

Diaphragm seal per DIN 11864 SÜDMO, GUTH, NEUMO BioConnect Type series DL5...



Application area

- Food industry
- Pharmaceutical industry
- Biotechnology

Features

- Flush-mounted separating diaphragm of stainless steel, laser welded
- Volume optimised diaphragm base
- DIN 11864 aseptic screwing and NEUMO BioConnect with EHEDG certificate
- 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 DB_D6-022
- Certificates
 - Material certificate acc. to EN 10204-3.1
- Electropolishing (wetted parts)
- Hygienic design with advanced surface quality

Application

Suitable for mounting to bourdon tube pressure gauges and pressure transmitters. The diaphragm seal in 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:	Flat diaphragm
Material wetted parts:	Diaphragm: Stainless steel mat.-no. 1.4435 (316L) Basic body: Stainless steel mat.-no. 1.4404/1.4435 (316L)

Process connection

Design:	Aseptic connections for pipes per <ul style="list-style-type: none">■ DIN 11864-1, DIN 11864-3■ Südmo■ Guth■ NEUMO BioConnect Further connection designs upon request.
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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:	$Ra \leq 0.38 \mu\text{m}$
Laser welds:	$Ra \leq 0.76 \mu\text{m}$
Turned parts:	$Ra \leq 0.76 \mu\text{m}$

Further versions of hygienic design upon request.

Temperature error

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

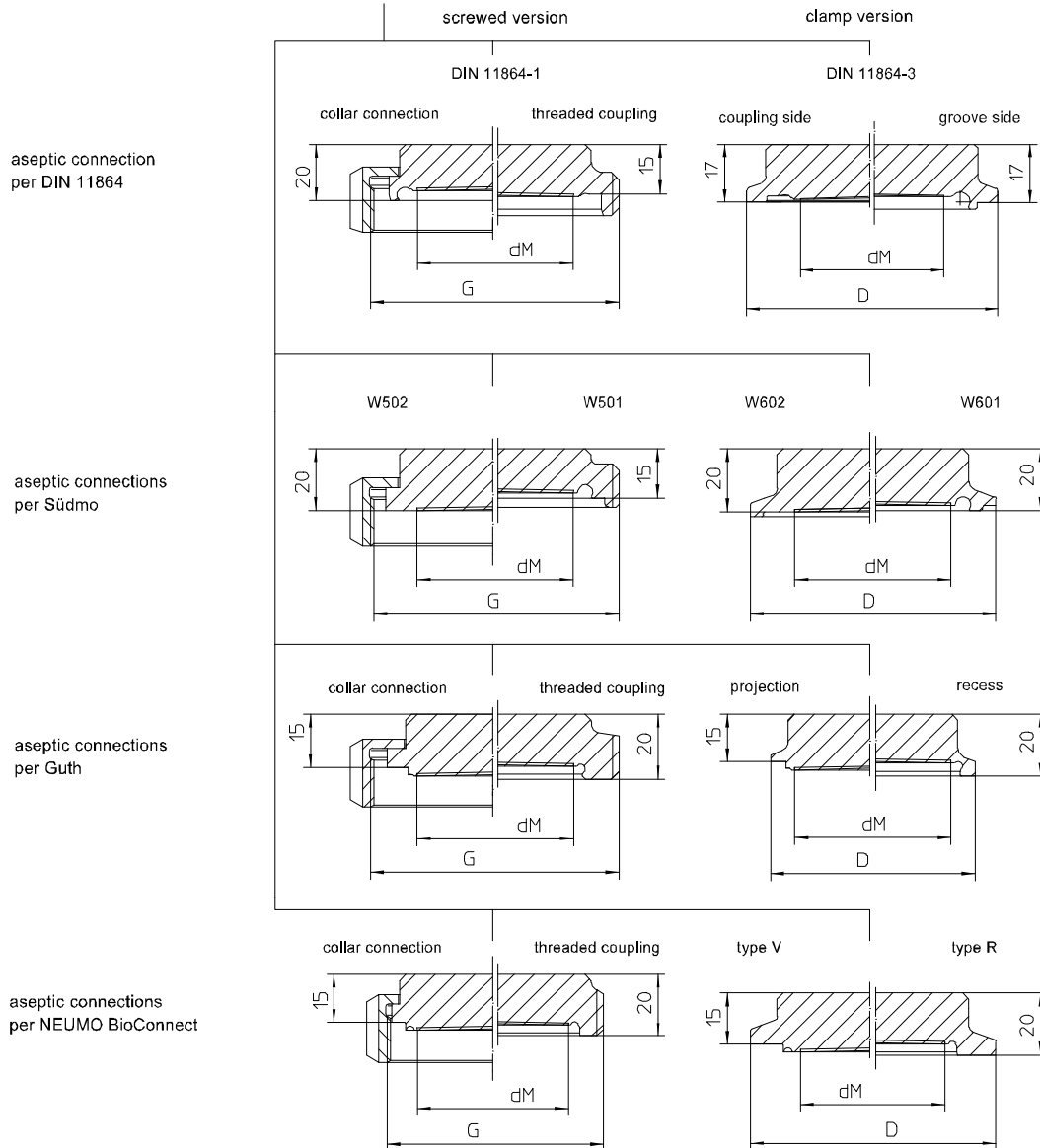
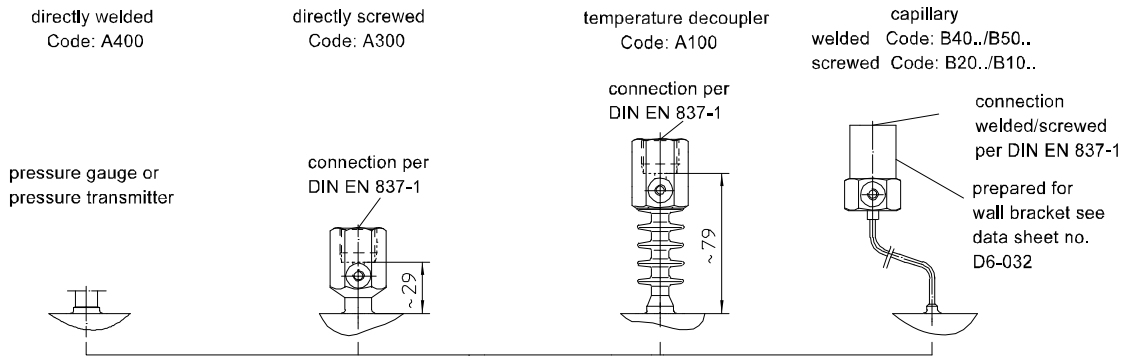
Weight

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



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

Dimensions			aseptic connections																
			connection per DIN11864				Südmo				Guth				NEUMO BioConnect				
nominal width	pipe inside diameter	diaphragm diameter	nominal pressure	round thread connection per DIN 11864-1	nominal pressure	clamp connection per DIN 11864-3	nominal pressure	round thread connection per Südmo W500	nominal pressure	clamp connection per Südmo W600	nominal pressure	round thread connection per Guth	nominal pressure	clamp connection per Guth	nominal pressure	angular thread per Neumo	nominal pressure	clamp connection per Neumo	weight approx.
DN	di	dM	PN	thread	PN	D	PN	thread	PN	D	PN	thread	PN	D	PN	thread		D	[kg]
	[mm]			G [Rd]		[mm]		G [Rd]		[mm]		G [Rd]		[mm]		G [M]		[mm]	
25	26	24	40	52x1/6"	40	50.5	25	52x1/6"	16	50.5	40	52x1/6"	16	50.5	16	42x2	16	50.4	0.3
32	32	30	40	58x1/6"	40	50.5	25	58x1/6"	16	50.5	40	58x1/6"	16	50.5	16	52x2	16	50.4	0.4
40	38	34	40	65x1/6"	40	64.0	25	65x1/6"	16	64.0	40	65x1/6"	16	50.5	16	56x2	16	64.0	0.5
50	50	48	25	78x1/6"	25	77.5	20	78x1/6"	16	77.5	25	78x1/6"	16	64.0	16	68x2	16	77.4	0.6
65	66	65	25	95x1/6"	25	91.0	20	95x1/6"	10	91.0	25	95x1/6"	10	91.0	16	90x3	10	90.9	0.9

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

Dimensions			aseptic connections															
			connection per DIN11864				Südmo				Guth				NEUMO BioConnect			
nominal width	pipe inside diameter	diaphragm diameter	nominal pressure	round thread connection per DIN 11864-1	nominal pressure	clamp connection per DIN 11864-3	nominal pressure	round thread connection per Südmo W500	nominal pressure	clamp connection per Südmo W600	nominal pressure	round thread connection per Guth	nominal pressure	angular thread per Neumo	nominal pressure	clamp connection per Neumo	weight approx.	
DN/OD	di	dM	PN	thread	PN	D	PN	thread	PN	D	PN	thread	PN	thread	PN	D		[kg]
	[mm]			G [Rd]		[mm]		G [Rd]		[mm]		G [Rd]		G [M]		[mm]		
33.7	29.7	27	40	58x1/6"	40	50.5	25	52x1/6"	16	50.5	16	44x1/6"	16	42x2	16	50.4	0.4	
42.4	38.4	34	25	65x1/6"	25	64.0	25	65x1/6"	16	64.0	16	58x1/6"	16	52x2	16	50.4	0.5	
48.3	44.3	40	25	78x1/6"	25	64.0	25	65x1/6"	16	64.0	16	58x1/6"	16	56x2	16	64.0	0.6	
60.3	56.3	51	25	95x1/6"	25	91.0	20	78x1/6"	6	77.5	16	78x1/6"	16	68x2	16	77.4	0.8	

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 width	pipe inside diameter	diaphragm diameter	nominal pressure	round thread connection per DIN 11864-1	nominal pressure	clamp connection per DIN 11864-3	nominal pressure	round thread connection per Südmo W500	nominal pressure	clamp connection per Südmo W600	nominal pressure	round thread connection per Guth	nominal pressure	clamp connection per Guth	weight approx.		
DN/OD	di	dM	PN	thread	PN	D	PN	thread	PN	D	PN	thread	PN	D			
[Zoll]	[mm]			G [Rd]		[mm]		G [Rd]		[mm]		G [Rd]		[mm]	[kg]		
1"	22.1	18	40	52x1/6"	40	50.5	25	44x1/8"	16	50.5	25	52x1/6"	16	50.5	0.3		
1 1/2"	34.8	30	40	65x1/6"	40	64.0	25	58x1/8"	16	64.0	25	65x1/6"	16	50.5	0.5		
2"	47.5	42	25	78x1/6"	25	77.5	20	78x1/6"	16	77.5	20	78x1/6"	16	64.0	0.6		
2 1/2"	60.2	51	25	95x1/6"	25	91.0	20	95x1/6"	16	91.0	20	95x1/6"	16	77.5	0.9		

Designation of internal pipe diameter in accordance with tolerances of respective standard.

Order details

Diaphragm seal per DIN 11864, Südmo, Guth, Neumo BioConnect, Type Series DL5...				
DL51..	design	for pipes per EN 10357 (DIN 11850), pipe dimensions per DIN 11866 table 1, model A		
		<u>process connection</u>	<u>pipe inside Ø di</u>	
10	nominal width DN / OD	DN 25	26 mm	
20		DN 32	32 mm	
30		DN 40	38 mm	
40		DN 50	50 mm	
50		DN 65	66 mm	
S1101	process connection	per DIN 11864-1 ¹	collar connection with union nut	
S1203		per DIN 11864-3 ¹	clamp connection (coupling side)	
S2001		Südmo		round thread (W501)
S2101				collar connection with union nut (W502)
S2202				clamp connection (W601)
S2203				clamp connection (W602)
S3001				
S3101		Guth		threaded coupling
S3202				collar connection with union nut
S3203				clamp connection (recess)
S4001		Neumo BioConnect ^{1,2}		clamp connection (projection)
S4101				threaded coupling
S4202				collar connection with union nut
S4203				clamp connection (model R)
S99			Further aseptic connections upon request	
DL52..		design	for pipes per EN ISO 1127, pipe dimensions per nach DIN 11866 table 1, model B	
		<u>process connection</u>	<u>pipe inside Ø di</u>	
10	nominal width DN / OD	DN 33.7 (Rohr 33,7 x 2)	29.7 mm	
20		DN 42.4 (Rohr 42,4 x 2)	38.4 mm	
30		DN 48.3 (Rohr 48,3 x 2)	44.3 mm	
40		DN 60.3 (Rohr 60,3 x 2)	56.3 mm	
S1101	process connection	per DIN 11864-1 ¹	collar connection with union nut	
S1203		per DIN 11864-3 ¹	clamp connection (coupling side)	
S2001		Südmo		round thread (W501)
S2101				collar connection with union nut (W502)
S2202				clamp connection (W601)
S2203				clamp connection (W602)
S3001				
S3101		Guth		threaded coupling
S3202				collar connection with union nut
S3203				clamp connection (recess)
S4001		Neumo BioConnect ^{1,2}		clamp connection (projection)
S4101				threaded coupling
S4202				collar connection with union nut
S4203				clamp connection (model R)
S99			Further aseptic connections upon request	
DL53..		design	for pipes per ASME-BPE, pipe dimensions per DIN 11866 table 1 model C	
		<u>process connection</u>	<u>pipe inside Ø di</u>	
10	nominal width DN / OD	1"	22.1 mm	
30		1 1/2"	34.8 mm	
40		2"	47.5 mm	
50		2 1/2"	60.2 mm	
S1101	process connection	per DIN 11864-1 ¹	collar connection with union nut	
S1203		per DIN 11864-3 ¹	clamp connection (coupling side)	
S2001		Südmo		round thread (W501)
S2101				collar connection with union nut (W502)
S2202				clamp connection (W601)
S2203				clamp connection (W602)
S3001				
S3101		Guth		threaded coupling
S3202				collar connection with union nut
S3203				clamp connection (recess)
				clamp connection (projection)

	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), standard	
		<u>pressure transmission fluid</u>	<u>temperature range</u> ⁴
L22	system filling ³	synthetic oil, free of silicone FD1, standard	-10...140 °C
L23		synthetic oil, free of silicone FD1, please 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 acc. to EN 10204-3.1, wetted parts
W4035	elctropolishing of wetted parts

Order code (example): DL5140 - S1101 - HY - 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 further and detailed informations to pressure transmission fluids see TA_038

⁴ max. media temperature for pressures > 0 bar rel.