

Labom

Diaphragm seal cell-type

Type series DC....



Features

- Flush-mounted separating diaphragm of stainless steel or special material
- Alternative with reinforced diaphragm in LTC technology (reduced temperature influence)
- Volume optimised diaphragm base
- Connection to Zone 0
- System fillings for different applications
- Measuring device connection with capillary

Options

- Certificates
 - Material certificate acc. to EN 10204-3.1

Application

Suitable for mounting to bourdon tube pressure gauges and pressure transmitters. The cell diaphragm seal is suited for measuring aggressive, highly viscous media and for high process temperatures.

Application area

- Machinery construction
- Chemical and petrochemical industry
- General process technology

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: See order details Basic body: Stainless steel mat.-no. 1.4404/1.4435 (316L)

Process connection

Design:	Flange connection per EN 1092-1 and ASME B16.5 Further designs upon request.
Nominal pres- sure/Nominal width:	See table

Sealing are not included in the scope of delivery.

Sealing surfaces

per:

- EN 1092-1, model B1, B2, C, D
- ASME B 16.5, RFSF, RF 125-250AA, RJF

With special material surface upon request.

Measuring device connection

With capillary in accordance to order details.

System filling

See order details; further upon request.

Further details about pressure transmission fluids see general technical information TA_038.

Temperature error

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

Tests and certificates

Connection to Zone 0: with flame arrester,
⊕ IIG IIC according to PTB 03 ATEX 4032 X

Weight

Diaphragm seal without capillary:

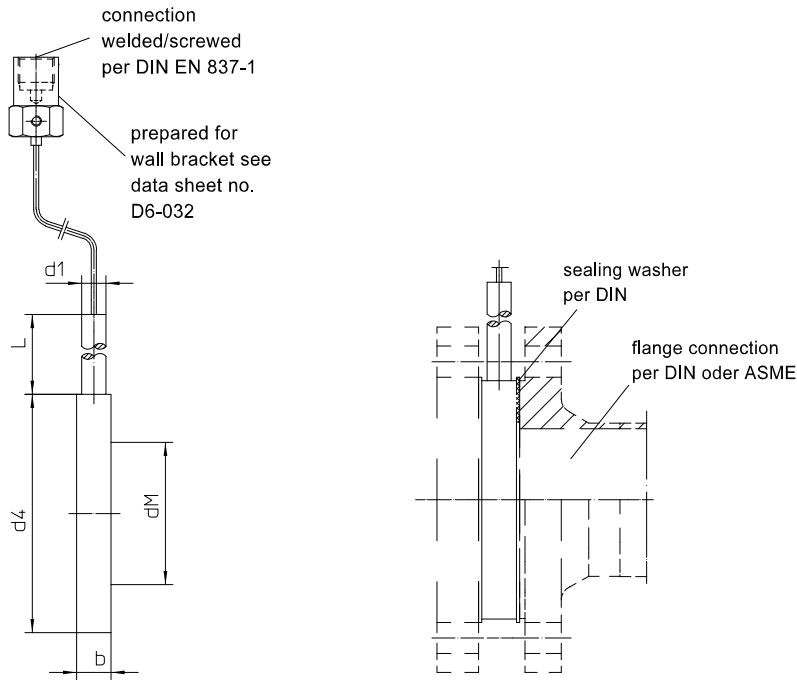
DN 50 and 2":	approx. 1.3 kg
DN 80 and 3":	approx. 2.2 kg
DN 100 and 4":	approx. 3.6 kg
DN 125:	approx. 4.8 kg

Further weights upon request.

Further information about diaphragm seals see general technical information TA_031.

Measuring device connection

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



Dimensions (mm) per EN 1092-1						
DN	PN	d4	dM	b	L	d1
50	400	102	51	20	73.5	14
65	400	122	65	20	73.5	14
80	400	138	86	20	73.5	14
100	400	158	86	20	73.5	14
125	400	188	116	20	73.5	14

Dimensions (mm) per ASME B 16.5						
DN	Class	d4	dM	b	L	d1
1"	2500	58	30	22	73.5	14
2"	2500	100	51	22	73.5	14
3"	2500	134	86	22	73.5	14

Order details

Diaphragm seal cell-type

Type series DC

Order details diaphragm seal DC				
DC4 . . .	design per EN 1092-1	sealing surface	model B1	
DC1 . . .			model B2 ¹	
DC5 . . .			model C max. PN 160	
DC2 . . .			model D max. PN 160	
48 .		nominal width	DN 50	
68 .			DN 80	
78 .			DN 100	
88 .			DN 125	
DC3 . . .	design per ASME B16.5	sealing surface	RFSF ¹	
DC31 . .			RF125-250 AA	
DC6 . . .			RJF	
31 .		nominal width	DN 2"	
51 .			DN 3"	
61 .			DN 4"	
0	design	standard		
2		zone 0		
B40 . .	measuring device connection	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		
1		material wetted parts	stainless steel mat.-no. 1.4404/1.4435 (316 L), standard	
1L			stainless steel mat.-no. 1.4404/1.4435 (316 L), diaphragm in LTC technology ²	
2	Tantal ³			
3	Hastelloy C276 ³			
8	Hastelloy C4 ³			
14	PFA coating on stainless steel ³			
6	PTFE foil, on stainless steel ³			
62	PTFE foil, high vacuum-resistant, on stainless steel ³			
	system filling ⁴	<u>pressure transmission fluid</u>	<u>temperature range</u> ⁵	
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	
L31		high temperature oil FV3H	-10...400 °C	

Additional features (to be indicated in case of need, only)

W1020	material certificate per EN 10204-3.1, wetted parts
-------	---

Order code (example): DC1480 - B40111 - L22 - ...

¹ necessary in case of special materials. Diaphragms made of special materials cover the complete sealing surface area. The use of metallic seals is not permissible in this case. The maximum pressure level then depends on the design and properties of the sealing material.

² for DN 50 and DN 80

³ in combination with model B2 and ASME B 16.5 RFSF, only

⁴ for more detailed information about pressure transmission fluids see TA_038. Please state temperature range to allow an accurate calculation of the system.

⁵ max. media temperature for pressures > 0 bar rel.