Inline diaphragm seal

per DIN 11864, SÜDMO, GUTH

Type series DF6…



Features

- Circular diaphragm of stainless steel, slightly grooved, laser welded
- Volume optimised diaphragm base
- DIN 11864-1 und -3 with EHEDG certificate, aseptic connection
- 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 for aseptic design is used mainly for dead-zone free pressure measurement.

Application area

- Food industry
- Pharmaceutical industry
- Biotechnology

Technical data

Constructional design

Basic body:	Volume reduced diaphragm base Material: stainless steel mat.-no. 1.4404/1.4435 (316L)
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:	Aseptic connections per: ■ DIN 11864-1, -3 ■ Südmo ■ Guth
Nominal pressure/nominal width:	See tables

Further connections upon request.

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

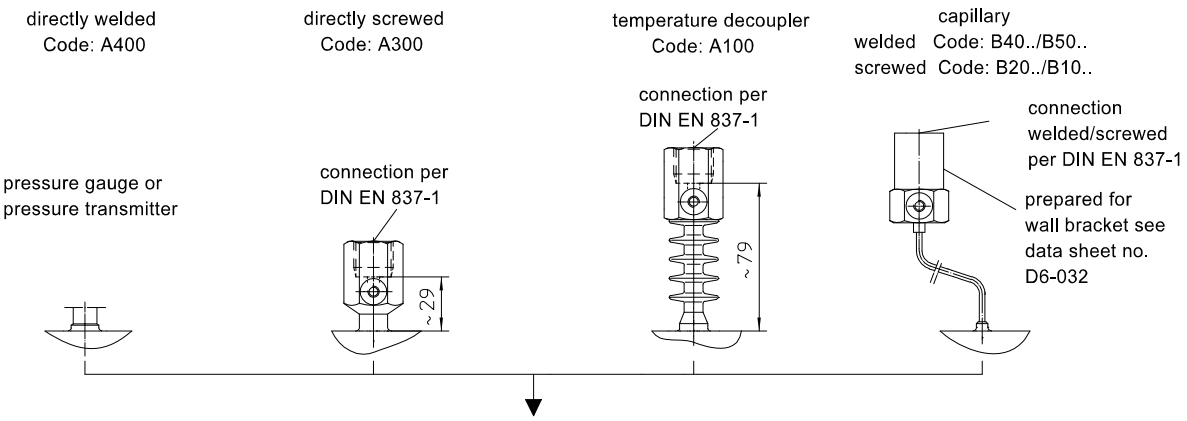
In order to optimise the system we provide a detailed error calculation upon request.

Weight

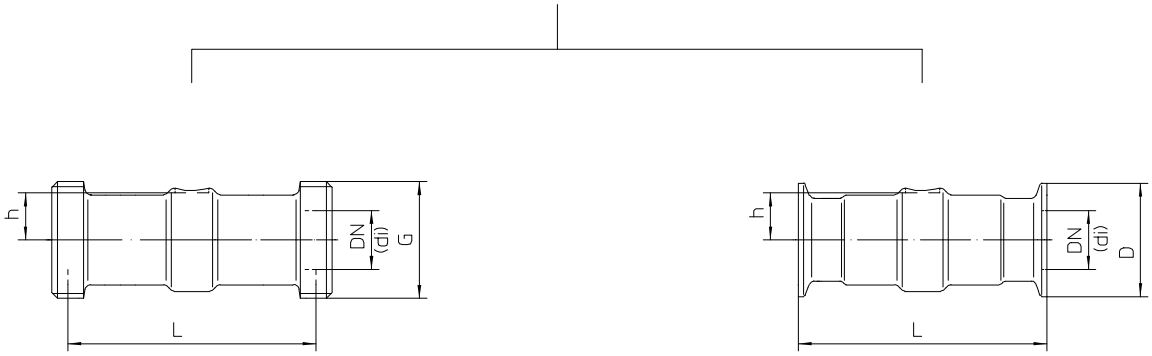
See table.

Further information about diaphragm seals see general technical information TA_031.

Measuring device connection



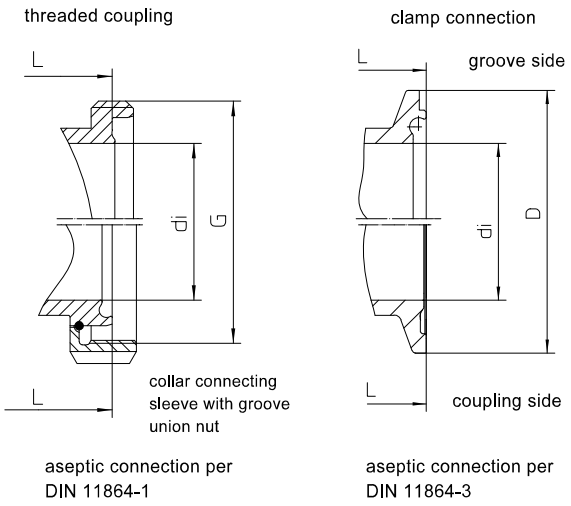
Dimensions



connection thread (both sides)

clamp connection

Designs



aseptic connection per DIN 11864-1

aseptic connection per DIN 11864-3

Aseptic connections per DIN 11864

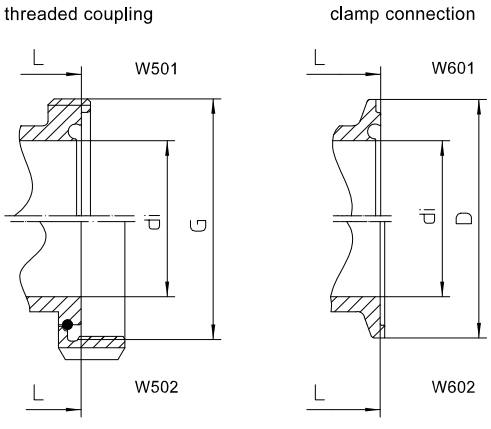
- round thread on both sides per DIN 11864-1
- groove union nut upon request
- Clamp connection on both sides per DIN 11864-3

Aseptic connection per Südmo

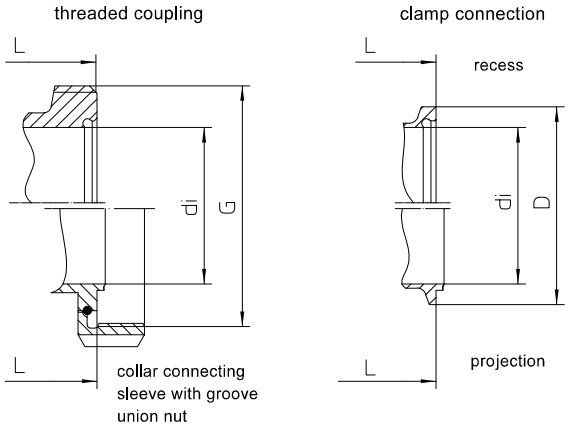
- round thread on both sides, type series W501/W502
- clamp connection on both sides, type series W601/W602

Aseptic connection per Guth

- round thread on both sides
- clamp connection on both sides



aseptic connections per Südmo



aseptic connections per Guth

Inline diaphragm seals for pipes per EN 10357 (DIN 11850) - pipe dimensions per DIN 11866 table 1 model A

Dimensions				aseptic connections												
				connection per DIN 11864				Südmo				Guth				
nominal diamter	lenght	pipe inside diameter	connection height	nominal pressure	round thread connection per DIN 11864-1	nominal pressure	clamp connection per DIN 11864-3	nominal pressure	round thread connection per Südmo W500D	nominal pressure	clamp connection per Südmo W600D	nominal pressure	round thread connection per Guth	nominal pressure	clamp connection per Guth	weight approx.
DN	L	di	h	PN	thread	PN	D	PN	thread	PN	D	PN	thread	PN	D	
	[mm]	[mm]	[mm]		G [Rd]		[mm]		G [Rd]		[mm]		G [Rd]		[mm]	[kg]
10	96	10	12	40	27x1/8"		-		-		-		-		-	
15	150	16	12.0	40	34x1/8"		-		-		-		-		-	1.1
15	258	16	12.0	40	-		-		-		34		-		-	1.1
25	110	26	21.0	40	52x1/6"	40	50.5	25	52x1/6"	16	50.5	40	52x1/6"	16	50.5	0.9
32	110	32	26.0	40	58x1/6"	40	50.5	25	58x1/6"	16	50.5	40	58x1/6"	16	50.5	1.3
40	110	38	28.5	40	65x1/6"	40	64.0	25	65x1/6"	16	64.0	40	65x1/6"	16	50.5	1.4
50	110	50	34.0	25	78x1/6"	25	77.5	20	78x1/6"	16	77.5	25	78x1/6"	16	64.0	1.7
65	110	66	42.0	25	95x1/6"	25	91.0	20	95x1/6"	10	91.0	25	95x1/6"	16	91.0	2.1
80	60	81	47.5	25	110x1/4"	16	106.0	20	110x1/4"	10	106.0	16	110x1/4"	16	106.0	1.2
100	60	100	60.0	25	130x1/4"	16	130.0	20	130x1/4"	10	119.0	16	130x1/4"	16	119.0	1.3

Inline diaphragm seals for pipes per DIN EN ISO 1127 - pipe dimensions per DIN 11866 table 1 model B

Dimensions				aseptic connections								
				connection per DIN 11864			Südmo			Guth		
nominal diamter	lenght	pipe inside diameter	connection height	nominal pressure	round thread connection per DIN 11864-1	clamp connection per DIN 11864-3	nominal pressure	round thread connection per Südmo W500J	clamp connection per Südmo W 600J	nominal pressure	round thread connection per Guth	weight approx.
DN/OD	L	di	h	PN	thread	D	PN	thread	D	PN	thread	
[mm]	[mm]	[mm]	[mm]		G [Rd]	[mm]		G [Rd]	[mm]		G [Rd]	[kg]
13.5	96	10.3	12	40	28x1/8"	-	-	-	-	-	-	-
21.3	150	18.1	17.5	40	44x1/6"	34	-	-	-	-	-	-
26.9	110	23.7	22.5	40	-	50.5	-	-	-	-	-	
33.7	110	29.7	21.0	40	58x1/6"	50.5	16	52x1/6"	50.5	16	44x1/6"	0.9
42.4	110	38.4	26.0	25	65x1/6"	64	16	65x1/6"	64.0	16	58x1/6"	1.3
48.3	110	44.3	28.5	25	78x1/6"	64	16	65x1/6"	64.0	16	58x1/6"	1.4
60.3	110	56.3	34.0	25	95x1/6"	91	16	78x1/6"	77.5	16	78x1/6"	1.7

Inline diaphragm seals for pipes per ASME-BPE - pipe dimensions per DIN 11866 table 1 model C
(suitable for pipes per BS 4825 Part 3 and O.D. Tube)

Dimensions				aseptic connections												
				connection per DIN 11864				Südmo				Guth				
nominal diamter	lenght	pipe inside diameter	connection height	nominal pressure	round thread connection per DIN 11864-1	nominal pressur	clamp connection per DIN 11864-3	nominal pressure	round thread connection per Südmo W500Z	nominal pressure	clamp connection per Südmo W600Z	nominal pressure	round thread connection per Guth	nominal pressure	clamp connection per Guth	weight approx.
DN/OD	L	di	h	PN	thread	PN	D	PN	thread	PN	D	PN	thread	PN	D	
[Zoll]	[mm]	[mm]	[mm]		G [Rd]		[mm]		G [Rd]		[mm]		G [Rd]		[mm]	[kg]
3/4"	150	15.75	12	-	-	40	34	-	-	-	-	-	-	-	-	-
1"	110	22.2	21.0	40	52x1/6"	40	50.5	25	44x1/6"	16	50.5	25	52x1/6"	16	50.5	0.9
1 1/2"	110	34.7	28.5	40	65x1/6"	40	64.0	25	58x1/6"	16	64.0	25	65x1/6"	16	50.5	1.3
2"	110	47.8	34.0	25	78x1/6"	25	77.5	20	78x1/6"	16	77.5	20	78x1/6"	16	64.0	1.4
2 1/2"	110	60.3	38.0	25	95x1/6"	25	91.0		-	16	91.0	20	95x1/6"	16	77.5	1.7

pipe dimensions within pipe tolerance

Order details

Inline diaphragm seal
per DIN 11864, SÜDMO, GUTH, Type series DF6 . . .

Inline diaphragm seal DF				
DF61 . .	design	for pipes per EN 10357 (DIN 11850), pipe dimensions per DIN 11866 table 1 model A		
	nominal width DN	process connection	insertion length L	pipe inside-Ø di
050-F4		DN 10	96 mm	10 mm
00-F5		DN 15	150 mm (DIN 11864)	16 mm
00-F11		DN 15	258 mm (Südmo)	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
S1001	process connection	per DIN 11864-1[1]	round thread on both sides (threaded coupling)	
S1203		per DIN 11864-3[1]	clamp connection on both sides (coupling side)	
S2001		Südmo	round thread on both sides (W501)	
S2002			clamp connection on both sides (W601)	
S3001		Guth	round thread on both sides (threaded coupling)	
S3002			clamp connection on both sides (recess)	
S		further aseptic connections upon request		
DF62 . .	design	for pipes per EN ISO 1127, pipe dimensions per DIN 11866 table 1 model B		
	nominal width DN/OD	process connection	insertion length L	pipe inside-Ø di
60-F4		DN 13.5 (pipe 13.5 x 1.6)	96 mm	10.3 mm
00-F5		DN 21.3 (pipe 21.3 x 1.6)	150 mm	18.1 mm
80-F2		DN 26.9 (pipe 26.9 x 1.6)	110 mm	23.7 mm
10-F2		DN 33.7 (pipe 33.7 x 2.0)	110 mm	29.7 mm
20-F2		DN 42.4 (pipe 42.4 x 2.0)	110 mm	38.4 mm
30-F2		DN 48.3 (pipe 48.3 x 2.0)	110 mm	44.3 mm
40-F2		DN 60.3 (pipe 60.3 x 2.0)	110 mm	56.3 mm
S1001	process connection	per DIN 11864-1[1]	round thread on both sides (threaded coupling)	
S1203		per DIN 11864-3[1]	clamp connection on both sides (coupling side)	
S2001		Südmo	round thread on both sides (W501)	
S2002			clamp connection on both sides (W601)	
S3001		Guth	round thread on both sides (threaded coupling)	
S3002			clamp connection on both sides (recess)	
S		further aseptic connections upon request		
DF63 . .	design	for pipes per ASME-BPE, pipe dimensions per DIN 11866 table 1 model C		
	nominal width DN/OD	process connection	insertion length L	pipe inside-Ø di
090-F5		3/4"	150 mm	15.74 mm
10-F2		1"	110 mm	22.2 mm
30-F2		1 1/2"	110 mm	34.7 mm
40-F2		2"	110 mm	47.8 mm
50-F2		2 1/2"	110 mm	60.3 mm
S1001	process connection	per DIN 11864-1[1]	round thread on both sides (threaded coupling)	
S1203		per DIN 11864-3[1]	clamp connection on both sides (coupling side)	
S2001		Südmo	round thread on both sides (W501)	
S2002			clamp connection on both sides (W601)	
S3001		Guth	round thread on both sides (threaded coupling)	
S3002			clamp connection on both sides (recess)	
S		further aseptic connections upon request		
	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)	
	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, 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): DF6140 - F2 - A4007 - L22 - ...

[1] EHEDG certified only in connection with hygienic design (order code option HY)
[2] for more detailed information about pressure transmission fluids see TA_038. Please state temperature range to allow an accurate calculation of the system.
[3] max. media temperature for pressures > 0 bar rel.