

# Diaphragm Seal

990.19 threaded connection SMS 3352  
with stainless steel pressure gauge

E 06.04.10

Ed.17.01

<b>Design</b>	Diaphragm Seal with sterile process connection with threaded connection per SMS 3352 DN 1 1/2" or DN 2" Pressure gauge in stainless steel
<b>Type</b>	<b>990.19</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)
<b>Level of cleanliness</b>	Oil and grease free per ASTM G93-03 level E (< 550 mg/m <sup>2</sup> )
<b>Connection DN 1 1/2"</b>	Threaded connection 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
<b>Connection DN 2"</b>	Threaded connection 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
<b>Surface roughness</b>	Diaphragm Ra ≤ 0.76 µm per ASME BPE SF3
<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>	Electropolished diaphragm surface roughness Ra ≤ 0,38 µm Origen of wetted parts from EU, Schweiz or USA



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## Pressure gauges for mounting with diaphragm seal 990.19



### Stainless steel version

Case of stainless steel dim 100 mm, wetted parts of stainless steel  
Accuracy Cl.1,0%, pressure range max 250 bar  
Ingress protection IP 65 EN 60529/IEC 529

Pressure limitation 90% of full scale value by fluctuating pressure

**2840** = lower mount - standard without case filling

**2841** = back mount - standard without case filling

**2940** = lower mount - with liquid filled case (glycerine)

**2941** = back mount - with liquid filled case (glycerine)

**2880** = with vibration damped movement



### Stainless steel safety version

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 250 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)



### With electrical switch

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 250 bar

Ingress protection IP 65 EN 60529/IEC 529

Pressure limitation 90% of full scale value by fluctuating pressure

Magnet spring switch 821 or inductive switch 831

Single switch with function max or min

Double switch with function max-min, min-max, 2x max or 2x min

**PGS23.100** = case with or without liquid filled case

## 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 990.19 threaded connection

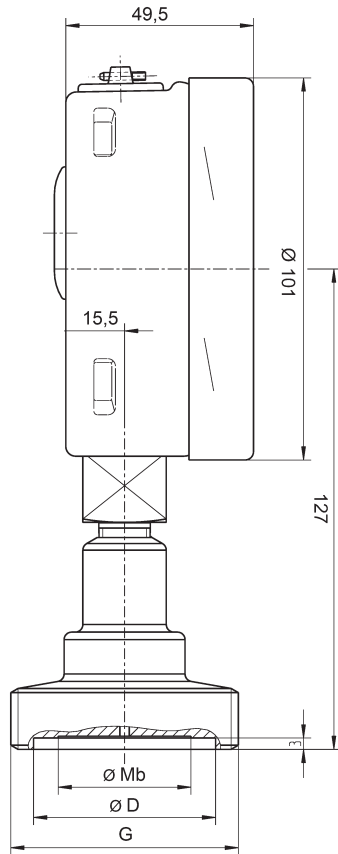
<b>Diaphragm Seal 990.19</b>  Threaded connection SMS 3352 DN 1 1/2" for pipe dim 38 x 1,2 mm DN 2" for pipe dim 51 x 1,2 mm Surface roughness Ra ≤ 0.76 µm Temp +80°C (SIP) max +130°C Filling KN 59 FDA  Stainless steel pressure gauge liquid filled case dim 100 mm				
	2940 dim 100 lower mount with 990.19 threaded connection		2941 dim 100 back mount with 990.19 threaded connection	
	<b>DN 1 1/2"</b>	<b>DN 2"</b>	<b>DN 1 1/2"</b>	<b>DN 2"</b>
<b>Pressure range</b>	Code	Code	Code	Code
0-2,5 bar	40266004	40265704	40266804	40268004
0-4 bar	40266006	40265706	40266806	40268006
0-6 bar	40266007	40265707	40266807	40268007
0-10 bar	40266008	40265708	40266808	40268008
0-16 bar	40266011	40265711	40266811	40268011
0-25 bar	40266013	40265713	40266813	40268013
0-40 bar	40266015	40265715	40266815	40268015
-1/+1,5 bar	40266066	40265766	40266866	40268066
-1/+3 bar	40266067	40265767	40266867	40268067
-1/+5 bar	40266068	40265768	40266868	40268068
-1/+9 bar	40266069	40265769	40266869	40268069

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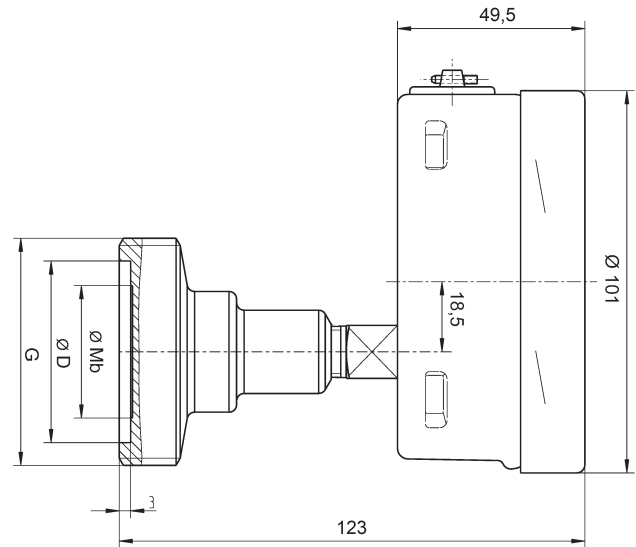
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Diaphragm seal 990.19 with threaded connection  
with pressure gauge 2940 lower mount



Diaphragm seal 990.19 with threaded connection  
with pressure gauge 2941 back mount



Type	Design	DN	PN	Pipe	Mb	D	G
990.19	SMS 3352	DN 1 1/2"	40	38 x 1,2	35	48	Rd 60 x 1/6
990.19	SMS 3352	DN 2"	40	51 x 1,2	45	61	Rd 70 x 1/6

DN = diameter of lower part

PN = max pressure rate

Mb = diameter of diaphragm