

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

- 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 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 <ul style="list-style-type: none">■ 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 ≤ 0.38 µm |
| Laser welds: | Ra ≤ 0.76 µm |
| Turned parts: | Ra ≤ 0.76 µm |

Further versions of hygienic design upon request.

Temperature error

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

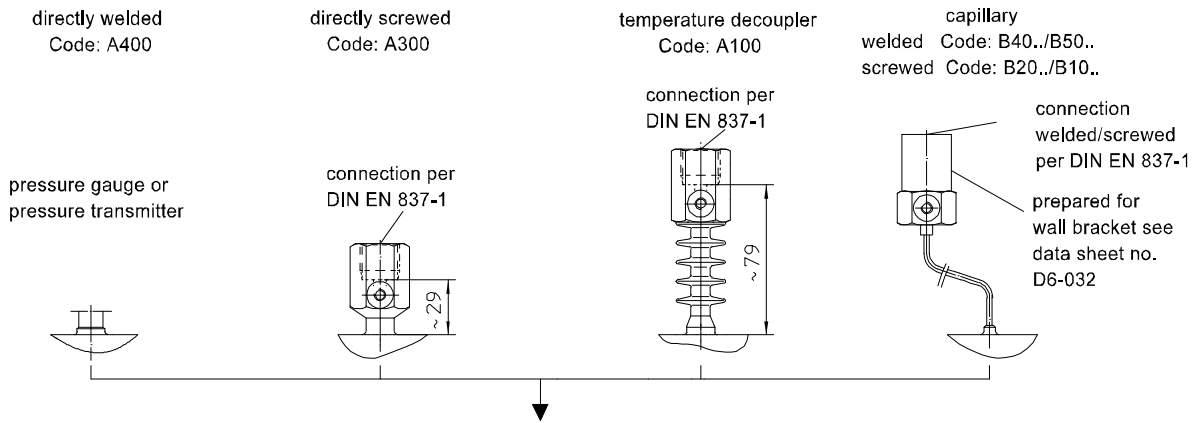
Weight

With measuring device connection G1/2 approx. 0.8 kg

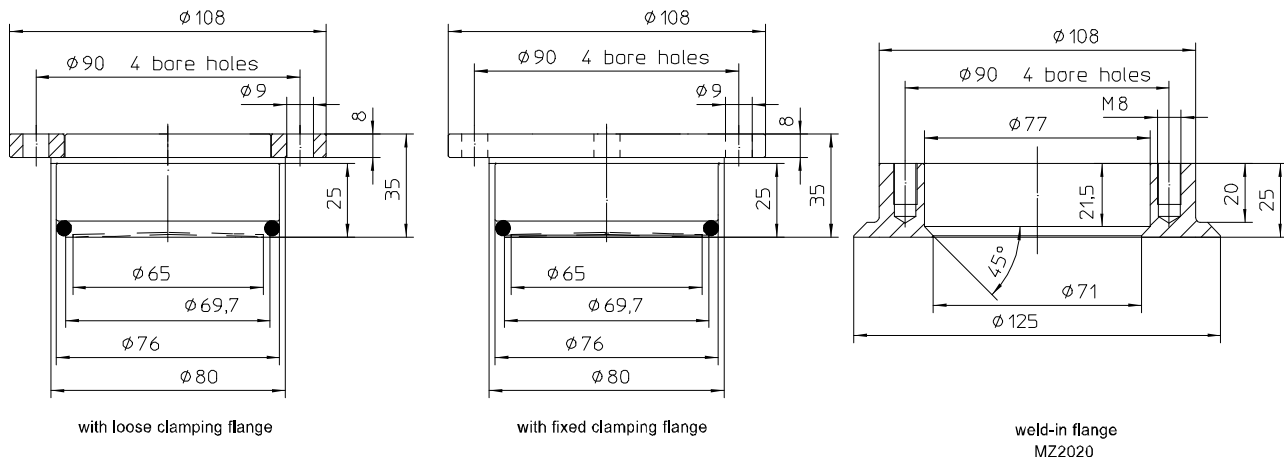
Further information about diaphragm seals see general technical information TA_031.

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 | | stainless steel mat.-no. 1.4435 (316L) | |
| G7L | diaphragm material | 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 | | | 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 | | |
| | | <u>pressure transmission fluid</u> | <u>temperature range</u> ² |
| L22 | system filling ¹ | 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.