

Diaphragm seal

HYGIENIC Tubus Ø 76 mm with clamping flange

Type series DL81..



Application area

- Food industry
- Pharmaceutical industry
- Biotechnology

Features

- Flush-mounted separating diaphragm of stainless steel or special material
- Alternative with reinforced diaphragm in LTC technology (reduced temperature influence)
- Volume optimised diaphragm base
- Available with loose or fixed clamping flange
- System fillings for different applications
- Measuring device connection:
 - directly welded
 - directly screwed
 - with temperature decoupler
 - with capillary

Options

- 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 bourdon tube pressure gauges and pressure transmitters. The diaphragm seal HYGIENIC Tubus 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), alternative Hastelloy C276
Clamping flange:	Material: Stainless steel mat.-no. 1.4435 / 1.4404 (316L)
Diaphragm:	Flush-mounted diaphragm, laser welded; alternative with reduced temperature influence and reinforced diaphragm in LTC technology. (LTC=Low Temperature Coefficient) Further details see General technical information TA_031.
Material wetted parts:	Diaphragm: Stainless steel mat.-no. 1.4435 (316L), alternative Hastelloy C276 Further materials upon request Basic body: Stainless steel mat.-no. 1.4404/1.4435 (316L), alternative Hastelloy C276 Further materials upon request.

Process connection

Design:	HYGIENIC Tubus Ø 76 mm with ■ loose clamping flange ■ fixed clamping flange
Nominal pressure:	PN 16
Gasket:	Material EPDM, FDA listed Temperature range: -45...150 °C

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:	$Ra \leq 0.38 \mu m$
Laser welds:	$Ra \leq 0.76 \mu m$
Turned parts:	$Ra \leq 0.76 \mu m$

Further versions of hygienic design upon request.

Temperature error

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

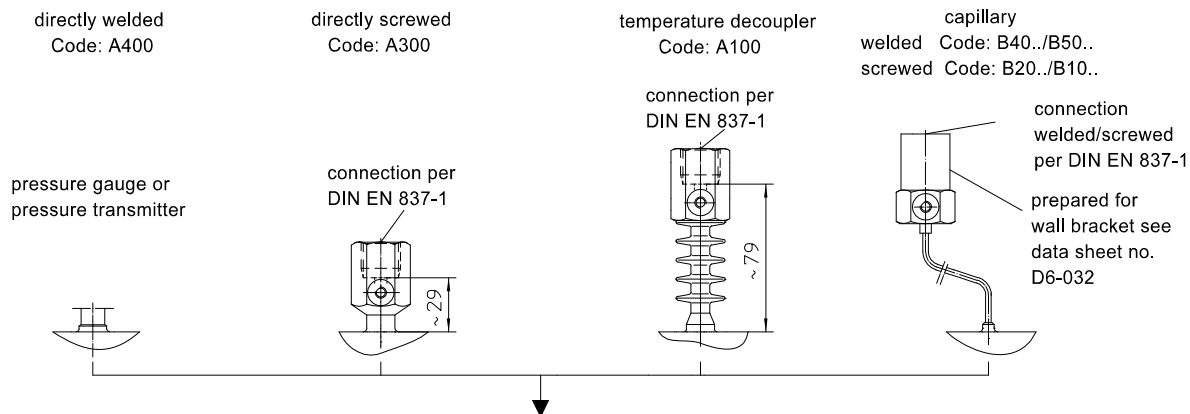
Weight

With measuring device connection G1/2 approx. 0.8 kg

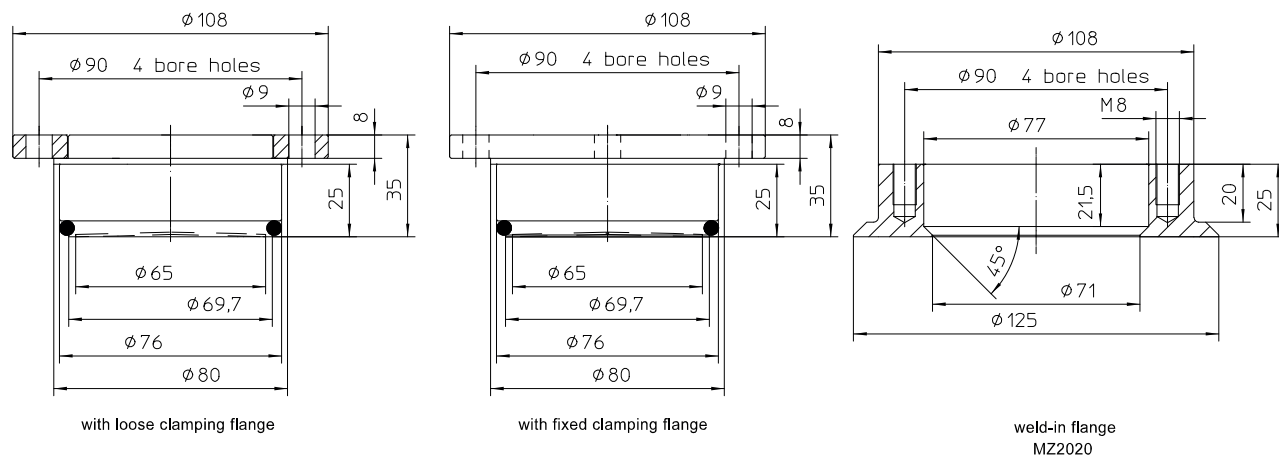
Further information about diaphragm seals see general technical information TA_031.

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

Measuring device connection



Dimensions



Order details

Diaphragm seal HYGIENIC Tubus Ø 76 mm with clamping flange Type series DL81..

Order details diaphragm seal DL81..			
DL8120	design	HYGIENIC Tubus Ø 76 mm	with loose clamping flange
DL8130			with fixed clamping flange
HY	surface roughness	Hygienic version as per EHEDG Doc.8 and ASME BPE SF3	
E7	basic body material	stainless steel mat.-no. 1.4435 (316L)	
E3		Hastelloy C276	
G7	diaphragm material	stainless steel mat.-no. 1.4435 (316L)	
G7L		stainless steel mat.-no. 1.4435 (316L), diaphragm in LTC technology	
G3		Hastelloy C276	
H2	gasket	EPDM, FDA compliant (standard), temperature range -45...150 °C	
H9		variant	
A400	measuring device connection	directly	welded
A300			screwed G1/2
A100		with temperature decoupler	screwed G1/2
B40..		with capillary	welded
B20..			screwed G1/2
B50..		with capillary and stainless steel protective tube	welded
B10..			screwed G1/2
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, please specify max. temperature	-40...230 °C ²
L15		glycerine/water FGW	-30...110 °C

Additional features (to be indicated in case of need, only)	
W1020	material certificate acc. to EN 10204-3.1, wetted parts
W4035	electropolishing of wetted parts

Accessories	
MZ2020-HY-E7	weld-in flange, stainless steel mat.-no. 1.4435 (316L), hygienic design
MZ8100-A11	hexagon screw M8 x 20 DIN 933, material stainless steel mat.-no. 1.4301 (304)

Order code (example): DL8120 - HY - E7 - G7 - H2 - 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. The temperature range of the used gasket has to be observed.