

Diaphragm seal with flange connection

For the pulp and paper industry

Model 990.23

WIKA data sheet DS 99.34



for further approvals
see page 6

Applications

- Highly viscous, hardening or particle-laden media
- Pulp manufacture
- Waste-paper processing

Special features

- Rotatable retainer flange
- Versions with 90° pipe elbow and vibration damper



Diaphragm seal with flange connection, model 990.23

Description

Diaphragm seals are used for the protection of pressure measuring instruments in applications with difficult media. In diaphragm seal systems, the diaphragm of the diaphragm seal effects the separation of the instrument and the medium. The pressure is transmitted to the measuring instrument via the system fill fluid which is inside the diaphragm seal system.

For the implementation of demanding customer applications, there are a wide variety of designs, materials and system fill fluids available.

For further technical information on diaphragm seals and diaphragm seal systems see IN 00.06 "Application, operating principle, designs".

The model 990.23 diaphragm seal has been developed for use in pulp manufacture or waste-paper processing applications.

Mounting of the diaphragm seal to the measuring instrument may be made via a direct connection, for high temperatures via a cooling element or via a flexible capillary. Optionally, there are pipe elbows and vibration dampers available.

For the material selection WIKA offers a variety of solutions, in which the upper body of the diaphragm seal and the wetted parts can be made of identical or different materials. The wetted parts can, as an alternative, be coated.

Specifications

Model 990.23	Standard	Option
Pressure range	0 ... 0.6 to 0 ... 40 bar (0 ... 8.7 to 0 ... 580 psi)	
Level of cleanliness of wetted parts	Oil and grease free per ASTM G93-03 level F WIKA standard (< 1,000 mg/m ²)	<ul style="list-style-type: none"> ■ Oil and grease free per ASTM G93-03 level D and ISO 15001 (< 220 mg/m²) ■ Oil and grease free per ASTM G93-03 level C and ISO 15001 (< 66 mg/m²)
Origin of wetted parts	International	<ul style="list-style-type: none"> ■ EU ■ CH ■ USA
Extension length	6.5 mm (0.256 in)	17 mm (0.669 in)
Connection to the measuring instrument	Axial weld-in connection	Axial weld-in connection with G ½, G ¼, ½ NPT or ¼ NPT (female)
Type of mounting	Direct mounting	<ul style="list-style-type: none"> ■ 90° pipe elbow, rotatable through 180° ■ 90° pipe elbow, fixed ■ 90° pipe elbow and vibration damper, rotatable through 180° ■ 90° pipe elbow and vibration damper, fixed ■ Capillary ■ Cooling element
Retainer flange	Stainless steel 316L	-
Accessories	-	<ul style="list-style-type: none"> ■ Welding socket for integration into the process line, see data sheet AC 09.20 ■ Perbunan sealing

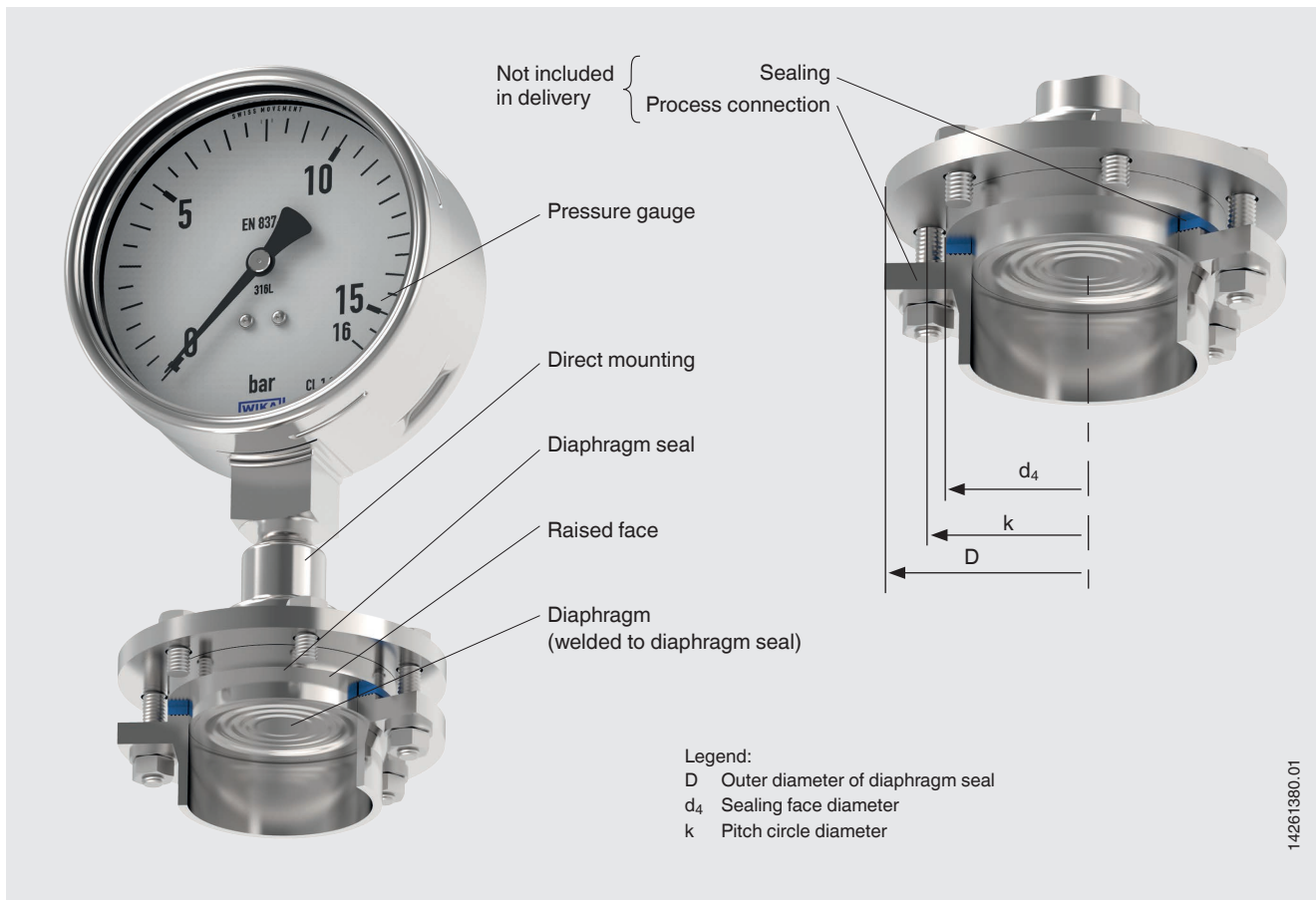
Material combinations

Upper body of diaphragm seal	Wetted parts	Maximum permissible process temperature ¹⁾ in °C (°F)
Stainless steel 1.4404 (316L)	Stainless steel 1.4404 / 1.4435 (316L), standard version	400 (752)
	Ceramic coating wikaramic®	
	PFA (perfluoroalkoxy) coating, FDA	260 (500)
	PFA (perfluoroalkoxy) coating, antistatic	
	ECTFE coating	150 (302)
Stainless steel 1.4435 (316L)	Stainless steel 1.4435 (316L)	400 (752)
Stainless steel 1.4541 (321)	Stainless steel 1.4541 (321)	
Stainless steel 1.4571 (316Ti)	Stainless steel 1.4571 (316Ti)	
Duplex 2205 (1.4462)	Duplex 2205 (1.4462)	300 (572)
Monel 400 (2.4360)	Monel 400 (2.4360)	400 (752)

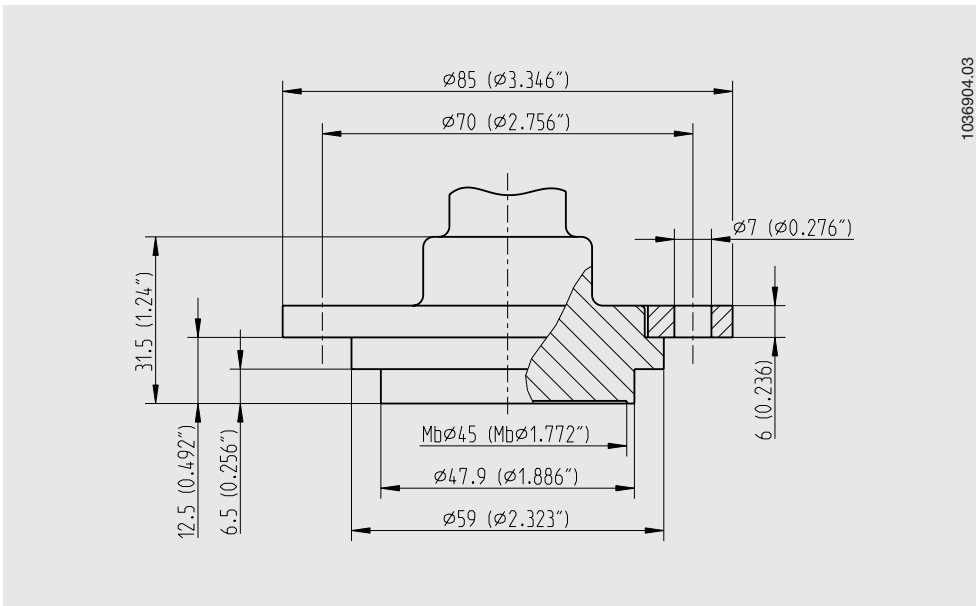
1) The maximum permissible process temperature is limited by the joining method and by the system fill fluid.

Further material combinations for special process temperatures on request

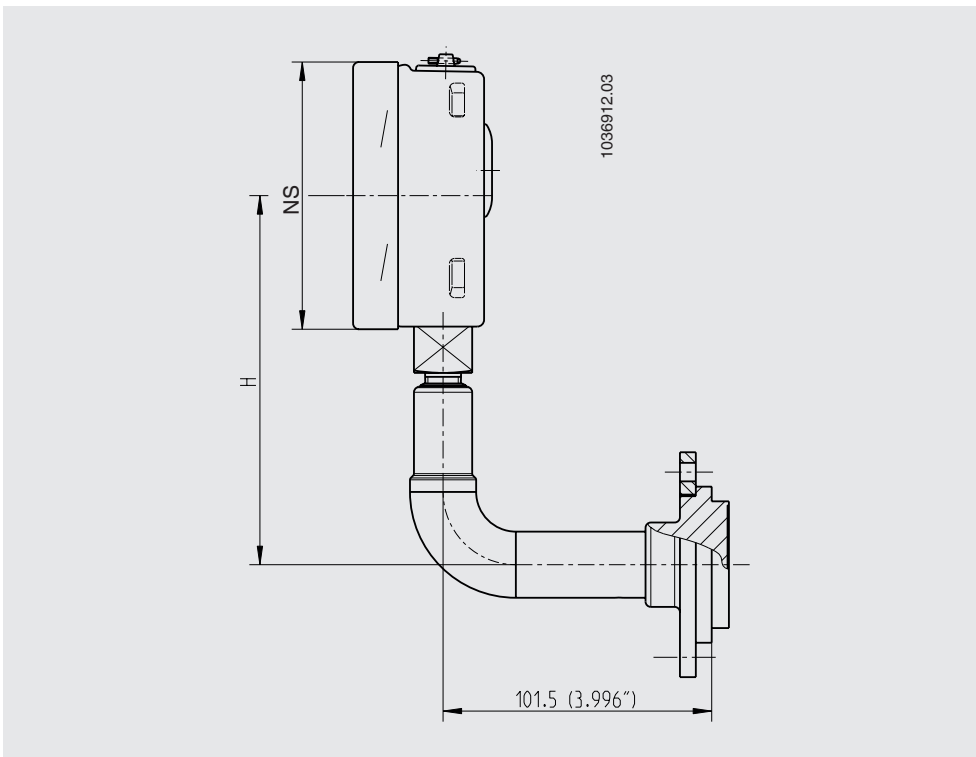
Example: Diaphragm seal model 990.23



Standard version

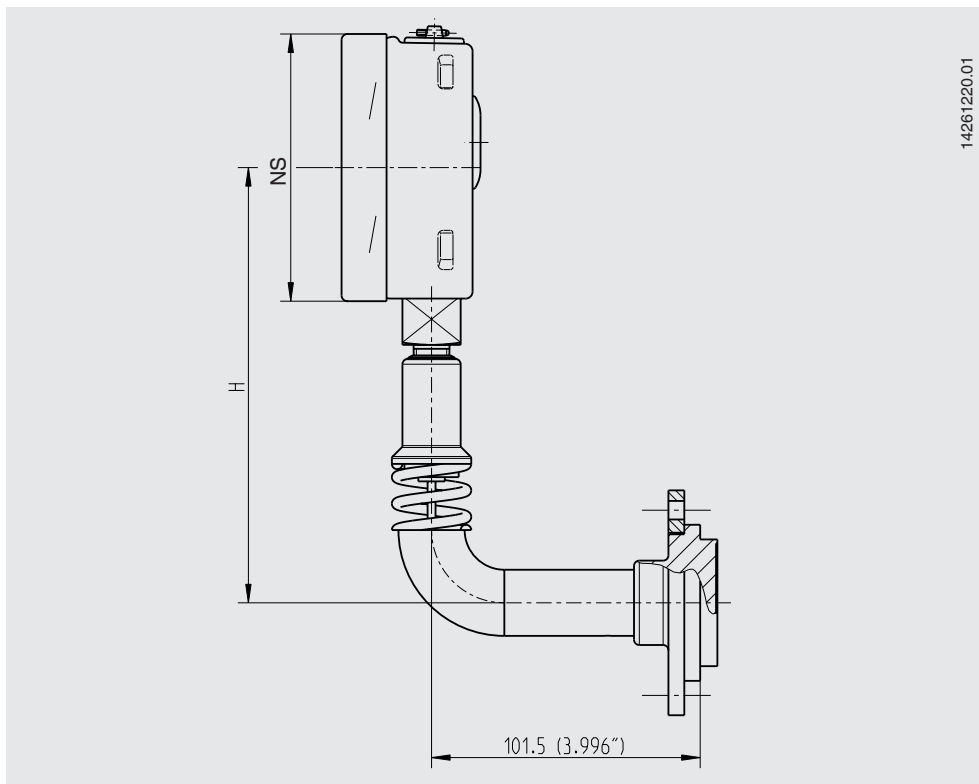


Version with 90° pipe elbow



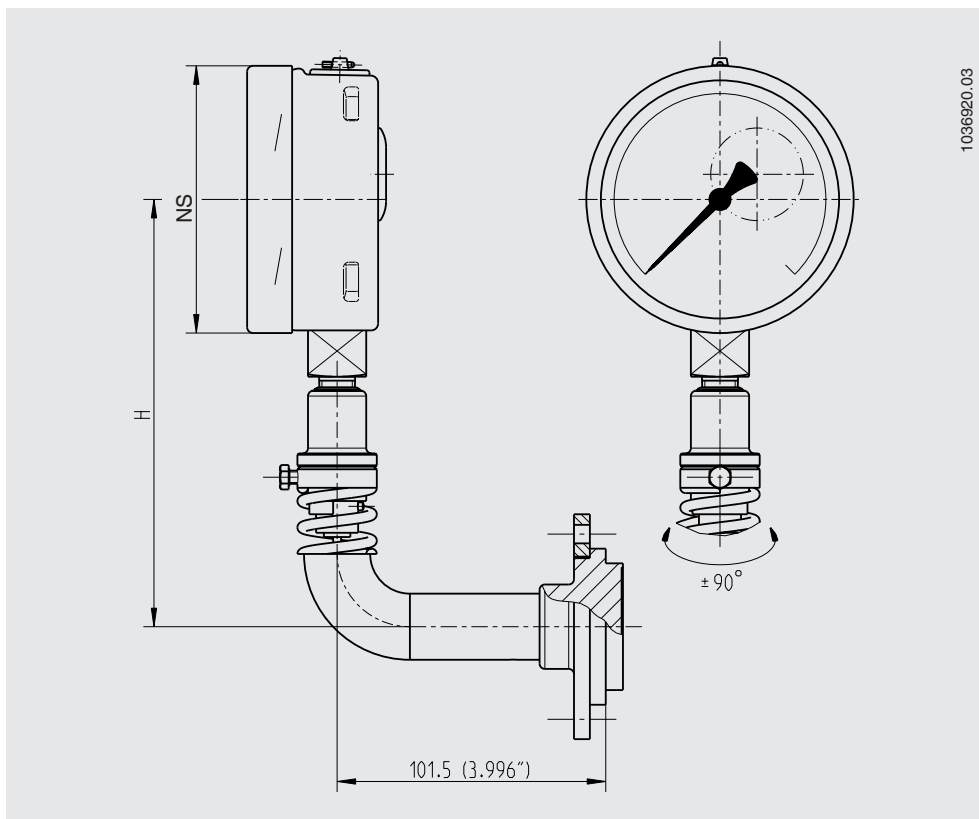
Dimensions in mm (in)	
NS	H
63 (2.48)	120 (4.724)
100 (3.937)	140 (5.512)
160 (6.299)	170 (6.693)

Version with 90° pipe elbow and vibration damper
 (only for filled pressure gauges up to NS 100)




Dimensions in mm (in)	
NS	H
63 (2.48)	145 (5.709)
100 (3.937)	165 (6.496)
160 (6.299)	195 (7.677)

Version with 90° pipe elbow and vibration damper, rotatable
 (only for filled pressure gauges up to NS 100)



Dimensions in mm (in)	
NS	H
63 (2.48)	142 (5.591)
100 (3.937)	162 (6.378)
160 (6.299)	192 (7.559)

Approvals

Logo	Description	Country
	EAC (option) Pressure equipment directive	Eurasian Economic Community
-	CRN Safety (e.g. electr. safety, overpressure, ...)	Canada
-	MTSCHS (option) Permission for commissioning	Kazakhstan

Certificates (option)

- 2.2 test report per EN 10204 (e.g. state-of-the-art manufacturing, material proof, indication accuracy for diaphragm seal systems)
- 3.1 inspection certificate per EN 10204 (e.g. material proof for wetted metallic parts, indication accuracy for diaphragm seal systems)

Approvals and certificates, see website

Ordering information

Diaphragm seal:

Diaphragm seal model / Process connection (nominal pressure) / Materials (upper body, sealing face, diaphragm, sealing) / Level of cleanliness of wetted parts / Origin of wetted parts / Design per NACE / Connection to the measuring instrument / Certificates / Retainer parts / Accessories

Diaphragm seal system:

Diaphragm seal model / Pressure measuring instrument model (per data sheet) / Mounting (direct mounting, cooling element, capillary) / Type of mounting (pipe elbow, vibration damper) / Materials (upper body, sealing face, diaphragm) / Min. and max. process temperature / Min. and max. ambient temperature / System fill fluid / Certificates / Height difference / Level of cleanliness of wetted parts / Origin of wetted parts / Accessories

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We reserve the right to make modifications to the specifications and materials.

