

# Diaphragm Seal

990.18 threaded connection per DIN 11851  
with stainless steel pressure gauge

E 06.04.15

Ed.17.01

<b>Design</b>	Diaphragm Seal with sterile process connection with threaded connection per DIN 11851 DN 25, 32, 40 or 50. Pressure gauge in stainless steel
<b>Type</b>	<b>990.18</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 25</b>	Threaded connection DN 25 per DIN 11851 For pipe dimension 29 x 1,5 mm Pipe standard DIN 11850 row 2 Connection thread RD 52 x 1/6
<b>Connection DN 32</b>	Threaded connection DN 32 per DIN 11851 For pipe dimension 35 x 1,5 mm Pipe standard DIN 11850 row 2 Connection thread RD 58 x 1/6
<b>Connection DN 40</b>	Threaded connection DN 40 per DIN 11851 For pipe dimension 41 x 1,5 mm Pipe standard DIN 11850 row 2 Connection thread RD 65 x 1/6
<b>Connection DN 50</b>	Threaded connection DN 50 per DIN 11851 For pipe dimension 53 x 1,5 mm Pipe standard DIN 11850 row 2 Connection thread RD 78 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 990.18



### 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 990.18 threaded connection

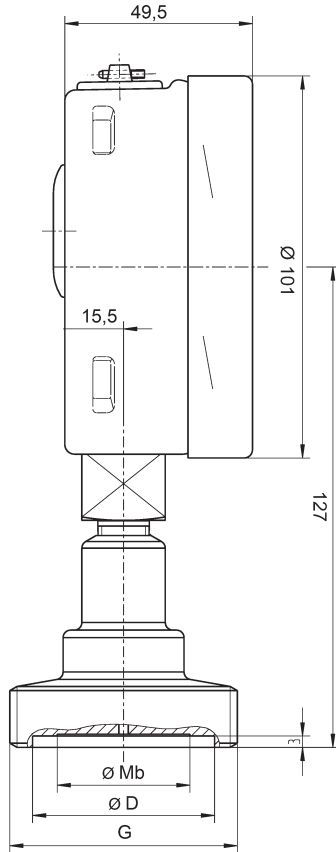
<b>Diaphragm Seal 990.18</b>  Threaded connection DIN 11851 DN 40 for pipe 41 x 1,5 mm DN 50 for pipe 53 x 1,5 mm Surface roughness Ra ≤ 0.76 µm Temp +80°C (SIP) max +130°C Filling KN 59 FDA  Stainless steel pressure gauge liquid filled case dim 100 mm				
	2940 dim 100 lower mount with 990.18 threaded connection		2941 dim 100 back mount with 990.18 threaded connection	
	<b>DN 40</b>	<b>DN 50</b>	<b>DN 40</b>	<b>DN 50</b>
<b>Pressure range</b>	Code	Code	Code	Code
0-2,5 bar	40268204	40268304	40268404	40268504
0-4 bar	40268206	40268306	40268406	40268506
0-6 bar	40268207	40268307	40268407	40268507
0-10 bar	40268208	40268308	40268408	40268508
0-16 bar	40268211	40268311	40268411	40268511
0-25 bar	40268213	40268313	40268413	40268513
-1/+5 bar	40268268	40268368	40268468	40268568

# Diaphragm Seal

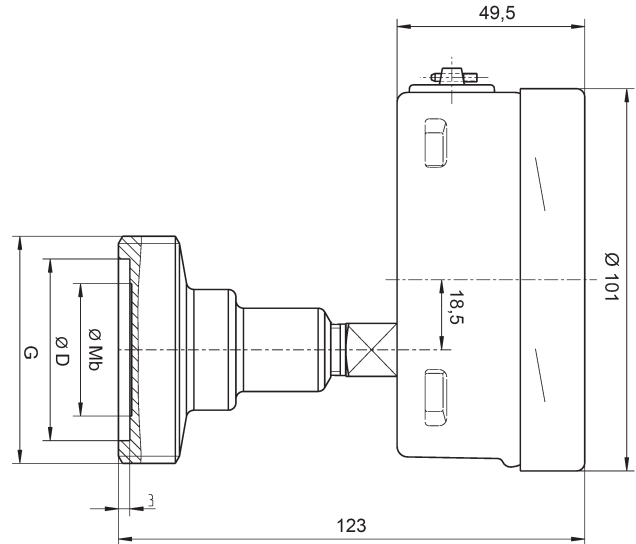
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Diaphragm seal 990.18 with threaded connection  
with pressure gauge 2940 lower mount



Diaphragm seal 990.18 with threaded connection  
with pressure gauge 2941 back mount



Type	Design	DN	PN	Pipe	Mb	D	G
990.18	DIN 11851	DN 25	40	29 x 1,5	25	44	Rd 52 x 1/6
990.18	DIN 11851	DN 32	40	35 x 1,5	32	50	Rd 58 x 1,6
990.18	DIN 11851	DN 40	40	41 x 1,5	35	56	Rd 65 x 1/6
990.18	DIN 11851	DN 50	25	53 x 1,5	52	68,5	Rd 78 x 1,6

DN = diameter of lower part

PN = max pressure rate

Mb = diameter of diaphragm