

Diaphragm Seal

990.22 clamp connection

with pressure transmitter S-20

E 06.05.04

Ed.17.01

Design	Diaphragm Seal for hygienic and sterile industry with clamp connection SMS, ASME or DIN Pressure transmitter in stainless steel type S-20
Type	990.22
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) Option: Electropolished with surface roughness $Ra \leq 0,38 \mu m$
Level of cleanliness	Oil and grease free per ASTM G93-03 level E ($< 550 \text{ mg/m}^2$)
Clamp SMS	Clamp connection from DN 1" to DN 3" Pipe standard per BS4825 Part 3 DN 1 1/2" (TC 50,5) for pipe dim 38,1x1,6 DN 2" (TC 64) for pipe dim 50,8x1,6
Clamp ASME	Clamp connection DIN 32676 from DN 1" to DN 3" Pipe standard per ASME BPE or DIN 11866 row C DN 1 1/2" for pipe dim 38,1x1,65 DN 2" for pipe dim 50,8x1,65
Clamp DIN	Clamp connection DIN 32676 from DN 26,9 to DN 76,1 Pipe standard per DIN 11866 row B or ISO 1127 row 1 DN 33,7 for pipe dim 33,7x2 DN 42,4 for pipe dim 42,4x2
Surface roughness	$Ra \leq 0,76 \mu m$ per ASME BPE SF3 or $Ra \leq 0,38 \mu m$ per ASME BPE SF3 (electropolished)
Process temperature	Max +80°C, in sterilisation (SIP) max +130°C
Ambient temperature	Ambient temperature standard +10+40°C Option lowest temperature to max -40°C Option highest temperature to max +60°C
Working Pressure	90% of full scale range by fluctuating pressure full scale value by short time pressure
Filling media	KN 59 Neobee M-20 (FDA 21 CFR 172.856) KN 92 white minerale oil (FDA 21 CFR 172.878) 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	Material syrafast stainless steel 1.4539 Material Hastelloy C276 (2.819) Material Hastelloy C22 (2.4602) Origen of wetted parts from EU, Schweiz or USA



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Pressure transmitter S-20 for diaphragm seal 990.22

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 spann Pressure range < 0,4 = ≤ 0,4%/10K for zeropoint
Permissible load	4-20 mA RA[Ohm] = (UB[V]-7,5 V)/0,023 A 0-10 V RA ≥ max 10 V/1 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 990.22 clamp connection

<p>Diaphragm Seal 990.22</p> <p>Pipe standard per BS4825 Part 3 DN 1 1/2" (TC 50,5) for pipe dim 38,1x1,6 DN 2" (TC 64) for pipe dim 50,8x1,6 Surface roughness Ra ≤ 0,38 µm Stainless steel electropolished Temperature +80°C (SIP) max +130°C Filling KN 59 FDA</p> <p>With pressure transmitter S-20</p> <p>Certificate 2.2 FDA-approval filling 2.2 Surface roughness of wetted parts 3.1 Wetted parts incl. chemical analysis</p>		
	Pressure transmitter S-20 4-20 mA (2-wire) Connector EN 175301-803 A	Pressure transmitter S-20 4-20 mA (2-wire) Connector EN 175301-803 A
	DN 1 1/2"	DN 2"
Pressure range	Code	Code
0-1 bar	40332002	40333002
0-1,6 bar	40332003	40333003
0-2,5 bar	40332004	40333004
0-4 bar	40332006	40333006
0-6 bar	40332007	40333007
0-10 bar	40332008	40333008
0-16 bar	40332011	40333011
0-25 bar	40332013	40333013
0-40 bar	40332015	40333015
-1/0 bar	40332040	40333040
-1/+1,5 bar	40332066	40333066
-1/+3 bar	40332067	40333067
-1/+5 bar	40332068	40333068
-1/+9 bar	40332069	40333069

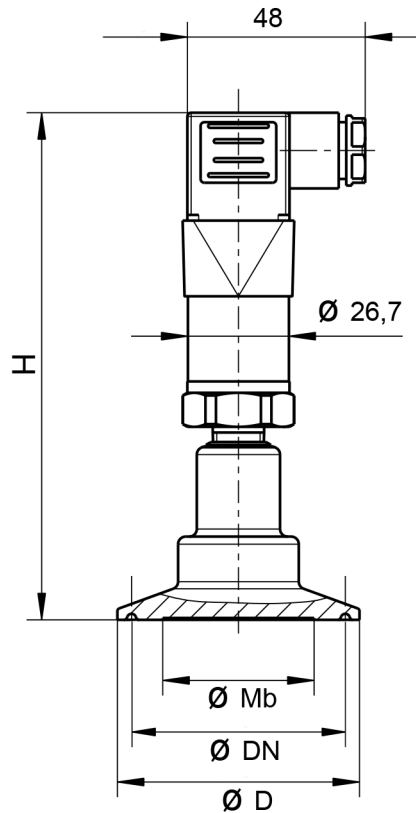
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Diaphragm Seal 990.22 with clamp
for pipe standard BS4825 part 3 or O.D.-Tube

DN	D	Mb	Pipe	PN
DN 1"	50,5	22	25,4 x 1,6	40
DN 1 1/2"	50,5	32	38,1 x 1,6	40
DN 2"	64	40	50,8 x 1,6	40
DN 2 1/2"	77,5	52	63,5 x 1,6	40
DN 3"	91	59	76,2 x 1,6	25

Diaphragm Seal 990.22 with clamp DIN 32676
for pipe standard DIN 11866 row C or ASME BPE

DN	D	Mb	Pipe	PN
DN 1"	50,5	22	25,4 x 1,65	40
DN 1 1/2"	50,5	32	38,1 x 1,65	40
DN 2"	64	40	50,8 x 1,65	40
DN 2 1/2"	77,5	52	63,5 x 1,65	40
DN 3"	91	59	76,2 x 1,65	25

Diaphragm Seal 990.22 with clamp DIN 32676
for pipe standard DIN 11866 row C or ISO 1127

DN	D	Mb	Pipe	PN
DN 26,9	50,5	22	26,9 x 1,6	40
DN 33,7	50,5	25	33,7 x 2	40
DN 42,4	64	32	42,4 x 2	40
DN 48,3	64	40	48,3 x 2	40
DN 60,3	77,5	52	60,3 x 2	40
DN 76,1	91	59	76,1 x 2	25

H = 115-118 mm depending on DN size

DN = diameter of lower part

PN = max pressure rate

Mb = diameter of diaphragm

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Optional extras for type 990.22



Type	Material	Dimension	DN	Code
Welding socket 4210	stainless steel 316L	38 mm	DN 1 1/2"	40262101
Welding socket 4210	stainless steel SS2348	51 mm	DN 2"	40262107



Type	Material	Dimension	DN	Code
Clamp ring 4212	stainless steel SS2343	38 mm	DN 1 1/2"	40262102
Clamp ring 4212	stainless steel SS2333	51 mm	DN 2"	40262108



Type	Material	Dimension	DN	Code
Lower part 4214 G1/2 with clamp ring and sealing ring of PTFE	stainless steel SS2348	38 mm	DN 1 1/2"	40262115



Type	Material	Dimension	DN	Code
Sealing ring 4216	NBR	38 mm	DN 1 1/2"	40262006
Sealing ring 4216	EPDM	51 mm	DN 2"	40262109
Sealing ring 4216	PTFE	38 mm	DN 1 1/2"	40262103
Sealing ring 4216	PTFE	51 mm	DN 2"	40262110