

Diaphragm seal with sterile connection

DRD connection

Model 990.17

WIKA data sheet DS 99.39



for further approvals
see page 3

Applications

- Dairies, dairy products
- Fermentation and aging tanks for beer and wine
- Soft drink production
- Hydrostatic level measurement in storage tanks

Special features

- Flush, aseptic process connection
- Dead-space free installation
- Suitable for SIP and CIP
- 3-A compliant
- Rotatable retainer flange



Diaphragm seal with sterile connection, model 990.17

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 is 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".

Thanks to its flush process connection, the model 990.17 diaphragm seal is optimally suited for installation in storage tanks. With a suitable welding flange, this diaphragm seal can

be integrated into any type of tank or vessel. Level measurement with diaphragm seals also works with media that, due to the process, are under pressure and have high or low viscosity.

The model 990.17 diaphragm seal is particularly suitable for CIP cleaning processes as it meets the requirements for elevated temperatures and chemical resistance to cleaning solutions.

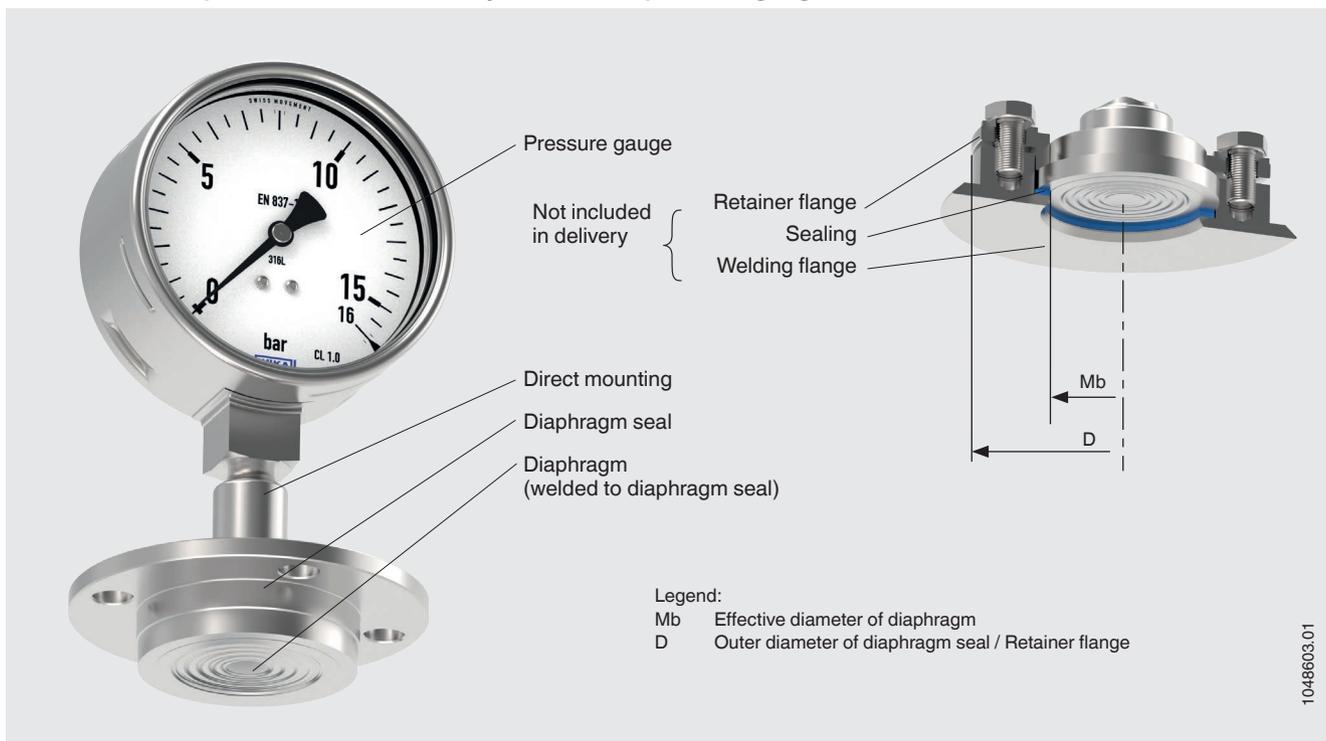
Mounting of the diaphragm seal to the measuring instrument may be made via a direct connection, for high temperatures via a cooling element or via a flexible capillary.

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

Specifications

Model 990.17	Standard	Option
Pressure range	0 ... 1 bar to 0 ... 40 bar [0 ... 14.5 psi to 0 ... 580 psi] or all other equivalent vacuum or combined pressure and vacuum ranges	
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 C and ISO 15001 (< 66 mg/m²) ■ Oil and grease free per ASTM G93-03 level D and ISO 15001 (< 220 mg/m²)
Origin of wetted parts	International	EU, CH, USA
Surface roughness of wetted parts	Ra ≤ 0.76 µm per ASME BPE SF3 (except for weld seam)	Ra ≤ 0.38 µm per ASME BPE SF4, only with electropolished surface (except for weld seam)
Material	Stainless steel 1.4435 (316L)	-
Connection to the measuring instrument	Axial gauge adapter	Axial gauge adapter with G 1/2, G 1/4, 1/2 NPT or 1/4 NPT (female)
Type of mounting	Direct mounting	<ul style="list-style-type: none"> ■ Capillary ■ Cooling element
Vacuum service (see IN 00.25)	Basic service	<ul style="list-style-type: none"> ■ Premium service ■ Advanced service
Assembly parts	<ul style="list-style-type: none"> ■ Retainer flange, stainless steel 1.4435 (316L) ■ Hexagon screws M10 x 20, stainless steel 	Welding flange for DRD connection, stainless steel 1.4435 (316L)
Marking of the diaphragm seal	-	Per valid 3-A standard
Instrument mounting bracket (only for capillary option)	-	<ul style="list-style-type: none"> ■ Form H per DIN 16281, 100 mm, aluminium, black ■ Form H per DIN 16281, 100 mm, stainless steel ■ Bracket for pipe mounting, for pipe Ø 20 ... 80 mm, steel (see data sheet AC 09.07)

Installation example, model 990.17 directly mounted to pressure gauge



Approvals

Logo	Description	Country
	EU declaration of conformity Pressure equipment directive	European Union
	EAC (option) Pressure equipment directive	Eurasian Economic Community
	3-A Sanitary Standard	USA
-	CRN Safety (e.g. electr. safety, overpressure, ...)	Canada
-	MTSCHS (option) Permission for commissioning	Kazakhstan

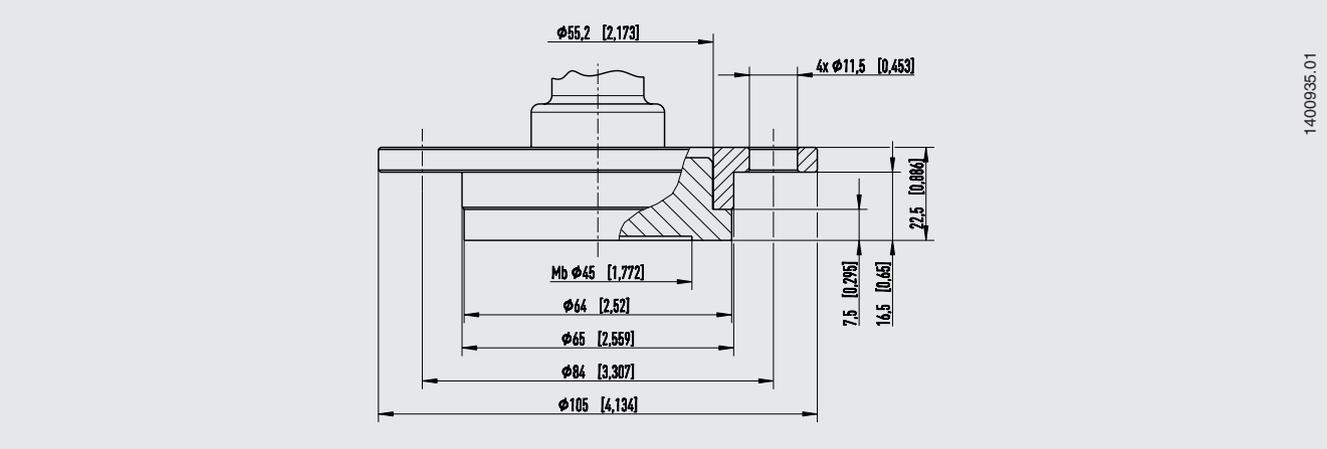
Certificates (option)

- 2.2 test report per EN 10204
 - State-of-the-art manufacturing, material proof, indication accuracy for diaphragm seal systems
 - FDA conformity of the system fill fluid
 - 3-A conformity of the diaphragm seal, based on a third party verification
- 3.1 inspection certificate per EN 10204
 - Material proof, wetted metal parts
 - Indication accuracy for diaphragm seal systems
- Manufacturer's declaration for food contact materials regarding regulation (EC) No. 1935/2004
- Others on request

Approvals and certificates, see website

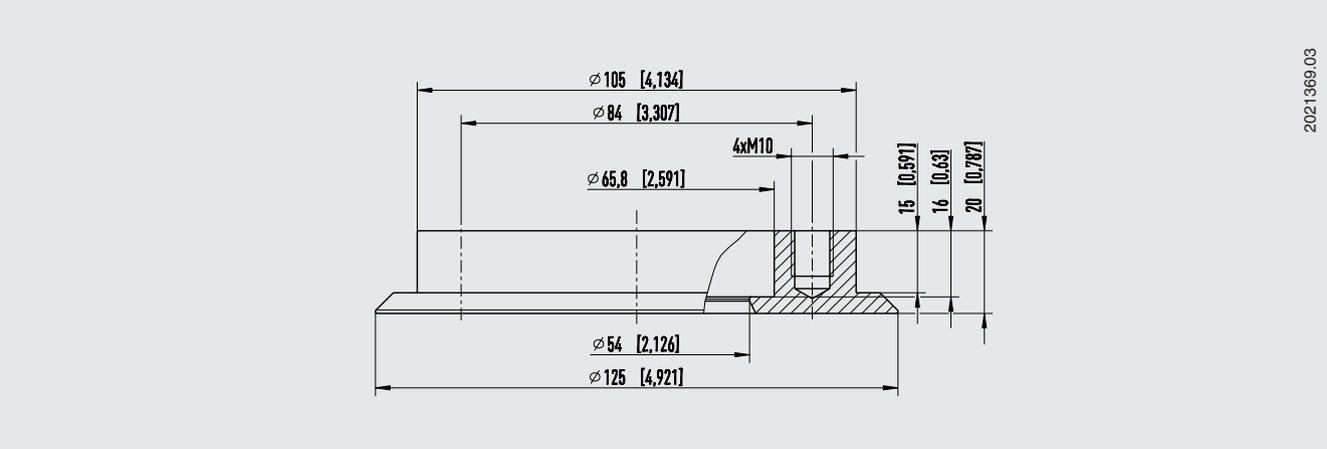
Dimensions in mm [in]

Model 990.17 with DRD connection and retainer flange
 Assembly alternatively by direct welding or via capillary



1400935.01

Welding flange for DRD connection (option)



2021369.03

Ordering information

Diaphragm seal:

Diaphragm seal model / Process connection (type and specification of process connection) / Material (upper body, diaphragm) / Surface roughness of wetted parts / Connection to the measuring instrument / Level of cleanliness of wetted parts / Origin of wetted parts / Certificates

Diaphragm seal system:

Diaphragm seal model / Process connection (type of process connection, pipe standard, pipe dimension) / Material (upper body, diaphragm) / Surface roughness of wetted parts / Sealing / Pressure measuring instrument model (per data sheet) / Mounting (direct mounting, cooling element, capillary) / min. and max. process temperature / min. and max. ambient temperature / Vacuum service / System fill fluid / Certificates / Height difference / Level of cleanliness of wetted parts / Origin of wetted parts / Instrument mounting bracket

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