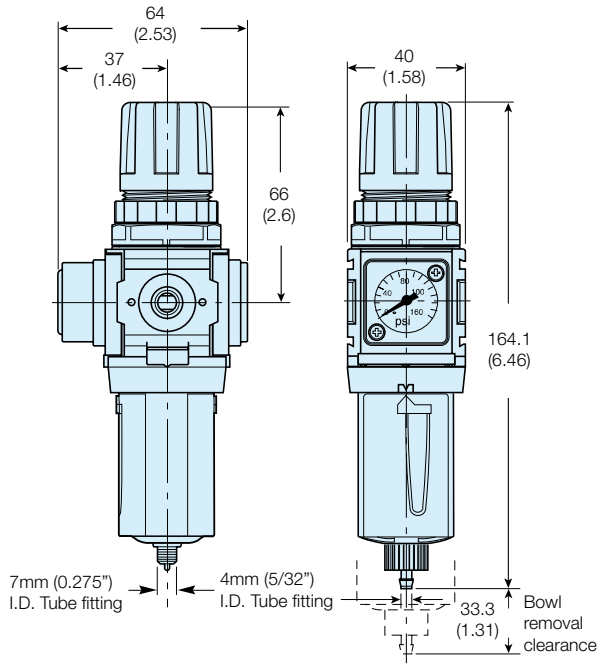
**P33**



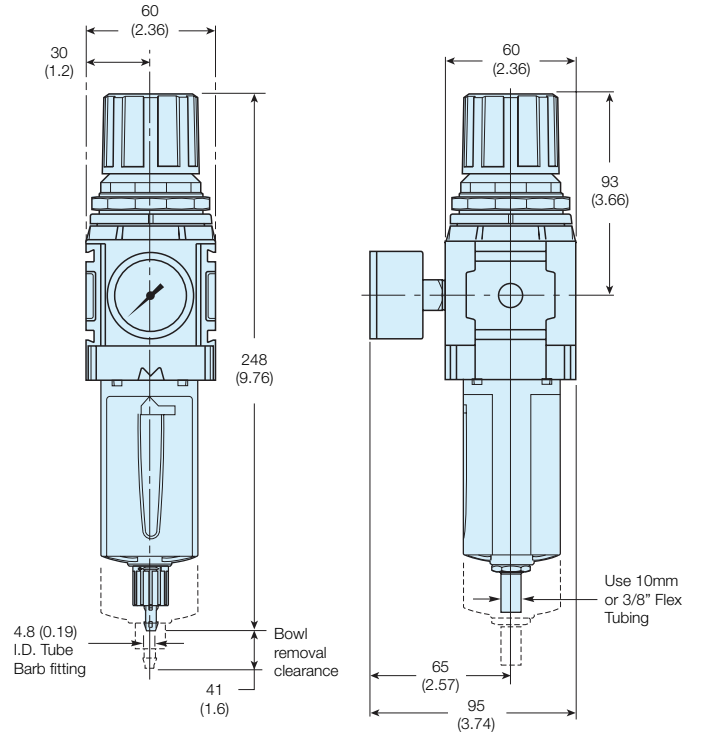
**NOTE:** Ø 60 mm hole required for panel nut mounting.

**Filter Regulator Dimensions - mm (inches)**

**P31**



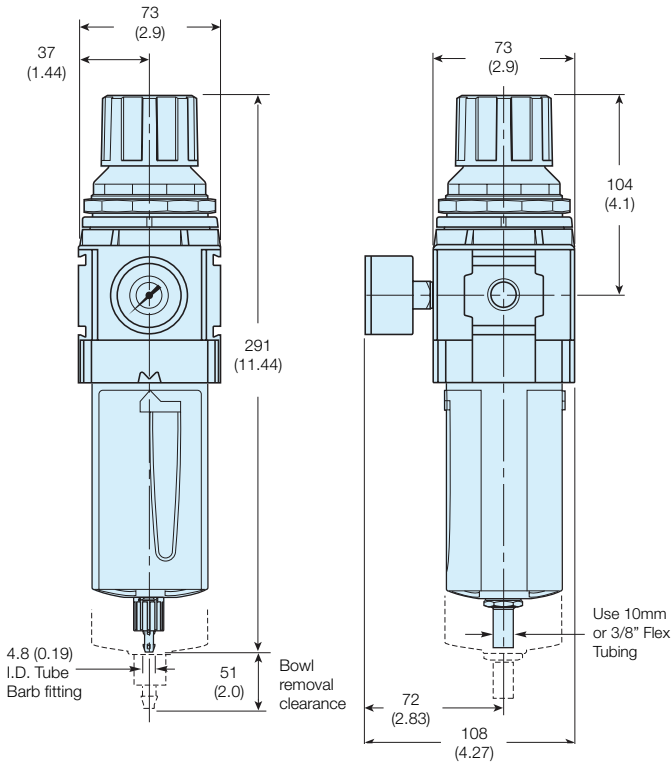
**P32**



**Manual Drain**

**Automatic Drain**

**P33**

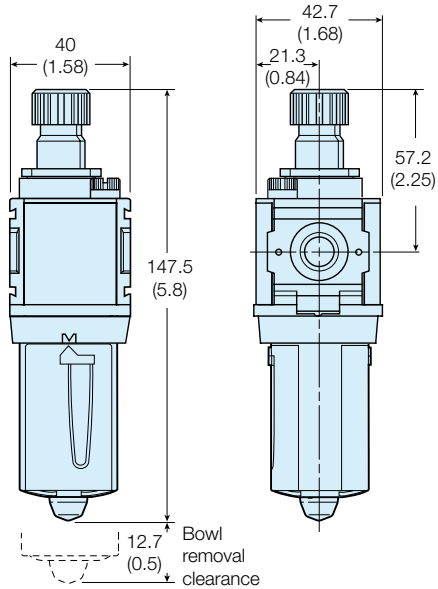


**Manual Drain**

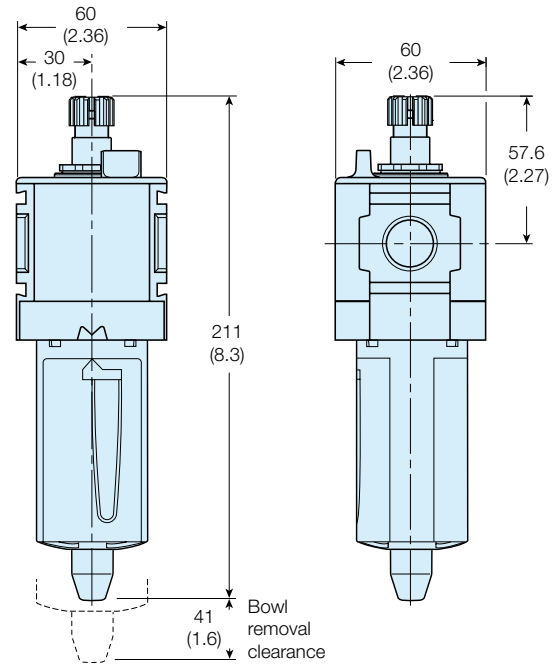
**Automatic Drain**

Lubricator Dimensions - mm (inches)

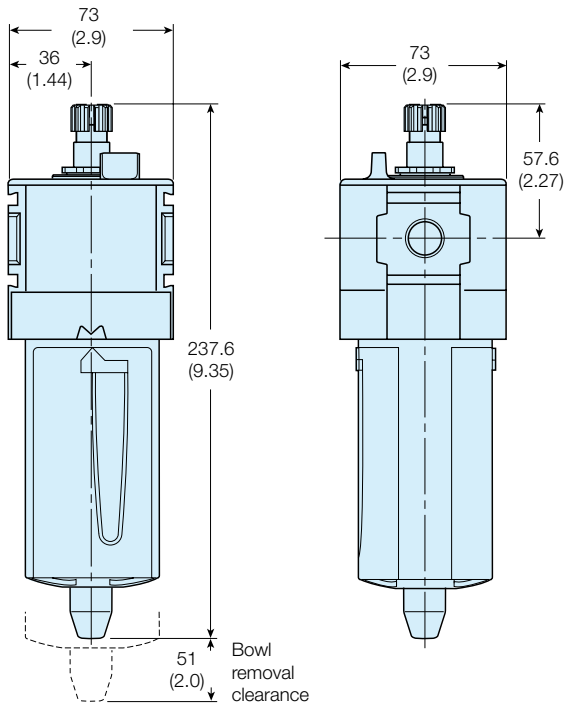
P31



P32

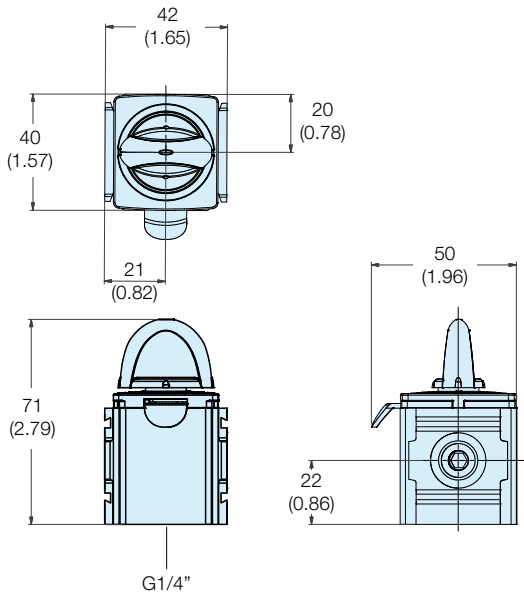


P33

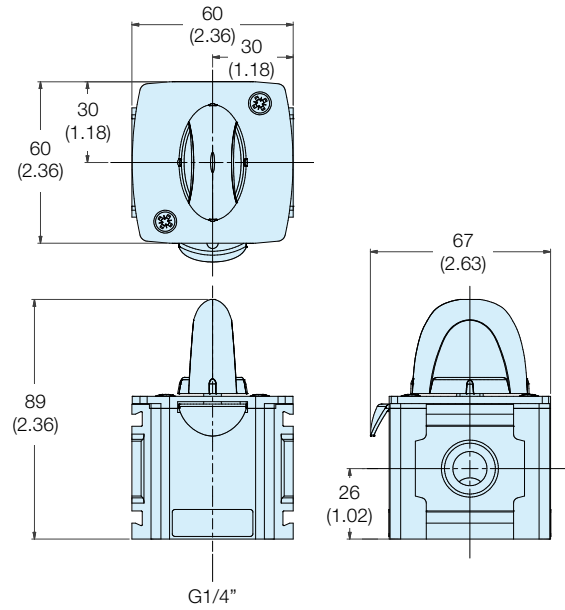


**Modular Ball Valve Dimensions - mm (inches)**

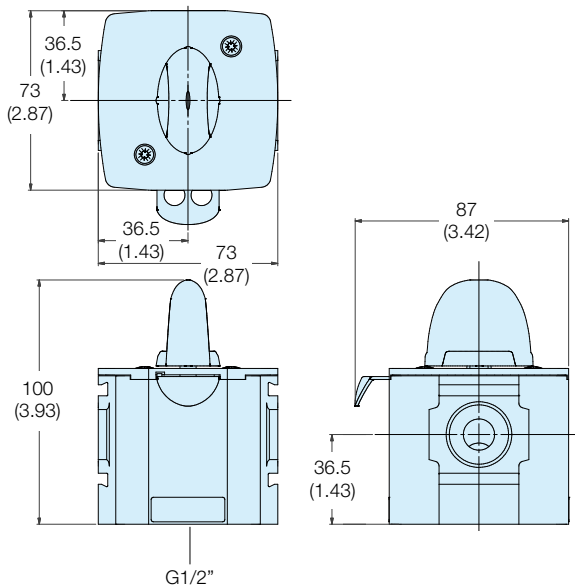
**P31**



**P32**

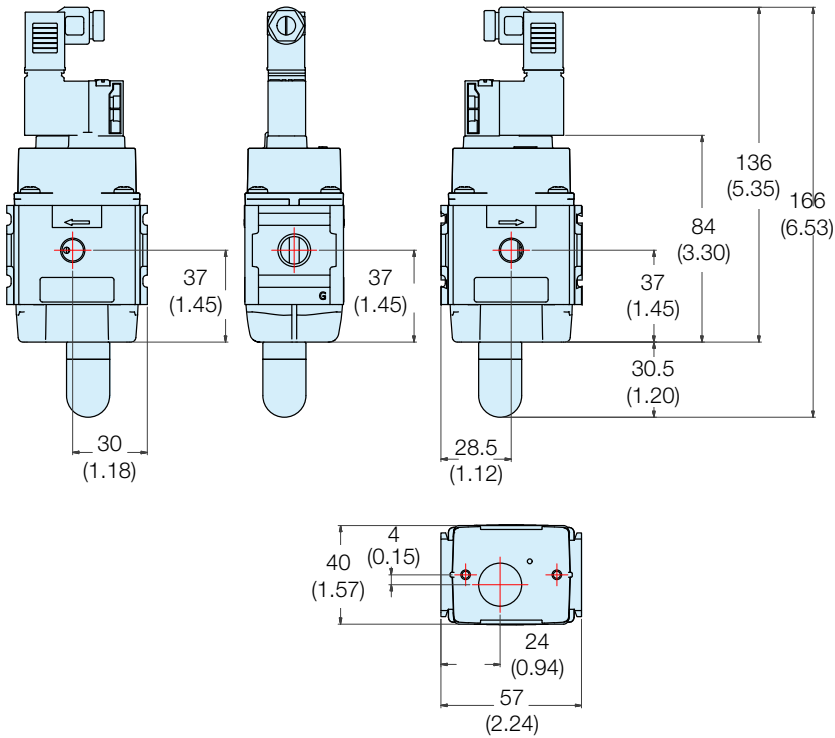


**P33**

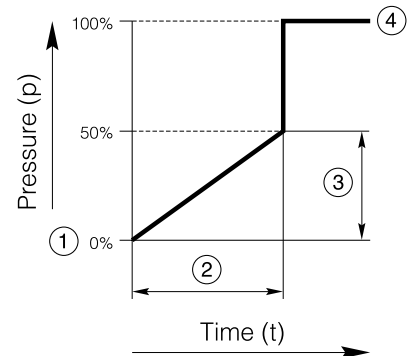
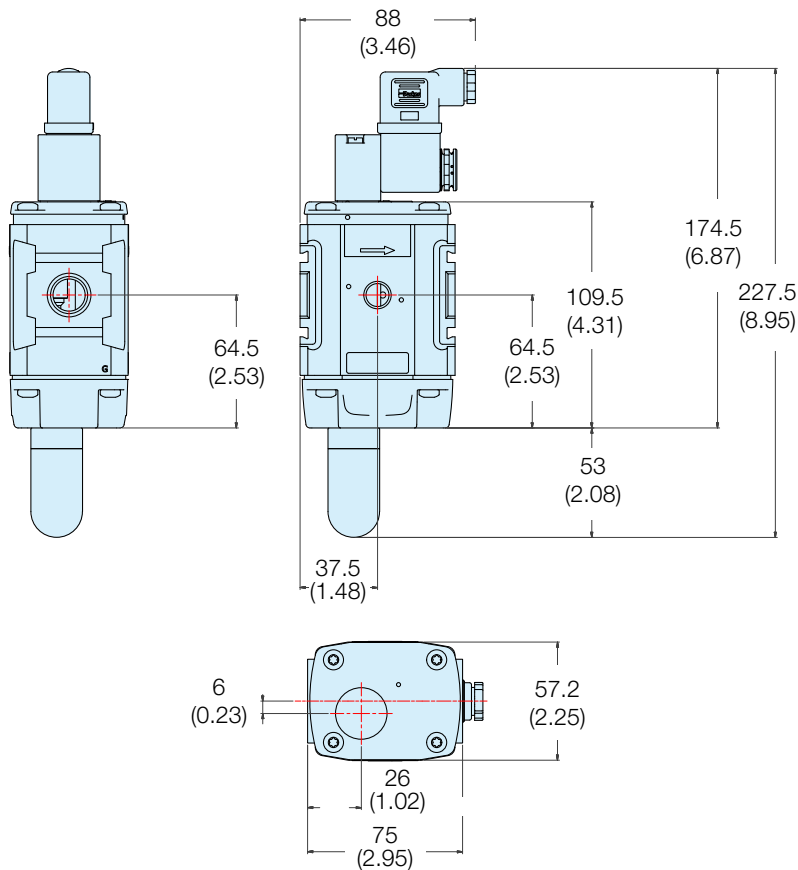


**Combined Soft Start Dump Valve and Remote Operated Dump Valve  
Dimensions - mm (inches)**

**P31**



**P32**



- ① Start signal
- ② Switching time delay
- ③ Gradual pressure build up
- ④ Operating pressure p<sup>2</sup> (=p<sup>1</sup>)



**Combined Soft Start Dump Valve and Remote Operated Dump Valve**

Port	Description	Order code
1/4	Solenoid operated (not included)	<b>P31TA12SGN0000</b>
1/4	24VDC Solenoid & cable plug	<b>P31TA12SGNC2CN</b>
1/4	Air pilot operated	<b>P31TA12PPN</b>
1/2	Solenoid operated (not included)	<b>P32TA14SCN0000</b>
1/2	24VDC 30mm coil & cable plug incl.	<b>P32TA14SCNA2CN</b>
1/2	Air pilot operated	<b>P32TA14PPN</b>
1/2	Solenoid operated (not included) Category 2 - Machine Directive Valve Contact - Sales Office for further details.	<b>P32TA14SC20000</b>

**Soft Start Valve**

Port	Description	Order code
1/4	Solenoid operated (not included)	<b>P31SA12SGN0000</b>
1/4	24VDC Solenoid & cable plug	<b>P31SA12SGNC2CN</b>
1/4	External air pilot (1/8 threaded)	<b>P31SA12PPN</b>
1/2	Solenoid operated (not included)	<b>P32SA14SCN0000</b>
1/2	24VDC 30mm coil & cable plug	<b>P32SA14SCNA2CN</b>
1/2	Internal air pilot operated	<b>P32SA14Y0N</b>
1/2	External air pilot (1/8 threaded)	<b>P32SA14PPN</b>

**Remote Operated Dump Valve**

Port	Description	Order code
1/4	Solenoid operated (not included)	<b>P31DA12SGN0000</b>
1/4	24VDC Solenoid & cable plug	<b>P31DA12SGNC2CN</b>
1/4	Air pilot operated	<b>P31DA12PPN</b>
1/2	Solenoid operated (not included)	<b>P32DA14SCN0000</b>
1/2	24VDC 30mm coil & cable plug incl.	<b>P32DA14SCNA2CN</b>
1/2	Air pilot operated	<b>P32DA14PPN</b>
1/2	Solenoid operated (not included) Category 2 - Machine Directive Valve Contact - Sales Office for further details.	<b>P32DA14SC20000</b>

**C-Bracket**

(Fits to filter and lubricator body)

P31
<b>P31KA00MW</b>

**L-Bracket**

(Fits to filter and lubricator body)

P32	P33
<b>P32KA00ML</b>	<b>P33KA00ML</b>

**Body Connector 'O' ring kit -**

Pack of 5

P31	P32
<b>P31KA00CY</b>	<b>P32KA00CY</b>

**T-Bracket**

(Fits to body connector or port block)

P32	P33
<b>P32KA00MB</b>	<b>P32KA00MB</b>

**Angle Bracket**

(Fits to regulator and filter/regulator)

P31	P32	P33
<b>P31KB00MR</b>	<b>P32KB00MR</b>	<b>P32KA00MR</b>

**Body Connector**

P31	P32	P33
<b>P31KA00CB</b>	<b>P32KA00CB</b>	<b>P32KA00CB</b>

**Modular Ball Valve / Lockout Valve**

Model type	Port size	Thread type	Flow dm <sup>3</sup> /s (scfm)	Modular Ball Valve Flow from left to right
<b>P31</b>	1/4"	BSPP	20 (42.4)	<b>P31VB12LBNN</b>
<b>P32</b>	3/8"	BSPP	90 (190.7)	<b>P32VB13LBNN</b>
	1/2"	BSPP	122 (258.5)	<b>P32VB14LBNN</b>
<b>P33</b>	1/2"	BSPP	122 (258.5)	<b>P33VB14LBNN</b>
	3/4"	BSPP	122 (258.5)	<b>P33VB16LBNN</b>

For thread type: BSPP 1  
NPT 9

**Manifold Blocks**

Model Type	In / Out Port Size	Auxiliary Port Size Top	Auxiliary Port Size Bottom	Thread Type	Order Code
<b>P31</b>	1/4"	1/4"	1/4"	BSPP	<b>P31MA12022N</b>
<b>P32</b>	1/2"	1/4"	1/2"	BSPP	<b>P32MA14024N</b>
<b>P33</b>	3/4"	1/4"	1/2"	BSPP	<b>P33MA16024N</b>

For thread type: BSPP 1  
NPT 9

**Branch Manifold**

<b>P32</b>	1/2"	1/4"	1/4"	BSPP	<b>P32MD14022N</b>
<b>P32</b>	1/4"	1/4"	1/4"	BSPP	<b>P32MD12022N</b>

**T-Bracket w / Body Connector**

P31	P32	P33
<b>P31KA00MT</b>	<b>P32KA00MT</b>	<b>P32KA00MT</b>

**Panel mounting nut (Aluminium)**

P31	P32	P33
<b>P31KA00MM</b>	<b>P32KA00MM</b>	<b>P33KA00MM</b>

## Accessories Kits

Series	Description	Order Code	
P31 P32 P33	Panel Mount Nut (Plastic)	<b>P31KA00MP</b> <b>P32KA00MP</b> <b>P33KA00MP</b>	
P31 P32 P33	Panel Mount Nut (Aluminium)	<b>P31KA00MM</b> <b>P32KA00MM</b> <b>P33KA00MM</b>	
P31 P32 P33	5µ Element Kit	<b>P31KA00ESE</b> <b>P32KA00ESE</b> <b>P33KA00ESE</b>	
P31 P32 P33	40µ Element Kit	<b>P31KA00ESG</b> <b>P32KA00ESG</b> <b>P33KA00ESG</b>	
P31 P32 P33	1µ Element Kit	<b>P31KA00ES9</b> <b>P32KA00ES9</b> <b>P33KA00ES9</b>	
P31 P32 P33	0.01µ Element Kit	<b>P31KA00ESC</b> <b>P32KA00ESC</b> <b>P33KA00ESC</b>	
P31 P32 P33	Adsorber Element Kit	<b>P31KA00ESA</b> <b>P32KA00ESA</b> <b>P33KA00ESA</b>	
P32 / P33	Auto Drain Kit	<b>P32KA00DA</b>	
P31 P32 / P33	Differential Pressure Indicator Kit	<b>P31KB00RQ</b> <b>P32KA00RQ</b>	
P31 P32 / P33	Fill Plug Kit	<b>P31KA00PL</b> <b>P32KA00PL</b>	
P31 / P32 / P33	Drip Control Assembly Kit	<b>P32KA00PG</b>	

**Accessories Kits**

Series	Description	Order Code	
P31 P32 P33	Plastic Bowl with Bowl Guard & Manual Drain	<b>P31KB00BGM</b> <b>P32KB00BGM</b> <b>P33KA00BGM</b>	
P31	Plastic Bowl with Bowl Guard & Pulse Drain	<b>P31KB00BGB</b>	
P32 P33	Plastic Bowl with Bowl Guard & Auto Drain	<b>P32KB00BGA</b> <b>P33KA00BGA</b>	
P31	Metal Bowl without Sight Gauge & Pulse Drain	<b>P31KB00BMB</b>	
P32 P33	Metal Bowl with Sight Gauge & Manual Drain	<b>P32KB00BSM</b> <b>P33KA00BSM</b>	
P32 P33	Metal Bowl with Sight Gauge & Auto Drain	<b>P32KB00BSA</b> <b>P33KA00BSA</b>	
P31 P32 P33	Lubricator - Plastic Bowl with Bowl Guard & Close End	<b>P31KB00BGN</b> <b>P32KB00BGN</b> <b>P33KA00BGN</b>	
P31 P32 P33	Lubricator - Metal Bowl Without Sight Gauge, No Drain Lubricator - Metal Bowl With Sight Gauge, No Drain Lubricator - Metal Bowl With Sight Gauge, No Drain	<b>P31KB00BMN</b> <b>P32KB00BSN</b> <b>P33KA00BSN</b>	

- Compact body ported units.
- Port size G<sup>1</sup>/<sub>4</sub>
- Unique deflector plate ensuring maximum water and particulate removal.
- Solid control piston with lip seal for extended life.
- Proportional oil delivery over a wide range of air flows.
- Tamperproof options available.



Operating information		Flow characteristics	
Working pressure:	Max 10 bar	<b>Flow dm<sup>3</sup>/s</b>	<b>1/4</b>
Working temperature:	-10 °C to +52 °C	Filter	30.5
		Coalescing Filter	5.9
		Adsorber Filter	5.9
		Regulator	12.9
		Regulator - Brass	9.8
		Filter Regulator	9.2
		Lubricator	23.3

**Filters**

Port size	Description	Order Code
G1/4	Poly bowl - Manual drain - 5µ	<b>P3LFA12EPPN</b>
G1/4	Poly bowl - Pulse drain - 5µ	<b>P3LFA12EPSN</b>
G1/4	Poly bowl - Manual drain - 40µ	<b>P3LFA12GPPN</b>
G1/4	Poly bowl - Pulse drain - 40µ	<b>P3LFA12GPSN</b>
	Individual mounting bracket - P3LFA / P3LLA	<b>P3LKA00MW</b>

**Regulators** - 2 & 4 bar - relieving type & non relieving type

Port size	Description	Order Code
G1/4	8 bar relieving	<b>P3LRA12BNNP</b>
G1/4	8 bar relieving + gauge	<b>P3LRA12BNGP</b>
G1/4	8 bar relieving + Tamperproof	<b>P3LRA12BANP</b>
G1/4	8 bar relieving + gauge - Tamperproof	<b>P3LRA12BAGP</b>

**Regulators (Brass)** - 2, 4 & 16 bar-relieving type & non relieving type

Port size	Description	Order Code
G1/4	8 bar relieving	<b>P3LRX12BNNP</b>
G1/4	8 bar relieving + gauge	<b>P3LRX12BNGP</b>
G1/4	16 bar relieving	<b>P3LRX12BNHP</b>
G1/4	8 bar relieving + Tamperproof	<b>P3LRX12BANP</b>
G1/4	8 bar relieving + gauge - Tamperproof	<b>P3LRX12BAGP</b>
G1/4	16 bar relieving + Tamperproof	<b>P3LRX12BAHP</b>

**Pressure Gauges**

40mm (1 1/2") Round 1/8" center back mount		Order Code
0-30 PSIG / 0-2 bar	(2)	<b>KZ8810-00</b>
0-58 PSIG / 0-4 bar	(4)	<b>KZ8811-00</b>
0-160 PSIG / 0-10 bar	(10)	<b>KZ8813-00</b>

**Coalescing Filters** - 0.01µ element

Port size	Description	Order Code
G1/4	Poly bowl - Manual drain - 0.01µ	<b>P3LFA12CPPN</b>
	Individual mounting bracket - P3LFA / P3LLA	<b>P3LKA00MW</b>

**Adsorber Filters**

Port size	Description	Order Code
G1/4	Poly bowl - Adsorber	<b>P3LFA12APPN</b>

**Filter/Regulators** - 2 & 4 bar pressure, 40µ available

Port size	Description	Order Code
G1/4	8 bar relieving - Poly bowl Manual drain - 5µ	<b>P3LEA12EPPBNNP</b>
G1/4	8 bar relieving - Poly bowl Semi auto-drain - 5µ	<b>P3LEA12EPSBNNP</b>
G1/4	8 bar relieving - Poly bowl Manual drain + Gauge - 5µ	<b>P3LEA12EPPBNGP</b>
G1/4	8 bar relieving - Poly bowl Semi auto-drain + Gauge - 5µ	<b>P3LEA12EPSBNGP</b>

**Lubricators**

Port size	Description	Order Code
G1/4	Poly bowl - No drain	<b>P3LLA12LPNN</b>
	Lubricator OIL VG32-1 Litre	<b>P3YKA00PPBB</b>

**Filter/Regulator + Lubricator Combination**

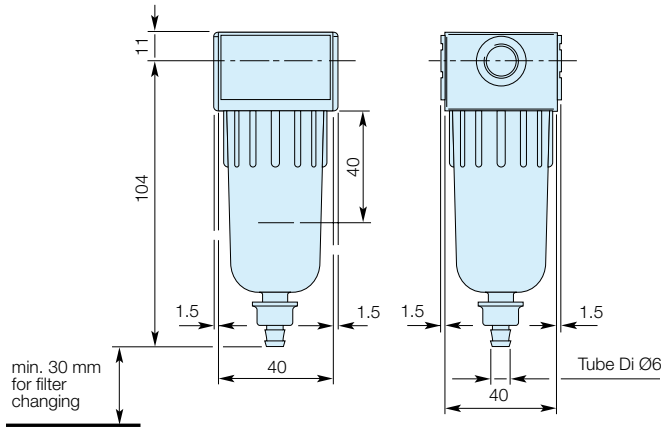
Available in boxed quantities of 25

Port size	Description	Order Code
G1/4	Manual push drain	<b>P3LCA12PEPNGLNWQ25</b>
G1/4	Semi auto drain	<b>P3LCA12PESNGLNWQ25</b>

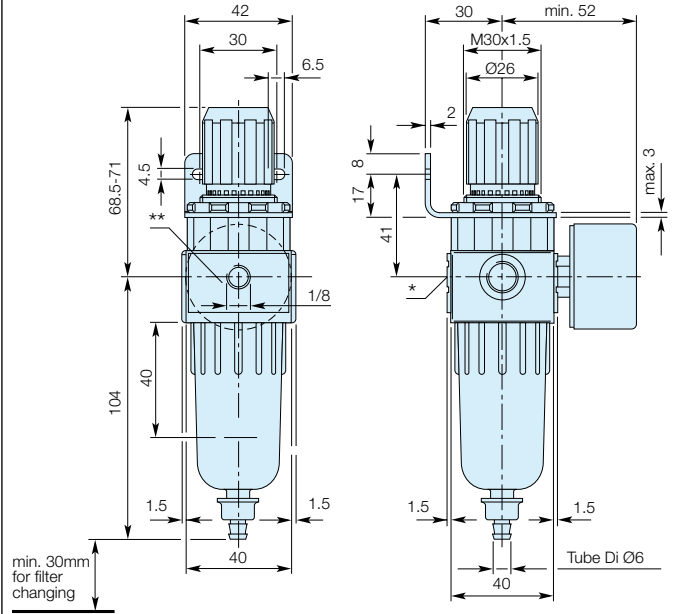


**Dimensions (mm)**

**Filters**

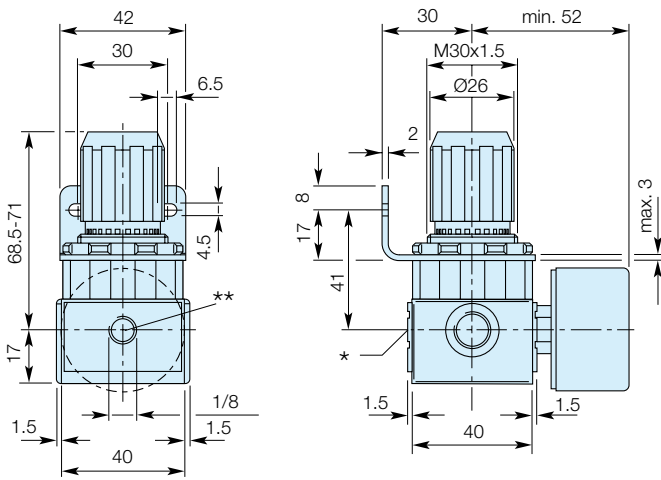


**Filter/Regulators**



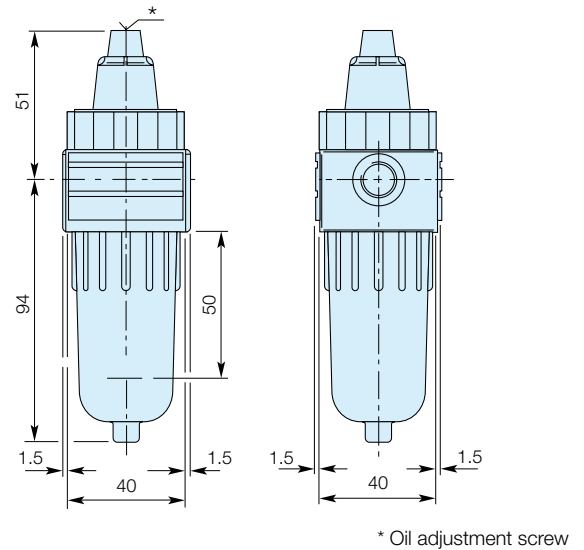
\* On delivery the screw plug is not assembled  
 \*\* Two opposite gauge ports 1/8"

**Regulators**



\* On delivery the screw plug is not assembled  
 \*\* Two opposite gauge ports 1/8"

**Lubricators**



\* Oil adjustment screw

**Service kits**

Description	Order code
Plastic bowl / manual push drain	<b>P3LKA00BPP</b>
Plastic bowl / semi-auto drain	<b>P3LKA00BPS</b>
Plastic bowl - no drain	<b>P3LKA00BPN</b>
5µ particle filter element	<b>P3LKA00ESE</b>
40µ Element Kit	<b>P3LKA00ESG</b>
0.01µ coalescing filter element	<b>P3LKA00ESC</b>
Activated carbon adsorber filter element	<b>P3LKA00ESA</b>

**Accessories**

Description	Order code
Connector kit (E/R + L/F)	<b>P3LKA00CB1</b>
Connector kit (E/R + M + L)	<b>P3LKA00CB2</b>
Connector kit (E/R + F + F)	<b>P3LKA00CB3</b>
Connector kit (F + L/F)	<b>P3LKA00CB4</b>
Manifold block	<b>P3LMA12020C</b>
Mounting bracket (F/L)	<b>P3LKA00MW</b>
Panel mount nut - Aluminium	<b>P3LKA00MM</b>
Panel mount nut - Plastic	<b>P3LKA00MP</b>
Angle Bracket (uses panel mount threads)	<b>P3LKA00MR</b>



# Nano Mist

Simple. Convincing in the Details

*There are innovations that bring selective improvements.*

*And then there are real innovations.*

*Innovations that set **new** standards.*

*Like the **new Parker Moduflex Lite** series.*



## **New Nano Mist Technology, New Lubricator Concept. Self-Adjusting.**

With conventional lubricators, only the oil volume per time unit can be adjusted. If the demand changes, the quantity dispensed still remains constant.

The Moduflex Lite lubricator concept sets new benchmarks here. For the first time, the oil volume is automatically adjusted to the flow rate.

This ensures that there is neither too little nor too much oil in the system, which leads to clear economic and ecological advantages. In addition, with conventional systems, the distance between the lubricator and the equipment has to be less than 8 meters. With larger distances, the dispensed oil is deposited as a wall flow.

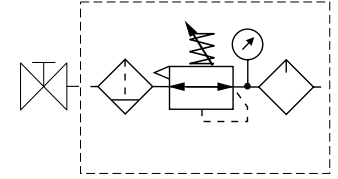
The new lubricator principle of the Moduflex Lite allows for distances of up to 40 meters. This opens up new scope for the design of even more efficient production systems.

**Popular Combinations**



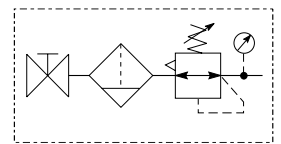
**Slide Valve + Filter/Regulator + Lubricator Combinations (50mg/m<sup>3</sup>)  
 5 micron element, 8 bar Regulator + Gauge and Wall Mounting Brackets**

Port size	Combined Manual/Semi-Auto Drain	Flow dm <sup>3</sup> /s	Weight (g)	Auto Drain	Flow dm <sup>3</sup> /s	Weight (g)
G <sup>1</sup> / <sub>2</sub>	<b>P3XAA14GECNGPNW</b>	76	1300	<b>P3XAA14GEANGPNW</b>	76	1300
G <sup>3</sup> / <sub>4</sub>	<b>P3XAA16GECNGPNW</b>	77	1300	<b>P3XAA16GEANGPNW</b>	77	1300



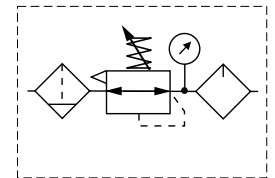
**Slide Valve + Filter/Regulator Combinations  
 5 micron element, 8 bar Regulator + Gauge and Wall Mounting Brackets**

Port size	Combined Manual/Semi-Auto Drain	Flow dm <sup>3</sup> /s	Weight (g)	Auto Drain	Flow dm <sup>3</sup> /s	Weight (g)
G <sup>1</sup> / <sub>2</sub>	<b>P3XAN14GECNGW</b>	105	950	<b>P3XAN14GEANGW</b>	105	950
G <sup>3</sup> / <sub>4</sub>	<b>P3XAN16GECNGW</b>	106	950	<b>P3XAN16GEANGW</b>	106	950



**Filter/Regulator + Lubricator Combinations (50mg/m<sup>3</sup>)  
 5 micron element, 8 bar Regulator + Gauge and Wall Mounting Brackets**

Port size	Combined Manual/Semi-Auto Drain	Flow dm <sup>3</sup> /s	Weight (g)	Auto Drain	Flow dm <sup>3</sup> /s	Weight (g)
G <sup>1</sup> / <sub>2</sub>	<b>P3XCA14GECNGPNW</b>	76	1000	<b>P3XCA14GEANGPNW</b>	76	1000
G <sup>3</sup> / <sub>4</sub>	<b>P3XCA16GECNGPNW</b>	77	1000	<b>P3XCA16GEANGPNW</b>	77	1000



**Options:**

<b>P 3 X</b>				<b>G E</b>				<b>W</b>
Filter/Reg + Lubricator	<b>CA</b>	BSPP (G) <b>1</b>	Combined Manual/Semi Auto Drain	<b>C</b>	0 - 8 bar with gauge	<b>G</b>	0 - 16 bar with gauge	<b>J</b>
Slide valve + Filter/Reg	<b>AN</b>	NPT * <b>9</b>			Auto Drain	<b>A</b>		
Slide valve + Filter/Reg + Lubricator	<b>AA</b>							
* NPT ports on request 1/2" size only		1/2 <b>4</b>	Non rise - Standard	<b>N</b>	(50mg/m <sup>3</sup> ) <b>PN</b>	Add only for options with lubricator		
		3/4 <b>6</b>	Tamperproof - Lockable	<b>A</b>	(5mg/m <sup>3</sup> ) <b>SN</b>			

- Integral 1/2 or 3/4 ports
- High efficiency 5 micron element as standard
- Excellent water removal efficiency
- Secondary pressure ranges 4, 8 and 16 bar
- Rolling diaphragm for extended life
- Secondary aspiration plus balanced poppet provides quick response and accurate pressure regulation.
- Low temperature -40°C with Regulators/Filters and Filter Regulators using combined manual/semi auto drain as standard without pressure gauge.



Operating information		Flow characteristics		
Working pressure:	Max 16 bar	<b>Flow dm<sup>3</sup>/s</b>	<b>1/2</b>	<b>3/4</b>
Working temperature:	-40 °C to +60 °C	Filter	55	57
		Coalescing Filter	24	24
		Adsorber Filter	18	18
		Regulator	122	134
		Filter Regulator	111	113
		Lubricator	78	78

**Filters** - 5 micron element

Port size	Description	Order Code
G1/2	Manual drain/Semi auto	<b>P3XFA14EGCN</b>
G1/2	Auto drain	<b>P3XFA14EGAN</b>
G3/4	Manual drain / Semi auto	<b>P3XFA16EGCN</b>
G3/4	Auto drain	<b>P3XFA16EGAN</b>
	Mounting bracket	<b>P3XKA00MW</b>

**Coalescing Filters** - 0.01 micron element

Port size	Description	Order Code
G1/2	Coalescing 0.01µm, manual/semi auto drain	<b>P3XFA14DGCN</b>
G1/2	Coalescing Filter 0.01µm, auto drain	<b>P3XFA14DGAN</b>
G3/4	Coalescing 0.01µm, manual/semi auto drain	<b>P3XFA16DGCN</b>
G3/4	Coalescing Filter 0.01µm, auto drain	<b>P3XFA16DGAN</b>

**Regulators** - 4 & 8 bar - non relieving options available

Port size	Description	Order Code
G1/2	8 bar relieving	<b>P3XRA14BNNN</b>
G1/2	8 bar relieving + gauge	<b>P3XRA14BNGN</b>
G3/4	8 bar relieving	<b>P3XRA16BNNN</b>
G3/4	8 bar relieving + gauge	<b>P3XRA16BNGN</b>
G1/2	8 bar relieving, tamperproof	<b>P3XRA14BANN</b>
G1/2	8 bar relieving, tamperproof + gauge	<b>P3XRA14BAGN</b>
G3/4	8 bar relieving, tamperproof	<b>P3XRA16BANN</b>
G3/4	8 bar relieving, tamperproof + gauge	<b>P3XRA16BAGN</b>
G1/2	Air-pilot regulator	<b>P3XRA14BPPN</b>
G3/4	Air-pilot regulator	<b>P3XRA16BPPN</b>

**Adsorber Filters**

Port size	Description	Order Code
G1/2	Adsorber, manual/semi auto drain	<b>P3XFA14AGCN</b>
G3/4	Adsorber, manual/semi auto drain	<b>P3XFA16AGCN</b>

**Filter/Regulators**

4 and 16 bar, non relieving options available

Port size	Description	Order Code
G1/2	8 bar, relieving manual/semi auto drain	<b>P3XEA14EGCBNNN</b>
G1/2	8 bar, relieving auto drain	<b>P3XEA14EGABNNN</b>
G1/2	8 bar, relieving manual/semi auto + gauge	<b>P3XEA14EGCBNGN</b>
G1/2	8 bar, relieving auto drain + gauge	<b>P3XEA14EGABNGN</b>
G3/4	8 bar, relieving manual/semi auto drain	<b>P3XEA16EGCBNNN</b>
G3/4	8 bar, relieving auto drain	<b>P3XEA16EGABNNN</b>
G3/4	8 bar, relieving manual/semi auto + gauge	<b>P3XEA16EGCBNGN</b>
G3/4	8 bar, relieving auto drain + gauge	<b>P3XEA16EGABNGN</b>

**Lubricators**

Port size	Description	Order Code
G1/2	Oil mist, fill under pressure (50mg/m <sup>3</sup> )	<b>P3XLA14PGNN</b>
G3/4	Oil mist, fill under pressure (50mg/m <sup>3</sup> )	<b>P3XLA16PGNN</b>
G1/2	Oil mist, fill under pressure (5mg/m <sup>3</sup> )	<b>P3XLA14SGNN</b>
G3/4	Oil mist, fill under pressure (5mg/m <sup>3</sup> )	<b>P3XLA16SGNN</b>
	Lubricator OIL VG15:ISO3448 - 100ml	<b>P3XKA00PPA</b>
	Lubricator OIL VG32-1 Litre	<b>P3YKA00PPBB</b>

**Pressure Gauges**

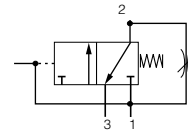
	Order Code
0 - 10 bar	<b>KG8012-00</b>
0 - 16 bar	<b>KG8013-00</b>



**Dump Valve & Combined Soft Start Dump Valve**



**Symbols**



- Modular design with 1/2" & 3/4" integral ports (BSPP or NPT)
- Provides for the safe introduction of pressure
- Automatically dumps downstream pressure on the loss of pilot signal
- Adjustable slow start
- Solenoid or air pilot options
- High flow & exhaust capability

P3X Series Combined Soft Start/Dump Valves, provide for the safe introduction of pressure to machines or systems. Soft Start/Dump Valves when set, allow the pressure to gradually build to the set point before fully opening to deliver full flow at line pressure.

The controlled introduction of pressure can be an important safety factor and prevent damage to tooling when air pressure is introduced at machine or system start up.

**Options:**

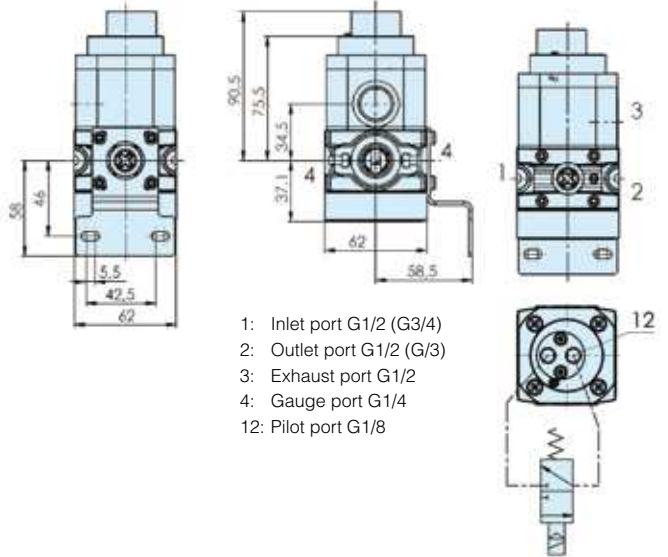
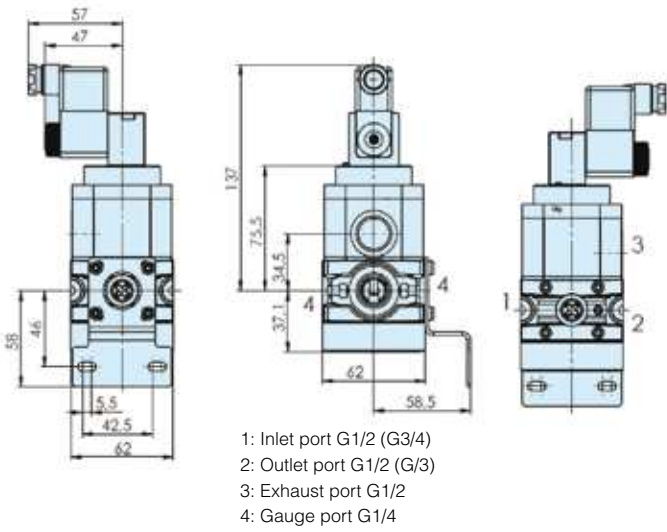
<b>P 3 X</b>	<input type="checkbox"/>	<b>A</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<b>N</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Combined soft start dump valve	<b>T</b>	External air pilot	<b>P</b>	30mm operator	<b>C</b>	None (operator is fitted to valve)	<b>0</b>	<b>Solenoid type only</b>			
Dump valve	<b>D</b>	Solenoid pilot	<b>S</b>	Threaded air pilot	<b>P</b>	30mm CNOMO coil (Form connection)	<b>A</b>	Solenoid / coil not fitted			
BSPP (G)	<b>1</b>	1/2	<b>4</b>	30mm operator	<b>C</b>	22mm coil (Form connection)	<b>B</b>	24V DC			
NPT *	<b>9</b>	3/4	<b>6</b>	Threaded air pilot	<b>P</b>	30mm CNOMO coil (M12 connection)	<b>D</b>	<b>2CN</b>			
						22mm coil (M12 connection)	<b>E</b>				

\* NPT Ports on request 1/2" size only

**Combined soft start dump valve**

Port size	Description	Order Code	Flow dm <sup>3</sup> /s	Max bar	Min temp °C	Max temp °C	Height mm	Width mm	Depth mm	Weight kg
1/2	Solenoid operated (not included)	<b>P3XTA14SCN0000</b>	80	16	-10	60	144	62	62	0.75
1/2	24VDC 22mm coil	<b>P3XTA14SCNB2CN</b>	80	10	-10	60	174	88	62	0.75
1/2	24VDC 30mm coil	<b>P3XTA14SCNA2CN</b>	80	16	-10	60	174	88	62	0.75
1/2	Air pilot operated	<b>P3XTA14PPN</b>	80	16	-10	60	127.5	62	62	0.75
3/4	Solenoid operated (not included)	<b>P3XTA16SCN0000</b>	88	16	-10	60	144	62	62	0.75
3/4	24VDC 22mm coil	<b>P3XTA16SCNB2CN</b>	88	10	-10	60	174	88	62	0.75
3/4	24VDC 30mm coil	<b>P3XTA16SCNA2CN</b>	88	16	-10	60	174	88	62	0.75
3/4	Air pilot operated	<b>P3XTA16PPN</b>	88	16	-10	60	127.5	62	62	0.75

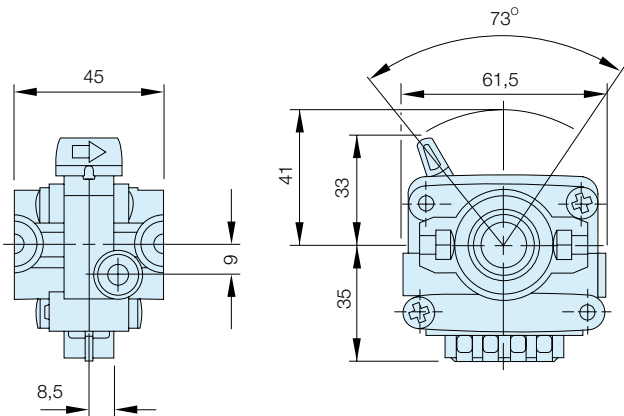
**Dimensions (mm)**



**Modular Slide Valve**

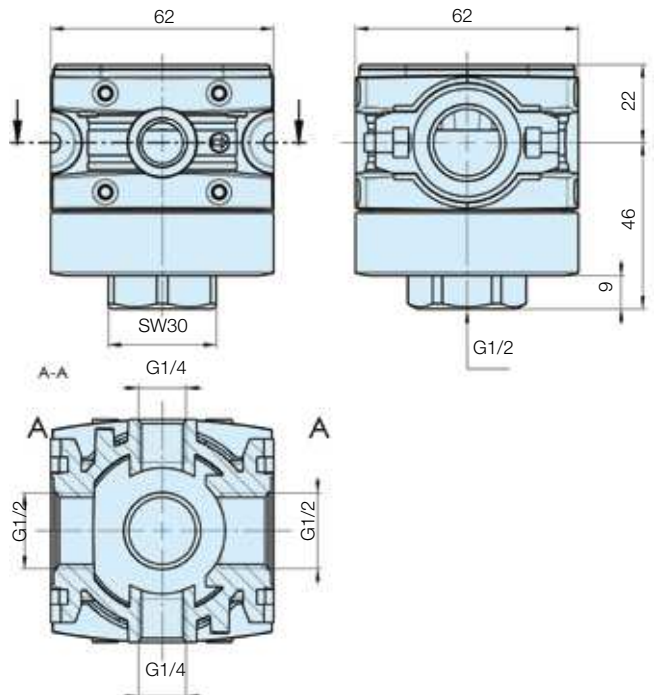
<b>P 3 X</b>	<b>VA</b>			<b>LSN</b>
BSPP (G)	<b>1</b>	G1/2	<b>4</b>	
NPT *	<b>9</b>	G3/4	<b>6</b>	

\* NPT ports on request (1/2" size only)



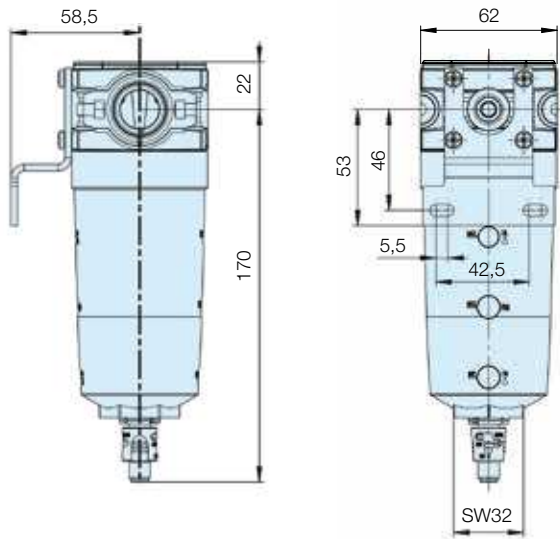
**Modular Manifold**

Description	Order code BSPP	Order code NPT	Weight (g)
G1/2"	<b>P3XMA1V0N</b>	<b>P3XMA9V0N</b>	170
G3/4"	<b>P3XMA160N</b>		170

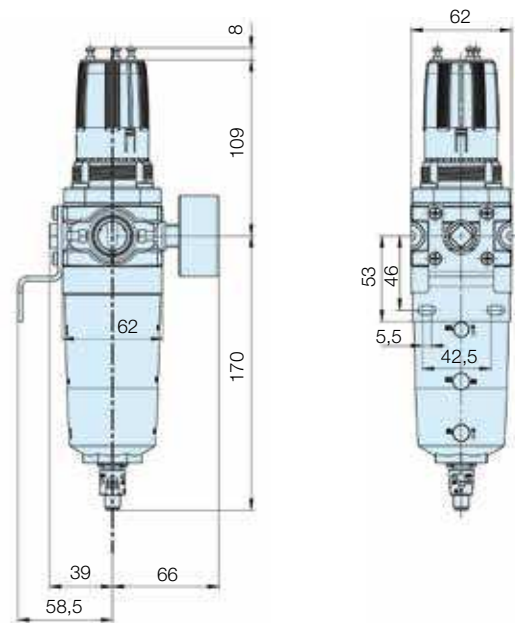


**Dimensions (mm)**

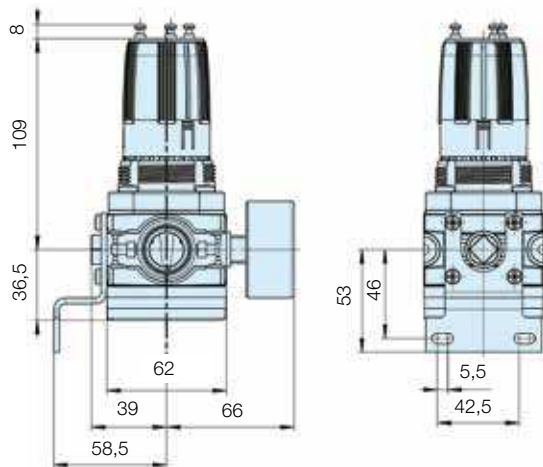
**Filters**



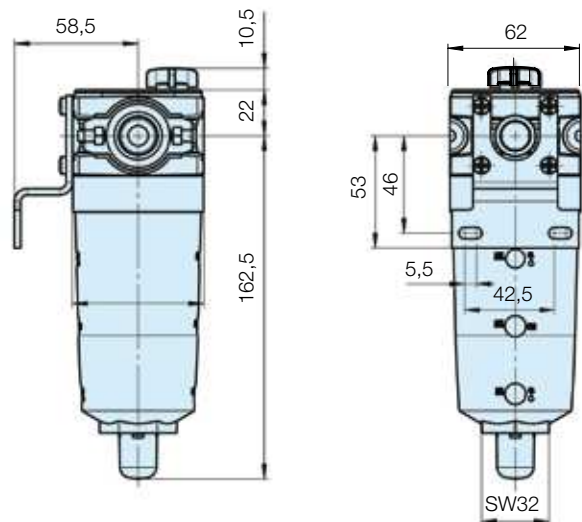
**Filter/Regulators**



**Regulators**



**Lubricators**



**Service kits**

Description	Order code
Adsorber element kit	<b>P3XKA00ESA</b>
0.01 micron element kit	<b>P3XKA00ESC</b>
1 micron element kit	<b>P3XKA00ES9</b>
5 micron element kit	<b>P3XKA00ESE</b>
40 micron element kit	<b>P3XKA00ESG</b>
Bowl kit with combined manual/semi auto drain	<b>P3XKA00BSC</b>
Bowl kit with auto drain	<b>P3XKA00BSA</b>
Diaphragm kit (relieving type)	<b>P3XKA00RR</b>
Diaphragm kit (non-relieving type)	<b>P3XKA00RN</b>
Connecting kit	<b>P3XKA00CB</b>

**Accessories**

Description	Order code
Connector kit	<b>P3XKA00CB</b>
Connector O'ring kit (5)	<b>P3XKA04CY</b>
Tamper-proof knob kit (keylock)	<b>P3XKA00AS</b>
Wall bracket kit	<b>P3XKA00MW</b>
Panel mount nut	<b>P3XKA00MM</b>

- Removes water vapour & lowers the PDP
- Compact design
- No electrical connections necessary
- Suitable for hazardous environments
- No moving parts
- Maintenance & wear free
- No change in air consumption
- Low pressure drop less than 0.1 bar
- Minimal purge air consumption
- Modular design - compatible with the P3X air prep series



**Operating information**

Operating pressure range:	5 to 16 bar
Temperature range:	2 °C to 60 °C
Pressure drop:	0.1 bar
Purge air (at 20K PDP reduction):	10%
Max Flow at inlet (size 50):	2800 l/m

**Note:**  
For optimum system performance and maintenance free conditions, Parker recommend the dryer is preceded with a 5 micron and 0.01 coalescer filter from the P3X series.

**Membrane dryer**

Port size	Size	Description	Order Code
G1/2	10	Membrane dryer with return tube - size 10	<b>P3XJA14CA1N</b>
G1/2	15	Membrane dryer with return tube - size 15	<b>P3XJA14CB1N</b>
G1/2	20	Membrane dryer with return tube - size 20	<b>P3XJA14CC1N</b>
G1/2	25	Membrane dryer with return tube - size 25	<b>P3XJA14CD1N</b>
G1/2	35	Membrane dryer serial type - size 35	<b>P3XJA14CE1N</b>
G1/2	50	Membrane dryer serial type - size 50	<b>P3XJA14CF1N</b>



**Note:** For NPT threaded connections replace the 6th digit from a 1 to 9 ie: **P3XJA94CA1N**

**Wall mounting bracket kit**

**Order Code**

**P3XKA00MWD**

**Note:**

For optimum system performance and maintenance free conditions, Parker recommend the dryer is preceded with a 5 micron and 0.01 coalescer filter from the P3X series.

**Complete Filter / Dryer System combinations available on request**



**F + Fc + MD**



**F + Fc + MD + R**



**F + Fc + MD + R + Fa**

**Selection Criteria**

To correctly select the dryer best suited for your application, the following information is required to ensure optimum performance and trouble free operation.

- Maximum inlet pressure dew point ( °C )
- Outlet PDP ( °C )
- Working pressure ( bar )
- Maximum inlet flow rate ( m<sup>3</sup>/h )

**Conversion factor for calculation of corrected flow rate**

Operating pressure range p ( bar )	5	6	7	8	9	10	11	12	13	14	15	16
Conversion factor f <sub>p</sub>	0.57	0.78	1.0	1.21	1.42	1.64	1.85	2.06	2.28	2.49	2.70	2.92

**Working Example:**

Selecting a dryer with an inlet pressure dew point of 35°C, a PDP reduction of 35K with a working / operating pressure of 6 bar and an inlet flow of 11 m<sup>3</sup>/h.

**Step 1**

From the correction factor table select the required pressure (6 bar) and read below the corrected factor value (0.78)

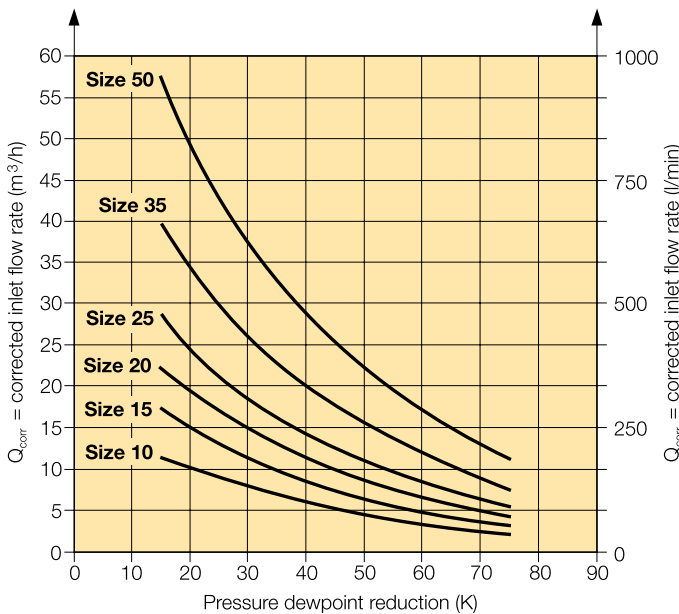
**Step 2**

To adjust the flow for your application, divide the required flow by the 0.78 correction factor

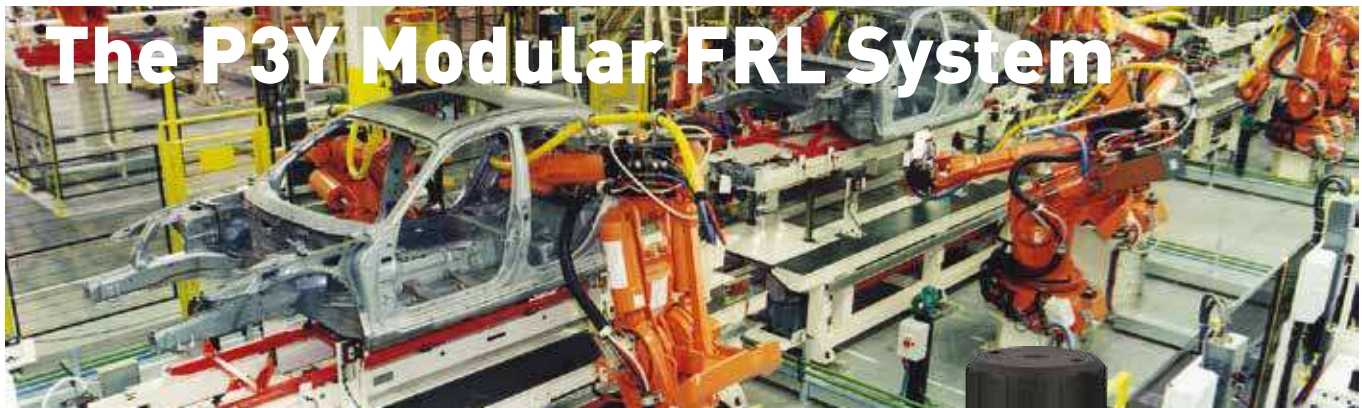
$$\text{Sizing capacity} = \frac{\text{Actual flow}}{\text{Correction factor}} = \frac{11 \text{ m}^3/\text{h}}{0.78} = 14.1 \text{ m}^3/\text{h}$$

**Step 3**

Plot the values on the selection graph (below). Where the dew point reduction value of 35K intersects with the corrected flow value of 14.1 m<sup>3</sup>/h, select the dryer flow curve which is equal or above the intersection point. For example: the optimum dryer would be **size 25 (P3XJA14CD1N)**



**For the most demanding hi-flow industrial applications**



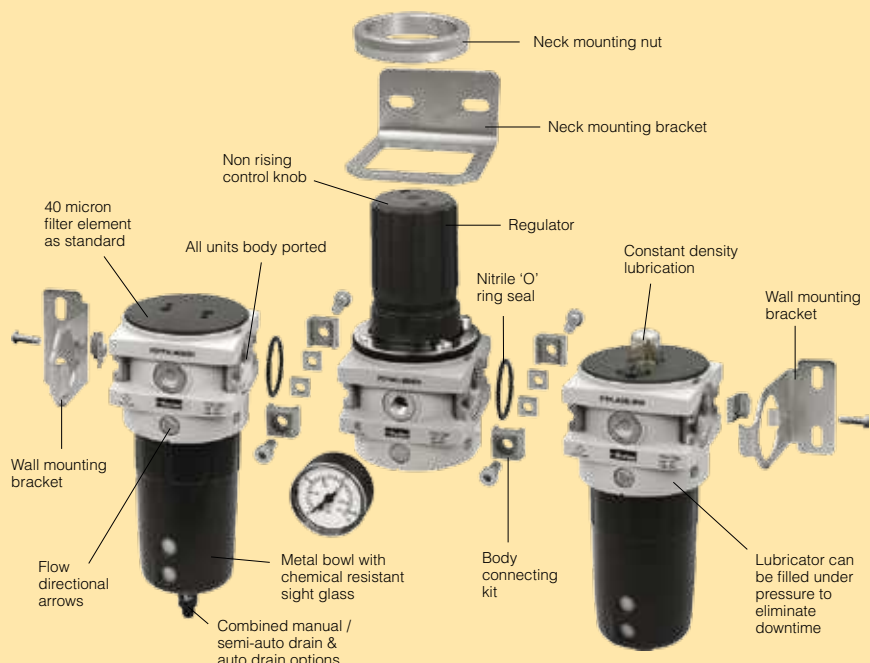
The P3Y system allows units to be connected together, without the use of pipe connectors, saving space; providing constant mounting centres; whilst maintaining a modern aesthetically pleasing appearance.

The P3Y Filters are specially designed to efficiently filter out rust, dirt, moisture and other impurities from compressed air lines. Operation is fully automatic with a minimum of pressure drop. Coalescing filters and adsorber filters for high purity air are also included in the P3Y series.

The P3Y Regulators are designed to provide quick response and accurate pressure regulation for the most demanding hi-flow industrial applications. The rolling diaphragm was designed for long trouble-free operation and will not rupture or tear under high cycle or other demanding applications.



**Selection of Filters**





## DECLARATION



We **Parker Hannifin Manufacturing Austria GmbH**  
**Pneumatic Division**  
**Dr. Alexander Schärfstrasse 12**  
**2700 Wiener Neustadt**  
**Austria**

Product	Series	Category
Filter	P3YFA	for zone 1, 21
Regulator	P3YRA	for zone 1, 21
Filter regulator	P3YEA	for zone 1, 21
Lubricator	P3YLA	for zone 1, 21
Ball Valve	P3YVA	for zone 1, 21
Manifold	P3YMA	for zone 1, 21

**For non-fitted solenoid product**

Soft Start & Dump Valve	P3YTA	for zone 1, 21
Soft Start Valve	P3YSA	for zone 1, 21
Dump Valve	P3YDA	for zone 1, 21

**Following Ignition Hazard Assessments performed on the non-electrical products listed above, in accordance with the requirements of EN 13463-1:2009, it was considered that the equipment does not contain its own source of ignition, and therefore is not within the scope of directive 94/9/EC.**

**The products can be used in a Group II Category 2 environment assuming that the ATEX Directive and the following conditions are complied with:**

- Installation and maintenance of the product must be undertaken by qualified personnel.
- Do not mount the products in an area where impact may occur.
- Filters must be used to limit the introduction of particles and to capture particles generated in service.
- Supply air quality must be within ISO 8573-1:2010 Class 1.4.2.
- Maximum working temperature to be as stated on product label.
- WARNING – pulsating pressure and/or a closed circuit can generate heat.
- Deposits of dust on the product must not exceed 5mm thickness.  
 Refer to technical file for surface areas of plastics.  
 The unit must be earthed via the compressed air supply line.
- The unit must not come into contact with liquid solvents, acids or alkalis.  
 Refer to technical file for chemicals known to be incompatible.  
 Product cleaning must be undertaken using a method complying with the specification of the ATEX zone, preferably by using mild soap and water or antistatic products.
- **Regulators, Filter Regulators:**  
 Do not use Regulators or Filter Regulators within systems that can create vibration within the Regulator/Filter Regulator unit.
- **Solenoid Operated Valves:**  
 Are suitable for use in an ATEX environment, (Group II Category 2) providing ATEX approved solenoids are fitted.
- Technical file available on request.

Approved by:

**E. Bauregger** ( Location Engineering Manager )

- Integral 3/4 or 1" ports (BSPP or NPT)
- High efficiency element as standard
- Excellent water removal efficiency
- Robust but lightweight aluminium construction
- Secondary pressure ranges 12 and 16 bar
- Rolling diaphragm for extended life
- Secondary aspiration plus balanced poppet provides quick response and accurate pressure regulation.
- Low temperature -40°C with Regulators/Filters and Filter Regulators using combined manual/semi auto drain as standard without pressure gauge.



### Operating information

Working pressure:	Max 17.5 bar
Working temperature:	-40 °C to +60 °C

### Flow characteristics

Flow dm <sup>3</sup> /s	3/4	1"
Filter	116	119
Dust Filter	137	145
Coalescing Filter	49	59
Adsorber Filter	47	50
Regulator	155	321
Filter Regulator	190	237
Lubricator	162	184

### Filters - 40 micron element

Port size	Description	Order Code
G3/4	Manual drain/Semi auto	<b>P3YFA16GSCN</b>
G3/4	Auto drain	<b>P3YFA16GSAN</b>
G1"	Manual drain / Semi auto	<b>P3YFA18GSCN</b>
G1"	Auto drain	<b>P3YFA18GSAN</b>
	Mounting bracket	<b>P3YKA00CW</b>

### Dust Filters - 1 micron element

Port size	Description	Order Code
G3/4	Manual drain/Semi auto	<b>P3YFA162SCN</b>
G3/4	Auto drain	<b>P3YFA162SAN</b>
G1"	Manual drain / Semi auto	<b>P3YFA182SCN</b>
G1"	Auto drain	<b>P3YFA182SAN</b>

### Regulators - relieving type - non relieving options available

Port size	Description	Order Code
G3/4	12 bar relieving	<b>P3YRA16BNEN</b>
G3/4	12 bar relieving + gauge	<b>P3YRA16BNFN</b>
G1"	12 bar relieving	<b>P3YRA18BNEN</b>
G1"	12 bar relieving + gauge	<b>P3YRA18BNFN</b>
G3/4	12 bar relieving, lockable	<b>P3YRA16BAEN</b>
G3/4	12 bar relieving, lockable + gauge	<b>P3YRA16BAFN</b>
G1"	12 bar relieving, lockable	<b>P3YRA18BAEN</b>
G1"	12 bar relieving, lockable + gauge	<b>P3YRA18BAFN</b>

### Pressure Gauges

	Order Code
0 - 10 bar	<b>KG8012-00</b>
0 - 16 bar	<b>KG8013-00</b>

### Coalescing Filters - 0.01 micron element

Port size	Description	Order Code
G3/4	Coalescing 0.01µm, manual/semi auto drain	<b>P3YFA16DSCN</b>
G3/4	Coalescing Filter 0.01µm, auto drain	<b>P3YFA16DSAN</b>
G1"	Coalescing 0.01µm, manual/semi auto drain	<b>P3YFA18DSCN</b>
G1"	Coalescing Filter 0.01µm, auto drain	<b>P3YFA18DSAN</b>

### Adsorber Filters

Port size	Description	Order Code
G3/4	Adsorber, manual drain	<b>P3YFA16ASCN</b>
G1"	Adsorber, manual drain	<b>P3YFA18ASCN</b>

### Lubricators

Port size	Description	Order Code
G3/4	Oil mist, fill under pressure	<b>P3YLA16LSNN</b>
G1"	Oil mist, fill under pressure	<b>P3YLA18LSNN</b>

### Filter/Regulators - relieving type - non relieving options available

Port size	Description	Order Code
G3/4	12 bar, relieving manual/semi auto drain	<b>P3YEA16GSCBNEN</b>
G3/4	12 bar, relieving auto drain	<b>P3YEA16GSABNEN</b>
G3/4	12 bar, relieving manual/semi auto + gauge	<b>P3YEA16GSCBNFN</b>
G3/4	12 bar, relieving auto drain + gauge	<b>P3YEA16GSABNFN</b>
G1"	12 bar, relieving manual/semi auto drain	<b>P3YEA18GSCBNEN</b>
G1"	12 bar, relieving auto drain	<b>P3YEA18GSABNEN</b>
G1"	12 bar, relieving manual/semi auto + gauge	<b>P3YEA18GSCBNFN</b>
G1"	12 bar, relieving auto drain + gauge	<b>P3YEA18GSABNFN</b>



## Combined Soft Start Dump Valve and Remote Operated Dump Valve

Port size	Description	Order Code
G3/4	Solenoid operated (not included)	<b>P3YTA16SCN0000</b>
G3/4	24VDC 22mm coil	<b>P3YTA16SCNB2CN</b>
G3/4	Air pilot operated	<b>P3YTA16PPN</b>
G1"	Solenoid operated (not included)	<b>P3YTA18SCN0000</b>
G1"	24VDC 22mm coil	<b>P3YTA18SCNB2CN</b>
G1"	Air pilot operated	<b>P3YTA18PPN</b>

## Soft Start Valve

Port size	Description	Order Code
G3/4	Soft start valve	<b>P3YSA16Y0N</b>
G1"	Soft start valve	<b>P3YSA18Y0N</b>

## Neck mounting bracket kit

Description	Order Code
Neck mounting bracket kit	<b>P3YKA00MS</b>

## Wall mounting brackets

Description	Order Code
Wall mounting brackets	<b>P3YKA00CW</b>

## Pilot Operated Regulator

Port size	Description	Order Code
G3/4	Pilot operated regulator	<b>P3YRA16BPPN</b>
G1"	Pilot operated regulator	<b>P3YRA18BPPN</b>

## Modular Ball Valve

Port size	Description	Order Code
G3/4	Modular Ball Valve	<b>P3YVA16LBN</b>
G1"	Modular Ball Valve	<b>P3YVA18LBN</b>

## Modular Manifold

Port size	Description	Width	Order Code
G3/4	Modular Manifold	(80 mm)	<b>P3YMA1V0N</b>
G1"	Modular Manifold	(80 mm)	<b>P3YMA9V0N</b>
G3/4	Modular Manifold	(35 mm)	<b>P3YMA16024N</b>

## Optional Port Block Kits

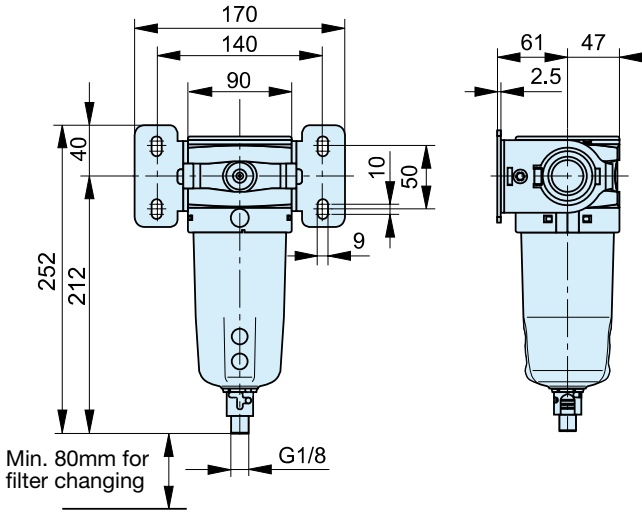
Port size	Description	Order Code
G1 <sup>1</sup> / <sub>4</sub> "	Port block kit - BSPP	<b>P3YKA1ACP</b>
G1 <sup>1</sup> / <sub>2</sub> "	Port block kit - BSPP	<b>P3YKA1BCP</b>
G3/4"	Port block kit - BSPP	<b>P3YKA16CP</b>
G1"	Port block kit - BSPP	<b>P3YKA18CP</b>

## Connector kit

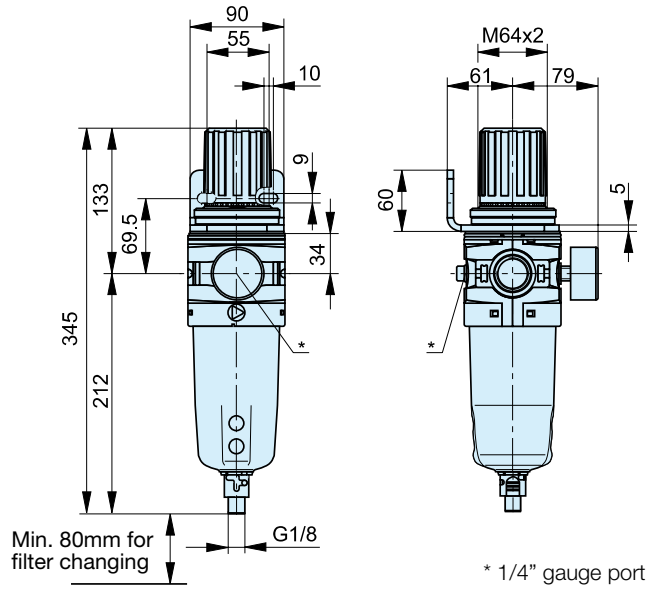
Description	Order Code
Connector kit	<b>P3YKA00CB</b>

**Dimensions (mm)**

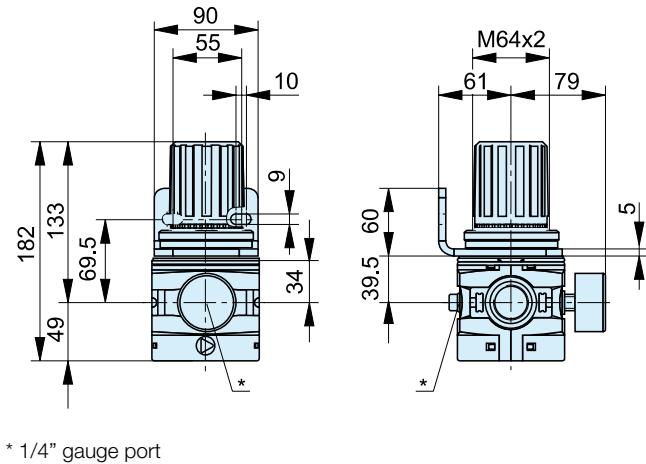
**Filters**



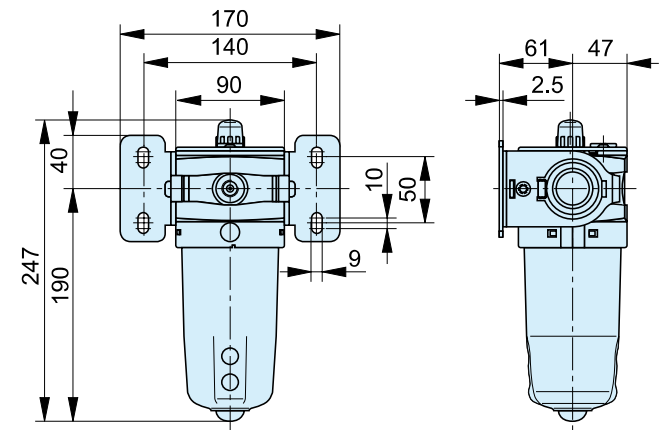
**Filter/Regulators**



**Regulators**



**Lubricators**



**Service kits**

Description	Order code
5 micron element kit	<b>P3YKA00ESE</b>
40 micron element kit	<b>P3YKA00ESG</b>
Bowl kit with combined manual/semi auto drain	<b>P3YKA00BSC</b>
Bowl kit with auto drain	<b>P3YKA00BSA</b>
Key Lock Kit	<b>P3XKA00AS</b>
Diaphragm kit (relieving type)	<b>P3YKA00RR</b>
Diaphragm kit (non-relieving type)	<b>P3YKA00RN</b>
Angle bracket + metal lock ring	<b>P3YKA00MS</b>
Panel mount nut	<b>P3YKA00MM</b>



## DECLARATION



We **Parker Hannifin Manufacturing Austria GmbH**  
**Pneumatic Division**  
**Dr. Alexander Schärfstrasse 12**  
**2700 Wiener Neustadt**  
**Austria**

<b>Product</b>	<b>Series</b>	<b>Category</b>
Filter	P3ZFA	for zone 1, 21
Regulator	P3ZRA	for zone 1, 21
Lubricator	P3ZLA	for zone 1, 21
Manifold	P3ZMA	for zone 1, 21
<b>For non-fitted solenoid product</b>		
Soft Start & Dump Valve	P3ZTA	for zone 1, 21
Soft Start Valve	P3ZSA	for zone 1, 21
Dump Valve	P3ZDA	for zone 1, 21

Following Ignition Hazard Assessments performed on the non-electrical products listed above, in accordance with the requirements of EN 13463-1:2009, it was considered that the equipment does not contain its own source of ignition, and therefore is not within the scope of directive 94/9/EC.

The products can be used in a Group II Category 2 environment assuming that the ATEX Directive and the following conditions are complied with:

- Installation and maintenance of the product must be undertaken by qualified personnel.
- Do not mount the products in an area where impact may occur.
- Filters must be used to limit the introduction of particles and to capture particles generated in service.
- Supply air quality must be within ISO 8573-1:2010 Class 1.4.2.
- Maximum working temperature to be as stated on product label.
- WARNING – pulsating pressure and/or a closed circuit can generate heat.
- Deposits of dust on the product must not exceed 5mm thickness.
  - Refer to technical file for surface areas of plastics.
  - The unit must be earthed via the compressed air supply line.
- The unit must not come into contact with liquid solvents, acids or alkalis.
  - Refer to technical file for chemicals known to be incompatible.
  - Product cleaning must be undertaken using a method complying with the specification of the ATEX zone, preferably by using mild soap and water or antistatic products.
- **Regulators, Filter Regulators:**
  - Do not use Regulators or Filter Regulators within systems that can create vibration within the Regulator/Filter Regulator unit.
- **Solenoid Operated Valves:**
  - Are suitable for use in an ATEX environment, (Group II Category 2) providing ATEX approved solenoids are fitted.
- Technical file available on request.

Approved by:

**E. Bauregger** ( Location Engineering Manager )

The all metal P3Z Series FRLs are ideal for most medium sized ring main installations.

- Self relieving feature plus balanced poppet provides quick response and accurate pressure regulation.
- Threaded port flange available to G1-1/2" and G2"
- Proportional oil delivery over a wide range of air flows.



**Operating information**

Working pressure: 0 - 17.5 bar  
 Working temperature: 0 °C to +60 °C

**Flow characteristics**

Flow	Filter	>666,6 dm <sup>3</sup> /s
	Regulator	>666,6 dm <sup>3</sup> /s
	Lubricator	>666,6 dm <sup>3</sup> /s

For more information see [www.parker.com/euro\\_pneumatic](http://www.parker.com/euro_pneumatic)



**Filters**

Port size	Description	Order Code
-	40µ auto drain without flange SAE	<b>P3ZFA00HMAN</b>
G1.1/2"	40µ auto drain flange fitted to SAE	<b>P3ZFA1BHMAN</b>
G2"	40µ auto drain flange fitted to SAE	<b>P3ZFA1CHMAN</b>



**Coalescing Filters**

Port size	Description	Order Code
-	0.01 micron, auto drain	<b>P3ZFA00DMAN</b>
G1.1/2"	0.01 micron, auto drain, flange fitted to SAE	<b>P3ZFA1BDMAN</b>
G2"	0.01 micron, auto drain, flange fitted to SAE	<b>P3ZFA1CDMAN</b>



**Dust Filters**

Port size	Description	Order Code
-	1µ auto drain (pressure relief) without flange SAE	<b>P3ZFA00MMAN</b>
G1.1/2"	1µ auto drain (pressure relief) flange fitted to SAE	<b>P3ZFA1BMMAN</b>
G2"	1µ auto drain (pressure relief) flange fitted to SAE	<b>P3ZFA1CMMAN</b>



**Adsorber Filters**

Port size	Description	Order Code
-	Adsorber, auto drain	<b>P3ZFA00BMAN</b>
G1.1/2"	Adsorber, auto drain	<b>P3ZFA1BBMAN</b>
G2"	Adsorber, auto drain	<b>P3ZFA1CBMAN</b>



**Regulators**

Port size	Description	Order Code
-	8 bar, relieving + gauge, without flange SAE	<b>P3ZRA00BNGN</b>
G1.1/2"	8 bar, relieving + gauge	<b>P3ZRA1BBNGN</b>
G2"	8 bar, relieving + gauge	<b>P3ZRA1CBNGN</b>
-	16 bar relieving + gauge, without flange SAE	<b>P3ZRA00BNJN</b>
G1.1/2"	16 bar, relieving + gauge	<b>P3ZRA1BBNJN</b>
G2"	16 bar, relieving + gauge	<b>P3ZRA1CBNJN</b>



**Regulators Pilot Control**

Port size	Description	Order Code
-	16 bar, air pilot	<b>P3ZRA00BPPN</b>
G1.1/2"	16 bar, relieving + gauge	<b>P3ZRA1BBPPN</b>
G2"	16 bar, relieving + gauge	<b>P3ZRA1CBPPN</b>

**Combined Soft Start Dump Valve and Remote Operated Dump Valve**

Port size	Description	Order Code
-	Solenoid operated (not included)	<b>P3ZTA00SCN0000</b>
-	24VDC 22mm coil	<b>P3ZTA00SCNB2CN</b>
G1.1/2"	Solenoid operated (not included)	<b>P3ZTA1BSCN0000</b>
G1.1/2"	24VDC 22mm coil	<b>P3ZTA1BSCNB2CN</b>
G2"	Solenoid operated (not included)	<b>P3ZTA1CSCN0000</b>
G2"	24VDC 22mm coil	<b>P3ZTA1CSCNB2CN</b>

**Soft Start Valve**

Port size	Description	Order Code
-	Internal air pilot operated	<b>P3ZSA00Y0N</b>
G1.1/2"	Internal air pilot operated	<b>P3ZSA1BY0N</b>
G2"	Internal air pilot operated	<b>P3ZSA1CY0N</b>



**Lubricators**

Port size	Description	Order Code
-	Lubricator, without flange SAE	<b>P3ZLA00LSMN</b>
G1.1/2"	Lubricator	<b>P3ZLA1BLSMN</b>
G2"	Lubricator	<b>P3ZLA1CLSMN</b>
G2"	Central airline lubricator with electrical oil level control	<b>P3ZLA1CEMMW</b>
G2"	Central airline lubricator with aluminium bowl	<b>P3ZLA1CMMMW</b>
Lubricator OIL - VG32 - 1 Litre		<b>P3YKA00PPBB</b>



**Options & Accessories**

Port size	Description	Order Code
G1.1/2"	Connection flange kit	<b>P3ZKA1BCP</b>
G2"	Connection flange kit	<b>P3ZKA1CCP</b>
-	Wall mounting kit	<b>P3ZKA00MW</b>
-	Coupling kit	<b>P3ZKA00CB</b>
-	Coupling 'O' ring kit (5 off)	<b>P3ZKA0CCY</b>
-	Porting block kit (1", 1/8" & 2 x 1/4" take off)	<b>P3ZMA1V0N</b>

- Very fast response times
- Accurate output pressure
- Micro parameter settings
- Selectable I/O parameters
- Quick, full flow exhaust
- LED display indicates output pressure
- No air consumption in steady state
- Multiple mounting options
- Protection to IP65
- P31P flows to 19 dm<sup>3</sup>/s (40 scfm)
- P32P flows to 57 dm<sup>3</sup>/s (120 scfm)



P31PA Series  
Bottom exhaust



P32PA Series  
Bottom exhaust

**Order Key**

<b>P 3</b>	<b>P A</b>	<b>2</b>	<b>1 A</b>
------------	------------	----------	------------

Port size	
Global Mini (1/4")	<b>1</b>
Global Compact (1/2")	<b>2</b>

Thread type	
BSP	<b>1</b>
NPT	<b>9</b>

Port size	
Global Mini (1/4")	<b>2</b>
Global Compact (1/2")	<b>4</b>

Version	
Bottom ported exhaust NC	<b>A</b>
Bottom ported forced exhaust (NO) *	<b>E</b>

Pressure Range	
0 - 2 bar	<b>Z</b>
0 - 7 bar	<b>S</b>
0 - 10 bar	<b>D</b>

Power supply	
24 volts	<b>2</b>

Control Signal	
0-10 V	<b>V</b>
4-20 mA	<b>A</b>

Output Signal	
Digital, PNP 1)	<b>D</b>
PNP or 0-10V 2)	<b>P</b>
NPN or 0-10V 3)	<b>N</b>
4-20mA fixed 4)	<b>M</b>

Input connector	
M12 (4 pin)	<b>1</b>

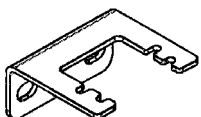
\* When the supply voltage is lost the unit will automatically exhaust the regulated pressure to 0 bar (atmospheric pressure)

- 1) Digital PNP output only, no analogue output selectable
- 2) Digital PNP and analogue 0-10V outputs selectable, by means of parameter 6. (Factory default 0-10V)
- 3) Digital NPN and analogue 0-10 V outputs selectable by means of parameter 6. (Factory default 0-10V)
- 4) Analogue 4-20mA output only.

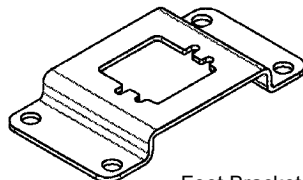
**Note:** On all analogue outputs the F.S. value can be adjusted by means of parameter 8

**P31P Mounting brackets**

Order Code	Description
<b>P3HKA00ML</b>	L-Bracket mounting kit
<b>P3HKA00MC</b>	Foot bracket mounting kit



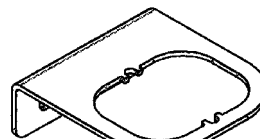
L-Bracket



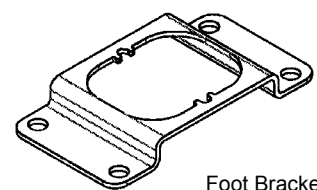
Foot Bracket

**P32P Mounting brackets**

Order Code	Description
<b>P3KKA00ML</b>	L-Bracket mounting kit
<b>P3KKA00MC</b>	Foot bracket mounting kit



L-Bracket



Foot Bracket

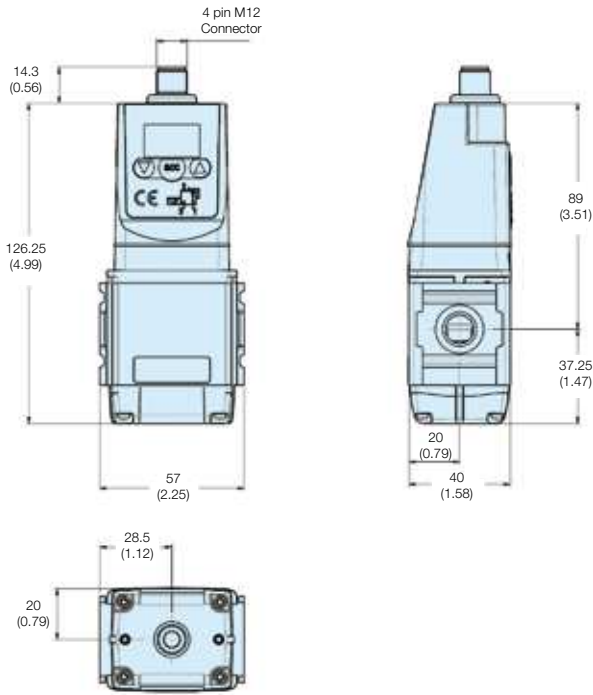
**Cables**

Order Code	Description
<b>P8L-MC04A2A-M12</b>	2 mtr. cable with moulded straight M12x1 connector
<b>P8L-MC04R2A-M12</b>	2 mtr. cable with moulded 90 degree M12x1 connector.

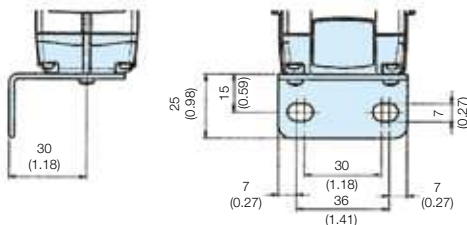
**Note:**

These brackets fit both Proportional Regulators and Combined Soft Start & Dump Valves.

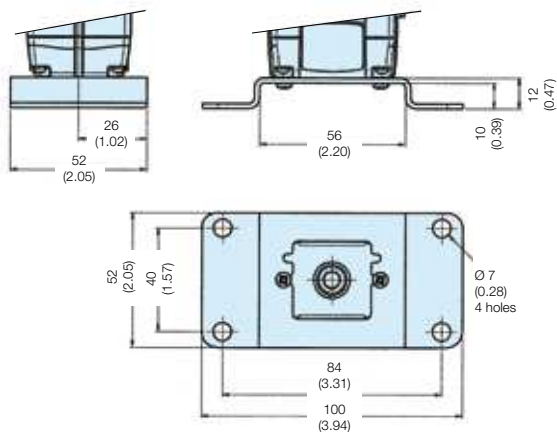
**P31P**



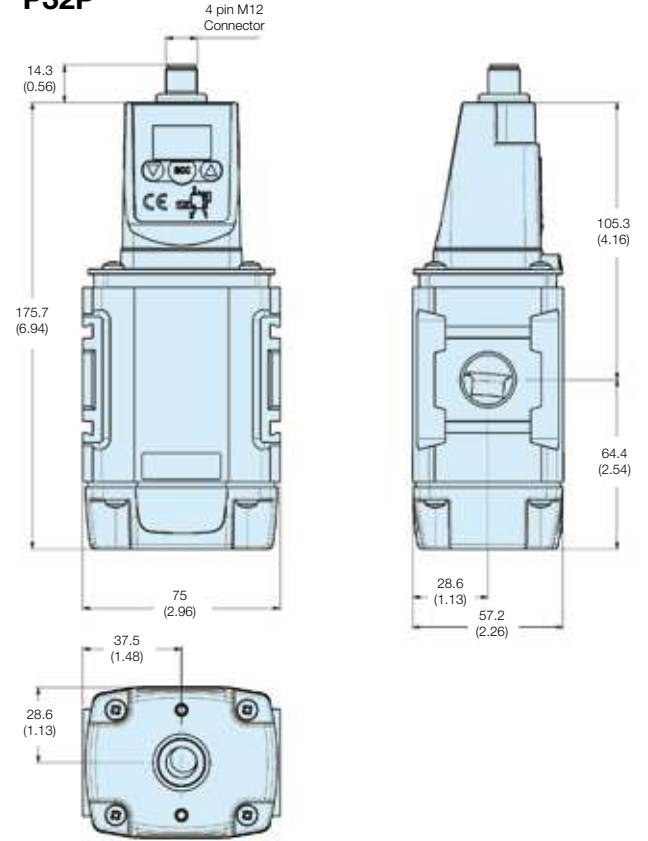
**L-Bracket**



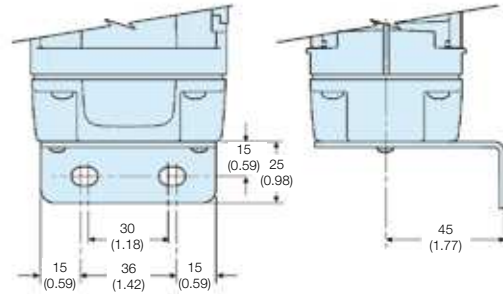
**Foot Bracket**



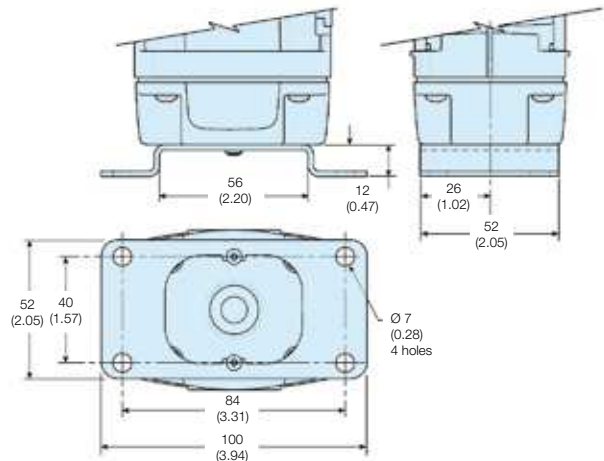
**P32P**



**L-Bracket**



**Foot Bracket**



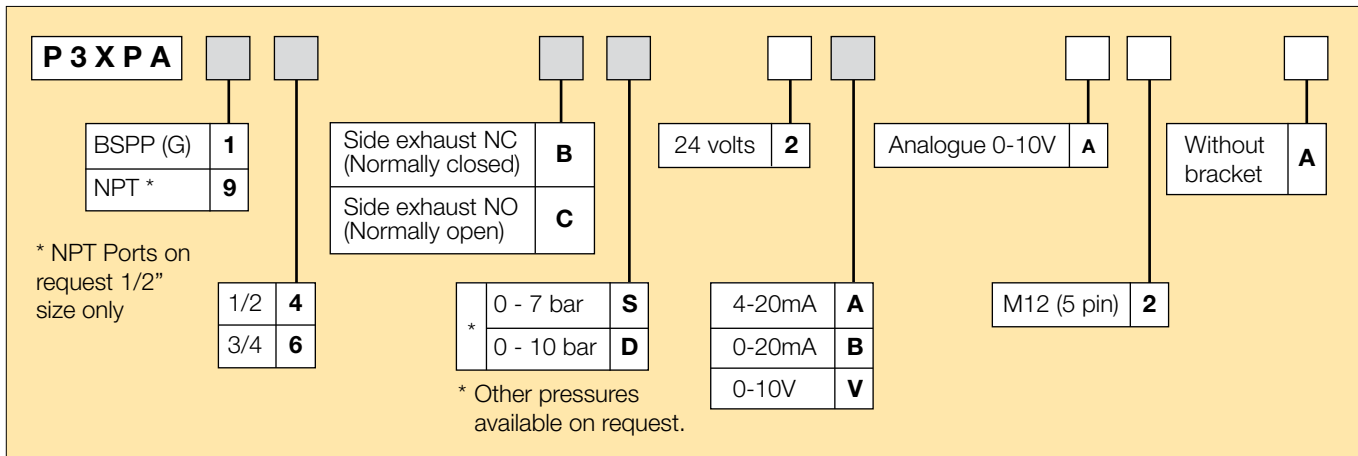
Dimensions are in mm (Inches)

P3X Proportional Pressure Regulator



- Integral 1/2" or 3/4" ports (BSPP & NPT)
- Accurate output pressure
- Very fast response times
- Robust but lightweight design.

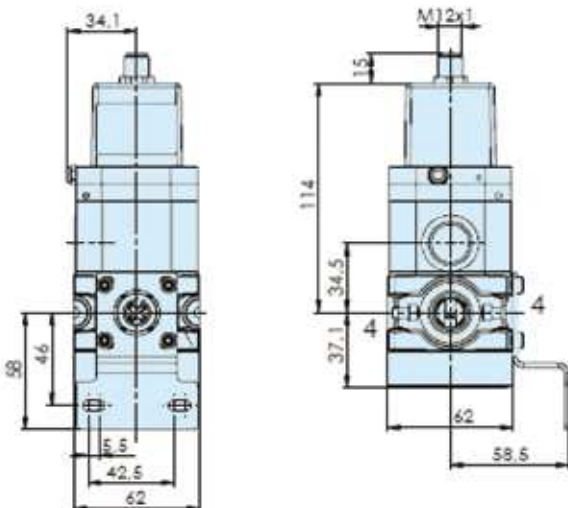
Options:



Popular options:

Port size	Description	Order Code	Control signal	Output signal	Output pressure	Weight kg
1/2	Normally closed	<b>P3XPA14BD2VA2A</b>	0 - 10 V	0 - 10 V	0 - 10 bar	0.75
3/4	Normally closed	<b>P3XPA16BD2VA2A</b>	0 - 10 V	0 - 10 V	0 - 10 bar	0.75

Dimensions (mm)



- \* Two opposite gauge ports G1/4, plug screw mounted
- \*\* Connection for 5-pin plug M12 x 1
- \*\*\* Exhaust port 1/2"

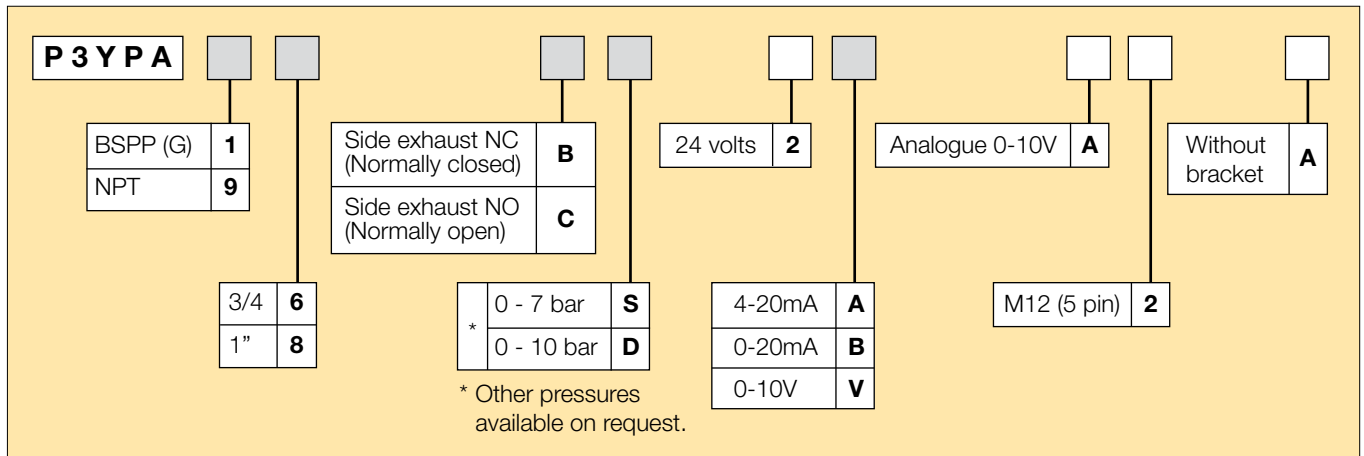


**P3Y Proportional Pressure Regulator**



- Integral 3/4 or 1" ports (BSPP & NPT)
- Accurate output pressure
- Very fast response times
- Robust but lightweight design.

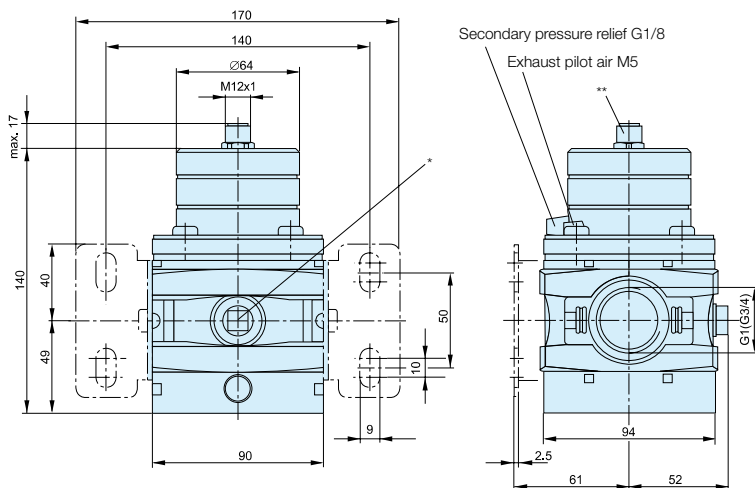
**Options:**



**Popular options:**

Port size	Description	Order Code	Control signal	Output signal	Output pressure	Weight kg
3/4	Normally closed	<b>P3YPA16BD2VA2A</b>	0 - 10 V	0 - 10 V	0 - 10 bar	1.2
1"	Normally closed	<b>P3YPA18BD2VA2A</b>	0 - 10 V	0 - 10 V	0 - 10 bar	1.2

**Dimensions (mm)**



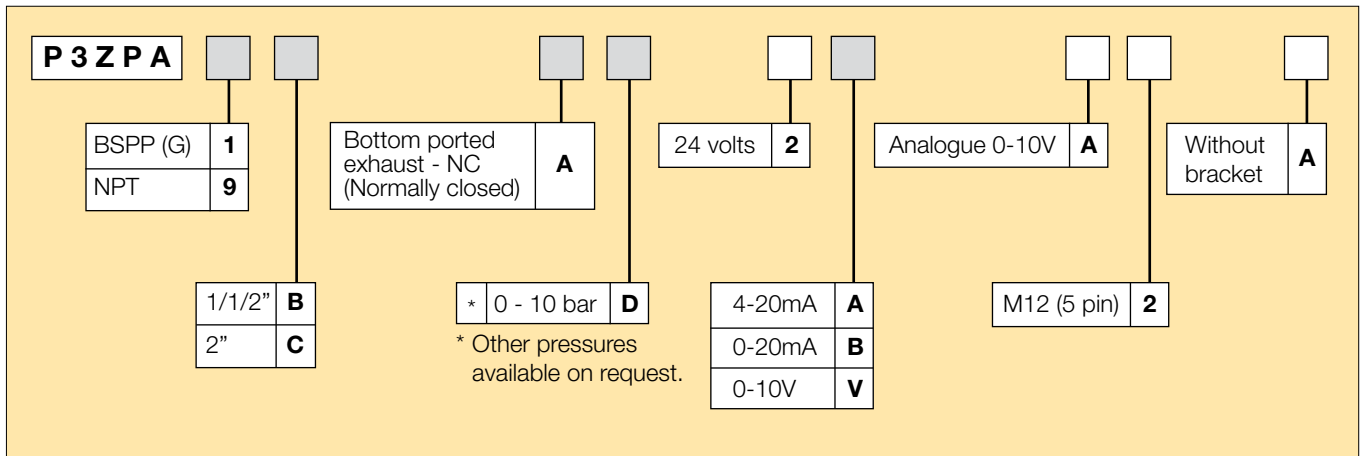
\* Two opposite gauge ports G1/4, plug screw mounted  
 \*\* Connection for 5-pin plug M12 x 1

P3Z Proportional Pressure Regulator



- Flanged 1-1/2" or 2" ports (BSPP & NPT)
- Accurate output pressure
- Very fast response times
- Robust die-cast aluminium construction

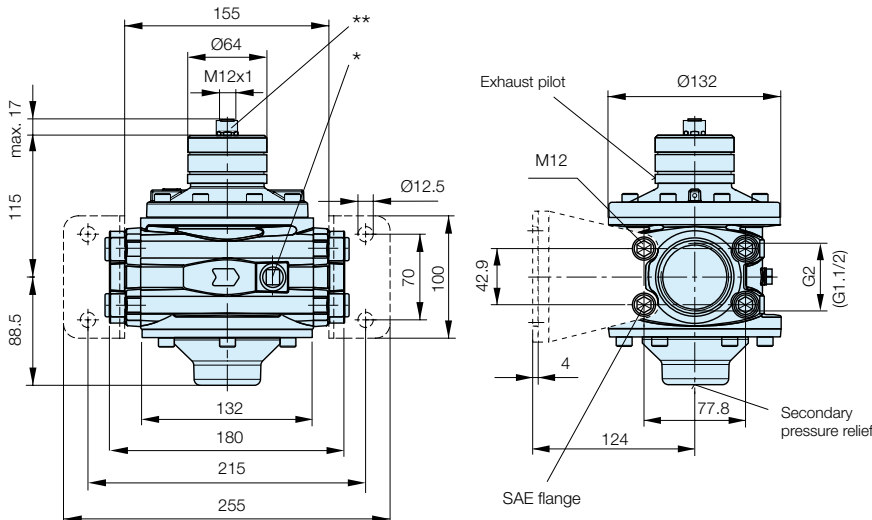
Options:



Popular options:

Port size	Description	Order Code	Control signal	Output signal	Output pressure	Weight kg
1-1/2"	Normally closed	<b>P3ZPA1BAD2VA2A</b>	0 - 10 V	0 - 10 V	0 - 10 bar	1.2
2"	Normally closed	<b>P3ZPA1CAD2VA2A</b>	0 - 10 V	0 - 10 V	0 - 10 bar	1.2

Dimensions (mm)



\* Two opposite gauge ports G1/4, plug screw mounted  
 \*\* Connection for 5-pin plug M12 x 1

## Lucifer® EPP4 Basic and Comfort 1/4" and 1/2" Technical Data

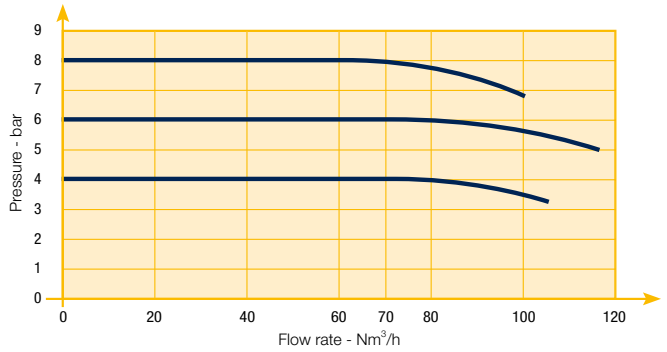
	Basic 1/4"	Basic 1/2"
Fluids:	Lubricated or non lubricated air and neutral gases Recommended filtration: 50 µm	
Temperature range:	Ambient: 0°C to +50 °C Fluid: 0°C to +50 °C	
Inlet pressure range: The inlet pressure must always be at least 1 bar above the regulated pressure.	1 to 12 bar	1 to 12 bar
Outlet pressure range:	0.05 to 10 bar	
Hysteresis:	± 50 mbar (factory set up)	
Air consumption at constant control signal:	0	
Supply voltage:	24 V DC ± 15 % (Max. ripple 1 V)	
Power consumption:	Max. 2.8 W with 24 V DC and constant changes of the control signal < 1.5 W without change of control signal	
Control signal:	Analog 0 - 10 V Analog 4 - 20 mA	
Max. flow: Indicative response time: With a volume of 300 cm <sup>3</sup> at the outlet of the regulator	70 m <sup>3</sup> /h	150 m <sup>3</sup> /h
Filling 2 to 4 bar: Filling 2 to 8 bar: Emptying 4 to 2 bar: Emptying 8 to 2 bar:	50 msec 100 msec 70 msc 130 msc	60 msec 120 msec 90 msec 190 msc
Safety position:	In case of control signal failure or if it is less than 50mV, the regulated pressure drops automatically to 0 bar (atmospheric pressure). In case of voltage supply failure, the regulated pressure will be kept constant.	
Electrical connection:	M12 - 4 pin; 4 x 0.34 mm <sup>2</sup>	
Life expectancy:	> 50 Million changes of control signal steps	
Mounting position:	Indifferent (recommended position: upright; electronic part on top)	
Resistance to vibrations:	30 g in all directions	
Degree of protection:	IP 65	
Assembly:	Silicone free	
Electromagnetic compatibility: In accordance with:	EN 61000-6-1: 2001 EN 61000-6-2: 2001 EN 61000-6-3: 2001 EN 61000-6-4: 2001	
Installation and setting instructions:	See our "Notice 408038, 408014" and appendix supplied with the product.	

Note: Parker reserves the right to change specifications without notification.

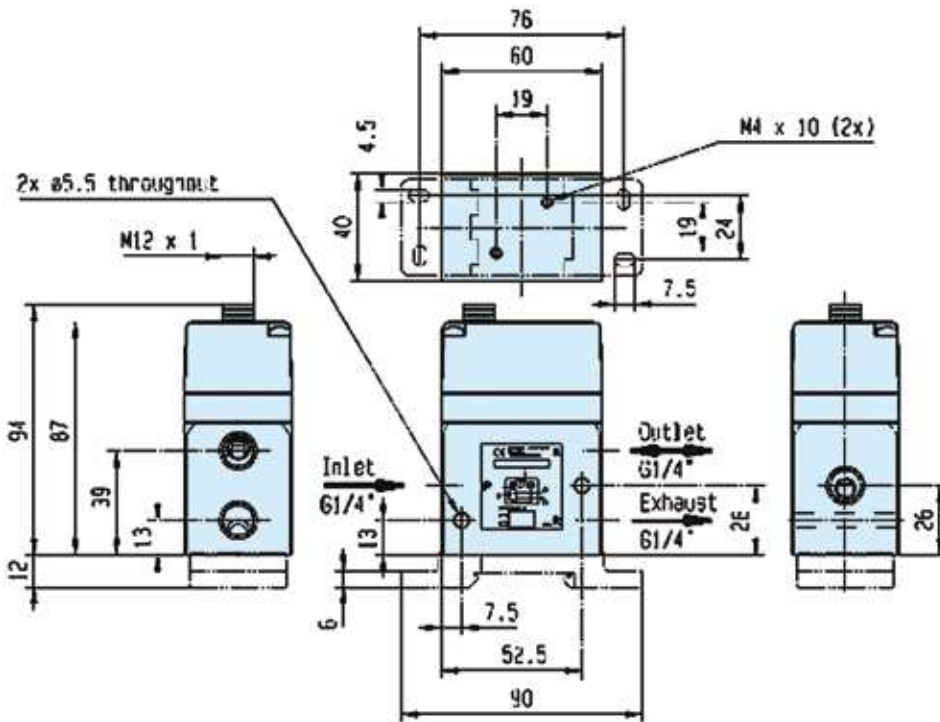
**EPP4 Pressure Regulator Basic  
 G 1/4"**



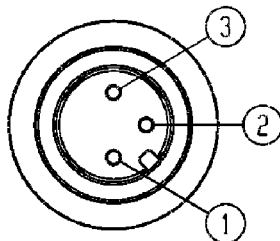
**Flow Curve 1/4"**



**Dimensions**

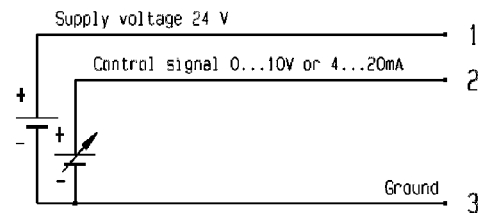


The male connector adopted on the EPP4 is a standard 4 pole M12, without the pin number 4:



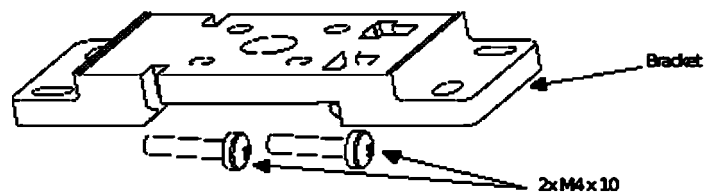
The female connector to mount is the 4 pole M12 connector (IEC 61076-2-101 model LF) where the pin number 4 is not connected.

**ELECTRICAL CONNECTION**



**Accessories**

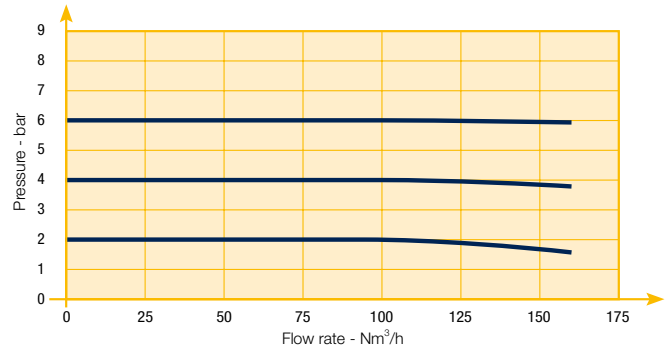
Mounting bracket  
 (automatically supplied with each EPP4)



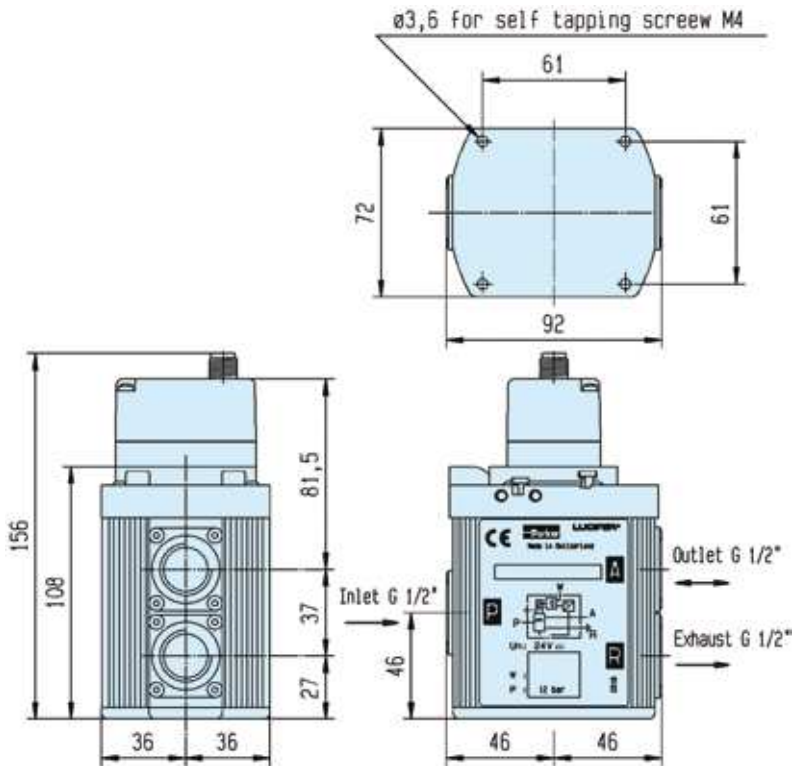
**EPP4 Pressure Regulator Basic  
 G 1/2"**



**Flow Curve 1/2"**



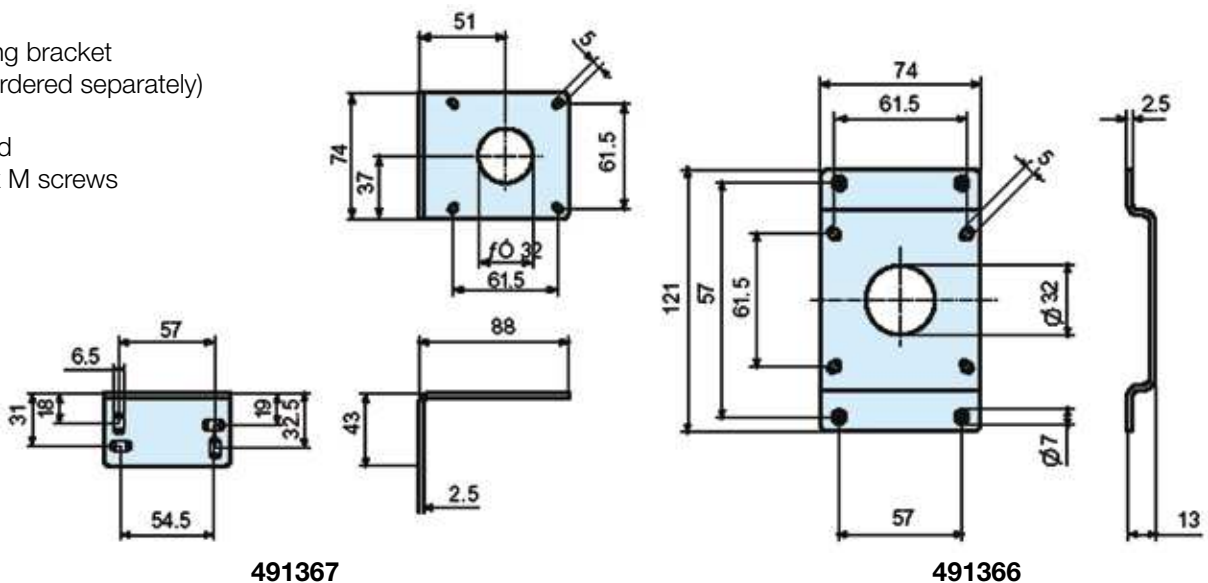
**Dimensions**



**Accessories**

Mounting bracket  
 (to be ordered separately)

Supplied  
 with 4 x M screws



## EPP4 Pressure Regulator Basic G 1/4" and G 1/2"

Order code	Pipe	Pressure Range (bar)		Control Signal (see options)
P4BG2001A001	G 1/4"	0	4 bar	4 - 20 mA
P4BG2001A002	G 1/4"	0	10 bar	0 - 10 V
P4BG2001A003	G 1/4"	0	10 bar	4 - 20 mA
P4BG2001A004	G 1/4"	0	6 bar	0 - 10 V
P4BG2001A005	G 1/4"	0	6 bar	4 - 20 mA
P4BG2001A006	G 1/4"	0	5 bar	0 - 10 V
P4BG2001A007	G 1/4"	0	5 bar	4 - 20 mA
P4BG2001A008	G 1/4"	0	7 bar	0 - 10 V
P4BG2001A009	G 1/4"	0	7 bar	4 - 20 mA
P4BG2003A002 *	G 1/4"	0	10 bar	0 - 10 V
P4BG2003A003 *	G 1/4"	0	10 bar	4 - 20 mA
P4BG4001A002	G 1/2"	0	10 bar	0 - 10 V
P4BG4001A003	G 1/2"	0	10 bar	4 - 20 mA
P4BG4001A004	G 1/2"	0	6 bar	0 - 10 V
P4BG4001A005	G 1/2"	0	6 bar	4 - 20 mA
P4BG4001A006	G 1/2"	0	5 bar	0 - 10 V
P4BG4001A007	G 1/2"	0	5 bar	4 - 20 mA
P4BG4001A008	G 1/2"	0	7 bar	0 - 10 V
P4BG4001A009	G 1/2"	0	7 bar	4 - 20 mA
P4BG4004A010 ***	G 1/2"	0	4 bar	0 - 10 V
P4BG4051A002 **	G 1/2"	0	10 bar	4 - 20 mA
P4BN2001A002	NPT 1/4"	0	10 bar	4 - 20 mA
P4BN2001A003	NPT 1/4"	0	10 bar	0 - 10 V
P4BN4001A002	NPT 1/2"	0	10 bar	4 - 20 mA
P4BN4001A003	NPT 1/2"	0	10 bar	0 - 10 V

\* Integrated pilot exhaust

\*\* O<sub>2</sub>

\*\*\* External pressure supply



## Lucifer® EPP4 Comfort 1/4" and 1/2"

## References

Order code	Pipe	Pressure Range (bar)		Control Signal (see options)	Display
P4CG2001C001	G 1/4	0	10	0-10 V	-
P4CG2001C002	G 1/4	0	10	4-20 mA	-
P4CG2001C005	G 1/4	0	7	0-10 V	-
P4CG2001C006	G 1/4	0	7	4-20 mA	-
P4CG2002C001	G 1/4	0	10	0-10 V	included
P4CG2002C002	G 1/4	0	10	4-20 mA	included
P4CG2003C001 *	G 1/4	0	10	0-10 V	-
P4CG2003C002 *	G 1/4	0	10	4-20 mA	-
P4CG2002C007	G 1/4	0	7	0-10 V	included
P4CG2002C008	G 1/4	0	7	4-20 mA	included
P4CN2001C001	1/4 NPT	0	10	0-10 V	-
P4CN2001C002	1/4 NPT	0	10	4-20 mA	-
P4CN2002C001	1/4 NPT	0	10	0-10 V	included
P4CN2002C002	1/4 NPT	0	10	4-20 mA	included
P4CG4001C001	G 1/2	0	10	0-10 V	-
P4CG4001C002	G 1/2	0	10	4-20 mA	-
P4CG4001C005	G 1/2	0	7	0-10 V	-
P4CG4001C006	G 1/2	0	7	4-20 mA	-
P4CG4002C001	G 1/2	0	10	0-10 V	included
P4CG4002C002	G 1/2	0	10	4-20 mA	included
P4CG4002C005	G 1/2	0	7	0-10 V	included
P4CG4002C006	G 1/2	0	7	4-20 mA	included
P4CG4051C001 **	G 1/2	0	10	0-10 V	-
P4CG4051C002 **	G 1/2	0	10	4-20 mA	-
P4CN4001C001	1/2 NPT	0	10	0-10 V	-
P4CN4001C002	1/2 NPT	0	10	4-20 mA	-
P4CN4002C001	1/2 NPT	0	10	0-10 V	included
P4CN4002C002	1/2 NPT	0	10	4-20 mA	included

\* Integrated pilot exhaust

\*\* O2



## Lucifer® EPP4 Comfort 1/2" High Pressure, 1" and 2" Technical Data

	Comfort 1/2" HP	Comfort 1"	Comfort 2"
Fluids:	Lubricated or non lubricated air and neutral gases - Recommended filtration: 50 µm		
Temperature range:	Ambient: 0°C to +50°C Fluid: 0°C to +50°C		
Inlet pressure range: The inlet pressure must always be at least 1 bar above the regulated pressure.	1 to 21 bar	1 to 21 bar	1 to 12 bar
Outlet pressure range:	0.05 to 20 bar	0.05 to 20 bar	0.05 to 10 bar
Hysteresis:	≤ 100 mbar if P inlet ≤ 10 bar ≤ 200 mbar if P inlet > 10 bar		
Air consumption at constant control signal:	0		
Supply voltage:	24V DC ± 15%		
Power consumption:	Max. 6 W with 24 V DC and constant changes of the control signal < 2 W without change of control signal		
Control signal:	Analog 0 - 10 V Analog 4 - 20 mA		
Outlet sensor signal:	Analog 0 - 10 V Standard for 0 - 10 bar; Adjustable  Analog 4 - 20 mA Standard for 0 - 10 bar; Adjustable	Digital 0/24 V for alarm features: Adjustable pressure error (+/-) Adjustable delay ON Adjustable delay OFF Adjustable logic (+/-)	
Max. flow:	150 m³/h	1 000 m³/h	2 700 m³/h
Indicative response time:	With a volume of 330 cm³ at the outlet of the regulator		
Filling 2 to 8 bar: Emptying 8 to 2 bar:	120 msec 190 msc	250 msec 400 msc	250 msec 400 msc
Safety position:	In case of control signal failure or if it is less than 50 mV, the regulated pressure drops automatically to 0 bar atmospheric pressure (for pressure ranges from 0-10 bar, 100 mV for pressure range over 10 bar). In case of voltage supply failure, the regulated pressure will be kept constant.		
Electrical connection:	M12 - 8 pin; male connector power supply/control signal M12 - 5 pin; male connector communication		
Life expectancy:	> 20 Million changes of control signal steps		
Mounting position:	Indifferent (recommended position: upright; electronic part on top)		
Resistance to vibrations:	30 g in all directions		
Degree of protection:	IP 65		
Assembly:	Silicone free		
Electromagnetic compatibility: In accordance with:	EN 61000-6-1: 2001 EN 61000-6-2: 2001 EN 61000-6-3: 2001 + A11 2004 edition (01/07/07) EN 61000-6-4: 2001		
Installation and setting instructions:	See our "408 193" and appendix supplied with the product.		

Note: Parker reserves the right to change specifications without notification.



**Lucifer® EPP4 Comfort Options**

**Calys Software**

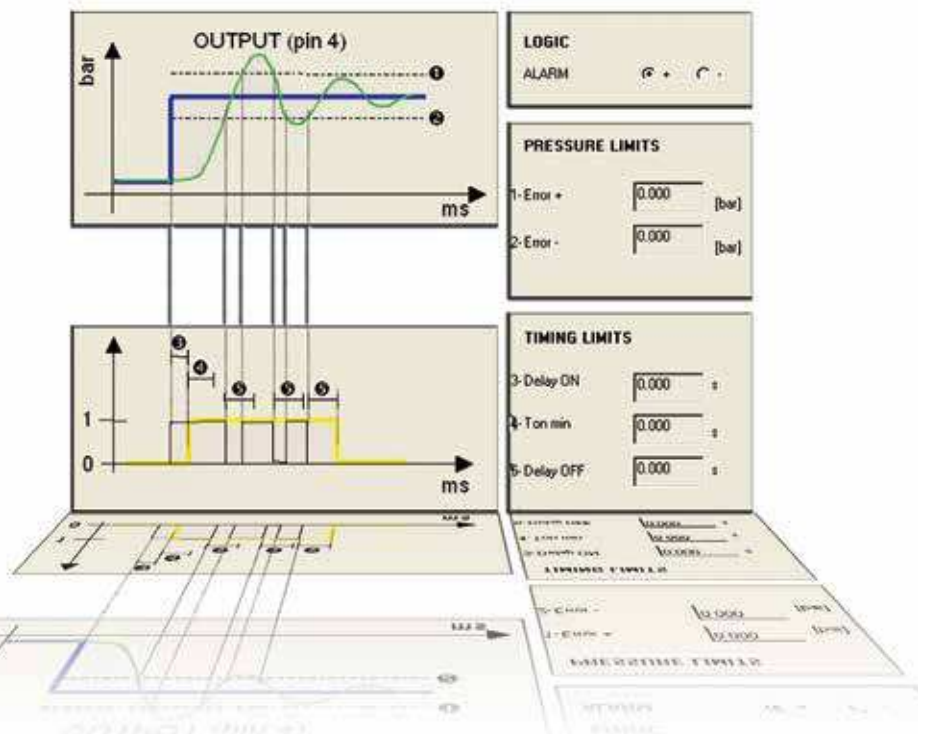
Calys is a unique software in house developed to configurate all the parameters of the EPP4 Comfort range. Calys is an option of the EPP4. A specific cable is needed for the communication between the EPP4 and a PC.



Calys offers the following features:

- Live monitoring (control signal, regulated pressure, supply voltage,...)
- Recording of the main parameters (control signal, regulated pressure, supply voltage,...) in an Excel file
- Free calibration for the inputs and outputs
- Adjustable alarm (positive-negative, pressure limits, delays)
- Configuration files easy to duplicate
- Complete and interactive help file
- Data in 4 different pressure units
- Menus in 4 languages (English, German, French and Italian)

*calys*



**Specific communication cable PC-EPP4 with RS232 and USB connection**

**Order Reference 496449**

To download free Calys software click on [www.parker.com/FCDE/Support](http://www.parker.com/FCDE/Support)

## Lucifer® EPP4 Comfort 1/2" HP, 1" and 2"

## References

Order code	Pipe	Max inlet pressure (bar)	Pressure range (bar)	Control signal (see options)
<b>P4CG4101D001</b>	G1/2	15	0 12	0-10 V
<b>P4CG4201D005</b>	G1/2	21	0 16	0-10 V
<b>P4CG4201D003</b>	G1/2	21	0 20	0-10 V
<b>P4CG4201D004</b>	G1/2	21	0 20	4-20 mA
<b>P4CG6101C009</b>	G1	12	0 3.5	4-20 mA
<b>P4CG6101C011</b>	G1	12	0 5.0	0-10 V
<b>P4CG6101C010</b>	G1	12	0 6.0	4-20 mA
<b>P4CG6101C001</b>	G1	12	0 10	0-10 V
<b>P4CG6101C002</b>	G1	12	0 10	4-20 mA
<b>P4CG6201D001</b>	G1	21	0 12	-
<b>P4CG6201D003</b>	G1	21	0 20	0-10 V
<b>P4CG9101C012</b>	G2	12	0 4.0	4-20 mA
<b>P4CG9101C010</b>	G2	12	0 6.0	4-20 mA
<b>P4CG9101C001</b>	G2	12	0 10	0-10 V
<b>P4CG9101C002</b>	G2	12	0 10	4-20 mA

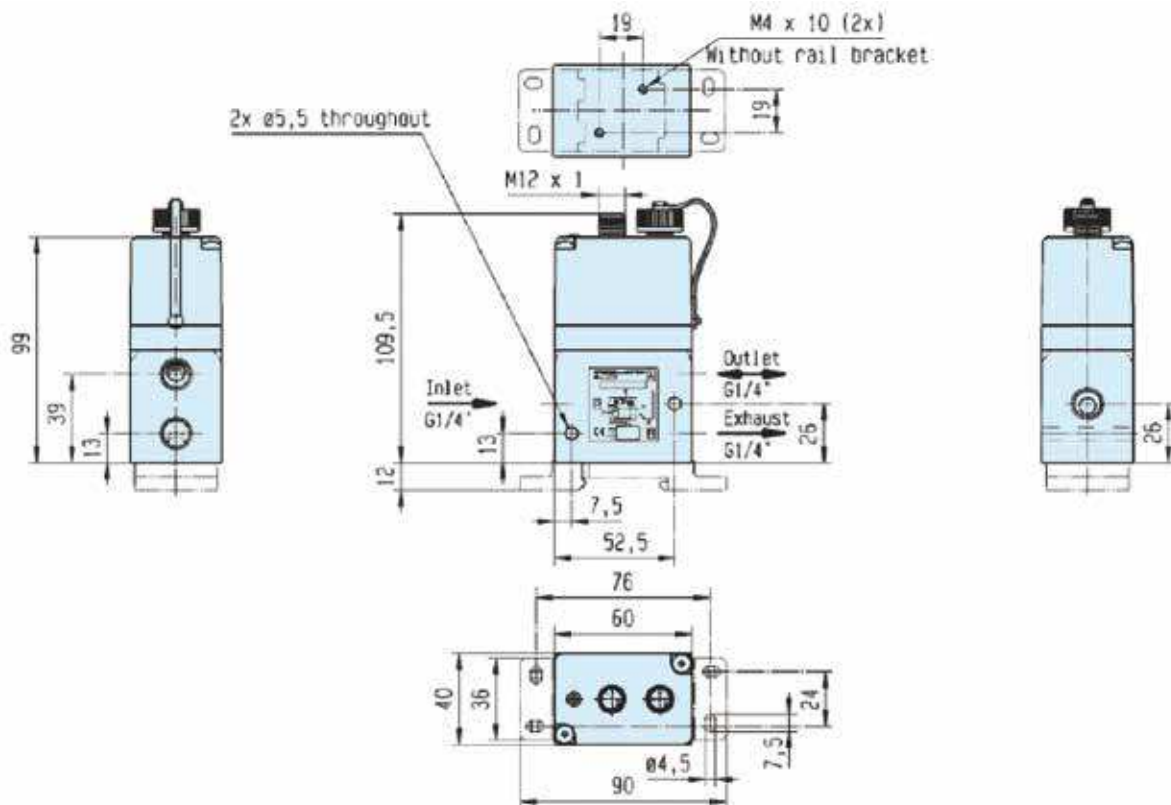
Other specific settings or specialties are available, please contact us.



Lucifer® EPP4 Comfort Range 1/4"

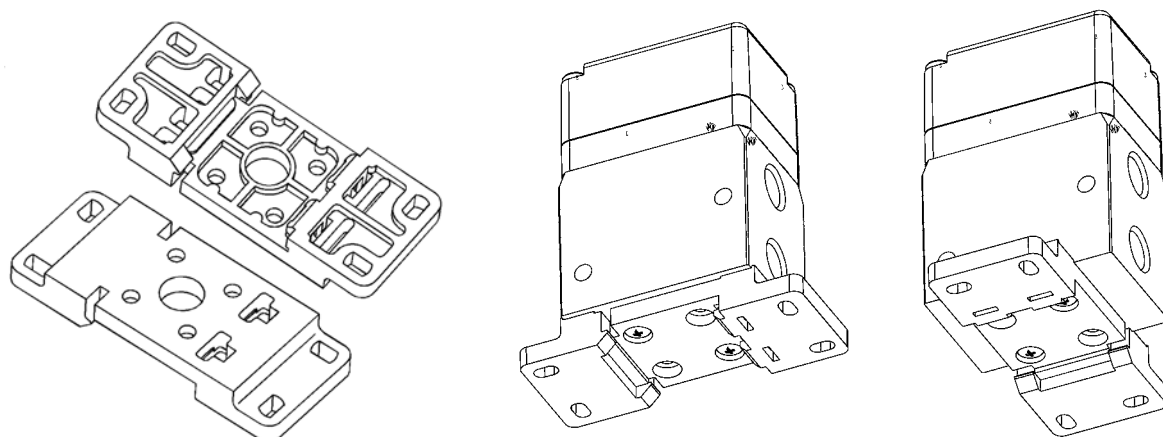


Dimensions



Accessories

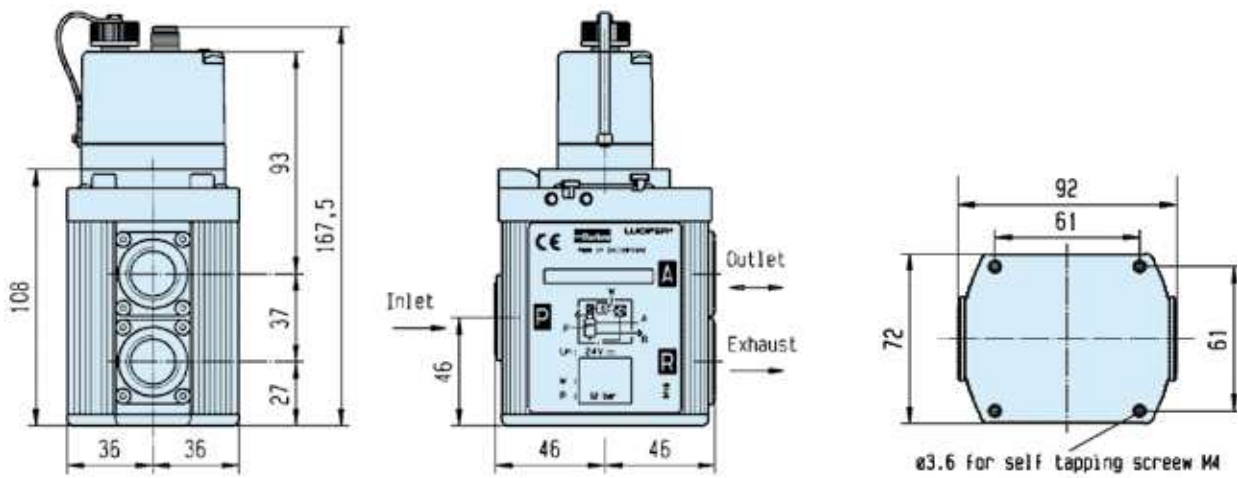
Mounting bracket  
(supplied as a standard with each Lucifer® EPP4 1/4")



**Lucifer® EPP4 Comfort Range 1/2"**

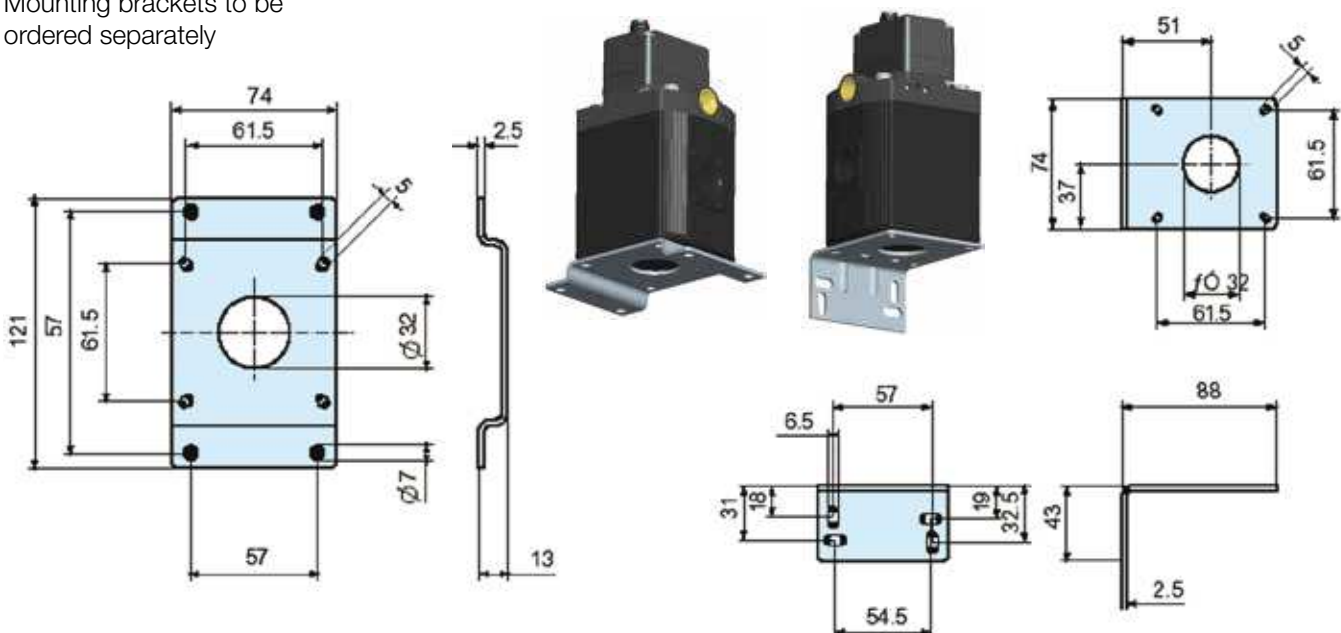


**Dimensions**



**Accessories**

Mounting brackets to be ordered separately



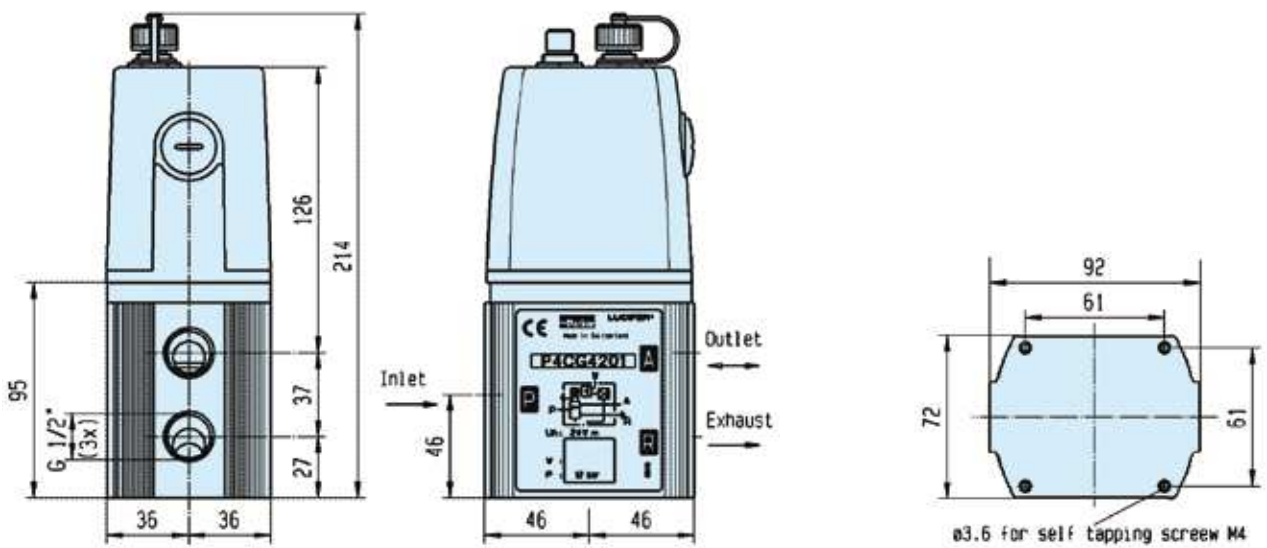
**Order reference 491366**

**Order reference 491367**

**Lucifer® EPP4 Comfort Range 1/2"**  
**High Pressure 21 bar**

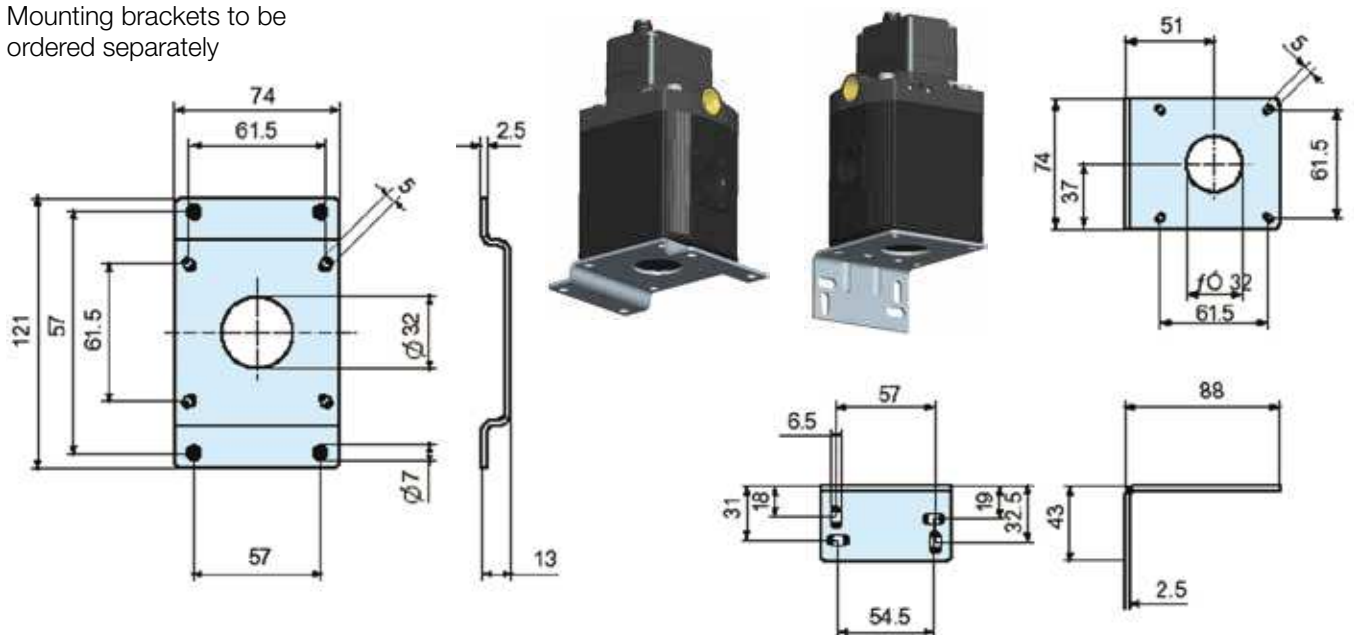


**Dimensions**



**Accessories**

Mounting brackets to be ordered separately



**Order reference 491366**

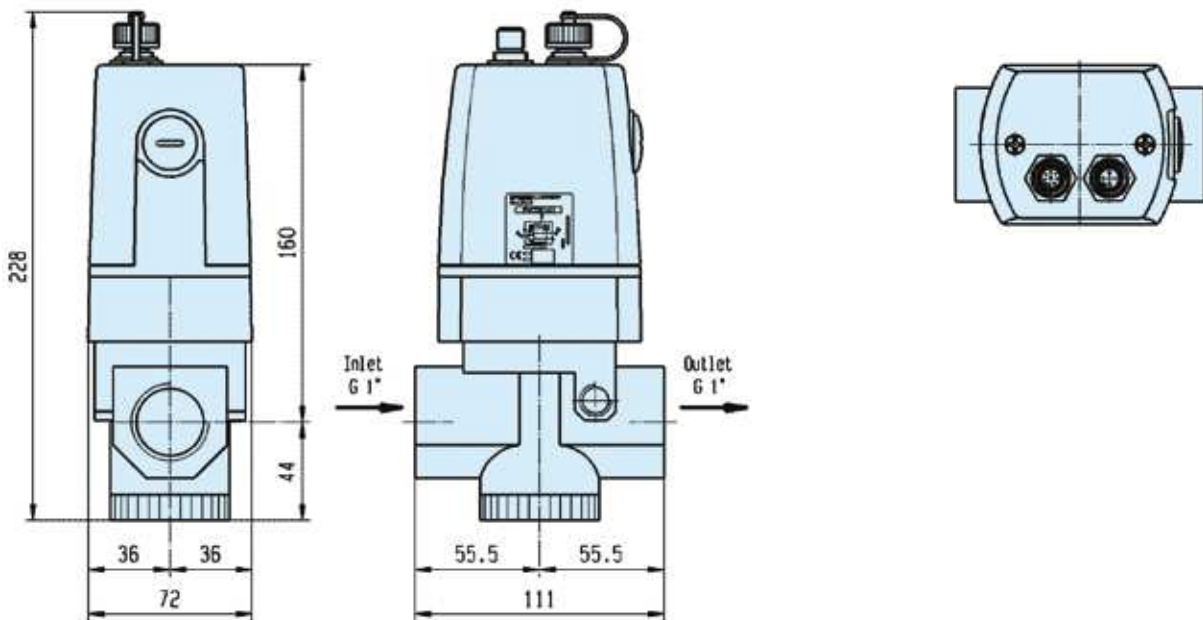
**Order reference 491367**



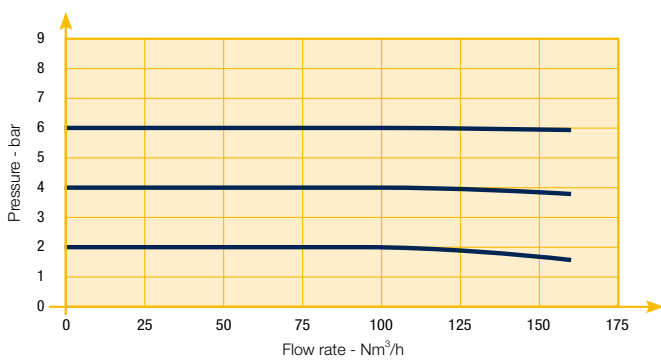
**Lucifer® EPP4 Comfort Range 1"**



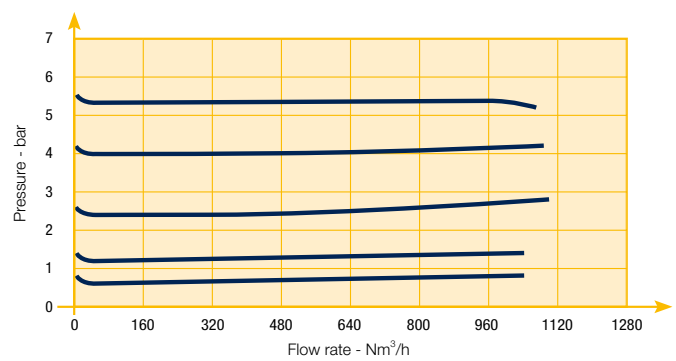
**Dimensions**



**Flow Curve 1/2"**



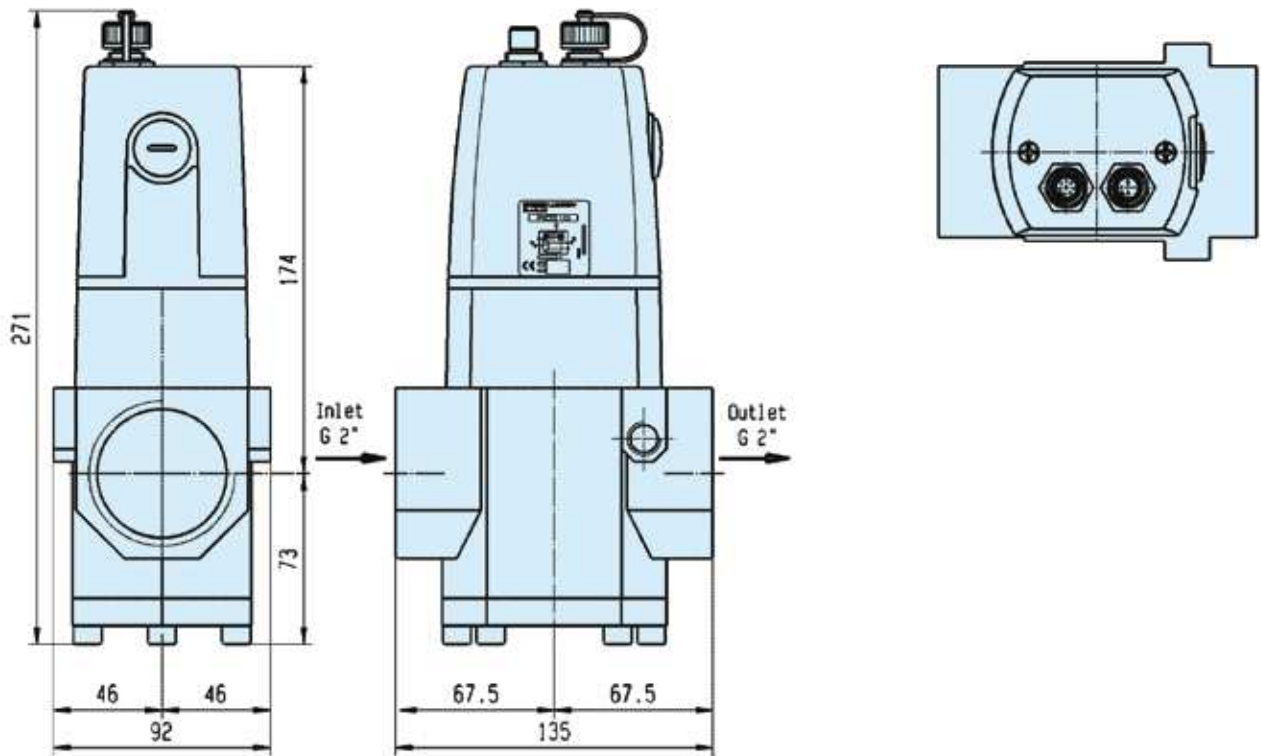
**Flow Curve 1"**



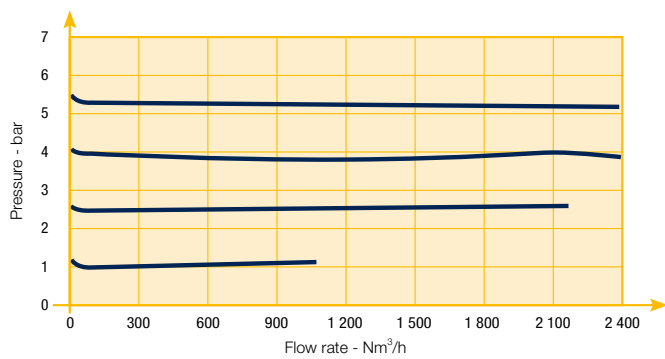
**Lucifer® EPP4 Comfort Range 2"**



**Dimensions**



**Flow Curve 2"**

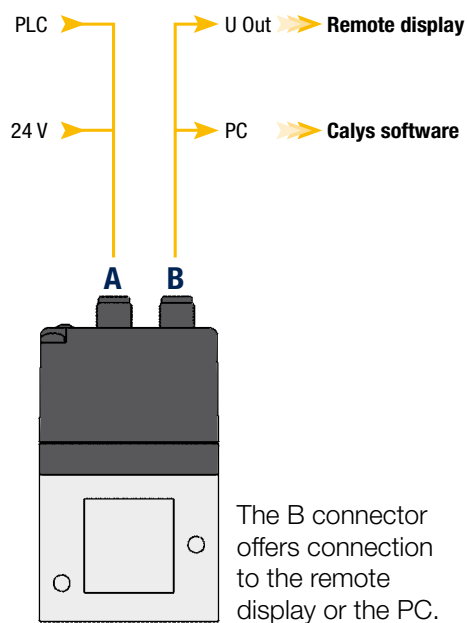


## Lucifer® EPP4 Comfort Options

### Additional Features

The EPP4 Comfort offers two main options - a remote display and a software to easily set the regulator's parameters.

These are the key feature options for a comfortable use.



- A remote display connected to the pressure regulator offers flexible monitoring.
- A panel mounting kit is available to install the remote display.
- Calys is an easy-to-use software package designed to allow the user to match their regulators performance directly to their specific application.
- A power supply and control signal cable.



## Lucifer® EPP4 Comfort 1/4" &amp; 1/2"

## Technical Data

	Comfort 1/4"	Comfort 1/2"
<b>Fluids:</b>	Lubricated or non lubricated air and neutral gases - Recommended filtration: 50 µm	
<b>Temperature range:</b>	Ambient: 0°C to +50 °C Fluid: 0°C to +50 °C	
<b>Inlet pressure range:</b> The inlet pressure must always be at least 1 bar above the regulated pressure.	1 to 12 bar	1 to 12 bar
<b>Outlet pressure range:</b>	0.05 to 10 bar	
<b>Hysteresis:</b>	± 50 mbar (factory set up)	
<b>Air consumption at constant control signal:</b>	0	
<b>Supply voltage:</b>	24 V DC ± 15 % (Max. ripple 1 V)	
<b>Power consumption:</b>	Max. 2.8 W with 24 V DC and constant changes of the control signal < 1.5 W without change of control signal	
<b>Control signal:</b>	Analog 0 - 10 V Analog 4 - 20 mA	
<b>Outlet sensor signal:</b>	Analog 0 - 10 V Standard for 0 - 10 bar; Adjustable  Analog 4 - 20 mA Standard for 0 - 10 bar; Adjustable	Digital 0/24 V for alarm features: Adjustable pressure error (+/-) Adjustable delay ON Adjustable delay OFF Adjustable logic (+/-)
<b>Max. flow:</b>	70 m³/h	150 m³/h
<b>Indicative response time:</b>	With a volume of 330 cm³ at the outlet of the regulator	
<b>Filling 2 to 4 bar :</b>	50 msec	60 msec
<b>Filling 2 to 8 bar:</b>	100 msec	120 msec
<b>Emptying 4 to 2 bar:</b>	70 msc	90 msec
<b>Emptying 8 to 2 bar:</b>	130 msc	190 msec
<b>Safety position:</b>	In case of control signal failure or if it is less than 50 mV, the regulated pressure drops automatically to 0 bar (atmospheric pressure).  In case of voltage supply failure, the regulated pressure will be kept constant.	
<b>Electrical connection:</b>	M12 - 8 pin; male connector power supply/control signal M12 - 5 pin; male connector communication	
<b>Life expectancy:</b>	> 50 Million changes of control signal steps	
<b>Mounting position:</b>	Indifferent (recommended position: upright; electronic part on top)	
<b>Resistance to vibrations:</b>	30 g in all directions	
<b>Degree of protection:</b>	IP 65	
<b>Assembly:</b>	Silicone free	
<b>Electromagnetic compatibility:</b> In accordance with:	EN 61000-6-1: 2001 EN 61000-6-2: 2001 EN 61000-6-3: 2001 + A11 2004 edition (01/07/07) EN 61000-6-4: 2001	
<b>Installation and setting instructions:</b>	See our "Notice 408128, 408134" and appendix supplied with the product.	

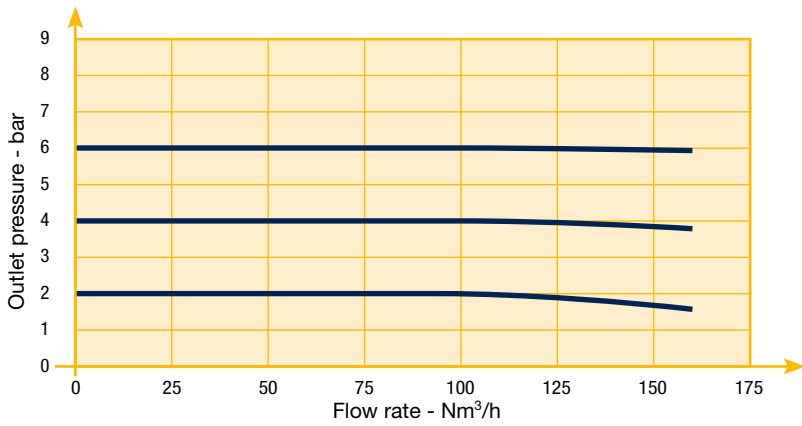
**Note:** Parker reserves the right to change specifications without notification.

**Lucifer® EPP4 Comfort**  
**1/2", 1" & 2" ATEX**

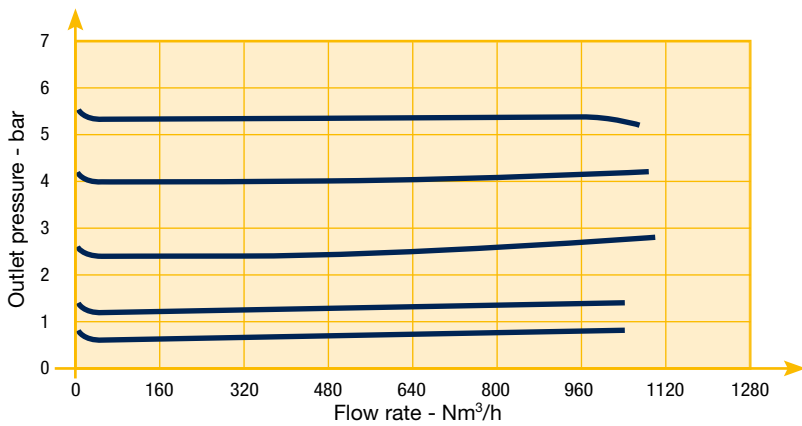


**Flow Curves**

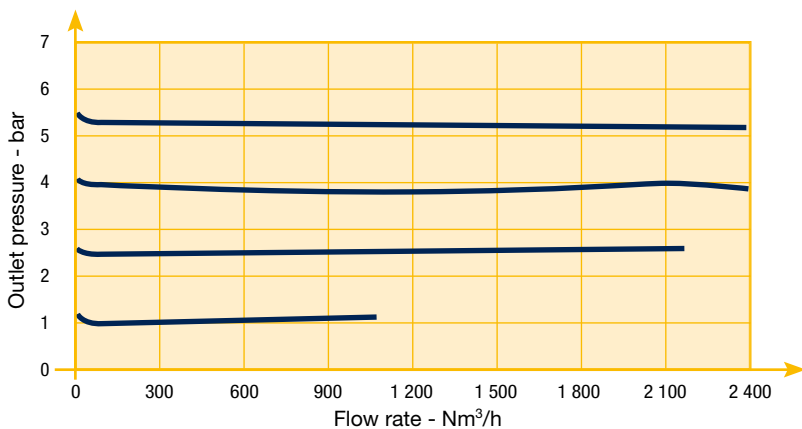
**Flow Curve 1/2"**



**Flow Curve 1"**



**Flow Curve 2"**



**Lucifer® EPP4 Comfort**  
**1/2" ATEX**



**References**

Codes	Pipe	Max inlet pressure (bar)	Pressure range (bar)		Control signal (see options)	Dimensional Drawing
<b>P4CG4461C001</b>	G1/2	12	0	10	0-10 V	9
<b>P4CG4461C002</b>	G1/2	12	0	10	4-20 mA	9
<b>P4CG4465C001 **</b>	G1/2	12	0	10	0-10 V	9
<b>P4CG4465C002 **</b>	G1/2	12	0	10	4-20 mA	9

\*\* O2

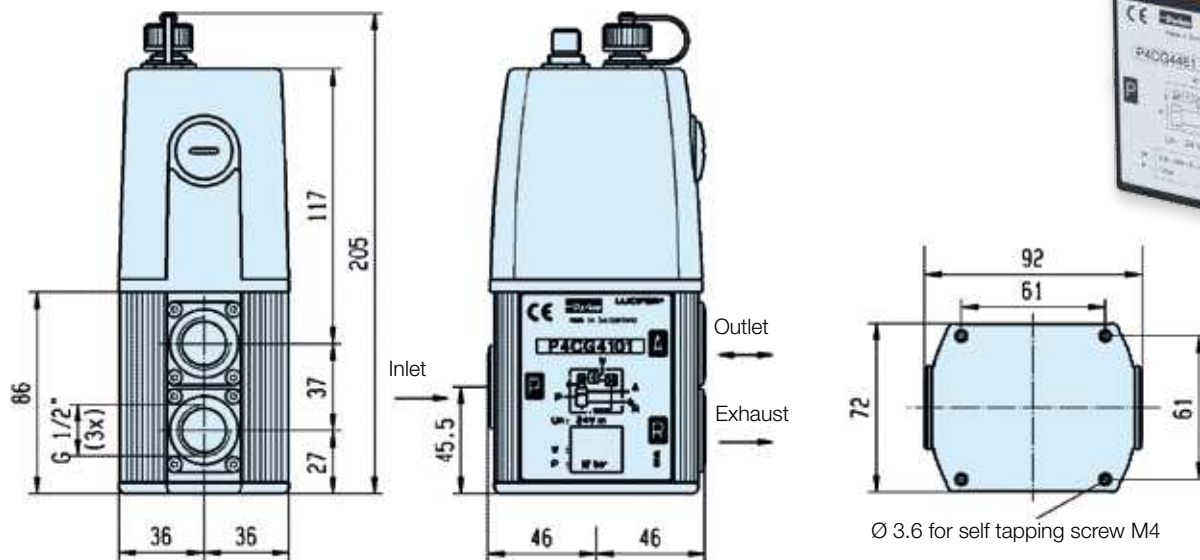
Other specific settings or specialties are available, please contact us.



## Lucifer® EPP4 Comfort 1/2" ATEX



### Dimensions (mm)



Drawing 9

## Lucifer® EPP4 Comfort 1" & 2" ATEX



### References

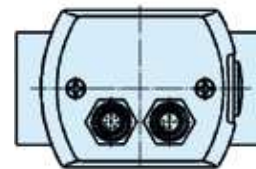
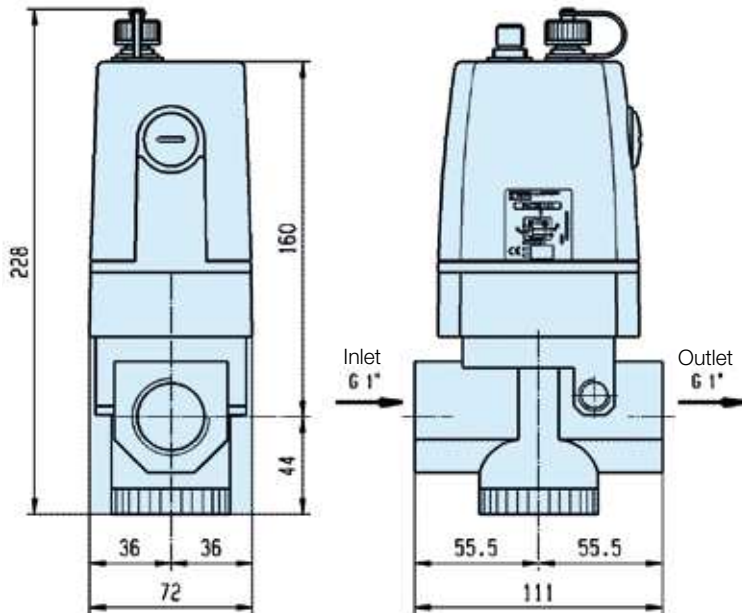
Codes	Pipe	Max inlet pressure (bar)	Pressure range (bar)	Control signal (see options)	Dimensional Drawing
P4CG6161C001	G1	12	0 10	0-10 V	11
P4CG6161C002	G1	12	0 10	4-20 mA	11
P4CG9161C001	G2	12	0 10	0-10 V	12
P4CG9161C002	G2	12	0 10	4-20 mA	12

Other specific settings or specialties are available, please contact us.

**Lucifer® EPP4 Comfort**  
**1" & 2" ATEX**

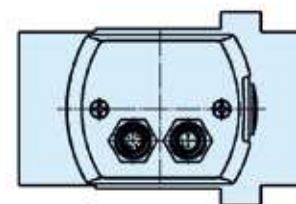
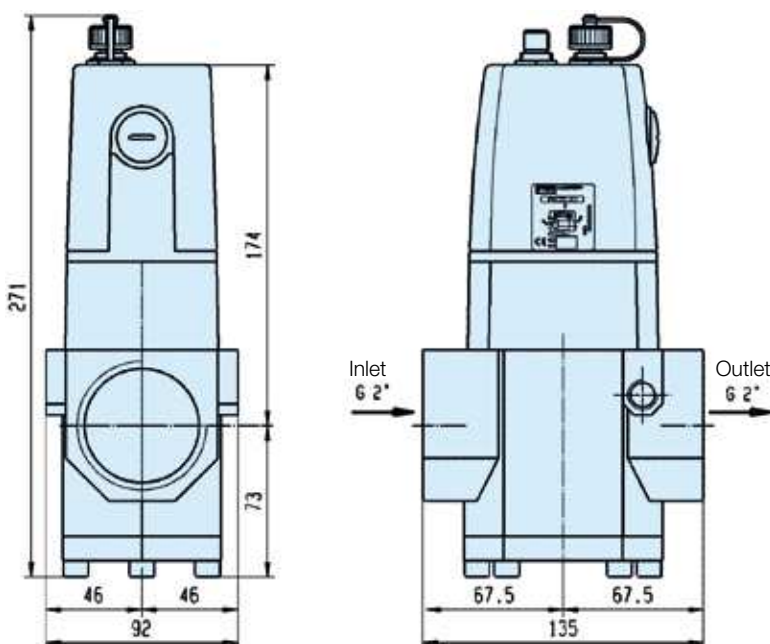


**Dimensions (mm) - EPP4 Comfort Range 1"**



Drawing 11

**Dimensions (mm) - EPP4 Comfort Range 2"**



Drawing 12

## Parker Angle Seat Valves

### Introduction

An angle seat valve is actuated by a pneumatically driven piston and is capable to handle slurry solutions with particles or corrosive solutions at high temperature up to 180°C and operating pressure up to 16 Bar.

### Benefits

- Compact design, high flow rates
- Visual position indicator
- For temperatures from -10°C to 180°C
- Working pressures up to 16 Bar
- Dampened closing anti-water hammer design (fluid under seat)
- Stainless Steel actuator housing for exceptional durability in steam and aggressive applications
- Valves meeting Pressure Equipment Directive 97/23/EC
- Mountable in any position
- Tight shut-off and Long Service Life
- Parker Angle Seat Valves conform to the terms of the 94/9/CE directive specific to non electrical equipment for use within potentially explosive environments - zones 1/21 and 2/22

### Angle seat valves are suitable for many process and industrial applications:

- Food and Beverage Processing
- Water Technology & Treatment
- Textile Industry
- Cooling systems on injection molding machines
- Pharmaceutical & cosmetic industry
- Chemical Process technology
- Refrigeration & Cooling heat exchangers
- Sterilizers steam supply
- Water applications: Mining, Cement / Concrete Systems, Pulp & Paper
- General industrial applications of aggressive fluids
- Industrial Laundry Equipment
- Industrial Air Dryers

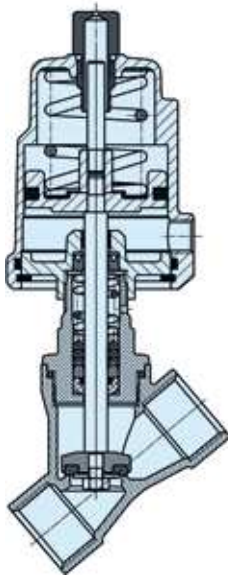


**PA Series, 2/2 Way, NC or NO  
3/8" to 2 1/2" BSP, 16 bar**

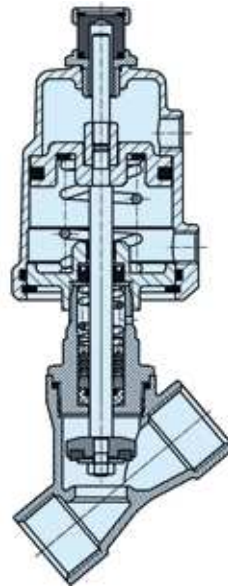
- Body Material 304 Stainless Steel or 316 Stainless Steel
- Actuator Material 304 Stainless Steel, or Aluminum
- Function 2/2 NC, NO, NC (anti-water hammer)
- Port size from DN 10 (3/8") to DN 65 (2 1/2")
- Connections: Threads BSP
- Max Working Pressure 16 Bar
- Flow factor KV from 4.7 m<sup>3</sup>/h (DN10) to 70 m<sup>3</sup>/h (DN 65)
- The PA Series angle seat valves comply with European Pressure Equipment Directive 97/23/EC
- Parker Angle Seat Valves conform to the terms of the 94/9/CE directive specific to non electrical equipment for use within potentially explosive environments - Zones 1/21 and 2/22 - Protection II 2 GD c TX
- Pilot Pressure 3 Bar min to 10 Bar according to control pressure charts
- Maximum Fluid Temp -10°C to 180°C
- Ambient Temperature -10°C to 60°C
- Seat Seal material PTFE/RTFE
- Packing Gland: PTFE and PTFE with Carbon
- Installation Any Position
- Optical Position Indicator Standard on all sizes
- Pilot Control Media Air, Neutral Gas
- Fluids handled: Inert gases, hot water, oils, steam, aggressive and corrosive fluids
- Weight from 0.58 Kg (DN10) to 8.65 Kg (DN 65)
- Viscosity: Maxi. 600 mm<sup>2</sup>/s (600cSt, 80° E, 2700 SSU)

**For liquids, use versions with flow direction under the seat.**

- Spare Parts Kits are available for main seat and body gasket replacement (on request)
- 3 Way Direct Acting AC & DC Pilot Control Valves available as separate components



Normally Closed Valve



Normally Open Valve

## PA Series - Normally Closed Valves

### Flow Direction OVER Seat

Model Numbers Shown are BSP threads



### 304 Stainless Steel Actuators with 304 Stainless Steel Bodies



Size	Port Size	Orifice mm	Actuator mm	KV m <sup>3</sup> /h	Operating Pressure Differential bar	Minimum Pilot Control Pressure Range bar	Order code	Weight Kg
DN10	3/8"	13	40	4.7	0-16	4	PA10S1G3S040S	0.78
			50	4.7	0-16	3	PA10S1G3S050S	1.01
DN15	1/2"	13	40	4.7	0-16	4	PA15S1G4S040S	0.80
			50	4.7	0-16	3	PA15S1G4S050S	1.03
DN20	3/4"	18	50	9.0	0-16	3-4	PA20S1G5S050S	1.06
DN25	1"	24	50	16.0	0-16	3-5.5	PA25S1G6S050S	1.38
			63	16.0	0-16	3-3.5	PA25S1G6S063S	2.05
DN32	1-1/4"	31	63	24.0	0-16	3-5	PA32S1G7S063S	2.40
DN40	1-1/2"	35	63	32.0	0-16	3-6	PA40S1G8S063S	2.75
			63	50.0	0-10	3-6.5	PA50S1G9S063S	3.50
DN50	2"	45	80	50.0	0-16	3-6.6	PA50S1G9S080S	4.62
			100	50.0	0-16	3-5	PA50S1G9S100S	5.16
DN65	2-1/2"	65	100	70.0	0-10	3-6	PA65S1GTS100S	8.65

### 304 Stainless Steel Actuators with 316L Stainless Steel Bodies

Size	Port Size	Orifice mm	Actuator mm	KV m <sup>3</sup> /h	Operating Pressure Differential bar	Minimum Pilot Control Pressure Range bar	Order code	Weight Kg
DN10	3/8"	13	40	4.7	0-16	4	PA10S1G3R040S	0.78
			50	4.7	0-16	3	PA10S1G3R050S	1.01
DN15	1/2"	13	40	4.7	0-16	4	PA15S1G4R040S	0.80
			50	4.7	0-16	3	PA15S1G4R050S	1.03
DN20	3/4"	18	50	9.0	0-16	3-4	PA20S1G5R050S	1.06
DN25	1"	24	50	16.0	0-16	3-5.5	PA25S1G6R050S	1.38
			63	16.0	0-16	3-3.5	PA25S1G6R063S	2.05
DN32	1-1/4"	31	63	24.0	0-16	3-5	PA32S1G7R063S	2.40
DN40	1-1/2"	35	63	32.0	0-16	3-6	PA40S1G8R063S	2.75
			63	50.0	0-10	3-6.5	PA50S1G9R063S	3.50
DN50	2"	45	80	50.0	0-16	3-6.6	PA50S1G9R080S	4.62
			100	50.0	0-16	3-5	PA50S1G9R100S	5.16
DN65	2-1/2"	65	100	70.0	0-10	3-6	PA65S1GTR100S	8.65



**PA Series - Normally Closed Valves**

**Flow Direction OVER Seat**

Model Numbers Shown are BSP threads



**Aluminium Actuators  
with 304 Stainless Steel Bodies**

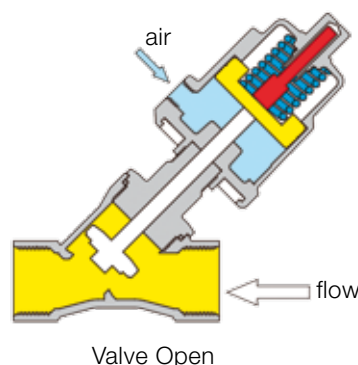
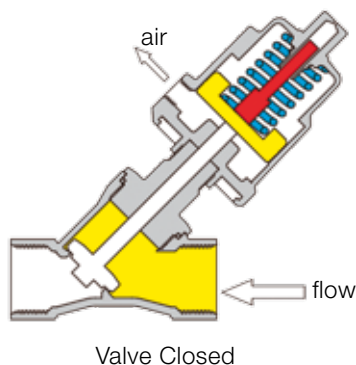


Size	Port Size	Orifice mm	Actuator mm	KV m <sup>3</sup> /h	Operating Pressure Differential bar	Minimum Pilot Control Pressure Range bar	Order code	Weight Kg
DN10	3/8"	13	50	4.7	0-16	3	PA10S1G3S050A	0.75
DN15	1/2"	13	50	4.7	0-16	3	PA15S1G4S050A	0.80
DN20	3/4"	18	50	9.0	0-16	3-4	PA20S1G5S050A	0.90
DN25	1"	24	50	16.0	0-16	3-5.5	PA25S1G6S050A	1.27
			63	16.0	0-16	3-4	PA25S1G6S063A	1.65
DN32	1-1/4"	31	63	24.0	0-16	3-5.5	PA32S1G7S063A	1.89
DN40	1-1/2"	35	63	32.0	0-16	3-6.5	PA40S1G8S063A	2.15
			63	50.0	0-10	3-6.5	PA50S1G9S063A	2.98
DN50	2"	45	80	50.0	0-16	3-6.6	PA50S1G9S080A	3.56
			100	50.0	0-16	3-5	PA50S1G9S100A	4.75
DN65	2-1/2"	65	100	70.0	0-10	3-6	PA65S1GTS100A	5.50

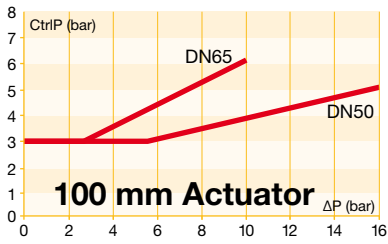
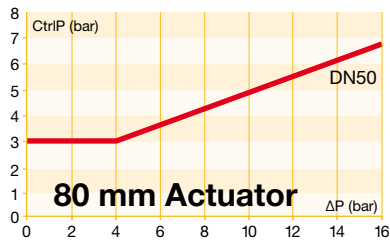
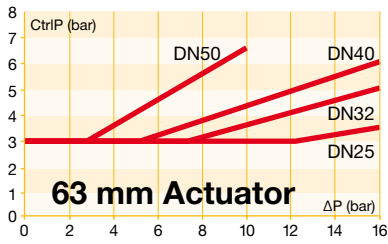
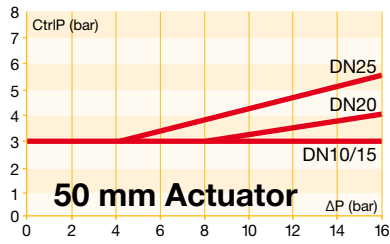
**Aluminium Actuators  
with 316L Stainless Steel Bodies**

Size	Port Size	Orifice mm	Actuator mm	KV m <sup>3</sup> /h	Operating Pressure Differential bar	Minimum Pilot Control Pressure Range bar	Order code	Weight Kg
DN10	3/8"	13	50	4.7	0-16	3	PA10S1G3R050A	0.75
DN15	1/2"	13	50	4.7	0-16	3	PA15S1G4R050A	0.80
DN20	3/4"	18	50	9.0	0-16	3-4	PA20S1G5R050A	0.90
DN25	1"	24	50	16.0	0-16	3-5.5	PA25S1G6R050A	1.27
			63	16.0	0-16	3-4	PA25S1G6R063A	1.65
DN32	1-1/4"	31	63	24.0	0-16	3-5.5	PA32S1G7R063A	1.89
DN40	1-1/2"	35	63	32.0	0-16	3-6.5	PA40S1G8R063A	2.15
			63	50.0	0-10	3-6.5	PA50S1G9R063A	2.98
DN50	2"	45	80	50.0	0-16	3-6.6	PA50S1G9R080A	3.56
			100	50.0	0-16	3-5	PA50S1G9R100A	4.75
DN65	2-1/2"	65	100	70.0	0-10	3-6	PA65S1GTR100A	5.50

**Flow Diagram**



## Control Pressure & Operating Pressure Charts for the Normally Closed Valves with Aluminum Actuators



**PA Series - Normally Closed Valves  
Flow Direction UNDER Seat**

**Anti Water Hammer Construction**

Model Numbers Shown are BSP threads



**304 Stainless Steel Actuators  
with 304 Stainless Steel Bodies**

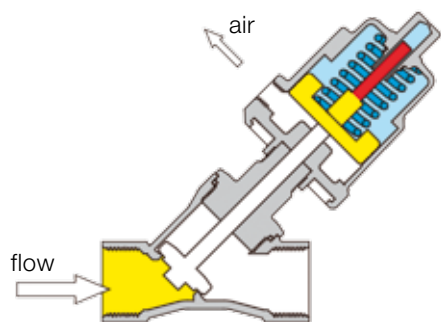


Size	Port Size	Orifice mm	Actuator mm	KV m³/h	Operating Pressure Differential bar	Minimum Pilot Control Pressure bar	Order code	Weight Kg
DN10	3/8"	13	50	4.7	0-16	4.5	PA10SAG3S050S	1.01
DN15	1/2"	13	50	4.7	0-16	4.5	PA15SAG4S050S	1.03
DN20	3/4"	18	50	9.0	0-10	4.5	PA20SAG5S050S	1.06
DN25	1"	24	63	16.0	0-8	4.5	PA25SAG6S063S	2.05
DN32	1-1/4"	31	80	24.0	0-11	4	PA32SAG7S080S	3.82
DN40	1-1/2"	35	80	32.0	0-8	4	PA40SAG8S080S	4.07
			100	32.0	0-16	4	PA40SAG8S100S	4.61
DN50	2"	45	100	50.0	0-9	4	PA50SAG9S100S	5.16

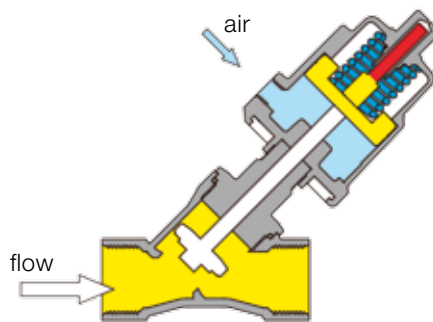
**304 Stainless Steel Actuators  
with 316L Stainless Steel Bodies**

Size	Port Size	Orifice mm	Actuator mm	KV m³/h	Operating Pressure Differential bar	Minimum Pilot Control Pressure bar	Order code	Weight Kg
DN10	3/8"	13	50	4.7	0-16	4.5	PA10SAG3R050S	1.01
DN15	1/2"	13	50	4.7	0-16	4.5	PA15SAG4R050S	1.03
DN20	3/4"	18	50	9.0	0-10	4.5	PA20SAG5R050S	1.06
DN25	1"	24	63	16.0	0-8	4.5	PA25SAG6R063S	2.05
DN32	1-1/4"	31	80	24.0	0-11	4	PA32SAG7R080S	3.82
DN40	1-1/2"	35	80	32.0	0-8	4	PA40SAG8R080S	4.07
			100	32.0	0-16	4	PA40SAG8R100S	4.61
DN50	2"	45	100	50.0	0-9	4	PA50SAG9R100S	5.16

**Flow Diagram**



Valve Closed



Valve Open

## PA Series - Normally Closed Valves Flow Direction UNDER Seat

### Anti Water Hammer Construction

Model Numbers Shown are BSP threads



### Aluminium Actuators with 304 Stainless Steel Bodies



Size	Port Size	Orifice mm	Actuator mm	KV m <sup>3</sup> /h	Operating Pressure Differential bar	Minimum Pilot Control Pressure bar	Order code	Weight Kg
DN10	3/8"	13	50	4.7	0-16	4.5	PA10SAG3S050A	0.75
DN15	1/2"	13	50	4.7	0-16	4.5	PA15SAG4S050A	0.80
DN20	3/4"	18	50	9.0	0-10	4.5	PA20SAG5S050A	0.90
DN25	1"	24	63	16.0	0-8	4.5	PA25SAG6S063A	1.65
DN32	1-1/4"	31	80	24.0	0-11	4	PA32SAG7S080A	2.80
DN40	1-1/2"	35	80	32.0	0-8	4	PA40SAG8S080A	3.10
			100	32.0	0-16	4	PA40SAG8S100A	4.15
DN50	2"	45	100	50.0	0-9	4	PA50SAG9S100A	4.75

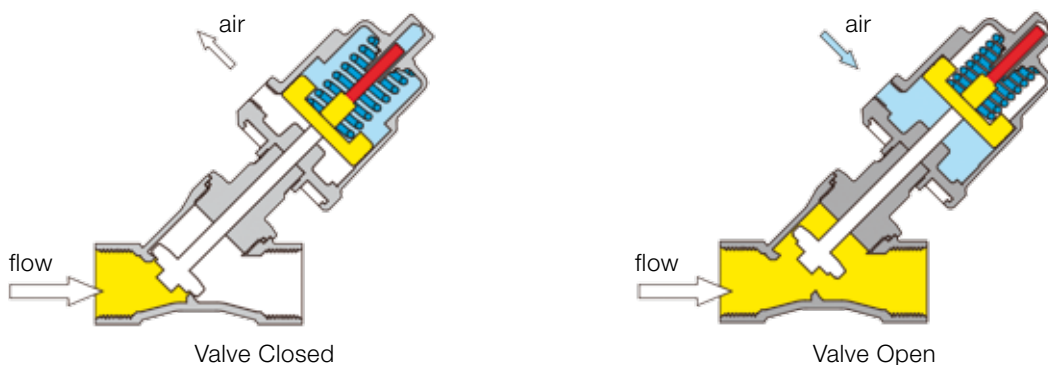
### Aluminium Actuators with 316L Stainless Steel Bodies

Size	Port Size	Orifice mm	Actuator mm	KV m <sup>3</sup> /h	Operating Pressure Differential bar	Minimum Pilot Control Pressure bar	Order code	Weight Kg
DN10	3/8"	13	50	4.7	0-16	4.5	PA10SAG3R050A	0.75
DN15	1/2"	13	50	4.7	0-16	4.5	PA15SAG4R050A	0.80
DN20	3/4"	18	50	9.0	0-10	4.5	PA20SAG5R050A	0.90
DN25	1"	24	63	16.0	0-8	4.5	PA25SAG6R063A	1.65
DN32	1-1/4"	31	80	24.0	0-11	4	PA32SAG7R080A	2.80
DN40	1-1/2"	35	80	32.0	0-8	4	PA40SAG8R080A	3.10
			100	32.0	0-16	4	PA40SAG8R100A	4.15
DN50	2"	45	100	50.0	0-9	4	PA50SAG9R100A	4.75

### Control Pressure & Operating Pressure

Charts do not apply for Valves with flow direction Under Seat. A minimum pressure as noted above is all that is required, up to a maximum of 10 bar.

### Flow Diagram



**PA Series - Compact Design Normally Closed Valves  
Flow Direction OVER Seat**

Model Numbers Shown are BSP threads

Media Temperature - 10°C to + 100°C



**304 Stainless Steel Actuators with 304 Stainless Steel Bodies**

Size	Port Size	Orifice mm	Actuator mm	KV m <sup>3</sup> /h	Operating Pressure Differential bar	Minimum Pilot Control Pressure Range bar	Order code	Weight Kg
DN10	3/8"	13	32	4.7	0-16	4.5-6	PA10C3G3S032S	0.58
DN15	1/2"	13	32	4.7	0-16	4.5-6	PA15C3G4S032S	0.60
DN20	3/4"	15	32	5.4	0-14	4.5-6	PA20C3G5S032S	0.65

**304 Stainless Steel Actuators with 316L Stainless Steel Bodies**

Size	Port Size	Orifice mm	Actuator mm	KV m <sup>3</sup> /h	Operating Pressure Differential bar	Minimum Pilot Control Pressure Range bar	Order code	Weight Kg
DN10	3/8"	13	32	4.7	0-16	4.5-6	PA10C3G3R032S	0.58
DN15	1/2"	13	32	4.7	0-16	4.5-6	PA15C3G4R032S	0.60
DN20	3/4"	15	32	5.4	0-14	4.5-6	PA20C3G5R032S	0.65

Media Temperature - 10°C to + 180°C

**304 Stainless Steel Actuators with 304 Stainless Steel Bodies**

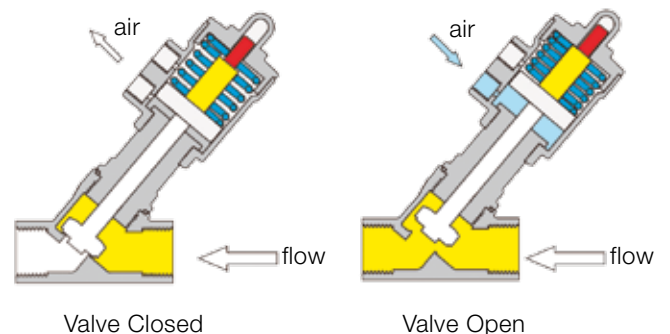
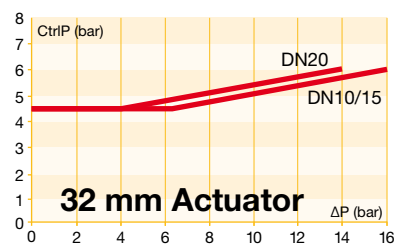
Size	Port Size	Orifice mm	Actuator mm	KV m <sup>3</sup> /h	Operating Pressure Differential bar	Minimum Pilot Control Pressure Range bar	Order code	Weight Kg
DN10	3/8"	13	32	4.7	0-16	4.5-6	PA10C1G3S032S	0.63
DN15	1/2"	13	32	4.7	0-16	4.5-6	PA15C1G4S032S	0.65
DN20	3/4"	15	32	5.4	0-14	4.5-6	PA20C1G5S032S	0.71

**304 Stainless Steel Actuators with 316L Stainless Steel Bodies**

Size	Port Size	Orifice mm	Actuator mm	KV m <sup>3</sup> /h	Operating Pressure Differential bar	Minimum Pilot Control Pressure Range bar	Order code	Weight Kg
DN10	3/8"	13	32	4.7	0-16	4.5-6	PA10C1G3R032S	0.63
DN15	1/2"	13	32	4.7	0-16	4.5-6	PA15C1G4R032S	0.65
DN20	3/4"	15	32	5.4	0-14	4.5-6	PA20C1G5R032S	0.71

**Control Pressure & Operating Pressure**

**Flow Diagram**



## PA Series - Compact Design Normally Closed Valves Flow Direction UNDER Seat

Model Numbers Shown are BSP threads

Media Temperature - 10°C to + 100°C



### 304 Stainless Steel Actuators with 304 Stainless Steel Bodies

Size	Port Size	Orifice mm	Actuator mm	KV m <sup>3</sup> /h	Operating Pressure Differential bar	Minimum Pilot Control Pressure Range bar	Order code	Weight Kg
DN10	3/8"	13	32	4.7	0-6	5-6	PA10C4G3S032S	0.58
DN15	1/2"	13	32	4.7	0-6	5-6	PA15C4G4S032S	0.60
DN20	3/4"	15	32	5.4	0-4	5-6	PA20C4G5S032S	0.65

### 304 Stainless Steel Actuators with 316L Stainless Steel Bodies

Size	Port Size	Orifice mm	Actuator mm	KV m <sup>3</sup> /h	Operating Pressure Differential bar	Minimum Pilot Control Pressure Range bar	Order code	Weight Kg
DN10	3/8"	13	32	4.7	0-6	5-6	PA10C4G3R032S	0.58
DN15	1/2"	13	32	4.7	0-6	5-6	PA15C4G4R032S	0.60
DN20	3/4"	15	32	5.4	0-4	5-6	PA20C4G5R032S	0.65

Media Temperature - 10°C to + 180°C

### 304 Stainless Steel Actuators with 304 Stainless Steel Bodies

Size	Port Size	Orifice mm	Actuator mm	KV m <sup>3</sup> /h	Operating Pressure Differential bar	Minimum Pilot Control Pressure Range bar	Order code	Weight Kg
DN10	3/8"	13	32	4.7	0-6	5-6	PA10C2G3S032S	0.63
DN15	1/2"	13	32	4.7	0-6	5-6	PA15C2G4S032S	0.65
DN20	3/4"	15	32	5.4	0-4	5-6	PA20C2G5S032S	0.71

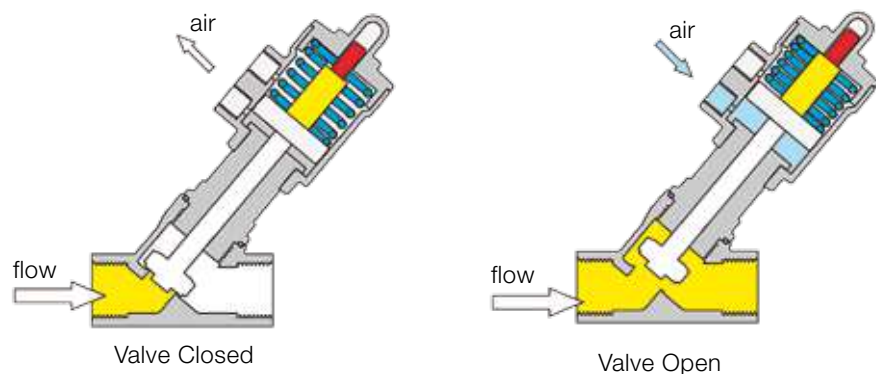
### 304 Stainless Steel Actuators with 316L Stainless Steel Bodies

Size	Port Size	Orifice mm	Actuator mm	KV m <sup>3</sup> /h	Operating Pressure Differential bar	Minimum Pilot Control Pressure Range bar	Order code	Weight Kg
DN10	3/8"	13	32	4.7	0-6	5-6	PA10C2G3R032S	0.63
DN15	1/2"	13	32	4.7	0-6	5-6	PA15C2G4R032S	0.65
DN20	3/4"	15	32	5.4	0-4	5-6	PA20C2G5R032S	0.71

### Control Pressure & Operating Pressure

Charts do not apply for Valves with flow direction Under Seat. A minimum pressure as noted above is all that is required, up to 10 bar maximum.

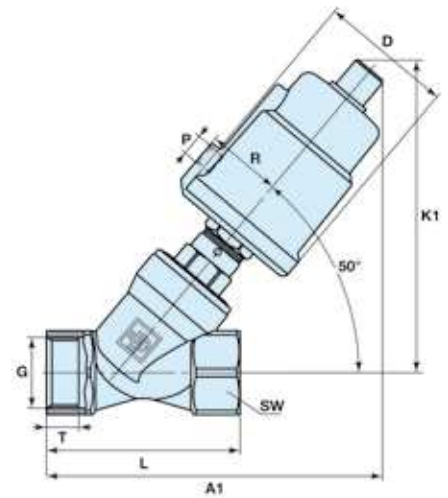
### Flow Diagram



**PA Series - Drawings and Dimensions**

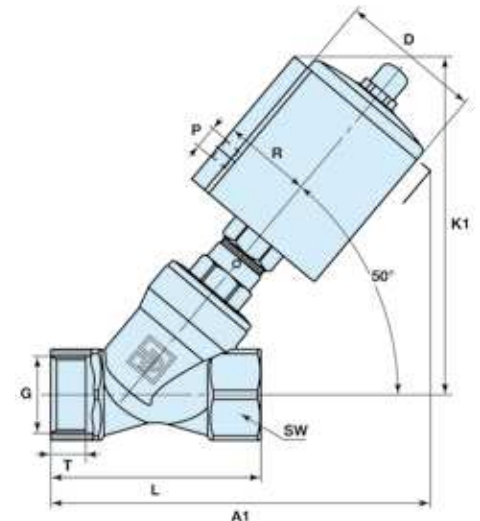
**Stainless Steel Actuators Sizes 40, 50, 63, 80, 100 mm**

Type	Actuator	D	R	P	K1	A1	G	L	T	SW	
DN10	40	50.5	27	G1/8	116	121	G3/8	60	10	22	hexagon
	50	62	34	G1/8	130	133	G3/8	60	10	22	hexagon
DN15	40	50.5	27	G1/8	118	124	G1/2	65	11.5	25	hexagon
	50	62	34	G1/8	131	135	G1/2	65	11.5	25	hexagon
DN 20	50	62	34	G1/8	134	141	G3/4	75	14	31	hexagon
DN25	50	62	34	G1/8	141	153	G1	90	15	39	hexagon
	63	77	41.5	G1/8	164	175	G1	90	15	39	hexagon
DN32	63	77	41.5	G1/8	170	188	G1-1/4	110	18	50	octagon
	80	98	52	G1/4	184	205	G1-1/4	110	18	50	octagon
DN40	63	77	41.5	G1/8	181	201	G1-1/2	120	18	56	octagon
	80	98	52	G1/4	195	217	G1-1/2	120	18	56	octagon
	100	121	63	G1/4	213	235	G1-1/2	120	18	56	octagon
DN50	63	77	41.5	G1/8	189	216	G2	150	22	68	octagon
	80	98	52	G1/4	203	233	G2	150	22	68	octagon
	100	121	63	G1/4	221	250	G2	150	22	68	octagon
DN65	100	121	63	G1/4	248	285	G2-1/2	180	25	85	octagon



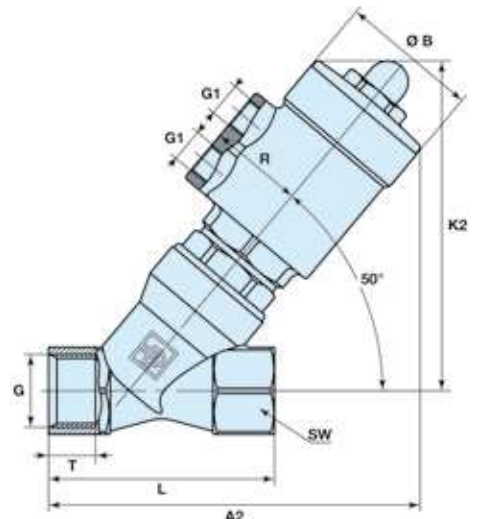
**Aluminum Actuators Sizes 50, 63, 80, 100 mm**

Type	Actuator	D	R	P	K1	A1	G	L	T	SW	
DN10	50	61	38	G1/8	132	141	G3/8	60	10	22	hexagon
DN15	50	61	38	G1/8	133	144	G1/2	65	11.5	25	hexagon
DN20	50	61	38	G1/8	136	150	G3/4	75	14	31	hexagon
DN25	50	61	38	G1/8	144	162	G1	90	15	39	hexagon
	63	75	45	G1/8	167	183	G1	90	15	39	hexagon
DN32	63	75	45	G1/8	173	196	G1-1/4	110	18	50	octagon
	80	94	54	G1/4	192	214	G1-1/4	110	18	50	octagon
DN40	63	75	45	G1/8	184	209	G1-1/2	120	18	56	octagon
	80	94	54	G1/4	203	226	G1-1/2	120	18	56	octagon
	100	115	64	G1/4	223	245	G1-1/2	120	18	56	octagon
DN50	63	75	45	G1/8	192	224	G2	150	22	68	octagon
	80	94	54	G1/4	211	242	G2	150	22	68	octagon
	100	115	64	G1/4	231	260	G2	150	22	68	octagon
DN65	100	115	64	G1/4	257	294	G2-1/2	180	25	85	octagon



**Stainless Steel Actuators Size 32 mm**

Type	Actuator	Ø B	R	G1	K2		A2		G	L	T	SW	
					Type C1/C2 (180°C)	Type C3/C4 (100°C)	Type C1/C2 (180°C)	Type C3/C4 (100°C)					
DN10	32	39.6	27	G1/8	107	94	117	106	G3/8	60	10	22	hexagon
DN15	32	39.6	27	G1/8	109	96	119	108	G1/2	65	11.5	25	hexagon
DN20	32	39.6	27	G1/8	112	100	126	115	G3/4	75	14	31	hexagon



**Solenoid Valves for Controlling the PA Angle Seat Valves**

**3 Way Direct Acting Pilot Control Valves**

**Banjo Valve - Available as Separate Components**

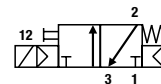
**Banjo Valves G1/4" & G1/8" Series with Aluminium Body**

**Solenoid Operated Versions - B14-B04 Versions with 22 mm Coil**

Port Size	Orifice	Q <sub>N</sub>	Admissible differential pressure (bar)		Max. admissible fluid temperature (°C)	Seat disc	Reference number			Consumption Power (Watt)		Weight (g)	Dim. Ref.
			max. DC=	AC~			Valve	Housing	Coil	DC	AC		
Banjo	G	mm	l/min	min									

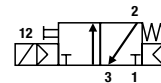
**3/2 Solenoid operated - Spring return (monostable)**

1/8	1/8	1.2	50	0	10	10	50	NBR	131B14	-	496131	3	3	140	26
1/8	1/8	1.2	50	0	10	10	50	NBR	131B14	-	496482	3	3	150	26
1/8	1/8	1.2	50	0	10	10	50	NBR	131B14	-	496637	3	3	150	26
1/8	1/8	1.2	50	0	10	-	50	NBR	131B14	-	482605	5	-	170	26

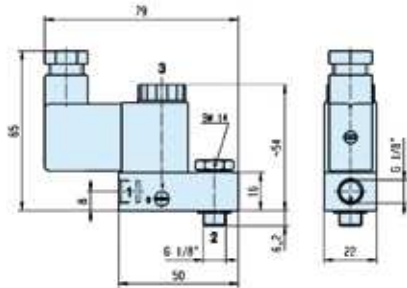


**3/2 Solenoid operated - Spring return (monostable)**

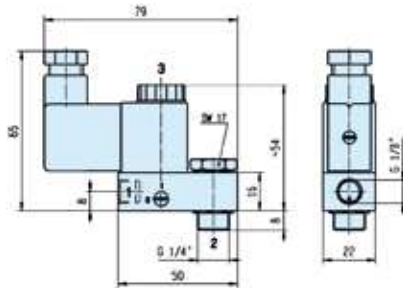
1/4	1/8	1.2	50	0	10	10	50	NBR	131B04	-	496131	3	3	160	27
1/4	1/8	1.2	50	0	10	10	50	NBR	131B04	-	496482	3	3	175	27
1/4	1/8	1.2	50	0	10	10	50	NBR	131B04	-	496637	3	3	175	27
1/4	1/8	1.2	50	0	10	-	50	NBR	131B04	-	482605	5	-	190	27



**Dimensions Reference 26**



**Dimensions Reference 27**



**Coils 22 mm for Banjo Valves Series**

These coils with connection for 2 P+G DIN 43650 B plug are encapsulated in synthetic material, conform to the IEC/CENELEC safety standards and comply with European low voltage directive 2006/95/EC. Banjo Valve bodies conform to the terms of the directive 94/9/CE specific to non electrical equipment for use within potentially explosive environments - Please select appropriate Coil for Safe Area or ATEX zones 1/21 or 2/22 in the following table.

	Available Voltages	Safe area without DIN plug Code	Safe area with DIN plug Code	For Zone 2/22		For Zone 1/21	
				II 3 G-Ex nc AC IIC T5	II 3 D-Ex tc AC IIIC - T 95°C code with DIN plug	II 2 G-Ex mb II T4	II 2 D-Ex tb IIIC - T 130°C code includes DIN plug and 1.5 m cable
I Power: 3 W or 5 W	12 VDC	<b>496131 C1</b>	<b>496482 C1</b>	<b>496637 C1</b>	<b>482605 C1</b>		
I Insulation Class: F (155°C)	24 VDC	<b>496131 C2</b>	<b>496482 C2</b>	<b>496637 C2</b>	<b>482605 C2</b>		
I Degree of Protection: IP65 (with plug)	48 VDC	<b>496131 C4</b>	<b>496482 C4</b>	<b>496637 C4</b>	-		
I Duty Cycle: 100% ED	110 VDC	<b>496131 C5</b>	<b>496482 C5</b>	<b>496637 C5</b>	-		
	24/50-60 VAC	<b>496131 P0</b>	<b>496482 P0</b>	<b>496637 P0</b>	-		
	48/50-60 VAC	<b>496131 S4</b>	<b>496482 S4</b>	<b>496637 S4</b>	-		
	110/50-60 VAC	<b>496131 P2</b>	<b>496482 P2</b>	<b>496637 P2</b>	-		
	115/60 VAC	<b>496131 K8</b>	<b>496482 K8</b>	<b>496637 K8</b>	-		
	230/50-60 VAC	<b>496131 P9</b>	<b>496482 P9</b>	<b>496637 P9</b>	-		

**How to Order**

Valve Reference Number - Coil Reference - Voltage code = Order code

**Example: 131B14 - 496131 C2** - Valves and coils may be ordered also separately.



Highly accurate units, suitable for applications such as instrumentation where precision regulation is required.


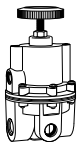
- High repeatability
- High relief capacity on R220 model
- High flow capacity on R230 model



**Operating information**

Max operating pressure	10 bar
Max operating temperature	66°C
Repeatability:	R210 model 0.3 mbar
	R220 model 0.3 mbar
	R230 model 0.6 mbar

For more information see [www.parker.com/euro\\_pneumatic](http://www.parker.com/euro_pneumatic)

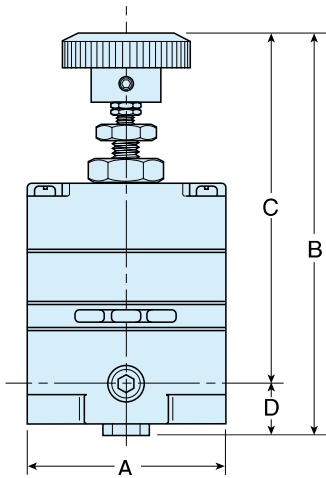
	Port size	Reduced Pressure range	Flow l/min	Relief capacity l/min	Order code
	G1/4	0.13 - 2.7	396	57	<b>R210G02A</b>
	G1/4	0.13 - 8.1	396	57	<b>R210G02C</b>
	G1/4	0.13 - 8.1	396	282	<b>R220G02C</b>
	G1/4	0 - 0.13	2280	114	<b>R230G02E</b>
	G1/4	0 - 2	2280	114	<b>R230G02B</b>
	G1/4	0.13 - 4	2280	114	<b>R230G02C</b>
	G1/4	0.13 - 10	2280	114	<b>R230G02D</b>

**Mounting brackets**

Series	Order code
R210 / R220	<b>446-707-045</b>
R230	<b>446-707-025</b>

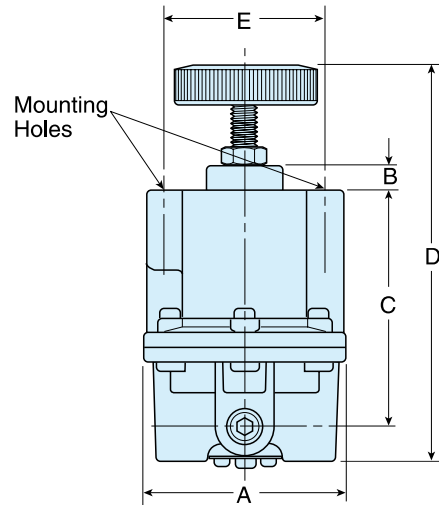
Dimensions (mm)

R210 / 220 High Precision Regulator



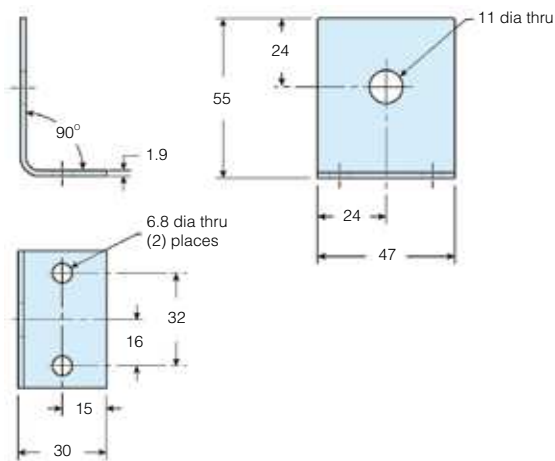
A	C	D	E
52mm	110mm	97mm	13.5mm

R230 High Flow Precision Regulator

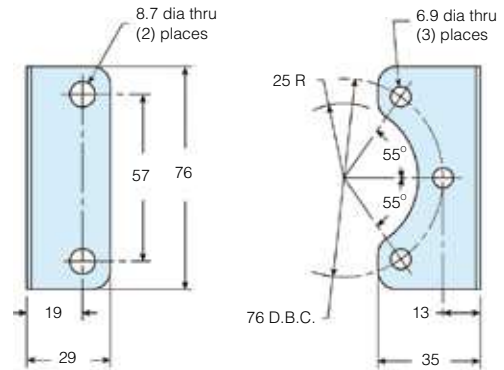


A	B	C	D	E
76mm	10mm	86mm	154mm	57mm

Mounting bracket - 446-707-045



Mounting bracket - 446-707-025



- Compact body ported units
- Port sizes G1/8 and G1/4
- Unique deflector plate ensuring maximum water and particulate removal
- Solid control piston with lip seal for extended life.
- Proportional oil delivery over a wide range of air flows.



Operating information		Flow characteristics	
Working pressure:	Max 10 bar	<b>Flow</b>	Filter 11 l/s
Working temperature:	0 °C to +52 °C		Regulator 9,3 l/s
			Filter Regulator 9,3 l/s
			Lubricator 10 l/s
For more information see <a href="http://www.parker.com/euro_pneumatic">www.parker.com/euro_pneumatic</a>			

**Filters** - 5 micron element, transparent bowl

Port size	Description	Order Code
G1/8	Manual drain	<b>14F01BB1</b>
G1/8	Auto drain	<b>14F05BB1</b>
G1/4	Manual drain	<b>14F11BB1</b>
G1/4	Auto drain	<b>14F15BB1</b>
	Mounting bracket	<b>PS417BP</b>

**Regulators** - relieving type - non relieving options available

Port size	Description	Order Code
G1/8	2 bar	<b>14R010FC1</b>
G1/8	4 bar	<b>14R011FC1</b>
G1/8	8 bar	<b>14R013FC1</b>
G1/4	2 bar	<b>14R110FC1</b>
G1/4	4 bar	<b>14R111FC1</b>
G1/4	8 bar	<b>14R113FC1</b>
	Mounting bracket (Includes panel mounting nut)	<b>PS417BP</b>

**Lubricators** - transparent bowl

Port size	Order Code
G1/8	<b>04L00GB1</b>
G1/4	<b>04L10GB1</b>
	Mounting bracket <b>PS419</b>

**Pressure Gauges**

	Order Code
0 - 2 bar	<b>P3D-KAB1AYN</b>
0 - 4 bar	<b>P3D-KAB1ALN</b>
0 - 8 bar	<b>P3D-KAB1ANN</b>

**Coalescing Filters** - 0.01 micron element

Port size	Description	Order Code
<b>Poly bowl</b>		
G1/8	Manual drain	<b>10F01ED1</b>
G1/8	Auto drain	<b>10F05ED1</b>
G1/4	Manual drain	<b>10F11ED1</b>
G1/4	Auto drain	<b>10F15ED1</b>
	Mounting bracket	<b>PS417BP</b>

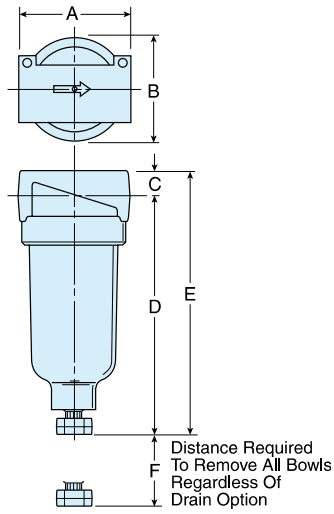
**Filter/Regulators**

- transparent bowl - 2 and 4 bar and non relieving options available

Port size	Description	Order Code
G1/8	2 bar, manual drain	<b>14E01B10FC1</b>
G1/8	2 bar, auto drain	<b>14E05B10FC1</b>
G1/4	2 bar, manual drain	<b>14E11B10FC1</b>
G1/4	2 bar, auto drain	<b>14E15B10FC1</b>
G1/8	4 bar, manual drain	<b>14E01B11FC1</b>
G1/8	4 bar, auto drain	<b>14E05B11FC1</b>
G1/4	4 bar, manual drain	<b>14E11B11FC1</b>
G1/4	4 bar, auto drain	<b>14E15B11FC1</b>
G1/8	8 bar, manual drain	<b>14E01B13FC1</b>
G1/8	8 bar, auto drain	<b>14E05B13FC1</b>
G1/4	8 bar, manual drain	<b>14E11B13FC1</b>
G1/4	8 bar, auto drain	<b>14E15B13FC1</b>
	Mounting bracket (Includes panel mounting nut)	<b>PS417BP</b>

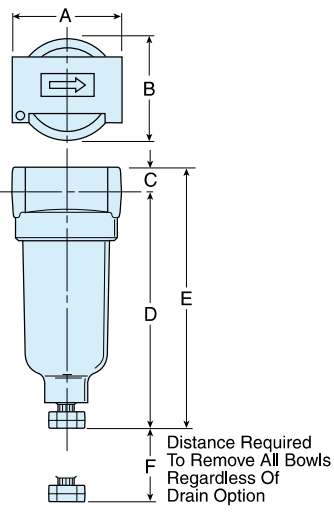
Dimensions (mm)

Filters



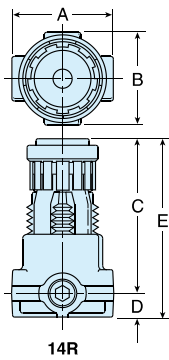
A	B	C	D	D <sup>+</sup>	E	E <sup>+</sup>	F
43	39	10	97	99	107	108	41

Coalescing Filters



A	B	C	D	D <sup>+</sup>	E	E <sup>+</sup>	F
43	39,6	10	97	93	107	103	41

Regulators



14R	A	B	C	D	E
	42	40	63,5	10	731

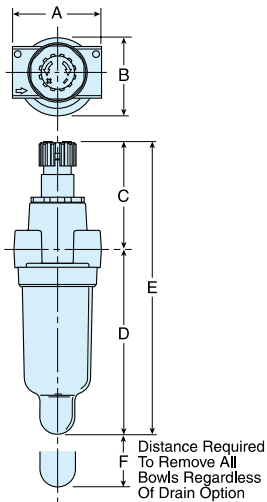
  

14R**L*	A	B	C	D	E
	42	40	57,9	10	68

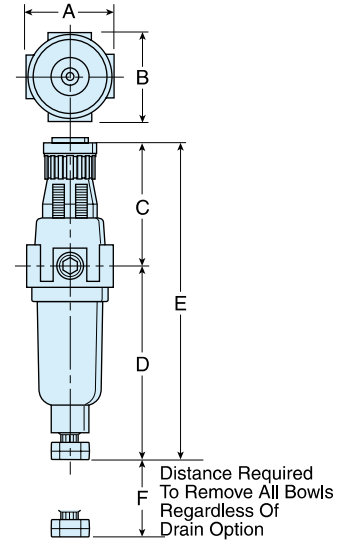
14RM	A	B	C	D	E	F	G	H	J
	38	38	60	13	73	30	15	8	18

Lubricators



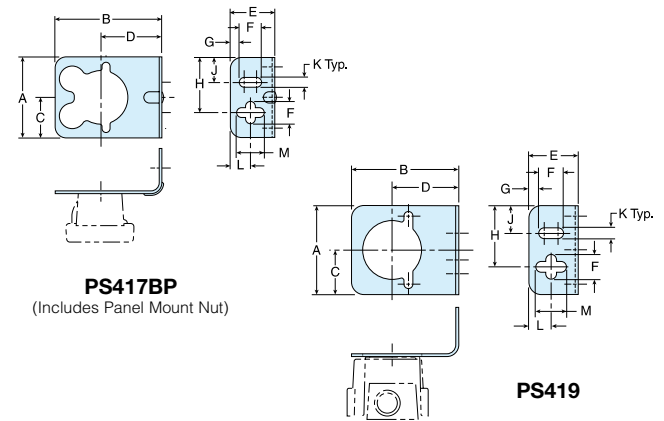
A	B	C	D	D <sup>+</sup>	E	E <sup>+</sup>	F
44	40	55	92	96	147	151	41

Filter/Regulators



A	B	C	D	D <sup>+</sup>	E	E <sup>+</sup>	F
41	40	61	96	92	158	154	41

Mounting Bracket Kits



PS417BP - 10F, 14F, 14R, 14E

A	B	C	D	E	F	G	H	J	K	L	M
46	60	23	34	25	13	5	31	14	6	11	16

PS419 - 04L

A	B	C	D	E	F	G	H	J	K	L	M
46	55	23	34	25	13	5	31	14	6	11	16

Service kits

Description	Order Code
5 micron particulate element	<b>PS403P</b>
0.01 micron coalescing element	<b>PS446P</b>
Poly bowl with manual drain	<b>PS404P</b>
Poly bowl with pulse drain	<b>PS408BP</b>
Lubricator bowl	<b>PS421P</b>
<b>Regulator</b>	
Relieving type	<b>PS422P</b>
Non-relieving type	<b>PS428P</b>

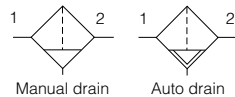
The range of Stainless Steel FRLs are ideal for use in the food industry, the petrochemical or process industries or any application in a particularly harsh or aggressive environment.

- Suitable for Marine & Offshore applications
- Chemical / Petroleum and process industries
- Coalescing filters are designed for removing oil and water aerosols down to 0.01µ
- Suitable for food industry applications



Operating information		
Max operating pressure	20 bar	
	12 bar when fitted with auto-drain	
Max operating temperature	Regulator	65°C
	Filter + Regulator	80°C,
		50°C when fitted with auto-drain
For more information see <a href="http://www.parker.com/euro_pneumatic">www.parker.com/euro_pneumatic</a>		

**Particulate Filter**



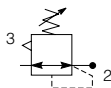
Port size	Flow l/min @ 7 bar	Filter element	Order code with manual drain	Order code with auto drain
G1/4	660	20µ	<b>PF504G02DHSS</b>	
G1/2	1800	40µ	<b>PF10G04DJSS</b>	<b>PF10G04DJRSS</b>

\* For 5µ filter element substitute **H** or **J** with **G**

**Coalescing Filter**

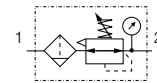
Port size	Flow l/min @ 7 bar	Filter element	Order code with manual drain	Order code with auto drain
G1/4	240	0.3µ	<b>PF501G02DHSS</b>	
G1/2	480	0.01µ	<b>PF11G04DJSS</b>	<b>PF11G04DJRSS</b>

**Regulator**



Port size	Flow l/min @ 7 bar	Order code fitted with 0-8.5 bar spring
G1/4 Plastic bonnet/knob Full S/S version	450	<b>PR364G02CSS</b> <b>PR354G02CSS</b>
G1/2 Plastic bonnet/knob Full S/S version	2820	<b>PR10G04CSS</b> <b>PR11G04CSS</b>

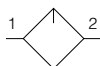
**Filter/Regulator**



Port size	Flow l/min @ 7 bar	Order code fitted with 0-8.5 bar spring
G1/4 Plastic bonnet/knob Full S/S version	450	<b>PB548G02DHCSS</b> <b>PB558G02DHCSS</b>
G1/2 Plastic bonnet/knob Full S/S version	1800	<b>PB11G04DJCSS</b> <b>PB12G04DJCSS</b>

Panel mounting nut for G1/4: **PR05X51SS**  
G1/2: **PR10X51SS**

**Lubricator**



Port size	Flow l/min @ 7 bar	Order code
G1/2	3000	<b>PL10G04DSS</b>

**Connectors**

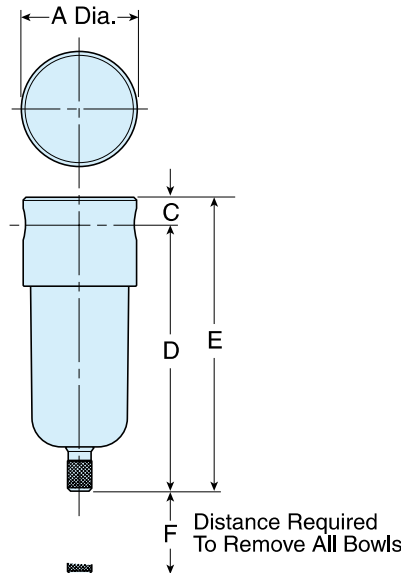
Port size	Order code
G1/4	<b>AC-2SS</b>
G1/2	<b>AC-4SS</b>

<b>Stainless steel pressure gauge</b>	<b>M1/4G40S-10 (0 to 10 bar)</b>
---------------------------------------	----------------------------------

Dimensions (mm) - 1/4"

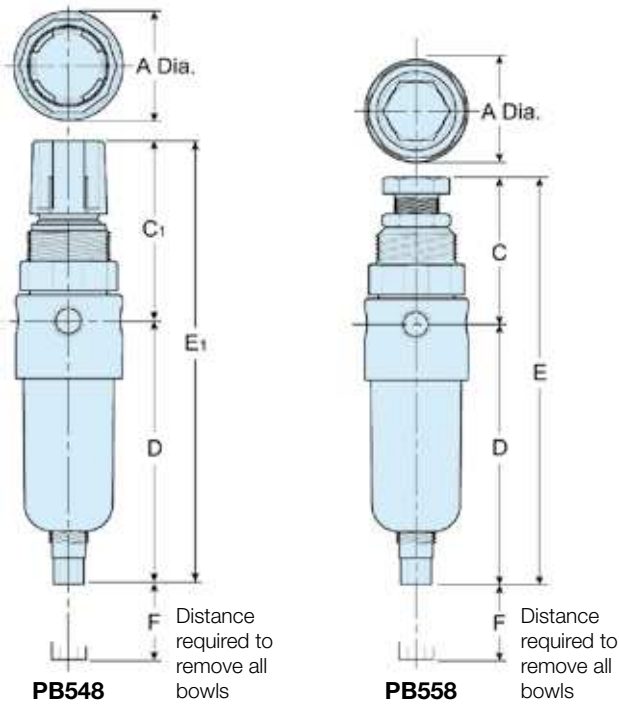
Filters

Coalescing Filters



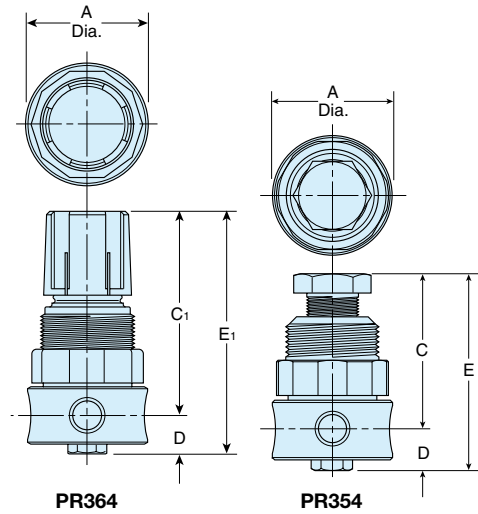
A	C	D	E	F
40mm	8mm	94mm	102mm	40mm

Filter/Regulators



A	C	C <sub>1</sub>	D	E	E <sub>1</sub>	F
40mm	55mm	67mm	92mm	78mm	147mm	40mm

Regulators



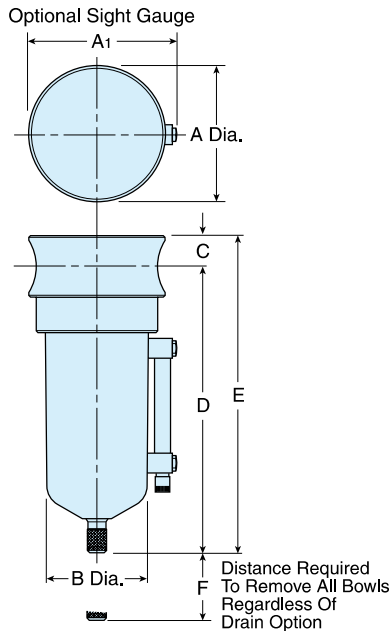
A	C	C <sub>1</sub>	D	E	E <sub>1</sub>
40mm	51mm	65mm	13mm	64mm	78mm

Service kits

Port size	Description	Order Code
<b>Filter</b>		
1/4	20 micron particulate element	<b>EK504Y</b>
1/4	5 micron particulate element	<b>EK504VY</b>
1/2	40 micron particulate element	<b>EK55J</b>
1/2	5 micron particulate element	<b>EK55G</b>
<b>Coalescing Filter</b>		
1/4	0.3 micron coalescing element	<b>EKF501H</b>
1/2	0.01 micron coalescing element	<b>EKF71</b>
<b>Regulator</b>		
1/4	Relieving type	<b>RKR364YSS</b>
1/4	Non-relieving type	<b>RKR36KYSS</b>
1/2	Relieving type	<b>RKR10YSS</b>
1/2	Non-relieving type	<b>RKR10KYSS</b>
<b>Filter/Regulator</b>		
1/4	20 micron particulate element	<b>EK504Y</b>
1/4	5 micron particulate element	<b>EK504VY</b>
1/2	40 micron particulate element	<b>EKF10Y</b>
1/2	5 micron particulate element	<b>EKF10VY</b>
<b>Lubricator</b>		
	Sight dome kit	<b>RKL10SS</b>

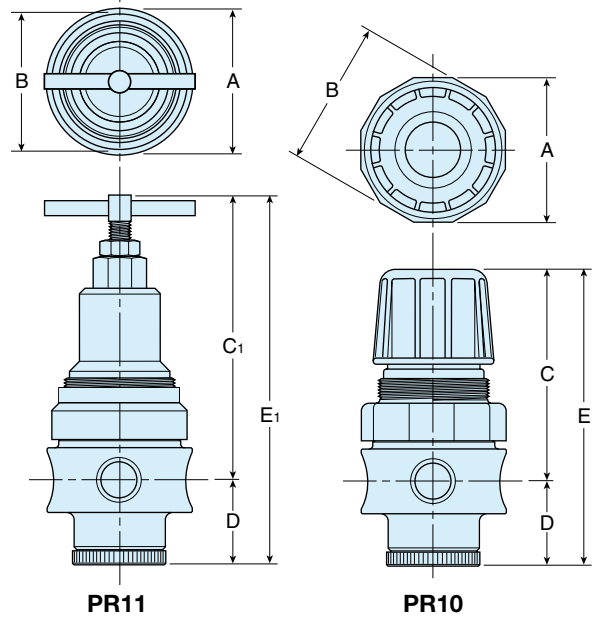
**Dimensions (mm) - 1/2"**

**Filters  
 Coalescing Filters**



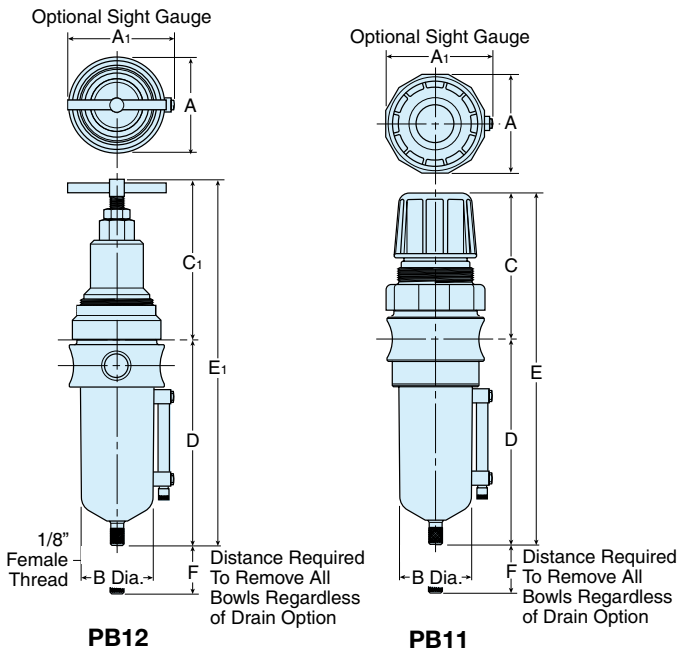
A	A <sub>1</sub>	B	C	D	E	F
60mm	64mm	44mm	14mm	127mm	141mm	54mm

**Regulators**



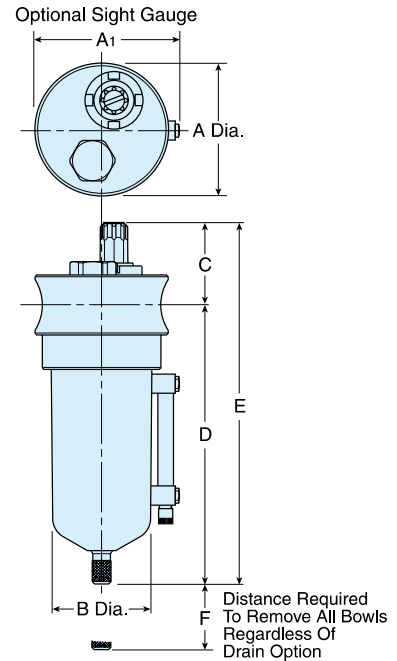
A	B	C	C <sub>1</sub>	D	E	E <sub>1</sub>
60mm	62mm	91mm	119mm	35mm	126mm	154mm

**Filter/Regulators**



A	A <sub>1</sub>	B	C	C <sub>1</sub>	D	E	E <sub>1</sub>	F
60mm	64mm	44mm	91mm	119mm	127mm	218mm	246mm	54mm

**Lubricators**



A	A <sub>1</sub>	B	C	D	E	F
60mm	64mm	44mm	46mm	127mm	173mm	89mm

High Efficiency 0.01 µm Filtration

Filtration Grade

Filtration type	Coalescing
Particle removal (inc water & oil aerosols)	Down to 0.01 micron
Max remaining oil content at 21°C	0.01 mg/m <sup>3</sup> 0.01 ppm(w)
Filter efficiency	99.9999%
Test methods used	ISO 8573.2 ISO 8573.4 ISO 12500-1
ISO 12500-1 Inlet Challenge concentration	10 mg/m <sup>3</sup>
Initial dry differential pressure	<140 mbar (2psi)
Initial saturated differential pressure	<200 mbar (3psi)
Change element every	12 months
Precede with filtration grade	1 micron Moduflex Coalescer



Product selection

Stated flows are for operation at 7 bar (g) with reference to 20°C, 1 bar (a), 0% relative water vapour pressure. For flows at other pressures apply the correction factors shown.

Port Size BSPT	Part Number	dm <sup>3</sup> /s	m <sup>3</sup> /hr	cfm	0.01 µm Replacement Element Kit
1/4"	P3TFA22CAAN	10	36	21	P3TKA00ESCA
3/8"	P3TFA23CBAN	20	72	42	P3TKA00ESCB
1/2"	P3TFA24CCAN	30	108	64	P3TKA00ESCC
3/4"	P3TFA26CDAN	60	216	127	P3TKA00ESCD
1 "	P3TFA28CEAN	110	396	233	P3TKA00ESCE
1.1/4"	P3TFA2ACEAN	110	396	233	P3TKA00ESCE
1.1/2"	P3TFA2BCFAN	160	576	339	P3TKA00ESCF
1.1/2"	P3TFA2BCGAN	220	792	466	P3TKA00ESCG
2"	P3TFA2CCHAN	330	1188	699	P3TKA00ESCH
2.1/2"	P3TFA2DCJAN	430	1548	911	P3TKA00ESCJ
3"	P3TFA2ECJAN	430	1548	911	P3TKA00ESCJ
2.1/2"	P3TFA2DCKAN	620	2232	1314	P3TKA00ESCK
3"	P3TFA2ECKAN	620	2232	1314	P3TKA00ESCK

Correction factors

Line pressure bar g	psi g	Correction factor
1	15	0.38
2	29	0.53
3	44	0.65
4	58	0.76
5	73	0.85
6	87	0.93
7	100	1.00
8	116	1.07
9	131	1.13
10	145	1.19
11	160	1.25
12	174	1.31
13	189	1.36
14	203	1.41
15	218	1.46
16	232	1.51

Filter selection example

Selecting a filter model to match a system flow rate and pressure.

**Example:** System flow 1050 m<sup>3</sup>/hr at a pressure of 8.5 bar g

1. Obtain pressure correction factor from table or calculate factor using method shown. Correction factor for 8.5 bar g = 1.10
2. Divide system flow by correction factor to give equivalent flow rate at 7 bar g 1050m<sup>3</sup>/hr ÷ 1.10 = 955 m<sup>3</sup>/hr (at 7 bar g)
3. Select a filter model from the above table with a flow rate above or equal to 955 m<sup>3</sup>/hr. Filter model selected : P3TFA2CCHAN
4. Select pipe connection & Thread type System uses 2" piping and BSP threads: Model P3TFA2CCHAN

To find the correction factor for 8.5 bar g (122psi g) =

$$\sqrt{\frac{\text{System Operating Pressure}}{\text{Nominal Pressure}}} = \sqrt{\frac{8.5 \text{ bar g}}{7 \text{ bar g}}} = 1.10$$



**High Efficiency 0.01 µm Filtration**

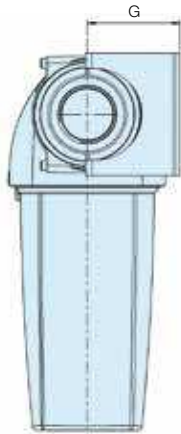
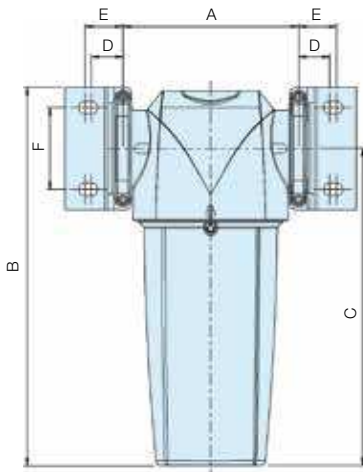
**Technical data**

Filter Grade	Drain type	Max operating pressure		Max recommended operating temp.		Min recommended operating temp.	
		bar g	psi g				
0.01 micron	Auto	16	232	80°C	176°F	1.5°C	35°F

**Weights and dimensions**

**Optional Accessories**

Port Size	Part Number	A		B		C		D		E		F		G		Weight		Modular Connection Kit	Wall Mounting Bracket Kit
		mm	ins	mm	ins	mm	ins	mm	ins	mm	ins	mm	ins	mm	ins	kg	lbs		
1/4"	<b>P3TFA22CAAN</b>	76.0	3.0	181.5	7.2	153.0	6.0	18.0	0.71	24.5	0.96	30.0	1.18	52.0	2.05	0.4	0.9	<b>P3TKA00CBA</b>	<b>P3TKA00MWA</b>
3/8"	<b>P3TFA23CBAN</b>	97.5	3.8	235.0	9.3	201.0	7.9	20.5	0.81	25.5	1.00	40.0	1.57	60.0	2.36	1.0	2.2	<b>P3TKA00CBB</b>	<b>P3TKA00MWB</b>
1/2"	<b>P3TFA24CCAN</b>	97.5	3.8	235.0	9.3	201.0	7.9	20.5	0.81	25.5	1.00	40.0	1.57	60.0	2.36	1.0	2.2	<b>P3TKA00CBB</b>	<b>P3TKA00MWB</b>
3/4"	<b>P3TFA26CDAN</b>	129.0	5.1	275.0	10.8	232.5	9.2	23.0	0.91	28.0	1.10	60.0	2.36	68.0	2.68	2.2	4.8	<b>P3TKA00CBD</b>	<b>P3TKA00MWD</b>
1"	<b>P3TFA28CEAN</b>	129.0	5.1	364.5	14.3	322.0	12.7	23.0	0.91	28.0	1.10	60.0	2.36	68.0	2.68	2.6	5.7	<b>P3TKA00CBD</b>	<b>P3TKA00MWD</b>
1.1/4"	<b>P3TFA2ACEAN</b>	129.0	5.1	364.5	14.3	322.0	12.7	23.0	0.91	28.0	1.10	60.0	2.36	68.0	2.68	2.6	5.7	<b>P3TKA00CBD</b>	<b>P3TKA00MWD</b>
1.1/2"	<b>P3TFA2BCFAN</b>	170.0	6.7	432.5	17.0	382.5	15.1	32.0	1.26	39.0	1.54	84.0	3.31	92.0	3.62	4.5	9.9	<b>P3TKA00CBF</b>	<b>P3TKA00MWF</b>
1.1/2"	<b>P3TFA2BCGAN</b>	170.0	6.7	524.5	20.6	474.5	18.7	32.0	1.26	39.0	1.54	84.0	3.31	92.0	3.62	5.3	11.6	<b>P3TKA00CBF</b>	<b>P3TKA00MWF</b>
2"	<b>P3TFA2CCHAN</b>	170.0	6.7	524.5	20.6	474.5	18.7	32.0	1.26	39.0	1.54	84.0	3.31	92.0	3.62	5.3	11.6	<b>P3TKA00CBF</b>	<b>P3TKA00MWF</b>
2.1/2"	<b>P3TFA2DCJAN</b>	205.0	8.1	641.5	25.3	581.5	22.9	35.5	1.40	42.5	1.67	100.0	3.94	135.0	5.31	10.0	22.0	<b>P3TKA00CBJ</b>	<b>P3TKA00MWJ</b>
3"	<b>P3TFA2ECJAN</b>	205.0	8.1	641.5	25.3	581.5	22.9	35.5	1.40	42.5	1.67	100.0	3.94	135.0	5.31	10.0	22.0	<b>P3TKA00CBJ</b>	<b>P3TKA00MWJ</b>
2.1/2"	<b>P3TFA2DCKAN</b>	205.0	8.1	832.0	32.8	772.0	30.4	35.5	1.40	42.5	1.67	100.0	3.94	135.0	5.31	12.0	26.4	<b>P3TKA00CBJ</b>	<b>P3TKA00MWJ</b>
3"	<b>P3TFA2ECKAN</b>	205.0	8.1	832.0	32.8	772.0	30.4	35.5	1.40	42.5	1.67	100.0	3.94	135.0	5.31	12.0	26.4	<b>P3TKA00CBJ</b>	<b>P3TKA00MWJ</b>



**DPI Kit**

**P3TKA00RQ**

**Incident Monitor**

Used to indicate premature high differential pressure. Indicator can be retrofitted to existing housings without depressurising the system.



**Modular Connection Kit**

Fixing clamp allows quick and simple connection of multiple filter housings.



**Wall Mounting Bracket Kit**

Mounting brackets provide additional support to filters installed in flexible piping systems or OEM equipment.

**Drain Kits**

Auto drain **P3TKA00DA**

Manual drain **P3TKA00DM**

## 1 µm Filtration

### Filtration Grade

<b>Filtration type</b>	Coalescing
<b>Particle removal (inc water &amp; oil aerosols)</b>	Down to 1 micron
<b>Max remaining oil content at 21°C</b>	0.06 mg/m <sup>3</sup> 0.05 ppm(w)
<b>Filter efficiency</b>	99.925%
<b>Test methods used</b>	ISO 8573.2 ISO 8573.4 ISO 12500-1
<b>ISO 12500-1 Inlet Challenge concentration</b>	40 mg/m <sup>3</sup>
<b>Initial dry differential pressure</b>	<70 mbar (2psi)
<b>Initial saturated differential pressure</b>	<140 mbar (3psi)
<b>Change element every</b>	12 months
<b>Precede with filtration grade</b>	1 micron Moduflex Coalescer



### Product selection

Stated flows are for operation at 7 bar (g) with reference to 20°C, 1 bar (a), 0% relative water vapour pressure. For flows at other pressures apply the correction factors shown.

Port Size BSPT	Part Number	dm <sup>3</sup> /s	m <sup>3</sup> /hr	cfm	1 µm Replacement Element Kit
1/4"	P3TFA229AAN	10	36	21	P3TKA00ES9A
3/8"	P3TFA239BAN	20	72	42	P3TKA00ES9B
1/2"	P3TFA249CAN	30	108	64	P3TKA00ES9C
3/4"	P3TFA269DAN	60	216	127	P3TKA00ES9D
1 "	P3TFA289EAN	110	396	233	P3TKA00ES9E
1.1/4"	P3TFA2A9EAN	110	396	233	P3TKA00ES9E
1.1/2"	P3TFA2B9FAN	160	576	339	P3TKA00ES9F
1.1/2"	P3TFA2B9GAN	220	792	466	P3TKA00ES9G
2"	P3TFA2C9HAN	330	1188	699	P3TKA00ES9H
2.1/2"	P3TFA2D9JAN	430	1548	911	P3TKA00ES9J
3"	P3TFA2E9JAN	430	1548	911	P3TKA00ES9J
2.1/2"	P3TFA2D9KAN	620	2232	1314	P3TKA00ES9K
3"	P3TFA2E9KAN	620	2232	1314	P3TKA00ES9K

### Correction factors

Line pressure bar g	psi g	Correction factor
1	15	0.38
2	29	0.53
3	44	0.65
4	58	0.76
5	73	0.85
6	87	0.93
7	100	1.00
8	116	1.07
9	131	1.13
10	145	1.19
11	160	1.25
12	174	1.31
13	189	1.36
14	203	1.41
15	218	1.46
16	232	1.51

### Filter selection example

Selecting a filter model to match a system flow rate and pressure.

**Example:** System flow 1050 m<sup>3</sup>/hr at a pressure of 8.5 bar g

1. Obtain pressure correction factor from table or calculate factor using method shown. Correction factor for 8.5 bar g = 1.10
2. Divide system flow by correction factor to give equivalent flow rate at 7 bar g  
1050m<sup>3</sup>/hr ÷ 1.10 = 955 m<sup>3</sup>/hr (at 7 bar g)
3. Select a filter model from the above table with a flow rate above or equal to 955 m<sup>3</sup>/hr. Filter model selected : P3TFA2C9HAN
4. Select pipe connection & Thread type System uses 2" piping and BSP threads: Model P3TFA2C9HAN

To find the correction factor for 8.5 bar g (122psi g) =

$$\sqrt{\frac{\text{System Operating Pressure}}{\text{Nominal Pressure}}} = \sqrt{\frac{8.5 \text{ bar g}}{7 \text{ bar g}}} = 1.10$$

**1 µm Filtration**

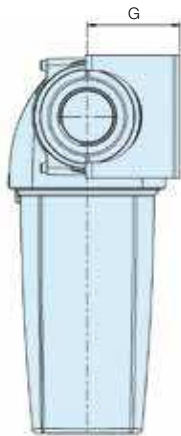
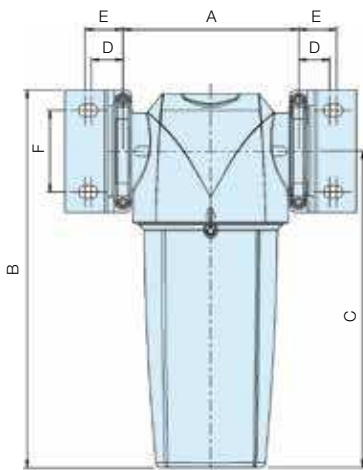
**Technical data**

Filter Grade	Drain type	Max operating pressure		Max recommended operating temp.		Min recommended operating temp.	
		bar g	psi g				
1 micron	Auto	16	232	80°C	176°F	1.5°C	35°F

**Weights and dimensions**

**Optional Accessories**

Port Size	Part Number	A		B		C		D		E		F		G		Weight		Modular Connection Kit	Wall Mounting Bracket Kit
		mm	ins	mm	ins	mm	ins	mm	ins	mm	ins	mm	ins	mm	ins	kg	lbs		
1/4" BSPT	<b>P3TFA229AAN</b>	76.0	3.0	181.5	7.2	153.0	6.0	18.0	0.71	24.5	0.96	30.0	1.18	52.0	2.05	0.4	0.9	<b>P3TKA00CBA</b>	<b>P3TKA00MWA</b>
3/8"	<b>P3TFA239BAN</b>	97.5	3.8	235.0	9.3	201.0	7.9	20.5	0.81	25.5	1.00	40.0	1.57	60.0	2.36	1.0	2.2	<b>P3TKA00CBB</b>	<b>P3TKA00MWB</b>
1/2"	<b>P3TFA249CAN</b>	97.5	3.8	235.0	9.3	201.0	7.9	20.5	0.81	25.5	1.00	40.0	1.57	60.0	2.36	1.0	2.2	<b>P3TKA00CBB</b>	<b>P3TKA00MWB</b>
3/4"	<b>P3TFA269DAN</b>	129.0	5.1	275.0	10.8	232.5	9.2	23.0	0.91	28.0	1.10	60.0	2.36	68.0	2.68	2.2	4.8	<b>P3TKA00CBD</b>	<b>P3TKA00MWD</b>
1"	<b>P3TFA289EAN</b>	129.0	5.1	364.5	14.3	322.0	12.7	23.0	0.91	28.0	1.10	60.0	2.36	68.0	2.68	2.6	5.7	<b>P3TKA00CBD</b>	<b>P3TKA00MWD</b>
1.1/4"	<b>P3TFA2A9EAN</b>	129.0	5.1	364.5	14.3	322.0	12.7	23.0	0.91	28.0	1.10	60.0	2.36	68.0	2.68	2.6	5.7	<b>P3TKA00CBD</b>	<b>P3TKA00MWD</b>
1.1/2"	<b>P3TFA2B9FAN</b>	170.0	6.7	432.5	17.0	382.5	15.1	32.0	1.26	39.0	1.54	84.0	3.31	92.0	3.62	4.5	9.9	<b>P3TKA00CBF</b>	<b>P3TKA00MWF</b>
1.1/2"	<b>P3TFA2B9GAN</b>	170.0	6.7	524.5	20.6	474.5	18.7	32.0	1.26	39.0	1.54	84.0	3.31	92.0	3.62	5.3	11.6	<b>P3TKA00CBF</b>	<b>P3TKA00MWF</b>
2"	<b>P3TFA2C9HAN</b>	170.0	6.7	524.5	20.6	474.5	18.7	32.0	1.26	39.0	1.54	84.0	3.31	92.0	3.62	5.3	11.6	<b>P3TKA00CBF</b>	<b>P3TKA00MWF</b>
2.1/2"	<b>P3TFA2D9JAN</b>	205.0	8.1	641.5	25.3	581.5	22.9	35.5	1.40	42.5	1.67	100.0	3.94	135.0	5.31	10.0	22.0	<b>P3TKA00CBJ</b>	<b>P3TKA00MWJ</b>
3"	<b>P3TFA2E9JAN</b>	205.0	8.1	641.5	25.3	581.5	22.9	35.5	1.40	42.5	1.67	100.0	3.94	135.0	5.31	10.0	22.0	<b>P3TKA00CBJ</b>	<b>P3TKA00MWJ</b>
2.1/2"	<b>P3TFA2D9KAN</b>	205.0	8.1	832.0	32.8	772.0	30.4	35.5	1.40	42.5	1.67	100.0	3.94	135.0	5.31	12.0	26.4	<b>P3TKA00CBJ</b>	<b>P3TKA00MWJ</b>
3"	<b>P3TFA2E9KAN</b>	205.0	8.1	832.0	32.8	772.0	30.4	35.5	1.40	42.5	1.67	100.0	3.94	135.0	5.31	12.0	26.4	<b>P3TKA00CBJ</b>	<b>P3TKA00MWJ</b>



**DPI Kit**

**P3TKA00RQ**

**Incident Monitor**

Used to indicate premature high differential pressure. Indicator can be retrofitted to existing housings without depressurising the system.



**Modular Connection Kit**

Fixing clamp allows quick and simple connection of multiple filter housings.



**Wall Mounting Bracket Kit**

Mounting brackets provide additional support to filters installed in flexible piping systems or OEM equipment.

**Drain Kits**

Auto drain **P3TKA00DA**

Manual drain **P3TKA00DM**

## Oil Vapour Removal Filter

### Filtration Grade

<b>Filtration type</b>	Oil vapour removal
<b>Particle removal (inc water &amp; oil aerosols)</b>	N/A
<b>Max remaining oil content at 21°C</b>	0.003 mg/m <sup>3</sup> 0.003 ppm(w)
<b>Filter efficiency</b>	N/A
<b>Test methods used</b>	ISO
<b>ISO 12500-1 Inlet Challenge concentration</b>	N/A
<b>Initial dry differential pressure</b>	<200 mbar (3psi)
<b>Initial saturated differential pressure</b>	N/A
<b>Change element every</b>	When oil vapour is detected
<b>Precede with filtration grade</b>	0.01 micron Moduflex Coalescer filter

8573:5



### Product selection

Stated flows are for operation at 7 bar (g) with reference to 20°C, 1 bar (a), 0% relative water vapour pressure. For flows at other pressures apply the correction factors shown.

Port Size BSPT	Part Number	dm <sup>3</sup> /s	m <sup>3</sup> /hr	cfm	Oil vapour removal Replacement Element Kit
1/4"	P3TFA22AAMN	10	36	21	P3TKA00ESAA
3/8"	P3TFA23ABMN	20	72	42	P3TKA00ESAB
1/2"	P3TFA24ACMN	30	108	64	P3TKA00ESAC
3/4"	P3TFA26ADMN	60	216	127	P3TKA00ESAD
1 "	P3TFA28AEMN	110	396	233	P3TKA00ESAE
1.1/4"	P3TFA2AAEMN	110	396	233	P3TKA00ESAE
1.1/2"	P3TFA2BAFMN	160	576	339	P3TKA00ESAF
1.1/2"	P3TFA2BAGMN	220	792	466	P3TKA00ESAG
2"	P3TFA2CAHMN	330	1188	699	P3TKA00ESAH
2.1/2"	P3TFA2DAJMN	430	1548	911	P3TKA00ESAJ
3"	P3TFA2EAJMN	430	1548	911	P3TKA00ESAJ
2.1/2"	P3TFA2DAKMN	620	2232	1314	P3TKA00ESAK
3"	P3TFA2EAKMN	620	2232	1314	P3TKA00ESAK

### Correction factors

Line pressure bar g	psi g	Correction factor
1	15	0.38
2	29	0.53
3	44	0.65
4	58	0.76
5	73	0.85
6	87	0.93
7	100	1.00
8	116	1.07
9	131	1.13
10	145	1.19
11	160	1.25
12	174	1.31
13	189	1.36
14	203	1.41
15	218	1.46
16	232	1.51
17	247	1.56
18	261	1.60
19	275	1.65
20	290	1.70

To find the correction factor for 8.5 bar g (122psi g) =

$$\begin{aligned}
 & \sqrt{\frac{\text{System Operating Pressure}}{\text{Nominal Pressure}}} \\
 & = \sqrt{\frac{8.5 \text{ bar g}}{7 \text{ bar g}}} = 1.10
 \end{aligned}$$

### Filter selection example

Selecting a filter model to match a system flow rate and pressure.

**Example:** System flow 1050 m<sup>3</sup>/hr at a pressure of 8.5 bar g

1. Obtain pressure correction factor from table or calculate factor using method shown. Correction factor for 8.5 bar g = 1.10
2. Divide system flow by correction factor to give equivalent flow rate at 7 bar g  
1050m<sup>3</sup>/hr ÷ 1.10 = 955 m<sup>3</sup>/hr (at 7 bar g)
3. Select a filter model from the above table with a flow rate above or equal to 955 m<sup>3</sup>/hr. Filter model selected : P3TFA2CAHMN
4. Select pipe connection & Thread type System uses 2" piping and BSP threads: Model P3TFA2CAHMN

**Oil Vapour Removal Filter**

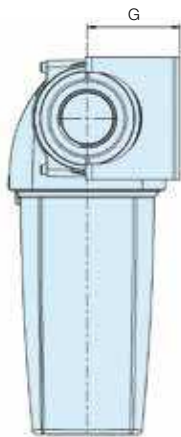
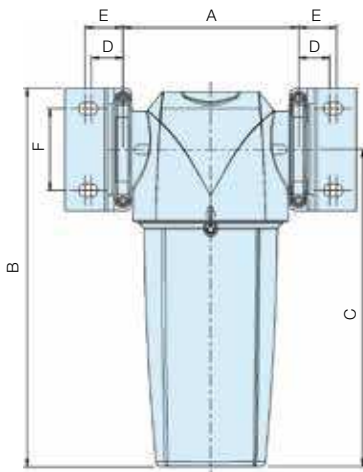
**Technical data**

Filter Grade	Drain type	Max operating pressure		Max recommended operating temp.		Min recommended operating temp.	
		bar g	psi g				
Oil vapour removal	Manual	20	290	100°C	212°F	1.5°C	35°F

**Weights and dimensions**

**Optional Accessories**

Port Size	Part Number	A		B		C		D		E		F		G		Weight		Modular Connection Kit	Wall Mounting Bracket Kit
		mm	ins	mm	ins	mm	ins	mm	ins	mm	ins	mm	ins	mm	ins	kg	lbs		
1/4"	P3TFA22AAMN	76.0	3.0	181.5	7.2	153.0	6.0	18.0	0.71	24.5	0.96	30.0	1.18	52.0	2.05	0.4	0.9	P3TKA00CBA	P3TKA00MWA
3/8"	P3TFA23ABMN	97.5	3.8	235.0	9.3	201.0	7.9	20.5	0.81	25.5	1.00	40.0	1.57	60.0	2.36	1.0	2.2	P3TKA00CBB	P3TKA00MWB
1/2"	P3TFA24ACMN	97.5	3.8	235.0	9.3	201.0	7.9	20.5	0.81	25.5	1.00	40.0	1.57	60.0	2.36	1.0	2.2	P3TKA00CBB	P3TKA00MWB
3/4"	P3TFA26ADMN	129.0	5.1	275.0	10.8	232.5	9.2	23.0	0.91	28.0	1.10	60.0	2.36	68.0	2.68	2.2	4.8	P3TKA00CBD	P3TKA00MWD
1"	P3TFA28AEMN	129.0	5.1	364.5	14.3	322.0	12.7	23.0	0.91	28.0	1.10	60.0	2.36	68.0	2.68	2.6	5.7	P3TKA00CBD	P3TKA00MWD
1.1/4"	P3TFA2AAEMN	129.0	5.1	364.5	14.3	322.0	12.7	23.0	0.91	28.0	1.10	60.0	2.36	68.0	2.68	2.6	5.7	P3TKA00CBD	P3TKA00MWD
1.1/2"	P3TFA2BAFMN	170.0	6.7	432.5	17.0	382.5	15.1	32.0	1.26	39.0	1.54	84.0	3.31	92.0	3.62	4.5	9.9	P3TKA00CBF	P3TKA00MWF
1.1/2"	P3TFA2BAGMN	170.0	6.7	524.5	20.6	474.5	18.7	32.0	1.26	39.0	1.54	84.0	3.31	92.0	3.62	5.3	11.6	P3TKA00CBF	P3TKA00MWF
2"	P3TFA2CAHMN	170.0	6.7	524.5	20.6	474.5	18.7	32.0	1.26	39.0	1.54	84.0	3.31	92.0	3.62	5.3	11.6	P3TKA00CBF	P3TKA00MWF
2.1/2"	P3TFA2DAJMN	205.0	8.1	641.5	25.3	581.5	22.9	35.5	1.40	42.5	1.67	100.0	3.94	135.0	5.31	10.0	22.0	P3TKA00CBJ	P3TKA00MWJ
3"	P3TFA2EAJMN	205.0	8.1	641.5	25.3	581.5	22.9	35.5	1.40	42.5	1.67	100.0	3.94	135.0	5.31	10.0	22.0	P3TKA00CBJ	P3TKA00MWJ
2.1/2"	P3TFA2DAKMN	205.0	8.1	832.0	32.8	772.0	30.4	35.5	1.40	42.5	1.67	100.0	3.94	135.0	5.31	12.0	26.4	P3TKA00CBJ	P3TKA00MWJ
3"	P3TFA2EAKMN	205.0	8.1	832.0	32.8	772.0	30.4	35.5	1.40	42.5	1.67	100.0	3.94	135.0	5.31	12.0	26.4	P3TKA00CBJ	P3TKA00MWJ



**Modular Connection Kit**

Fixing clamp allows quick and simple connection of multiple filter housings.



**Wall Mounting Bracket Kit**

Mounting brackets provide additional support to filters installed in flexible piping systems or OEM equipment.

**Drain Kits**

Auto drain	<b>P3TKA00DA</b>
Manual drain	<b>P3TKA00DM</b>

**High Efficiency Bulk Liquid Removal**

- Tested in accordance with ISO 8573.9
- Performance independently verified by Lloyds Register
- High liquid removal efficiencies at all flow conditions
- Low pressure losses for low operational costs
- Multiple port sizes for a given flow rate provides increased flexibility during installation
- Suitable for variable flow compressors
- Works with all types of compressor and compressor condensate
- Low maintenance
- 10 Year Housing Guarantee

**Typical Applications**

- Bulk liquid removal at any point in a compressed air system
- Protection of refrigeration and adsorption dryer pre-filtration
- Liquid removal from compressor inter-coolers / after-coolers
- Liquid separation within refrigeration dryers



**Product selection**

Stated flows are for operation at 7 bar (g) with reference to 20°C, 1 bar (a), 0% relative water vapour pressure.

**Correction factors**

Port Size	Part Number	dm <sup>3</sup> /s	m <sup>3</sup> /hr	cfm	Max operating pressure		Max Operating temperature	Min Operating temperature	Line pressure				
					bar g	psi g			bar g	psi g	Correction factor		
1/4"	<b>P3TFA22WAAN</b>	10	36	21	16	232	80 C	176 F	1.5 C	35 F	1	15	0.25
											2.29	0.38	3
3/8"	<b>P3TFA23WBAN</b>	40	144	85	16	232	80 C	176 F	1.5 C	35 F	440.50		4.58
											0.63		5.73
1/2"	<b>P3TFA24WCAN</b>	40	144	85	16	232	80 C	176 F	1.5 C	35 F	0.75		6.87
											0.88		7.100
3/4"	<b>P3TFA26WDAN</b>	110	396	233	16	232	80 C	176 F	1.5 C	35 F	1.00		8.116
											1.06		9.131
1"	<b>P3TFA28WEAN</b>	110	396	233	16	232	80 C	176 F	1.5 C	35 F	1.12		10.145
											1.17		11.160
1.1/4"	<b>P3TFA2AWFAN</b>	350	1260	742	16	232	80 C	176 F	1.5 C	35 F	1.22		12.174
											1.27		13.189
1.1/2"	<b>P3TFA2BWGAN</b>	350	1260	742	16	232	80 C	176 F	1.5 C	35 F	1.32		14.203
											1.37		15.218
2"	<b>P3TFA2CWHAN</b>	350	1260	742	16	232	80 C	176 F	1.5 C	35 F	1.41		16.232
											1.46		
2.1/2"	<b>P3TFA2DWKAN</b>	800	2880	1695	16	232	80 C	176 F	1.5 C	35 F			
3"	<b>P3TFA2EWKAN</b>	800	2880	1695	16	232	80 C	176 F	1.5 C	35 F			

To find the correction factor for 8 bar g =

$$= \sqrt{\frac{\text{System Operating Pressure}}{\text{Nominal Pressure}}} = \sqrt{\frac{8 \text{ bar g}}{7 \text{ bar g}}} = 1.06$$

**Filter selection example**

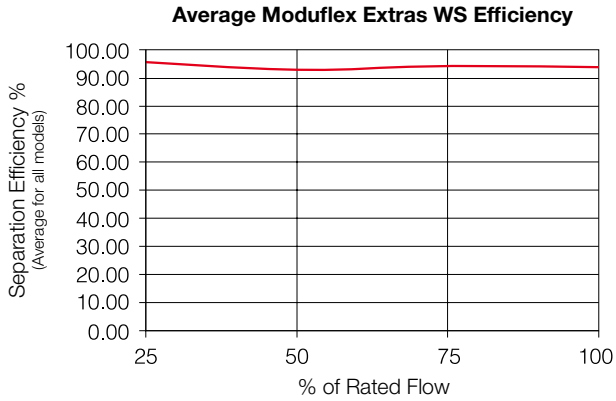
Selecting a Water Separator model to match a system flow rate and pressure.

**Example:** System flow 1050 m<sup>3</sup>/hr at a pressure of 8 bar g

1. Obtain pressure correction factor from table.  
Correction factor for 8 bar g = 1.06
2. Divide system flow by correction factor to give equivalent flow rate at 7 bar g  
1050m<sup>3</sup>/hr ÷ 1.06 = 984 m<sup>3</sup>/hr (at 7 bar g)
3. Select a filter model from the above table with a flow rate above or equal to 984 m<sup>3</sup>/hr. Suitable Water Separator models : P3TFA2AWFAN  
P3TFA2AWGAN  
P3TFA2AWHAN
4. Select pipe connection & Thread type  
System uses 1.1/2" piping and BSP threads: Model P3TFA2BWGAN

**High Efficiency Bulk Liquid Removal**

**Separation Efficiency**

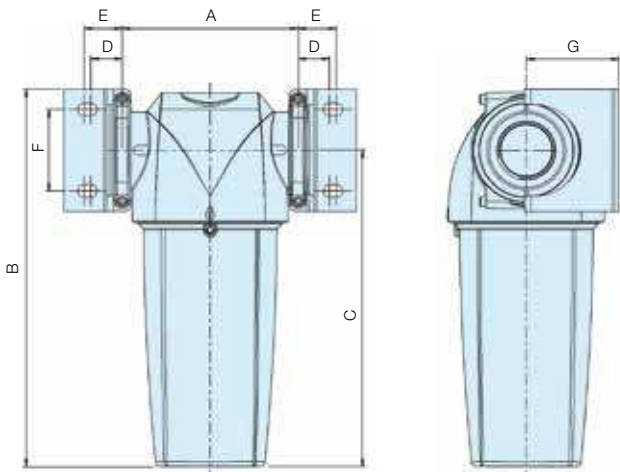


Tested with an inlet challenge concentration of 33ml/m<sup>3</sup>hr and in accordance with ISO 8573.9. Performance shown is an average for all models in range. Individual model performance available on request.

**Weights and dimensions**

**Optional Accessories**

Port Size	Part Number	A		B		C		D		E		F		G		Weight		Modular Connection Kit	Wall Mounting Bracket Kit
		mm	ins	mm	ins	mm	ins	mm	ins	mm	ins	mm	ins	mm	ins	kg	lbs		
1/4"	<b>P3TFA22WAAN</b>	76.0	3.0	181.5	7.2	153.0	6.0	18.0	0.71	24.5	0.96	30.0	1.18	52.0	2.05	0.4	0.9	<b>P3TKA00CBA</b>	<b>P3TKA00MWA</b>
3/8"	<b>P3TFA23WBAN</b>	97.5	3.8	235.0	9.3	201.0	7.9	20.5	0.81	25.5	1.00	40.0	1.57	60.0	2.36	1.0	2.2	<b>P3TKA00CBB</b>	<b>P3TKA00MWB</b>
1/2"	<b>P3TFA24WCAN</b>	97.5	3.8	235.0	9.3	201.0	7.9	20.5	0.81	25.5	1.00	40.0	1.57	60.0	2.36	1.0	2.2	<b>P3TKA00CBB</b>	<b>P3TKA00MWB</b>
3/4"	<b>P3TFA26WDAN</b>	129.0	5.1	275.0	10.8	232.5	9.2	23.0	0.91	28.0	1.10	60.0	2.36	68.0	2.68	2.2	4.8	<b>P3TKA00CBD</b>	<b>P3TKA00MWD</b>
1"	<b>P3TFA28WEAN</b>	129.0	5.1	364.5	14.3	322.0	12.7	23.0	0.91	28.0	1.10	60.0	2.36	68.0	2.68	2.6	5.7	<b>P3TKA00CBD</b>	<b>P3TKA00MWD</b>
1.1/4"	<b>P3TFA2BWFAN</b>	170.0	6.7	432.5	17.0	382.5	15.1	32.0	1.26	39.0	1.54	84.0	3.31	92.0	3.62	4.5	9.9	<b>P3TKA00CBF</b>	<b>P3TKA00MWF</b>
1.1/2"	<b>P3TFA2BWGAN</b>	170.0	6.7	524.5	20.6	474.5	18.7	32.0	1.26	39.0	1.54	84.0	3.31	92.0	3.62	5.3	11.6	<b>P3TKA00CBF</b>	<b>P3TKA00MWF</b>
2"	<b>P3TFA2CWHAN</b>	170.0	6.7	524.5	20.6	474.5	18.7	32.0	1.26	39.0	1.54	84.0	3.31	92.0	3.62	5.3	11.6	<b>P3TKA00CBF</b>	<b>P3TKA00MWF</b>
2.1/2"	<b>P3TFA2DWKAN</b>	205.0	8.1	832.0	32.8	772.0	30.4	35.5	1.40	42.5	1.67	100.0	3.94	135.0	5.31	12.0	26.4	<b>P3TKA00CBJ</b>	<b>P3TKA00MWJ</b>
3"	<b>P3TFA2EWKAN</b>	205.0	8.1	832.0	32.8	772.0	30.4	35.5	1.40	42.5	1.67	100.0	3.94	135.0	5.31	12.0	26.4	<b>P3TKA00CBJ</b>	<b>P3TKA00MWJ</b>



**Modular Connection Kit**

Fixing clamp allows quick and simple connection of multiple filter housings.



**Wall Mounting Bracket Kit**

Mounting brackets provide additional support to filters installed in flexible piping systems or OEM equipment.

**Selection Criteria**

To correctly select the dryer best suited for your application, the following details are required to ensure optimum performance and trouble free operation.

- **Maximum Inlet Flow.**
- **Minimum Inlet Pressure.**
- **Maximum Inlet Temperature.**

Once these operating parameters have been established, you can select the most economical Dry Air System for your application.



**Technical Specifications**

<b>Flow Range:</b>	85 L/min to 567 L/min at 7 bar
<b>Minimum Operating Pressure:</b>	4 bar
<b>Maximum Operating Pressure:</b>	12 bar
<b>Minimum Operating Temperature:</b>	1.5°C
<b>Maximum Inlet Temperature:</b>	50°C
<b>Noise Level (Average):</b>	≤ 70dB(A)
<b>Pressure Dewpoint</b>	<b>(Standard):</b> -40°C pdp
	<b>(Optional):</b> -70°C pdp
<b>Standard Electrical Supply:</b>	230/1ph/50Hz (Tolerance +/- 10%)
	115/1ph/60Hz (Tolerance +/- 10%)
<b>Controls:</b>	Electronic Control Timer
<b>Inlet Connections:</b>	G3/8
<b>Outlet Connections:</b>	G3/8

**Ordering Information**

P3
T
J
A

3
A

N

Thread type	
<b>1</b>	BSPP
9	NPT

Size
<b>1</b>
2
3
4
5
6
7

Supply Voltage	
<b>A</b>	(230 V AC)
C	(24 V AC)
J	(110 V AC)

**Note:** Bold options are standard

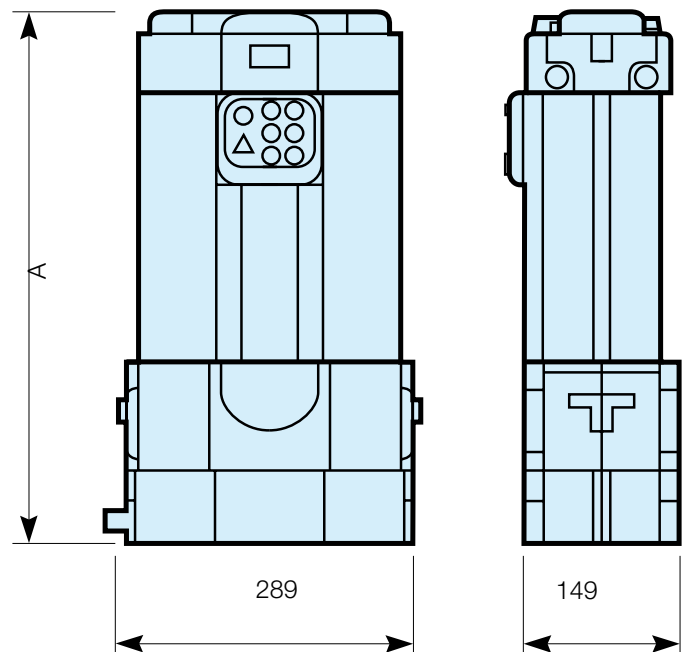


Standard nominal flow rate q<sub>n</sub>N (NL/min) at pressure dew point -40°C

Model	Port Size	Max inlet temperature	Inlet Pressure (bar)								
			4	5	6	7	8	9	10	11	12
<b>P3TJA13A1AN</b>	3/8"	20°C	53	63	75	85	82	92	100	110	118
	3/8"	35°C	33	47	66	85	80	99	118	142	165
	3/8"	40°C	32	46	64	82	77	97	114	138	160
	3/8"	45°C	29	42	58	75	70	87	104	125	145
	3/8"	50°C	24	35	48	62	58	73	86	103	142
<b>P3TJA13A2AN</b>	3/8"	20°C	90	107	125	142	137	153	167	183	198
	3/8"	35°C	57	80	110	142	133	165	197	236	277
	3/8"	40°C	55	78	106	138	129	161	190	229	269
	3/8"	45°C	50	71	96	125	116	145	174	209	244
	3/8"	50°C	41	59	80	104	97	121	144	172	238
<b>P3TJA13A3AN</b>	3/8"	20°C	143	170	200	277	220	245	267	292	317
	3/8"	35°C	90	128	176	227	213	265	315	377	444
	3/8"	40°C	87	124	170	220	207	257	304	365	431
	3/8"	45°C	79	112	154	200	187	233	278	333	390
	3/8"	50°C	66	94	128	166	156	194	230	274	380
<b>P3TJA13A4AN</b>	3/8"	20°C	178	213	250	283	275	307	335	365	397
	3/8"	35°C	112	160	220	283	267	332	395	471	556
	3/8"	40°C	109	155	213	275	259	322	382	456	540
	3/8"	45°C	98	141	193	249	234	292	348	416	488
	3/8"	50°C	82	117	160	207	195	243	288	343	476
<b>P3TJA13A5AN</b>	3/8"	20°C	232	277	323	368	357	398	435	475	515
	3/8"	35°C	146	208	284	368	346	430	513	613	721
	3/8"	40°C	142	202	275	357	336	418	496	594	700
	3/8"	45°C	128	183	249	324	303	378	452	542	633
	3/8"	50°C	107	152	207	269	253	314	374	447	618
<b>P3TJA13A6AN</b>	3/8"	20°C	268	318	373	425	412	458	502	548	595
	3/8"	35°C	169	239	328	425	400	495	592	707	833
	3/8"	40°C	163	232	317	412	387	481	572	685	809
	3/8"	45°C	147	210	287	374	350	435	522	625	732
	3/8"	50°C	123	175	239	310	293	362	432	515	714
<b>P3TJA13A7AN</b>	3/8"	20°C	357	425	498	567	550	612	668	732	793
	3/8"	35°C	225	319	438	567	534	661	788	944	1110
	3/8"	40°C	218	310	423	550	517	643	762	915	1078
	3/8"	45°C	196	281	383	499	468	581	695	834	975
	3/8"	50°C	164	234	319	414	391	483	574	688	952

## Weights and Dimensions

Model	Dimensions mm (ins) A	Weight kg (lbs)
<b>P3TJA13A1AN</b>	422 (16.6)	11 (24.2)
<b>P3TJA13A2AN</b>	500 (19.7)	13 (28.7)
<b>P3TJA13A3AN</b>	616 (24.2)	16 (35.3)
<b>P3TJA13A4AN</b>	692 (27.2)	18 (39.7)
<b>P3TJA13A5AN</b>	847 (33.3)	20 (44.1)
<b>P3TJA13A6AN</b>	906 (35.7)	23 (50.7)
<b>P3TJA13A7AN</b>	1098 (43.2)	28 (61.7)



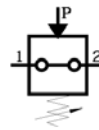
## Service Kits

Model	Service Kit
P3TJA13A1AN	<b>P3TKA00JA1</b>
P3TJA13A2AN	<b>P3TKA00JA2</b>
P3TJA13A3AN	<b>P3TKA00JA3</b>
P3TJA13A4AN	<b>P3TKA00JA4</b>
P3TJA13A5AN	<b>P3TKA00JA5</b>
P3TJA13A6AN	<b>P3TKA00JA6</b>
P3TJA13A7AN	<b>P3TKA00JA7</b>

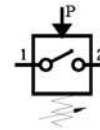
## Mounting Kits

Description	Kit
Fixed Wall Mounting Bracket	<b>P3TKA00MJ</b>
45° Tilt Wall Mounting Bracket	<b>P3TKA00MK</b>

**Pressure Switches G1/8", G1/4"**



Break contact



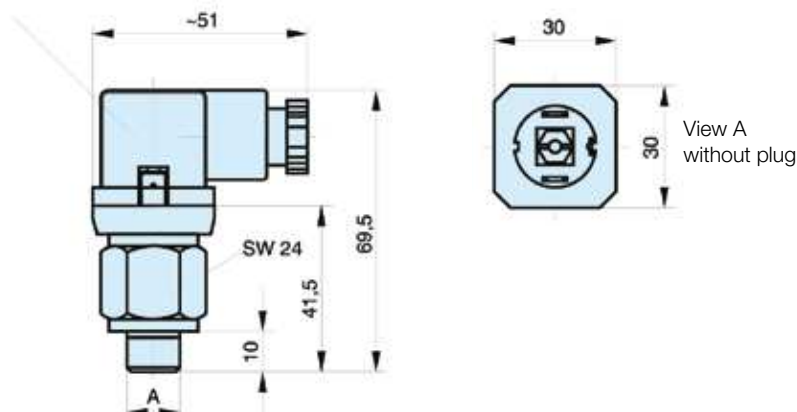
Make contact

Characteristics		Material	
Safety pressure relief P <sub>max</sub>	300 bar	Housing	Passivated steel
Port size	G1/8, G1/4	Diaphragm	Buna N
Weight (mass)	0.090 kg	<b>Switching function</b>	
Medium and ambient T <sub>max</sub> temperature range	+100 °C	Make contact	Closes the circuit when the set pressure is reached
Switch back difference	Max. 5 - 15%	Break contact	Interrupts the circuit when the set pressure is reached
Voltage	Max. 48 V		
Current	0.5 A		
Electrical connection	Plug contacts, plug		
Degree of protection	IP 65 with plug		
Switching frequency	Max. 200 s/min		

**Dimensions and order instructions**

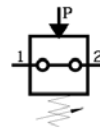
Order instructions	Port size (bar)	Function	Setting range	Order code	Type	A
PR / 0.1-1 NC ST 1/4 48	G1/4	Break contact	0.1-1	<b>KL3439</b>		
PR / 0.1-1 NO ST 1/4 48	G1/4	Make contact	0.1-1	<b>KL3440</b>		
PR / 1-10 NC ST 1/8 48	G1/8	Break contact	1-10	<b>KL3437</b>		
PR / 1-10 NC ST 1/4 48	G1/4	Break contact	1-10	<b>KL3436</b>		
PR / 1-10 NO ST 1/8 48	G1/8	Make contact	1-10	<b>KL3438</b>		
PR / 1-10 NO ST 1/4 48	G1/4	Make contact	1-10	<b>KL3435</b>		

Plug can be turned 90°

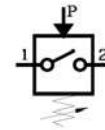


Dimensions in mm

Pressure Switches G1/8", G1/4"



Break contact



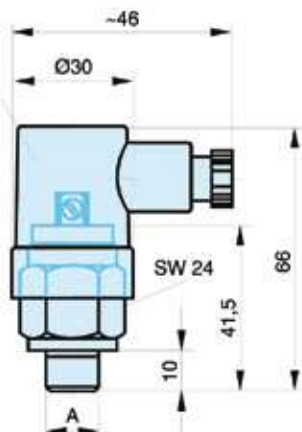
Make contact

Characteristics		Material	
Safety pressure relief P <sub>max</sub>	300 bar	Housing	Passivated steel
Port size	G1/8, G1/4	Diaphragm	Buna N
Weight (mass)	0.075 kg	<b>Switching function</b>	
Medium and ambient T <sub>max</sub> temperature range	+100 °C	Make contact	Closes the circuit when the set pressure is reached
Switch back difference	Max. 5 - 15%	Break contact	Interrupts the circuit when the set pressure is reached
Voltage	Max. 48 V		
Current	0.5 A		
Electrical connection	Flat pin plug, protective cap		
Degree of protection	IP 65 with protective cap		
Switching frequency	200 s/min		

Dimensions and order instructions

Order instructions	Port size (bar)	Function	Setting range	Order code	Type	A
PR / 0.2-1 NO SR 1/4 48	G1/4	Make contact	0.2-1	<b>KL3445</b>		
PR / 0.1-1 NC SR 1/4 48	G1/4	Break contact	0.1-1	<b>KL3454</b>		
PR / 0.1-1 NO SR 1/4 48	G1/4	Make contact	0.1-1	<b>KL3455</b>		
PR / 1-10 NC SR 1/8 48	G1/8	Break contact	1-10	<b>KL3452</b>		
PR / 1-10 NC SR 1/4 48	G1/4	Break contact	1-10	<b>KL3451</b>		
PR / 1-10 NO SR 1/8 48	G1/8	Make contact	1-10	<b>KL3453</b>		
PR / 1-10 NO SR 1/4 48	G1/4	Make contact	1-10	<b>KL3450</b>		

Protective cap can be turned 6 x 60°



View A without protective cap

Dimensions in mm

**Pressure Switches G1/8", G1/4"  
Series G1/4-..I / ..P**

- Suited for intrinsically safe operation
- Especially compact design
- High switching frequency
- Attractive design
- Shock proof up to 30 g



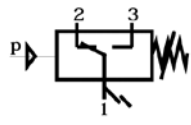
Characteristics						
Type - thread version	G1/4-0I*	G1/4-2I	G1/4-8I	G1/4-16I	Voltage type	AC and DC
Type - flange version	G1/4-0P*	G1/4-2P	G1/4-8P	G1/4-16P	Operating current and	AC12 to VDE0660 4A at 250 VAC AC14 to VDE0660 1A at 250 VAC DC12 to VDE0660 3A at 28 VDC DC13 to VDE0660 1A at 28 VDC
Setting range P <sub>min</sub> /max (bar)	-1 to 0	0.2-2	0.5-8	1-16	CE marking	To EC Directive 73/23/EWG
Safety pressure relief P <sub>max</sub>	80	80	80	80	Electrical connection	Plug to DIN EN 175301-803, Form A, ISO4400 or M12x1 - 4-pin
Port size	Type I: G1/4 internal thread, Type P: flange				Degree of protection	IP65
Mounting	2 through holes Ø 5.2				Switching element	Pole changing switch with catch spring as switching element, with self-cleaning contacts
Installation	In any position				Switching frequency	Max. 200 s/min
Weight (mass)	0.275 kg					* for vacuum operation
Medium	Filtered compressed air (10µm), lubricated or unlubricated					
Medium and ambient T <sub>min</sub>	-10 °C					
temperature range T <sub>max</sub>	+80 °C					
Consistency	±2 in relation to end-of-range value					
Hysteresis, vaccum version	<15%					
Vibration resistance	10 g (10 ... 2000 Hz)					
Shock resistance	30 g					
Voltage	Max. 250 V					

Material	
Housing powder coated	Special aluminium die casting,
Diaphragm, seals	Buna N

**Selection and Mounting:**

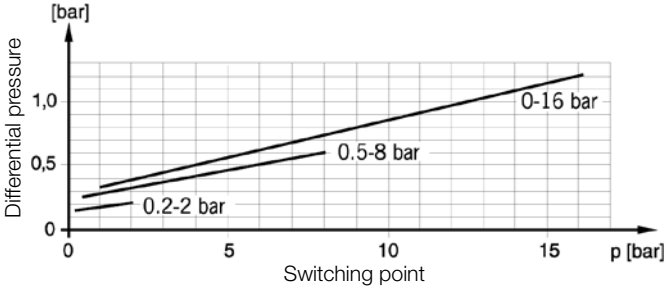
**Range selection:**  
Selection is optimal when the switching points are in the middle of the switching range.

**Electrical connection:**  
Wiring according to VDE regulations.  
Tightening torque for plug: 0.7 ± 0.1 Nm  
Outdoor use only with sufficient protection against critical environmental conditions (e.g. aggressive atmosphere, salty environments, high temperature changes).



- Pin 1 - 3:** Rising pressure makes contact.
- Pin 1 - 2:** Rising pressure breaks contact.

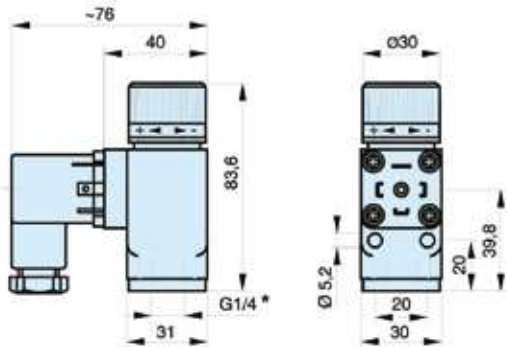
**Switch back difference**



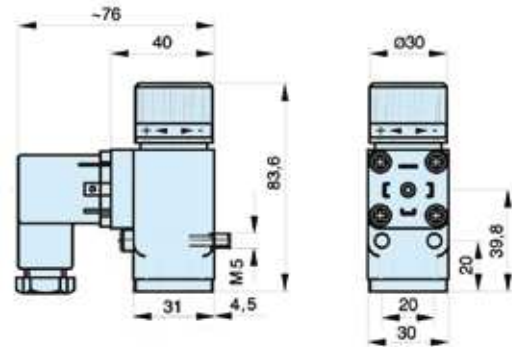
**Delivery includes:**  
The flange version (surface roughness of flange surface 12µm) is supplied with an O-ring 5 x 1.5mm and 2 screws 5 x 35 DIN 912. Minimum thread length to be used: 4mm.  
Max. diameter of the pressure opening 3mm.

Dimensions (mm)

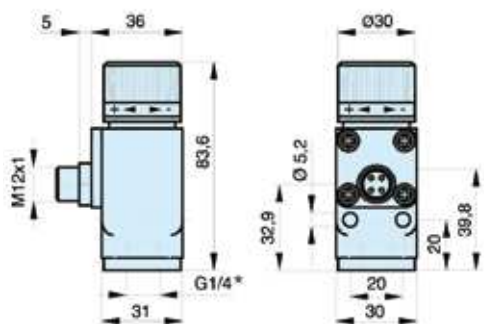
Version with internal thread and plug



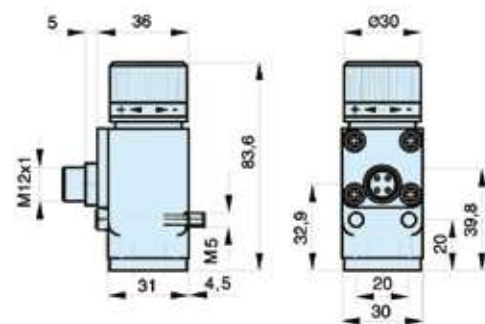
Flange version and plug



with M12 connector



with M12 connector



\* Thread 11mm deep

Setting range (bar)	Type	Order code
-1 to 0	G1/4-0I-DIN	<b>KL3200</b>
-1 to 0	G1/4-0I-M12	<b>KL3208</b>
0.2 to 2	G1/4-2I-DIN	<b>KL3201</b>
0.2 to 2	G1/4-2I-M12	<b>KL3209</b>
0.5 to 8	G1/4-8I-DIN	<b>KL3202</b>
0.5 to 8	G1/4-8I-M12	<b>KL3210</b>
1.0 to 16	G1/4-16I-DIN	<b>KL3203</b>
1.0 to 16	G1/4-16I-M12	<b>KL3211</b>

Setting range (bar)	Type	Order code
-1 to 0	G1/4-0P-DIN	<b>KL3204</b>
-1 to 0	G1/4-0P-M12	<b>KL3212</b>
0.2 to 2	G1/4-2P-DIN	<b>KL3205</b>
0.2 to 2	G1/4-2P-M12	<b>KL3213</b>
0.5 to 8	G1/4-8P-DIN	<b>KL3206</b>
0.5 to 8	G1/4-8P-M12	<b>KL3214</b>
1.0 to 16	G1/4-16P-DIN	<b>KL3207</b>
1.0 to 16	G1/4-16P-M12	<b>KL3215</b>

Plugs to DIN EN 175301-803, Form A, ISO 4400

Standard version



Version with LEDs



Plugs to DIN EN 175301-803, Form A, ISO 4400

Description	Type	Order code
Standard version	GSD-30DS	<b>KL3349</b>
Version with LEDs 24 V	GSD-30DSL24V	<b>KL3350</b>
Version with LEDs 230 V	GSD-30DSL230V	<b>KL3351</b>

**Pressure Switches Electronic  
Series EDP**

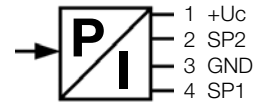
The EDP electronically actuated pressure switches are used to convert pneumatic signals into electrical signals. The pressure range 0-16 bar can be adjusted individually, in either bar or psi.

The pressure switches can be used as threshold value comparators with one hysteresis or as window comparators with two hystereses.

A robust ceramic measuring cell acts as a measured value transducer.

- Simple, menu-driven programming via 3 membrane keys
- 3-digit red LED display (pressure gauge function)
- Electronic locking
- Versions for specific applications on request

**Symbol**

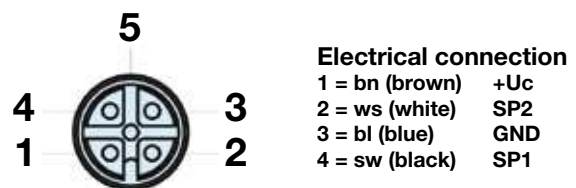


Characteristics				
Type - flange version	EDP-V	EDP	Voltage	18 - 32 V
Setting range P <sub>min</sub> /max (bar)	-1 to 0	0-16	Voltage type	Direct current
Safety pressure relief P <sub>max</sub>	100 bar	100 bar	Power consumption	< 80 mA without switching outlet
Port size	Flange connection		Switching current	SP1 max. 1.3 A (PIN4) SP2 / ERROR max. 0.3A (PIN2)
Display	3 digit, red 7-Segment LED-Display, programmable 0°/180°		Switching logic	NO / NC programmable
Display for operating status	LED red/green		Switching outlet	Short circuit proof
Linearity %	<± 0.2 to 1.5 p <sub>N</sub>		Electrical connection	Plug M12x1
TK zero point %	<± 0.2 p <sub>N</sub>		Degree of protection	IP67 to EN 60529
Installation	In any position			
Weight (mass)	0.100 kg			
Medium	Filtered compressed air, lubricated or unlubricated, weakly acidic or weakly alkaline fluids		<b>Material</b>	
Ambient T <sub>min</sub>	-20 °C		Housing	PA, part in contact with medium: Al
temperature range T <sub>max</sub>	+70 °C		Measuring cell	Ceramic
Medium T <sub>min</sub>	-20 °C		Seals	Buna N, part in contact with medium: FKM
temperature range T <sub>max</sub>	+70 °C			

**Applications**

- Pneumatic control systems
- Pressing technology
- Welding technology
- Packing machines and filling systems
- Test systems
- Clamping systems
- Plastic blow-moulding machinery
- Robotics and handling industry

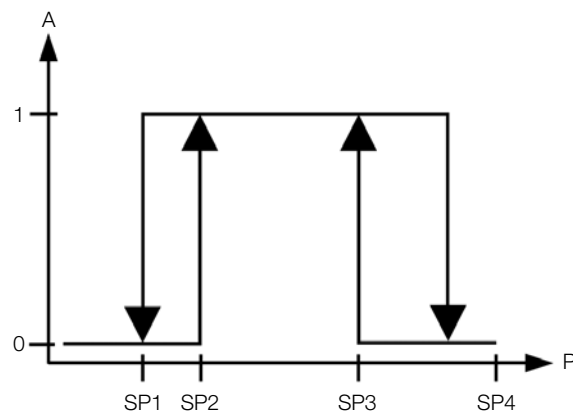
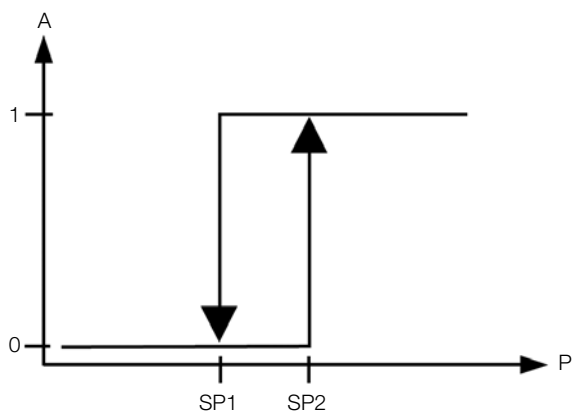
**Connection diagram**



Threshold value comparator / window value comparator functions

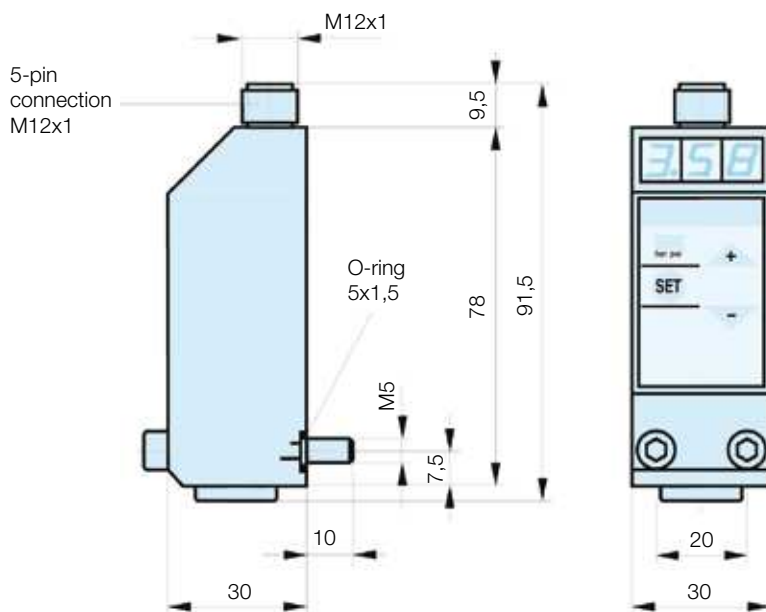
Threshold value comparator with hysteresis

Window comparator with 2 hystereses



The illustrations show the NO (normally open) presetting. For the NC (normally closed) presetting, the diagrams are horizontally mirror-imaged, so that the start value is at 1.

Dimensions - Flange version with M12x1 connector



Setting range (bar)	Type	Order code
-1 to 1	EDP-V	KL3385
0 to 16	EDP	KL3384

Dimensions in mm.



**Protect your most important assets: your employees and their equipment!**

The AirGuard offers simple but efficient protection to pneumatic systems in the event of a broken compressed-air hose or pipe. The air supply is immediately shut off by the AirGuard, should the volume of air exceed a set value. This "value" is factory preset and is set to allow normal air consumption when using air tools.

Should the air consumption exceeds the set value, e.g. the air line is severed, then the internal piston instantly shuts off the main flow. An integral bleed hole allows some air to flow though. This enables the line pressure to automatically reset the AirGuard once the main line break is repaired.

**Management Responsibility:**

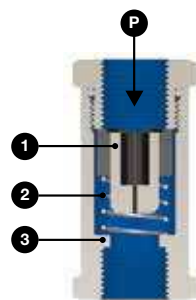
It is the duty of management to ensure a safe working environment for their employees and that the equipment complies with **ISO 4414** or **"PUWER"** (the Provision and Use of Work Equipment Regulations)

**Complies with the 2010 ISO4414 (5.4.5.11.1)**

"When failure of a hose assembly or plastic piping constitutes a whiplash hazard, it shall be restrained or shielded by suitable means. In addition, an air fuse for compressed air should be mounted."

**Function:**

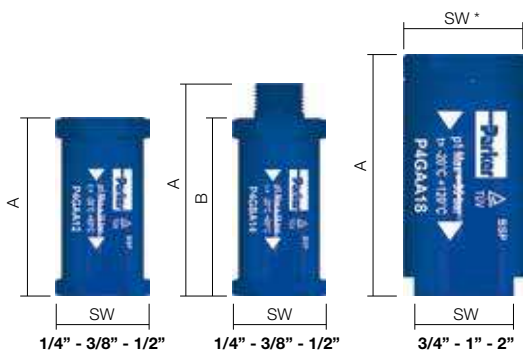
(P) is the inlet. The air flows over piston (1) and continues through seat (3). The flow of air over the piston is slowed down by several longitudinal grooves on the exterior of the piston. If the flow becomes excessive, the current of air cannot flow over the piston quickly enough. The piston is then pressed against spring (2) beneath it, and towards the seat. If the flow is exceeded, for example, if the hose suddenly breaks, the air supply is automatically shut off.



**Special Applications**

Stainless Steel AirGuard available in 1/2" size

Some branches of industry with a high hazard potential, such as chemical and pharmaceutical as well as clean room and offshore technologies place extremely high demands on both the safety of their employees and the protection of their facilities. Compressed air is typically used as an energy transfer medium in these industries and is no means without its dangers: compressed air hoses can rupture or burst, as can fixed pipes. This may expose personnel working in such areas to extreme hazards as well as potential damage to expensive facilities and costly production downtime.



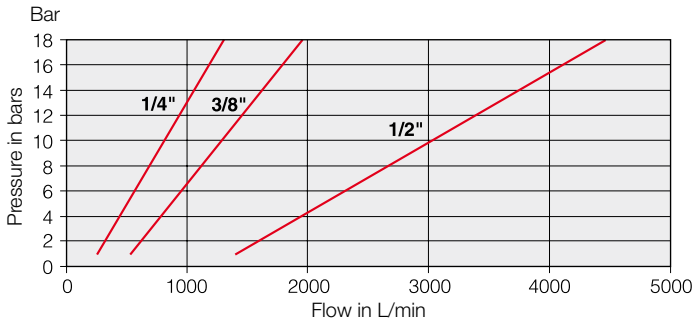
**Technical Data and Ordering Information**

Thread connection BSP	dimensions (mm)			Weight (g)	Maximum inlet pressure	Temperature range	Material	P1 inlet thread	P2 outlet thread	Order Code
	A	B	SW							
1/4"	48	-	22	30	18 bar (255 PSIG)	-20°C to 80°C (-4°F to 176°F)	Housing: aluminium  Piston: polyoxy-methylene	female	female	<b>P4GAA12</b>
1/4"	58	49	22	36				male	female	<b>P4GBA12</b>
3/8"	59	-	27	58				female	female	<b>P4GAA13</b>
3/8"	71	59	27	62				male	female	<b>P4GBA13</b>
1/2"	65	-	30	78				female	female	<b>P4GAA14</b>
1/2"	80	65	30	85				male	female	<b>P4GBA14</b>
1/2"	62	-	28	132	35 bar (500 PSIG)	-20°C to 120°C (-4°F to 248°F)	Housing: stainless steel Piston: polyoxy-methylene	female	female	<b>P4GCA14</b>
3/4"	76	-	30 / 36*	107			Housing: aluminium Piston: aluminium	female	female	<b>P4GAA16</b>
1"	100	-	41 / 50*	300			female	female	<b>P4GAA18</b>	
2"	130	-	70 / 80*	775			female	female	<b>P4GAA1C</b>	

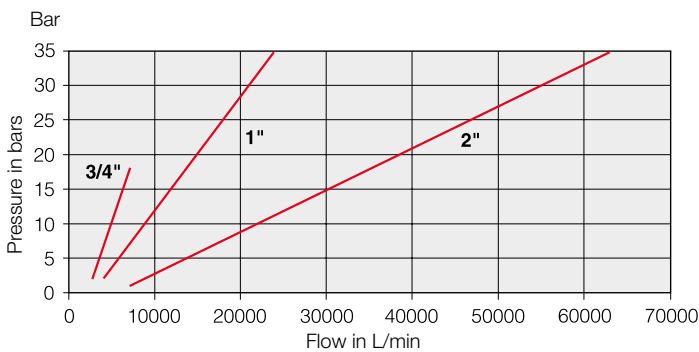
Note: NPT version available on request - 1/4" high flow version available on request.

### Closing Flow Graphs

#### 1/4", 3/8" and 1/2" flow rates



#### 3/4", 1" and 2" flow rates



### Dimensioning of compressed air hoses and equipment

Connection Size	Hose length 0 to 10 meters			Hose length 10 to 20 meters		
	Inner diameter Minimum mm	Minimum pressure bar	Flow at 6 bar l/min	Inner diameter minimum	Minimum pressure bar	Flow at 6 bar l/min
1/4"	7	4	480	8	4	480
3/8"	10	4	1100	12	4	1100
1/2"	12	4	2000	14	4	2000
3/4"	18	4	3800	20	4	3800
1"	24	4	6500	26	4	6500
2"	45	4	16000	50	4	16000

If the pressure is lower than stated in the table, a hose with a larger internal diameter must be used.

To select the correct size AirGuard, the pneumatic tool or equipment must have a maximum flow requirement to the left of the red line.

e.g.: 15 bar @20000 L/m = 2" size AirGuard  
8 bar @1000 L/m = 3/8" size AirGuard



TUV Approval: 01-02-0145



ATEX

These products are out of scope of the ATEX Directive 94/9/EC; however they can be used in a Group II Category 2 environment assuming that the ATEX Directive and the following conditions are complied with:

- Maximum working temperature to be as stated on product label.
- Product cleaning must be undertaken using a method complying with the specification of the ATEX Zone, preferably by aspiration and/or utilization of Antistatic Products.
- Deposits of dust on the product must not exceed 5mm thickness.
- Installation and Maintenance of the product must be done by a qualified personnel.
- Do not mount products in an area where Impact may occur.

### AirGuard - P4G for zone 1, 21

Complies with: ISO 4414 5.4.5.11

Failure of hose assemblies and plastic piping 5.4.5.11.1

"When failure of a hose assembly of plastic piping constitutes a whiplash hazard, it shall be restrained or shielded by suitable means. In addition, **an air fuse for compressed air should be mounted**"

Table 1: Dimensioning of compressed air hoses and equipment

Thread	Hose length 0 to 10 meters			Hose length 10 to 20 meters		
	Inner diameter Minimum mm	Minimum pressure bar	Flow at 6 bar l/min	Inner diameter minimum	Minimum pressure bar	Flow at 6 bar l/min
1/4"	7	4	480	8	4	480
3/8"	10	4	1100	12	4	1100
1/2"	12	4	2000	14	4	2000
3/4"	18	4	3800	20	4	3800
1"	24	4	6500	26	4	6500
2"	45	4	16000	50	4	16000

If the pressure is lower than stated in the table, a hose with a larger internal diameter must be used.

A range of speed controls, flow controls and back pressure sensors designed to be mounted directly onto the cylinder in the optimum position for maximum performance.

- "Push-in" or threaded connection
- Multifunction options
- Fit directly to cylinder ports
- Swivelling pilot banjo
- Pneumatic, Electric or Electronic back pressure sensor



 **For ATEX specific products contact Sales Office**

**Operating information**

**Working pressure;**

PWR-L, PWR-H, PWR-A, PWR-B	1-10 bar
PWB-A, PWS-M, PWS-E, PWS-P	0-10 bar
PWA-L	0,2-10 bar


Working temperature	: -15°C to +60°C
PWR-L	-15°C to +70°C

**Pilot pressure at 6 bar supply;**

PWB-A and PWR-HB	(1/8", 1/4" versions)	: 4 bar
	(1/2" and 3/8" versions)	: 2,9 bar
PWS-P111		: 4,4 bar
PWS-M1012		: 1,5 bar
PWS-E101 and E111		: 0,7 bar


For more information see [www.parker.com/euro\\_pneumatic](http://www.parker.com/euro_pneumatic)

**2/2 Blockers**


Symbol	Connection for pilot port	Thread for cylinder connection	Connection for tube Ø, mm	Tightening torque Nm	Qmax input at 6 bar, l/min*	Order code
	Push-in *, Ø4 mm	G1/8	G1/4	8	500	<b>PWB-A1898</b>
		G1/4	G1/4	12	650	<b>PWB-A1899</b>
		G3/8	G3/8	30	1750	<b>PWB-A1833</b>
		G1/2	G1/2	35	2050	<b>PWB-A1822</b>

\* M5 without banjo

**Flow control valves with by-pass**

Symbol	Thread	Number of turns	Qmax input at 6 bar, l/min	Order code
	G1/8	13	240	<b>VQB12-Q-O-5</b>
	G1/4	13	1320	<b>VQB22-Q-O-5</b>
	G1/2	13	3600	<b>VQB42-Q-O-5</b>


## Flow control valves with by-directional control

Symbol	Thread	Number of turns	Q <sub>max</sub> input at 6 bar, l/min	Order code
	G1/8	13	72	VQB12-OX-5 *
	G1/8	13	240	VQB12-O-5
	G1/4	13	1320	VQB22-O-5
	G1/2	13	3600	VQB42-O-5 **

\* Extra fine adjustment

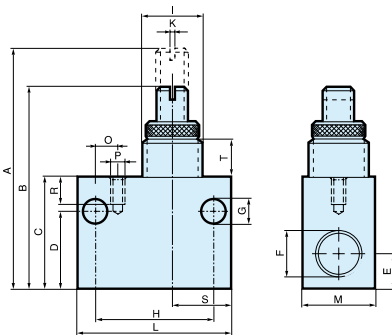
\*\* Low operating temp -40°C

## Knob and nut for panel mounting

To suit	Order code
 VQB12	9128177212
VQB22	9128177222
VQB42	9128177242

## Dimensions (mm)

## Flow Control Valves



Order code	A	B	C	D	E	F	G	H	I
VQB12-(Q)-OX-5	49	42	22	15	6,5	G1/8	5,8	24	M12x1
VQB12-(Q)-O-5	49	42	22	15	6,5	G1/8	5,8	24	M12x1
VQB22-(Q)-O-5	64	53	30	21	8,5	G1/4	7,0	32	M16x1
VQB42-(Q)-O-5	99	85	50	36	16,5	G1/2	7,0	50	M24x1,5

Order code	K	L	M	O	P	R	S	T
VQB12-(Q)-OX-5	1,2	32	15	-	-	-	13,5	8,8
VQB12-(Q)-O-5	1,2	32	15	-	-	-	13,5	8,8
VQB22-(Q)-O-5	1,2	42	20	6,0	M4	7	16,0	10,0
VQB42-(Q)-O-5	1,8	62	30	19,5	M4	7	20,5	15,2

- Micrometer type adjustment
- Fine control
- Non-return and needle valves



- Screw driver adjustment
- Rugged bodies
- High flow rate
- High flow by-pass
- Wide range of sizes



**Operating and additional information**

**Micrometer flow control valves**

Operating pressure: 0 to 17 bar  
 Operating temperature: -40°C to +80°C  
 Body material: Brass  
 Control knob: Aluminium  
 Adjustment mode: Knurled knob

**Heavy duty inline flow control valves**

Operating pressure: 0 to 17 bar for air or oil  
 Operating temperature: -18°C to +82°C  
 Body material: Brass  
 Control knob: Brass  
 Adjustment mode: Screw driver adjustment

**Flow Control with By-pass**



Symbol



Thread	Number of turns	Qmax input at 6 bar, l/min	Weight g	Order code
G1/8	5	300	76	<b>337A</b>
G1/4	6	780	134	<b>337B</b>

**Flow Control with By-directional Control**

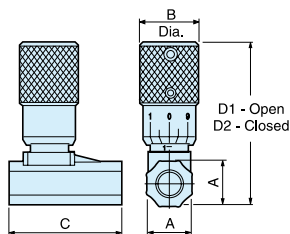


Symbol



Thread	Number of turns	Qmax input at 6 bar, l/min	Weight g	Order code
G1/8	5	300	78	<b>338A</b>
G1/4	6	780	132	<b>338B</b>

**Micrometer Flow Control Valves - Dimensions**

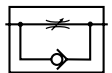


Order code	Port size	Dimensions (mm)				
		A	B	C	D1 open	D2 closed
<b>337A</b>	G1/8	14,5	19	37,5	51,5	46
<b>337B</b>	G1/4	17,5	19	37,5	58	51
<b>338A</b>	G1/8	14,5	19	37,5	51,5	46
<b>338B</b>	G1/4	17,5	19	37,5	58	51

**Standard type**

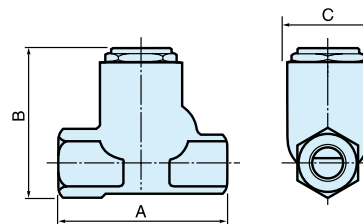


Symbol



Thread	Number of turns	Qmax input at 6 bar, l/min	Weight g	Order code
G1/8	6	1320	114	<b>B3250X</b>
G1/4	5	2880	224	<b>B3250AB</b>
G3/8	5	6300	378	<b>B3250BB</b>
G1/2	5	7680	792	<b>B3250CB</b>
G3/4	4,5	10680	1300	<b>B3250DB</b>

**Flow Control Valves, Standard Type**



Order code	Port size	Dimensions (mm)		
		A	B	C
<b>B3250X</b>	G1/8	44	40	21
<b>B3250AB</b>	G1/4	57	51	28
<b>B3250BB</b>	G3/8	68	64	35
* <b>B3250CB</b>	G1/2	79	78	41
<b>B3250DB</b>	G3/4	90	92	51

\* Low operating temperature -40°C @ 10 bar

**Quick Exhaust Valves**

- Increases piston speeds, super sensitive diaphragm.
- May be used as differential shuttle valve.

**Shuttle Valves**

- Allows two separate signals to be applied to the air pilot.
- 0,6 bar differential, Viton seals as standard.

**Non Return Valves**

- Aluminium or polymer bodies
- Compact



**Operating information**

**Shuttle valve •••005**

Working pressure 1,3 - 17 bar  
 Working temperature; Standard -10 °C to +180 °C

**Quick exhaust valve P4Q**

Working pressure: 0,2 - 10 bar  
 Working temperature; Standard: -10 °C to +80 °C

**VB**


Working pressure Max 10 bar  
 Working temperature -20 °C to +70 °C

**PWA-L**


Working pressure 0,2 - 10 bar  
 Working temperature; -15 °C to +60 °C

For more information see [www.parker.com/euro\\_pneumatic](http://www.parker.com/euro_pneumatic)

**Shuttle Valves**


Symbol	Port size	Order code
	M5	<b>M33005</b>
	G1/8	<b>B43005B</b>
	G1/4	<b>B53005A</b>
	G1/4	<b>B53005BS5</b> (-40°C to +80°C)

**Quick Exhaust Valves P4Q Series**


Symbol	Port size	Order code
	<b>Standard Version</b>	
	G1/4	<b>P4Q-BA12</b>
	G3/8	<b>P4Q-BA13</b>
	G1/2	<b>P4Q-CA14</b>
	G3/4	<b>P4Q-CA16</b>
	<b>High Temperature Version</b> (Fluorocarbon diaphragm)	
	G3/8	<b>P4Q-BV13</b>
	G1/2	<b>P4Q-CV14</b>
	G3/4	<b>P4Q-CV16</b>

**Non Return Valves**

**Aluminium VB Series**

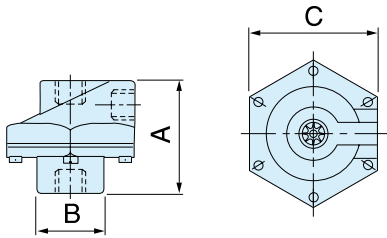
Symbol	Port size	Order code
	G1/8	<b>VB12-Q-NQ-5</b>
	G1/4	<b>VB22-Q-NQ-5</b>
	G1/2	<b>VB42-Q-NQ-5</b>
	G1/2	<b>VB42-S50897</b> (Viton - dry assembly)

**In-Line Equal Non-Return Valve**

Symbol	Push-in connection Ø, mm	Flow rate 6 bar, NI/min	Order code
	4	350	<b>7996 04 00</b>
	6	670	<b>7996 06 00</b>
	8	1080	<b>7996 08 00</b>

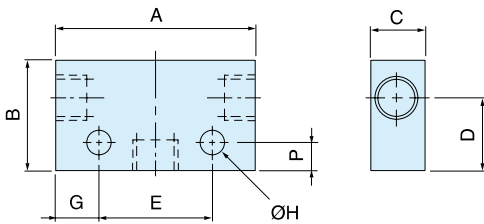
**Dimensions (mm)**

**Quick Exhaust Valves**



Order code	Port Size	A	B	C
<b>P4Q-B*12</b>	G1/4	52	25	62
<b>P4Q-B*13</b>	G3/8	52	25	62
<b>P4Q-B*14</b>	G1/2	73	38	86
<b>P4Q-B*16</b>	G3/4	73	38	86

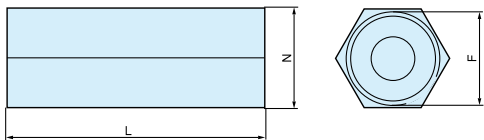
**Shuttle Valves**



Order code	Port Size	A	B	C	D	E	F	G	H
<b>M33005</b>	M5	27,5	24	15	16,0	15	6	6,3	3,2
<b>B43005B</b>	G1/8	44,0	24	15	16,0	25	6	9,5	4,5
* <b>B53005A</b>	G1/4	52,0	30	22	20,5	35	10	8,5	5,5

\* Dimensions as **B53005BS5**

**Non Return Valves - VB - Female**



Order code	F	L	N
<b>VB12-Q-NQ-5</b>	G1/8	31	14
<b>VB22-Q-NQ-5</b>	G1/4	40	17
* <b>VB42-Q-NQ-5</b>	G1/2	59	27

\* Dimensions as **VB42 / S50897**

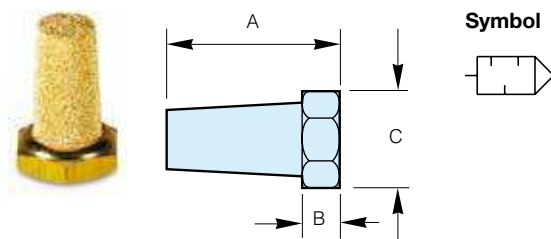
- All plastic ultra light weight versions
- Sintered metal
- All metal versions for heavy duty applications
- Versions with push-in connections
- High noise level reduction
- Low back pressure generation



**Operating and additional information**

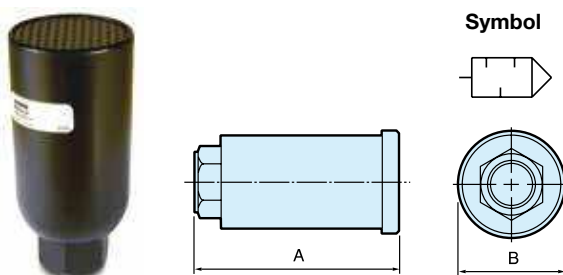
Plastic	Working temperature: -10°C to +80°C			
	Efficiency: 92%			
Metal	Working temperature: -10°C to +74°C	Working pressure	up to 17 bar	

**Sintered Bronze Series (female)**



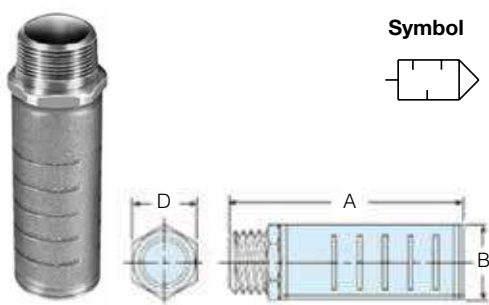
Port mm	A	Ø B	A/F C	Weight g	Order code
G1/8	15	8	13	0,060	<b>9721900404</b>

**Heavy Duty Series**



Port Female	A	Ø B	Weight g	Order code
G3/8	83	37	0,124	<b>P6M-MA13</b>
G1/2	105	51	0,362	<b>P6M-MA14</b>
G3/4	143	73	0,670	<b>P6M-MA16</b>
G1	143	73	0.666	<b>P6M-MA18</b>

**Self Cleaning, 48 Series**



Port thread	A	Ø B	A/F E	Order code
R1/8	47	21	16 (5/8")	<b>ESB12MC</b>
R1/4	47	21	16 (5/8")	<b>ESB25MC</b>
R3/8	84	32	25.4 (1")	<b>ESB37MC</b>
R1/2	84	32	25.4 (1")	<b>ESB50MC</b>
R3/4	116	52	41.2 (1-5/8")	<b>ESB75MC</b>
R1	116	52	41.2 (1-5/8")	<b>ESB100MC</b>
R1-1/4	145	73.5	-	<b>ESB125MC</b>
R1-1/2	145	73.5	-	<b>ESB150MC</b>

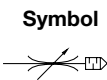
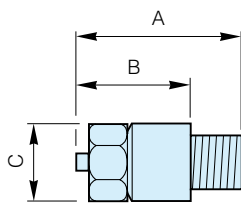


**Restrictors - Silencers**

- Stainless steel or plastic versions
- Screwdriver adjustment
- Simple control of cylinder speeds
- High noise level reduction



**Sintered Stainless Steel Series**



Port thread	Overall length	Ø	A/F	Order code
G1/8	33	16	13,0	<b>9126900195</b>
G1/4	36	20	17,0	<b>9126900196</b>

**Reclassifier - Silencers  
Metal Series, Repairable and  
Disposable versions**

- Removes oil mist from exhaust airs
- Efficiently silences exhaust air
- Improves working conditions



**Operating and additional information**

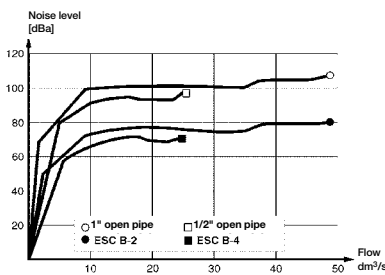
**Metal repairable version**

Working temperature	0 °C to 66 °C max.
Working pressure	Max 7 bar
Efficiency	Better than 99%
Maximum flow rate	G1/2, G3/4 small unit 27,8 dm <sup>3</sup> /s G3/4, G1 large unit 50 dm <sup>3</sup> /s

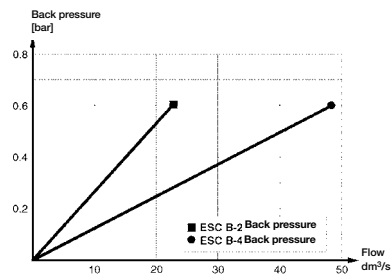
**Disposable version**

Working temperature	0° C to 52 °C max.
Working pressure	Max 7 bar
Efficiency	Better than 99%
Maximum flow rate	See graph

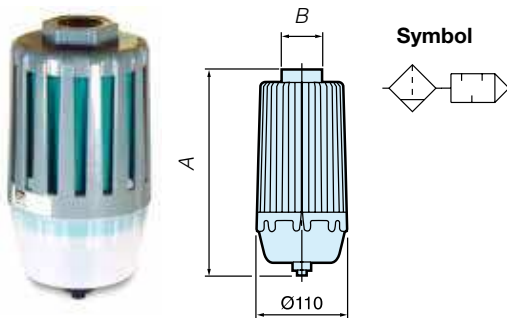
**Disposable version  
Flow vs. Noise level**



**Flow vs. Back pressure**



**Metal Repairable Series**



Port thread	Type	A	Ø	A/F B	Weight kg	Order code
G1/2	Small	182	110	50	0,572	<b>3514S</b>
G3/4	Small	182	110	50	0,592	<b>3516S</b>
G3/4	Large	297	110	55	1,100	<b>3516</b>
G1	Large	297	110	55	1,100	<b>3518</b>

Replacement Element	Weight kg	Order code
Small	0,200	<b>3514S-2</b>
Large	0,200	<b>3516-2</b>

**Manifold for Metal Repairable version**



Number of ports	Weight kg	Order code
5	0,270	<b>M3516-5</b>
7	0,432	<b>M3516-7</b>
9	0,574	<b>M3516-9</b>
13	0,870	<b>M3516-13</b>

The manifold is available for G3/4 sizes only.



# Fittings, tubing and couplers

## LF 3000: Polymer Push-In Fittings - Threaded

-20°C to +80°C  
20 bar max. (vacuum 755 mmHg)

## 3101 Male Stud Fitting BSPP &amp; M5



ØD	C	Order code
4	M5 x 0.8	<b>3101 04 19</b>
4	G1/8	<b>3101 04 10</b>
4	G1/4	<b>3101 04 13</b>
6	M5 x 0.8	<b>3101 06 19</b>
6	G1/8	<b>3101 06 10</b>
6	G1/4	<b>3101 06 13</b>
6	G3/8	<b>3101 06 17</b>
8	G1/8	<b>3101 08 10</b>
8	G1/4	<b>3101 08 13</b>
8	G3/8	<b>3101 08 17</b>
10	G1/4	<b>3101 10 13</b>
10	G3/8	<b>3101 10 17</b>
10	G1/2	<b>3101 10 21</b>
12	G3/8	<b>3101 12 17</b>
12	G1/2	<b>3101 12 21</b>
14	G3/8	<b>3101 14 17</b>
14	G1/2	<b>3101 14 21</b>
16	G3/8	<b>3101 16 17</b>
16	G1/2	<b>3101 16 21</b>

## 3199 Male Stud Elbow, BSPP &amp; M5



ØD	C	Order code
4	M5 x 0.8	<b>3199 04 19</b>
4	G1/8	<b>3199 04 10</b>
4	G1/4	<b>3199 04 13</b>
6	M5 x 0.8	<b>3199 06 19</b>
6	G1/8	<b>3199 06 10</b>
6	G1/4	<b>3199 06 13</b>
6	G3/8	<b>3199 06 17</b>
8	G1/8	<b>3199 08 10</b>
8	G1/4	<b>3199 08 13</b>
8	G3/8	<b>3199 08 17</b>
8	G1/2	<b>3199 08 21</b>
10	G1/4	<b>3199 10 13</b>
10	G3/8	<b>3199 10 17</b>
10	G1/2	<b>3199 10 21</b>
12	G1/4	<b>3199 12 13</b>
12	G3/8	<b>3199 12 17</b>
12	G1/2	<b>3199 12 21</b>
14	G3/8	<b>3199 14 17</b>
14	G1/2	<b>3199 14 21</b>
16	G3/8	<b>3199 16 17</b>
16	G1/2	<b>3199 16 21</b>

## 3175 Male Stud Fitting BSPT



ØD	C	Order code
4	R1/8	<b>3175 04 10</b>
4	R1/4	<b>3175 04 13</b>
6	R1/8	<b>3175 06 10</b>
6	R1/4	<b>3175 06 13</b>
6	R3/8	<b>3175 06 17</b>
6	R1/2	<b>3175 06 21</b>
8	R1/8	<b>3175 08 10</b>
8	R1/4	<b>3175 08 13</b>
8	R3/8	<b>3175 08 17</b>
10	R1/4	<b>3175 10 13</b>
10	R3/8	<b>3175 10 17</b>
10	R1/2	<b>3175 10 21</b>
12	R3/8	<b>3175 12 17</b>
12	R1/2	<b>3175 12 21</b>
14	R3/8	<b>3175 14 17</b>
14	R1/2	<b>3175 14 21</b>
16	R3/8	<b>3175 16 17</b>
16	R1/2	<b>3175 16 21</b>

## 3169 Extended Male Stud Elbow, BSPP &amp; M5



ØD	C	Order code
4	M5 x 0.8	<b>3169 04 19</b>
4	G1/8	<b>3169 04 10</b>
4	G1/4	<b>3169 04 13</b>
6	M5 x 0.8	<b>3169 06 19</b>
6	G1/8	<b>3169 06 10</b>
6	G1/4	<b>3169 06 13</b>
8	G1/8	<b>3169 08 10</b>
8	G1/4	<b>3169 08 13</b>
8	G3/8	<b>3169 08 17</b>
10	G1/4	<b>3169 10 13</b>
10	G3/8	<b>3169 10 17</b>
10	G1/2	<b>3169 10 21</b>
12	G1/4	<b>3169 12 13</b>
12	G3/8	<b>3169 12 17</b>
12	G1/2	<b>3169 12 21</b>
14	G3/8	<b>3169 14 17</b>
14	G1/2	<b>3169 14 21</b>
16	G3/8	<b>3169 16 17</b>
16	G1/2	<b>3169 16 21</b>

## 3114 Female Stud Fitting BSPP &amp; M5



ØD	C	Order code
4	M5 x 0.8	<b>3114 04 19</b>
4	G1/8	<b>3114 04 10</b>
4	G1/4	<b>3114 04 13</b>
6	G1/8	<b>3114 06 10</b>
6	G1/4	<b>3114 06 13</b>
8	G1/8	<b>3114 08 10</b>
8	G1/4	<b>3114 08 13</b>
10	G1/4	<b>3114 10 13</b>
10	G3/8	<b>3114 10 17</b>
10	G1/2	<b>3114 10 21</b>
12	G3/8	<b>3114 12 17</b>
12	G1/2	<b>3114 12 21</b>
14	G3/8	<b>3114 14 17</b>
16	G1/2	<b>3114 16 21</b>

## LF 3000: Polymer Push-In Fittings - Threaded

-20°C to +80°C  
20 bar max. (vacuum 755 mmHg)

### 3129 Extended Male Stud Elbow, BSPT



ØD	C	Order code
4	R1/8	<b>3129 04 10</b>
4	R1/4	<b>3129 04 13</b>
6	R1/8	<b>3129 06 10</b>
6	R1/4	<b>3129 06 13</b>
8	R1/8	<b>3129 08 10</b>
8	R1/4	<b>3129 08 13</b>
8	R3/8	<b>3129 08 17</b>
10	R1/4	<b>3129 10 13</b>
10	R3/8	<b>3129 10 17</b>
10	R1/2	<b>3129 10 21</b>
12	R1/4	<b>3129 12 13</b>
12	R3/8	<b>3129 12 17</b>
12	R1/2	<b>3129 12 21</b>
14	R3/8	<b>3129 14 17</b>
14	R1/2	<b>3129 14 21</b>

### 3108 Male Stud Branch Tee, BSPT



ØD	C	Order code
4	R1/8	<b>3108 04 10</b>
4	R1/4	<b>3108 04 13</b>
6	R1/8	<b>3108 06 10</b>
6	R1/4	<b>3108 06 13</b>
8	R1/8	<b>3108 08 10</b>
8	R1/4	<b>3108 08 13</b>
8	R3/8	<b>3108 08 17</b>
10	R1/4	<b>3108 10 13</b>
10	R3/8	<b>3108 10 17</b>
10	R1/2	<b>3108 10 21</b>
12	R1/4	<b>3108 12 13</b>
12	R3/8	<b>3108 12 17</b>
12	R1/2	<b>3108 12 21</b>
14	R3/8	<b>3108 14 17</b>
14	R1/2	<b>3108 14 21</b>
16	R3/8	<b>3108 16 17</b>
16	R1/2	<b>3108 16 21</b>

### 3109 Male Stud Elbow, BSPT



ØD	C	Order code
4	R1/8	<b>3109 04 10</b>
4	R1/4	<b>3109 04 13</b>
4	R3/8	<b>3109 04 17</b>
6	R1/8	<b>3109 06 10</b>
6	R1/4	<b>3109 06 13</b>
6	R3/8	<b>3109 06 17</b>
8	R1/8	<b>3109 08 10</b>
8	R1/4	<b>3109 08 13</b>
8	R3/8	<b>3109 08 17</b>
8	R1/2	<b>3109 08 21</b>
10	R1/8	<b>3109 10 10</b>
10	R1/4	<b>3109 10 13</b>
10	R3/8	<b>3109 10 17</b>
10	R1/2	<b>3109 10 21</b>
12	R1/4	<b>3109 12 13</b>
12	R3/8	<b>3109 12 17</b>
12	R1/2	<b>3109 12 21</b>
14	R3/8	<b>3109 14 17</b>
14	R1/2	<b>3109 14 21</b>
16	R3/8	<b>3109 16 17</b>
16	R1/2	<b>3109 16 21</b>

### 3198 Male Stud Branch Tee BSPP & M5



ØD	C	Order code
4	M5 x 0.8	<b>3198 04 19</b>
4	G1/8	<b>3198 04 10</b>
4	G1/4	<b>3198 04 13</b>
6	M5 x 0.8	<b>3198 06 19</b>
6	G1/8	<b>3198 06 10</b>
6	G1/4	<b>3198 06 13</b>
8	G1/8	<b>3198 08 10</b>
8	G1/4	<b>3198 08 13</b>
8	G3/8	<b>3198 08 17</b>
10	G1/4	<b>3198 10 13</b>
10	G3/8	<b>3198 10 17</b>
10	G1/2	<b>3198 10 21</b>
12	G1/4	<b>3198 12 13</b>
12	G3/8	<b>3198 12 17</b>
12	G1/2	<b>3198 12 21</b>
14	G3/8	<b>3198 14 17</b>
14	G1/2	<b>3198 14 21</b>
16	G3/8	<b>3198 16 17</b>
16	G1/2	<b>3198 16 21</b>

### 3192 Female Stud Elbow BSPP



ØD	C	Order code
4	G1/8	<b>3192 04 10</b>
4	G1/4	<b>3192 04 13</b>
6	G1/8	<b>3192 06 10</b>
6	G1/4	<b>3192 06 13</b>
8	G1/8	<b>3192 08 10</b>
8	G1/4	<b>3192 08 13</b>
8	G3/8	<b>3192 08 17</b>
10	G1/4	<b>3192 10 13</b>
10	G3/8	<b>3192 10 17</b>
10	G1/2	<b>3192 10 21</b>
12	G1/2	<b>3192 12 21</b>

## LF 3000: Polymer Push-In Fittings - Threaded

-20°C to +80°C  
20 bar max. (vacuum 755 mmHg)

## 3133 45° Male Elbow, BSPP &amp; M5



ØD	C	Order code
4	M5 x 0.8	<b>3133 04 19</b>
4	G1/8	<b>3133 04 10</b>
6	M5 x 0.8	<b>3133 06 19</b>
6	G1/8	<b>3133 06 10</b>
6	G1/4	<b>3133 06 13</b>
8	G1/8	<b>3133 08 10</b>
8	G1/4	<b>3133 08 13</b>
8	G3/8	<b>3133 08 17</b>
10	G1/4	<b>3133 10 13</b>
10	G3/8	<b>3133 10 17</b>
10	G1/2	<b>3133 10 21</b>
12	G1/4	<b>3133 12 13</b>
12	G3/8	<b>3133 12 17</b>
12	G1/2	<b>3133 12 21</b>

## 3103 Male Stud Run Tee, BSPT



ØD	C	Order code
4	R1/8	<b>3103 04 10</b>
4	R1/4	<b>3103 04 13</b>
6	R1/8	<b>3103 06 10</b>
6	R1/4	<b>3103 06 13</b>
8	R1/8	<b>3103 08 10</b>
8	R1/4	<b>3103 08 13</b>
8	R3/8	<b>3103 08 17</b>
10	R1/4	<b>3103 10 13</b>
10	R3/8	<b>3103 10 17</b>
10	R1/2	<b>3103 10 21</b>
12	R1/4	<b>3103 12 13</b>
12	R3/8	<b>3103 12 17</b>
12	R1/2	<b>3103 12 21</b>
14	R3/8	<b>3103 14 17</b>
14	R1/2	<b>3103 14 21</b>
16	R3/8	<b>3103 16 17</b>
16	R1/2	<b>3103 16 21</b>

## 3113 45° Male Elbow, BSPT



ØD	C	Order code
4	R1/8	<b>3113 04 10</b>
6	R1/8	<b>3113 06 10</b>
6	R1/4	<b>3113 06 13</b>
8	R1/8	<b>3113 08 10</b>
8	R1/4	<b>3113 08 13</b>
8	R3/8	<b>3113 08 17</b>
10	R1/4	<b>3113 10 13</b>
10	R3/8	<b>3113 10 17</b>
10	R1/2	<b>3113 10 21</b>
12	R1/4	<b>3113 12 13</b>
12	R3/8	<b>3113 12 17</b>
12	R1/2	<b>3113 12 21</b>

## 3121 Male Standpipe BSPT



ØD	C	Order code
4	R1/8	<b>3121 04 10</b>
4	R1/4	<b>3121 04 13</b>
6	R1/8	<b>3121 06 10</b>
6	R1/4	<b>3121 06 13</b>
8	R1/8	<b>3121 08 10</b>
8	R1/4	<b>3121 08 13</b>
8	R3/8	<b>3121 08 17</b>
10	R1/4	<b>3121 10 13</b>
10	R3/8	<b>3121 10 17</b>
10	R1/2	<b>3121 10 21</b>
12	R3/8	<b>3121 12 17</b>
12	R1/2	<b>3121 12 21</b>
14	R1/2	<b>3121 14 21</b>

## 3193 Male Stud Run Tee, BSPP &amp; M5



ØD	C	Order code
4	M5 x 0.8	<b>3193 04 19</b>
4	G1/8	<b>3193 04 10</b>
4	G1/4	<b>3193 04 13</b>
6	M5 x 0.8	<b>3193 06 19</b>
6	G1/8	<b>3193 06 10</b>
6	G1/4	<b>3193 06 13</b>
8	G1/8	<b>3193 08 10</b>
8	G1/4	<b>3193 08 13</b>
8	G3/8	<b>3193 08 17</b>
10	G1/4	<b>3193 10 13</b>
10	G3/8	<b>3193 10 17</b>
10	G1/2	<b>3193 10 21</b>
12	G1/4	<b>3193 12 13</b>
12	G3/8	<b>3193 12 17</b>
12	G1/2	<b>3193 12 21</b>
14	G3/8	<b>3193 14 17</b>
14	G1/2	<b>3193 14 21</b>
16	G3/8	<b>3193 16 17</b>
16	G1/2	<b>3193 16 21</b>

## 3131 Male Standpipe BSPP



ØD	C	Order code
4	M5 x 0.8	<b>3131 04 19</b>
4	G1/8	<b>3131 04 10</b>
4	G1/4	<b>3131 04 13</b>
6	G1/8	<b>3131 06 10</b>
6	G1/4	<b>3131 06 13</b>
8	G1/8	<b>3131 08 10</b>
8	G1/4	<b>3131 08 13</b>
8	G3/8	<b>3131 08 17</b>
10	G1/4	<b>3131 10 13</b>
10	G3/8	<b>3131 10 17</b>
10	G1/2	<b>3131 10 21</b>
12	G3/8	<b>3131 12 17</b>
12	G1/2	<b>3131 12 21</b>
14	G3/8	<b>3131 14 17</b>
14	G1/2	<b>3131 14 21</b>

## LF 3000: Polymer Push-In Fittings - Threaded

-20°C to +80°C  
20 bar max. (vacuum 755 mmHg)

### 3158 "Y" piece, BSPP & M5



ØD	C	Order code
4	M5 x 0.8	<b>3158 04 19</b>
4	G1/8	<b>3158 04 10</b>
4	G1/4	<b>3158 04 13</b>
6	M5 x 0.8	<b>3158 06 19</b>
6	G1/8	<b>3158 06 10</b>
6	G1/4	<b>3158 06 13</b>
8	G1/8	<b>3158 08 10</b>
8	G1/4	<b>3158 08 13</b>
8	G3/8	<b>3158 08 17</b>
10	G1/4	<b>3158 10 13</b>
10	G3/8	<b>3158 10 17</b>
10	G1/2	<b>3158 10 21</b>
12	G3/8	<b>3158 12 17</b>
12	G1/2	<b>3158 12 21</b>

### 3119 Double banjo, BSPP & M5



ØD	C	Order code
4	M5 x 0.8	<b>3119 04 19</b>
4	G1/8	<b>3119 04 10</b>
6	G1/8	<b>3119 06 10</b>
6	G1/4	<b>3119 06 13</b>
8	G1/4	<b>3119 08 13</b>
8	G3/8	<b>3119 08 17</b>
10	G3/8	<b>3119 10 17</b>

### 3132 Male Double "Y" BSPP



ØD	C	Order code
4	G1/8	<b>3132 04 10</b>
4	G1/4	<b>3132 04 13</b>
6	G1/8	<b>3132 06 10</b>
6	G1/4	<b>3132 06 13</b>

### 3124 Single Banjo with Female, BSPP & M5



ØD	C	Order code
4	M5 x 0.8	<b>3124 04 19</b>
4	G1/8	<b>3124 04 10</b>
6	G1/4	<b>3124 06 13</b>
8	G3/8	<b>3124 08 17</b>

### 3118 Single Banjo, BSPP & M5



ØD	C	Order code
4	M5 x 0.8	<b>3118 04 19</b>
4	G1/8	<b>3118 04 10</b>
6	M5 x 0.8	<b>3118 06 19</b>
6	G1/8	<b>3118 06 10</b>
6	G1/4	<b>3118 06 13</b>
8	G1/8	<b>3118 08 10</b>
8	G1/4	<b>3118 08 13</b>
8	G3/8	<b>3118 08 17</b>
10	G1/4	<b>3118 10 13</b>
10	G3/8	<b>3118 10 17</b>
10	G1/2	<b>3118 10 21</b>
12	G3/8	<b>3118 12 17</b>
12	G1/2	<b>3118 12 21</b>

### 3189 Oscillating Compact Elbow, BSPP



ØD	C	Order code
4	G1/8	<b>3189 04 10</b>
6	G1/8	<b>3189 06 10</b>
6	G1/4	<b>3189 06 13</b>
8	G1/8	<b>3189 08 10</b>
8	G1/4	<b>3189 08 13</b>
8	G3/8	<b>3189 08 17</b>
10	G1/4	<b>3189 10 13</b>
10	G3/8	<b>3189 10 17</b>
12	G1/4	<b>3189 12 13</b>
12	G3/8	<b>3189 12 17</b>

### 3149 Double Banjo, BSPP & M5



ØD	C	Order code
4	M5 x 0.8	<b>3149 04 19</b>
4	G1/8	<b>3149 04 10</b>
4	G1/4	<b>3149 04 13</b>
6	G1/8	<b>3149 06 10</b>
6	G1/4	<b>3149 06 13</b>
6	G3/8	<b>3149 06 17</b>
8	G1/4	<b>3149 08 13</b>
8	G3/8	<b>3149 08 17</b>
10	G3/8	<b>3149 10 17</b>

### 3391 Self-Sealing Male Stud Fitting, BSPP



ØD	C	Order code
4	G1/8	<b>3391 04 10</b>
6	G1/8	<b>3391 06 10</b>
8	G1/8	<b>3391 08 10</b>
8	G1/4	<b>3391 08 13</b>
10	G3/8	<b>3391 10 17</b>

## LF 3000: Polymer Push-In Fittings - Union

-20°C to +80°C  
20 bar max. (vacuum 755 mmHg)

### 3102 Equal Elbow



ØD	Order code
4	3102 04 00
6	3102 06 00
8	3102 08 00
10	3102 10 00
12	3102 12 00
14	3102 14 00
16	3102 16 00

### 3140 Single "Y" piece - Equal & Unequal



ØD1	ØD2	Order code
4	4	3140 04 00
4	6	3140 04 06
6	6	3140 06 00
6	8	3140 06 08
8	8	3140 08 00

### 3104 Tee - Equal & Unequal



ØD1	ØD2	Order code
4	4	3104 04 00
4	6	3104 04 06
6	4	3104 06 04
6	6	3104 06 00
6	8	3104 06 08
8	6	3104 08 06
8	8	3104 08 00
8	10	3104 08 10
10	8	3104 10 08
10	10	3104 10 00
10	12	3104 10 12
12	10	3104 12 10
12	12	3104 12 00
14	8	3104 14 08
14	14	3104 14 00
16	16	3104 16 00
16	12	3104 16 12

### 3144 Multiple "Y" piece -Equal & Unequal



ØD1	ØD2	Order code
4	4	3144 04 04
4	6	3144 04 06
6	6	3144 06 06
6	8	3144 06 08

### 3304 Unequal Multiple Tee



ØD1	ØD2	Order code
6	4	3304 06 04
8	4	3304 08 04
8	6	3304 08 06
10	6	3304 10 06
10	8	3304 10 08

### 3106 Tube/Tube Connector - Equal & Unequal



ØD1	ØD2	Order code
4	4	3106 04 00
4	6	3106 04 06
4	8	3106 04 08
6	6	3106 06 00
6	8	3106 06 08
6	10	3106 06 10
8	8	3106 08 00
8	10	3106 08 10
8	12	3106 08 12
10	10	3106 10 00
10	12	3106 10 12
12	12	3106 12 00
12	14	3106 12 14
14	14	3106 14 00
16	16	3106 16 00
16	12	3106 16 12

### 3306 Unequal Multiple Elbow



ØD1	ØD2	Order code
6	4	3306 06 04
8	4	3306 08 04
8	6	3306 08 06
10	6	3306 10 06
10	8	3306 10 08

### 3107 Cross - Equal & Unequal



ØD1	ØD2	Order code
4	4	3107 04 00
4	6	3107 04 06
6	6	3107 06 00
6	8	3107 06 08
8	8	3107 08 00



## LF 3000: Polymer Push-In Fittings - Union

-20°C to +80°C  
20 bar max. (vacuum 755 mmHg)

### 3310 Manifold with LF3000



ØD1	ØD2	Order code
4	G1/4	<b>3310 04 13</b>
6	G1/4	<b>3310 06 13</b>
8	G3/8	<b>3310 08 17</b>
10	G1/2	<b>3310 10 21</b>
12	G1/2	<b>3310 12 21</b>

### 3182 Plug-In Equal Compact Elbow



ØD1	ØD2	Order code
4	4	<b>3182 04 00</b>
6	6	<b>3182 06 00</b>
8	8	<b>3182 08 00</b>
10	10	<b>3182 10 00</b>
12	12	<b>3182 12 00</b>

### 3151 End Cap with Push-In Connection



ØD	Order code
4	<b>3151 04 00</b>
6	<b>3151 06 00</b>
8	<b>3151 08 00</b>
10	<b>3151 10 00</b>
12	<b>3151 12 00</b>

### 3188 Plug-In Equal Compact Tee



ØD1	ØD2	Order code
4	4	<b>3188 04 00</b>
6	6	<b>3188 06 00</b>
8	8	<b>3188 08 00</b>
10	10	<b>3188 10 00</b>
12	12	<b>3188 12 00</b>

### 3116 Equal Bulkhead Connector



ØD	Order code
4	<b>3116 04 00</b>
6	<b>3116 06 00</b>
8	<b>3116 08 00</b>
10	<b>3116 10 00</b>
12	<b>3116 12 00</b>
14	<b>3116 14 00</b>

### 3183 Plug-In Equal Run Tee



ØD1	ØD2	Order code
4	4	<b>3183 04 00</b>
6	6	<b>3183 06 00</b>
8	8	<b>3183 08 00</b>
10	10	<b>3183 10 00</b>
12	12	<b>3183 12 00</b>

### 3136 Female Bulkhead Connector



ØD	C	Order code
4	G1/8	<b>3136 04 10</b>
4	G1/4	<b>3136 04 13</b>
6	G1/8	<b>3136 06 10</b>
6	G1/4	<b>3136 06 13</b>
6	G3/8	<b>3136 06 17</b>
8	G1/8	<b>3136 08 10</b>
8	G1/4	<b>3136 08 13</b>
10	G3/8	<b>3136 10 17</b>
12	G3/8	<b>3136 12 17</b>
12	G1/2	<b>3136 12 21</b>
16	G3/8	<b>3136 16 17</b>
16	G1/2	<b>3136 16 21</b>

### 3166 Reducer



ØD1	ØD2	Order code
4	6	<b>3166 04 06</b>
4	8	<b>3166 04 08</b>
4	10	<b>3166 04 10</b>
6	8	<b>3166 06 08</b>
6	10	<b>3166 06 10</b>
6	12	<b>3166 06 12</b>
6	14	<b>3166 06 14</b>
8	10	<b>3166 08 10</b>
8	12	<b>3166 08 12</b>
8	14	<b>3166 08 14</b>
10	12	<b>3166 10 12</b>
10	14	<b>3166 10 14</b>
12	14	<b>3166 12 14</b>

### 3139 Equal Bulkhead Elbow



ØD	Order code
4	<b>3139 04 00</b>
6	<b>3139 06 00</b>
8	<b>3139 08 00</b>
10	<b>3139 10 00</b>
12	<b>3139 12 00</b>
14	<b>3139 14 00</b>

### 3168 Increaser



ØD1	ØD2	Order code
6	4	<b>3168 06 04</b>
8	6	<b>3168 08 06</b>
10	8	<b>3168 10 08</b>
12	10	<b>3168 12 10</b>

## LF 3000: Polymer Push-In Fittings - Union

-20°C to +80°C  
20 bar max. (vacuum 755 mmHg)

### 3126 Blanking Plugs



ØD	Order code
4	<b>3126 04 00</b>
6	<b>3126 06 00</b>
8	<b>3126 08 00</b>
10	<b>3126 10 00</b>
12	<b>3126 12 00</b>
14	<b>3126 14 00</b>
16	<b>3126 16 00</b>

### 3320 Multi-Connector Male Screw Body



o.d. tube	Number of outlets	Order code
4	2	<b>3320 04 00 02</b>
4	4	<b>3320 04 00 04</b>
4	7	<b>3320 04 00 07</b>
4	12	<b>3320 04 00 12</b>
6	2	<b>3320 06 00 02</b>
6	4	<b>3320 06 00 04</b>
6	7	<b>3320 06 00 07</b>
8	2	<b>3320 08 00 02</b>

### Clip Strips for Tubes



ØD	Order code
4	<b>Clip 04 00</b>
6	<b>Clip 06 00</b>
8	<b>Clip 08 00</b>
10	<b>Clip 10 00</b>
12	<b>Clip 12 00</b>
14	<b>Clip 14 00</b>

### 3321 Multi-Connector Female Screw Body



o.d. tube	Number of outlets	Order code
4	2	<b>3321 04 00 02</b>
4	4	<b>3321 04 00 04</b>
4	7	<b>3321 04 00 07</b>
4	12	<b>3321 04 00 12</b>
6	4	<b>3321 06 00 04</b>
6	7	<b>3321 06 00 07</b>
8	2	<b>3321 08 00 02</b>

### 3100 Carstick



ØD	Order code
4	<b>3100 04 00</b>
6	<b>3100 06 00</b>
8	<b>3100 08 00</b>
10	<b>3100 10 00</b>
12	<b>3100 12 00</b>
14	<b>3100 14 00</b>

### 3329 Multi-Connector Screw Cap



Number of outlets	Order code
2	<b>3329 00 01</b>
4 - 7	<b>3329 00 02</b>
12	<b>3329 00 03</b>

### 3379 DIN Rail Connector for 2 tubes in line



ØD	Order code
4	<b>3379 04 00</b>
6	<b>3379 06 00</b>
8	<b>3379 08 00</b>

### 3381 DIN Rail Connector for 3 Tubes



ØD	Order code
4	<b>3381 04 00</b>
6	<b>3381 06 00</b>
8	<b>3381 08 00</b>

### Multi-Connector Assembly Photo



## Function Fittings: 3 mm Push-In Fittings

-15°C to +70°C  
from 18 bar max.

### 3281 Male Stud Fitting, M3 and M5 Thread



ØD	C	Order code
3	M3x0.5	<b>3281 03 09</b>
3	M5x0.8	<b>3281 03 19</b>

### 3202 Equal Elbow



ØD	Order code
3	<b>3202 03 00</b>

### 3299 Compact Male Stud Elbow, M3 and M5 Thread



ØD	C	Order code
3	M3x0.5	<b>3299 03 09</b>
3	M5x0.8	<b>3299 03 19</b>

### 3204 Equal Tee



ØD	Order code
3	<b>3204 03 00</b>

### 3229 Extended Male Stud Elbow, M3 and M5 Thread



ØD	C	Order code
3	M3x0.5	<b>3229 03 09</b>
3	M5x0.8	<b>3229 03 19</b>

### 3266 4 mm to 3 mm Reducer



ØD	Order code
3	<b>3266 03 04</b>

### 3298 Male Stud Branch Tee, M3 and M5 Thread



ØD	C	Order code
3	M3x0.5	<b>3298 03 09</b>
3	M5x0.8	<b>3298 03 19</b>

### 3226 Blanking Plug



ØD	Order code
3	<b>3226 03 00</b>

### 3293 Male Stud Run Tee, M3 and M5 Thread



ØD	C	Order code
3	M3x0.5	<b>3293 03 09</b>
3	M5x0.8	<b>3293 03 19</b>

### 3218 Single Banjo, M3 and M5 Thread



ØD	C	Order code
3	M3x0.5	<b>3218 03 09</b>
3	M5x0.8	<b>3218 03 19</b>

### 3206 Equal Tube/Tube Connector



ØD	Order code
3	<b>3206 03 00</b>

## Function Fittings: Flow Control Regulators

0°C to +70°C  
from 1 to 10 bar max.

## 7060 Compact BSPP - exhaust (A)



ØD	C	Order code
4	G1/8	7060 04 10
6	G1/8	7060 06 10
6	G1/4	7060 06 13
8	G1/8	7060 08 10
8	G1/4	7060 08 13
8	G3/8	7060 08 17
10	G1/4	7060 10 13
10	G3/8	7060 10 17
12	G3/8	7060 12 17
12	G1/2	7060 12 21

## 7669 Miniature BSPP &amp; M5 - supply (B)



ØD	C	Order code
4	M5 x 0.8	7669 04 19
4	G1/8	7669 04 10
6	M5 x 0.8	7669 06 19
6	G1/8	7669 06 10
6	G1/4	7669 06 13
8	G1/8	7669 08 10
8	G1/4	7669 08 13
8	G3/8	7669 08 17

## 7061 Compact BSPP - supply (B)



ØD	C	Order code
4	G1/8	7061 04 10
6	G1/8	7061 06 10
6	G1/4	7061 06 13
8	G1/8	7061 08 10
8	G1/4	7061 08 13
8	G3/8	7061 08 17
10	G1/4	7061 10 13
10	G3/8	7061 10 17
12	G1/2	7061 12 21

7010 Recessed Adjust.Screw,  
BSPP & M5 - exhaust (A)

ØD	C	Order code
4	M5 x 0.8	7010 04 19
4	G1/8	7010 04 10
6	M5 x 0.8	7010 06 19
6	G1/8	7010 06 10
6	G1/4	7010 06 13
8	G1/8	7010 08 10
8	G1/4	7010 08 13
8	G3/8	7010 08 17
10	G1/4	7010 10 13
10	G3/8	7010 10 17
10	G1/2	7010 10 21
12	G3/8	7010 12 17
12	G1/2	7010 12 21

## 7062 Compact BSPP - bi-directional (C)



ØD	C	Order code
4	G1/8	7062 04 10
6	G1/8	7062 06 10
6	G1/4	7062 06 13
8	G1/8	7062 08 10
8	G1/4	7062 08 13
8	G3/8	7062 08 17

7011 Recessed Adjust.Screw,  
BSPP & M5 - supply (B)

ØD	C	Order code
4	M5 x 0.8	7011 04 19
4	G1/8	7011 04 10
6	M5 x 0.8	7011 06 19
6	G1/8	7011 06 10
6	G1/4	7011 06 13
8	G1/8	7011 08 10
8	G1/4	7011 08 13
8	G3/8	7011 08 17
10	G1/4	7011 10 13
10	G3/8	7011 10 17

## 7660 Miniature BSPP &amp; M5 - exhaust (A)



ØD	C	Order code
4	M5 x 0.8	7660 04 19
4	G1/8	7660 04 10
6	M5 x 0.8	7660 06 19
6	G1/8	7660 06 10
6	G1/4	7660 06 13
8	G1/8	7660 08 10
8	G1/4	7660 08 13
8	G3/8	7660 08 17

7012 Recessed Adjust.Screw,  
BSPP & M5 - bi-directional (C)

ØD	C	Order code
4	M5 x 0.8	7012 04 19
4	G1/8	7012 04 10
6	M5 x 0.8	7012 06 19
6	G1/8	7012 06 10
6	G1/4	7012 06 13
8	G1/8	7012 08 10
8	G1/4	7012 08 13
8	G3/8	7012 08 17

## 7662 Miniature BSPP &amp; M5 - bi-directional (C)



ØD	C	Order code
4	M5 x 0.8	7662 04 19
4	G1/8	7662 04 10
6	M5 x 0.8	7662 06 19
6	G1/8	7662 06 10
6	G1/4	7662 06 13

## Function Fittings: Flow Control Regulators

0°C to +70°C  
from 1 to 10 bar max.

### 7040 Compact Swivel Elbow, BSPP - exhaust (A)



ØD	C	Order code
6	G1/8	7040 06 10
6	G1/4	7040 06 13
8	G1/8	7040 08 10
8	G1/4	7040 08 13
8	G3/8	7040 08 17
10	G1/4	7040 10 13
10	G3/8	7040 10 17
12	G3/8	7040 12 17
12	G1/2	7040 12 21

### 7041 Compact Swivel Elbow, BSPP - supply (B)



ØD	C	Order code
6	G1/4	7041 06 13
8	G1/8	7041 08 10
8	G1/4	7041 08 13

### 7640 Miniature BSPP & Metric - exhaust (A)



ØD	C	Order code
4	M5 x 0,8	7640 04 19
4	G1/8	7640 04 10
6	M5 x 0,8	7640 06 19
6	G1/8	7640 06 10

### 7649 Miniature BSPP & Metric - supply (B)



ØD	C	Order code
4	M5 x 0,8	7649 04 19
4	G1/8	7649 04 10
6	M5 x 0,8	7649 06 19
6	G1/8	7649 06 10

### 7770 - In-line with push-in connection, One-Way Adjust (A)



ØD	Order code
4	7770 04 00
6	7770 06 00
8	7770 08 00
10	7770 10 00
12	7770 12 00

### 7772 - In-line with push-in connection, Bi-directional (C)



ØD	Order code
4	7772 04 00
6	7772 06 00
8	7772 08 00

### 7771 In-line with Threaded Connections, BSPP, One-Way Adjust (A)



C	Order code
G1/8	7771 10 10
G1/4	7771 13 13
G3/8	7771 17 17
G1/2	7771 21 21

### 7776 - In-line with push-in connection, One-Way Adjust (A), Panel Mountable



ØD	Order code
4	7776 04 00
6	7776 06 00
8	7776 08 00
10	7776 10 00
12	7776 12 00

### 7100 Compact with push-in connection, BSPP - exhaust (A)



ØD	C	Order code
4	G1/8	7100 04 10
6	G1/8	7100 06 10
6	G1/4	7100 06 13
8	G1/8	7100 08 10
8	G1/4	7100 08 13
8	G3/8	7100 08 17
10	G1/4	7100 10 13
10	G3/8	7100 10 17
12	G3/8	7100 12 17
12	G1/2	7100 12 21
14	G1/2	7100 14 21

### 7101 Compact with push-in connection, BSPP - supply (B)



ØD	C	Order code
4	G1/8	7101 04 10
6	G1/8	7101 06 10
6	G1/4	7101 06 13
8	G1/8	7101 08 10
8	G1/4	7101 08 13
8	G3/8	7101 08 17

### 7110 Compact with Threaded Fitting, BSPP - exhaust (A)



C	Order code
G1/8	7110 10 10
G1/4	7110 13 13
G3/8	7110 17 17
G1/2	7110 21 21
G1/8	7111 10 10
G1/4	7111 13 13

## Function Fittings: Flow Control Regulators

0°C to +70°C  
from 1 to 10 bar max.

### 7111 Compact with Threaded Fitting, BSPP - supply (B)



C	Order code
G1/8	<b>7111 10 10</b>
G1/4	<b>7111 13 13</b>

### 7160 with Universal Brass Compression Fitting, Recessed Adjust. Screw, BSP - exhaust (A)



ØD	C	Order code
4	G1/8	<b>7160 04 10</b>
6	G1/8	<b>7160 06 10</b>
6	G1/4	<b>7160 06 13</b>
8	G1/8	<b>7160 08 10</b>
8	G1/4	<b>7160 08 13</b>
10	G1/4	<b>7160 10 13</b>
10	G3/8	<b>7160 10 17</b>
10	G1/2	<b>7160 10 21</b>
12	G3/8	<b>7160 12 17</b>
12	G1/2	<b>7160 12 21</b>

### 7170 In-line Flow Regulator, BSPP & M5



Body in aluminium

C	Order code
M5	<b>7170 19 19</b>
G1/8	<b>7170 10 10</b>
G1/4	<b>7170 13 13</b>
G3/8	<b>7170 17 17</b>
G1/2	<b>7170 21 21</b>

### 7762 with Universal Brass Compression Fitting, external adjust, BSPP - exhaust (A)



ØD	C	Order code
8	G1/8	<b>7762 08 10</b>
10	G1/4	<b>7762 10 13</b>
14	G3/8	<b>7762 14 17</b>
18	G1/2	<b>7762 18 21</b>

### 7130 Recessed Adjust.Screw, BSPP & M5 - exhaust (A)



ØD	C	Order code
4	G1/8	<b>7130 04 10</b>
4	M5 x 0.8	<b>7130 04 19</b>
6	G1/8	<b>7130 06 10</b>
6	G1/4	<b>7130 06 13</b>
6	M5 x 0.8	<b>7130 06 19</b>
8	G1/8	<b>7130 08 10</b>
8	G1/4	<b>7130 08 13</b>
8	G3/8	<b>7130 08 17</b>
10	G1/4	<b>7130 10 13</b>
10	G3/8	<b>7130 10 17</b>
10	G1/2	<b>7130 10 21</b>
12	G3/8	<b>7130 12 17</b>
12	G1/2	<b>7130 12 21</b>

### 7140 Threaded Recessed Adjust.Screw, BSPP & M5 - exhaust (A)



C	Order code
M5 x 0.8	<b>7140 19 19</b>
G1/8	<b>7140 10 10</b>
G1/4	<b>7140 13 13</b>
G3/8	<b>7140 17 17</b>
G1/2	<b>7140 21 21</b>

## Function Fittings: Non-Return Valves

0°C to +70°C  
from 1 to 10 bar max.

### 7996 Non-Return Valve with push-in connection



ØD	Order code
4	<b>7996 04 00</b>
6	<b>7996 06 00</b>
8	<b>7996 08 00</b>
10	<b>7996 10 00</b>
12	<b>7996 12 00</b>

### 7994 Non-Return Valve with push-in connection, BSPP & M5 -exhaust (A)



ØD	C	Order code
4	M5 x 0.8	<b>7994 04 19</b>
4	G1/8	<b>7994 04 10</b>
6	G1/8	<b>7994 06 10</b>
6	G1/4	<b>7994 06 13</b>
8	G1/8	<b>7994 08 10</b>
8	G1/4	<b>7994 08 13</b>
10	G3/8	<b>7994 10 17</b>
12	G3/8	<b>7994 12 17</b>
12	G1/2	<b>7994 12 21</b>

### 7984 Non-Return Valve with push-in connection, BSPP & M5 -supply (B)



ØD	C	Order code
4	M5 x 0,8	<b>7984 04 19</b>
4	G1/8	<b>7984 04 10</b>
6	G1/8	<b>7984 06 10</b>
6	G1/4	<b>7984 06 13</b>
8	G1/8	<b>7984 08 10</b>
8	G1/4	<b>7984 08 13</b>
10	G3/8	<b>7984 10 17</b>
12	G3/8	<b>7984 12 17</b>
12	G1/2	<b>7984 12 21</b>

### 7930 Adjustable Check Valve, Double Female and BSPP and Metric Thread



ØC	Order code
M5 X 0.8	<b>7930 19 19</b>
G1/8	<b>7930 10 10</b>
G1/4	<b>7930 13 13</b>
G3/8	<b>7930 17 17</b>
G1/2	<b>7930 21 21</b>

### 7931 Adjustable Check Valve Supply, Male/Female BSPP Thread



ØC	Order code
G1/8	<b>7931 10 10</b>
G1/4	<b>7931 13 13</b>
G3/8	<b>7931 17 17</b>
G1/2	<b>7931 21 21</b>

### 7932 Adjustable Check Valve Exhaust, Male/Female BSPP Thread



ØC	Order code
G1/8	<b>7932 10 10</b>
G1/4	<b>7932 13 13</b>
G3/8	<b>7932 17 17</b>
G1/2	<b>7932 21 21</b>

Function Fittings

from 1 to 10 bar max.

7892 Piloted Non-Return Valve, BSPP



ØD	C	Order code
6	G1/8	7892 06 10
6	G1/4	7892 06 13
8	G1/8	7892 08 10
8	G1/4	7892 08 13
8	G3/8	7892 08 17
10	G3/8	7892 10 17
10	G1/2	7892 10 21
12	G1/2	7892 12 21

7883 Blocking Fitting, Male Thread BSPP, with push-in connection & flow regulator



ØD	C	Order code
4	G1/8	7883 04 10
6	G1/8	7883 06 10
6	G1/4	7883 06 13
8	G1/4	7883 08 13
8	G3/8	7883 08 17

7894 Piloted Non-Return Valve with Flow Regulator and Exhaust, BSPP



ØD	C	Order code
6	G1/8	7894 06 10
6	G1/4	7894 06 13
8	G1/8	7894 08 10
8	G1/4	7894 08 13
8	G3/8	7894 08 17
10	G3/8	7894 10 17
10	G1/2	7894 10 21
12	G1/2	7894 12 21

7818 Sensor Fitting with push-in connection, pneumatic, BSPP & M5



C	Order code
M5 x 0,8	7818 04 19
G1/8	7818 04 10
G1/4	7818 04 13
G3/8	7818 04 17
G1/2	7818 04 21

7880 Blocking Fitting, Male Thread BSPP, with push-in connection



ØD	C	Order code
6	G1/8	7880 06 10
6	G1/4	7880 06 13
8	G1/4	7880 08 13
8	G3/8	7880 08 17
10	G3/8	7880 10 17
12	G1/2	7880 12 21

7818 Sensor Fitting, Threaded Fittings, pneumatic, BSPP & M5



C	Order code
G1/8	7818 19 10
G1/4	7818 19 13

7881 Blocking Fitting, Male, Threaded Port, BSPP



C1	C2	Order code
G1/8	G1/4	7881 13 10
G1/4	G1/4	7881 13 13
G3/8	G3/8	7881 17 17
G1/2	G1/2	7881 21 21

7828 Sensor Fitting, Pneumatic/Electric BSPP & M5



C	Order code
M5 x 0,8	7828 00 19
G1/8	7828 00 10
G1/4	7828 00 13
G3/8	7828 00 17
G1/2	7828 00 21



## Function Fittings

from 1 to 10 bar max.

### 7300 Pressure Regulator Fitting with push-in connection, BSPP



ØD	C	Order code
4	G1/8	<b>7300 04 10</b>
6	G1/8	<b>7300 06 10</b>
6	G1/4	<b>7300 06 13</b>
8	G1/8	<b>7300 08 10</b>
8	G1/4	<b>7300 08 13</b>
8	G3/8	<b>7300 08 17</b>
10	G1/4	<b>7300 10 13</b>
10	G3/8	<b>7300 10 17</b>

### 7861 Soft Start Valve with Threaded Fitting, BSPP - for system isolating valve



C	Order code
G1/4	<b>7861 13 13</b>
G3/8	<b>7861 17 17</b>
G1/2	<b>7861 21 21</b>

### 7318 Pressure Reducer, with push-in connection, BSPP



ØD	C	Order code
6	G1/8	<b>7318 06 10</b>
6	G1/4	<b>7318 06 13</b>
8	G1/4	<b>7318 08 13</b>
10	G1/4	<b>7318 10 13</b>
10	G3/8	<b>7318 10 17</b>

### 7800 3/2 Manual Switch Operated Valve, with push-in connection BSPP & M5 (supply)



ØD	C	Order code
4	M5 x 0.8	<b>7800 04 19</b>
4	G1/8	<b>7800 04 10</b>
6	M5 x 0.8	<b>7800 06 19</b>
6	G1/8	<b>7800 06 10</b>
6	G1/4	<b>7800 06 13</b>
8	G1/8	<b>7800 08 10</b>
8	G1/4	<b>7800 08 13</b>
10	G1/4	<b>7800 10 13</b>

### 7316 Pressure Reducer, In-Line with push-in connection



ØD	Order code
6	<b>7316 06 00</b>
8	<b>7316 08 00</b>
10	<b>7316 10 00</b>

### 7801 3/2 Manual Switch Operated Valve, with push-in connection BSPP & M5 (control)



ØD	C	Order code
4	G1/8	<b>7801 04 10</b>
6	G1/8	<b>7801 06 10</b>
6	G1/4	<b>7801 06 13</b>
8	G1/8	<b>7801 08 10</b>
8	G1/4	<b>7801 08 13</b>
10	G1/4	<b>7801 10 13</b>

### 7860 Soft Start Valve with push-in connection, BSPP - for System isolating valve



ØD	C	Order code
8	G1/4	<b>7860 08 13</b>
10	G1/4	<b>7860 10 13</b>
10	G3/8	<b>7860 10 17</b>
12	G3/8	<b>7860 12 17</b>
12	G1/2	<b>7860 12 21</b>

### 7970 Elbow Quick Exhaust Valve, BSPP



C	Order code
M5	<b>7970 19 19</b>
G1/8	<b>7970 10 10</b>
G1/4	<b>7970 13 13</b>
G3/8	<b>7970 17 17</b>
G1/2	<b>7970 21 21</b>
G3/4	<b>7970 27 27</b>
G1"	<b>7970 34 34</b>

### 7870 Soft Start Valve with push-in connection, BSPP - for Control valve



ØD	C	Order code
8	G1/4	<b>7870 08 13</b>
10	G1/4	<b>7870 10 13</b>
10	G3/8	<b>7870 10 17</b>

### 7971 In-Line Quick Exhaust Valve male BSPT, female BSPP



C	Order code
G1/8	<b>7971 10 10</b>
G1/4	<b>7971 13 13</b>
G3/8	<b>7971 17 17</b>
G1/2	<b>7971 21 21</b>

## Universal Compression Fittings

-40°C to +250°C / 550 bar max.  
(depending on the tubing material)

### 0105 Male Stud Coupling, BSPT



ØD	C	Order code
6	R1/8	0105 06 10
6	R1/4	0105 06 13
8	R1/8	0105 08 10
8	R1/4	0105 08 13
8	R3/8	0105 08 17
10	R1/4	0105 10 13
10	R3/8	0105 10 17
12	R3/8	0105 12 17
12	R1/2	0105 12 21
16	R1/4	0105 16 13
18	R1/2	0105 18 21

### 0106 Equal Straight Coupling



ØD	Order code
4	0106 04 00
5	0106 05 00
6	0106 06 00
8	0106 08 00
10	0106 10 00
12	0106 12 00
14	0106 14 00
16	0106 16 00
18	0106 18 00
22	0106 22 00

### 0109 Male Stud Elbow, BSPT



ØD	C	Order code
6	R1/8	0109 06 10
6	R1/4	0109 06 13
8	R1/8	0109 08 10
8	R1/4	0109 08 13
10	R1/4	0109 10 13
10	R3/8	0109 10 17
12	R1/4	0109 12 13
12	R1/2	0109 12 21
16	R1/4	0109 16 21

### 0104 Equal Tee



ØD	Order code
4	0104 04 00
6	0104 06 00
8	0104 08 00
10	0104 10 00
12	0104 12 00
14	0104 14 00
15	0104 15 00
16	0104 16 00
18	0104 18 00
22	0104 22 00

### 0101 Male Stud Coupling, BSPP and Metric Thread



ØD	C	Order code
6	G1/8	0101 06 10
6	G1/4	0101 06 13
8	G1/8	0101 08 10
8	G1/4	0101 08 13
10	G1/4	0101 10 13
10	G3/8	0101 10 17
12	G3/8	0101 12 17
16	G1/2	0101 16 21

### 0102 Equal Elbow



ØD	Order code
6	0102 06 00
8	0102 08 00
10	0102 10 00
12	0102 12 00
14	0102 14 00
15	0102 15 00
16	0102 16 00
18	0102 18 00
20	0102 20 00
22	0102 22 00

### 0118 Single Banjo, BSPP



ØD	C	Order code
6	G1/8	0118 06 10
6	G1/4	0118 06 13
8	G1/8	0118 08 10
8	G1/4	0118 08 13
10	G1/4	0118 10 13
10	G3/8	0118 10 17
12	G3/8	0118 12 17
16	G1/2	0118 16 21

### 0122 Tailpiece Adaptor for Rubber Hose



ØD1	ØD2	Order code
4	4	0122 04 04
5	4	0122 05 04
6	4	0122 06 04
8	6	0122 08 06
10	7	0122 10 07
12	10	0122 12 10
14	13	0122 14 13
15	13	0122 15 13
16	13	0122 16 13
18	16	0122 18 16

## LF 3600: Chemical Nickel-Plated Brass Push-In Fittings

-20°C to +150°C  
30 bar max.

### 3601 Male Stud, BSPP & M5



ØD	C	Order code
4	M5 x 0,8	<b>3601 04 19</b>
4	G1/8	<b>3601 04 10</b>
4	G1/4	<b>3601 04 13</b>
6	M5 x 0,8	<b>3601 06 19</b>
6	G1/8	<b>3601 06 10</b>
6	G1/4	<b>3601 06 13</b>
8	G1/8	<b>3601 08 10</b>
8	G1/4	<b>3601 08 13</b>
8	G3/8	<b>3601 08 17</b>
10	G1/4	<b>3601 10 13</b>
10	G3/8	<b>3601 10 17</b>
10	G1/2	<b>3601 10 21</b>
12	G1/4	<b>3601 12 13</b>
12	G3/8	<b>3601 12 17</b>
12	G1/2	<b>3601 12 21</b>
14	G3/8	<b>3601 14 17</b>
14	G1/2	<b>3601 14 21</b>

### 3699 Male Stud Elbow, BSPP & M5



20 bar max.

ØD	C	Order code
4	M5 x 0.8	<b>3699 04 19</b>
4	G1/8	<b>3699 04 10</b>
4	G1/4	<b>3699 04 13</b>
6	G1/8	<b>3699 06 10</b>
6	G1/4	<b>3699 06 13</b>
8	G1/8	<b>3699 08 10</b>
8	G1/4	<b>3699 08 13</b>
8	G3/8	<b>3699 08 17</b>
10	G1/4	<b>3699 10 13</b>
10	G3/8	<b>3699 10 17</b>
12	G1/4	<b>3699 12 13</b>
12	G3/8	<b>3699 12 17</b>
12	G1/2	<b>3699 12 21</b>
14	G3/8	<b>3699 14 17</b>
14	G1/2	<b>3699 14 21</b>

### 3675 Male Stud, BSPT



ØD	C	Order code
4	R1/8	<b>3675 04 10</b>
4	R1/4	<b>3675 04 13</b>
6	R1/8	<b>3675 06 10</b>
6	R1/4	<b>3675 06 13</b>
8	R1/8	<b>3675 08 10</b>
8	R1/4	<b>3675 08 13</b>
8	R3/8	<b>3675 08 17</b>
10	R1/4	<b>3675 10 13</b>
10	R3/8	<b>3675 10 17</b>
10	R1/2	<b>3675 10 21</b>
12	R1/4	<b>3675 12 13</b>
12	R3/8	<b>3675 12 17</b>
12	R1/2	<b>3675 12 21</b>
14	R3/8	<b>3675 14 17</b>
14	R1/2	<b>3675 14 21</b>

### 3609 Male Stud Elbow, BSPT



20 bar max.

ØD	C	Order code
4	R1/8	<b>3609 04 10</b>
4	R1/4	<b>3609 04 13</b>
6	R1/8	<b>3609 06 10</b>
6	R1/4	<b>3609 06 13</b>
8	R1/8	<b>3609 08 10</b>
8	R1/4	<b>3609 08 13</b>
8	R3/8	<b>3609 08 17</b>
10	R1/4	<b>3609 10 13</b>
10	R3/8	<b>3609 10 17</b>
12	R1/4	<b>3609 12 13</b>
12	R3/8	<b>3609 12 17</b>
12	R1/2	<b>3609 12 21</b>
14	R3/8	<b>3609 14 17</b>
14	R1/2	<b>3609 14 21</b>

### 3614 Female Stud, BSPP & Metric



ØD	C	Order code
4	M5 x 0,8	<b>3614 04 19</b>
4	G1/8	<b>3614 04 10</b>
4	G1/4	<b>3614 04 13</b>
6	G1/8	<b>3614 06 10</b>
6	G1/4	<b>3614 06 13</b>
8	G1/8	<b>3614 08 10</b>
8	G1/4	<b>3614 08 13</b>
10	G3/8	<b>3614 10 17</b>
12	G3/8	<b>3614 12 17</b>
12	G1/2	<b>3614 12 21</b>

### 3669 Extended Male Stud Elbow, BSPP & M5



ØD	C	Order code
4	M5 x 0.8	<b>3669 04 19</b>
4	G1/8	<b>3669 04 10</b>
6	G1/8	<b>3669 06 10</b>
6	G1/4	<b>3669 06 13</b>
8	G1/8	<b>3669 08 10</b>
8	G1/4	<b>3669 08 13</b>
10	G1/4	<b>3669 10 13</b>
10	G3/8	<b>3669 10 17</b>
12	G1/4	<b>3669 12 13</b>
12	G3/8	<b>3669 12 17</b>
14	G1/2	<b>3669 14 21</b>

## LF 3600: Chemical Nickel-Plated Brass Push-In Fittings

-20°C to +150°C  
30 bar max.

### 3698 Male Stud Branch Tee, BSPP & M5



ØD	C	Order code
4	M5 x 0.8	<b>3698 04 19</b>
4	G1/8	<b>3698 04 10</b>
6	G1/8	<b>3698 06 10</b>
6	G1/4	<b>3698 06 13</b>
8	G1/8	<b>3698 08 10</b>
8	G1/4	<b>3698 08 13</b>
10	G1/4	<b>3698 10 13</b>
12	G3/8	<b>3698 12 17</b>
14	G1/2	<b>3698 14 21</b>

### 3606 Equal Tube to Tube Connector



ØD	Order code
4	<b>3606 04 00</b>
6	<b>3606 06 00</b>
8	<b>3606 08 00</b>
10	<b>3606 10 00</b>
12	<b>3606 12 00</b>
14	<b>3606 14 00</b>

### 3693 Male Stud Run Tee, BSPP & M5



ØD	C	Order code
4	M5 x 0,8	<b>3693 04 19</b>
4	G1/8	<b>3693 04 10</b>
6	G1/8	<b>3693 06 10</b>
6	G1/4	<b>3693 06 13</b>
8	G1/8	<b>3693 08 10</b>
8	G1/4	<b>3693 08 13</b>
10	G1/4	<b>3693 10 13</b>
12	G3/8	<b>3693 12 17</b>
14	G1/2	<b>3693 14 21</b>

### 3616 Equal Bulkhead Connector



ØD	Order code
4	<b>3616 04 00</b>
6	<b>3616 06 00</b>
8	<b>3616 08 00</b>
10	<b>3616 10 00</b>
12	<b>3616 12 00</b>
14	<b>3616 14 00</b>

### 3636 Female Bulkhead Connector, BSPP



ØD	C	Order code
4	G1/8	<b>3636 04 10</b>
6	G1/8	<b>3636 06 10</b>
6	G1/4	<b>3636 06 13</b>
8	G1/8	<b>3636 08 10</b>
8	G1/4	<b>3636 08 13</b>
10	G3/8	<b>3636 10 17</b>
12	G3/8	<b>3636 12 17</b>
12	G1/2	<b>3636 12 21</b>

### 3618 Single Banjo, BSPP & M5



ØD	C	Order code
4	M5 x 0.8	<b>3618 04 19</b>
4	G1/8	<b>3618 04 10</b>
6	M5 x 0.8	<b>3618 06 19</b>
6	G1/8	<b>3618 06 10</b>
6	G1/4	<b>3618 06 13</b>
8	G1/8	<b>3618 08 10</b>
8	G1/4	<b>3618 08 13</b>
10	G3/8	<b>3618 10 17</b>

### 3639 Equal Bulkhead Elbow



ØD	Order code
4	<b>3639 04 00</b>
6	<b>3639 06 00</b>
8	<b>3639 08 00</b>
10	<b>3639 10 00</b>
12	<b>3639 12 00</b>
14	<b>3639 14 00</b>

### 3602 Equal Elbow



ØD	Order code
4	<b>3602 04 00</b>
6	<b>3602 06 00</b>
8	<b>3602 08 00</b>
10	<b>3602 10 00</b>
12	<b>3602 12 00</b>
14	<b>3602 14 00</b>

### 3604 Equal Tee



ØD	Order code
4	<b>3604 04 00</b>
6	<b>3604 06 00</b>
8	<b>3604 08 00</b>
10	<b>3604 10 00</b>
12	<b>3604 12 00</b>
14	<b>3604 14 00</b>

## LF 3600: Chemical Nickel-Plated Brass Push-In Fittings

-20°C to +150°C  
 30 bar max.

### 3666 Plug-In Reducer




Diagram of a 3666 Plug-In Reducer showing dimensions ØD1 and ØD2.

ØD1	ØD2	Order code
4	6	<b>3666 04 06</b>
4	8	<b>3666 04 08</b>
6	8	<b>3666 06 08</b>
6	10	<b>3666 06 10</b>
6	12	<b>3666 06 12</b>
8	10	<b>3666 08 10</b>
8	12	<b>3666 08 12</b>
8	14	<b>3666 08 14</b>
10	12	<b>3666 10 12</b>
10	14	<b>3666 10 14</b>
12	14	<b>3666 12 14</b>

### 3668 Plug-In Increaser




Diagram of a 3668 Plug-In Increaser showing dimension ØD1.

ØD1	ØD2	Order code
6	4	<b>3668 06 04</b>

### 3626 Blanking Plug




Diagram of a 3626 Blanking Plug showing dimension ØD.

ØD	Order code
4	<b>3626 04 00</b>
6	<b>3626 06 00</b>
8	<b>3626 08 00</b>
10	<b>3626 10 00</b>
12	<b>3626 12 00</b>
14	<b>3626 14 00</b>

## Pneumatic Accessories in Nickel-Plated Brass

-10°C to +80°C  
60 bar max.

### 0900 Straight Male, Unequal Adaptor, BSPT



C1	C2	Order code
R1/8	R1/8	<b>0900 00 10</b>
R1/4	R1/4	<b>0900 00 13</b>
R3/8	R3/8	<b>0900 00 17</b>
R1/2	R1/2	<b>0900 00 21</b>
R3/4	R3/4	<b>0900 00 27</b>
R1"	R1"	<b>0900 00 34</b>
R1/8	R1/4	<b>0900 10 13</b>
R1/8	R3/8	<b>0900 10 17</b>
R1/4	R3/8	<b>0900 13 17</b>
R1/4	R1/2	<b>0900 13 21</b>
R3/8	R1/2	<b>0900 17 21</b>
R1/2	R3/4	<b>0900 21 27</b>
R3/4	R1"	<b>0900 27 34</b>

### 0905 Reducer Male to Female BSPP & M5



C1	C2	Order code
G1/8	M5 x 0,8	<b>0905 19 10</b>
G1/4	G1/8	<b>0905 10 13</b>
G3/8	G1/8	<b>0905 10 17</b>
G3/8	G1/4	<b>0905 13 17</b>
G1/2	G1/4	<b>0905 13 21</b>
G1/2	G3/8	<b>0905 17 21</b>
G3/4	G3/8	<b>0905 17 27</b>
G3/4	G1/2	<b>0905 21 27</b>

### 0901 Equal/Unequal Adaptor, BSPP & M5



C1	C2	Order code
M5 x 0,8	M5 x 0,8	<b>0901 00 19</b>
M5 x 0,8	G1/8	<b>0901 19 10</b>

### 0906 Increaser Male to Female BSPP & M5



C1	C2	Order code
M5 x 0,8	G1/8	<b>0906 10 19</b>
G1/8	G1/4	<b>0906 10 13</b>
G1/8	G3/8	<b>0906 10 17</b>
G1/4	G3/8	<b>0906 13 17</b>
G1/4	G1/2	<b>0906 13 21</b>
G3/8	G1/2	<b>0906 17 21</b>

### 0902 Straight Female, Equal/Unequal Adaptor, BSPP & M5



C1	C2	Order code
M5 x 0,8	G1/8	<b>0902 19 10</b>
M5 x 0,8	M5 x 0,8	<b>0902 00 19</b>
G1/8	G1/8	<b>0902 00 10</b>
G1/4	G1/4	<b>0902 00 13</b>
G3/8	G3/8	<b>0902 00 17</b>
G1/2	G1/2	<b>0902 00 21</b>
G3/4	G3/4	<b>0902 00 27</b>
G1/8	G1/4	<b>0902 10 13</b>
G1/4	G3/8	<b>0902 13 17</b>

### 0907 Female Extended Adaptor Male/Female BSPP



C	Order code
G1/8	<b>0907 00 10</b>
G1/4	<b>0907 00 13</b>

### 0912 Equal Female Stud Elbow, BSPP & M5



C	Order code
M5 x 0,8	<b>0912 00 19</b>
G1/8	<b>0912 00 10</b>
G1/4	<b>0912 00 13</b>
G3/8	<b>0912 00 17</b>
G1/2	<b>0912 00 21</b>
G3/4	<b>0912 00 27</b>

### 0904 Reducer Male BSPT to Female BSPP



C1	C2	Order code
R1/4	G1/8	<b>0904 10 13</b>
R3/8	G1/8	<b>0904 10 17</b>
R3/8	G1/4	<b>0904 13 17</b>
R1/2	G1/4	<b>0904 13 21</b>
R1/2	G3/8	<b>0904 17 21</b>
R3/4	G3/8	<b>0904 17 27</b>
R3/4	G1/2	<b>0904 21 27</b>

### 0913 Equal Female Stud Elbow BSPP, Male BSPT



C1	C2	Order code
G1/8	R1/8	<b>0913 00 10</b>
G1/4	R1/4	<b>0913 00 13</b>
G3/8	R3/8	<b>0913 00 17</b>
G1/2	R1/2	<b>0913 00 21</b>
G3/4	R3/4	<b>0913 00 27</b>

## Pneumatic Accessories in Nickel-Plated Brass

-10°C to +80°C  
60 bar max.\*

### 0914 Equal Male Stud Elbow, BSPT



C	Order code
R1/8	0914 00 10
R1/4	0914 00 13
R3/8	0914 00 17
R1/2	0914 00 21
R3/4	0914 00 27

### 0915 Equal Female Tee, BSPP & M5



C	Order code
M5 x 0.8	0915 00 19
G1/8	0915 00 10
G1/4	0915 00 13
G3/8	0915 00 17
G1/2	0915 00 21
G3/4	0915 00 27

### 0916 Male Stud Branch Tee, BSPP & Male BSPT



C1	C2	Order code
G1/8	R1/8	0916 00 10
G1/4	R1/4	0916 00 13
G3/8	R3/8	0916 00 17
G1/2	R1/2	0916 00 21
G3/4	R3/4	0916 00 27

### 0931 Tailpiece Adaptor for Rubber Hose, Male BSPP



ØD	C	Order code
6	G1/8	0931 06 10
6	G1/4	0931 06 13
7	G1/8	0931 07 10
7	G1/4	0931 07 13
7	G3/8	0931 07 17
8	G1/8	0931 08 10
8	G1/4	0931 08 13
8	G3/8	0931 08 17
10	G1/4	0931 10 13
10	G3/8	0931 10 17
10	G1/2	0931 10 21
15	G3/8	0931 15 17
15	G1/2	0931 15 21
18	G1/2	0931 18 21

### 0908 Equal Female Cross, BSPP



C	Order code
G1/8	0908 00 10
G1/4	0908 00 13
G3/8	0908 00 17
G1/2	0908 00 21

### 0909 Equal Cross, Female BSPP, Male BSPT



C1	C2	Order code
G1/8	R1/8	0909 00 10
G1/4	R1/4	0909 00 13
G3/8	R3/8	0909 00 17
G1/2	R1/2	0909 00 21

### 0920 Female Bulkhead Connector - BSPP & M5



C1	C2	Order code
M5 x 0.8	M10 x 1	0920 00 19
G1/8	M16 x 1.5	0920 00 10
G1/4	M20 x 1.5	0920 00 13
G3/8	M26 x 1.5	0920 00 17
G1/2	M28 x 1.5	0920 00 21

### 0919 Internal Hexagon Head Plug, BSPP & M5



C	Order code
M5 x 0,8	0919 00 19
G1/8	0919 00 10
G1/4	0919 00 13
G3/8	0919 00 17
G1/2	0919 00 21

### 0919 External Hexagon Head Plug, BSPP

C	Order code
G3/4	0919 00 27
G1"	0919 00 34

### 0220 Brass Hexagon Headed Plug, BSPP & M5



C	Order code
M5 x 0,8	0220 19 00
G1/8	0220 10 00
G1/4	0220 13 00
G3/8	0220 17 00
G1/2	0220 21 00

### 0138 Sealing Copper Washers



ØD	C	Order code
10	G1/8	0138 10 00
13	G1/4	0138 13 00
17	G3/8	0138 17 00
21	G1/2	0138 21 00
27	G3/4	0138 27 00
33	G1"	0138 33 00

\* Technical specifications of nickel-plated brass accessories

## Pneumatic Accessories

### 0670 Threaded Silencer, BSPP



-20° to +150°C  
12 bar

C	Order code
G1/8	0670 00 10
G1/4	0670 00 13
G3/8	0670 00 17
G1/2	0670 00 21
G3/4	0670 00 27

### 0673 Threaded Silencer, Male BSPP & M5



-20° to +150°C  
12 bar

C	Order code
M5 x 0.8	0673 00 19
G1/8	0673 00 10
G1/4	0673 00 13
G3/8	0673 00 17
G1/2	0673 00 21

### 0672 Flow-Control Silencer, Male BSPP



-20° to +150°C  
12 bar

C	Order code
G1/8	0672 00 10
G1/4	0672 00 13
G3/8	0672 00 17
G1/2	0672 00 21

### 0674 Threaded Silencer, Male BSPP & M5



-10° to +80°C  
10 bar

C	Order code
M5 x 0.8	0674 00 19
G1/8	0674 00 10
G1/4	0674 00 13
G3/8	0674 00 17
G1/2	0674 00 21
G3/4	0674 00 27

### 0677 Silencer, Miniature, BSPP



-20° to +150°C  
12 bar

C	Order code
G1/8	0677 00 10
G1/4	0677 00 13
G3/8	0677 00 17
G1/2	0677 00 21
G3/4	0677 00 27
G1"	0677 00 34

Technical specifications of aluminium anodised manifolds

-10°C to +80°C  
20 bar max.

### 0605 Fluoropolymer Tape



-250° to +260°C

Order code
0605 12 12

### 3311 Female Manifold BSPP & M5



C1	C2	Number of Outlets	Order code
G1/8	M5 x 0.8	7	3311 19 10 07
G1/4	G1/8	2	3311 10 13 02
G1/4	G1/8	3	3311 10 13 03
G1/4	G1/8	4	3311 10 13 04
G1/4	G1/8	5	3311 10 13 05
G1/4	G1/8	6	3311 10 13 06
G3/8	G1/4	2	3311 13 17 02
G3/8	G1/4	3	3311 13 17 03
G3/8	G1/4	4	3311 13 17 04
G3/8	G1/4	5	3311 13 17 05
G3/8	G1/4	6	3311 13 17 06

### 3313 Double Female Manifold BSPP



C1	C2	Number of Outlets	Order code
G1/4	G1/8	2	3313101302
G1/4	G1/8	3	3313101303
G1/4	G1/8	4	3313101304
G1/4	G1/8	5	3313101305
G3/8	G1/4	2	3313131702
G3/8	G1/4	3	3313131703
G3/8	G1/4	4	3313131704
G3/8	G1/4	5	3313131705
G1/2	G1/4	3	3313132103
G1/2	G1/4	4	3313132104
G1/2	G1/4	5	3313132105

### 3312 Female Cross Manifold BSPP & M5



C	Order code
M5 x 0.8	3312 00 19
G1/8	3312 00 10
G1/4	3312 00 13
G3/8	3312 00 17
G1/2	3312 00 21



## LF 3800: Stainless Steel Push-In Fittings

-20°C to +120°C  
30 bar max.

### 3805 Male Stud, BSPT & M5



ØD	C	Order code
4	M5 x 0.8	<b>3805 04 19</b>
4	R1/8	<b>3805 04 10</b>
4	R1/4	<b>3805 04 13</b>
6	R1/8	<b>3805 06 10</b>
6	R1/4	<b>3805 06 13</b>
8	R1/8	<b>3805 08 10</b>
8	R1/4	<b>3805 08 13</b>
8	R3/8	<b>3805 08 17</b>
10	R1/4	<b>3805 10 13</b>
10	R3/8	<b>3805 10 17</b>
12	R1/4	<b>3805 12 13</b>
12	R3/8	<b>3805 12 17</b>
12	R1/2	<b>3805 12 21</b>

### 3889 Male Stud Elbow, BSPT



20 bar max.

ØD	C	Order code
4	R1/8	<b>3889 04 10</b>
4	R1/4	<b>3889 04 13</b>
6	R1/8	<b>3889 06 10</b>
6	R1/4	<b>3889 06 13</b>
8	R1/8	<b>3889 08 10</b>
8	R1/4	<b>3889 08 13</b>
8	R3/8	<b>3889 08 17</b>
10	R1/4	<b>3889 10 13</b>
10	R3/8	<b>3889 10 17</b>
12	R1/4	<b>3889 12 13</b>
12	R3/8	<b>3889 12 17</b>
12	R1/2	<b>3889 12 21</b>

### 3801 Male Stud, BSPP & M5



ØD	C	Order code
4	M5 x 0.8	<b>3801 04 19</b>
4	G1/8	<b>3801 04 10</b>
6	M5 x 0.8	<b>3801 06 19</b>
6	G1/8	<b>3801 06 10</b>
6	G1/4	<b>3801 06 13</b>
8	G1/8	<b>3801 08 10</b>
8	G1/4	<b>3801 08 13</b>
8	G3/8	<b>3801 08 17</b>
10	G1/4	<b>3801 10 13</b>
10	G3/8	<b>3801 10 17</b>
12	G1/4	<b>3801 12 13</b>
14	G3/8	<b>3801 12 17</b>

### 3802 Equal Elbow



ØD	Order code
4	<b>3802 04 00</b>
6	<b>3802 06 00</b>
8	<b>3802 08 00</b>
10	<b>3802 10 00</b>
12	<b>3802 12 00</b>

### 3804 Equal Tee



ØD	Order code
4	<b>3804 04 00</b>
6	<b>3804 06 00</b>
8	<b>3804 08 00</b>
10	<b>3804 10 00</b>
12	<b>3804 12 00</b>

### 3879 Male Stud Elbow, BSPP



20 bar max.

ØD	C	Order code
4	G1/8	<b>3879 04 10</b>
4	G1/4	<b>3879 04 13</b>
6	G1/8	<b>3879 06 10</b>
6	G1/4	<b>3879 06 13</b>
8	G1/8	<b>3879 08 10</b>
8	G1/4	<b>3879 08 13</b>
8	G3/8	<b>3879 08 17</b>
10	G1/4	<b>3879 10 13</b>
10	G3/8	<b>3879 10 17</b>
12	G1/4	<b>3879 12 13</b>
12	G3/8	<b>3879 12 17</b>
12	G1/2	<b>3879 12 21</b>

### 3806 Equal Straight Union



ØD	Order code
4	<b>3806 04 00</b>
6	<b>3806 06 00</b>
8	<b>3806 08 00</b>
10	<b>3806 10 00</b>
12	<b>3806 12 00</b>

### 3816 Equal Bulkhead Union



IP51

ØD	Order code
4	<b>3816 04 00</b>
6	<b>3816 06 00</b>
8	<b>3816 08 00</b>
10	<b>3816 10 00</b>
12	<b>3816 12 00</b>

### 3866 Plug-In Reducer



ØD1	ØD2	Order code
4	6	<b>3866 04 06</b>
4	8	<b>3866 04 08</b>
6	8	<b>3866 06 08</b>
6	10	<b>3866 06 10</b>
8	10	<b>3866 08 10</b>
8	12	<b>3866 08 12</b>
10	12	<b>3866 10 12</b>

## Stainless Steel Function Fittings

### 7810 Flow Regulator, threaded, BSPP - exhaust (A)



0° to +70°C  
1 to 10 bar

C1	Order code
M5 x 0.8	<b>7810 19 19</b>
G1/8	<b>7810 10 10</b>
G1/4	<b>7810 13 13</b>
G3/8	<b>7810 17 17</b>
G1/2	<b>7810 21 21</b>

### 7899 Quick Exhaust Valve, Double Female, BSPP



-10° to +120°C (1/8, 1/4)  
-20° to +80°C (3/8, 1")  
2 to 10 bar

C		Order code
G1/8	7	<b>7899 00 10</b>
G1/4	7	<b>7899 00 13</b>
G3/8	9	<b>7899 00 17</b>
G1/2	12	<b>7899 00 21</b>
G3/4	18	<b>7899 00 27</b>
G1"	18	<b>7899 00 34</b>

### 7812 Flow Regulator, threaded, BSPP - bi-directional (C)



0° to +70°C  
1 to 10 bar

C1	Order code
M5 x 0.8	<b>7812 19 19</b>
G1/8	<b>7812 10 10</b>
G1/4	<b>7812 13 13</b>
G3/8	<b>7812 17 17</b>
G1/2	<b>7812 21 21</b>

### 0682 Threaded Silencer, Male BSPP



-20° to +180°C  
12 bar max.

C	Order code
G1/8	<b>0682 00 10</b>
G1/4	<b>0682 00 13</b>
G3/8	<b>0682 00 17</b>
G1/2	<b>0682 00 21</b>
G3/4	<b>0682 00 27</b>

### 7820 Flow Regulator, In-line, threaded connections BSPP, one way adjust (A)



-15° to +120°C  
1 to 16 bar

C		Order code
G1/8	7	<b>7820 00 10</b>
G1/4	7	<b>7820 00 13</b>
G3/8	9	<b>7820 00 17</b>
G1/2	12	<b>7820 00 21</b>

### 7822 Flow Regulator, In-line, threaded connections BSPP, bi-directional (C)



-15° to +120°C  
1 to 40 bar

C		Order code
G1/8	7	<b>7822 00 10</b>
G1/4	7	<b>7822 00 13</b>
G3/8	9	<b>7822 00 17</b>
G1/2	12	<b>7822 00 21</b>

### 4890 Non-Return Valve, Female-Female, BSPP



-20° to +180°C  
0,5 to 40 bar

C		Order code
G1/8	10	<b>4890 10 10</b>
G1/4	10	<b>4890 13 13</b>
G3/8	15	<b>4890 17 17</b>
G1/2	15	<b>4890 21 21</b>
G3/4	20	<b>4890 27 27</b>
G1"	25	<b>4890 34 34</b>

## Stainless Steel Accessories

-20°C to +180°C  
150 bar max.

### 1843 Equal Elbow, Female BSPP



C	Order code
G1/8	<b>1843 10 10</b>
G1/4	<b>1843 13 13</b>
G3/8	<b>1843 17 17</b>
G1/2	<b>1843 21 21</b>

### 1864 Male NPT to Female BSPP Adaptor



C1	C2	Order code
1/8	G1/8	<b>1864 11 10</b>
1/4	G1/4	<b>1864 14 13</b>
3/8	G3/8	<b>1864 18 17</b>
1/2	G1/2	<b>1864 22 21</b>

### 1844 Equal Male Stud Elbow, BSPT, female BSPP



C1	C2	Order code
G1/8	R1/8	<b>1844 10 10</b>
G1/4	R1/4	<b>1844 13 13</b>
G3/8	R3/8	<b>1844 17 17</b>
G1/2	R1/2	<b>1844 21 21</b>

### 1867 Male BSPT to Female NPT Adaptor



C1	C2	Order code
R1/8	1/8	<b>1867 10 11</b>
R1/4	1/4	<b>1867 13 14</b>
R3/8	3/8	<b>1867 17 18</b>
R1/2	1/2	<b>1867 21 22</b>

### 1845 Equal Tee, Triple Female, BSPP



C	Order code
G1/8	<b>1845 10 10</b>
G1/4	<b>1845 13 13</b>
G3/8	<b>1845 17 17</b>
G1/2	<b>1845 21 21</b>

### 1863 Reducer BSPT to Female BSPP



C1	C2	Order code
R1/4	G1/8	<b>1863 13 10</b>
R3/8	G1/8	<b>1863 17 10</b>
R3/8	G1/4	<b>1863 17 13</b>
R1/2	1/4	<b>1863 21 13</b>
R1/2	3/8	<b>1863 21 17</b>

### 1855 Double Female Sleeve, BSPP



C	Order code
G1/8	<b>1855 10 10</b>
G1/4	<b>1855 13 13</b>
G3/8	<b>1855 17 17</b>
G1/2	<b>1855 21 21</b>

### 1823 Tailpiece Adaptor for Rubber Hose, Male BSPT



ØD	C	Order code
7	R1/8	<b>1823 07 10</b>
7	R1/4	<b>1823 07 13</b>
10	R1/4	<b>1823 10 13</b>
10	R3/8	<b>1823 10 17</b>
13	R3/8	<b>1823 13 17</b>
16	R1/2	<b>1823 16 21</b>

### 1817 Bulkhead Adaptor, BSPP



C	Order code
G1/8	<b>1817 00 10</b>
G1/4	<b>1817 00 13</b>
G3/8	<b>1817 00 17</b>
G1/2	<b>1817 00 21</b>

### 0285 Plug, Internal Hexagon Headed, BSPT



C	Order code
R1/8	<b>0285 10 00</b>
R1/4	<b>0285 13 00</b>
R3/8	<b>0285 17 00</b>
R1/2	<b>0285 21 00</b>
R3/4	<b>0285 27 00</b>

## Pneumatic Tubing

-40°C to +100°C  
50 bar max.

### 1025P Semi-Rigid Polyamide Tubing, 25 m Rolls



o.d. tubing mm	i.d. tubing mm	R minimum bend radius for tube at ambient temp. in mm	Order code
4	2.7	30	1025P04 00 27 □
4	2.7	30	1025P04 01 27 ■
4	2.7	30	1025P04 02 27 ■
4	2.7	30	1025P04 03 27 ■
4	2.7	30	1025P04 04 27 ■
4	2.7	30	1025P04 05 27 ■
4	2.7	30	1025P04 06 27 ■
6	4	35	1025P06 00 □
6	4	35	1025P06 01 ■
6	4	35	1025P06 02 ■
6	4	35	1025P06 03 ■
6	4	35	1025P06 04 ■
6	4	35	1025P06 05 ■
6	4	35	1025P06 06 ■
8	6	55	1025P08 00 □
8	6	55	1025P08 01 ■
8	6	55	1025P08 02 ■
8	6	55	1025P08 03 ■
8	6	55	1025P08 04 ■
8	6	55	1025P08 05 ■
8	6	55	1025P08 06 ■
10	7.5	75	1025P10 00 75 □
10	7.5	75	1025P10 01 75 ■
10	7.5	75	1025P10 04 75 ■
12	9	75	1025P12 00 09 □
12	9	75	1025P12 01 09 ■
12	9	75	1025P12 04 09 ■
14	11	100	1025P14 00 11 □
14	11	100	1025P14 01 11 ■
14	11	100	1025P14 04 11 ■

### 2005P-2010P Semi-rigid Polyamide, 500m & 1000m Reels



o.d. tubing mm	i.d. tubing mm	R minimum bend radius for tube at ambient temp. in mm	Order code
4	2.7	30	2010P04 00 27 □
4	2.7	30	2010P04 01 27 ■
4	2.7	30	2010P04 04 27 ■
6	4	35	2010P06 00 □
6	4	35	2010P06 01 ■
6	4	35	2010P06 04 ■
8	6	55	2005P08 00 □
8	6	55	2005P08 01 ■
8	6	55	2005P08 04 ■
10	8	90	2005P10 00 □
10	8	90	2005P10 01 ■
10	8	90	2005P10 04 ■

### 1010P Multitube Semi-Rigid Polyamide



o.d. PVC sheath mm	o.d. x i.d. semi rigid nylon mm	R minimum bend radius at 20°C mm	Number of tubes	Order code
13.5	4 x 2.7	35	4	1010P04 00M04 ■
16	4 x 2.7	45	7	1010P04 00M07 ■
18.5	6 x 4	55	4	1010P06 00M04 ■
22	6 x 4	60	7	1010P06 00M07 ■
19.2	8 x 6	45	2	1010P08 00M2 ■

### 1100P Semi-Rigid Polyamide Tubing, 100 m Rolls

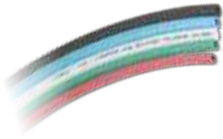


o.d. tubing mm	i.d. tubing mm	R minimum bend radius for tube at ambient temp. in mm	Order code
4	2.7	30	1100P04 00 27 □
4	2.7	30	1100P04 01 27 ■
4	2.7	30	1100P04 02 27 ■
4	2.7	30	1100P04 03 27 ■
4	2.7	30	1100P04 04 27 ■
4	2.7	30	1100P04 05 27 ■
4	2.7	30	1100P04 06 27 ■
6	4	35	1100P06 00 □
6	4	35	1100P06 01 ■
6	4	35	1100P06 02 ■
6	4	35	1100P06 03 ■
6	4	35	1100P06 04 ■
6	4	35	1100P06 05 ■
6	4	35	1100P06 06 ■
8	6	55	1100P08 00 □
8	6	55	1100P08 01 ■
8	6	55	1100P08 02 ■
8	6	55	1100P08 03 ■
8	6	55	1100P08 04 ■
8	6	55	1100P08 05 ■
8	6	55	1100P08 06 ■
10	7.5	75	1100P10 00 75 □
10	7.5	75	1100P10 01 75 ■
10	7.5	75	1100P10 04 75 ■
12	9	75	1100P12 00 09 □
12	9	75	1100P12 01 09 ■
12	9	75	1100P12 04 09 ■
14	12	100	1100P14 00 □
14	12	100	1100P14 01 ■
14	12	100	1100P14 04 ■

## Pneumatic Tubing

-40°C to +100°C  
50 bar max. (vacuum 755mHg)

### Fireproof High Resistant Polyamide Tubing



o.d. tubing mm	i.d. tubing mm	R minimum bend radius for tube at ambient temp. in mm	Order code
-------------------	-------------------	--	------------

Length: 100 m

4	2	17	<b>1100P04R00</b>	□
4	2	17	<b>1100P04R01</b>	■
4	2	17	<b>1100P04R04</b>	■
6	4	29	<b>1100P06R00</b>	□
6	4	29	<b>1100P06R03</b>	■
6	4	29	<b>1100P06R04</b>	■
8	6	40	<b>1100P08R00</b>	□
8	6	40	<b>1100P08R01</b>	■
8	6	40	<b>1100P08R04</b>	■
10	8	77	<b>1100P10R00</b>	□
10	8	77	<b>1100P10R01</b>	■
10	8	77	<b>1100P10R04</b>	■
12	10	92	<b>1100P12R00</b>	□
12	10	92	<b>1100P12R01</b>	■
12	10	92	<b>1100P12R04</b>	■

### 1025U Anti-Spark Single Layer Polyurethane Tubing, 25 m Rolls



o.d. tubing mm	i.d. tubing mm	R minimum bend radius for tube at 20°C in mm	Order code	
4	2.5	10	<b>1025U04K01</b>	■
6	4	15	<b>1025U06K01</b>	■
8	5.5	20	<b>1025U08K01</b>	■
10	7	25	<b>1025U10K01</b>	■
12	8	35	<b>1025U12K01</b>	■

### 2003U-2005U-2010U Polyurethane Tubing, 300m, 500m & 1000m Reels



o.d. tubing mm	i.d. tubing mm	Minimum bend radius for tube at ambient temp. in mm		Order code	
		Polyester	Polyether		
4	2.7	30		<b>2010U04 01</b>	■
4	2.7	30		<b>2010U04 04</b>	■
6	4	35		<b>2010U06 01</b>	■
6	4	35		<b>2010U06 04</b>	■
8	6		55	<b>2005U08R08</b>	■
8	6	55		<b>2005U08 01</b>	■
8	6	55		<b>2005U08 04</b>	■
10	8		90	<b>2005U10R08</b>	■
10	8	90		<b>2005U10 01</b>	■
10	8	90		<b>2005U10 04</b>	■

## Pneumatic Tubing

-20°C to +70°C  
9 bar max.

## 1025U Flexible Polyurethane Tubing, 25 m Rolls



o.d. tubing mm	i.d. tubing mm	Minimum bend radius for tube at ambient temp. in mm		Order code	
		Polyester	Polyether		
4	2.5	10		1025U04 01	■
4	2.5	10		1025U04 02	■
4	2.5	10		1025U04 03	■
4	2.5	10		1025U04 04	■
4	2.5	10		1025U04 05	■
4	2.5	10		1025U04 06	■
4	2.5		10	1025U04R08	■
6	4	15		1025U06 01	■
6	4	15		1025U06 02	■
6	4	15		1025U06 03	■
6	4	15		1025U06 04	■
6	4	15		1025U06 05	■
6	4	15		1025U06 06	■
6	4		20	1025U06R08	■
8	5.5	20		1025U08 01	■
8	5.5	20		1025U08 02	■
8	5.5	20		1025U08 03	■
8	5.5	20		1025U08 04	■
8	5.5	20		1025U08 05	■
8	5.5	20		1025U08 06	■
8	5.5		25	1025U08 R08	■
10	7	25		1025U10 01	■
10	7	25		1025U10 04	■
10	7		35	1025U10 R08	■
12	8	35		1025U12 01	■
12	8	35		1025U12 04	■
12	8		40	1025U12R08	■
14	9.5	45		1025U14 01 95	■
14	9.5	45		1025U14 04 95	■
14	9.5		50	1025U14R08 95	■
16	11	45		1025U16R08 11	■
16	11	45		1025U16 01 11	■
16	11	45		1025U16 02 11	■
16	11	45		1025U16 03 11	■
16	11	45		1025U16 04 11	■

## 1100U Flexible Polyurethane Tubing, 100m Rolls



o.d. tubing mm	i.d. tubing mm	Minimum bend radius for tube at ambient temp. in mm		Order code	
		Polyester	Polyether		
4	2.5	10		1100U04 01	■
4	2.5	10		1100U04 02	■
4	2.5	10		1100U04 03	■
4	2.5	10		1100U04 04	■
4	2.5	10		1100U04 05	■
4	2.5	10		1100U04 06	■
4	2.5		10	1100U04R08	■
6	4	15		1100U06 01	■
6	4	15		1100U06 02	■
6	4	15		1100U06 03	■
6	4	15		1100U06 04	■
6	4	15		1100U06 05	■
6	4	15		1100U06 06	■
6	4		20	1100U06R08	■
8	5.5	20		1100U08 01	■
8	5.5	20		1100U08 02	■
8	5.5	20		1100U08 03	■
8	5.5	20		1100U08 04	■
8	5.5	20		1100U08 05	■
8	5.5	20		1100U08 06	■
8	5.5		25	1100U08R08	■
10	7	25		1100U10 01	■
10	7	25		1100U10 04	■
10	7		35	1100U10R08	■
12	8	35		1100U12 01	■
12	8	35		1100U12 04	■
12	8		40	1100U12R08	■
14	9.5	45		1100U14 01 95	■
14	9.5	45		1100U14 04 95	■
14	9.5		50	1100U14R08 95	■
16	11	45		1100U16R08 11	■
16	11	45		1100U16 01 11	■
16	11	45		1100U16 02 11	■
16	11	45		1100U16 03 11	■
16	11	45		1100U16 04 11	■

## Pneumatic Tubing

-40°C to +95°C  
16 bar max.

### 1100U Anti-Static Polyurethane Tubing



Resistivity: 10<sup>3</sup> to 10<sup>6</sup> Ω

o.d. tubing mm	i.d. tubing mm	R minimum bend radius for tube at 20°C in mm	Order code
3	1.8	10	<b>1100U03A01</b> ■
4	2.5	10	<b>1100U04A01</b> ■
6	4	15	<b>1100U06A01</b> ■
8	5.5	25	<b>1100U08A01</b> ■
10	7	35	<b>1100U10A01</b> ■
12	8	45	<b>1100U12A01</b> ■

### 1420U Flexible Polyurethane Twin Tubing



o.d. tubing mm	i.d. tubing mm	R minimum bend radius for tube at 20°C in mm	Order code
4	2.5	10	<b>1420U04 11</b> ■■
4	2.5	10	<b>1420U04 44</b> ■■
4	2.5	10	<b>1420U04 41</b> ■■
6	4	15	<b>1420U06 11</b> ■■
6	4	15	<b>1420U06 44</b> ■■
6	4	15	<b>1420U06 41</b> ■■
8	5.5	20	<b>1420U08 11</b> ■■
8	5.5	20	<b>1420U08 44</b> ■■
8	5.5	20	<b>1420U08 41</b> ■■

### 1015Y..F Advanced Polyethylene (APE) Tubing



Drum 150 m

o.d. tubing mm	i.d. tubing mm	Minimum bend radius for tube at ambient temp. in mm Polyethylene	Order code
4	2.5	16	<b>1015Y04F00</b>
4	2.5	16	<b>1015Y04F01</b> ■
4	2.5	16	<b>1015Y04F02</b> ■
4	2.5	16	<b>1015Y04F03</b> ■
4	2.5	16	<b>1015Y04F04</b> ■
4	2.5	16	<b>1015Y04F05</b> ■
4	2.5	16	<b>1015Y04F10</b> ■
6	4	32	<b>1015Y06F00</b>
6	4	32	<b>1015Y06F01</b> ■
6	4	32	<b>1015Y06F02</b> ■
6	4	32	<b>1015Y06F03</b> ■
6	4	32	<b>1015Y06F04</b> ■
6	4	32	<b>1015Y06F05</b> ■
6	4	32	<b>1015Y06F10</b> ■
8	5.75	40	<b>1015Y08F00</b>
8	5.75	40	<b>1015Y08F01</b> ■
8	5.75	40	<b>1015Y08F02</b> ■
8	5.75	40	<b>1015Y08F03</b> ■
8	5.75	40	<b>1015Y08F04</b> ■
8	5.75	40	<b>1015Y08F05</b> ■
8	5.75	40	<b>1015Y08F10</b> ■
10	7	40	<b>1015Y10F00</b>
10	7	40	<b>1015Y10F01</b> ■
10	7	40	<b>1015Y10F02</b> ■
10	7	40	<b>1015Y10F03</b> ■
10	7	40	<b>1015Y10F04</b> ■
10	7	40	<b>1015Y10F05</b> ■
10	7	40	<b>1015Y10F10</b> ■

1030Y..F Advanced Polyethylene (APE) Tubing



Drum 300 m

o.d. tubing mm	i.d. tubing mm	Minimum bend radius for tube at ambient temp. in mm Polyethylene	Order code
4	2.5	16	1030Y04F00
4	2.5	16	1030Y04F01
4	2.5	16	1030Y04F02
4	2.5	16	1030Y04F03
4	2.5	16	1030Y04F04
4	2.5	16	1030Y04F05
4	2.5	16	1030Y04F10
6	4	32	1030Y06F00
6	4	32	1030Y06F01
6	4	32	1030Y06F02
6	4	32	1030Y06F03
6	4	32	1030Y06F04
6	4	32	1030Y06F05
6	4	32	1030Y06F10

1096Y..F Advanced Polyethylene (APE) Tubing



Drum 250 m

o.d. tubing inch	i.d. tubing inch	Minimum bend radius for tube at ambient temp. in mm Polyethylene	Order code
1/2	0.375	1.96	1096Y62F00
1/2	0.375	1.96	1096Y62F01
1/2	0.375	1.96	1096Y62F02
1/2	0.375	1.96	1096Y62F03
1/2	0.375	1.96	1096Y62F04
1/2	0.375	1.96	1096Y62F05
1/2	0.375	1.96	1096Y62F10

1075Y..F Advanced Polyethylene (APE) Tubing



Drum 75 m

o.d. tubing mm	i.d. tubing mm	Minimum bend radius for tube at ambient temp. in mm Polyethylene	Order code
12	9	55	1075Y12F00
12	9	55	1075Y12F01
12	9	55	1075Y12F02
12	9	55	1075Y12F03
12	9	55	1075Y12F04
12	9	55	1075Y12F05
12	9	55	1075Y12F10
14	11	75	1075Y14F00
16	13	95	1075Y16F00

1098Y..F Advanced Polyethylene (APE) Tubing



Drum 500 m

o.d. tubing inch	i.d. tubing inch	Minimum bend radius for tube at ambient temp. in mm Polyethylene	Order code
1/4	0.170	0.78	1098Y56F00
1/4	0.170	0.78	1098Y56F01
1/4	0.170	0.78	1098Y56F02
1/4	0.170	0.78	1098Y56F03
1/4	0.170	0.78	1098Y56F04
1/4	0.170	0.78	1098Y56F05
1/4	0.170	0.78	1098Y56F10
3/8	0.250	1.18	1098Y60F00
3/8	0.250	1.18	1098Y60F01
3/8	0.250	1.18	1098Y60F02
3/8	0.250	1.18	1098Y60F03
3/8	0.250	1.18	1098Y60F04
3/8	0.250	1.18	1098Y60F05
3/8	0.250	1.18	1098Y60F10

1099Y..F Advanced Polyethylene (APE) Tubing



Drum 1000 m

o.d. tubing inch	i.d. tubing inch	Minimum bend radius for tube at ambient temp. in mm Polyethylene	Order code
1/4	0.170	0.78	1099Y56F00
1/4	0.170	0.78	1099Y56F01
1/4	0.170	0.78	1099Y56F02
1/4	0.170	0.78	1099Y56F03
1/4	0.170	0.78	1099Y56F04
1/4	0.170	0.78	1099Y56F05
1/4	0.170	0.78	1099Y56F10



## Pneumatic Tubing

### PFA Tubing



-196°C to +260°C  
36 bar max. (vacuum 755mHg)

o.d. tubing mm	i.d. tubing mm	R minimum bend radius for tube at ambient temp. in mm	Order code
Length: 10 m			
4	2	12	1010T04P00 <input type="checkbox"/>
4	2	12	1010T04A01 <input checked="" type="checkbox"/>
4	2	12	1010T04P12 <input checked="" type="checkbox"/>
4	2	12	1010T04P13 <input checked="" type="checkbox"/>
4	2	12	1010T04P14 <input checked="" type="checkbox"/>
6	4	34	1010T06P00 <input type="checkbox"/>
6	4	34	1010T06A01 <input checked="" type="checkbox"/>
6	4	34	1010T06P12 <input checked="" type="checkbox"/>
6	4	34	1010T06P13 <input checked="" type="checkbox"/>
6	4	34	1010T06P14 <input checked="" type="checkbox"/>
8	6	60	1010T08P00 <input type="checkbox"/>
8	6	60	1010T08A01 <input checked="" type="checkbox"/>
8	6	60	1010T08P12 <input checked="" type="checkbox"/>
8	6	60	1010T08P13 <input checked="" type="checkbox"/>
8	6	60	1010T08P14 <input checked="" type="checkbox"/>
10	8	95	1010T10P00 <input type="checkbox"/>
12	9	120	1010T12P00 <input type="checkbox"/>

Length: 50 m			
4	2	12	1050T04P00 <input type="checkbox"/>
4	2	12	1050T04A01 <input checked="" type="checkbox"/>
4	2	12	1050T04P12 <input checked="" type="checkbox"/>
4	2	12	1050T04P13 <input checked="" type="checkbox"/>
4	2	12	1050T04P14 <input checked="" type="checkbox"/>
6	4	34	1050T06P00 <input type="checkbox"/>
6	4	34	1050T06A01 <input checked="" type="checkbox"/>
6	4	34	1050T06P12 <input checked="" type="checkbox"/>
6	4	34	1050T06P13 <input checked="" type="checkbox"/>
6	4	34	1050T06P14 <input checked="" type="checkbox"/>
8	6	60	1050T08P00 <input type="checkbox"/>
8	6	60	1050T08A01 <input checked="" type="checkbox"/>
8	6	60	1050T08P12 <input checked="" type="checkbox"/>
8	6	60	1050T08P13 <input checked="" type="checkbox"/>
8	6	60	1050T08P14 <input checked="" type="checkbox"/>
10	8	95	1050T10P00 <input type="checkbox"/>
12	9	120	1050T12P00 <input type="checkbox"/>

### PFA Tubing



Length: 100 m

4	2	12	1100T04P00 <input type="checkbox"/>
6	4	34	1100T06P00 <input type="checkbox"/>
8	6	60	1100T08P00 <input type="checkbox"/>
10	8	95	1100T10P00 <input type="checkbox"/>
12	9	120	1100T12P00 <input type="checkbox"/>

## Pneumatic Tubing

-20°C to +70°C  
9 bar max.

### 1005T Fluoropolymer FEP 140 Tubing, 5m Rolls



-40°C to +150°C  
37 bars max.

o.d. tubing mm	i.d. tubing mm	R minimum bend radius for tube at ambient temp. in mm	Order code
4	2.5	40	1005T04 00 25
6	4	50	1005T06 00
8	6	70	1005T08 00
10	8	120	1005T10 00
12	10	180	1005T12 00

### 1025T Fluoropolymer FEP 140 Tubing, 25m Rolls



-40°C to +150°C  
37 bar max.

o.d. tubing mm	i.d. tubing mm	R minimum bend radius for tube at ambient temp. in mm	Order code
4	2.5	40	1025T04 00 25
6	4	50	1025T06 00
8	6	70	1025T08 00
10	8	120	1025T10 00
12	10	180	1025T12 00

### 1460U Polyurethane Recoil Tubing, without connectors, 2 m long



o.d. tubing mm	i.d. tubing mm	Order code
8	5	1460U08 04
10	7	1460U10 04
12	8	1460U12 04

### 1461U Polyurethane Recoil Tubing, without connectors, 4 m long



o.d. tubing mm	i.d. tubing mm	Order code
8	5	1461U08 04
10	7	1461U10 04
12	8	1461U12 04

### 1462U Polyurethane Recoil Tubing, without connectors, 6 m long



o.d. tubing mm	i.d. tubing mm	Order code
8	5	1462U08 04
10	7	1462U10 04
12	8	1462U12 04

### 0694 Instant Fitting, with protection spring, BSPP



ØD	C	Order code
8	G1/4	0694 08 13
10	G1/4	0694 10 13
12	G3/8	0694 12 17

### 1470U Polyurethane Recoil Tubing, 2 m long, with Threaded Stem BSPT Thread



o.d. tubing mm	i.d. tubing mm	BSPT thread	Order code
8	5	R1/4	1470U08 03 13
8	5	R1/4	1470U08 04 13
8	5	R1/4	1470U08 05 13

### 1471U Polyurethane Recoil Tubing, 4 m long, with Threaded Stem BSPT Thread



o.d. tubing mm	i.d. tubing mm	BSPT thread	Order code
8	5	R1/4	1471U08 03 13
8	5	R1/4	1471U08 04 13
8	5	R1/4	1471U08 05 13

### 1472U Polyurethane Recoil Tubing, 6 m long, with Threaded Stem BSPT Thread



o.d. tubing mm	i.d. tubing mm	BSPT thread	Order code
8	5	R1/4	1472U08 03 13
8	5	R1/4	1472U08 04 13
8	5	R1/4	1472U08 05 13

## Pneumatic Tubing

### 1040H Self-Fastening Hose, in 40m rolls



-20°C to +100°C  
16 bar max.

DN	i.d. tubing mm	R minimum bend radius at 20°C (mm)	Order code
6	6.3	60	<b>1040H56 02</b> <span style="color: green;">■</span>
6	6.3	60	<b>1040H56 03</b> <span style="color: red;">■</span>
8	9.5	70	<b>1040H60 02</b> <span style="color: green;">■</span>
8	9.5	70	<b>1040H60 03</b> <span style="color: red;">■</span>
12	12.7	120	<b>1040H62 02</b> <span style="color: green;">■</span>
12	12.7	120	<b>1040H62 03</b> <span style="color: red;">■</span>
16	15.9	140	<b>1040H66 02</b> <span style="color: green;">■</span>
16	15.9	140	<b>1040H66 03</b> <span style="color: red;">■</span>
20	19.1	170	<b>1040H69 02</b> <span style="color: green;">■</span>
20	19.1	170	<b>1040H69 03</b> <span style="color: red;">■</span>

### 1080H Self-Fastening Hose, in 80m rolls



-20°C to +100°C  
16 bars max.

DN	i.d. tubing mm	R minimum bend radius at 20°C (mm)	Order code
16	15.9	140	<b>1080H66 02</b> <span style="color: green;">■</span>
16	15.9	140	<b>1080H66 03</b> <span style="color: red;">■</span>
20	19.1	170	<b>1080H69 02</b> <span style="color: green;">■</span>
20	19.1	170	<b>1080H69 03</b> <span style="color: red;">■</span>

### 1100H Self-Fastening Hose, in 100m rolls



-20°C to +100°C  
16 bar max.

DN	i.d. tubing mm	R minimum bend radius at 20°C (mm)	Order code
6	6.3	60	<b>1100H56 02</b> <span style="color: green;">■</span>
6	6.3	60	<b>1100H56 03</b> <span style="color: red;">■</span>
8	9.5	70	<b>1100H60 02</b> <span style="color: green;">■</span>
8	9.5	70	<b>1100H60 03</b> <span style="color: red;">■</span>
12	12.7	120	<b>1100H62 02</b> <span style="color: green;">■</span>
12	12.7	120	<b>1100H62 03</b> <span style="color: red;">■</span>

### 1025V Braided PVC Hose, 25 m Rolls



0° to +70°C  
15 bar

o.d. tubing mm	i.d. tubing mm	R minimum bend radius for tube at 20°C in mm	Order code
8	4	10	<b>1025V08 00 04</b>
11	6	12	<b>1025V11 00 06</b>
13	7	14	<b>1025V13 00 07</b>
14	8	16	<b>1025V14 00 08</b>
16	10	25	<b>1025V16 00 10</b>
18	12	30	<b>1025V18 00 12</b>
23	15	40	<b>1025V23 00 15</b>
26	19	60	<b>1025V26 00 19</b>

### 3000 Tube Cutter



Order code

**3000 71 00**

### 3000 71 11 Tube Cutter



Order code

**3000 71 11**

### Clip Strips for Tubes



ØD	Order code
4	<b>CLIP 04 00</b>
6	<b>CLIP 06 00</b>
8	<b>CLIP 08 00</b>
10	<b>CLIP 10 00</b>
12	<b>CLIP 12 00</b>
14	<b>CLIP 14 00</b>

## Safety Couplers & Probes

### Passage 5,5mm - ISO B6 profile

-20°C to +60°C  
16 bar max.  
ISO 4414

#### 9405U Male Body, BSPP



C	Order code
R1/4	<b>9405U06 13</b>
R3/4	<b>9405U06 17</b>
R1/2	<b>9405U06 21</b>

#### 9087U Male Thread, BSPP



C	Order code
G1/4	<b>9087U06 13</b>
G1/8	<b>9087U06 17</b>
G1/2	<b>9087U06 21</b>

#### 9414U Female Body, BSPP



C	Order code
G1/4	<b>9414U06 13</b>
G3/8	<b>9414U06 17</b>
G1/2	<b>9414U06 21</b>

#### 9086 Female Thread, BSPP



C	Order code
G1/4	<b>9086 23 13</b>
G3/8	<b>9086 23 17</b>
G1/2	<b>9086 23 21</b>

#### 9421U with Hosetail



ØD	Order code
6	<b>9421U06 06</b>
8	<b>9421U06 08</b>
10	<b>9421U06 10</b>

#### 9094U with Hosetail



ØD	Order code
6	<b>9094U06 06</b>
8	<b>9094U06 08</b>
10	<b>9094U06 10</b>

#### 9416U Female Body, Panel Mountable, BSPP



C	Order code
G1/4	<b>9416U06 13</b>

#### 9080U with LF3000 Outlet & Protection Spring



ØD	Order code
8	<b>9080U06 08</b>
10	<b>9080U06 10</b>

#### 9410U with LF3000 Outlet & Protection Spring



ØD	Order code
8	<b>9410U06 08</b>
10	<b>9410U06 10</b>

#### 9440U Female Y Body, BSPP



C	Order code
G3/8	<b>9440U06 17</b>

## Safety Couplers & Probes Passage 8mm - ISO B8 profile

-20°C to +60°C  
16 bar max.  
ISO 4414

### 9405U Male Body, BSPT



C	Order code
G1/4	<b>9405U08 13</b>
G3/4	<b>9405U08 17</b>
G1/2	<b>9405U08 21</b>

### 9087U Male Thread, BSPP



C	Order code
G1/4	<b>9087U08 13</b>
G3/8	<b>9087U08 17</b>
G1/2	<b>9087U08 21</b>

### 9414U Female Body, BSPP



C	Order code
G1/4	<b>9414U08 13</b>
G3/4	<b>9414U08 17</b>
G1/2	<b>9414U08 21</b>

### 9086 Female Thread, BSPP



C	Order code
G1/4	<b>9086 30 13</b>
G3/8	<b>9086 30 17</b>
G1/2	<b>9086 30 21</b>

### 9421U with Hosetail



ØD	Order code
8	<b>9421U08 08</b>
10	<b>9421U08 10</b>
13	<b>9421U08 13</b>

### 9094U with Hosetail



ØD	Order code
8	<b>9094U08 08</b>
10	<b>9094U08 10</b>
13	<b>9094U08 13</b>

### 9416U Female Body, Panel Mountable, BSPP



C	Order code
G3/8	<b>9416U08 17</b>

### 9080U with LF3000 Outlet & Protection Spring



ØD	Order code
10	<b>9080U08 10</b>
12	<b>9080U08 12</b>

### 9410U with LF3000 Outlet & Protection Spring



ØD	Order code
10	<b>9410U08 10</b>
12	<b>9410U08 12</b>

### 9440U Female Y Body, BSPP



C	Order code
G1/2	<b>9440U08 21</b>

## Safety Couplers & Probes

### Passage 7,2mm - EURO Interchange

-20°C to +60°C  
16 bar max.  
ISO 4414

#### 9401E Male Body, BSPP



C	Order code
G1/4	<b>9401E07 13</b>
G3/8	<b>9401E07 17</b>
G1/2	<b>9401E07 21</b>

#### 9087E Male Thread, BSPP



C	Order code
G1/4	<b>9087E07 13</b>
G3/8	<b>9087E07 17</b>
G1/2	<b>9087E07 21</b>

#### 9414E Female Body, BSPP



C	Order code
G1/4	<b>9414E07 13</b>
G3/8	<b>9414E07 17</b>
G1/2	<b>9414E07 21</b>

#### 9086 Female Thread, BSPP



C	Order code
G1/4	<b>9086 25 13</b>
G3/8	<b>9086 25 17</b>
G1/2	<b>9086 25 21</b>

#### 9421E with Hosetail



ØD	Order code
8	<b>9421E07 08</b>
10	<b>9421E07 10</b>
13	<b>9421E07 13</b>

#### 9094E with Hosetail



ØD	Order code
8	<b>9094E07 08</b>
10	<b>9094E07 10</b>
13	<b>9094E07 13</b>

#### 9416E Female Body, Panel Mountable, BSPP



C	Order code
G3/8	<b>9416E07 17</b>

#### 9080E with LF3000 Outlet & Protection Spring



ØD	Order code
10	<b>9080E07 10</b>
12	<b>9080E07 12</b>

#### 9410E with LF3000 Outlet & Protection Spring



ØD	Order code
10	<b>9410E07 10</b>
12	<b>9410E07 12</b>

#### 9440E Female Y Body, BSPP



C	Order code
G1/2	<b>9440E07 21</b>

## Safety Couplers & Probes Passage 5,5mm - ARO Interchange

-20°C to +60°C  
16 bar max.  
ISO 4414

### 9401A Male Body, BSPP



C	Order code
G1/4	<b>9401A06 13</b>
G3/8	<b>9401A06 17</b>
G1/2	<b>9401A06 21</b>

### 9087A Male Thread, BSPP



C	Order code
G1/4	<b>9087A06 13</b>
G3/8	<b>9087A06 17</b>
G1/2	<b>9087A06 21</b>

### 9414A Female Body, BSPP



C	Order code
G1/4	<b>9414A06 13</b>
G3/8	<b>9414A06 17</b>
G1/2	<b>9414A06 21</b>

### 9086 Female Thread, BSPP



C	Order code
G1/4	<b>9086 22 13</b>
G3/8	<b>9086 22 17</b>
G1/2	<b>9086 22 21</b>

### 9421A with Hosetail



ØD	Order code
6	<b>9421A06 06</b>
8	<b>9421A06 08</b>
10	<b>9421A06 10</b>

### 9094A with Hosetail



ØD	Order code
6	<b>9094A06 06</b>
8	<b>9094A06 08</b>
10	<b>9094A06 10</b>

### 9416A Female Body, Panel Mountable, BSPP



C	Order code
G1/4	<b>9416A 06 13</b>

### 9080A with LF3000 Outlet & Protection Spring



ØD	Order code
8	<b>9080A06 08</b>
10	<b>9080A06 10</b>

### 9410A with LF3000 Outlet & Protection Spring



ØD	Order code
8	<b>9410A06 08</b>
10	<b>9410A06 10</b>

### 9440A Female Y Body, BSPP



C	Order code
G3/8	<b>9440A06 17</b>

## Blowguns & Nozzles

-15°C to +50°C  
10 bar max.  
OSHA & CE

### 0653 Flow Reducer «Energy Saving» Blowgun, lower connection



C	Order code
G1/4	0653 66 13

### 0659 Standard Blowgun, with angled nozzle, BSPP



C	Order code
G1/4	0659 00 13

### 0656 Progressive Control, lower connection, BSPP



C	Order code
G1/4	0656 66 13

### 0652 Progressive Control, lower connection, BSPP



C	Order code
G1/4	0652 66 13

### 0654 Safety Blowgun, with angled nozzle, BSPP



C	Order code
G1/4	0654 00 13

### 0657 Progressive Control, upper connection, BSPP



C	Order code
G1/4	0657 66 13

### 0655 Progressive Control, upper connection, BSPP



C	Order code
G1/4	0655 66 13

### 0690 Standard Nozzle



ØD	C	Order code
2.5	M12 x 1,25	0690 01 00

### 0690 Long Straight Tube Nozzle



ØD	C	Order code
2.5	M12 x 1,25	0690 03 00

### 0690 Air Screen Nozzle



ØD	C	Order code
2	M12 x 1,25	0690 09 00

### 0623 Lever Operated Air Gun with Removable Nozzle



ØD	C	Order code
2	G1/4	0623 10 35

### 0690 Long-Angled Tube Nozzle



ØD	C	Order code
2.5	M12 x 1,25	0690 05 00

### 0690 Coanda Effect Nozzle



C	Order code
M12 x 1,25	0690 08 00

### 0690 Booster Nozzle



ØD	C	Order code
2.5	M12 x 1,25	0690 10 00



## Blowgun Kits

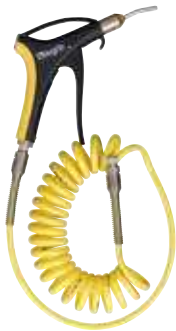
Includes:

- A blowgun
- Recoil tubing (4 m long), external Ø 8 mm
- G1/4" male thread connector adapted to coupler

Kits are packaged in individual plastic bags.



### 0631 00 01 Safety Blowgun Kit, lower connection



C	Order code
G1/4	<b>0631 00 01</b>

### 0631 00 07 Interchangeable Nozzle Blowgun Kit, lower connection



C	Order code
G1/4	<b>0631 00 07</b>

### 0631 00 23 Flow Reducer «Energy Saving» Blowgun Kit, lower connection



C	Order code
G1/4	<b>0631 00 23</b>

### 0631 00 05 Angled Nozzle Blowgun Kit, lower connection



C	Order code
G1/4	<b>0631 00 05</b>

### 0631 00 03 Short Nozzle Blowgun Kit, lower connection



C	Order code
G1/4	<b>0631 00 03</b>

### 0631 00 09 Standard Blowgun Kit, lower connection



C	Order code
G1/4	<b>0631 00 09</b>

## Pneumatic Ball Valves & Action Valves

### 7913 Mini Ball Valves, 3/2 version, with vent, with push-in connection



ØD	Order code
4	<b>7913 04 00</b>
6	<b>7913 06 00</b>
8	<b>7913 08 00</b>
10	<b>7913 10 00</b>
12	<b>7913 12 00</b>

### 7914 Mini Ball Valves 3/2 version, with vent, with BSPP thread & push-in connection



ØD	C	Order code
6	G1/8	<b>7914 06 10</b>
8	G1/4	<b>7914 08 13</b>
10	G3/8	<b>7914 10 17</b>
12	G1/2	<b>7914 12 21</b>

### 7910 Mini Ball Valves, 2/2 version, with push-in connection



ØD	Order code
4	<b>7910 04 00</b>
6	<b>7910 06 00</b>
8	<b>7910 08 00</b>
10	<b>7910 10 00</b>
12	<b>7910 12 00</b>

### 7911 Mini Ball Valves, 2/2 Version with BSPP thread & push-in connection



ØD	C	Order code
6	G1/8	<b>7911 06 10</b>
8	G1/4	<b>7911 08 13</b>
10	G3/8	<b>7911 10 17</b>
12	G1/2	<b>7911 12 21</b>

### 0492 Double Female



-20° to +80°C  
12 bar

C	DN	Order code
G1/4	4	<b>0492 04 13</b>
G1/4	4	<b>0492 04 13 64</b>
G3/8	7	<b>0492 07 17</b>
G1/2	10	<b>0492 10 21</b>
G3/4	13	<b>0492 13 27</b>

### 0491 Male & Female, BSPP



-20° to +80°C  
12 bar

C	DN	Order code
G1/4	4	<b>0491 04 13</b>
G1/4	4	<b>0491 04 13 64</b>
G3/8	7	<b>0491 07 17</b>
G1/2	10	<b>0491 10 21</b>
G3/4	13	<b>0491 13 27</b>

### 0402 Standard In-Line Ball Valve - Double Female, BSPP



-20° to +80°C  
40 bar

C	DN	Order code
G1/8	4	<b>0402 04 10</b>
G1/8	7	<b>0402 07 10</b>
G1/4	7	<b>0402 07 13</b>
G3/4	10	<b>0402 10 17</b>
G1/2	13	<b>0402 13 21</b>
G3/4	20	<b>0402 20 27</b>
G1"	23	<b>0402 23 34</b>

### 0401 Standard In-Line Ball Valve, Male Female BSPP



-20° to +80°C  
40 bar

ØD	C	Order code
4	G1/8	<b>0401 04 10</b>
7	G1/4	<b>0401 07 13</b>
10	G3/8	<b>0401 10 17</b>
13	G1/2	<b>0401 13 21</b>
18	G3/4	<b>0401 18 27</b>
23	G1"	<b>0401 23 34</b>

### 4902 In-Line Ball Valves, Fluoropolymer Series, BSPP




-20° to +130°C  
30 bar


C	DN	PN	Order code
G1/4	10	30	<b>4902 10 13</b>
G3/8	10	30	<b>4902 10 17</b>
G1/2	15	30	<b>4902 15 21</b>
G3/4	20	30	<b>4902 20 27</b>
G2.1/2	25	30	<b>4902 25 34</b>
G2.1/2	32	25	<b>4902 32 42</b>
G2.1/2	40	25	<b>4902 40 49</b>
G2.1/2	50	25	<b>4902 50 48</b>
G2.1/2	65	25	<b>4902 65 47</b>
G3"	80	25	<b>4902 80 46</b>
G4"	100	25	<b>4902 01 45</b>

## Pneumatic Ball Valves & Action Valves


### 0439 Lockable Ball Valves, Double Female with vent, BSPP

 -20° to +80°C 40 bar	ØD	C	Order code
		4	G1/8
	7	G1/4	<b>0439 07 13</b>
	10	G3/8	<b>0439 10 17</b>
	13	G1/2	<b>0439 13 21</b>
	18	G3/4	<b>0439 18 27</b>
	23	G1"	<b>0439 23 34</b>


### 0469 Double Female Vented Ball Valves BSPP

 -20° to +80°C 40 bar	ØD	C	Order code
		4	G1/8
	7	G1/4	<b>0469 07 13</b>
	10	G3/8	<b>0469 10 17</b>
	13	G1/2	<b>0469 13 21</b>
	18	G3/4	<b>0469 18 27</b>
	23	G1"	<b>0469 23 34</b>


### 0448 Panel Mountable Female, BSPP, right angle porting

 -20° to +80°C 40 bar	ØD	C	Order code
		4	G1/8
	6	G1/4	<b>0448 06 13</b>
	9	G3/8	<b>0448 09 17</b>
	12	G1/2	<b>0448 12 21</b>

### 4810 Ball Valve, Double Female BSPP


	C	DN	PN	Order code
		G1/4	8	64
	G3/8	10	64	<b>4810 10 17</b>
	G1/2	15	64	<b>4810 15 21</b>
	G3/4	20	40	<b>4810 20 27</b>
	G1"	25	40	<b>4810 25 34</b>

### 0438 Female, 3 port 2 way Lockable Ball Valve, BSPP


 -20° to +80°C 40 bar	ØD	C	Order code
		9	G3/8
	12	G1/2	<b>0438 12 21</b>
	18	G3/4	<b>0438 18 27</b>
	23	G1"	<b>0438 23 34</b>

The Ball Valves, Universal Series, can be adapted to various applications in semi-standard versions.

### 0489 In-Line Vented Ball Valves, BSPP, with threaded exhaust

 -20° to +80°C 40 bar	ØD	C	Order code
		7	G1/4
	10	G3/8	<b>0489 10 17</b>
	13	G1/2	<b>0489 13 21</b>
	18	G3/4	<b>0489 18 27</b>
	23	G1"	<b>0489 23 34</b>

### 0449 In-Line Vented Ball Valves, BSPP, panel mountable

 -20° to +80°C 40 bar	ØD	C	Order code
		7	G1/4
	10	G3/8	<b>0449 10 17</b>
	13	G1/2	<b>0449 13 21</b>

## Axial Valves

### 4202 Axial Valve, normally closed, double female, BSPP, FKM Seal



-20° to +135°C  
10 bar

C	DN	Order code
G3/8	10	<b>4202 10 17 20</b>
G1/2	15	<b>4202 15 21 20</b>
G3/4	20	<b>4202 20 27 20</b>
G1"	25	<b>4202 25 34 20</b>
G1"1/4	32	<b>4202 32 42 20</b>
G1"1/2	40	<b>4202 40 49 20</b>
G2"	50	<b>4202 50 48 20</b>

### 4298 Namur Sub-Base for Solenoid Pilot Valve



C	Order code
M5 x 0.8	<b>4298 00 01</b>

### 4212 Axial Valve, normally open, double female, BSPP, FKM Seal



-20° to +135°C  
8 bar

C	DN	Order code
G3/8	10	<b>4212 10 17 20</b>
G1/2	15	<b>4212 15 21 20</b>
G3/4	20	<b>4212 20 27 20</b>
G1"	25	<b>4212 25 34 20</b>
G1"1/4	32	<b>4212 32 42 20</b>
G1"1/2	40	<b>4212 40 49 20</b>
G2"	50	<b>4212 50 48 20</b>

### 0669 Sleeve Valve, Double Female, BSPP & M5



C	DN	Order code
M5 x 0.8	2	<b>0669 02 19</b>
G1/8	4	<b>0669 04 10</b>
G1/4	7	<b>0669 07 13</b>
G3/8	10	<b>0669 10 17</b>
G1/2	14	<b>0669 14 21</b>
G3/4	19	<b>0669 19 27</b>

### 4222 Axial Valve, double acting, double female, BSPP, FKM Seal



-20° to +135°C  
10 bar

ØD	C	Order code
10	G3/8	<b>4222 10 17 20</b>
15	G1/2	<b>4222 15 21 20</b>
20	G3/4	<b>4222 20 27 20</b>
25	G1"	<b>4222 25 34 20</b>
32	G1.1/4"	<b>4222 32 42 20</b>
40	G1.1/2"	<b>4222 40 49 20</b>
50	G2"	<b>4222 50 48 20</b>

### 4298 Mini-Solenoid Valve, 1W/ 1,2VA

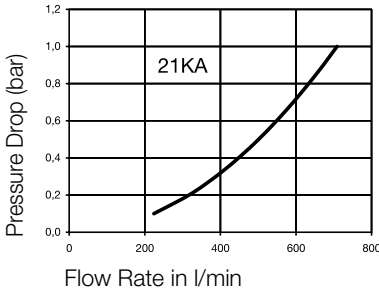


Voltage	Order code
24V ---	<b>4298 01 01</b>
24V ~	<b>4298 01 02</b>
110V ~	<b>4298 02 01</b>
220V ~	<b>4298 02 02</b>

## Rectus Series 21KA - DN 5.0

Mini industrial coupling, the world's most commonly used profile. Above average flow performance for liquid and gaseous media. Large band width in materials and valve variants.

### Chart / Air



### Advantages

- Single handed operation
- Small dimensions
- All versions interchangeable



**Working Pressure**  
 PB = 35 bar, maximum static working pressure with safety factor of 4 to 1.

**Working Temperature\***  
 -20°C up to +100°C (NBR) depending on the medium.  
 \*At a temperature below -20°C and above +100°C special seals are available on request.

**Material**

Component	Material
Back Body	Brass
Valve Body	Brass
Sleeve	Brass
Valve	Brass
Spring and Locking Ring	AISI 301
Locking Balls	AISI 420
Seals	NBR
Plug	Brass

### Coupling - Male Thread BSPP

Thread A	Order code	Box Qty
1/8"	<b>21KAAW10MPX</b>	20
1/4"	<b>21KAAW13MPX</b>	20

### Plug - Male Thread BSPP

Thread A	Order code	Box Qty
1/8"	<b>21SFAW10MXX</b>	20
1/4"	<b>21SFAW13MXX</b>	20

### Coupling - Female Thread BSPP

Thread A	Order code	Box Qty
1/8"	<b>21KAIW10MPX</b>	20
1/4"	<b>21KAIW13MPX</b>	20

### Plug - Female Thread BSPP

Thread A	Order code	Box Qty
1/8"	<b>21SFIW10MXX</b>	20

### Coupling - Hose Barb

Thread A	Order code	Box Qty
6 mm	<b>21KATF06MPX</b>	20
8 mm	<b>21KATF08MPX</b>	20

### Plug - Hose Barb

Thread A	Order code	Box Qty
6 mm	<b>21SFTF06MXX</b>	20
8 mm	<b>21SFTF08MXX</b>	20

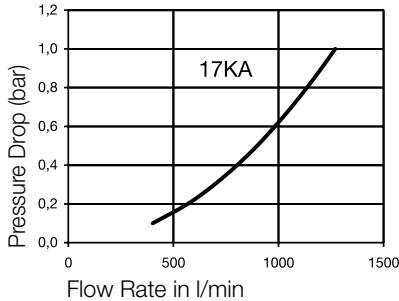
### Plug - Plastic Hose Connection

Thread A	Order code	Box Qty
4x6 mm	<b>21SFKO06MXX</b>	20
6x8 mm	<b>21SFKO08MXX</b>	20

## Rectus Series 17KA - DN 5.0

English profile industrial coupling. Specially suited to compressed air applications. Brass/steel design developed for industry. Schrader (DN 5.0) Interchange.

### Chart / Air



### Advantages

- Single handed operation
- Small dimensions, light weight
- UltraFlo technology with high flow valve



#### Working Pressure

PB = 35 bar, maximum static working pressure with safety factor of 4 to 1.

#### Working Temperature\*

-20°C up to +100°C (NBR) depending on the medium.  
\*At a temperature below -20°C and above +100°C special seals are available on request.

#### Material

##### Coupling

Back Body	Brass, Nickel Plated
Valve Body	Steel Hardened, Zinc Pl.
Sleeve	Steel Hardened, Nickel Pl.
Valve	Brass
Inner Sleeve	Brass
Spring Plate	Brass
Spring and Locking Ring	AISI 303
Locking Balls	AISI 420
Seals	NBR

##### Plug

Steel Hardened, Nickel Pl.

### Coupling - Male Thread BSPT



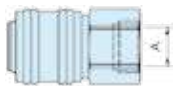
Thread A	Order code	Box Qty
1/4"	<b>17KAAK13SPN</b>	10
3/8"	<b>17KAAK17SPN</b>	10
1/2"	<b>17KAAK21SPN</b>	10

### Plug - Male Thread BSPT



Thread A	Order code	Box Qty
1/8"	<b>17SFAK10SXN</b>	20
1/4"	<b>17SFAK13SXN</b>	20

### Coupling - Female Thread BSPP



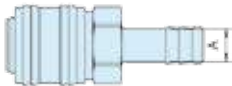
Thread A	Order code	Box Qty
1/4"	<b>17KAIW13SPN</b>	10
1/2"	<b>17KAIW21SPN</b>	10

### Plug - Female Thread BSPP



Thread A	Order code	Box Qty
1/8"	<b>17SFIW10SXN</b>	20
1/4"	<b>17SFIW13SXN</b>	20

### Coupling - Hose Barb



Thread A	Order code	Box Qty
8 mm	<b>17KATF08SPN</b>	10
10 mm	<b>17KATF10SPN</b>	10

### Plug - Hose Barb

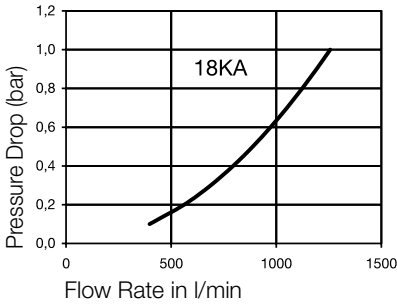


Thread A	Order code	Box Qty
8 mm	<b>17SFTF08SXN</b>	20
10 mm	<b>17SFTF10SXN</b>	20

## Rectus Series 18KA - DN 5.5

ISO 6150 C industrial coupling with UltraFlo technology. Robust design. The steel sleeve counters oscillating forces. System has limited use for liquids (steel sleeve/ zinc die cast valve).

### Chart / Air



### Advantages

- Single handed operation
- Plug design optimised through greater insert depth
- Innovative valve technology with high flow valve



**Working Pressure**  
 PB = 35 bar, maximum static working pressure with safety factor of 4 to 1.

**Working Temperature\***  
 -20°C up to +100°C (NBR) depending on the medium.  
 \*At a temperature below -20°C and above +100°C special seals are available on request.

**Material**

<b>Coupling</b>	
Back Body	Brass, Nickel Plated
Valve Body	Brass, Nickel Plated
Sleeve	Steel Hardened, Nickel Pl.
Valve	Zinc Diecasting, Nickel Pl.
Inner Sleeve	Brass
Spring Plate	Brass
Spring / Locking Ring	AISI 301
Locking Balls	AISI 420
Seals	NBR
<b>Plug</b>	Steel Hardened, Nickel Pl.

### Coupling - Male Thread BSPT

Thread A	Order code	Box Qty
1/4"	<b>18KAAK13MPN</b>	5
3/8"	<b>18KAAK17MPN</b>	5

### Plug - Male Thread BSPT

Thread A	Order code	Box Qty
1/4"	<b>18SFAK13SXN</b>	20
3/8"	<b>18SFAK17SXN</b>	5

### Coupling - Female Thread BSPP

Thread A	Order code	Box Qty
1/4"	<b>18KAIW13MPN</b>	5
3/8"	<b>18KAIW17MPN</b>	5
1/2"	<b>18KAIW21MPN</b>	5

### Plug - Female Thread BSPP

Thread A	Order code	Box Qty
1/4"	<b>18SFIW13SXN</b>	20
3/8"	<b>18SFIW17SXN</b>	20

### Coupling - Hose Barb

Thread A	Order code	Box Qty
8 mm	<b>18KATF08MPN</b>	5
10 mm	<b>18KATF10MPN</b>	5

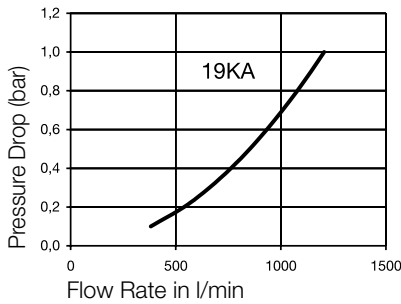
### Plug - Hose Barb

Thread A	Order code	Box Qty
6 mm	<b>18SFTF06SXN</b>	20
8 mm	<b>18SFTF08SXN</b>	20
10 mm	<b>18SFTF10SXN</b>	20

## Rectus Series 19KA - DN 5.5

English industrial profile with UltraFlo technology. Compact dimensions. Robust coupling for compressed air applications. The steel sleeve counters oscillating forces.

### Chart / Air



### Advantages

- Single handed operation
- Plug design optimised through greater insert depth
- UltraFlo technology with high flow valve



### Working Pressure

PB = 35 bar, maximum static working pressure with safety factor of 4 to 1.

### Working Temperature\*

-20°C up to +100°C (NBR) depending on the medium.

\*At a temperature below -20°C and above +100°C special seals are available on request.

### Material

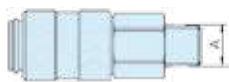
#### Coupling

Back Body	Brass, Nickel Plated
Valve Body	Brass, Nickel Plated
Sleeve	Steel Hardened, Nickel Pl.
Valve	Zinc Diecasting, Nickel Pl.
Inner Sleeve	Brass
Spring Plate	Brass
Spring / Locking Ring	AISI 301
Locking Balls	AISI 420
Seals	NBR

#### Plug

Steel Hardened, Nickel Pl.

### Coupling - Male Thread BSPT



Thread A	Order code	Box Qty
1/4"	<b>19KAAK13MPN</b>	10
3/8"	<b>19KAAK17MPN</b>	10
1/2"	<b>19KAAK21MPN</b>	10

### Plug - Male Thread BSPT



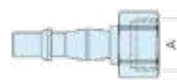
Thread A	Order code	Box Qty
1/4"	<b>19SFAK13SXN</b>	20
3/8"	<b>19SFAK17SXN</b>	20

### Coupling - Female Thread BSPP



Thread A	Order code	Box Qty
1/4"	<b>19KAIW13MPN</b>	10
1/2"	<b>19KAIW21MPN</b>	10

### Plug - Female Thread BSPP



Thread A	Order code	Box Qty
1/4"	<b>19SFIW13SXN</b>	20
3/8"	<b>19SFIW17SXN</b>	20

### Coupling - Hose Barb



Thread A	Order code	Box Qty
8 mm	<b>19KATF08MPN</b>	10
10 mm	<b>19KATF10MPN</b>	10

### Plug - Hose Barb



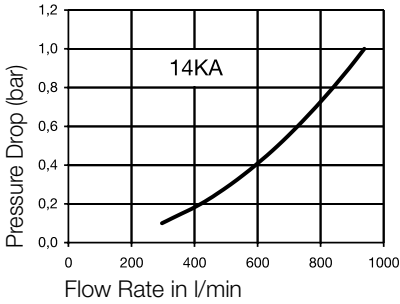
Thread A	Order code	Box Qty
6 mm	<b>19SFTF06SXN</b>	20
8 mm	<b>19SFTF08SXN</b>	20
10 mm	<b>19SFTF10SXN</b>	20



## Rectus Series 14KA - DN 5.5

Robust brass coupling. Numerous connection options. Preferred application: compressed air technology and water connections. ARO 210 Interchangeable.

### Chart / Air



### Advantages

- Single handed operation
- Optimised plug design through greater insert depth



**Working Pressure**  
 PB = 35 bar, maximum static working pressure with safety factor of 4 to 1.

**Working Temperature\***  
 -20°C up to +100°C (NBR) depending on the medium.  
 \*At a temperature below -20°C and above +100°C special seals are available on request.

**Material**

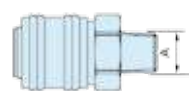
**Coupling**

Back Body	Brass
Valve Body	Brass
Sleeve	Brass
Valve	Brass
Spring and Locking Ring	AISI 301

**Plug**

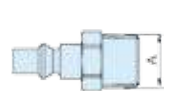
Pins	AISI 420
Seals	NBR
<b>Plug</b>	Steel Hardened, Nickel Plated

### Coupling - Male Thread BSPP



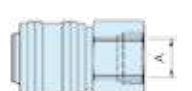
Thread A	Order code	Box Qty
1/4"	<b>14KAAW13MPX</b>	20
3/8"	<b>14KAAW17MPX</b>	20
1/2"	<b>14KAAW21MPX</b>	20

### Plug - Male Thread BSPT




Thread A	Order code	Box Qty
1/4"	<b>22SFAK13SXN</b>	20
3/8"	<b>22SFAK17SXN</b>	20
1/2"	<b>22SFAK21SXN</b>	10

### Coupling - Female Thread BSPP



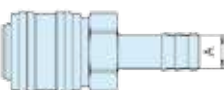
Thread A	Order code	Box Qty
1/4"	<b>14KAIW13MPX</b>	20
1/2"	<b>14KAIW21MPX</b>	20

### Plug - Female Thread BSPP




Thread A	Order code	Box Qty
1/4"	<b>22SFIW13SXN</b>	20
3/8"	<b>22SFIW17SXN</b>	20

### Coupling - Hose Barb



Thread A	Order code	Box Qty
8 mm	<b>14KATF08MPX</b>	20
10 mm	<b>14KATF10MPX</b>	20

### Plug - Hose Barb

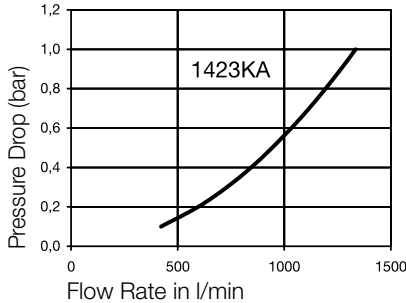


Thread A	Order code	Box Qty
6 mm	<b>22SFTF06SXN</b>	20
8 mm	<b>22SFTF08SXN</b>	20
10 mm	<b>22SFTF10SXN</b>	20

## Rectus Series 1423KA - DN 5.5

Rectus Tema premium 1/4" industrial coupling - the know-how from both brands combined in one system. Conforming to ISO 6150 B. High grade valve technology for optimum flow performance. Especially robust 2-component plastic sleeve.

### Chart / Air



### Advantages

- Single handed operation
- High flow valve
- Minimum coupling forces



### Working Pressure

PB = 35 bar, maximum static working pressure with safety factor of 4 to 1.

### Working Temperature\*

-20°C up to +40°C (NBR) depending on the medium.

\*At a temperature below -20°C and above +40°C special seals are available on request.

### Material

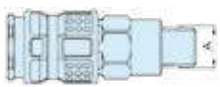
#### Coupling

Back Body	Brass, Nickel Plated
Valve Body	Steel, QPQ treated
Sleeve	PA6 + TPE
Valve	Brass
Spring	AISI 301
Locking Ring and Locking Balls	AISI 420
Seals	NBR

#### Plug

Steel Hardened, Nickel Plated

### Coupling - Male Thread BSPT



Thread A	Order code	Box Qty
3/8"	<b>1423KAAK17SPN</b>	10
1/2"	<b>1423KAAK21SPN</b>	10

### Plug - Male Thread BSPT



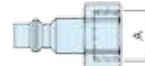
Thread A	Order code	Box Qty
1/4"	<b>23SFAK13SXN</b>	20
3/8"	<b>23SFAK17SXN</b>	20

### Coupling - Female Thread BSPP



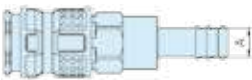
Thread A	Order code	Box Qty
1/2"	<b>1423KAIW21SPN</b>	10

### Plug - Female Thread BSPP



Thread A	Order code	Box Qty
1/4"	<b>23SFIW13SXN</b>	20
3/8"	<b>23SFIW17SXN</b>	20

### Coupling - Hose Barb



Thread A	Order code	Box Qty
9 mm	<b>1423KATF09SPN</b>	10
13 mm	<b>1423KATF13SPN</b>	10

### Plug - Hose Barb

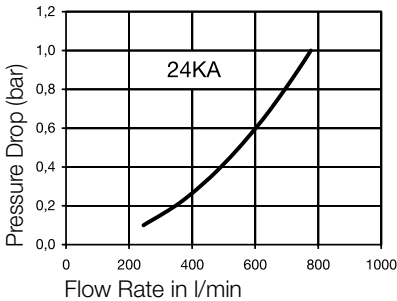


Thread A	Order code	Box Qty
6 mm	<b>23SFTF06SXN</b>	20
8 mm	<b>23SFTF08SXN</b>	20
10 mm	<b>23SFTF10SXN</b>	20

## Rectus Series 24KA - DN 5.5

1/4" Industrial brass coupling conforming to ISO 6150B and US Mil. Spec 4109. Notable for brass mass design and corresponding sleeve design. Hardened steel plug counters vibrations and effects of external forces.

### Chart / Air



### Advantages

- Single handed operation



#### Working Pressure

PB = 35 bar, maximum static working pressure with safety factor of 4 to 1.

#### Working Temperature\*

-20°C up to +100°C (NBR) depending on the medium.  
\*At a temperature below -20°C and above +100°C special seals are available on request.

#### Material

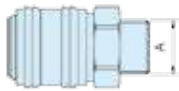
##### Coupling

Back Body Brass  
Valve Body Brass  
Sleeve Brass  
Valve Brass  
Spring and Locking Ring AISI 301  
Pins AISI 420  
Seals NBR

##### Plug

Steel Hardened,  
Nickel Plated

### Coupling - Male Thread BSPP



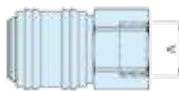
Thread A	Order code	Box Qty
1/4"	<b>24KAAW13MPX</b>	20
3/8"	<b>24KAAW17MPX</b>	20
1/2"	<b>24KAAW21MPX</b>	20

### Plug - Male Thread BSPT



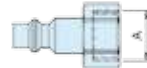
Thread A	Order code	Box Qty
1/4"	<b>23SFAK13SXN</b>	20
3/8"	<b>23SFAK17SXN</b>	20

### Coupling - Female Thread BSPP



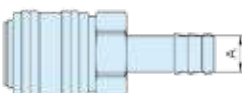
Thread A	Order code	Box Qty
1/4"	<b>24KAIW13MPX</b>	20
3/8"	<b>24KAIW17MPX</b>	20
1/2"	<b>24KAIW21MPX</b>	20

### Plug - Female Thread BSPP



Thread A	Order code	Box Qty
1/4"	<b>23SFIW13SXN</b>	20
3/8"	<b>23SFIW17SXN</b>	20

### Coupling - Hose Barb



Thread A	Order code	Box Qty
8 mm	<b>24KATF08MPX</b>	20
10 mm	<b>24KATF10MPX</b>	20

### Plug - Hose Barb

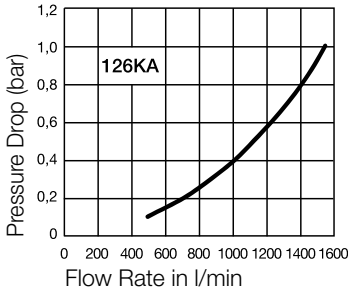


Thread A	Order code	Box Qty
6 mm	<b>23SFTF06SXN</b>	20
8 mm	<b>23SFTF08SXN</b>	20
10 mm	<b>23SFTF10SXN</b>	20

## Rectus Series 126KA - DN 7.2

Universal brass coupling with European standard industrial profile. Coupling system with single-handed operation and standard-valve. Series 26 plugs in brass. Series 25 steel plugs recommended for oscillating forces.

### Chart / Air



### Advantages

- Compact outer dimension
- High working pressure
- Optimized flow rate



### Working Pressure

PB = 40 bar, maximum static working pressure with safety factor of 4 to 1.

### Working Temperature\*

-20°C up to +100°C (NBR) depending on the medium.

\*At a temperature below -20°C and above +100°C special seals are available on request.

### Material

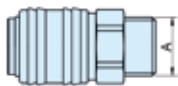
#### Coupling

Back Body	Brass
Valve Body	Brass
Sleeve	Brass
Valve	Brass
Spring and Locking Ring	AlSi 303
Locking Balls	AISI 420
Seals	NBR

#### Plug

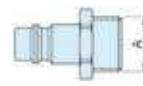
Brass

### Coupling - Male Thread BSPT



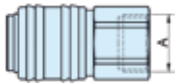
Thread A	Order code	Box Qty
1/4"	<b>126KAAW13MPX</b>	20
3/8"	<b>126KAAW17MPX</b>	20
1/2"	<b>126KAAW21MPX</b>	20

### Plug - Male Thread BSPP



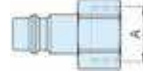
Thread A	Order code	Box Qty
1/4"	<b>26SFAW13MXX</b>	20
3/8"	<b>26SFAW17MXX</b>	20
1/2"	<b>26SFAW21MXX</b>	20

### Coupling - Female Thread BSPP



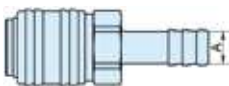
Thread A	Order code	Box Qty
1/4"	<b>126KAIW13MPX</b>	20
3/8"	<b>126KAIW17MPX</b>	20
1/2"	<b>126KAIW21MPX</b>	20

### Plug - Female Thread BSPP



Thread A	Order code	Box Qty
1/4"	<b>26SFIW13MXX</b>	20
3/8"	<b>26SFIW17MXX</b>	20
1/2"	<b>26SFIW21MXX</b>	20

### Coupling - Hose Barb



Thread A	Order code	Box Qty
6 mm	<b>126KATF06MPX</b>	20
8 mm	<b>126KATF08MPX</b>	20
9 mm	<b>126KATF09MPX</b>	20
10 mm	<b>126KATF10MPX</b>	20
13 mm	<b>126KATF13MPX</b>	20

### Plug - Hose Barb



Thread A	Order code	Box Qty
6 mm	<b>26FTF06MXX</b>	20
8 mm	<b>26FTF08MXX</b>	20
9 mm	<b>26FTF09MXX</b>	20
10 mm	<b>26FTF10MXX</b>	20
13 mm	<b>26FTF13MXX</b>	20

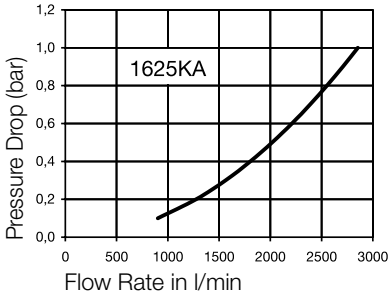
## Rectus Series 1625KA - DN 7.8

Rectus Tema premium European standard industrial coupling – the know-how from both brands combined in one system. Extremely robust 2-component plastic sleeve. Suitable for compressed air applications with above average air consumption.

### Advantages

- Single handed operation
- High grade valve technology with optimum flow performance
- Minimum coupling forces

### Chart / Air



### Working Pressure

PB = 35 bar, maximum static working pressure with safety factor of 4 to 1.

### Working Temperature\*

-20°C up to +40°C (NBR) depending on the medium.  
\*At a temperature below -20°C and above +40°C special seals are available on request.

### Material

#### Coupling

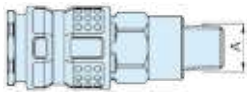
Back Body Brass, Nickel Plated  
Valve Body Steel, QPQ treated  
Sleeve PA6 + TPE  
Valve Brass

Spring and Locking Ring AISI 301  
Locking Balls AISI 420  
Seals NBR

#### Plug

Steel Hardened, Zinc Plated

### Coupling - Male Thread BSPT



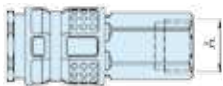
Thread A	Order code	Box Qty
3/8"	<b>1625KAAK17SPN</b>	10
1/2"	<b>1625KAAK21SPN</b>	10

### Plug - Male Thread BSPT



Thread A	Order code	Box Qty
1/4"	<b>25SFAK13SXZ</b>	20
3/8"	<b>25SFAK17SXZ</b>	20
1/2"	<b>25SFAK21SXZ</b>	10

### Coupling - Female Thread BSPP



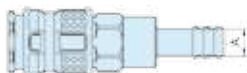
Thread A	Order code	Box Qty
1/2"	<b>1625KAIW21SPN</b>	10

### Plug - Female Thread BSPP



Thread A	Order code	Box Qty
1/4"	<b>25SFIW13SXZ</b>	20
3/8"	<b>25SFIW17SXZ</b>	20

### Coupling - Hose Barb



Thread A	Order code	Box Qty
9 mm	<b>1625KATF09SPN</b>	10
13 mm	<b>1625KATF13SPN</b>	10

### Plug - Hose Barb

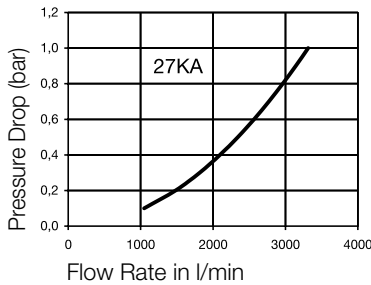


Thread A	Order code	Box Qty
9 mm	<b>25SFTF09SXZ</b>	20
13 mm	<b>25SFTF13SXZ</b>	20

## Rectus Series 27KA - DN 10

1/2" European industrial profile with UltraFlo technology. High flow performance. Notable for robust design with steel sleeve in use with large pneumatic consumers. Also available in brass.

### Chart / Air



### Advantages

- Single handed operation
- High flow valve - low pressure drop
- No damage to the valve body from binding design



### Working Pressure

PB = 35 bar, maximum static working pressure with safety factor of 4 to 1.

### Working Temperature\*

-20°C up to +100°C (NBR) depending on the medium.

\*At a temperature below -20°C and above +100°C special seals are available on request.

### Material

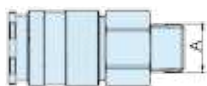
#### Coupling

Back Body	Brass, Nickel Plated
Valve Body	Brass, Nickel Plated
Sleeve	Steel Hardened, Nickel Pl.
Valve	Brass
Inner Sleeve	Brass
Spring Plate	Brass
Spring and Locking Ring	AISI 301
Locking Balls	AISI 420
Seals	NBR

#### Plug

Steel Hardened, Nickel Pl.

### Coupling - Male Thread BSPT



Thread A	Order code	Box Qty
3/8"	<b>27KAAK17MPN</b>	2
1/2"	<b>27KAAK21MPN</b>	2

### Plug - Male Thread BSPT



Thread A	Order code	Box Qty
1/4"	<b>27SFAK13SXN</b>	10
3/8"	<b>27SFAK17SXN</b>	10
1/2"	<b>27SFAK21SXN</b>	10

### Coupling - Female Thread BSPP



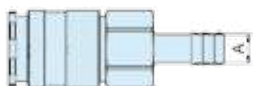
Thread A	Order code	Box Qty
3/8"	<b>27KAIW17MPN</b>	5
1/2"	<b>27KAIW21MPN</b>	5

### Plug - Female Thread BSPP



Thread A	Order code	Box Qty
3/8"	<b>27SFIW17SXN</b>	10
1/2"	<b>27SFIW21SXN</b>	10

### Coupling - Hose Barb



Thread A	Order code	Box Qty
10 mm	<b>27KATF10MPN</b>	2
13 mm	<b>27KATF13MPN</b>	2

### Plug - Hose Barb

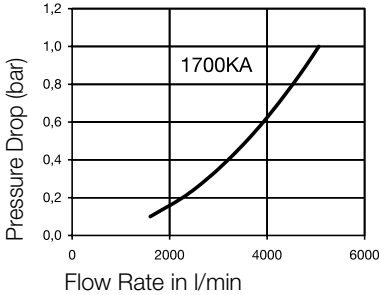


Thread A	Order code	Box Qty
8 mm	<b>27SFTF08SXN</b>	20
10 mm	<b>27SFTF10SXN</b>	20
13 mm	<b>27SFTF13SXN</b>	10

## Rectus Series 1700KA - DN 10

Premium industrial coupling in nominal diameter 10 with high grade valve technology and unprecedented flow values and minimum coupling forces. Especially suited to compressed air applications with above average air consumption.

### Chart / Air



### Advantages

- Single handed operation
- High flow valve
- Minimum coupling forces



**Working Pressure**  
 PB = 35 bar, maximum static working pressure with safety factor of 4 to 1.

**Working Temperature\***  
 -20°C up to +100°C (NBR) depending on the medium.  
 \*At a temperature below -20°C and above +100°C special seals are available on request.

**Material**

<b>Coupling</b>	
Back Body	Brass, Nickel Plated
Valve Body	Steel, QPQ treated
Sleeve	Brass, Nickel Plated
Valve	Brass
Spring and Locking Ring	AISI 301
Locking Balls	AISI 420
Seals	NBR
<b>Plug</b>	Steel Hardened, Zinc Plated

### Coupling - Male Thread BSPT

Thread A	Order code	Box Qty
3/8"	<b>1700KAAK17SPN</b>	5
1/2"	<b>1700KAAK21SPN</b>	5
3/4"	<b>1700KAAK26SPN</b>	5

### Plug - Male Thread BSPT

Thread A	Order code	Box Qty
1/4"	<b>27SFAK13SXN</b>	10
3/8"	<b>27SFAK17SXN</b>	10
1/2"	<b>27SFAK21SXN</b>	10

### Coupling - Female Thread BSPP

Thread A	Order code	Box Qty
3/8"	<b>1700KAIW17SPN</b>	5
1/2"	<b>1700KAIW21SPN</b>	5
3/4"	<b>1700KAIW26SPN</b>	5

### Plug - Female Thread BSPP

Thread A	Order code	Box Qty
3/8"	<b>27SFIW17SXN</b>	10
1/2"	<b>27SFIW21SXN</b>	10

### Coupling - Hose Barb

Thread A	Order code	Box Qty
10 mm	<b>1700KATF10SPN</b>	5
13 mm	<b>1700KATF13SPN</b>	5
16 mm	<b>1700KATF16SPN</b>	5

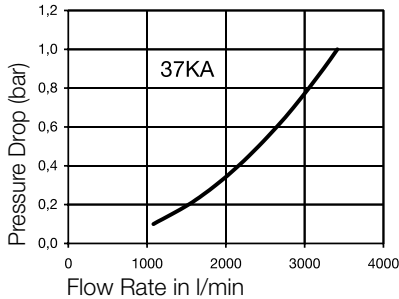
### Plug - Hose Barb

Thread A	Order code	Box Qty
8 mm	<b>27SFTF08SXN</b>	20
10 mm	<b>27SFTF10SXN</b>	20
13 mm	<b>27SFTF13SXN</b>	10

## Rectus Series 37KA - DN 11

1/2" Coupling-system according to US-MIL-Spec. C-4109 made of brass. Plug design optimised through greater insert depth.

### Chart / Air



### Advantages

- Single handed operation
- Tough construction



### Working Pressure

PB = 35 bar, maximum static working pressure with safety factor of 4 to 1.

### Working Temperature\*

-20°C up to +100°C (NBR) depending on the medium.

\*At a temperature below -20°C and above +100°C special seals are available on request.

### Material

#### Coupling

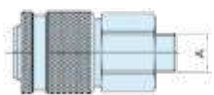
Back Body Brass  
 Valve Body Brass  
 Sleeve Brass  
 Valve Brass  
 Spring and Locking Ring AISI 301

Locking Balls AISI 420  
 Seals NBR

#### Plug

Steel Hardened, Nickel Plated

### Coupling - Male Thread BSPP



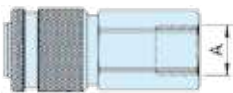
Thread A	Order code	Box Qty
3/8"	<b>37KAAW17MPX</b>	2
1/2"	<b>37KAAW21MPX</b>	2
3/4"	<b>37KAAW26MPX</b>	2

### Plug - Male Thread BSPT



Thread A	Order code	Box Qty
1/2"	<b>37SFAK21SXXN</b>	10
3/4"	<b>37SFAK26SXXN</b>	5

### Coupling - Female Thread BSPP



Thread A	Order code	Box Qty
3/8"	<b>37KAIW17MPX</b>	2
1/2"	<b>37KAIW21MPX</b>	2
3/4"	<b>37KAIW26MPX</b>	2

### Plug - Female Thread BSPP



Thread A	Order code	Box Qty
1/2"	<b>37SFIW21SXXN</b>	5
3/4"	<b>37SFIW26SXXN</b>	5

### Plug - Hose Barb



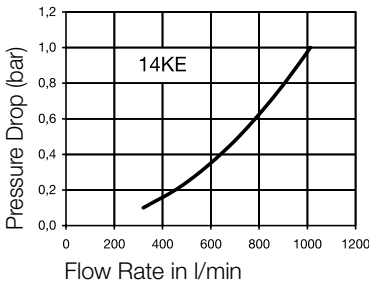
Thread A	Order code	Box Qty
13 mm	<b>37SFTF13SXXN</b>	10
16 mm	<b>37SFTF16SXXN</b>	10
19 mm	<b>37SFTF19SXXN</b>	5



## Rectus Self-Venting Series 14KE - DN 5.5

The connection is made the same way as with all other quick connect coupling series, by simply pushing the plug in the coupling. The audible latching when the plug is securely in place signifies that the coupling is locked. The sleeve must be pulled back to release the first locking system before it can be disconnected. This closes the coupling valve. The compressed downstream air can now escape from the plug (hose). Pulling the sleeve back a second time releases the second locking system. The connection can now be safely undone. This self-venting coupling, designed for bleeding off trapped air, is not suitable for direct connection to compressed air tools.

### Chart / Air



### Advantages

- The system fulfils the requirements of ISO 4414
- increased safety standards in the work place
- the plastic sleeve does not scratch working surfaces



### Caution

Not recommended for direct connection to compressed air tools. Reliable functioning can only be guaranteed in conjunction with original Rectus plugs made of steel.

#### Working Pressure

PB = 12 bar, maximum static working pressure with safety factor of 4 to 1.

#### Working Temperature\*

-20°C up to +60°C (NBR) depending on the medium.  
\*At a temperature below -20°C and above +60°C special seals are available on request.

#### Material

##### Coupling

Back Body Brass, Nickel Plated  
Valve Body Brass, Nickel Plated  
Sleeve Thermoplastic  
Valve Brass  
Spring AISI 301  
Locking Balls AISI 420  
Seals NBR  
Pins AISI 420

##### Plug

Steel Hardened, Nickel Pl.

### Coupling - Male Thread BSPT

Thread A	Order code	Box Qty
1/4"	<b>14KEAK13MPN</b>	10
1/2"	<b>14KEAK21MPN</b>	10

### Plug - Male Thread BSPT

Thread A	Order code	Box Qty
1/4"	<b>22SFAK13SXN</b>	20
3/8"	<b>22SFAK17SXN</b>	20
1/2"	<b>22SFAK21SXN</b>	10

### Coupling - Female Thread BSPP

Thread A	Order code	Box Qty
1/4"	<b>14KEIW13MPN</b>	10
1/2"	<b>14KEIW21MPN</b>	10

### Plug - Female Thread BSPP

Thread A	Order code	Box Qty
1/4"	<b>22SFIW13SXN</b>	20
3/8"	<b>22SFIW17SXN</b>	20

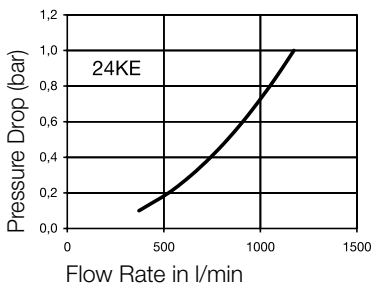
### Plug - Hose Barb

Thread A	Order code	Box Qty
6 mm	<b>22SFTF06SXN</b>	20
8 mm	<b>22SFTF08SXN</b>	20
10 mm	<b>22SFTF10SXN</b>	20

## Rectus Self-Venting Series 24KE - DN 5.5

The connection is made the same way as with all other quick connect coupling series, by simply pushing the plug in the coupling. The audible latching when the plug is securely in place signifies that the coupling is locked. The sleeve must be pulled back to release the first locking system before it can be disconnected. This closes the coupling valve. The compressed downstream air can now escape from the plug (hose). Pulling the sleeve back a second time releases the second locking system. The connection can now be safely undone. This self-venting coupling, designed for bleeding off trapped air, is not suitable for direct connection to compressed air tools.

### Chart / Air



### Advantages

- The system fulfils the requirements of ISO 4414
- increased safety standards in the work place
- the plastic sleeve does not scratch working surfaces



### Caution

Not recommended for direct connection to compressed air tools. Reliable functioning can only be guaranteed in conjunction with original Rectus plugs made of steel.

#### Working Pressure

PB = 12 bar, maximum static working pressure with safety factor of 4 to 1.

#### Working Temperature\*

-20°C up to +60°C (NBR) depending on the medium.

\*At a temperature below -20°C and above +60°C special seals are available on request.

#### Material

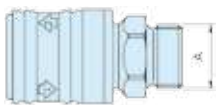
##### Coupling

Back Body	Brass, Nickel Plated
Valve Body	Brass, Nickel Plated
Sleeve	Thermoplastic
Valve	Brass
Spring and Locking Ring	AISI 301
Locking Balls	AISI 420
Seals	NBR
Pins	AISI 420

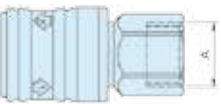
##### Plug

Steel Hardened, Nickel Pl.


### Coupling - Male Thread BSPT

	Thread A	Order code	Box Qty
	1/4"	<b>24KEAK13MPN</b>	10
1/2"	<b>24KEAK21MPN</b>	10	


### Coupling - Female Thread BSPP

	Thread A	Order code	Box Qty
	1/4"	<b>24KEIW13MPN</b>	10
1/2"	<b>24KEIW21MPN</b>	10	


### Plug - Male Thread BSPT

	Thread A	Order code	Box Qty
	1/4"	<b>23SFAK13SXN</b>	20
3/8"	<b>23SFAK17SXN</b>	20	

### Plug - Female Thread BSPP

	Thread A	Order code	Box Qty
	1/4"	<b>23SFIW13SXN</b>	20
3/8"	<b>23SFIW17SXN</b>	20	

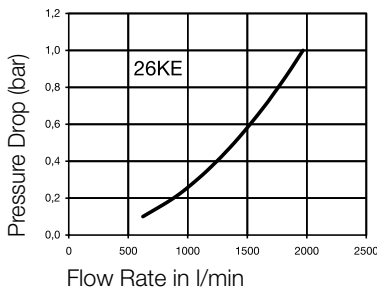
### Plug - Hose Barb

	Thread A	Order code	Box Qty
	6 mm	<b>23SFTF06SXN</b>	20
8 mm	<b>23SFTF08SXN</b>	20	
10 mm	<b>23SFTF10SXN</b>	20	

## Rectus Self-Venting Series 26KE - DN 7.4

The connection is made the same way as with all other quick connect coupling series, by simply pushing the plug in the coupling. The audible latching when the plug is securely in place signifies that the coupling is locked. The sleeve must be pulled back to release the first locking system before it can be disconnected. This closes the coupling valve. The compressed downstream air can now escape from the plug (hose). Pulling the sleeve back a second time releases the second locking system. The connection can now be safely undone. This self-venting coupling, designed for bleeding off trapped air, is not suitable for direct connection to compressed air tools.

### Chart / Air



### Advantages

- The system fulfils the requirements of ISO 4414
- increased safety standards in the work place
  - the plastic sleeve does not scratch working surfaces



### Caution

Not recommended for direct connection to compressed air tools. Reliable functioning can only be guaranteed in conjunction with original Rectus plugs made of steel.

#### Working Pressure

PB = 12 bar, maximum static working pressure with safety factor of 4 to 1.

#### Working Temperature\*

-20°C up to +60°C (NBR)

depending on the medium.

\*At a temperature below -20°C and above +60°C special seals are available on request.

#### Material

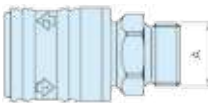
##### Coupling

Back Body Brass, Nickel Plated  
 Valve Body Brass, Nickel Plated  
 Sleeve Thermoplastic  
 Valve Brass  
 Spring AISI 301  
 Locking Balls AISI 420  
 Seals NBR  
 Pin AISI 420


##### Plug

Steel Hardened, Nickel Pl.

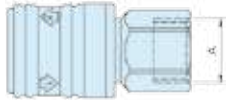
### Coupling - Male Thread BSPP

	Thread A	Order code	Box Qty
	1/4"	<b>26KEAW13MPN</b>	10
	1/2"	<b>26KEAW21MPN</b>	10


### Plug - Male Thread BSPT

	Thread A	Order code	Box Qty
	1/4"	<b>25SFAK13SXZ</b>	20
	3/8"	<b>25SFAK17SXZ</b>	20
	1/2"	<b>25SFAK21SXZ</b>	10


### Coupling - Female Thread BSPP

	Thread A	Order code	Box Qty
	1/4"	<b>26KEIW13MPN</b>	5
	3/8"	<b>26KEIW17MPN</b>	5

### Plug - Female Thread BSPP

	Thread A	Order code	Box Qty
	1/4"	<b>25SFIW13SXZ</b>	20
	3/8"	<b>25SFIW17SXZ</b>	20

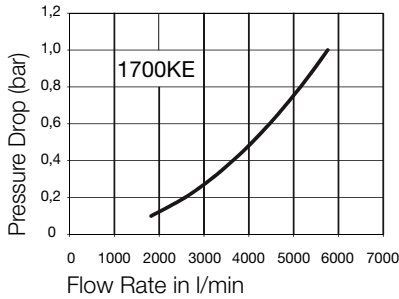
### Plug - Hose Barb

	Thread A	Order code	Box Qty
	9 mm	<b>25SFTF09SXZ</b>	20
	13 mm	<b>25SFTF13SXZ</b>	20

## Rectus Self-Venting Series 1700KE - DN 10

The 1700KE series is a safety coupling with a self-venting system. When the sleeve is pulled back, the plug is released yet remains locked in. The coupling valve closes. The compressed air can now escape from the plug (hose). By operating the sleeve again in the direction of the plug, the second locking system is released. Only now can the connection be disengaged.

### Chart / Air



**Working Pressure**  
PB = 12 bar, maximum static working pressure with safety factor of 4 to 1.

**Working Temperature\***  
-20°C up to +100°C (NBR) depending on the medium.  
\*At a temperature below -20°C and above +100°C special seals are available on request.

### Advantages

- The system fulfils the requirements of ISO 4414
- increased safety standards in the work place
  - robust, all-metal structure
  - high-flow-valve



### Caution

Not recommended for direct connection to compressed air tools. Reliable functioning can only be guaranteed in conjunction with original Parker Rectus plugs made of steel.

### Material

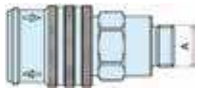
#### Coupling

Back Body	Brass, Nickel Plated
Valve Body	Steel, Zinc plated, Thick-film passivated
Sleeve	Steel, Hardened, Nickel Pl.
Valve	Brass
Spring	AISI 301
Locking Balls	AISI 420
Seals	NBR

#### Plug

Steel Hardened, Nickel Pl.

### Coupling - Male Thread BSPT



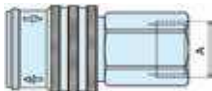
Thread A	Order code	Box Qty
3/8"	<b>1700KEAW17SPN</b>	5
1/2"	<b>1700KEAW21SPN</b>	5
3/4"	<b>1700KEAW26SPN</b>	5

### Plug - Male Thread BSPT



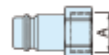
Thread A	Order code	Box Qty
1/4"	<b>27SFAK13SXXN</b>	10
3/8"	<b>27SFAK17SXXN</b>	10
1/2"	<b>27SFAK21SXXN</b>	10

### Coupling - Female Thread BSPP



Thread A	Order code	Box Qty
3/8"	<b>1700KEIW17SPN</b>	5
1/2"	<b>1700KEIW21SPN</b>	5
3/4"	<b>1700KEIW26SPN</b>	5

### Plug - Female Thread BSPP



Thread A	Order code	Box Qty
3/8"	<b>27SFIW17SXXN</b>	10
1/2"	<b>27SFIW21SXXN</b>	10


### Plug - Hose Barb




Thread A	Order code	Box Qty
8 mm	<b>27SFTF08SXXN</b>	10
10 mm	<b>27SFTF10SXXN</b>	10
13 mm	<b>27SFTF13SXXN</b>	10

## Blow Guns


### Plastic - with Aluminium Extension Nozzle

	Thread	Order code	Box Qty
	1/4"	<b>AK13</b>	20


### Aluminium with Standard Nozzle

	Thread	Order code	Box Qty
	1/4"	<b>AA13</b>	20

### Plastic, Aluminium Nozzle, Plug 26SF Series


	Thread	Order code	Box Qty
	26SF	<b>AK26SF</b>	20

### Aluminium, Standard Nozzle, Plug 26SF Series

	Thread	Order code	Box Qty
	26SF	<b>AA26SF</b>	20


## Hose Tail Barb, Brass

### Male Thread

	Connection	Order code	Box Qty
	G 1/4, 8 mm	<b>GT13/08</b>	20
	G 3/8, 13 mm	<b>GT17/13</b>	20
	G 1/2, 9 mm	<b>GT21/09</b>	20
	G 1/2, 13 mm	<b>GT21/13</b>	20


## 3 Way Manifold Assembly

### Brass, with Couplings 26KA Series

	Connection	Order code	Box Qty
	G 1/4 i.	<b>DM13I</b>	20
	G 3/8 i.	<b>DM17I</b>	20
	G 1/2 i.	<b>DM21I</b>	20


## PA12 Tubing

### 26 Series Coupling and Plug with Spring Guard

	Connection /mm	Length	Order code	Box Qty
	6,3 x 7,9	5,0 m	<b>SP08/050/K+S</b>	1
	9,5 x 11,8	7,5 m	<b>SP12/075/K+S</b>	1

## PU Tubing

### with Straight Extensions 508 mm and 127 mm

	Connection /mm	Length	Order code	Box Qty
	6,3 x 9,5	6,0 m	<b>PU10/060/DV</b>	1
	8,0 x 12,0	7,5 m	<b>PU12/075/DV</b>	1



At Parker, we're guided by a relentless drive to help our customers become more productive and achieve higher levels of profitability by engineering the best systems for their requirements. It means looking at customer applications from many angles to find new ways to create value. Whatever the motion and control technology need, Parker has the experience, breadth of product and global reach to consistently deliver. No company knows more about motion and control technology than Parker. For further info call 00800 27 27 5374.



**AEROSPACE**

**Key Markets**

- Aircraft engines
- Business & general aviation
- Commercial transports
- Land-based weapons systems
- Military aircraft
- Missiles & launch vehicles
- Regional transports
- Unmanned aerial vehicles

**Key Products**

- Flight control systems & components
- Fluid conveyance systems
- Fluid metering delivery & atomization devices
- Fuel systems & components
- Hydraulic systems & components
- Inert nitrogen generating systems
- Pneumatic systems & components
- Wheels & brakes



**CLIMATE CONTROL**

**Key Markets**

- Agriculture
- Air conditioning
- Food, beverage & dairy
- Life sciences & medical
- Precision cooling
- Processing
- Transportation

**Key Products**

- CO<sub>2</sub> controls
- Electronic controllers
- Filter driers
- Hand shut-off valves
- Hose & fittings
- Pressure regulating valves
- Refrigerant distributors
- Safety relief valves
- Solenoid valves
- Thermostatic expansion valves



**ELECTROMECHANICAL**

**Key Markets**

- Aerospace
- Factory automation
- Food & beverage
- Life science & medical
- Machine tools
- Packaging machinery
- Paper machinery
- Plastics machinery & converting
- Primary metals
- Semiconductor & electronics
- Textile
- Wire & cable

**Key Products**

- AC/DC drives & systems
- Electric actuators
- Controllers
- Gantry robots
- Gearheads
- Human machine interfaces
- Industrial PCs
- Inverters
- Linear motors, slides and stages
- Precision stages
- Stepper motors
- Servo motors, drives & controls
- Structural extrusions



**FILTRATION**

**Key Markets**

- Food & beverage
- Industrial machinery
- Life sciences
- Marine
- Mobile equipment
- Oil & gas
- Power generation
- Process
- Transportation

**Key Products**

- Analytical gas generators
- Compressed air & gas filters
- Condition monitoring
- Engine air, fuel & oil filtration & systems
- Hydraulic, lubrication & coolant filters
- Process, chemical, water & microfiltration filters
- Nitrogen, hydrogen & zero air generators



**FLUID & GAS HANDLING**

**Key Markets**

- Aerospace
- Agriculture
- Bulk chemical handling
- Construction machinery
- Food & beverage
- Fuel & gas delivery
- Industrial machinery
- Mobile
- Oil & gas
- Transportation
- Welding

**Key Products**

- Brass fittings & valves
- Diagnostic equipment
- Fluid conveyance systems
- Industrial hose
- PTFE & PFA hose, tubing & plastic fittings
- Rubber & thermoplastic hose & couplings
- Tube fittings & adapters
- Quick disconnects



**HYDRAULICS**

**Key Markets**

- Aerospace
- Aerial lift
- Agriculture
- Construction machinery
- Forestry
- Industrial machinery
- Mining
- Oil & gas
- Power generation & energy
- Truck hydraulics

**Key Products**

- Diagnostic equipment
- Hydraulic cylinders
- Hydraulic motors & pumps
- Hydraulic systems
- Hydraulic valves & controls
- Power take-offs
- Rubber & thermoplastic hose & couplings
- Tube fittings & adapters
- Quick disconnects



**PNEUMATICS**

**Key Markets**

- Aerospace
- Conveyor & material handling
- Factory automation
- Food & beverage
- Life science & medical
- Machine tools
- Packaging machinery
- Transportation & automotive

**Key Products**

- Air preparation
- Compact cylinders
- Field bus valve systems
- Grippers
- Guided cylinders
- Manifolds
- Miniature fluidics
- Pneumatic accessories
- Pneumatic actuators & grippers
- Pneumatic valves and controls
- Rodless cylinders
- Rotary actuators
- Tie rod cylinders
- Vacuum generators, cups & sensors



**PROCESS CONTROL**

**Key Markets**

- Chemical & refining
- Food, beverage & dairy
- Medical & dental
- Microelectronics
- Oil & gas
- Power generation

**Key Products**

- Analytical sample conditioning products & systems
- Fluoropolymer chemical delivery fittings, valves & pumps
- High purity gas delivery fittings, valves & regulators
- Instrumentation fittings, valves & regulators
- Medium pressure fittings & valves
- Process control manifolds



**SEALING & SHIELDING**

**Key Markets**

- Aerospace
- Chemical processing
- Consumer
- Energy, oil & gas
- Fluid power
- General industrial
- Information technology
- Life sciences
- Military
- Semiconductor
- Telecommunications
- Transportation

**Key Products**

- Dynamic seals
- Elastomeric o-rings
- EMI shielding
- Extruded & precision-cut, fabricated elastomeric seals
- Homogeneous & inserted elastomeric shapes
- High temperature metal seals
- Metal & plastic retained composite seals
- Thermal management

**ENGINEERING YOUR SUCCESS.**

# Parker Worldwide

## Europe, Middle East, Africa

**AE – United Arab Emirates,**  
Dubai

Tel: +971 4 8127100  
parker.me@parker.com

**AT – Austria,** Wiener Neustadt

Tel: +43 (0)2622 23501-0  
parker.austria@parker.com

**AT – Eastern Europe,** Wiener  
Neustadt

Tel: +43 (0)2622 23501 900  
parker.easteurope@parker.com

**AZ – Azerbaijan,** Baku

Tel: +994 50 2233 458  
parker.azerbaijan@parker.com

**BE/LU – Belgium,** Nivelles

Tel: +32 (0)67 280 900  
parker.belgium@parker.com

**BG – Bulgaria,** Sofia

Tel: +359 2 980 1344  
parker.bulgaria@parker.com

**BY – Belarus,** Minsk

Tel: +375 17 209 9399  
parker.belarus@parker.com

**CH – Switzerland,** Etoy

Tel: +41 (0)21 821 87 00  
parker.switzerland@parker.com

**CZ – Czech Republic,** Klecany

Tel: +420 284 083 111  
parker.czechrepublic@parker.com

**DE – Germany,** Kaarst

Tel: +49 (0)2131 4016 0  
parker.germany@parker.com

**DK – Denmark,** Ballerup

Tel: +45 43 56 04 00  
parker.denmark@parker.com

**ES – Spain,** Madrid

Tel: +34 902 330 001  
parker.spain@parker.com

**FI – Finland,** Vantaa

Tel: +358 (0)20 753 2500  
parker.finland@parker.com

**FR – France,** Contamine s/Arve

Tel: +33 (0)4 50 25 80 25  
parker.france@parker.com

**GR – Greece,** Athens

Tel: +30 210 933 6450  
parker.greece@parker.com

**HU – Hungary,** Budaörs

Tel: +36 23 885 470  
parker.hungary@parker.com

**IE – Ireland,** Dublin

Tel: +353 (0)1 466 6370  
parker.ireland@parker.com

**IT – Italy,** Corsico (MI)

Tel: +39 02 45 19 21  
parker.italy@parker.com

**KZ – Kazakhstan,** Almaty

Tel: +7 7273 561 000  
parker.easteurope@parker.com

**NL – The Netherlands,** Oldenzaal

Tel: +31 (0)541 585 000  
parker.nl@parker.com

**NO – Norway,** Asker

Tel: +47 66 75 34 00  
parker.norway@parker.com

**PL – Poland,** Warsaw

Tel: +48 (0)22 573 24 00  
parker.poland@parker.com

**PT – Portugal,** Leca da Palmeira

Tel: +351 22 999 7360  
parker.portugal@parker.com

**RO – Romania,** Bucharest

Tel: +40 21 252 1382  
parker.romania@parker.com

**RU – Russia,** Moscow

Tel: +7 495 645-2156  
parker.russia@parker.com

**SE – Sweden,** Spånga

Tel: +46 (0)8 59 79 50 00  
parker.sweden@parker.com

**SL – Slovenia,** Novo Mesto

Tel: +386 7 337 6650  
parker.slovenia@parker.com

**TR – Turkey,** Istanbul

Tel: +90 216 4997081  
parker.turkey@parker.com

**UA – Ukraine,** Kiev

Tel: +380 44 494 2731  
parker.poland@parker.com

**UK – United Kingdom,** Warwick

Tel: +44 (0)1926 317 878  
parker.uk@parker.com

**ZA – South Africa,** Kempton Park

Tel: +27 (0)11 961 0700  
parker.southafrica@parker.com

## North America

**CA – Canada,** Milton, Ontario

Tel: +1 905 693 3000

**US – USA,** Cleveland

Tel: +1 216 896 3000

## Asia Pacific

**AU – Australia,** Castle Hill

Tel: +61 (0)2-9634 7777

**CN – China,** Shanghai

Tel: +86 21 2899 5000

**HK – Hong Kong**

Tel: +852 2428 8008

**IN – India,** Mumbai

Tel: +91 22 6513 7081-85

**JP – Japan,** Tokyo

Tel: +81 (0)3 6408 3901

**KR – South Korea,** Seoul

Tel: +82 2 559 0400

**MY – Malaysia,** Shah Alam

Tel: +60 3 7849 0800

**NZ – New Zealand,** Mt Wellington

Tel: +64 9 574 1744

**SG – Singapore**

Tel: +65 6887 6300

**TH – Thailand,** Bangkok

Tel: +662 186 7000

**TW – Taiwan,** Taipei

Tel: +886 2 2298 8987

## South America

**AR – Argentina,** Buenos Aires

Tel: +54 3327 44 4129

**BR – Brazil,** Sao Jose dos Campos

Tel: +55 12 4009 3500

**CL – Chile,** Santiago

Tel: +562 2303 9640

**MX – Mexico,** Toluca

Tel: +52 72 2275 4200

European Product Information Centre

Free phone: 00 800 27 27 5374

(from AT, BE, CH, CZ, DE, DK, EE, ES, FI,  
FR, IE, IL, IS, IT, LU, MT, NL, NO, PL, PT, RU,  
SE, SK, UK, ZA)

### Parker Hannifin Ltd.

Tachbrook Park Drive  
Tachbrook Park,  
Warwick, CV34 6TU  
United Kingdom  
Tel.: +44 (0) 1926 317 878  
Fax: +44 (0) 1926 317 855  
parker.uk@parker.com  
www.parker.com

