

## Diaphragm type chemical seal

### Miniature diaphragm seal with process connection

**Process connection : thread, rigid  
or turning nipple**



### 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.

Aggressive or crystallizing media or media containing solids cannot penetrate into the measuring system.

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

With its compact dimensions, this chemical seal is suitable for solutions of simple measuring problems in constricted spaces in conjunction with Bourdon tube pressure gauges.

The diaphragm, mounted flush at the front, is welded to the chemical seal body. The components in the standard version are manufactured from stainless steel 1.4571.

The parts in contact with the medium can be manufactured in special materials for particular service conditions.

### Features

- o Compact dimensions
- o Various process connections
- o Flush diaphragm at the front
- o For media up to 400°C
- o Special materials for extreme service requirements

### Pressure ranges

0 ... 10 bar to 0 ... 600 bar

### Rated pressure



max. PN 600

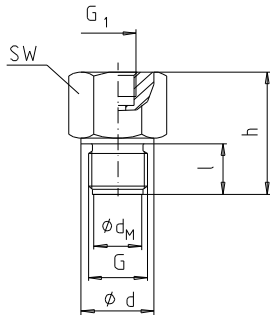
### Applications

Plant and apparatus construction,  
Process engineering,  
Chemicals and petrochemicals industries

**Model: P3025**

## Technical data

Models	P3025	P3025	Options
Process connection	 G ½ B G ¾ B G ¾ B running nut G 1 B running nut	 G 1 B G 1½ B	Others on request
Thread	Stainless steel 1.4571 Male thread, rigid turning nipple		
Instrument connection	G ¼ female thread to DIN 16 288	G ½ female thread to DIN 16 288	Capillary welded with upper body and connection for instrument mounting bracket completely of stainless steel; Cooling element (for directly mounted gauge when process temperature > 100°C)
Diaphragm	Stainless steel 1.4571, welded with upper body		Special materials on request
Filling liquid	Glycerine/water, FFL-Nr. 6		Others available in consideration of process conditions
Operating temperature	Tmin -10°C Tmax +120°C		Tmin -40°C Tmax +300°C

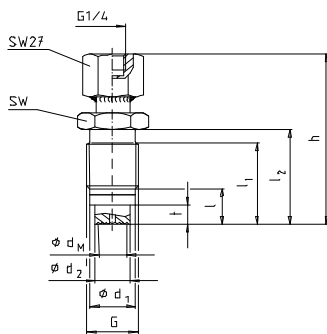


Thread rigid

G	PN	Dimensions [mm]					
		d <sub>M</sub>	G <sub>1</sub>	SW	d	l	h
G ½ B	600	17	G ¼	30	26	20	48
G ¾ B	600	22	G ¼	32	32	20	45
G 1 B	600	25	G ½	41	39	28	64
G 1½ B	600	40	G ½	55	60	30	50

Effective diaphragm = d<sub>M</sub>

Turning nipple



G	PN	Dimensions [mm]								
		d <sub>M</sub>	d <sub>1</sub>	d <sub>2</sub>	h	SW	t	l	l <sub>1</sub>	l <sub>2</sub>
G ¾ B	600	17	23.5	18	104	32	12	22	50	58
G 1 B	600	22	29.5	23.5	181	41	25	34	75.5	111

Effective diaphragm = d<sub>M</sub>

### 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.