Labom

Diaphragm seal

variable connections

Type series DD111.

Application area

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

Features

- Separating diaphragm of stainless steel or special material
- Volume optimised diaphragm base
- System fillings for different applications
- Various process connections; screw-in thread, flanges per EN and ASME
- 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

Application

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

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Technical data

Constructional design

Basic body:	Volume reduced diaphragm base Material: Stainless steel mat.-no. 1.4404 (316L)
Diaphragm:	Flat diaphragm
Material wetted parts:	Diaphragm: See order details Basic body: Stainless steel mat.-no. 1.4404 (316L)

Process connection

Design:	See order details

Gasket

See order details.

In case of diaphragm with PTFE foil: gasket PTFE

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,

Ex IIG IIC according to PTB 03 ATEX 4032 X

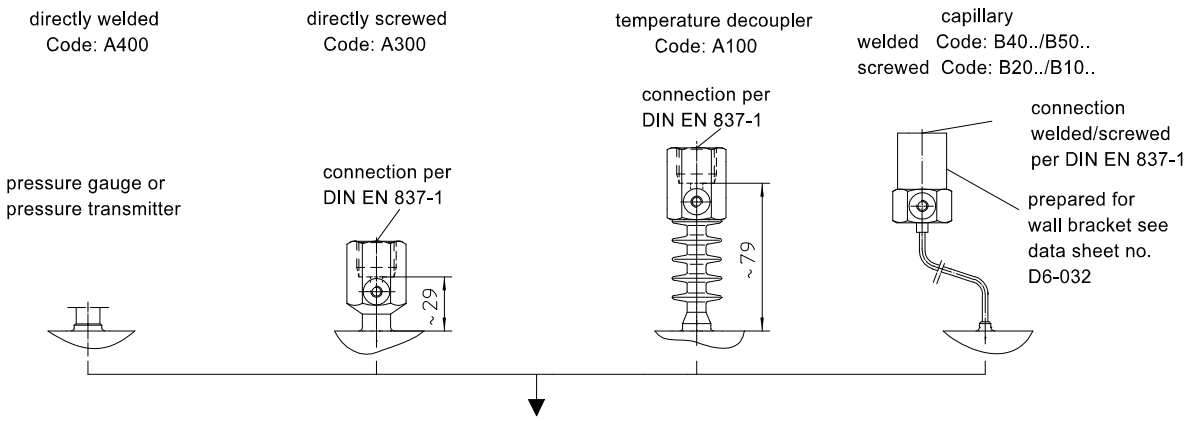
Weight

With measuring device connection G1/2:

G1/2 , PN 100:	approx. 1.5 kg
G1/2 , PN 250:	approx. 2.1 kg
DN 25, PN 10-40:	approx. 2.5 kg
DN 50, PN 10-40:	approx. 3.5 kg

Further weights upon request.

Measuring device connection



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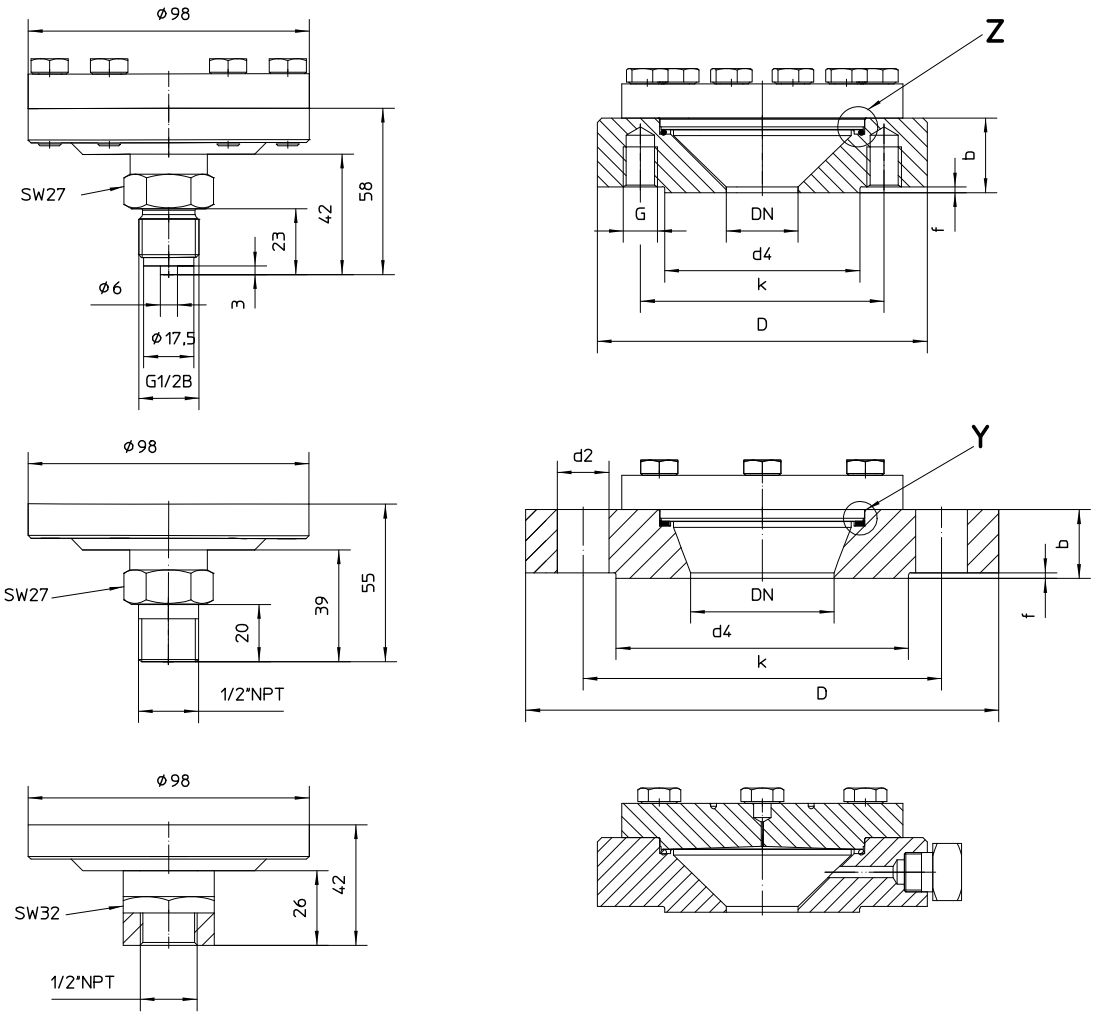
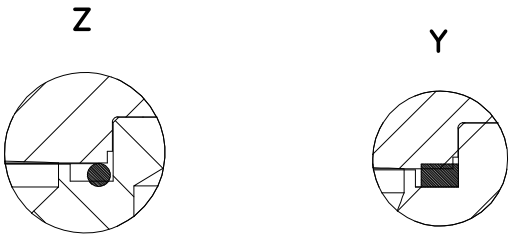
Dimensions





o-ring gasket

flat gasket

Dimensions (mm) per EN 1092-1									
DN	**PN**	**D**	**d4**	**k**	**G**	**d2**	**no. bore holes**	**b**	**f**
25	10/40	115	68	85	M12		4	26	2
50	10/40	165	102	125		18	4	24	2

Dimensions (mm) per ASME B16.5									
DN	**Class**	**D**	**d4**	**k**	**G**	**d2**	**no. bore holes**	**b**	**f**
1“	150	110	51	79.4	M12	-	4	32	2
1“	300	125	51	88.9	M16	-	4	32	2
2“	150	150	92	120.7	M16	-	4	24	2
2“	300	165	92	127	-	19	8	42	2
2"	400-600	165	92	127	-	19	8	45	7

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Order details

Diaphragm seal, variable connections
Type series DD111 .

Order details DD111 .						
DD111 .	Diaphragm seal, variable connection					
0	design	standard				
2		connection to zone 0				
	process connection	lower flange[1]	threated connection per EN 837-1			
D10011			G1/2 B	PN 100		1.4404 (316L)
D10021				PN 250		1.4404 (316L)
D10013				PN 16		PVDF
D10012				PN 25		1.4404 (316L) PTFE coated
D10101			1/2" NPT-M	PN 100		1.4404 (316L)
D10111				PN 250		1.4404 (316L)
D10121			1/2" NPT-F	PN 100		1.4404 (316L)
D10131				PN 250		1.4404 (316L)
			open measuring flange per EN 1092-1			
D11201			DN 25	PN 10-40	model B1	1.4404 (316L)
D12203				PN 16	model B2	PVDF
D12202				PN 25		1.4404 (316L) PTFE coated
D11351			DN 50	PN 10-40	model B1	1.4404 (316L)
D12353				PN 16	model B2	PVDF
D12352				PN 25		1.4404 (316L) PTFE coated
			open measuring flange per ASME B16.5			
D51601			1"	Class 150	RF 125...250 AA	1.4404 (316L)
D50603					RFSF	PVDF
D50602						1.4404 (316L) PTFE coated
D51611				Class 300	RF 125...250 AA	1.4404 (316L)
D50612					RFSF	1.4404 (316L) PTFE coated
D51701			2"	Class 150	RF 125...250 AA	1.4404 (316L)
D50703					RFSF	PVDF
D50702						1.4404 (316L) PTFE coated
D51711				Class 300	RF 125...250 AA	1.4404 (316L)
D50712					RFSF	1.4404 (316L) PTFE coated
D51721				Class 400-600	RF 125...250 AA	1.4404 (316L)
D90		without lower flange	PN 100			
D91			PN 250			

S1	design	lower flange without flush boring
S2		lower flange with flush boring 1/4" NPT, including plug
S3		lower flange with flush boring 1/4" NPT, without plug
S4		lower flange with flus boring 1/8" NPT, including plug
S5		lower flange with flush boring 1/8" NPT, without plug
G1	diaphragm material	stainless steel mat.-no. 1.4404 / 1.4435 (316L), standard
G2		Tantal
G3		Hastelloy C276
G6		PTFE foil on stainless steel
G9		as in writing
H1	gasket to pressure chamber [2]	NBR (Perbunan), temperature range -25...120 °C
H4		PTFE, temperature range -100...250 °C
H7		FKM (Viton), temperature range -40...200 °C
H13		spring washer (metal, silver coated)

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 [3]	pressure transmission fluid	temperature range[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
L20		silicone oil FM50	-10…140 °C

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

Order code (example): DD1110 - D10021 - S3 - G1 - ...

[1] flange connection possible for ASME
[2] not possible for the process connection lower flange, PTFE coated
[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. The temperature range of the used gasket has to be observed