

Flange Connection, Diaphragm Seals With Flush Diaphragm Model 990.27

WIKA Data Sheet DS 99.27

Applications

- Chemical process industry
- Petrochemical industry
- For aggressive, highly viscous, crystallising or hot media

Special Features

- Flange with a flush welded diaphragm with diaphragm bed
- Available for all common standards and nominal diameters
- With special material, all wetted parts are of the selected material

Description

Process connection

Flanges DN 25, 40, 50, 80, 100, 125 following EN 1092-1, sealing face form B1
or DN 1, 1½, 2, 3, 4, 5 per ASME B 16.5,
RF 125 ... 250 AA

Pressure rating

See tables page 3 and 4

Pressure ranges

25 mbar and up, depending on diaphragm diameter and process conditions with transmitter

Material of wetted parts

Stainless steel 316L

Measuring instrument connection

Material stainless steel 316L, axial weld-in connection or capillary with adapter G ½ per EN 837-1



Diaphragm Seal, Flange Connection Model 990.27



Diaphragm Seal, Flange Connection Model 990.27 with Pressure Gauge Model 232.50 NS 100, option tantalum diaphragm

Capillary

Material stainless steel 1.4571, axially welded to flange body, with handling tube, protective tube stainless steel 1.4301
Standard lengths: 1, 1.6, 2.5, 4, 5, 6, 7, 8 m
Minimum curve radius: 150 mm

Options

Process connection

- Other flanges on request
- Sealing faces per EN 1092-1, form B2 or per ASME B 16.5, RF 125 AA, 500AA, RFSF; EN 1092-1 groove and tongue; projection and recess; ASME B 16.5 snap ring groove form RJF (limited for special materials, on request)
- Flame arrester for connection to Zone 0

Measuring instrument connection

- Capillary with welding connection
- Axially welded adapter per EN 837-1
- Various adapters for direct assembled process transmitters
- Cooling element (direct assembly; for process temperature $> +100\text{ }^{\circ}\text{C}$)

Material of wetted parts

- Process temperature limit $400\text{ }^{\circ}\text{C}$
Stainless steel 1.4435, 1.4541, 1.4571, 1.4539, Monel 400, Hastelloy C276, Hastelloy C4, Inconel 600, Inconel 625, Incoloy 825, gold plating (approx. $25\text{ }\mu\text{m}$), wikkaramic coating
- **Process temperature limit $300\text{ }^{\circ}\text{C}$**
Tantalum
- Process temperature limit $260\text{ }^{\circ}\text{C}$
Hastelloy B2, Hastelloy C22, nickel, Duplex 1.4462
PTFE foil ($\leq 100\text{ bar}$), PFA coating
- Process temperature limit $150\text{ }^{\circ}\text{C}$
Platinum, titanium, zircon, silver foil, ECTFE (Halar) coating

Further materials and process temperature limits on request

Capillary

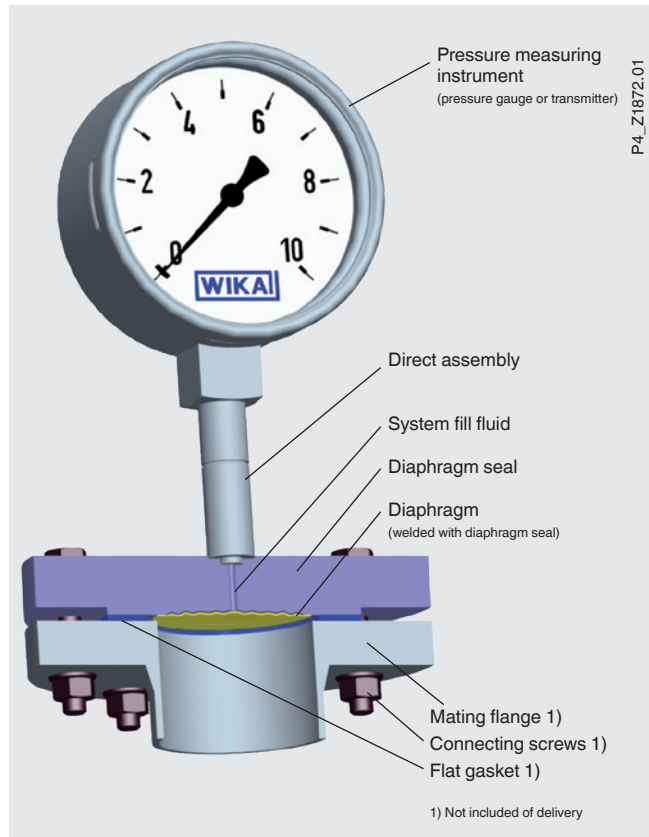
- Special lengths between 1 and 15 m
- Protective tube made of flexible PE or PTFE

Flushing ring

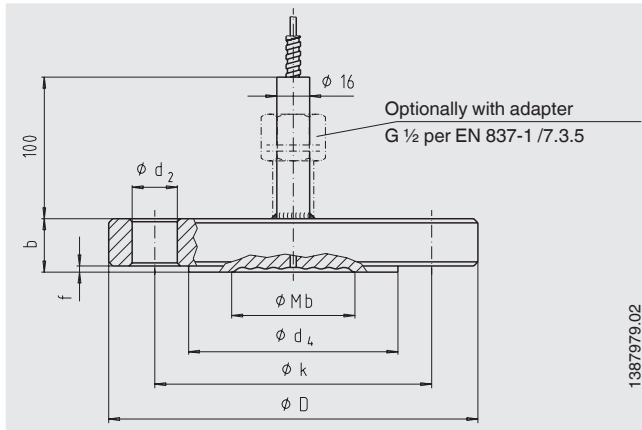
- Stainless steel 316L, for connection DN 40 ... 125 per EN or NPS $1\frac{1}{2}$... 5 per ASME (see data sheet AC 91.05)

Example for installation

Diaphragm seal, flange connection model 990.27 with pressure gauge



Dimensions in mm



Flange connection following EN 1092-1, form B1 / DIN 2501, form D

DN in mm	Class in bar	Dimensions in mm					Raised face			Weight in kg
		Mb	D	b	d_2	k	f	d_4	x	
25	10/40	32	115	18	14	85	2	68	4	1.5
	63/100	25	140	24	18	100	2	68	4	2.5
40	10/40	45	150	18	18	110	2	88	4	2.1
	63/100	45	170	26	22	125	2	88	4	4.0
	160	45	170	28	22	125	2	88	4	4.3
	250	45	185	34	26	135	2	88	4	6.3
50	10/40	59	165	20	18	125	2	102	4	3.3
	63	59	180	26	22	135	2	102	4	5.1
	100	59	195	28	26	145	2	102	4	6.5
	160	59	195	30	26	145	2	102	4	7.0
	250	59	200	38	26	150	2	102	8	9.3
80	10/16	89	200	20	18	160	2	138	8	4.9
	25/40	89	200	24	18	160	2	138	8	5.8
	63	89	215	28	22	170	2	138	8	7.9
	100	89	230	32	26	180	2	138	8	10.4
	160	89	230	36	26	180	2	138	8	11.7
	250	89	255	46	30	200	2	138	8	18.4
100	10/16	89	220	20	18	180	2	158	8	5.9
	25/40	89	235	24	22	190	2	162	8	8.1
	63	89	250	30	26	200	2	162	8	11.5
	100	89	265	36	30	210	2	162	8	15.5
	160	89	265	40	30	210	2	162	8	17.3
	250	89	300	54	33	235	2	162	8	29.9
125	10/16	124	250	22	18	210	2	188	8	8.4
	25/40	124	270	26	26	220	2	188	8	11.6
	63	124	295	34	30	240	2	188	8	14.7
	100	124	315	40	33	250	2	188	8	24.4
	160	124	315	44	33	250	2	188	8	26.9
	250	124	340	60	33	275	2	188	12	42.7

Mb = effective diameter of diaphragm, x = number of drill holes

Further dimensions and higher pressure ratings on request

Flange connection per ASME B 16.5, raised face

DN	Class	Dimensions in mm					Raised face			Weight in kg
		Mb	D	b	d ₂	k	f	d ₄	x	
1"	150	32	110	14.7	16	79.4	2	51	4	1.4
	300	32	125	17.9	19	88.9	2	51	4	1.7
1½"	150	45	125	17.9	16	98.4	2	73	4	1.6
	300	45	155	21.1	22	114.3	2	73	4	2.5
	600	45	155	29.3	22	114.3	7	73	4	3.3
	1500	45	180	38.8	29	123.8	7	73	4	5.9
	2500	45	205	51.5	32	146	7	73	4	10.4
2"	150	59	150	19.5	19	120.7	2	92	4	2.7
	300	59	165	22.7	19	127	2	92	8	3.7
	600	59	165	32.4	19	127	7	92	8	5.7
	1500	59	215	45.1	26	165.1	7	92	8	13.2
	2500	59	235	57.9	29	171.4	7	92	8	19.8
3"	150	89	190	24.3	19	152.4	2	127	4	5.3
	300	89	210	29	22	168.3	2	127	8	7.8
	600	89	210	38.8	22	168.3	7	127	8	11
	900	89	240	45.1	26	190.5	7	127	8	16.7
	1500	89	265	54.7	32	203.2	7	127	8	24.5
	2500	89	305	73.7	35	228.6	7	127	8	42.7
4"	150	89	230	24.3	19	190.5	2	158	8	7.7
	300	89	255	32.2	22	200	2	158	8	12.7
	400	89	255	42	26	200	7	158	8	17.4
	600	89	275	45.1	26	215.9	7	158	8	21.5
	900	89	290	51.5	32	235	7	158	8	27.7
	1500	89	310	61	35	241.3	7	158	8	37
	2500	89	355	83.2	42	273	7	158	8	65.7

Mb = effective diameter of diaphragm, x = number of drill holes

Further dimensions and higher pressure ratings on request

Ordering information

Model / Process connection (standard, nominal size, pressure rating, sealing face) / Material (wetted parts) / Instrument connection: direct assembly or via capillary, capillary length / System fill fluid / Assembly with pressure measuring instrument ... / Process conditions: application, max. and min. process temperature, max. and min. ambient temperature

The specifications given in this document represent the state of engineering at the time of publishing.
We reserve the right to make modifications to the specifications and materials.

