

Labom

**Inline diaphragm seal
flange connection
Type series DP410.**



Features

- Circular diaphragm of stainless steel, slightly grooved, laser welded
- Volume optimised diaphragm base
- Self-draining
- Connection to Zone 0
- System fillings for different applications
- Measuring device connection:
 - directly welded
 - with capillary

Options

- Certificates
 - Material certificate acc. to EN 10204-3.1
- Special materials upon request

Application

Suitable for mounting to bourdon tube pressure gauges and pressure transmitters. The inline diaphragm seal with flange connection 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:	Inline diaphragm
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 pressure/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

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.

Temperature error

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

Tests and certificates

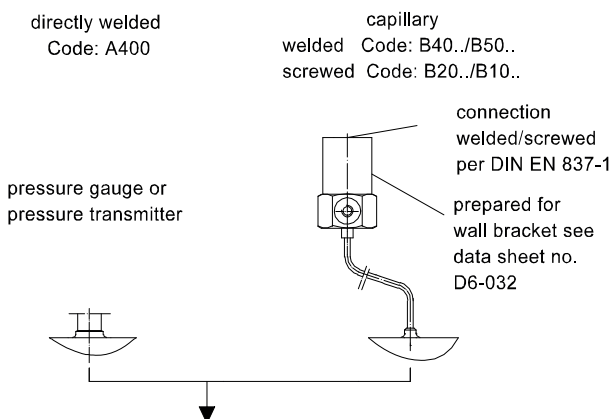
Connection to Zone 0: with flame arrester,
⊕ IIG IIC according to PTB 03 ATEX 4032 X

Weight

See table.

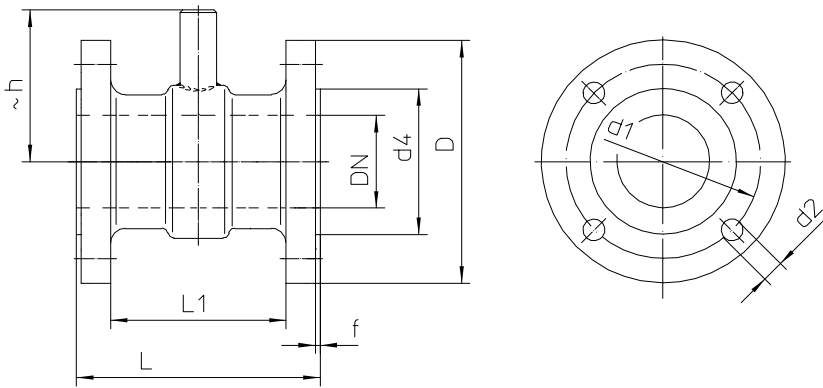
Further information about diaphragm seals see general technical information TA_031.

Measuring device connection



Dimensions

drilling diagram



Dimensions (mm) EN 1092-1

DN	PN	di	D	d1	L	L1	d2	no. bore holes	h	f	d4	Weight approx.
25	10/40	28.5	115	85	114	78	14	4	67	2	68	3.2 kg
40	10/40	43.1	150	110	146	110	18	4	76	2	88	5.2 kg
50	10/40	54.5	165	125	156	116	18	4	84	2	102	6.8 kg
80	10/40	82.5	200	160	166	118	18	8	99	2	138	12.0 kg
100	10/16	107.1	220	180	166	126	18	8	110	2	158	15.4 kg
100	25/40	107.1	235	190	166	118	22	8	110	2	162	21.2 kg

Dimensions (mm) per ASME B 16.5

DN	Class	di	D	d1	L	L1	d2	no. bore holes	h	f	d4	Weight approx
1"	150	28.5	110	79.4	114	88	16	4	64	2	51	2.3 kg
1"	300	28.5	125	88.9	114	79	19	4	64	2	51	3.3 kg
2"	150	54.5	150	120.7	156	117	19	4	80	2	92	5.2 kg
2"	300	54.5	165	127.0	156	111	19	8	84	2	92	6.5 kg
3"	150	82.5	190	152.4	166	118	19	4	95	2	127	10.1 kg
3"	300	82.5	210	168.3	166	109	22	8	105	2	127	13.2 kg
4"	150	107.1	230	190.5	166	118	19	8	115	2	158	13.3 kg
4"	300	107.1	255	200.0	166	102	22	8	126	2	158	21.2 kg

Order details

Inline diaphragm seal, flange connection Type series DP410 .

Order details inline diaphragm seal DP410 .				
DP410 .	Inline diaphragm seal, flange connection			
0	design	standard		
2		zone 0		
D11 ..	design per EN 1092-1	sealing surface ¹	model B1	
D12 ..			model B2	
D13 ..			model D	
D14 ..			model C	
12		nominal width	DN 25, PN 10-40	
32			DN 40, PN 10-40	
42			DN 50, PN 10-40	
62			DN 80, PN 10-40	
71			DN 100, PN 10-16	
72			DN 100, PN 25-40	
99	as in writing			
D50 ..	design per ASME B16.5	sealing surface ¹	RFSF	
D51 ..			RF125-250 AA	
D52 ..			RJF	
11		nominal width	DN 1", Class 150	
12			DN 1", Class 300	
31			DN 2", Class 150	
32			DN 2", Class 300	
51			DN 3", Class 150	
52			DN 3", Class 300	
61			DN 4", Class 150	
62			DN 4", Class 300	
99	as in writing			
A400 .	measuring device connection	directly	welded	
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		
1	material wetted parts	stainless steel mat.-no.1.4404/1.4435 (316 L), standard		
3		Hastelloy C 276		
8		Hastelloy C 4		
9		as in writing		
F1	insertion length L	L = 114 mm standard at DN 25 and 1"		
F2		L = 146 mm standard at DN 40		
F3		L = 156 mm standard at DN 50 and 2"		
F4		L = 166 mm standard at DN 80/100 and 3"/4"		
F9		as in writing		
L22	system filling ²	<u>pressure transmission fluid</u>	<u>temperature range</u> ³	
L23		synthetic oil, free of silicone FD1, standard	-10...140 °C	
L31		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
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Order code (example): DP4100 - D1132 - A4001 - F2 - L22 - ...

¹ with plain sealing surface, roughness according to DIN 4768 : $R_z = 1,5$

² for more detailed information about pressure transmission fluids see TA_038.
Please state temperature range to allow an accurate calculation of the system.

³ max. media temperature for pressures > 0 bar rel.