

## 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

- 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"><li>■ DIN 11864-1, DIN 11864-3</li><li>■ Südmo</li><li>■ Guth</li><li>■ NEUMO BioConnect</li></ul> 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:	$Ra \leq 0.38 \mu m$
Laser welds:	$Ra \leq 0.76 \mu m$
Turned parts:	$Ra \leq 0.76 \mu m$

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.**

# Measuring device connection

directly welded  
Code: A400

directly screwed  
Code: A300

temperature decoupler  
Code: A100

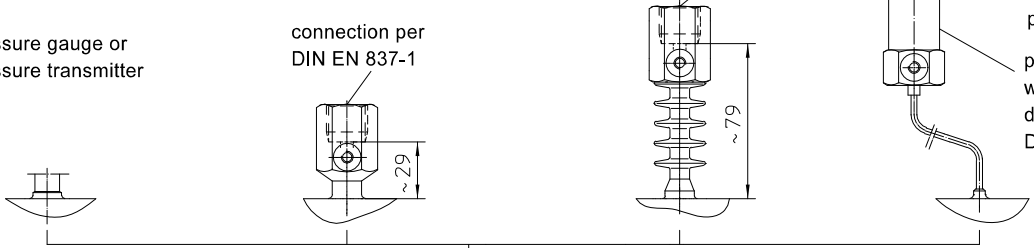
capillary  
welded Code: B40../B50..  
screwed Code: B20../B10..

pressure gauge or  
pressure transmitter

connection per  
DIN EN 837-1

connection per  
DIN EN 837-1

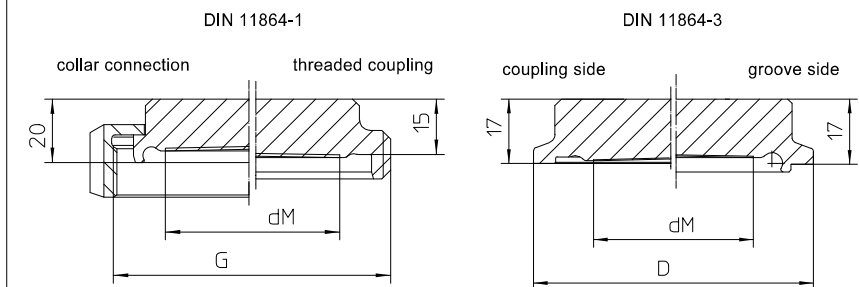
connection  
welded/screwed  
per DIN EN 837-1  
prepared for  
wall bracket see  
data sheet no.  
D6-032



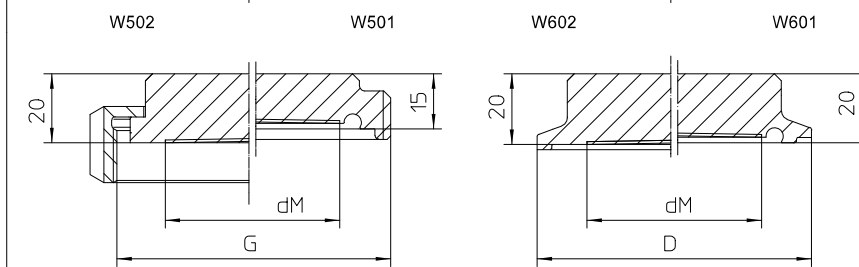
screwed version

clamp version

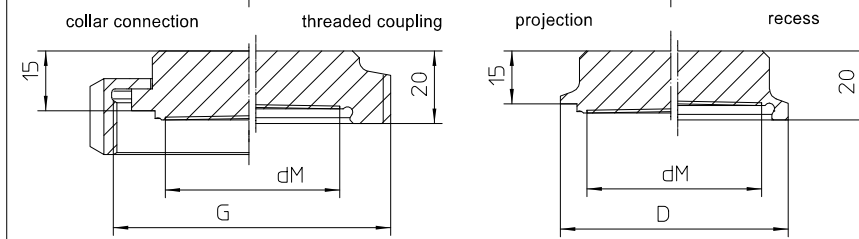
aseptic connection  
per DIN 11864  
type A



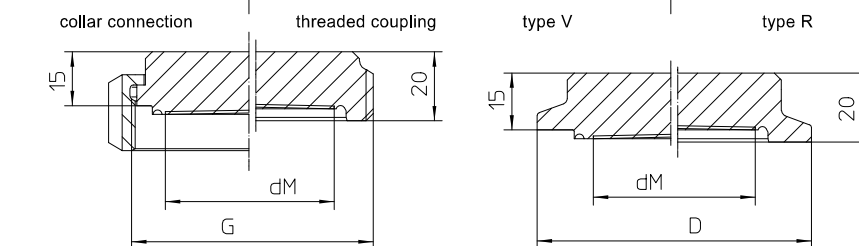
aseptic connections  
per Südmö



aseptic connections  
per Guth



aseptic connections  
per NEUMO BioConnect



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

<b>Dimensions</b>			<b>aseptic connections</b>																
			<b>connection per DIN 11864</b>				<b>Südmo</b>				<b>Guth</b>				<b>NEUMO BioConnect</b>				
nominal width	pipe inside diameter	diaphragm diameter	nominal pressure	round thread connection per DIN 11864-1 model A	nominal pressure	clamp connection per DIN 11864-3 model A	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	
	[mm]			G [Rd]		[mm]		G [Rd]		[mm]		G [Rd]		[mm]		G [M]		[mm]	[kg]
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**

<b>Dimensions</b>			<b>aseptic connections</b>																
			<b>connection per DIN 11864</b>				<b>Südmo</b>				<b>Guth</b>				<b>NEUMO BioConnect</b>				
nominal width	pipe inside diameter	diaphragm diameter	nominal pressure	round thread connection per DIN 11864-1 model A	nominal pressure	clamp connection per DIN 11864-3 model A	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			
	[mm]			G [Rd]		[mm]		G [Rd]		[mm]		G [Rd]		G [M]		[mm]	[kg]		
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)

<b>Dimensions</b>			<b>aseptic connections</b>																
			<b>connection per DIN 11864</b>				<b>Südmo</b>				<b>Guth</b>								
nominal width	pipe inside diameter	diaphragm diameter	nominal pressure	round thread connection per DIN 11864-1 model A	nominal pressure	clamp connection per DIN 11864-3 model A	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, Südmö, Guth, Neumo BioConnect, Type Series DL5...

Order details diaphragm seal 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 <sup>1</sup>	collar connection with union nut model A	
S1203		per DIN 11864-3 <sup>1</sup>	clamp connection model A (coupling side)	
S2001		Südmö		round thread (W501)
S2101				collar connection with union nut (W502)
S2202				clamp connection (W601)
S2203				clamp connection (W602)
S3001		Guth		threaded coupling
S3101				collar connection with union nut
S3202				clamp connection (recess)
S3203				clamp connection (projection)
S4001		Neumo BioConnect <sup>1,2</sup>		threaded coupling
S4101				collar connection with union nut
S4202				clamp connection (model R)
S4203				clamp connection (model V)
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 <sup>1</sup>	collar connection with union nut model A	
S1203		per DIN 11864-3 <sup>1</sup>	clamp connection model A (coupling side)	
S2001		Südmö		round thread (W501)
S2101				collar connection with union nut (W502)
S2202				clamp connection (W601)
S2203				clamp connection (W602)
S3001		Guth		threaded coupling
S3101				collar connection with union nut
S3202				clamp connection (recess)
S3203				clamp connection (projection)
S4001		Neumo BioConnect <sup>1,2</sup>		threaded coupling
S4101				collar connection with union nut
S4202				clamp connection (model R)
S4203				clamp connection (model V)
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	

Order details diaphragm seal DL5...			
S1101	process connection	per DIN 11864-1 <sup>1</sup>	collar connection with union nut model A
S1203		per DIN 11864-3 <sup>1</sup>	clamp connection model A (coupling side)
S2001		Südmo	round thread (W501)
S2101			collar connection with union nut (W502)
S2202			clamp connection (W601)
S2203			clamp connection (W602)
S3001			threaded coupling
S3101		Guth	collar connection with union nut
S3202			clamp connection (recess)
S3203			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> <sup>4</sup>
L22	system filling <sup>3</sup>	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	electropolishing of wetted parts

Order code (example): DL5140 - S1101 - HY - A4007 - L22 - ...

<sup>1</sup> EHEDG certified only in connection with hygienic design (order code option HY)

<sup>2</sup> EHEDG certificate valid only if gaskets are used that are listed in the "EHEDG position paper"

<sup>3</sup> further and detailed informations to pressure transmission fluids see TA\_038

<sup>4</sup> max. media temperature for pressures > 0 bar rel.