

Diaphragm Seals

Threaded Design

Chemical Seals

Threaded Process Connection • Model 990.10
Flanged Process Connection • Model 990.12

Service intended

Diaphragm seal to combine with bourdon tube pressure gauges.
Suitable for corrosive, contaminated, hot or viscous pressure media.

Design

Upper and lower housing threaded with internal diaphragm with diaphragm bed.

Process connection

Model 990.10: threaded connection

Model 990.12: flanged connection
flanges DN 15, 20, 25 ($\frac{1}{2}$, $\frac{3}{4}$ 1 in.) per DIN, ASME or other standards

Pressure rating

PN 25 to PN 250 (class 150 to 1500)

Suitable pressure ranges

0 ... 0.6 to 0 ... 250 bar

Standard features

Upper housing (gauge side)

Stainless steel 1.4571

Gauge connection G $\frac{1}{2}$ female EN 837-1 / 7.3.5

Diaphragm

Stainless steel 1.4571, welded with upper body

Washer

FPM (Viton), 200 °C maximum

Lower housing (process side)

Stainless steel 1.4571

Process connection

Model 990.10: G $\frac{1}{2}$ female EN 837-1 / 7.3.5

Model 990.12: Flange DIN 2501, sealing face form D DIN 2526, or flange ASME B 16.5 RF. max. size DN 25

Fastening parts

Retainer flanges, bolts and nuts in galvanised steel, max. 200 °C

Optional extras

Upper housing (gauge side)

- Stainless steel 1.4404, 1.4435, 1.4541, titanium
- Capillary extension (welded)
- Cooling tower for directly mounted gauge when temperature of pressure media >100 °C

Diaphragm

- Stainless steel 1.4404, 1.4435, 1.4541
- Hastelloy B2, C4, C276, Monel 400, Nickel, Inconel 600, Incoloy 825, tantalum, titanium, circonium
- Silver foil max. 150 °C, PTFE foil max. 150 °C ≤ +100 °C
- PFA coating max. 260 °C, ECTFE coating max. 150 °C



Model 990.10, with threaded process connection



Model 990.12, with flanged process connection

further options

Washer

- PTFE max. 260 °C (standard with special material diaphragm)
- Metal seal form C, stainless steel 1.4571 silver plated or Inconel silver plated for max. 400 °C

Lower housing (process side)

- Lining or coating of special material
- Purging plug (not with lining or coating)
- Heater jacket

Process connection

- Model 990.10: G $\frac{1}{2}$ B male, $\frac{1}{2}$ NPT male or female, others feasible
- Model 990.12: Flanges to DIN, ASME or other standards, maximum size DN 25 (1 in.). Optional sealing faces

Fastening parts

- Retainer flanges, bolts and nuts in stainless steel, max. 260 °C
- Retainer flanges in stainless steel, bolts and nuts high tensile alloy steel up to 400 °C

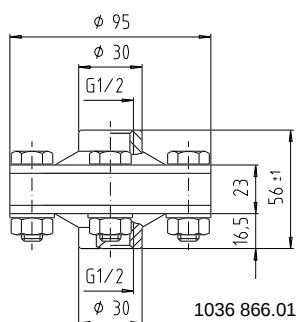
Dimensions

Standard version

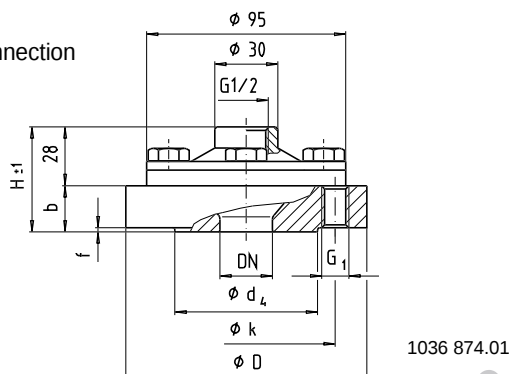
Model 990.10 with threaded process connection

PN [bar]	Weight [kg]
25 (class 150)	1.40
100 (class 300/600)	1.40
250 (class 1500)	3.00

Effective diameter d_M of diaphragm = 52 mm



Model 990.12 with flanged process connection



Flange per DIN 2501

DN [mm]	PN [bar] 1)	Dimensions [mm]							Weight [kg]
		D	k	d ₄	b	f	H	G ₁	
15	10/40	95	65	45	28	2	56	4 x M 12	1.56
	63/100	105	75	45	25	2	53	4 x M 12	2.00
	160	105	75	45	25	2	53	4 x M 12	2.13
	250	130	90	45	26	2	54	4 x M 16	3.20
20	10/40	105	75	58	25	2	53	4 x M 12	1.87
25	10/40	115	85	68	22	2	50	4 x M 12	2.10
	63/100	140	100	68	24	2	52	4 x M 16	3.20
	160	140	100	68	24	2	52	4 x M 16	3.60
	250	150	105	68	28	2	56	4 x M 20	4.00

1) PN 10/40 see also data sheet CS 99.04

Flange per ASME B 16.5

NPS [in.]	PN [class] 2)	Dimensions [mm]						
		D	k	d ₄	b	f	H	G ₁ (UNC)
1/2	150	95	60.5	35	28	2	56	4 x 1/2"
	300	95	66.5	35	28	2	56	4 x 1/2"
	600	95	66.5	35	32	7	60	4 x 1/2"
	1500	120	82.5	35	40	7	68	4 x 3/4"
3/4	150	100	70	43	28	2	56	4 x 1/2"
	300	120	82.5	43	22	2	50	4 x 5/8"
	600	120	82.5	43	25	7	53	4 x 5/8"
	1500	130	89	43	32	7	60	4 x 3/4"
1	150	110	79.5	51	22	2	50	4 x 1/2"
	300	125	89	51	22	2	50	4 x 5/8"
	600	125	89	51	24.5	7	52.5	4 x 5/8"
	1500	150	101.5	51	36	7	64	4 x 7/8"

2) Class 150 and 300 see also data sheet CS 99.04, for class 400 respectively 900 the dimensions of class 600 respectively 1500 are used.

Effective diameter d_M of diaphragm = 52 mm

Ordering information

Specify:

Model / Process connection / Nominal pressure rating / Material of diaphragm, lower housing, fastening parts and washer / Size of instrument connection / Filling liquid / Pressure instrument / Process conditions as per questionnaire / Optional extras required

Specifications and dimensions given in this leaflet represent the state of engineering at the time of printing.
Modifications may take place and materials specified may be replaced by others without prior notice.



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