Diaphragm seal

process connection per Ingold

Type series DL8090

Features

- Flush-mounted separating diaphragm of stainless steel or special material
- Volume optimised diaphragm base
- 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 area

- Food industry
- Pharmaceutical industry
- Biotechnology

Application

Suitable for mounting to bourdon tube pressure gauges and pressure transmitters. The diaphragm seal for process connection per Ingold 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) Further materials upon request
Diaphragm:	Flat diaphragm
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)

Process connection

Design:	Process connection per Ingold ■ DN 25, union nut G1 1/4“ ■ DN 50, union nut G2“
Nominal pressure:	PN 60
Gasket:	O-ring gasket, material EPDM Temperature range: -40...140 °C Further gaskets upon request.

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.

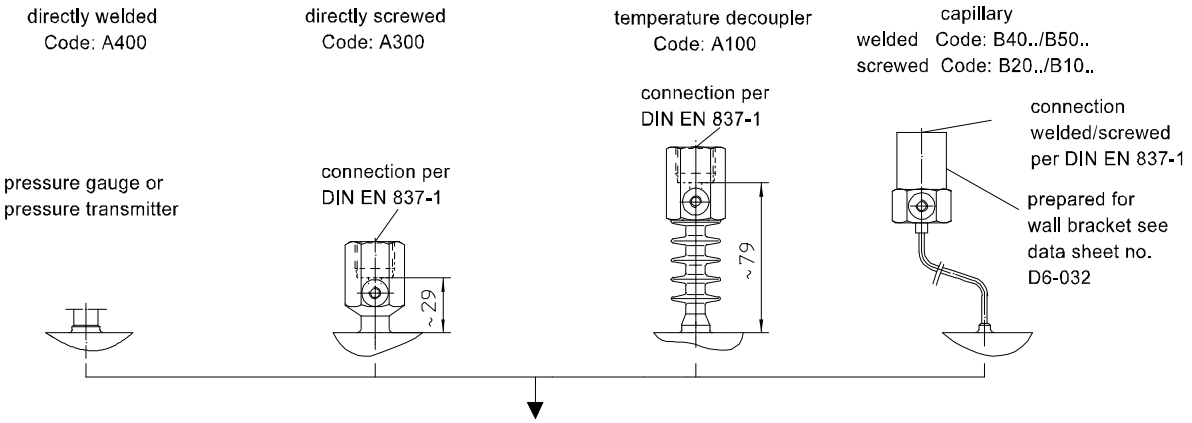
Weight

See table.

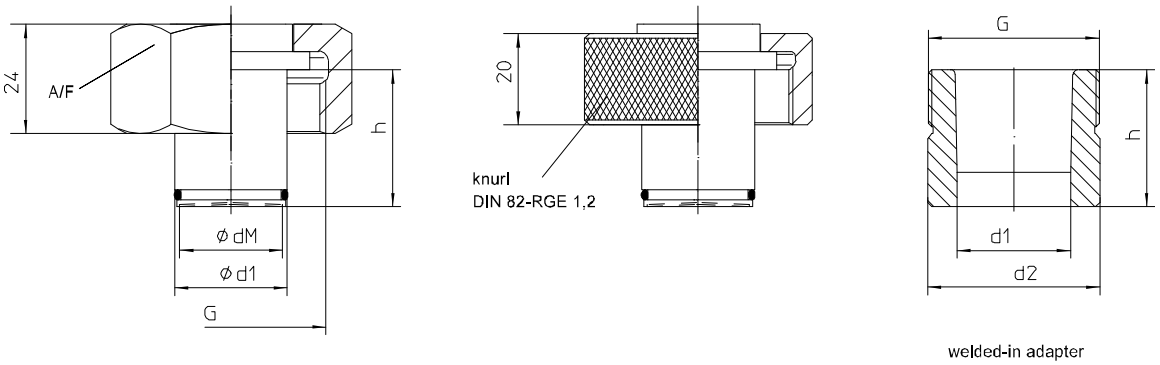
Further information about diaphragm seals see general technical information TA_031.

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

Measuring device connection



Dimensions



welded-in adapter

Nominal width	dM	d1	d2	h	G	A/F	Weight approx.
DN 25	22.6	25	42	46	G 1 1/4"	46	0.6 kg
DN 50	42	50	68	60	G 2“	70	1.5 kg

Dimensions in mm

Order details

Diaphragm seal process connection per Ingold, Type series DL8090

Order details DL8090			
DL8090	design	Process connection per Ingold	
	surface roughness	standard	
HY		Hygienic version as per EHEDG Doc.8 and ASME BPE SF3	
D2546	process connection[1]	DN 25 hexagon union nut A/F 46, G 1 1/4"	h = 46 mm
D2599			h = as in writing
D2646		DN 25 union nut knurled Ø 50, G 1 1/4"	h = 46 mm
D2699			h = as in writing
D5160		DN 50 hexagon union nut A/F 70, G 2"	h = 60 mm
D5199			h = as in writing
D5260		DN 50 union nut knurled Ø 75, G 2"	h = 60 mm
D5299			h = as in writing
E7	basic body material [2]	stainless steel mat.-no. 1.4435 (316L)	
E11		stainless steel mat.-no. 1.4539 (904L)	
E3		Hastelloy C276	
E9		variant	
G7	diaphragm material	stainless steel mat.-no. 1.4435 (316L)	
G3		Hastelloy C276	
G9		variant	
H2	gasket	EPDM, FDA compliant (standard), temperature range -40...140 °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 [2]	pressure transmission fluid	temperature range[3]
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 [3]
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			
MZ2011	**D2546**	weld-in socket	DN 25, G1 1/4", h = 46 mm, material stainless steel mat.-no. 1.4404 (316L)
MZ2011	**D5160**		DN 50, G2", h = 60 mm, material stainless steel mat.-no. 1.4404 (316L)

Order code (example): DL8090 - D5160 - E7 - G7 - H2 - A300 - L22 - ...

[1] additional designs upon request
[2] wetted basic body
[3] further and detailed Informations to pressure transmission fluids see TA_038
[4] max. media temperature for pressures > 0 bar rel. The temperature range of the used gasket has to be observed.