

Diaphragm Seal

990.19 union nut per SMS 3352
with pressure transmitter S-20

E 06.04.13

Ed.17.01

Design	Diaphragm Seal with sterile process connection with union nut per SMS 3352 DN 1 1/2" or DN 2" Pressure transmitter S-20 in stainless steel
Type	990.19
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 1 1/2"	Union nut DN 1 1/2" per SMS SS3352 For pipe dimension 38 x 1,2 mm Pipe standard ISO 1127 row 2 or ISO 2037/1992 Connection thread RD 60 x 1/6
Connection DN 2"	Union nut DN 2" per SMS SS3352 For pipe dimension 51 x 1,2 mm Pipe standard ISO 1127 row 2 or ISO 2037/1992 Connection thread RD 70 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 990.19

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 990.19 union nut

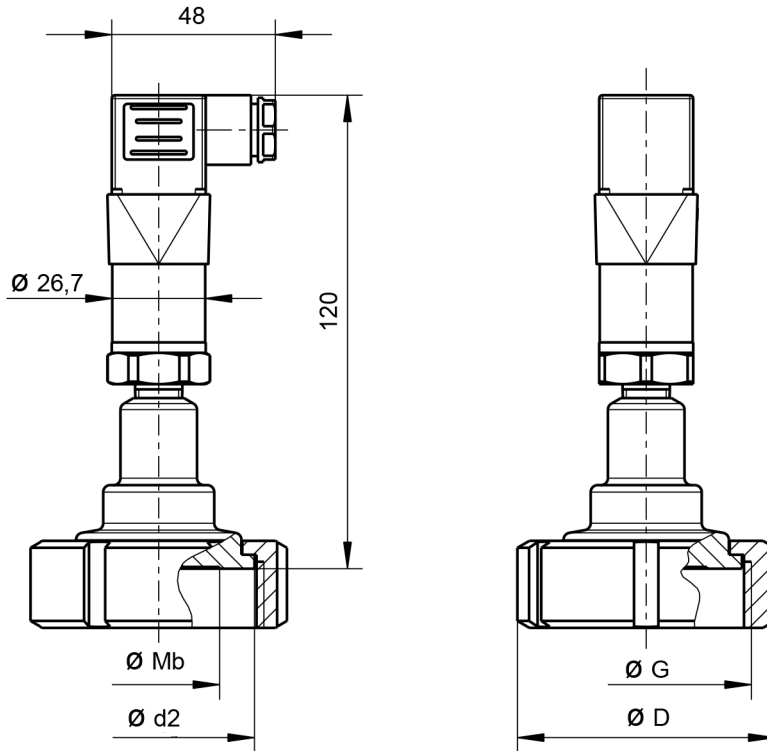
Diaphragm Seal 990.19 Union nut SMS 3352 DN 1 1/2" for pipe dim 38 x 1,2 mm DN 2" for pipe dim 51 x 1,2 mm Surface roughness Ra ≤ 0.76 µm Temp +80°C (SIP) max +130°C Filling KN 92 FDA Pressure transmitter S-20 Output signal 4-20 mA (2-wire) Connector DIN 175301-803 A		
	DN 1 1/2"	DN 2"
Pressure range	Code	Code
0-1 bar	40302002	40303002
0-1,6 bar	40302003	40303003
0-2,5 bar	40302004	40303004
0-4 bar	40302006	40303006
0-6 bar	40302007	40303007
0-10 bar	40302008	40303008
0-16 bar	40302011	40303011
0-25 bar	40302013	40303013
0-40 bar	40302015	40303015
-1/0 bar	40302040	40303040
-1/+1,5 bar	40302066	40303066
-1/+3 bar	40302067	40303067
-1/+5 bar	40302068	40303068
-1/+9 bar	40302069	40303069

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Type	Design	DN	PN	Pipe	Mb	D	d2	G
990.19	SMS 3352	DN 1 1/2"	40	38 x 1,2	35	74	55	Rd 60 x 1/6
990.19	SMS 3352	DN 2"	40	51 x 1,2	45	84	65	Rd 70 x 1/6

DN = diameter of lower part

PN = max pressure rate

Mb = diameter of diaphragm