

Diaphragm seal

screw-in thread HYGIENIC, gasket-free

Type series DE2130



Application area

- Food industry
- Pharmaceutical industry
- Biotechnology

Features

- Flush-mounted separating diaphragm of stainless steel, laser welded
- Hygienic sealing (no elastomer)
- Fast and easy mounting
- The measuring system can be positioned as required by means of the rotary screwed plug
- Minimum mounting torque error / no torsion
- System fillings for different applications
- Measuring device connection:
 - directly welded
 - with capillary

Options

- Labom REconnect quick coupling device for easy and safe separation and connection of diaphragm seal systems. Available with a wide range of pressure gauges and pressure transmitters; Type series MK1000, see data sheet D6-022
- Certificates
 - Material certificate acc. to EN 10204-3.1
- Electropolishing (wetted parts)
- Hygienic design with advanced surface quality
- Special materials upon request

Application

Suitable for mounting to pressure measuring devices. The rotary connection allows the measuring system to be positioned on site, even when welding sleeves have already been mounted. The diaphragm seal for screw-in thread HYGIENIC, no gasket, is used mainly for dead-zone free pressure measurement.

Technical data

Constructional design

Basic body:	Volume reduced diaphragm base Material: stainless steel mat.-no. 1.4404/1.4435 (316L)
Diaphragm:	Flat diaphragm
Material wetted parts:	Diaphragm: Stainless steel mat.-no. 1.4435 (316L) Further materials upon request Basic body: Stainless steel mat.-no. 1.4404/1.4435 (316L)

Process connection

Design:	G 1 A adjustable, metal-to-metal joint. Due to the rotary screw-in design no torsional forces are produced that could damage the sealing surface.
Tightening torque/Nominal pressure:	20 Nm, max. nominal pressure 10 bar 50 Nm, max. nominal pressure 50 bar

Mounting torque error

At a tightening torque of 20 Nm: 1 mbar

Measuring device connection

See order details.

Material stainless steel mat.-no. 1.4301 (304)

System filling

See order details; further upon request.

Further details about pressure transmission fluids see general technical information TA_038.

Hygienic design

The surface roughness of the wetted parts made of stainless steel are executed according to EHEDG Doc.8 and ASME BPE SF3.

In case of choosing the additional feature HY, we guarantee the following surface roughness values:

Diaphragm foil:	$Ra \leq 0.38 \mu\text{m}$
Laser welds:	$Ra \leq 0.76 \mu\text{m}$
Turned parts:	$Ra \leq 0.76 \mu\text{m}$

Further versions of hygienic design upon request.

Temperature error

In order to optimise the system we provide a detailed error calculation upon request.

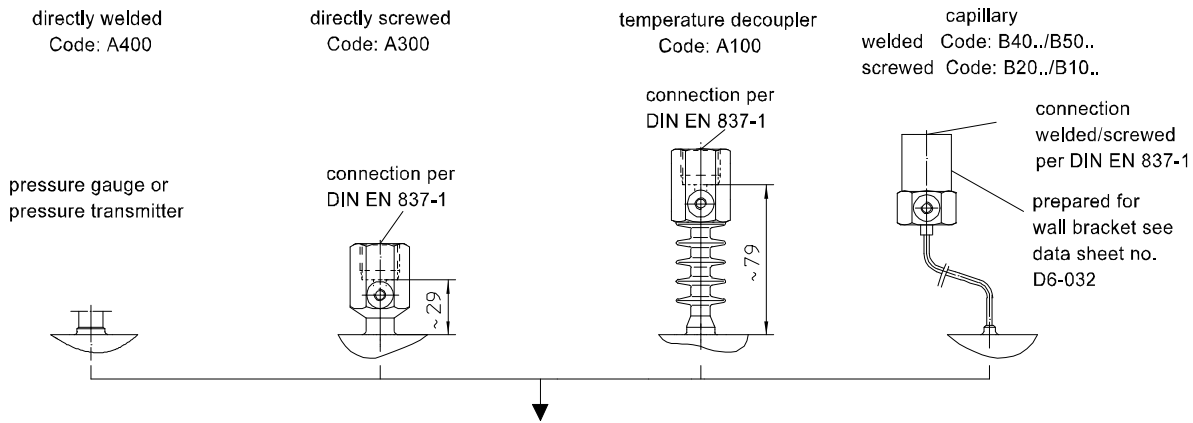
Weight

Diaphragm seal and screwed plug approx. 0.3 kg

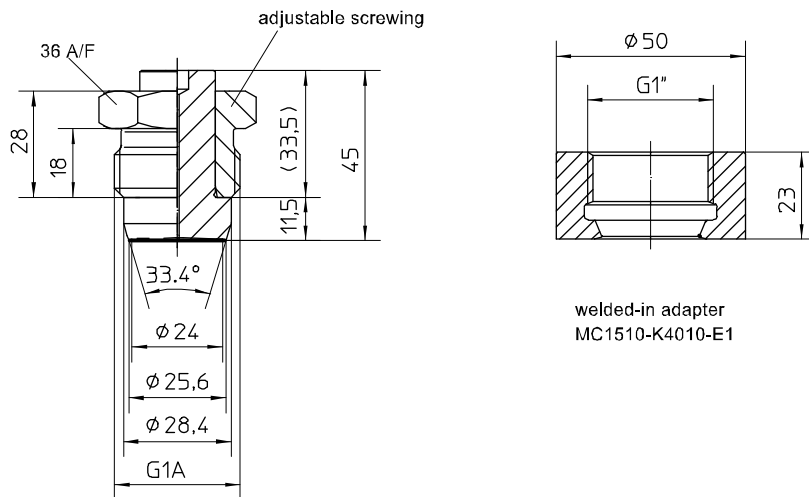
Further information about diaphragm seals see general technical information TA_031.

Flame arrester MF21xx for connection of measuring devices to zone 0 see data sheet D6-025.

Measuring device connection



Dimensions



Order details

Diaphragm seal screw-in thread HYGIENIC, gasket-free

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Order details diaphragm seal DE2130

DE2130	design	screw-in thread HYGIENIC, gasket-free		
	surface roughness	standard		
HY		Hygienic version as per EHEDG Doc.8 and ASME BPE SF3		
D13	process connection	G1 A adjustable, metal-to-metal joint		
E1	material sealing surface	stainless steel mat.-no. 1.4404/1.4435 (316L)		
E9		variant		
G7	diaphragm seal material	stainless steel mat.-no. 1.4435 (316L)		
G9		variant		
A400	measuring device connection	directly welded		
B40..		with capillary, welded		
B50..		with capillary and stainless steel protective tube, welded		
11		capillary length	1 m	
12			1.6 m	
13			2.5 m	
14			4 m	
21			5 m	
15			6 m	
23			7 m	
16	8 m			
17	10 m			
9	others			
	system filling ¹	<u>pressure transmission fluid</u>	<u>temperature range</u> ²	
L22		synthetic oil, free of silicone FD1, standard	-10...140 °C	
L23		synthetic oil, free of silicone FD1, pls. specify max. temperature	-40...230 °C	
L15		glycerine/water FGW	-30...110 °C	

Additional features (to be indicated in case of need, only)

W1020	material certificate per EN 10204-3.1, wetted parts
W4035	electropolishing of wetted parts

Accessories

MC1510-K4010-E1	welded socket, Ø 50 mm, G 1", HYGIENIC, gasket-free, material stainless steel mat.-no. 1.4404 (316L)
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Order code (example): DE2130 - D13 - E1 - G7 - A400 - L22 - ...

¹ for more detailed information about pressure transmission fluids see TA_038. Please state temperature range to allow an accurate calculation of the system.

² max. media temperature for pressures > 0 bar rel.