

Diaphragm seals are designed to isolate the sensing element of pressure gauges and pressure switches from process fluids which may be corrosive, viscous, sedimentous and/or with a high temperature. The diaphragm is welded to the upper body, to ensure separation of filling fluid from process medium. Diaphragm faced position permit an accurate and deeper cleaning. Process sizes are ANSI/UNI/DIN flanged to suit application in pharmaceutical, chemical, petrochemical, water treatment, paper and food process industries.

Functional and constructive characteristics

Ranges: 0...1/0...250 bar as per flange rating.
 Process temperature: -45°C...+150°C.
 Accuracy*: (add to instrument accuracy) ±0,5% for direct mounting; ± 1% for capillary mounting.
 Diaphragm: AISI 316L st. st., welded.
 Process connection, AISI 316 st. st.:
 as per ANSIB16.5: 1"1/2 - 2" - 2"1/2 - 3"; 150...2500 lb; form RF; finishing 125...250AARH. a norme
 as per UNI-DIN: DN 40-50-65-80; PN 2,5...160; form UNI 2229 step seal: finishing Ra 12,5 µm max.; FORM C DIN 2526: finishing Rz 63 µm.
 Filling liquid: silicon oil type "A".
 Capillary for remote mounting (max. length 6 mt.):
 - AISI 304 st. st. capillary.

Special Version

High temperature version: Max. 340°C (option E10).
 Diaphragm: Hastelloy B2 and Hastelloy C276, welded.
 Process connection material: AISI 316L st. st., Hastelloy B2 and Hastelloy C276.
 Extension (for pipe insertion): form 8 to 150 mm. depth (*)
 Process connection: with special flange finishing (see table SHAPE AND FLANGE FINISHING).
 Filling liquids: special filling liquids are available for special process conditions (see table FILLING LIQUIDS).
 Capillary for remote mounting:
 - AISI 316 st. st. capillary;
 - AISI 316 st. st. covered with AISI 304 st. st. armour;
 - AISI 304 st. st. covered with AISI 304 st. st. armour Ø6, PVC coated.

(*) The extension diameter is suitable for counterflange with thickness as per ANSIB16.5 sch 40S.

For special flanges and/or special materials please contact the Technical Service Department.

FILLING LIQUIDS

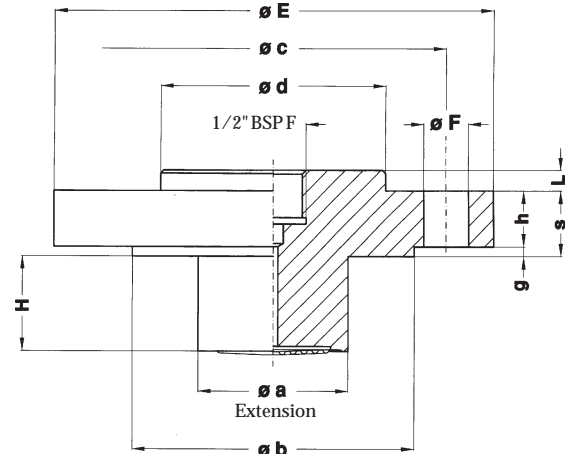
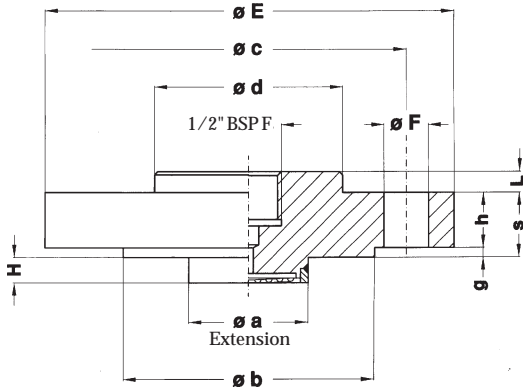
| Liquid type | Limit of process temperature |
|----------------------|------------------------------|
| Silicon oil type "A" | -45 ... +150 °C |
| Silicon oil type "B" | -20 ... +250 °C |
| Silicon oil type "C" | +20 ... +340 °C |
| "Fluorolube" | -60 ... +150 °C |

* at 20 °C process temperature (or state temperature when ordering)

DIMENSIONS (mm.)

DN40; 1" 1/2

>DN40; > 1" 1/2



H = from 8 mm. (STD) to 150 mm. (max.)

H = from 0 mm. (STD) to 150 mm. (max.)

FLANGED CONNECTION AS PER UNI - DIN
(dimensions as per DIN, between bracket)

| DN | PN-bar (1) | Code | E | c | b | a | d (3) | g | h | s | L (3) | N (2) | F | DS100 (4) | DS150 (4) |
|----|------------|------|-----|-----|-----------|----|-------|---|----|----|-------|-------|----|-----------|-----------|
| 40 | 2,5...6 | SOG | 130 | 100 | 80 | 38 | 60 | 3 | 11 | 14 | 6,5 | 4 | 14 | 0...6 | 0...6 |
| 40 | 10...16 | SQG | 150 | 110 | 88 | 38 | 62 | 3 | 13 | 16 | 4,5 | 4 | 18 | 0...6 | 0...6 |
| 40 | 25...40 | SSG | 150 | 110 | 88 | 38 | 62 | 3 | 15 | 18 | 2,5 | 4 | 18 | 0...6 | 0...6 |
| 40 | 64 | STG | 170 | 125 | 85 (88) | 38 | - | 3 | 23 | 26 | - | 4 | 22 | 0...6 | 0...6 |
| 40 | 100 | SUG | 170 | 125 | 85 (88) | 38 | - | 3 | 23 | 26 | - | 4 | 22 | 0...6 | 0...6 |
| 40 | 160 | SZG | 170 | 125 | 85 (88) | 38 | - | 3 | 25 | 28 | - | 4 | 22 | 0...6 | 0...6 |
| 50 | 2,5...6 | TOG | 140 | 110 | 90 | 48 | 72 | 3 | 11 | 14 | 13 | 4 | 14 | 0...2,5 | 0...6 |
| 50 | 10...16 | TQG | 165 | 125 | 102 | 48 | 73,5 | 3 | 15 | 18 | 9 | 4 | 18 | 0...2,5 | 0...6 |
| 50 | 25...40 | TSG | 165 | 125 | 102 | 48 | 73,5 | 3 | 17 | 20 | 7 | 4 | 18 | 0...2,5 | 0...6 |
| 50 | 64 | TTG | 180 | 135 | 95 (102) | 48 | 80 | 3 | 23 | 26 | 1 | 4 | 22 | 0...2,5 | 0...6 |
| 50 | 100 | TUG | 195 | 145 | 95 (102) | 48 | - | 3 | 25 | 28 | - | 4 | 26 | 0...2,5 | 0...6 |
| 50 | 160 | TZG | 195 | 145 | 95 (102) | 48 | - | 3 | 27 | 30 | - | 4 | 26 | 0...2,5 | 0...6 |
| 65 | 2,5...6 | UOG | 160 | 130 | 110 | 61 | 88 | 3 | 11 | 14 | 13 | 4 | 14 | 0...1,6 | 0...4 |
| 65 | 10...16 | UQG | 185 | 145 | 122 | 61 | 90 | 3 | 15 | 18 | 9 | 4 | 18 | 0...1,6 | 0...4 |
| 65 | 25...40 | USG | 185 | 145 | 122 | 61 | 90 | 3 | 19 | 22 | 5 | 8 | 18 | 0...1,6 | 0...4 |
| 65 | 64 | UTG | 205 | 160 | 120 (122) | 61 | 98 | 3 | 23 | 26 | 1 | 8 | 22 | 0...1,6 | 0...4 |
| 65 | 100 | UUG | 220 | 170 | 120 (122) | 61 | - | 3 | 27 | 30 | - | 8 | 26 | 0...1,6 | 0...4 |
| 65 | 160 | UZG | 220 | 170 | 120 (122) | 61 | - | 3 | 31 | 34 | - | 8 | 26 | 0...1,6 | 0...4 |
| 80 | 2,5...6 | VOG | 190 | 150 | 128 | 76 | 102 | 3 | 13 | 16 | 11 | 4 | 18 | 0...1 | 0...2,5 |
| 80 | 10...16 | VQG | 200 | 160 | 138 | 76 | 105 | 3 | 17 | 20 | 7 | 8 | 18 | 0...1 | 0...2,5 |
| 80 | 25...40 | VSG | 200 | 160 | 138 | 76 | 105 | 3 | 21 | 24 | 3 | 8 | 18 | 0...1 | 0...2,5 |
| 80 | 64 | VTG | 215 | 170 | 130 (138) | 76 | - | 3 | 25 | 28 | - | 8 | 22 | 0...1 | 0...2,5 |
| 80 | 100 | VUG | 230 | 180 | 130 (138) | 76 | - | 3 | 29 | 32 | - | 8 | 26 | 0...1 | 0...2,5 |
| 80 | 160 | VZG | 230 | 180 | 130 (138) | 76 | - | 3 | 33 | 36 | - | 8 | 26 | 0...1 | 0...2,5 |

1) suitable for 150% of flange rating at 20...30 °C and 100% of flange rating at 340 °C.

2) N° holes.

(3) d=0, L=0 for s+H • 28,5 (DN40) and for s+H • 27 (> DN40).

(4) Minimum range available; DS is the dial size of the assembled instrument..

FLANGED CONNECTION AS PER ANSI

| DN | PN-psi (1) | Code | E | c | b | a | d (3) | g | h | s | L (3) | N (2) | F | DS100 (4) | DS150 (4) |
|--------|------------|------|-------|-------|-------|----|-------|-----|------|------|-------|-------|------|-----------|-----------|
| 1" 1/2 | 150 | AAA | 127 | 98,4 | 73 | 38 | 65 | 1,6 | 16 | 17,6 | 3 | 4 | 16 | 0...6 | 0...6 |
| 1" 1/2 | 300 | ABA | 155,5 | 114,3 | 73 | 38 | - | 1,6 | 19 | 20,6 | - | 4 | 22 | 0...6 | 0...6 |
| 1" 1/2 | 600 | ADA | 155,5 | 114,3 | 73 | 38 | - | 6,3 | 22,5 | 28,8 | - | 4 | 22 | 0...6 | 0...6 |
| 1" 1/2 | 900 | AEA | 178 | 123,8 | 73 | 38 | - | 6,3 | 32 | 38,3 | - | 4 | 28,5 | 0...6 | 0...6 |
| 1" 1/2 | 1500 | AFA | 178 | 123,8 | 73 | 38 | - | 6,3 | 32 | 38,3 | - | 4 | 28,5 | 0...6 | 0...6 |
| 1" 1/2 | 2500 | AGA | 203 | 146 | 73 | 38 | - | 6,3 | 44,5 | 50,8 | - | 4 | 32 | 0...6 | 0...6 |
| 2" | 150 | BAA | 152,5 | 120,6 | 92,1 | 48 | 77,5 | 1,6 | 17,5 | 19,1 | 8 | 4 | 19 | 0...2,5 | 0...6 |
| 2" | 300 | BBA | 165 | 127 | 92,1 | 48 | 84 | 1,6 | 21 | 22,6 | 4,5 | 8 | 19 | 0...2,5 | 0...6 |
| 2" | 600 | BDA | 165 | 127 | 92,1 | 48 | - | 6,3 | 25,5 | 31,8 | - | 8 | 19 | 0...2,5 | 0...6 |
| 2" | 900 | BEA | 216 | 165,1 | 92,1 | 48 | - | 6,3 | 38,5 | 44,8 | - | 8 | 25,5 | 0...2,5 | 0...6 |
| 2" | 1500 | BFA | 216 | 165,1 | 92,1 | 48 | - | 6,3 | 38,5 | 44,8 | - | 8 | 25,5 | 0...2,5 | 0...6 |
| 2" | 2500 | BGA | 235 | 171,4 | 92,1 | 48 | - | 6,3 | 51 | 57,3 | - | 8 | 28,5 | 0...2,5 | 0...6 |
| 2" 1/2 | 150 | DAA | 178 | 139,7 | 104,8 | 61 | 90 | 1,6 | 21 | 22,6 | 4,5 | 4 | 19 | 0...1,6 | 0...4 |
| 2" 1/2 | 300 | DBA | 190,5 | 149,2 | 104,8 | 61 | 100 | 1,6 | 24 | 25,6 | 1,5 | 8 | 22 | 0...1,6 | 0...4 |
| 2" 1/2 | 600 | DDA | 190,5 | 149,2 | 104,8 | 61 | - | 6,3 | 28,5 | 34,8 | - | 8 | 22 | 0...1,6 | 0...4 |
| 2" 1/2 | 900 | DEA | 244,5 | 190,5 | 104,8 | 61 | - | 6,3 | 41,5 | 47,8 | - | 8 | 28,5 | 0...1,6 | 0...4 |
| 2" 1/2 | 1500 | DFA | 244,5 | 190,5 | 104,8 | 61 | - | 6,3 | 41,5 | 47,8 | - | 8 | 28,5 | 0...1,6 | 0...4 |
| 2" 1/2 | 2500 | DGA | 266,5 | 196,8 | 104,8 | 61 | - | 6,3 | 57,5 | 63,8 | - | 8 | 32 | 0...1,6 | 0...4 |
| 3" | 150 | EAA | 190,5 | 152,4 | 127 | 76 | 108 | 1,6 | 22,5 | 24,1 | 3 | 4 | 19 | 0...1 | 0...2,5 |
| 3" | 300 | EBA | 209,5 | 168,3 | 127 | 76 | - | 1,6 | 27 | 28,6 | - | 8 | 22 | 0...1 | 0...2,5 |
| 3" | 600 | EDA | 209,5 | 168,3 | 127 | 76 | - | 6,3 | 32 | 38,3 | - | 8 | 22 | 0...1 | 0...2,5 |
| 3" | 900 | EEA | 241,5 | 190,5 | 127 | 76 | - | 6,3 | 38,5 | 44,8 | - | 8 | 25,5 | 0...1 | 0...2,5 |
| 3" | 1500 | EFA | 266,5 | 203,2 | 127 | 76 | - | 6,3 | 48 | 54,3 | - | 8 | 32 | 0...1 | 0...2,5 |
| 3" | 2500 | EGA | 305 | 228,6 | 127 | 76 | - | 6,3 | 66,5 | 72,8 | - | 8 | 35 | 0...1 | 0...2,5 |

1) suitable for 150% of flange rating at 20...30 °C and 100% of flange rating at 340 °C.

2) N° holes.

(3) d=0, L=0 for s+H • 28,5 (1" 1/2) and for s+H • 27 (> 1" 1/2).

(4) Minimum range available; DS is the dial size of the assembled instrument..

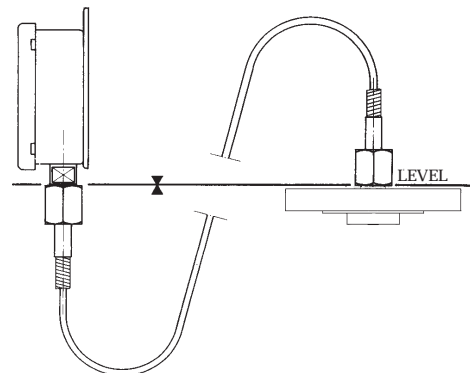
REMOTE MOUNTING

CAPILLARY TYPE - max. length 6 mt.

| CAPILLARY TYPE | CODE |
|---|------|
| AISI 304 st.st. | 1 |
| AISI 316 st.st. covered with AISI 304 st.st. armour | 4 |
| AISI 316 st.st. covered with AISI 304 st.st. armour, PVC coated | 5 |
| AISI 304 st.st. covered with AISI 304 st.st. armour | 9 |

N.B.

All diaphragm seals are mounted on the instruments and fixed by an aluminium protection label. For applications with capillary: should diaphragm seal and instrument not be at a same level, instrument on installation is required. (For use and installation, see data sheet "04").



FLANGESHAPE AND FINISHING

| Cod. | Form UNI | Finishing (turning made) | Cod. | Form DIN | Finishing (turning made) | Cod. | Form ANSIB16.5 | Finishing |
|------|--------------|-----------------------------|------|-------------|-----------------------------|------|-------------------|---------------------------------|
| LM1 | 2225 SM | Ra 3,2 µm max | LM2 | 2513 V13 | Rz 63 µm max | LM3 | LM | AARH 125÷250 µin (grooves) |
| LF1 | 2225 SF | Ra 3,2 µm max | LF2 | 2513 R13 | Rz 63 µm max | LF3 | LF | AARH 125÷250 µin (grooves) |
| LT1 | 2226 DM | Ra 3,2 µm max | LT2 | 2512 F | Rz 40 µm max | LT3 | LT | AARH 125 µin max (turning made) |
| LG1 | 2226 DF | Ra 3,2 µm max | LG2 | 2512 N | Rz 40 µm max | LG3 | LG | AARH 125 µin max (turning made) |
| CM1 | 2227 CM | Ra 12,5 µm max | CM2 | 2514 V | Rz 160 µm max | ST3 | ST | AARH 125 µin max (turning made) |
| CF1 | 2227 CF | Ra 12,5 µm max | CF2 | 2514 R | Rz 160 µm max | SG3 | SG | AARH 125 µin max (turning made) |
| LN1 | 6078 | Ra 0,8 µm max | LN2 | 2696 L | Rz 4 µm max | RJ3 | RJ | AARH 63 µin max (turning made) |
| FF1 | 2229 piana | Ra 12,5 µm max | FF2 | 2526 A/B | Rz 40÷160 µm | FF3 | FF | AARH 125÷250 µin (grooves) |
| RF1 | 2229 gradino | Ra 12,5 µm max | RF2 | 2526 C | Rz 40÷160 µm | RF3 | RF | AARH 125÷250 µin (grooves) |
| | | | RF4 | 2526 D | Rz 40 µm max | SM3 | SM | AARH 125 µin max (turning made) |
| | | | RF5 | 2526 E | Rz 16 µm max | SF3 | SF | AARH 125 µin max (turning made) |
| | | | | | | RFS | RF (smooth) | AARH 125 µin max (turning made) |
| | | | | | | RF6 | Stock | AARH 500 µin max (grooves) |

HOW TO ORDER

| | DESCRIPTION & CODE |
|-------------|--|
| 04 | 04 - diaphragm seal |
| 500 | 500 - diaphragm seal, flanged |
| 5 | Process connection material 4 - AISI 316 st.st. 5 - AISI 316 Lst.st. 1 - HASTELLOY B2 9 - HASTELLOY C276 |
| 9 | Diaphragm material 4 - AISI 316 Lst.st. 1 - HASTELLOY B2 9 - HASTELLOY C276 |
| BAA | Process connection see flanged connection table to code |
| 41F | Instrument connection 41F - 1/2" BSP F |
| 9 | Capillary type (see table) |
| 1000 | Capillary length (mm.) |
| RF1 | Flange shape and finishing (see table) |
| C05 | see options table |

| | | | | | | | |
|------------|-----|-----|------|-----|------|------|------|
| Ra (µm) | 0,8 | 1,6 | 3,2 | 6,3 | 12,5 | 25 | 50 |
| Rz (µm) | 3,2 | 6,3 | 12,5 | 25 | 50 | 100 | 200 |
| AARH (µin) | 32 | 63 | 125 | 250 | 500 | 1000 | 2000 |

OPTIONS

| DESCRIPTION | CODE |
|---|------|
| Helium Test (1) | C05 |
| High temperature version 340 °C | E10 |
| Dye penetrant test | P04 |
| "Fluorolube filling" | R15 |
| AISI st.st. adaptor 1/2" BSPM x 1/2" BSPF | R20 |
| AISI st.st. adaptor 1/2" BSPM x 1/4" BSPM | R21 |

(1) Available for some executions pls. consult our technical dep. to check their feasibility.



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