

Diaphragm type chemical seal

"Quick coupling"

Process connection : union nut
or thread neck to DIN 11 851,
SMS-, IDF-, APV/RJT-Norm
or clamp



Description

Chemical seals are used when media can falsify the pressure measurements due to high temperature, high viscosity (media in paste form) or their propensity to crystallise.

Chemical seals transmit the process pressure to the measuring instrument, with the diaphragm forming a hermetic seal between the medium and measuring instrument.

Hygiene regulations, such as those in the pharmaceuticals or food and beverages industries, which require cleaning of measuring point so as to leave no residue and thus ensure a sterile process sequence, can be fulfilled by the use of a chemical seal in "Quick coupling" design.

The design ensures that the process connection can be easily and rapidly released and the pressure chamber easily cleaned.

The parts of these chemical seals in contact with the medium are manufactured in stainless steel as standard. In connection with a Bourdon tube pressure gauge or a transducer, they are suitable for pressure ranges from 0...0.6 bar to 0...40 bar.

The medium wetted parts can be manufactured in special materials for particular service conditions.

The liquid used to transmit the process pressure to the measuring instrument is foodstuff compatible.

Features

- o Various process connections
- o Quick coupling
- o Flush diaphragm at the front
- o Foodstuffs compatible filling liquids
- o Special materials for extreme service requirements

Pressure ranges

0 ... 0.6 bar to 0 ... 40 bar

Rated pressure










max. PN 40

Applications

Pharmaceutical, food and beverage industries,
Plant and apparatus construction,
Process engineering

Models: P3010, P3011, P3012,
P3013, P3014, P3015,
P3016, P3017, P3018

Technical data

Models	P3010	P3012	P3014	P3016	Options
Process connection with union nut	 DIN 11851 DN 25; DN 32; DN 40; DN 50;	 SMS 1½" 2"	 IDF 1½" 2"	 APV/RJT 1½" 2"	Others on request
Models	P3011	P3013	P3015	P3017	
Process connection with thread neck	 DIN 11851 DN 25; DN 32; DN 40; DN 50;	 SMS 1½" 2"	 IDF 1½" 2"	 APV/RJT 1½" 2"	
Models	P3018				
Process connection clamp	 Clamp 1½" 2" 2 ½" 3"				
Instrument connection Female thread to DIN 16288	G ¼ with DN25 G ½ with DN32 to DN50 and 1½" to 2"	G ½		G ¼, Capillary welded with body and gauge adapter for gauge mounting bracket completely stainless steel; Cooling element (with direct mounting and temperature > 100°C)	
Upper body	Stainless steel 1.4571			Stainless steel 1.4404; 1.4435; 1.4541; Hastelloy B2, C4, C276; Monel 400; Nickel	
Diaphragm	Stainless steel 1.4571, welded with upper body			Stainless steel 1.4404; 1.4435; 1.4541; Hastelloy B2, C4, C276; Monel 400; Nickel	
Sealing ring	NBR (Perbunan) Only model P3010 to DIN 11851			PTFE Only model P3010 to DIN 11851	
Filling liquid	Glycerine/water, FFL-Nr. 6			Others available in consideration of process conditions	
Operating temperature	Tmin -10°C Tmax 120°C			Tmin -10°C Tmax 250°C	

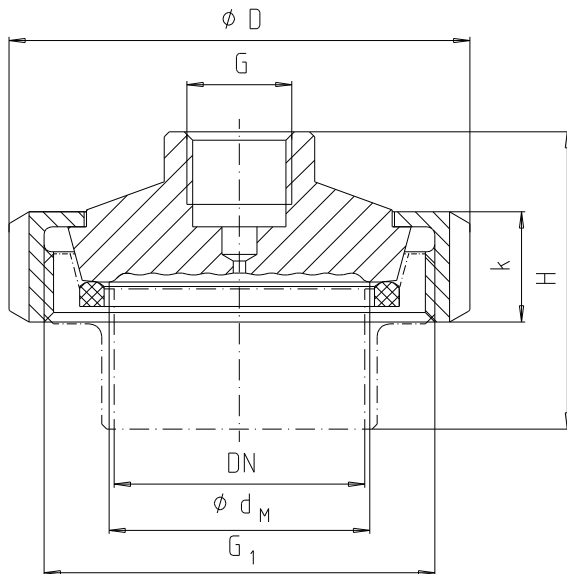
Important notes on the selection of chemical seals

The process pressure to be measured is applied to the measuring instrument by the chemical seal with the aid of a liquid. The chemical seal and measuring instrument can be connected together by capillary lines (length up to max. 15 m) for system related reasons and in order to prevent the exposure of measuring instruments to impermissibly high temperatures. The temperature drop between the instrumentation and control unit and the chemical seal can be several 100° C. Measuring errors resulting from temperature are therefore possible and may be of a magnitude several times the accuracy of the measuring instrument. The particular operating conditions can be taken into account in the manufacture of I&C device-chemical seal combinations.

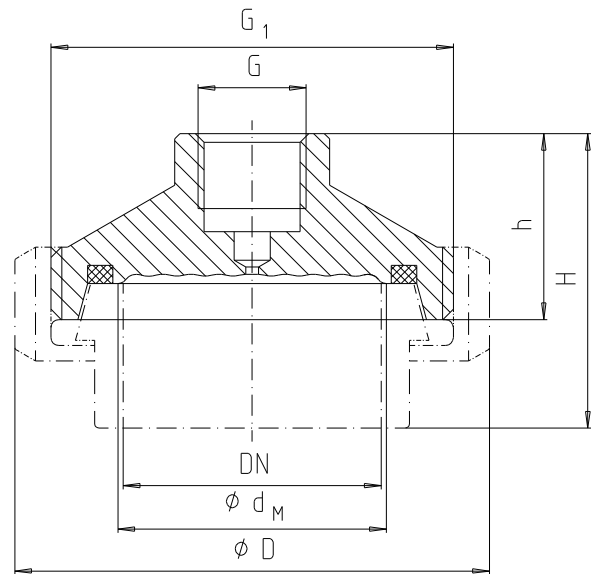
Matching of the chemical seal and pressure measuring instrument therefore requires expertise, and we shall be pleased to assist you. We recommend you to request our special questionnaire on service conditions and order data.

Dimensions (mm)

with union nut
Models P3010, P3012, P3014, P3016



with thread neck
Models P3011, P3013, P3015, P3017



Union nut	DN 1)	PN	Dimensions (mm)							Weight (kg)
			d_M	D	$H_{ca.}$	$h_{ca.}$	k	G_1	G_2	
DIN 11851 Model P3010	25	40	25	63	60	-	21	$G \frac{1}{4}$	Rd 52 x 1/6	0.40
	32	40	32	70	69	-	21	$G \frac{1}{2}$	Rd 58 x 1/6	0.50
	40	40	40	78	55	-	21	$G \frac{1}{2}$	Rd 65 x 1/6	0.75
	50	25	52	92	59	-	22	$G \frac{1}{2}$	Rd 78 x 1/6	0.80
SMS-Norm Model P3012	1½"	40	40	74	51	-	25	$G \frac{1}{2}$	Rd 60 x 1/6	0.75
	2"	40	52	84	51	-	26	$G \frac{1}{2}$	Rd 70 x 1/6	0.90
IDF-Norm Model P3014	1½"	40	32	64	53	-	30	$G \frac{1}{2}$	1½" IDF	0.70
	2"	40	52	79	53	-	30	$G \frac{1}{2}$	2" IDF	0.85
APV/RJT-Norm Model P3016	1½"	40	32	72	60	-	21	$G \frac{1}{2}$	2 5/16 x 8"	0.77
	2"	40	40	86	65	-	22	$G \frac{1}{2}$	2 7/8 x 6"	0.86

Effective diaphragm $\phi = d_M$

Thread neck	DN 1)	PN	Dimensions (mm)							Weight (kg)
			d_M	D	$H_{ca.}$	$h_{ca.}$	k	G_1	G_2	
DIN 11851 Model P3011	25	40	25	63	60	44	-	$G \frac{1}{4}$	Rd 52 x 1/6	0.50
	32	40	32	70	55	36	-	$G \frac{1}{2}$	Rd 58 x 1/6	0.60
	40	40	40	78	55	36	-	$G \frac{1}{2}$	Rd 65 x 1/6	0.85
	50	25	52	92	57	36	-	$G \frac{1}{2}$	Rd 78 x 1/6	0.90
SMS-Norm Model P3013	1½"	40	40	74	61	38	-	$G \frac{1}{2}$	Rd 60 x 1/6	0.90
	2"	40	52	84	61	38	-	$G \frac{1}{2}$	Rd 70 x 1/6	1.00
IDF-Norm Model P3015	1½"	40	32	64	63	40	-	$G \frac{1}{2}$	1½" IDF	0.73
	2"	40	52	79	63	40	-	$G \frac{1}{2}$	2" IDF	0.88
APV/RJT-Norm Model P3017	1½"	40	32	72	60	35	-	$G \frac{1}{2}$	2 5/16 x 8"	0.85
	2"	40	52	86	65	35	-	$G \frac{1}{2}$	2 7/8 x 6"	1.10

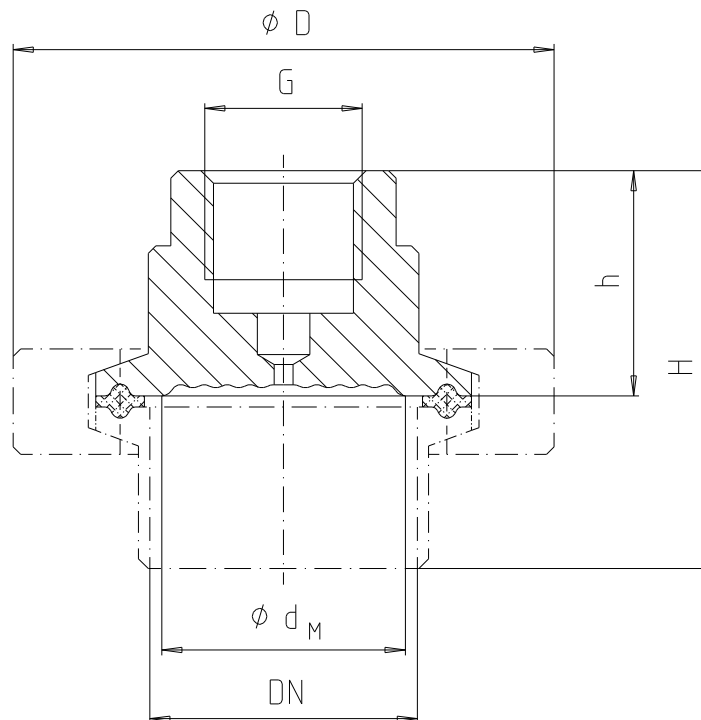
Effective diaphragm $\phi = d_M$

1) The dash dotted screwed connections in the dimensional drawings are available on request.

Dimensions (mm)

Clamp connection

Model P3018



Clamp	DN 1)	PN	Dimensions (mm)					Weight (kg)
			d_M	$D_{ca.}$	$H_{ca.}$	$h_{ca.}$	G	
Model P3018	1½"	40	32	60	58	35	G ½	0.60
	2"	40	40	75	58	35	G ½	0.75
	2½"	25	52	82	65	35	G ½	0.95
	3"	25	72	104	65	35	G ½	1.30

Effective diaphragm $\phi = d_M$

1) The dash dotted screwed connections in the dimensional drawings are available on request.

Ordering details :

Model / process connection (Size / Norm) / Material (wetted parts) / Instrument connection / Filling liquid / Installation at pressure gauge / Process conditions as per questionnaire.