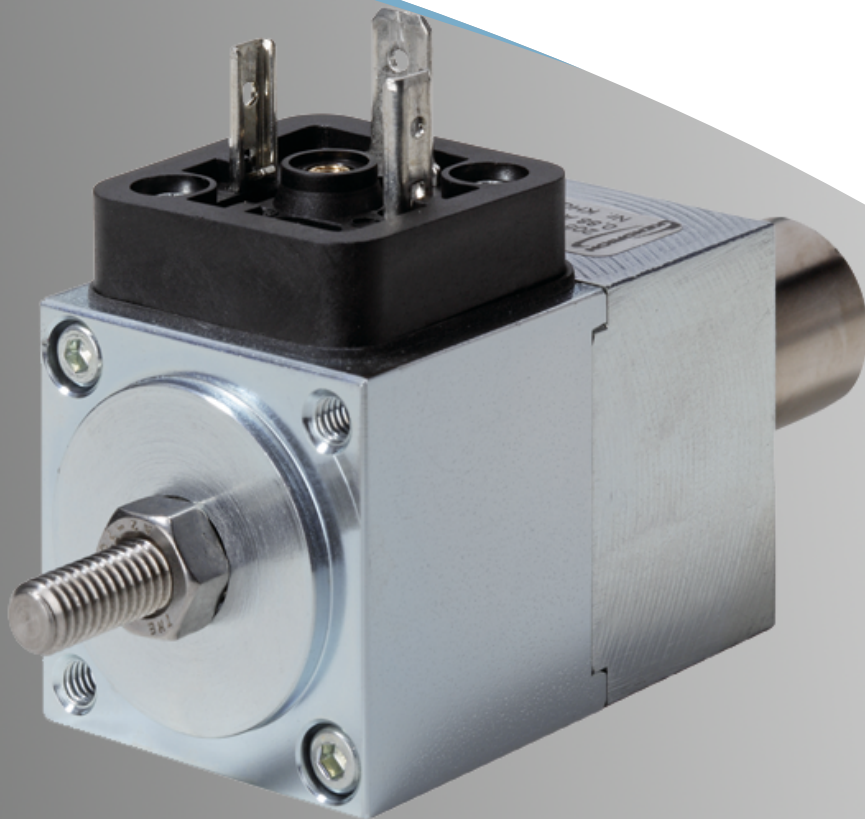




WE MAGNETISE THE WORLD

INDUSTRIAL MAGNETIC SYSTEMS



High Performance Line

**High Performance Direct-Acting Solenoids
Design: Square**

BINDER



WE MAGNETISE THE WORLD



Kendrion N.V. is one of the leading manufacturers of solenoids and electromagnetic components worldwide.

Consisting of the four business units Industrial Magnetic Systems, Commercial Vehicle Systems, Industrial Drive Systems and Passenger Car Systems, Kendrion guarantees solution-oriented customer care. The company excels in innovative capability and maximum productivity.

Over the years Kendrion has integrated the brands Binder, Magnet AG, Neue Hahn Magnet, Thoma Magnettechnik, Linnig Antriebstechnik, Tri Tech LLC, Magneta and FAS Controls.

Our business unit Industrial Magnetic Systems develops, manufactures and distributes linear-, holding-, locking-, spreading-, control-, rotary- and vibrator solenoids as well as solenoid valves for industrial applications worldwide.

The strengths of Kendrion lie both in the area of standard applications and in the area of customer-specific solutions and applications.

With our technological know-how we ensure that your application will run smoothly.

All products are tested and developed according to DIN VDE 0580/ 07.2000. Kendrion Magnettechnik GmbH is a company certified according to ISO 9001:2008.

The main locations are in Donaueschingen (D) and Engelswies (D). Further locations are in Hausen am Albis (CH), Linz (A), Bradford (UK), Suzhou (CN), Mishawaka (USA) and Turin (I).

With our global distribution network we are available for our customers at any time and will be pleased to advise you.

Our products are used in almost all industrial areas. To name a few:

- Machine building
- Safety engineering
- Transportation industry
- Medical engineering
- Power engineering
- Environmental technology
- Elevator industry
- Automation

Your industry is not listed? We are sure to have an optimum solution.

Wherever innovations and new approaches are required our staff will be happy to assist you.

Contact us. We're looking forward to assisting you!

Sales Hotline +49 (0) 771 8009 3770

Please find detailed performance data in our product catalogues, with the help of our experts or by our product finder on:

www.kendrion.com





Product Line

Description

High Performance Line

The square solenoids of the Kendrion High Performance Line excel by an enormous stroke density and a flexible modular system.

These solenoids are used wherever large forces, short duty cycles and high efficiency with limited installation space are required. They fulfil the special requirements when used in high voltage circuit breakers and railway door lockings as well as in general actuating functions in automation and medical engineering. The mode of operation of the solenoid is based on the force exerted on ferromagnetic bodies in the magnetic field. Electromagnets transform electric energy into mechanical kinetic energy.

Basically the stroke movement takes place from the stroke starting position to the stroke end position (active direction of movement), while the armature reset is accomplished by external forces, e.g. by spring, weight or magnetic forces (passive direction of movement). In this product line the reset can optionally be performed by an integrated reset spring. The solenoid armature is reset to the starting position.

The actuating solenoids mentioned above are actuators in which the force of an electromagnetic field is used to perform a longitudinal movement. The stroke limitation can be set by hand for every application. The solenoids can be installed in any position, but the force transfer should be in axial direction only.

The magnetic forces indicated are reached at 90% of the nominal voltage and in warmed-up condition. The values for the duty cycles apply for nominal voltage, warmed-up condition and load with 70% of the magnetic force of the device.

All products are manufactured and tested according to DIN VDE 0580/07.2000.

The High Performance Line can be supplemented by our accessories, e.g. the box mounting receptacles GD 311 (3 pin) and GDSB 211 (3 pin with integrated bridge rectifier).

Please see our product catalogue for further accessories.

Design subject to change.



Single-Stroke Solenoid - Square

A closer look reveals the benefits of this solenoid product line. The designers of these compact, square solenoids aimed at meeting the current technical requirements of the market as comprehensively as possible.

This is true for the dynamic features with respect to shorter response times and higher forces required, miniaturization and the ever increasing price pressure. The solenoids switch and send impulses, lock and unlock, open and close contacts and do much more

Model

Solenoid – protection class IP40
Sealing ring / bellow – protection class IP54
Connection with connector plug – protection class IP65
Standard nominal voltage = 24 V DC / 205 V DC
Standard duty cycle = 100% ED

Installation Notes

Installation on front end via two threaded holes
Any mounting position desired
Horizontal or vertical / force transfer axial

Accessories

Connector with or without rectifier
Fork head with or without ES-bolt

Technical Data

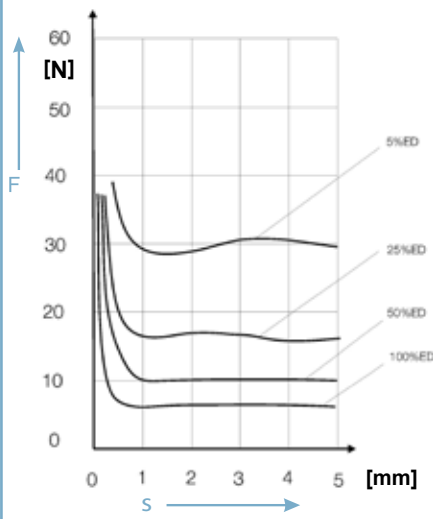
Designation	LHP025055							
Duty cycle [%]	100		40		25		5	
Stroke [mm]	5	10	5	10	5	10	5	10
Response time [ms]	57	74.8	56.4	76.4	98.2	115.2	73.4	88.8
Release time [ms]	37	48.4	36.4	46.4	34.2	42.8	30	39.8
Stroke movement [Ncm]	2.9	3.4	4.7	5	7.2	8.5	14	14.7
Rated power [W]	11		20.7		25.1		82.7	
Armature weight [kg]	0.035							
Solenoid weight [kg]	0.23							
Thermal class	F							

Designation	LHP035053															
Duty cycle [%]	100				40				25				5			
Stroke [mm]	5	10	15	20	5	10	15	20	5	10	15	20	5	10	15	20
Response time [ms]	107	109.5	137.5	143.5	90.5	107.2	124	141	99	107	159.5	177	92.5	107	159.5	177
Release time [ms]	49	64	82	93	40.2	56.4	74.5	88	39	58.5	78.5	85	46.4	58.5	78.5	85
Stroke movement [Ncm]	13	11	11.2	9	20	20	19.5	19	23	23.5	25.5	25	42	47.5	55.5	54
Rated power [W]	20				39.5				57.5				173.5			
Armature weight [kg]	0.11															
Solenoid weight [kg]	0.45															
Thermal class	F															

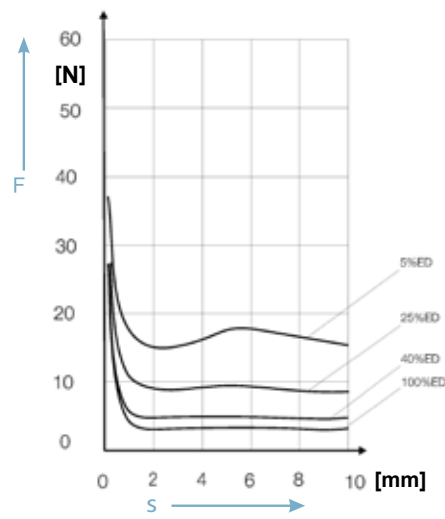
Stroke Force Characteristic Curves $F = f(s)$

LHP025055

Stroke: 5 mm



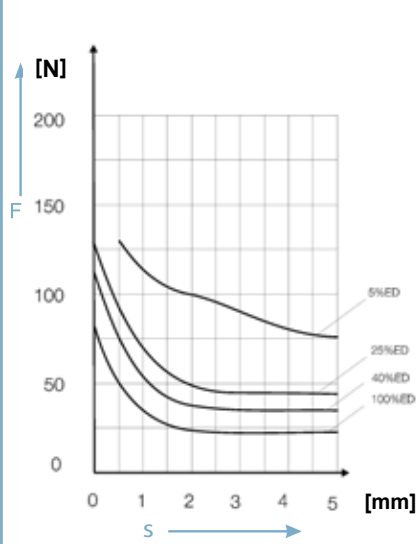
Stroke: 10 mm



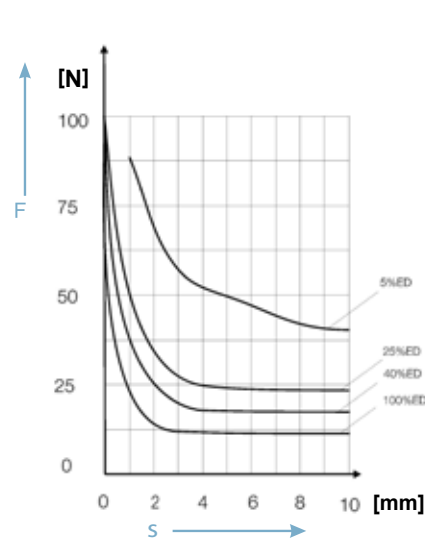
Duty cycle (ED)

LHP035053

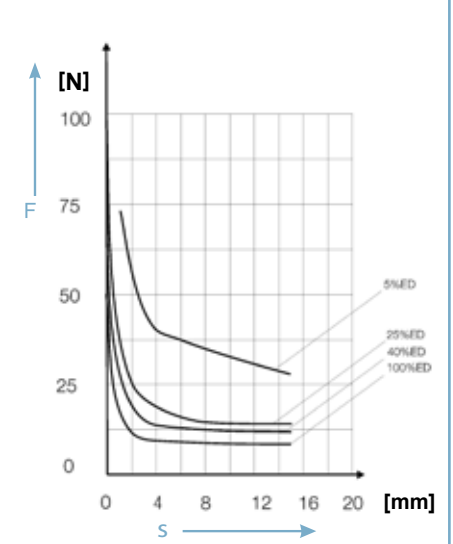
Stroke: 5 mm



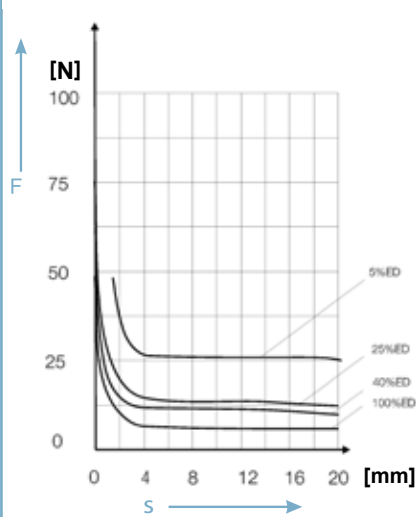
Stroke: 10 mm



Stroke: 15 mm






Stroke: 20 mm











Duty cycle (ED)

You have not found a suitable product? – Have a look at our complete product range.



Special Developments

	<p>Customer-Specific Solutions</p> <p>With our many years of product experience, our large product portfolio and our modern manufacturing methods we guarantee you first-class products.</p> <ul style="list-style-type: none"> ▪ Switchgear engineering ▪ Medical engineering ▪ Safety engineering ▪ Sorting technology ▪ Environmental technology ▪ Special engineering ▪ Beverage dispensing ▪ Control technology 	
	<p>We develop special linear solenoids, rotary solenoids, combined lifting/holding systems, solenoid valves as well as coils and components for a wide range of industries:</p>	



Hubmagnete

	<p>Classic Line</p> <ul style="list-style-type: none"> ▪ Direct acting solenoids ▪ Monostable direct acting solenoids 	<p>High Performance Line</p> <ul style="list-style-type: none"> ▪ High performance direct acting solenoids 	
	<p>High Power Line</p> <ul style="list-style-type: none"> ▪ Direct acting solenoids ▪ Reversible solenoids 	<p>Control Power Line</p> <ul style="list-style-type: none"> ▪ Control solenoids 	
	<p>Elevator Line</p> <ul style="list-style-type: none"> ▪ Single-acting spreader solenoids ▪ Double-acting spreader solenoids 	<p>ATEX Line</p> <ul style="list-style-type: none"> ▪ Explosion-proof direct acting solenoids 	
	<p>Locking Line</p> <ul style="list-style-type: none"> ▪ Locking solenoids 	<p>System Line</p> <ul style="list-style-type: none"> ▪ AC solenoids 	

Holding Solenoids

	<p>HAHN CQ^{LINE}</p> <ul style="list-style-type: none"> ▪ Door holding solenoids 	<p>Industrial Line</p> <ul style="list-style-type: none"> ▪ Electromagnetic holding solenoids ▪ Permanent magnetic holding solenoids 	
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Oscillating Solenoids

	<p>Oscillating Line</p> <ul style="list-style-type: none"> ▪ Shaker solenoids ▪ Arc vibrators ▪ Inline vibrators ▪ Linear vibrators 	
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