

Diaphragm seal

per DIN 11851, IDF and SMS
Type series DL1/2.., DL6/7..



Application area

- Food industry
- Pharmaceutical industry
- Biotechnology

Features

- Flush-mounted separating diaphragm of stainless steel, laser welded
- Alternative with reinforced diaphragm in LTC technology (reduced temperature influence)
- Volume optimised diaphragm base
- DIN 11851 and IDF per ISO 2853 with EHEDG certificate
- Dead-zone free design
- 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 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)
Union nut:	Material: stainless steel mat.-no. 1.4301 (304)
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) Further materials upon request Basic body: Stainless steel mat.-no. 1.4404/1.4435 (316L) Further materials upon request.

Process connection

Design:	Sanitary connections design with union nut or threaded coupling: <ul style="list-style-type: none"> ■ DIN 11851 ■ IDF ■ SMS
Nominal pressure/nominal width:	See table

Sealing are not included in the scope of delivery.

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.

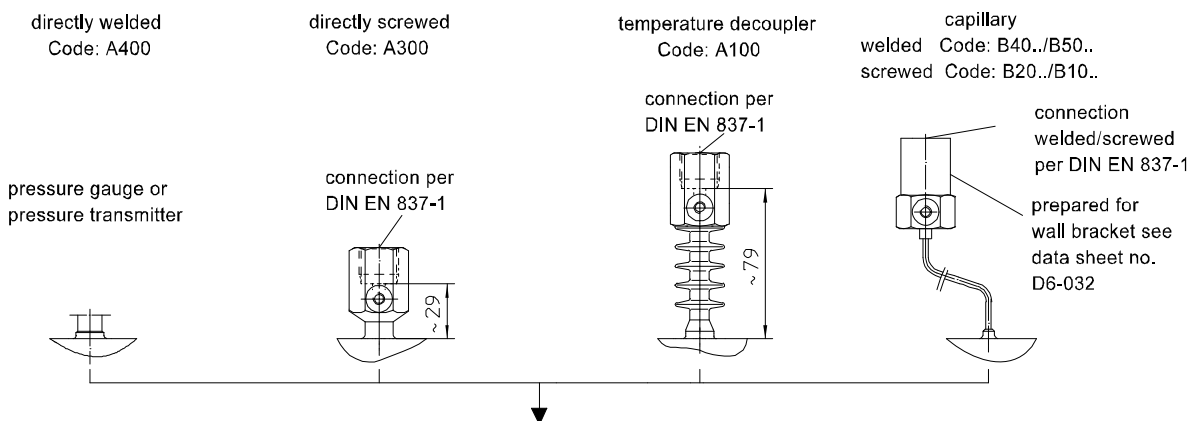
Weight

See table.

Further information about diaphragm seals see general technical information TA_031.

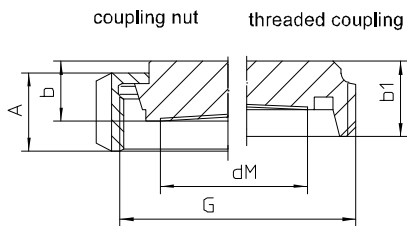
Flame arrester MF21xx for connection of measuring devices to zone 0 see data sheet D6-025.

Measuring device connection



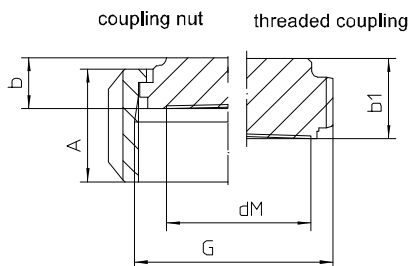
Dimensions

sanitary connection
per DIN 11851



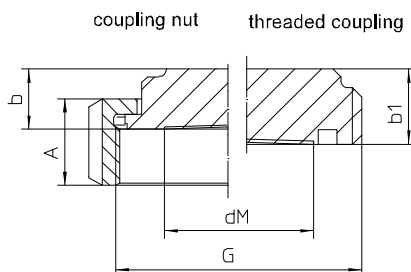
Sanitary pipe connection per DIN 11851 for pipes per EN 10357 (DIN 11850)							
DN	PN	dM	G	A	b	b1	weight approx.
25	40	27	Rd. 52x1/6"	21	16	20	0.3 kg
32	40	34	Rd. 58x1/6"	21	16	20	0.4 kg
40	40	40	Rd. 65x1/6"	21	16	20	0.5 kg
50	25	51	Rd. 78x1/6"	22	17	20	0.6 kg
65	25	65	Rd. 95x1/6"	25	18	22	0.9 kg
80	25	80	Rd. 110x1/6"	29	18	26	1.2 kg
100	25	100	Rd. 130x1/6"	31	21	26	1.6 kg

sanitary connection
per IDF-Norm, ISO 2853



Sanitary pipe connection per IDF- Norm, ISO 2853, for pipes per BS 4825 Part 3 und O.D. Tube.								
DN mm	inch	PN	dM	G (IDF-thread)	A	b	b1	weight approx.
25	1"	40	21	1"	30	21	20	0.3 kg
38	1 1/2"	40	34	1 1/2"	30	13.5	20	0.3 kg
51	2"	25	46	2"	30	15	20	0.4 kg
63.5	2 1/2"	25	54	2 1/2"	30	20	20	0.6 kg
76.1	3"	25	65	3"	30	22	20	0.6 kg

sanitary connelion
per SMS-Norm



Sanitary pipe connection per SMS-Norm, for pipes per BS 4825 Part 3 und O.D. Tube.							
DN	PN	dM	G	A	b	b1	weight approx.
1"	40	21	RD. 40X1/6	19	16	16	0.3 kg
1 1/2"	40	34	RD. 60X1/6	23	16	20	0.4 kg
2"	25	46	RD. 70X1/6	24	16	20	0.5 kg
2 1/2"	25	54	RD. 85X1/6	28	16	24	0.6 kg
3"	25	65	RD. 98X1/6	30	20	24	0.9 kg

Order details

Diaphragm seal per DIN 11851, IDF and SMS Type series DL1/2.., DL6/7..

Order details diaphragm seal DL1/2 . . , DL6/7 . .							
DL2100	design ¹	DIN 11851 ^{2,3}	with groove union nut	nominal width	DN 25		
DL2200					DN 32		
DL2300					DN 40		
DL2400					DN 50		
DL2500					DN 65		
DL2600					DN 80		
DL2700					DN 100		
DL1100			with threaded coupling	nominal width	DN 25		
DL1200					DN 32		
DL1300					DN 40		
DL1400					DN 50		
DL1500					DN 65		
DL1600					DN 80		
DL1700					DN 100		
DL7100		IDF ^{2,3}	with groove union nut	nominal width	1"		
DL7200					1 1/2"		
DL7300					2"		
DL7400					2 1/2		
DL7500					3"		
DL6100					with threaded coupling	nominal width	1"
DL6200							1 1/2"
DL6300			2"				
DL6400			2 1/2				
DL6500			3"				
DL7110			with groove union nut	nominal width			1"
DL7210							1 1/2"
DL7310					2"		
DL7410					2 1/2		
DL7510		3"					
DL6110		with threaded coupling			nominal width	1"	
DL6210						1 1/2"	
DL6310			2"				
DL6410			2 1/2				
DL6510	3"						
	SMS						

	surface roughness	standard	
HY		Hygienic version as per EHEDG Doc.8 and ASME BPE SF3	
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		
7	material	wetted parts stainless steel mat.-no. 1.4435 (316L)	
7L		wetted parts stainless steel mat.-no. 1.4435 (316L), diaphragm in LTC technology ⁴	
	system filling ⁵	<u>pressure transmission fluid</u>	<u>temperature range</u> ⁶
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
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order code (example): DL2300 - A4007 - L22 - ...

¹ other designs upon request

² EHEDG certified only in connection with hygienic design (order code option HY)

³ EHEDG certificate valid only if gaskets are used that are listed in the "EHEDG position paper"

⁴ for DN 50, DN 65, DN 80, 2 1/2" and 3"

⁵ for more detailed information about pressure transmission fluids see TA_038.
Please state temperature range to allow an accurate calculation of the system.

⁶ max. media temperature for pressures > 0 bar rel.