Inline diaphragm seal

per DIN 11851, IDF and Clamp

Type series DF….

Application area

- Food industry
- Pharmaceutical industry
- Biotechnology

Features

- Circular diaphragm of stainless steel, slightly grooved, laser welded
- Volume optimised diaphragm base
- Dead-zone free design
- EHEDG-certified
- 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 inline diaphragm seal with aseptic design 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:	Inline 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:	■ Sanitary connection per DIN 11851 ■ Clamp connection per ISO 2852 and DIN 32676 ■ IDF connection per ISO 2853
Nominal width/nominal pressure:	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

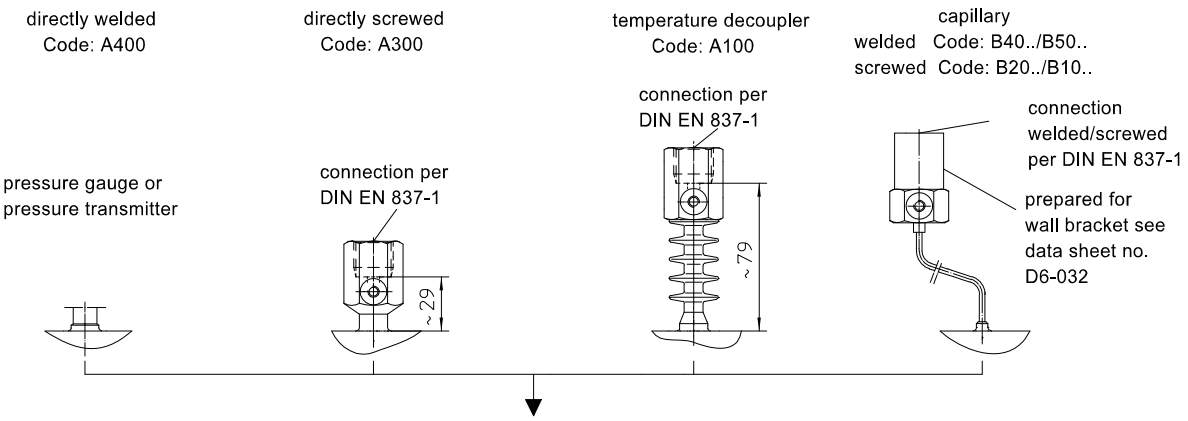
In order to optimise the system we provide a detailed error calculation upon request.

Weight

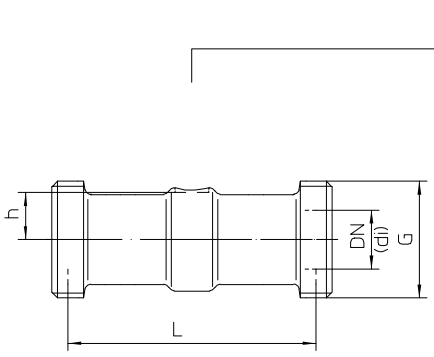
See table.

Further information about diaphragm seals see general technical information TA_031.

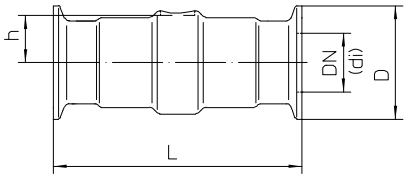
Measuring device connection



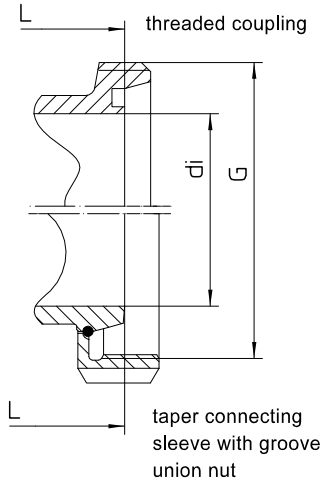
Dimensions



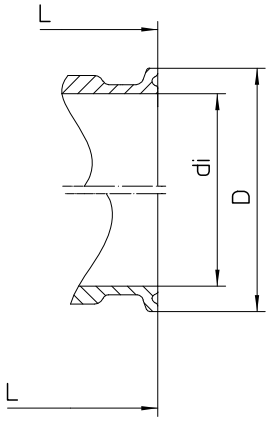
connection thread (both sides)



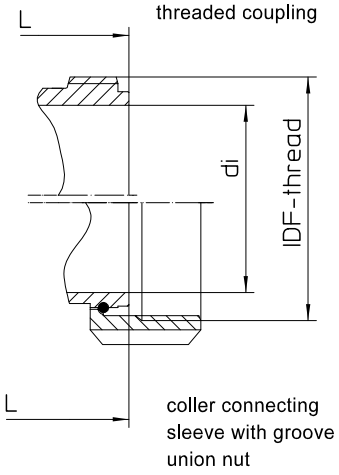
clamp connection



connection per DIN 11851



connection per DIN 32676
or ISO 2852 Tri-Clamp



connection per ISO 2853
(IDF-thread)

Inline diaphragm seals for pipes per EN 10357 (DIN 11850)

				sanitary connections				
				DIN 11851		DIN 32676		
nominal-Ø	length *	inside- Ø	connection height	nominal pressure	connection round thread per DIN 11851	nominal pressure	clamp connection per DIN 32676	weight approx.
DN	L (mm)	di (mm)	h (mm)	PN	Gewinde (Rd)	PN	D (mm)	(kg)
10	96	10.0	27.5	40	28x1/8"	16	34.0	0.8
15	150	16.0	12.0	40	34x1/8“	16	34.0	0.9
25	110	26.0	21.0	40	52x1/6“	16	50.5	0.9
32	110	32.0	26.0	40	58x1/6“	16	50.5	1.3
40	110	38.0	28.5	40	65x1/6“	16	50.5	1.4
50	110	50.0	34.0	25	78x1/6“	16	64.0	1.7
65	110	66.0	42.0	25	95x1/6“	10	91.0	2.1
80	60	81.0	47.5	25	110x1/4“	10	106.0	1.2
100	60	100.0	60.0	25	130x1/4“	10	119.0	1.3

Inline diaphragm seals for pipes per BS 4825 Part 3 and O.D. Tube (suitable for pipes per ASME- BPE)

					sanitary connections				
					IDF per ISO 2853		clamp connection per ISO 2852		
nominal- Ø		length *	inside- Ø	connection heigth	nominal pressure	IDF thread per ISO 2853	nominal pressure	clamp connection per ISO 2852	weight approx.
DN (Zoll)	(mm)	L (mm)	di (mm)	h (mm)	PN	IDF- thread (Tr)	PN	D (mm)	(kg)
1“	25.4	110	22,2	21.0	40	37x3.175	16	50.5	0.9
1 1/2“	38.0	110	34.8	28.5	40	50,5 x3.175	16	50.5	1.3
2“	51.0	110	47.8	34.0	25	64 x3.175	16	64.0	1.7
2 1/2“	63.5	110	60.3	38.0	25	77.5 x3.175	16	77.5	2.1
3“	76.1	60	72.9	44.5	25	91 x3.175	10	91.0	1.2
4“	101.6	60	97.6	59.5	25	118 x3.175	10	119.0	1.3

Pipe dimensions within pipe tolerance.

* Further lengths upon request.

Order details

Inline diaphragm seal per DIN 11851, IDF and clamp
Type series DF . . . .

Order details inline diaphragm seal DF				
	design	for pipes per EN 10357 (DIN 11850)		
DF11 . .		round tread on both sides per DIN 11851 [1,2]		
DF12 . .		round thread/taper connecting sleeve with groove union nut per DIN 11851 [1,2,3]		
DF31 . .		clamp connection per DIN 32676 [1,2]		
	nominal width	process connection	insertion length L	pipe inside-Ø di
050-F4		DN 10	96 mm	10 mm
00-F5		DN 15	150 mm	16 mm
10-F2		DN 25	110 mm	26 mm
20-F2		DN 32	110 mm	32 mm
30-F2		DN 40	110 mm	38 mm
40-F2		DN 50	110 mm	50 mm
50-F2		DN 65	110 mm	66 mm
60-F1		DN 80	60 mm	81 mm
70-F1		DN 100	60 mm	100 mm
	design	for pipes per BS 4825 Part 3 and O.D. Tube (suitable for pipes per ASME-BPE)		
DF41 . .		IDF thread on both sides per ISO 2853 [1,2]		
DF32 . .		clamp connection per ISO 2852 [1,2]		
	nominal width DN	process connection	insertion length L	pipe inside-Ø di
10-F2		1"	110 mm	22.2 mm
30-F2		1 1/2"	110 mm	34.8 mm
40-F2		2"	110 mm	47.8 mm
50-F2		2 1/2"	110 mm	60.3 mm
60-F1		3"	60 mm	72.9 mm
70-F1		4"	60 mm	97.6 mm
	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) basic body stainless steel mat.-no. 1.4404 (316L)	
	system filling [4]	pressure transmission fluid	temperature range[5]
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	elctropolishing of wetted parts

Order code (example): DF1140 - A4007 - L22 - ...

[1] EHEDG certified only in connection with hygienic design (order code option HY)
[2] EHEDG certificate valid only if gaskets are used that are listed in the "EHEDG position paper"
[3] groove union nut on the right
[4] for more detailed information about pressure transmission fluids see TA_038.
Please state temperature range to allow an accurate calculation of the system.
[5] max. media temperature for pressures > 0 bar rel.