

## Inline diaphragm seal flange connection cell design Type series DP....



### Application area

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

### Features

- Circular diaphragm of stainless steel, slightly grooved, laser welded
- Volume optimised diaphragm base
- Self-draining
- System fillings for different applications
- Connection to zone 0
- Measuring device connection:
  - directly welded
  - directly screwed
  - with temperature decoupler
  - 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 in cell design is suited for measuring aggressive, highly viscous media and for high process temperatures.

## 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, D, E
- ASME B 16.5, RFSF

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

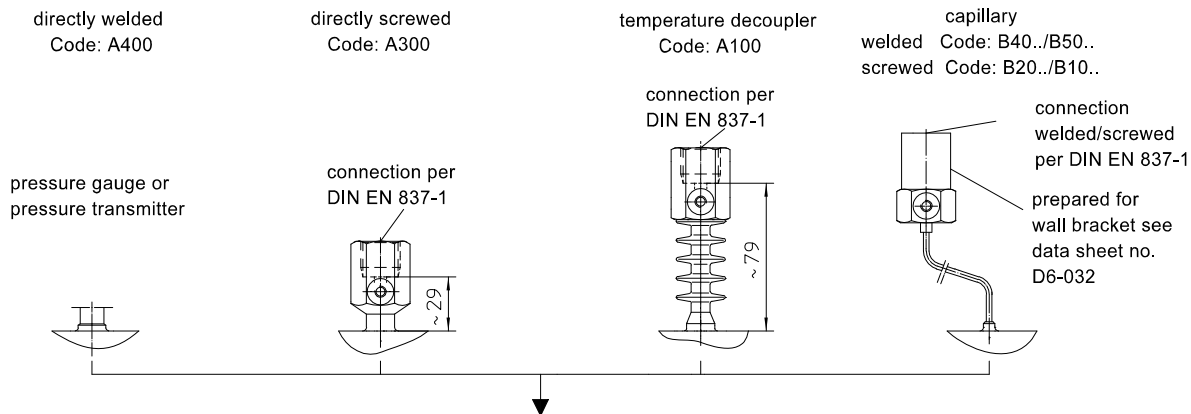
### Weight

With measuring device connection G1/2:  
EN connection/ASME connection

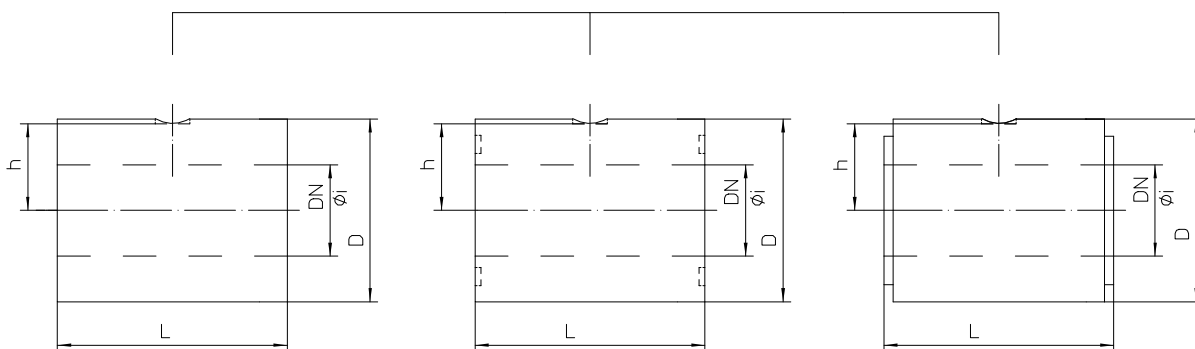
DN 25	DN 1"	approx. 3,2 kg
DN 40	DN 1 1/2"	approx. 4.8 kg
DN 50	DN 2"	approx. 6.0 kg
DN 65	DN 2 1/2"	approx. 7.6 kg
DN 80	DN 3"	approx. 5.9 kg
DN 100	DN 4"	approx. 7.2 kg
DN 125	DN 5"	approx. 8.3 kg
DN 150	DN 6"	approx. 10.2 kg

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

## Measuring device connection



## Dimensions

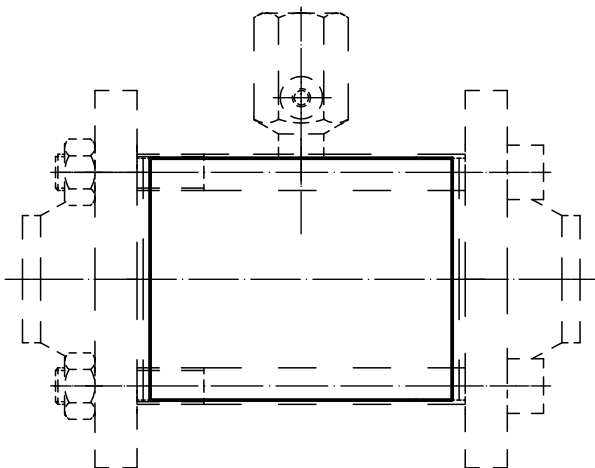


flange connection per DIN or ASME plain raised face nominal pressure max. 400bar

flange connection per DIN with nut, model D nominal pressure max. 10-100bar

flange connection per DIN with projection, model D nominal pressure max. 10-100bar

## Mounting example



Dimensions (mm)			EN 1092-1		
DN	Ø i	D	L standard	L* optional	H
25	28.5	68	100	60	32.0
40	43.1	88	100	60	42.0
50	54.5	100	100	60	48.0
65	70.3	120	100	60	58.0
80	82.5	138	60	100	67.0
100	107.1	160	60	100	78.0
125	127.0	188	60	100	92.0
150	153.9	216	60	100	106.0

Dimensions (mm)			ASME B 16.5		
DN	Ø i	D	L standard	L* optional	h
1"	28.5	50	100	60	23
1 1/2"	43.1	73.2	100	60	34.6
2"	54.5	91.9	100	60	44.0
2 1/2"	70.3	104.6	100	60	50.3
3"	82.5	127.0	60	100	61.5
4"	107.1	157.2	60	100	76.6
5"	127.0	188.0	60	100	92.0
6"	153.9	216.0	60	100	106.0

\* L = 120 mm available, special lengths upon request

## Order details

### Inline diaphragm seal, flange connection cell design

#### Type series DP . . . .

Order details inline diaphragm seal DP. . . .				
DP21 ..	nominal width	flange per EN 1092-1	DN 25	
DP23 ..			DN 40	
DP24 ..			DN 50	
DP25 ..			DN 65	
DP26 ..			DN 80	
DP27 ..			DN 100	
DP28 ..			DN 125	
DP29 ..			DN 150	
			further nominal widths upon request	
DP61 ..		flange per ASME B16.5	DN 1"	
DP62 ..			DN 1 1/2"	
DP63 ..			DN 2"	
DP64 ..			DN 2 1/2"	
DP65 ..			DN 3"	
DP66 ..			DN 4"	
DP67 ..			DN 5"	
DP68 ..	DN 6"			
	further nominal widths upon request			
	sealing surface <sup>1</sup>	<b>EN 1092-1</b>	<b>ASME B 16.5</b>	
8		model B2	RFSF, 6000 lbs	
6		model D	Large Groove 2500 lbs	
7		model E	Large Male 2500 lbs	
4		model B1	RF 125...250 AA	
0	design	standard		
2		zone 0		
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), sealing surface stainless steel mat.-no. 1.4404 (316L)	
3			Hastelloy C 276	
8	Hastelloy C 4			
9	as in writing			

<b>F1</b>	insertion length L	60 mm, standard at $\geq$ DN 80 (3")	
<b>F2</b>		100 mm, standard at $\leq$ DN 65 (2 1/2")	
<b>F3</b>		120 mm	
<b>F9</b>		as in writing	
	system filling <sup>2</sup>	<u>pressure transmission fluid</u>	<u>temperature range</u> <sup>3</sup>
<b>L22</b>		synthetic oil, free of silicone FD1, standard	-10...140 °C
<b>L23</b>		synthetic oil, free of silicone FD1, pls. specify max. temperature	-40...230 °C
<b>L31</b>		high temperature oil FV3H	-10...400 °C

<b>Additional features ( to be indicated in case of need, only)</b>	
<b>W1020</b>	material certificate per EN 10204-3.1, wetted parts

**Order code (example): DP2580 - A4007 - F2 - L22 - ...**

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

<sup>2</sup> for more detailed information about pressure transmission fluids see TA\_038.  
Please state temperature range to allow an accurate calculation of the system.

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