



## MODELLO MTIR100SCLAMP

### MODEL MTIR100SCLAMP

#### CODICE

CODE

MTIR100SCLAMPG1/2

0/10

B

1

2

3



#### 1 CONNESSIONE AL PROCESSO

PROCESS CONNECTION

|                     | Codice/Code |
|---------------------|-------------|
| 1/2" gas cilindrico | G1/2        |
| 1/2" gas conico     | R1/2        |
| 1/2" NPT            | N1/2        |
| Altro/Another       | *           |

#### 3 UNITÀ DI MISURA

UNIT

|                    | Codice/Code        |
|--------------------|--------------------|
| Bar                | B                  |
| Bar/Psi            | B/P                |
| Psi                | P                  |
| Kpa                | K                  |
| Mpa                | M                  |
| Kg/cm <sup>2</sup> | KG/CM <sup>2</sup> |
| Altro / Another    | *                  |

#### 2 SCALA

RANGE

#### SCALA

RANGE

| RANGE     | Codice Code | RANGE           | Codice Code |
|-----------|-------------|-----------------|-------------|
| -1... 0   | -1/0        | 0... 12         | 0/12        |
| -1... 0.6 | -1/0.6      | 0... 16         | 0/16        |
| -1... 1.5 | -1/1.5      | 0... 20         | 0/20        |
| -1... 3   | -1/3        | 0... 25         | 0/25        |
| -1... 5   | -1/5        | 0... 40         | 0/40        |
| -1... 9   | -1/9        | 0... 60         | 0/60        |
| -1... 15  | -1/15       | 0... 100        | 0/100       |
| -1... 24  | -1/24       | 0... 160        | 0/160       |
| 0... 0.6  | 0/0.6       | 0... 200        | 0/200       |
| 0... 1    | 0/1         | 0... 250        | 0/250       |
| 0... 1.6  | 0/1.6       | 0... 315        | 0/315       |
| 0... 2.5  | 0/2.5       | 0... 400        | 0/400       |
| 0... 4    | 0/4         | 0... 600        | 0/600       |
| 0... 6    | 0/6         | 0... 1000       | 0/1000      |
| 0... 10   | 0/10        | Altro / Another |             |

Manometro a molla bourdon con separatore a membrana con attacco CLAMP

Diametro cassa: 100 mm

Esecuzione: Radiale

Normativa: EN 837-1

Classe di precisione: 1%

Attacco al processo: Acciaio Inox 316L

Elemento di misura: Acciaio Inox 316L

Movimento: Acciaio Inox 316L

Quadrante: In alluminio a fondo bianco, numerazione in nero con fermo sullo zero

Indice: in alluminio di colore nero

Trasparente: Vetro multistrato di sicurezza

Materiale della cassa e anello: Acciaio Inox

Foro di scarico posteriore

Bourdon tube pressure gauge with membrane separators for hygienic applications

Nominal Size: 100 mm

Bottom

Design: EN 837-1

Accuracy Class: 1%

Process connection: Stainless Steel 316L

Pressure element: Stainless Steel 316L

Moviment: Stainless Steel 316L

Dial: White aluminium with black marks

Black anodized aluminium

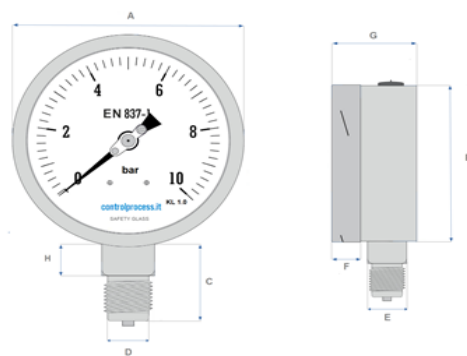
Window: Safety Glass

Case and Ring: Stainless Steel

With blow-out device at case circumference and on the back of the case



## MODELLO MTIR100SCLAMP MODEL MTIR100SCLAMP



| +/- 0.1 | A     | B    | C  | D     | E     | F   | G    | H  |
|---------|-------|------|----|-------|-------|-----|------|----|
| DN40    | 46.9  | 41   | 22 | 9.55  | 10.9  | 4.7 | 25.6 | 12 |
| DN50    | 57.6  | 50.9 | 29 | 12.95 | 13.95 | 6.3 | 29.6 | 16 |
| DN63    | 68    | 61.8 | 29 | 12.95 | 13.95 | 6.3 | 29.6 | 16 |
| DN100   | 100.8 | 98.5 | 41 | 20.8  | 22    | 17  | 48.7 | 20 |
| DN160   | 160   | 158  | 44 | 20.8  | 22    | 17  | 49.8 | 20 |

| CONDIZIONI DI ESERCIZIO                                                                                                     | OPERATING CONDITIONS                                                                                      |
|-----------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|
| Temperatura ambiente: -30 ... +60°C                                                                                         | Ambient Temperature: -30 ... +60°C                                                                        |
| Temperatura fluido di processo: -30 ... +120°C                                                                              | Process fluid temperature: -30 ... +120°C                                                                 |
| Deriva termica: massimo $\pm 0.3\%$ dell'ampiezza di campo ogni 10°C di differenza dalla temperatura di riferimento di 20°C | Thermal drift: maximum $\pm 0.3\%$ of span every 10°C of deviation from the reference temperature of 20°C |
| Pressione d'esercizio costante: 75% del fondo scala                                                                         | Operating pressure constant: 75% del F.S.V.                                                               |
| Pressione d'esercizio variabile: 60% del fondo scala                                                                        | Operating pressure changeable: 60% F.S.V.                                                                 |
| Sovrapressione fino a 60 bar: 25% del fondo scala                                                                           | Overpressure up to 60 bar: 25% F.S.V.                                                                     |
| Sovrapressione > 100 bar: 15% del fondo scala                                                                               | Overpressure from > 100 bar: 15% F.S.V.                                                                   |
| Grado di protezione IP65 conforme EN 60529 / IEC 60529                                                                      | Protection EN 60529 / IEC 60529 IP65                                                                      |

### OPZIONI

- Materiale Cassa e Anello in AISI 316L
- Flangia a 3 fori in Acciaio Inox

### OPTION

- Case and Ring material AISI 316 L
- Front Flange 3 hole Stainless Steel

## CERTIFICAZIONI

### CERTIFICATE

- **Certificato di taratura conforme a ISO/IEC 17025 3.1b**  
Calibration report ISO / IEC 17025 3.1b
- **Certificato taratura organismo accreditato nazionale**  
National Accredited Calibration Certificate
- **Certificato origine camera commercio**  
Certificate of origin Chamber of Commerce
- **Certificazione di prova 2.2 conforme EN 10204 (produzione stato dell'arte, precisione indicazione)**  
Certificate 2.2 EN 10204
- **Certificazione 3.1 conforme ad EN 10204 (cert. Materiale)**  
Certificate 3.1 EN 10204 (material certificate)



# Diaphragm seals for hygienic applications

## Main Features

- Stainless steel 1.4404/1.4435 (316L)
- Hygienic connection according to several standards
- Sterilization in place (SIP)

- Cleaning in place (CIP)
- 3A
- FDA conform

## Applications

- Food and Beverage
- Laboratory and Medical

## Technical Data

This diaphragm seals are used to design hygienic process connections for pressure gauges and to protect pressure gauges from high temperatures and aggressive process fluids.

Hygienic process connections with flush diaphragm ensure efficient cleaning processes and avoid pollutions and developing of bacterias in hygienic production processes.

Diaphragm seals can be mounted to mechanical pressure gauges, switches or transmitters directly or with a flexible capillary. The filling fluid of the measuring system has to be chosen compatible to the application. For hygienic applications a choice of FDA conform filling fluids are available.

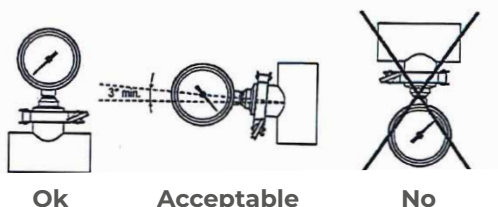
Pressure gauges and transmitters assembled with diaphragm seals can be ordered with 3A approval and marking (option 1985).

|                      |                                                                                                                                                                            |
|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Min. pressure ranges | see table on page 4                                                                                                                                                        |
| Max. pressure        | 25 bar (DANC)<br>40 bar (others)                                                                                                                                           |
| Body material        | Stainless Steel 1.4404 (AISI 316L)                                                                                                                                         |
| Diaphragm            | Stainless Steel 1.4435 (AISI 316L)<br>Option: Hastelloy C276 (2.4819)                                                                                                      |
| Surface roughness    | Wetted parts $Ra \leq 0.8 \mu m$<br>Option: $Ra \leq 0.4 \mu m$ (welding $Ra \leq 0.8 \mu m$ )                                                                             |
| Approvals            | 3A (option 1985)<br>Available for diaphragm seals assembled with;<br>-Pressure gauges MEX, MIX, MMX, MEP or Pressure switches TED/YTED including 3A marking of the product |
| Working temperature  | -20... 225 °C (depending on the filling fluid)                                                                                                                             |
| Filling Fluid        | LRS1: Vaseline (-15... 150 °C, FDA conform)<br>LRS10: Vaseline (-20... 225 °C, FDA conform)<br>other filling fluids on request                                             |
| Gaskets              | Not included                                                                                                                                                               |

## 3A

- 3A option is not available with cooling element
- Only available with transmission fluid LRS1 or LRS10
- Only available with damping fluid H1, BH2 or BH10 in the pressure gauge
- Pressure gauges mounted on hygienic seals must have laminated safety glass (0751) or Polycarbonate window (0753)

- Gaskets must be self centering and in accordance with 3A material requirements
- Mounting must be self draining and as short as possible (see drawings)
- Welding to the piping should have a roughness  $Ra \leq 0.8 \mu m$



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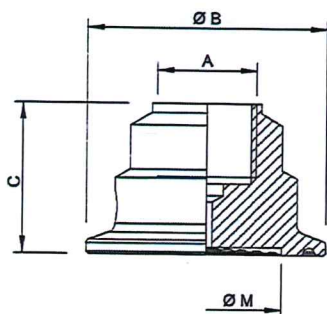
email: [info@controlprocess.it](mailto:info@controlprocess.it)



# Diaphragm seals for hygienic applications

## Dimensions - Types of mounting

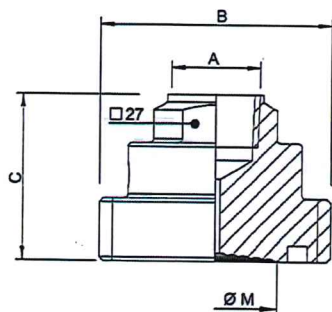
### CLAMP



| CODE     | DN              | A            | ØB   | C                 | ØM | WEIGHT KG |
|----------|-----------------|--------------|------|-------------------|----|-----------|
| SCLAMP07 | DN 25 ISO 2852  | G1/2 or G1/4 | 50.5 | 32 <sup>(1)</sup> | 19 | 0.20      |
| SCLAMP01 | DN 38 ISO 2852  | G1/2 or G1/4 | 50.5 | 32 <sup>(1)</sup> | 32 | 0.20      |
| SCLAMP02 | DN 51 ISO 2852  | G1/2 or G1/4 | 64   | 32 <sup>(1)</sup> | 45 | 0.32      |
| SCLAMP03 | DN 25 DIN 32676 | G1/2 or G1/4 | 50.5 | 32 <sup>(1)</sup> | 19 | 0.20      |
| SCLAMP10 | DN 40 DIN 32676 | G1/2 or G1/4 | 50.5 | 32 <sup>(1)</sup> | 32 | 0.20      |
| SCLAMP13 | DN 50 DIN 32676 | G1/2 or G1/4 | 64   | 32 <sup>(1)</sup> | 45 | 0.32      |

<sup>(1)</sup>C=30 with instrument connection A = G 1/4

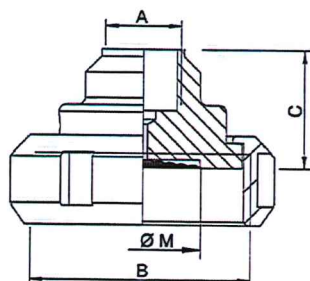
### SMS 1147 with thread



| CODE   | DN             | A            | B           | C                 | ØM | WEIGHT KG |
|--------|----------------|--------------|-------------|-------------------|----|-----------|
| SSMS09 | DN 25 SMS 1147 | G1/2 or G1/4 | Rd 40 x 1/6 | 43 <sup>(1)</sup> | 19 | 0.35      |
| SSMS11 | DN 38 SMS 1147 | G1/2 or G1/4 | Rd 60 x 1/6 | 43 <sup>(1)</sup> | 32 | 0.52      |
| SSMS14 | DN 51 SMS 1147 | G1/2 or G1/4 | Rd 70 x 1/6 | 43 <sup>(1)</sup> | 45 | 0.65      |

<sup>(2)</sup>C=41 with instrument connection A = G 1/4

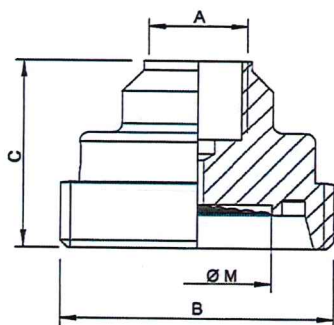
### SMS 1147 with nut



| CODE    | DN             | A            | B           | C                 | ØM | WEIGHT KG |
|---------|----------------|--------------|-------------|-------------------|----|-----------|
| SSMSN09 | DN 25 SMS 1147 | G1/2 or G1/4 | Rd 40 x 1/6 | 35 <sup>(3)</sup> | 19 | 0.31      |
| SSMSN11 | DN 38 SMS 1147 | G1/2 or G1/4 | Rd 60 x 1/6 | 33 <sup>(3)</sup> | 32 | 0.55      |
| SSMSN14 | DN 51 SMS 1147 | G1/2 or G1/4 | Rd 70 x 1/6 | 33 <sup>(3)</sup> | 45 | 0.76      |

<sup>(3)</sup>C=28 with instrument connection A = G 1/4

### DIN 11851 with thread



| CODE         | DN              | A            | B           | C                 | ØM | WEIGHT KG |
|--------------|-----------------|--------------|-------------|-------------------|----|-----------|
| SDIN11851 06 | DN 25 DIN 11851 | G1/2 or G1/4 | Rd 52 x 1/6 | 40 <sup>(4)</sup> | 19 | 0.31      |
| SDIN11851 03 | DN 32 DIN 11851 | G1/2 or G1/4 | Rd 58 x 1/6 | 40 <sup>(4)</sup> | 32 | 0.37      |
| SDIN11851 04 | DN 40 DIN 11851 | G1/2 or G1/4 | Rd 65 x 1/6 | 40 <sup>(4)</sup> | 32 | 0.48      |
| SDIN11851 05 | DN 50 DIN 11851 | G1/2 or G1/4 | Rd 78 x 1/6 | 42 <sup>(4)</sup> | 45 | 0.61      |

<sup>(4)</sup>C=35 with instrument connection A = G 1/4

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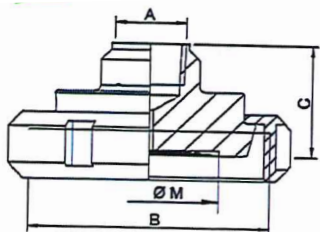
email: [info@controlprocess.it](mailto:info@controlprocess.it)



# Diaphragm seals for hygienic applications

## Dimensions - Types of mounting

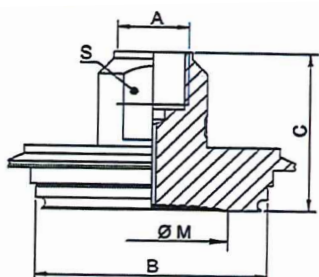
DIN 11851 with nut



| CODE         | DN              | A            | B           | C                 | ØM | WEIGHT KG |
|--------------|-----------------|--------------|-------------|-------------------|----|-----------|
| SDIN11851N06 | DN 25 DIN 11851 | G1/2 or G1/4 | Rd 52 x 1/6 | 37 <sup>(5)</sup> | 19 | 0.43      |
| SDIN11851N03 | DN 32 DIN 11851 | G1/2 or G1/4 | Rd 58 x 1/6 | 37 <sup>(5)</sup> | 32 | 0.52      |
| SDIN11851N04 | DN 40 DIN 11851 | G1/2 or G1/4 | Rd 65 x 1/6 | 37 <sup>(5)</sup> | 32 | 0.62      |
| SDIN11851N05 | DN 50 DIN 11851 | G1/2 or G1/4 | Rd 78 x 1/6 | 37 <sup>(5)</sup> | 45 | 0.90      |

<sup>(5)</sup>C=31 with instrument connection A = G 1/4

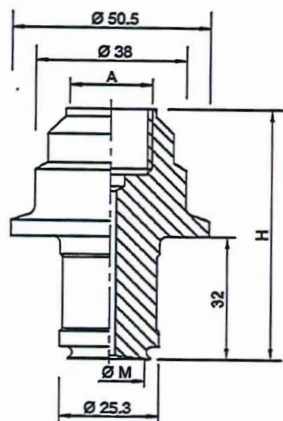
Varivent®



| CODE        | DN        | A            | B  | C                 | ØM | WEIGHT KG |
|-------------|-----------|--------------|----|-------------------|----|-----------|
| SVARIVENT23 | DN 10/15  | G1/2 or G1/4 | 31 | 47 <sup>(6)</sup> | 19 | 0.32      |
| SVARIVENT19 | DN 25     | G1/2 or G1/4 | 50 | 47 <sup>(6)</sup> | 32 | 0.41      |
| SVARIVENT20 | DN 40/125 | G1/2 or G1/4 | 68 | 47 <sup>(6)</sup> | 45 | 0.70      |

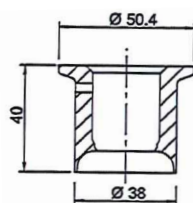
<sup>(6)</sup>C=40 with instrument connection A = G 1/4

3A extended clamp

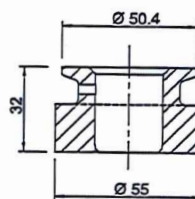


| CODE  | DN    | A            | H                 | ØM | WEIGHT KG |
|-------|-------|--------------|-------------------|----|-----------|
| S3A29 | DN 38 | G1/2 or G1/4 | 65 <sup>(7)</sup> | 19 | 0.35      |

<sup>(7)</sup>C=35 with instrument connection A = G 1/4



Welding part  
for pipe



Welding part  
for tank

Minimum pressure ranges  
depending on diaphragm  
diameter ØM<sup>(1)</sup>

| ØM (mm) | DN 63         |                | DN 100/150/160 |              |
|---------|---------------|----------------|----------------|--------------|
|         | gauge         | compound       | gauge          | compound     |
| 19      | 0 ... 4 bar   | -1 ... 3 bar   | -              | -            |
| 32      | 0 ... 2.5 bar | -1 ... 3 bar   | 0 ... 6 bar    | -1 ... 5 bar |
| 45      | 0 ... 1 bar   | -1 ... 1.5 bar | 0 ... 1.6 bar  | -1 ... 3 bar |

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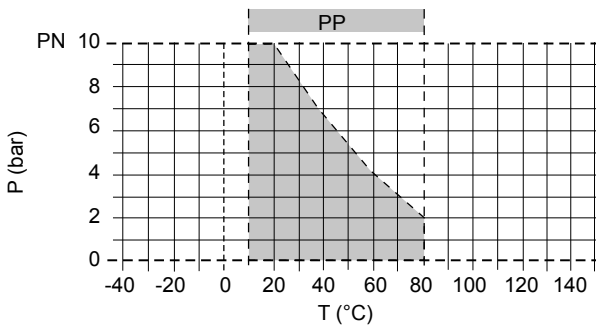
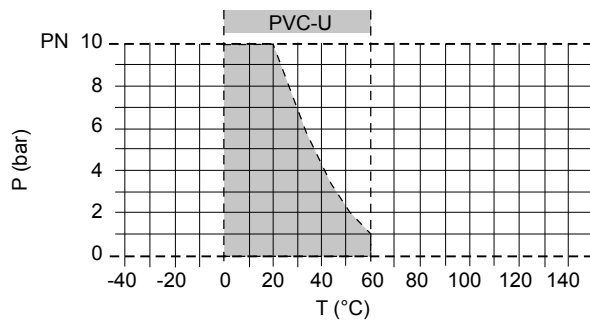


## Diaphragm seals for hygienic applications

|                                    |            |                | XXXX | XX | - | X | X | X | X |
|------------------------------------|------------|----------------|------|----|---|---|---|---|---|
| <b>Model</b>                       |            |                |      |    |   |   |   |   |   |
| <b>Clamp</b>                       |            | SCLAMP DANC    |      |    |   |   |   |   |   |
| SMS 1147 with thread               |            | SSMS DAEF      |      |    |   |   |   |   |   |
| SMS 1147 with nut                  |            | SSMS DAEL      |      |    |   |   |   |   |   |
| DIN 11851 with thread              |            | SDIN11851 DADF |      |    |   |   |   |   |   |
| DIN 11851 with nut                 |            | SDIN11851 DADL |      |    |   |   |   |   |   |
| Varivent                           |            | SVarivent DAVA |      |    |   |   |   |   |   |
| 3A extended clamp                  |            | S3A DAPH       |      |    |   |   |   |   |   |
| <b>Nominal size</b>                |            |                |      |    |   |   |   |   |   |
| Clamp DN 25 ISO 2852               | SCLAMP     | 07             |      |    |   |   |   |   |   |
| Clamp DN 38 ISO 2852               | -          | 01             |      |    |   |   |   |   |   |
| Clamp DN 51 ISO 2852               | -          | 02             |      |    |   |   |   |   |   |
| Clamp DN 25 ISO 32676              | -          | 08             |      |    |   |   |   |   |   |
| Clamp DN 40 ISO 32676              | -          | 10             |      |    |   |   |   |   |   |
| Clamp DN 50 ISO 32676              | -          | 13             |      |    |   |   |   |   |   |
|                                    |            |                |      |    |   |   |   |   |   |
| DN 25 SMS 1147                     | SSMS/SSMSN | 09             |      |    |   |   |   |   |   |
| DN 38 SMS 1147                     | -          | 11             |      |    |   |   |   |   |   |
| DN 51 SMS 1147                     | -          | 14             |      |    |   |   |   |   |   |
|                                    |            |                |      |    |   |   |   |   |   |
| DN 25 DIN 11851                    | -          | 06             |      |    |   |   |   |   |   |
| DN 32 DIN 11851                    | -          | 03             |      |    |   |   |   |   |   |
| DN 40 DIN 11851                    | -          | 04             |      |    |   |   |   |   |   |
| DN 50 DIN 11851                    | -          | 05             |      |    |   |   |   |   |   |
|                                    |            |                |      |    |   |   |   |   |   |
| Varivent type B (for DN 10/15)     | SVarivent  | 23             |      |    |   |   |   |   |   |
| Varivent type F (for DN 25)        | -          | 19             |      |    |   |   |   |   |   |
| Varivent type N (for DN 40/125)    | -          | 20             |      |    |   |   |   |   |   |
|                                    |            |                |      |    |   |   |   |   |   |
| 3A extended clamp                  | S3A        | 29             |      |    |   |   |   |   |   |
|                                    |            |                |      |    |   |   |   |   |   |
| <b>Bodi material</b>               |            |                |      |    |   |   |   |   |   |
| Stainless Steel 1.4404 (AISI 316L) |            |                |      |    |   | 2 |   |   |   |
| <b>Instrument connection</b>       |            |                |      |    |   |   |   |   |   |
| G 1/2                              |            |                |      |    |   |   | L |   |   |
| G 1/4                              |            |                |      |    |   |   | H |   |   |
|                                    |            |                |      |    |   |   |   |   |   |
| <b>Membrane material</b>           |            |                |      |    |   |   |   |   |   |
| Stainless Steel 316L (1.4435)      |            |                |      |    |   |   |   | 2 |   |
| Hastelloy C276 (2.4819)            |            |                |      |    |   |   |   | 6 |   |
|                                    |            |                |      |    |   |   |   |   |   |
| <b>Surface finish</b>              |            |                |      |    |   |   |   |   |   |
| Ra ≤ 0.8                           |            |                |      |    |   |   |   |   | A |
| Ra ≤ 0.4 (electropolished)         |            |                |      |    |   |   |   |   | B |

## Diaphragm pressure gauge guard

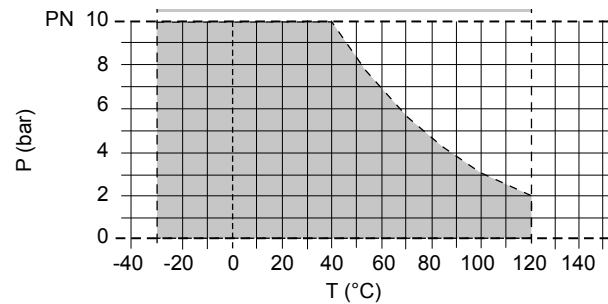
### Pressure/temperature diagram



The pressure/temperature limits of the materials are valid for the stated nominal pressures and a service life of 25 years.

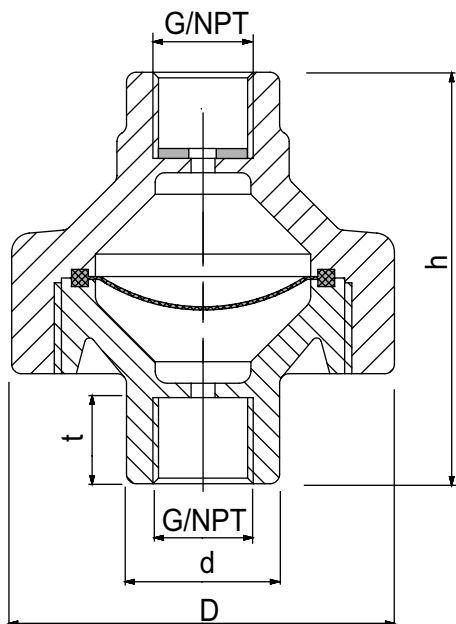
These values are guide values for flow medium types which do not negatively impact the physical and chemical characteristics of the valve material. It may be necessary to take diminution factors into consideration.

The operating life of the wear parts depends on the conditions of use.



### Description

|   |                    |
|---|--------------------|
| P | Operating pressure |
| T | Temperature        |



### Connection spigot end

| d (mm)   | 25   | 32   |
|----------|------|------|
| DN (mm)  | 20   | 25   |
| G (inch) | 1/4  | 1/2  |
| D        | 80.0 | 80.0 |
| d        | 25.0 | 32.0 |
| G*       | 1/4  | 1/2  |
| h        | 86.0 | 86.0 |
| t        | 18.0 | 22.0 |

all dimensions in mm / \* dimensions in inch

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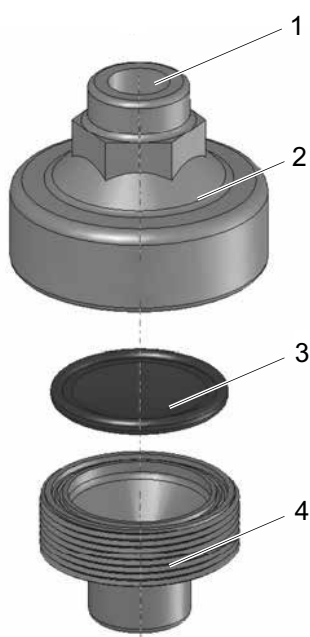
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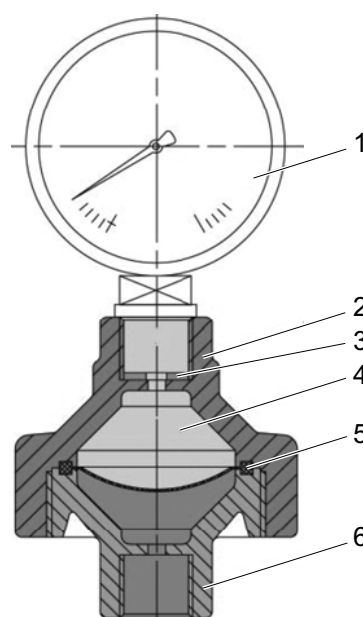
# Diaphragm pressure gauge guard

## Structure



| Position | Designation                |
|----------|----------------------------|
| 1        | Connection, pressure gauge |
| 2        | Bonnet                     |
| 3        | Separating diaphragm       |
| 4        | Bottom section             |

## Components



| Position | Designation          |
|----------|----------------------|
| 1        | Pressure gauge       |
| 2        | Bonnet               |
| 3        | Flat sealing         |
| 4        | Transmitter fluid    |
| 5        | Separating diaphragm |
| 6        | Bottom section       |