

**Labom**

**Diaphragm seal**  
**NEUMO BioControl**  
**Type series DL8110**



**Application area**

- Food industry
- Pharmaceutical industry
- Biotechnology

**Features**

- Flush-mounted separating diaphragm of stainless steel, laser welded
- Alternative with reinforced diaphragm in LTC technology (reduced temperature influence)
- Volume optimised diaphragm base
- 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 diaphragm seal for BioControl connection 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:	Flush-mounted diaphragm, laser welded; alternative with reduced temperature influence and reinforced diaphragm in LTC technology. (LTC=Low Temperature Coefficient) Further details see General technical information TA_031.
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:	NEUMO BioControl connection flange <ul style="list-style-type: none"><li>■ Gr. 25</li><li>■ Gr. 50</li><li>■ Gr. 65</li><li>■ Gr. 80</li></ul>
Nominal pressure:	PN 16
Gasket:	Material EPDM, peroxide cross-linked, FDA compliant, 80 Shore A, black Temperature range: -10...150 °C

### 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 gen-  
eral technical information TA\_038.

### Hygienic design

The surface roughness of the wetted parts made of stain-  
less 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

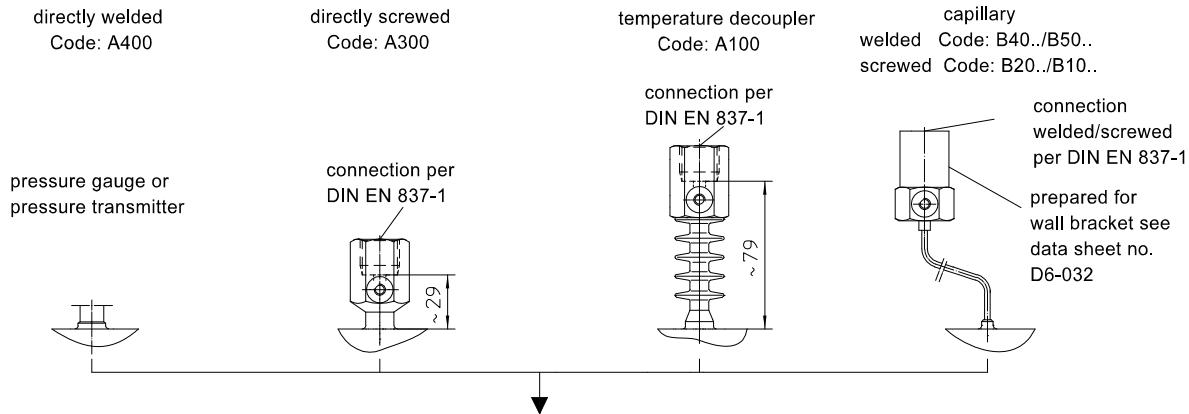
In order to optimise the system we provide a detailed error  
calculation upon request.

### Weight

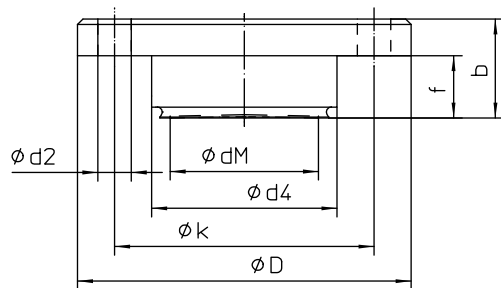
See table.

**Further information about diaphragm seals see general  
technical information TA\_031.**

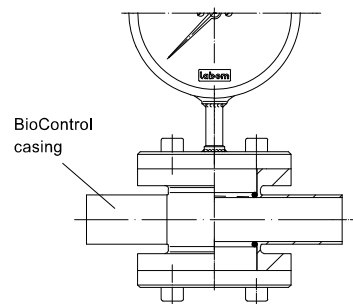
## Measuring device connection



## Dimensions



### Mounting example



Process connection	dM	D2	no. bore holes	d4	D	f	b	k	Weight approx.
Gr. 25	24	7	4	30.4	64	11	20	50	0.3 kg
Gr. 50	40	9	4	50	90	17	27	70	0.7 kg
Gr. 65	54	11	4	68	120	17	27	95	1.4 kg
Gr. 80	80	11	4	87.5	140	25	37	115	2.6 kg

## Order details

### Diaphragm seal Neumo Biocontrol Type series DL8110

Order details DL8110				
DL8110	design	Neumo Biocontrol connection flange		
HY	surface roughness	standard		
		Hygienic version as per EHEDG Doc.8 and ASME BPE SF3		
D10.	process connection	Gr. 25		
D11.		Gr. 50		
D12.		Gr. 65		
D13.		Gr. 80		
2	sealing	EPDM, temperature range -10...150°C, FDA compliant		
7	diaphragm material	stainless steel mat.-no. 1.4435 (316L)		
7L		stainless steel mat.-no. 1.4435 (316L), diaphragm in LTC technology <sup>2</sup>		
9		variant		
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			
	system filling <sup>2</sup>	<u>pressure transmission fluid</u>	<u>temperature range</u> <sup>3</sup>	
L22		synthetic oil, free of silicone FD1, standard	-10...140 °C	
L23		synthetic oil, free of silicone FD1, please specify max. temperature	-10...150 °C (restricted by the sealing)	
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): DL8110 - HY - D122 - A4007 - L22 - ...

<sup>1</sup> for Gr. 65 and Gr. 80

<sup>2</sup> further and detailed Informations to pressure transmission fluids see TA\_038

<sup>3</sup> max. media temperature for pressures > 0 bar rel.