

Diaphragm seal for special applications variable connections, Type series DD111.



Application area

- Machinery construction
- Chemical and petrochemical industry
- General process technology

Technical data

Constructional design / case

| | |
|------------------------|--|
| Basic body: | Volume reduced diaphragm base Material: Stainless steel mat.-no. 1.4404 (316L) |
| Diaphragm: | Flat diaphragm |
| Material wetted parts: | Diaphragm: See order details Basic body: Stainless steel mat.-no. 1.4404 (316L) |

Process connection

Design: See order details

Gasket

See order details.
In case of diaphragm with PTFE foil: gasket PTFE

Measuring device connection

See order details.
Material stainless steel mat.-no. 1.4301 (304)

Features

- Separating diaphragm of stainless steel or special material
- Volume optimised diaphragm base
- System fillings for different applications
- Various process connections; screw-in thread, flanges per EN and ASME
- Connection to zone 0
- Measuring device connection:
 - directly welded
 - directly screwed
 - with temperature decoupler
 - with capillary

Options

- Certificates
 - Material certificate acc. to EN 10204-3.1

Application

Suitable for mounting to bourdon tube pressure gauges and pressure transmitters. The diaphragm seal for variable connections is suited for measuring aggressive, highly viscous media and for high process temperatures.

System filling

See order details; further fillings upon request.
Further details about pressure transmission fluids see general technical information TA_038.

Temperature error

In order to optimise the system we provide a detailed error calculation upon request .

Approvals/Certificates

Connection to Zone 0: with flame arrester,
Ⓢ IIG IIC according to PTB 03 ATEX 4032 X

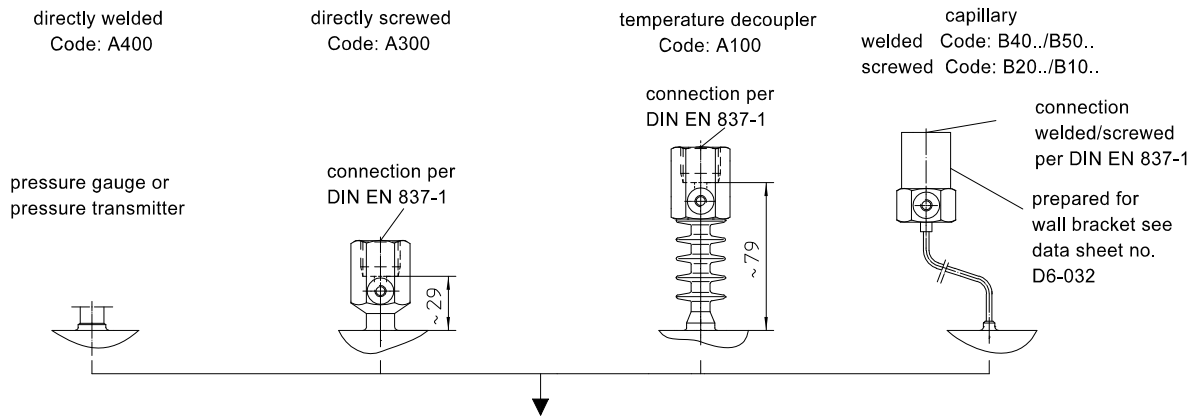
Weight

With measuring device connection G1/2:

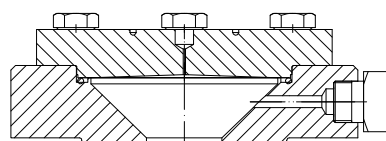
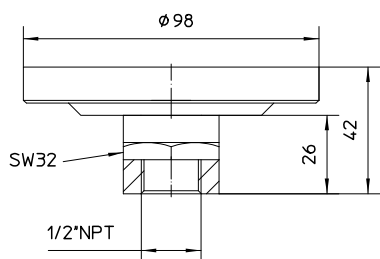
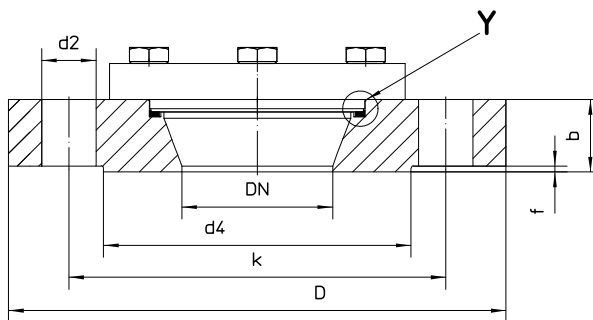
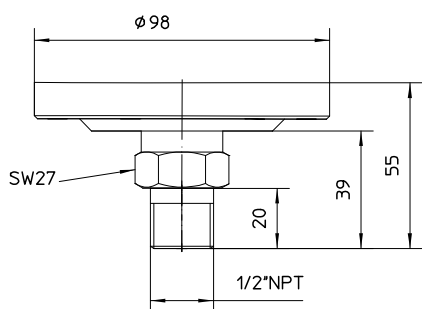
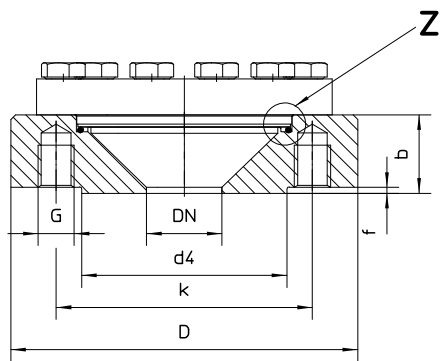
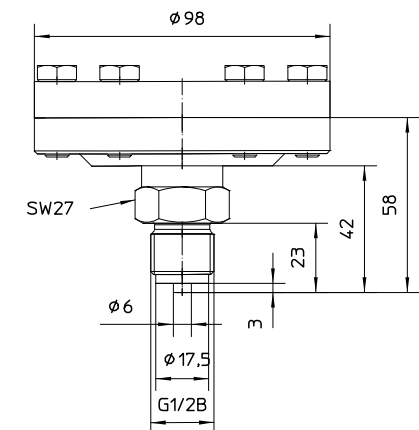
| | |
|------------------|----------------|
| G1/2 , PN 100: | approx. 1.5 kg |
| G1/2 , PN 250: | approx. 2.1 kg |
| DN 25, PN 10-40: | approx. 2.5 kg |
| DN 50, PN 10-40: | approx. 3.5 kg |

Further weights upon request.

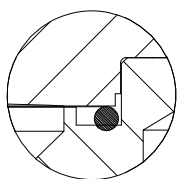
Measuring device connection



Dimensions

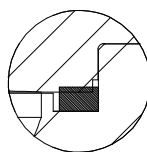


Z



o-ring gasket

Y



flat gasket

Dimensions (mm) per EN 1092-1


| DN | PN | D | d4 | k | G | d2 | no. bore holes | b | f |
|----|-------|-----|-----|-----|-----|----|----------------|----|---|
| 25 | 10/40 | 115 | 68 | 85 | M12 | | 4 | 26 | 2 |
| 50 | 10/40 | 165 | 102 | 125 | | 18 | 4 | 24 | 2 |

Dimensions (mm) per ASME B16.5

| DN | Class | D | d4 | k | G | d2 | no. bore holes | b | f |
|----|---------|-----|----|-------|-----|----|----------------|----|---|
| 1" | 150 | 110 | 51 | 79.4 | M12 | - | 4 | 32 | 2 |
| 1" | 300 | 125 | 51 | 88.9 | M16 | - | 4 | 32 | 2 |
| 2" | 150 | 150 | 92 | 120.7 | M16 | - | 4 | 24 | 2 |
| 2" | 300 | 165 | 92 | 127 | - | 19 | 8 | 42 | 2 |
| 2" | 400-600 | 165 | 92 | 127 | - | 19 | 8 | 45 | 7 |

Order details

Diaphragm seal for special applications, variable connections, Type series DD111 .

| Order details DD111 . | | | | | | | |
|-----------------------|---|---|----------------------------------|---|--|--------------------------------------|--------------------------------------|
| DD111 . | Diaphragm seal for special application, variable connection | | | | | | |
| 0 | design | standard | | | | | |
| 2 | | connection to zone 0,  IIG IIC | | | | | |
| | process connection | lower flange ¹ | threated connection per EN 837-1 | | | | |
| D10011 | | | G1/2 B | PN 100 | 1.4404 (316L) | | |
| D10021 | | | | PN 250 | 1.4404 (316L) | | |
| D10013 | | | | PN 16 | PVDF | | |
| D10012 | | | | PN 25 | 1.4404 (316L) PTFE coated | | |
| D10101 | | | 1/2" NPT-M | PN 100 | 1.4404 (316L) | | |
| D10111 | | | | PN 250 | 1.4404 (316L) | | |
| D10121 | | | 1/2" NPT-F | PN 100 | 1.4404 (316L) | | |
| D10131 | | | | PN 250 | 1.4404 (316L) | | |
| | | | | | open measuring flange per EN 1092-1 | | |
| D11201 | | | DN 25 | PN 10-40 | model B1 1.4404 (316L) | | |
| D12203 | | | | PN 16 | model B2 1.4404 (316L) PTFE coated | | |
| D12202 | | | | PN 25 | | | |
| D11351 | | | DN 50 | PN 10-40 | model B1 1.4404 (316L) | | |
| D12353 | | | | PN 16 | model B2 PVDF 1.4404 (316L) PTFE coated | | |
| D12352 | | | | PN 25 | | | |
| | | | | | open measuring flange per ASME B16.5 | | |
| D51601 | | | 1" | Class 150 | RF 125...250 AA | 1.4404 (316L) | |
| D50603 | | | | | RFSF | PVDF 1.4404 (316L) PTFE coated | |
| D50602 | | | | Class 300 | RF 125...250 AA | 1.4404 (316L) | |
| D51611 | | | | | RFSF | 1.4404 (316L) PTFE coated | |
| D50612 | | | | 2" | Class 150 | RF 125...250 AA | 1.4404 (316L) |
| D51701 | | | | | | RFSF | PVDF 1.4404 (316L) PTFE coated |
| D50703 | | | Class 300 | | RF 125...250 AA | 1.4404 (316L) | |
| D50702 | | | | | RFSF | 1.4404 (316L) PTFE coated | |
| D51711 | | | Class 400-600 | RF 125...250 AA | 1.4404 (316L) | | |
| D50712 | | | | RFSF | 1.4404 (316L) PTFE coated | | |
| D51721 | | | | | RF 125...250 AA | 1.4404 (316L) | |
| D90 | | | | without lower flange | PN 100 | | |
| D91 | | | | | PN 250 | | |
| S1 | | | design | lower flange without flush boring | | | |
| S2 | | | | lower flange with flush boring 1/4" NPT, including plug | | | |
| S3 | | | | lower flange with flush boring 1/4" NPT, without plug | | | |
| S4 | lower flange with flush boring 1/8" NPT, including plug | | | | | | |
| S5 | lower flange with flush boring 1/8" NPT, without plug | | | | | | |
| G1 | diaphragm material | stainless steel mat.-no. 1.4404 / 1.4435 (316L), standard | | | | | |
| G2 | | Tantal | | | | | |
| G3 | | Hastelloy C276 | | | | | |
| G6 | | PTFE foil on stainless steel | | | | | |
| G9 | | as in writing | | | | | |
| H1 | gasket to pressure chamber ² | NBR (Perbunan), temperature range -25...120 °C | | | | | |
| H4 | | PTFE, temperature range -100...250 °C | | | | | |
| H7 | | FKM (Viton), temperature range -40...200 °C | | | | | |
| H13 | | spring washer (metal, silver coated) | | | | | |

| | | | |
|----------------|-----------------------------|--|---------------------------------------|
| A400 | measuring device connection | directly | welded |
| A300 | | | screwed G1/2 |
| A100 | | with temperature decoupler | screwed G1/2 |
| B40 . . | | with capillary | welded |
| B20 . . | | | screwed G1/2 |
| B50 . . | | with capillary and stainless steel protective tube | welded |
| B10 . . | | | screwed G1/2 |
| 11 | | capillary length | 1 m |
| 12 | | | 1.6 m |
| 13 | | | 2.5 m |
| 14 | | | 4 m |
| 21 | | | 5 m |
| 15 | | | 6 m |
| 23 | | | 7 m |
| 16 | 8 m | | |
| 17 | 10 m | | |
| 9 | others | | |
| | system filling ³ | <u>pressure transmission fluid</u> | <u>temperature range</u> ⁴ |
| L22 | | synthetic oil, free of silicone FD1, standard | -10...140 °C |
| L23 | | synthetic oil, free of silicone FD1, pls. specify max. temperature | -50...230 °C |
| L20 | | silicone oil FM50 | -10...140 °C |

Additional features (to be indicated in case of need, only)

| | |
|--------------|---|
| W1020 | material certificate per EN 10204-3.1, wetted parts |
|--------------|---|

Order code (example): DD1110 - D10021 - S3 - G1 - ...

¹ flange connection possible for ASME

² not possible for the process connection lower flange, PTFE coated

³ for more detailed information about pressure transmission fluids see TA_038. Please state temperature range to allow an accurate calculation of the system.

⁴ max. media temperature for pressures > 0 bar rel. The temperature range of the used gasket is to be observed