

Diaphragm Seal

990.18 union nut per DIN 11851
with pressure transmitter S-20

E 06.04.18

Ed.17.01

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|-----------------------------|---|
| Design | Diaphragm Seal with sterile process connection with union nut per DIN 11851 DN 25, 32, 40 or 50. Pressure transmitter S-20 in stainless steel |
| Type | 990.18 |
| Pressure rate | PN 40 for pressure range from 0-1 bar to 0-40 bar |
| Material standard | Upper part of stainless steel 1.4404 (316L) Lower part and connection stainless steel 1.4435 (316L) Diaphragm of stainless steel 1.4435 (316L) |
| Level of cleanliness | Oil and grease free per ASTM G93-03 level E (< 550 mg/m ²) |
| Connection DN 25 | Union nut DN 25 per DIN 11851 For pipe dimension 29 x 1,5 mm Pipe standard DIN 11850 row 2 Connection thread RD 52 x 1/6 |
| Connection DN 32 | Union nut DN 32 per DIN 11851 For pipe dimension 35 x 1,5 mm Pipe standard DIN 11850 row 2 Connection thread RD 58 x 1/6 |
| Connection DN 40 | Union nut DN 40 per DIN 11851 For pipe dimension 41 x 1,5 mm Pipe standard DIN 11850 row 2 Connection thread RD 65 x 1/6 |
| Connection DN 50 | Union nut DN 50 per DIN 11851 For pipe dimension 53 x 1,5 mm Pipe standard DIN 11850 row 2 Connection thread RD 78 x 1/6 |
| Surface roughness | Diaphragm Ra ≤ 0.76 µm per ASME BPE SF3 |
| Process temperature | Max +80°C, in sterilisation (SIP) max +130°C |
| Ambient temperature | Ambient temperature standard +10+40°C |
| Working Pressure | 90% of full scale range by fluctuating pressure full scale value by short time pressure |
| Filling media | KN 92 white minerale oil (FDA 21 CFR 172.878) KN 59 Neobee M-20 (FDA 21 CFR 172.856) KN 7 glycerine (FDA 21 CFR 182.1320) |
| Certificate (option) | EN 10204-2.2 FDA-approval filling media EN 10204-2.2 Surface roughness of wetted parts EN 10204-2.2 Test report State-of-the-art EN 10204-3.1 Certificate wetted parts incl. chemical analysis EN 10204-3.1 Certification of class and accuracy EN 10204-3.1 Accuracy calibration values listed EN 10204-3.1 Pressure and stability test EN 10204-3.1 Helium leak test |
| More options | Electropolished diaphragm surface roughness Ra ≤ 0,38 µm Origen of wetted parts from EU, Schweiz or USA |



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Pressure transmitter S-20 for diaphragm seal 990.18

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|------------------------------|--|
| Design | Stainless steel pressure transmitter for universal use |
| Type | S-20 |
| Accuracy | 0,25% (BFSL) 0,5% including non-linearity, hysteresis, zero offset and end value deviation |
| Wetted parts | Wetted parts in stainless steel 316 L |
| Output signal | 4-20 mA (2-wire) or 0-10 V (3-wire) Option: 0-5 V, 1-5 V, 0-5-4,5 V (RAT) or 20-4 mA |
| Power supply | 8-36 VDC (12-36 VDC in 0-10 V) |
| Temperature range | Process temperature -30+100°C Ambient temperature -30+100°C Compensated range 0+80°C |
| Temperature influence | ≤ 0,2%/10K for zeropoint, ≤ 0,2%/10K for span Pressure range < 0,4 = ≤ 0,4%/10K for zeropoint |
| Permissible load | 4-20 mA $RA[\text{Ohm}] = (UB[V]-7,5 \text{ V})/0,023 \text{ A}$ 0-10 V $RA \geq \max 10 \text{ V}/1 \text{ mA}$ |
| Setting time (10-90%) | ≤ 3 ms with 4-20 mA, ≤ 2 ms with 0-10 V (1 ms as option) |
| Long-term drift | ≤ 0,1% of end value each year |
| Service life | 100 million load cycles |
| Overpressure limits | 3 times overpressure safe in pressure range max 6 bar 2 times overpressure safe in pressure range max 6 bar |
| Elanslutning | Angular connector DIN EN 175301-803 A (IP 65) Circular connector M12x1 (IP 67) Cable entry IP 67 or IP 68 |
| Electrical protective | Short-circuit resistance, reverse polarity protection, resistance to overvoltage and insulation voltage |
| Transmission fluid | Synthetic oil Option food-compatible transmission fluid Option oxygen, oil and grease free Option silicone free filling |
| Shock resistance | Mechanical shock 500 g |
| Vibration resistance | Vibration safe 20 g |
| CE-mark | PED 97/23/EG EMC 2004/108/EEC, EN 61326, EM 30 V/m |
| RoHs | RoHs-conformity 2011/65/EU |





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Standard versions 990.18 union nut

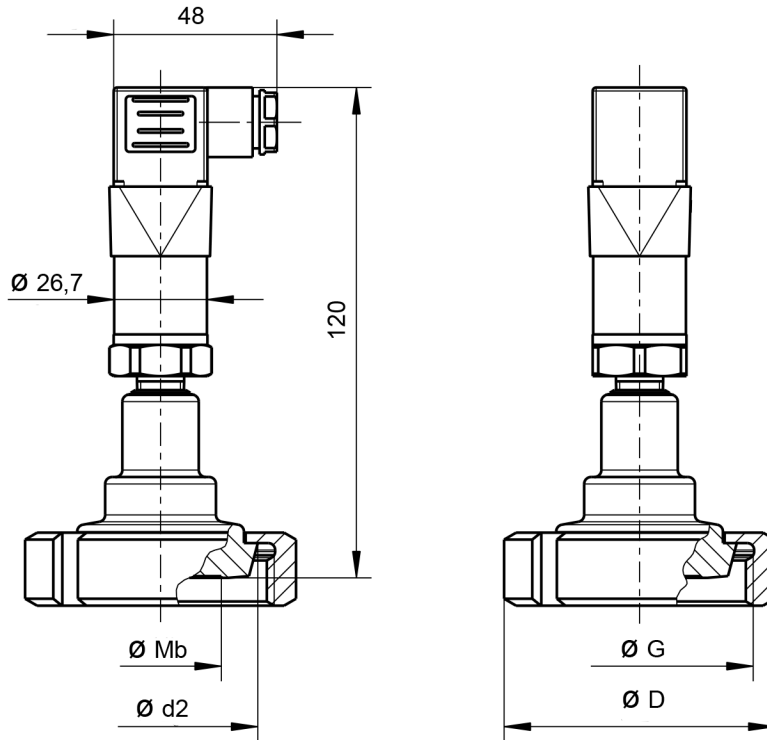
| Diaphragm Seal 990.18 Union nut DIN 11851 DN 25 for pipe 29 x 1,5 DN 40 for pipe 41 x 1,5 mm DN 50 for pipe 53 x 1,5 mm Surface roughness Ra ≤ 0.76 µm Temp +80°C (SIP) max +130°C Filling KN 92 FDA Pressure transmitter S-20 Output signal 4-20 mA (2-wire) Connector DIN 175301-803 A |  |  |  |
|--|---|--|---|
| | DN 25 | DN 40 | DN 50 |
| Pressure range | Code | Code | Code |
| 0-1 bar | 40304002 | 40305002 | 40306003 |
| 0-1,6 bar | 40304003 | 40305003 | 40306003 |
| 0-2,5 bar | 40304004 | 40305004 | 40306004 |
| 0-4 bar | 40304006 | 40305006 | 40306006 |
| 0-6 bar | 40304007 | 40305007 | 40306007 |
| 0-10 bar | 40304008 | 40305008 | 40306008 |
| 0-16 bar | 40304011 | 40305011 | 40306011 |
| 0-25 bar | 40304013 | 40305013 | 40306013 |
| 0-40 bar | 40304015 | 40305015 | 40306015 |
| -1/0 bar | 40304040 | 40305040 | 40306040 |
| -1/+1,5 bar | 40304066 | 40305066 | 40306066 |
| -1/+3 bar | 40304067 | 40305067 | 40306067 |
| -1/+5 bar | 40304068 | 40305068 | 40306068 |
| -1/+9 bar | 40304069 | 40305069 | 40306069 |

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| Type | Design | DN | PN | Pipe | Mb | D | D2 | G |
|--------|-----------|-------|----|----------|----|----|------|-------------|
| 990.18 | DIN 11851 | DN 25 | 40 | 29 x 1,5 | 25 | 63 | 44 | Rd 52 x 1/6 |
| 990.18 | DIN 11851 | DN 32 | 40 | 35 x 1,5 | 32 | 70 | 50 | Rd 58 x 1,6 |
| 990.18 | DIN 11851 | DN 40 | 40 | 41 x 1,5 | 35 | 78 | 56 | Rd 65 x 1/6 |
| 990.18 | DIN 11851 | DN 50 | 25 | 53 x 1,5 | 52 | 92 | 68,5 | Rd 78 x 1,6 |

DN = diameter of lower part

PN = max pressure rate

Mb = diameter of diaphragm