

# Diaphragm Seal

990.22 clamp connection

with stainless steel pressure gauge dim 100

E 06.05.01

Ed.17.01

<b>Design</b>	Diaphragm Seal for hygienic and sterile industry with clamp connection SMS, ASME or DIN Pressure gauge in stainless steel dim 100 mm
<b>Type</b>	<b>990.22</b>
<b>Pressure rate</b>	PN 40 for pressure range from 0-1 bar to 0-40 bar
<b>Material standard</b>	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 $R_a \leq 0,38 \mu\text{m}$
<b>Level of cleanliness</b>	Oil and grease free per ASTM G93-03 level E ( $< 550 \text{ mg/m}^2$ )
<b>Clamp SMS</b>	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
<b>Clamp ASME</b>	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
<b>Clamp DIN</b>	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
<b>Surface roughness</b>	$R_a \leq 0,76 \mu\text{m}$ per ASME BPE SF3 or $R_a \leq 0,38 \mu\text{m}$ per ASME BPE SF3 (electropolished)
<b>Process temperature</b>	Max +80°C, in sterilisation (SIP) max +130°C
<b>Ambient temperature</b>	Ambient temperature standard +10+40°C Option lowest temperature to max -40°C Option highest temperature to max +60°C
<b>Working Pressure</b>	90% of full scale range by fluctuating pressure full scale value by short time pressure
<b>Filling media</b>	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)
<b>Certificate (option)</b>	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
<b>More options</b>	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 100 mm, wetted parts of stainless steel

Accuracy Cl.1,0%, 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)

**2880** = with vibration damped movement



### Stainless steel version

#### back mount

Case of stainless steel dim 100 mm, wetted parts of stainless steel

Accuracy Cl.1,0%, 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)

**2881** = with vibration damped movement



### Stainless steel safety version

#### lower mount

Case of stainless steel dim 100 mm, wetted parts of stainless steel

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

Accuracy Cl.1,0%, 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><b>Diaphragm Seal 990.22</b>                  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 100 mm</p> <p><b>Certificate</b>                  2.2 FDA-approval filling                  2.2 Surface roughness of wetted parts                  3.1 Wetted parts incl. chemical analysis</p>				
		<b>DN 1 1/2"</b>	<b>DN 2"</b>	<b>DN 1 1/2"</b>
<b>Pressure range</b>	Code	Code	Code	Code
0-1 bar	40266402	40266422	40266602	40266622
0-1,6 bar	40266403	40266423	40266603	40266623
0-2,5 bar	40266404	40266424	40266604	40266624
0-4 bar	40266406	40266426	40266606	40266626
0-6 bar	40266407	40266427	40266607	40266627
0-10 bar	40266408	40266428	40266608	40266628
0-16 bar	40266411	40266431	40266611	40266631
0-25 bar	40266413	40266433	40266613	40266633
0-40 bar	40266415	40266435	40266615	40266635
-1/+1,5 bar	40266466	40266486	40266666	40266686
-1/+3 bar	40266467	40266487	40266667	40266687
-1/+5 bar	40266468	40266488	40266668	40266688
-1/+9 bar	40266469	40266489	40266669	40266689



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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