

Inline diaphragm seal

NEUMO BioConnect

Type series DF6...



Application area

- Food industry
- Pharmaceutical industry
- Biotechnology

Features

- Circular diaphragm of stainless steel, slightly grooved, laser welded
- Volume optimised diaphragm base
- Self-draining
- EHEDG-certified
- 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
- 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)
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:	Patented aseptic connection NEUMO BioConnect for all pipes per EN and ISO See tables and order details.
Nominal pressure/nominal width:	See tables

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.

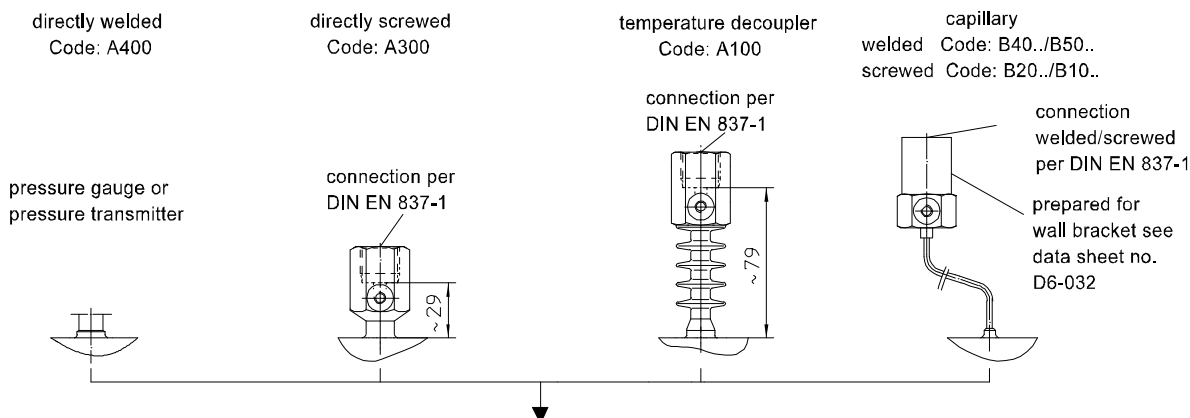
Weight

See table.

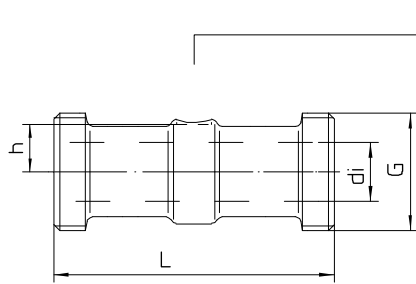
Further information about diaphragm seals see general technical information TA_031.

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

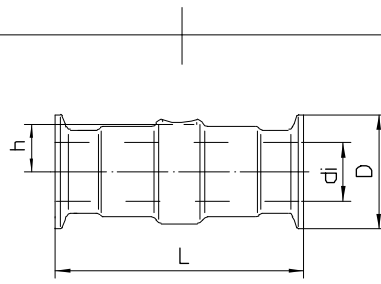
Measuring device connection



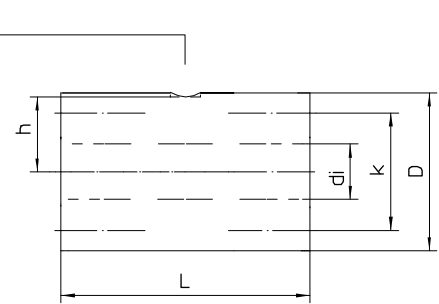
Dimensions



Neumo BioConnect
connection thread

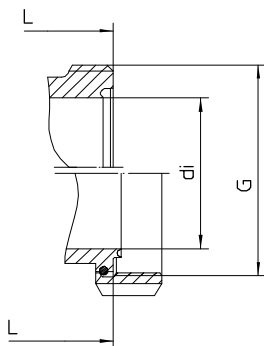


Neumo BioConnect
clamp connection



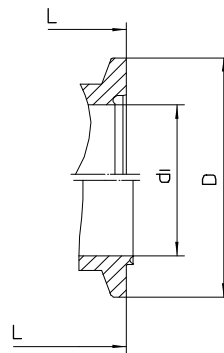
Neumo BioConnect
flange connection

threaded coupling



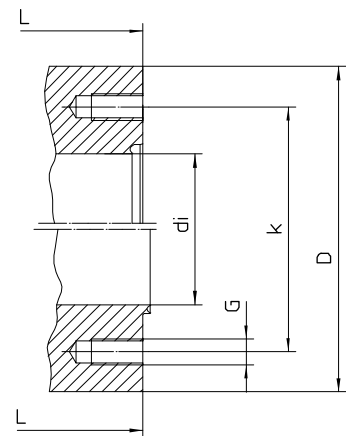
collar connection
sleeve with groove
union nut

model R



model V

model R



model V

Inline diaphragm seal with BioConnect screwing for pipes per EN 10357 (DIN1850)

pipe dimensions per DIN 11866 table 1 model A

DN	PN	di	thead	h	L	weight app r.
		[mm]	G	[mm]	[mm]	[kg]
15	16	16	M30x1.5	12.0	150	1.1
20	16	20	M36x2	16.0	150	-
25	16	26	M42x2	21.0	110	0.9
32	16	32	M52x2	26.0	110	1.3
40	16	38	M56x2	28.5	110	1.4
50	16	50	M68x2	34.0	110	1.7
65	16	66	M90x3	42.0	110	2.1
80	16	81	M100x3	47.5	60	1.2
100	16	100	M130x4	60.0	60	1.3

Inline diaphragm seal with BioConnect screwing for pipes per ISO1127 -

pipe dimensions per DIN 11866 table 1 model B

DN/ OD	PN	di	thread	h	L	weight approx. [kg]
		[mm]	G	[mm]	[mm]	
21.3	16	18.1	M30x1,5	16.0	150	-
33.7	16	29.7	M42x2	21.0	110	0.9
42.4	16	38.4	M52x2	26.0	110	1.3
48.3	16	44.3	M56x2	28.5	110	1.4
60.3	16	56.3	M68x2	35.0	110	1.7

Inline diaphragm seal with BioConnect clamp connection for pipes per EN 10357 (DIN1850)

pipe dimensions per DIN 11866 table 1 model A

DN	PN	di	D	h	L	weight
		[mm]		[mm]	[mm]	approx. [kg]
15	16	16	25.0	12.0	150	1.1
20	16	20	50.4	16.0	150	-
25	16	26	50.4	21.0	110	0.9
32	16	32	50.4	26.0	110	1.3
40	16	38	64.0	28.5	110	1.4
50	16	50	77.4	34.0	110	1.7
65	16	66	90.9	42.0	110	2.1
80	16	81	106.0	47.5	60	1.2
100	16	100	119.0	60.0	60	1.3

Inline diaphragm seal with BioConnect clamp connection for pipes per EN ISO1127 -

pipe dimensions per DIN 11866 table 1 model B

DN/ OD	PN	di	D	h	L	weight approx. [kg]
		[mm]		[mm]	[mm]	
21.3	16	18.1	50.4	16.0	150	-
33.7	16	29.7	50.4	21.0	110	0.9
42.4	16	38.4	50.4	26.0	110	1.3
48.3	16	44.3	64.0	28.5	110	1.4
60.3	16	56.3	77.4	35.0	110	1.7

Inline diaphragm seal with BioConnect flange connection for pipes per EN 10357 (DIN 11850)

pipe dimensions per DIN 11866 table 1 model A

DN	PN	h	D	L	k	G	no. of borings	weight approx. [kg]
		[mm]		[mm]				
15	16	35.5	75	150	55	M8	4	2.5
25	16	40.5	85	110	65	M8	4	4.6
32	16	45.5	95	110	75	M8	4	5.5
40	16	48.0	100	110	80	M8	4	6
50	16	53.0	110	110	90	M8	4	6.6
65	16	68.0	140	110	115	M10	4	7.5
80	16	73.0	150	60	125	M10	4	8.5
100	16	85.5	175	60	150	M10	4	10

Inline diaphragm seal with BioConnect flange connection for pipes per EN ISO 1127 -

pipe dimensions per DIN 11866 table 1 model B

DN/ OD	PN	h	D	L	k	G	no. of borings	weight approx. [kg]
		[mm]		[mm]				
21.3	16	35.5	75	150	55	M8	4	2.5
33.7	16	40.5	85	110	65	M8	4	3
42.4	16	45.5	95	110	75	M8	4	4.5
48.3	16	48.0	100	110	80	M8	4	5
60.3	16	53.0	110	110	90	M8	4	6

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

For information on definitions of terms regarding the Pressure Equipment Directive, see Technical Instruction TA_068.

Order details

Inline diaphragm seal NEUMO BioConnect				
DF61 . .	design	for pipes per EN 10357 (DIN 11850), pipe dimensions per DIN 11866 table 1 model A		
	nominal width DN	<u>process connection</u>	<u>insertion length L</u>	<u>pipe inside-Ø di</u>
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
S4001	process connection	NEUMO BioConnect ^{1,2}	threatened coupling on both sides	
S4002			clamp connection on both sides (model R)	
S4003			clamp connection on both sides (model V)	
S4009			flange connection (model R)	
S4010			flange connection (model V)	
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	<u>process connection</u>	<u>insertion length L</u>	<u>pipe inside-Ø di</u>
00-F5		DN 21.3 (pipe 21.3 x 1.6)	150 mm	18.1 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
S4001	process connection	NEUMO BioConnect ^{1,2}	threatened coupling on both sides	
S4002			clamp connection on both sides (model R)	
S4003			clamp connection on both sides (model V)	
S4009			flange connection (model R)	
S4010			flange connection (model V)	
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 ³	<u>pressure transmission fluid</u>	<u>temperature range</u> ⁴	
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 - S4001 - A4007 - L22 - ...

¹ EHEDG certified only in connection with hygienic design (order code option HY), in nominal sizes DN 25 - DN 80 resp. DN 42.4 - DN 60.3.

² EHEDG certificate valid only if gaskets are used that are listed in the "EHEDG position paper".

³ For more detailed information about pressure transmission fluids see TA_038.

Please state temperature range to allow an accurate calculation of the system.

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