

Diaphragm Seal

990.22 clamp connection

with stainless steel pressure gauge dim 63

E 06.05.00

Ed.17.01

Design	Diaphragm Seal for hygienic and sterile industry with clamp connection SMS, ASME or DIN Pressure gauge in stainless steel dim 63 mm
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 gauges for mounting with diaphragm seal 990.22



Stainless steel version

lower mount

Case of stainless steel dim 63 mm, wetted parts of stainless steel

Accuracy Cl.1,6%, pressure range max 40 bar

Ingress protection IP 65 EN 60529/IEC 529

Pressure limitation 90% of full scale value by fluctuating pressure

2840 = standard without case filling

2940 = with liquid filled case (glycerine)



Stainless steel version

back mount

Case of stainless steel dim 63 mm, wetted parts of stainless steel

Accuracy Cl.1,6%, pressure range max 40 bar

Ingress protection IP 65 EN 60529/IEC 529

Pressure limitation 90% of full scale value by fluctuating pressure

2841 = standard without case filling

2941 = with liquid filled case (glycerine)



Stainless steel safety version

lower mount

Case of stainless steel dim 63 mm, wetted parts of stainless steel

Safety version EN 837-1 (S3) with safety wall behind the scale

Accuracy Cl.1,6%, pressure range max 40 bar

Ingress protection IP 65 EN 60529/IEC 529

Pressure limitation 90% of full scale value by fluctuating pressure

232.30 = standard without case filling

233.30 = with liquid filled case (glycerine)

Options for pressure gauges

- Dial with unit bar/Pa, bar/psi, kPa, MPa, psi
- ATEX protection c with device cat 2G/2D
- Design acc.to NACE Sour Gas Service
- Design Oxygen Oil- and Grease free
- Silicone free version
- Dial with colored fields or customer logo
- Ingress protection IP 66 or IP 67
- Case in stainless steel 316 Ti
- Case polished
- Case epoxy-coated
- Case PTFE-coated
- Liquid filled case silicone M50 for low ambient temperatures



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Standard versions 990.22 clamp connection

<p>Diaphragm Seal 990.22 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>Stainless steel pressure gauge liquid filled case dim 63 mm</p> <p>Certificate 2.2 FDA-approval filling 2.2 Surface roughness of wetted parts 3.1 Wetted parts incl. chemical analysis</p>				
	2940 dim 63 lower mount with 990.22 clamp connection		2941 dim 63 back mount with 990.22 clamp connection	
	DN 1 1/2"	DN 2"	DN 1 1/2"	DN 2"
Pressure range	Code	Code	Code	Code
0-1 bar	40266302	40266322	40266702	40266722
0-1,6 bar	40266303	40266323	40266703	40266723
0-2,5 bar	40266304	40266324	40266704	40266724
0-4 bar	40266306	40266326	40266706	40266726
0-6 bar	40266307	40266327	40266707	40266727
0-10 bar	40266308	40266328	40266708	40266728
0-16 bar	40266311	40266331	40266711	40266731
0-25 bar	40266313	40266333	40266713	40266733
0-40 bar	40266315	40266335	40266715	40266735
-1/+1,5 bar	40266366	40266386	40266766	40266786
-1/+3 bar	40266367	40266387	40266767	40266787
-1/+5 bar	40266368	40266388	40266768	40266788
-1/+9 bar	40266369	40266389	40266769	40266789

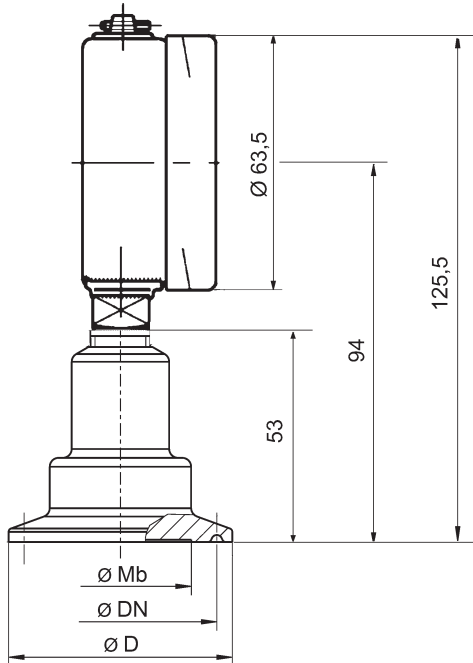
Diaphragm Seal

990.22 clamp connection

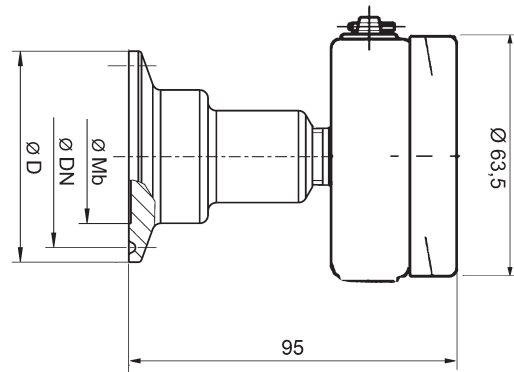
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Diaphragm seal 990.22 with clamp connection
with pressure gauge 2840, 2940 lower mount



Diaphragm seal 990.22 with clamp connection
with pressure gauge 2841, 2941 back mount



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

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