

Diaphragm Seals Flange Type

Flange connection according to DIN EN, ASME,
membrane flush welded

MDM 7510v
MDM 7520v

Information on applications, features, metrological influences such as temperature, level difference, floating time, etc., can be found in model overview 7000. Furthermore, you will find information on other chemical seal versions.

Application

Diaphragm seals of the type series 75.. are suitable for aggressive, contaminated and hot media.

Numerous common pressure gauges of our supply programme can be equipped with these chemical seals, but also pressure switches, pressure transmitters and pressure transducers, depending on the nominal width of the chemical seal up to PN 400 or Class 2500.

Construction

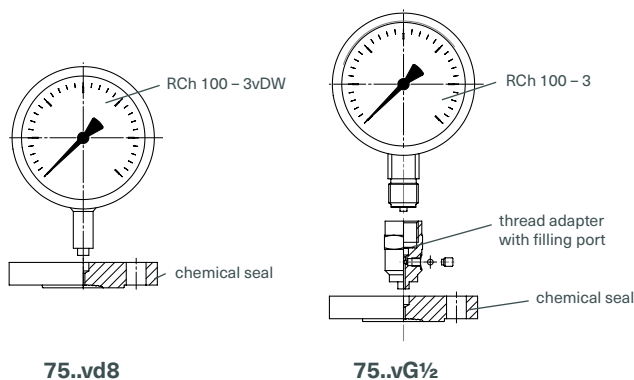
The diaphragm is welded free of dead space to the process side of the chemical seal.

Model 75..vd8 has an orifice d8 as instrument connection for welding to a pressure gauge with process connection d8x5, e.g. RCh 100 – 3vDW, a cooling element or a capillary line.

Leakage cannot occur at the welded connection of pressure gauge / chemical seal and the filling port that is not accessible externally. The parts can be easily cleaned externally.

Model 75..vG½ has a gauge adapter with female thread for direct mounting to measuring instruments with male thread.

The screwed connections pressure gauge / adapter and the filling port must not be loosened or opened as otherwise filling fluid leaks and the pressure measuring unit loses its functional capability.



75..vd8

75..vG½

Standard Versions

NACE / Sour Gas Application

The material we use complies with the NACE MR 0175 standards (NACE MR 0103 upon request). Only material with test certificates is used.

Chemical Seal

Stainless steel 316L (1.4404)

Instrument Connection

75..vd8 for welding to measuring instrument, capillary line or cooling element with welding connection (recommended for medium temperatures higher than +100 °C (+212 °F))

75..vG½ G½ female



Diaphragm

Sinus-shape, from DN 50 or 2" High-Soft Membrane
Stainless steel 316L (1.4435) flush welded with chemical seal,
He-leak detection up to 10⁻⁹ mbar l/s
Effective diaphragm diameter dM, see tables on page 2 and 3

Sealing Face

According to DIN EN 1092-1 form B, sealing face B1,
flange stamped B, raised face (RF) for ASME B 16.5

Nominal Pressure

See tables on page 2 and 3

Minimum Span Pressure Gauges

See tables on page 2 and 3

t_k-Value (mbar/10 K) (Temperature Coefficient of the Chemical Seal)

See tables on page 2 and 3 (silicone oil FA 1)

Options

See page 4

Special Versions Upon Request

- Other instrument connections, whereas we do not recommend NPT female threads
- Other material combinations
- Version according to other standards (such as JIS), other sealing faces, shapes and nominal widths

Accessory

Capillary line, cooling elements see data sheets 7.7002 and 7.7003

Other accessory available upon request

Mounting / Filling / Certificates

Information concerning mounting, filling and on certificates are available upon request.

Ordering Information Chemical Seals

See page 4

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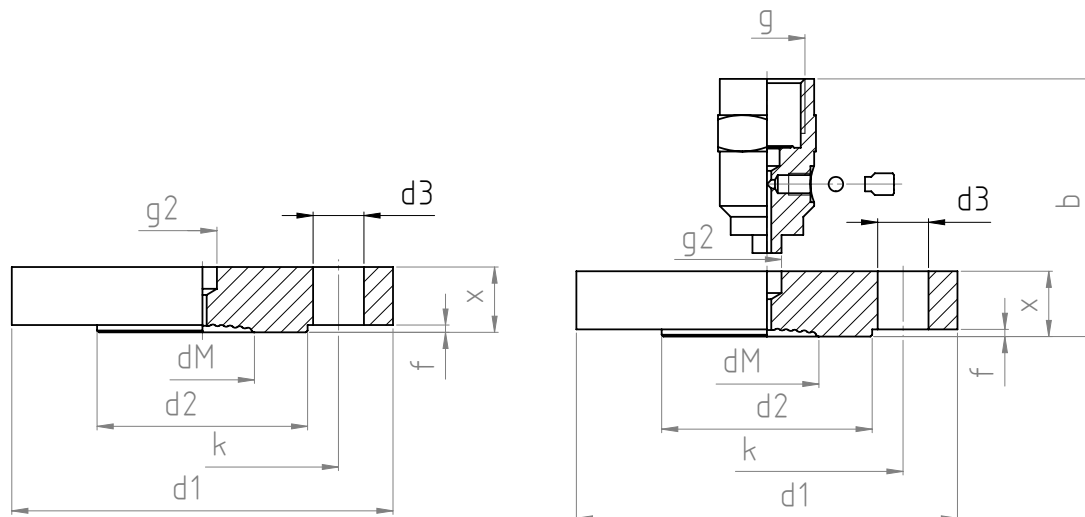
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Connection, Dimensional Data (mm) and Weight (kg), Minimum Span (bar), t_k -Value (mbar / 10 K)

Flange Connection Similar to DIN EN 1092-1 Form B1

MDM 7510v



DN	PN	b	d1	d2	d3	dM	f	g	g2	k	x	minimum span	t_k -value	approx. weight	
														vd8	vG½
25	10/40	61	115	68	4x Ø 14	28	2	G½	Ø 8	85	18	0 - 2.5 ²⁾	2.30	1.27	1.40
	63/100	67	140		4x Ø 18					100	24			2.37	2.50
	160	71	150		4x Ø 22					105	28			2.97	3.10
	250	77	160		4x Ø 26					115	34			4.57	4.70
	320	81	180		130					38	6.27			6.40	
	400	81	180		130					38	7.07			7.20	
32	10/40	61	140	78	4x Ø 18	34	3	G½	Ø 8	100	18	0 - 1 ²⁾	1.20	2.17	2.30
40	10/40	150	88	4x Ø 18	38	110				18	0.80	2.37	2.50		
High-Soft Membrane															
50	25/40	63	165	102	4x Ø 18	57	3	G½	Ø 8	125	20	0 - 1 ¹⁾	0.09	2.87	3.00
	63	69	180		4x Ø 22					135	26			4.47	4.60
	100	71	195		4x Ø 26					145	28			5.57	5.70
	160	73	200		8x Ø 26					150	30			6.02	6.15
	250	81	210		8x Ø 30					160	38			7.57	7.70
	320	85	235		180					52	9.37			9.50	
65	25/40	65	185	122	8x Ø 18	72	3	G½	Ø 8	145	22	0 - 0.6 ¹⁾	0.04	4.37	4.50
80	10/16	63	200	138	8x Ø 22	160				20	4.22			4.35	
	25/40	67	215		8x Ø 26	170				24	5.12			5.25	
	63	71	230		8x Ø 30	180				28	6.82			6.95	
	100	75	255		200	32				8.72	8.85				
	160	79	230		180	36				9.92	10.05				
100	250	89	255	8x Ø 30	200	46	15.57	15.70							
	10/16	63	220	158	8x Ø 18	84	180	20	4.62	4.75					
	25/40	67	235	162	8x Ø 22	190	24	6.52	6.65						
	63	73	250		8x Ø 26	200	30	10.37	10.50						
	100	79	265		8x Ø 30	210	36	13.87	14.00						
	160	83	300		210	40	14.47	14.60							
250	97	300	235		54	21.17	21.30								

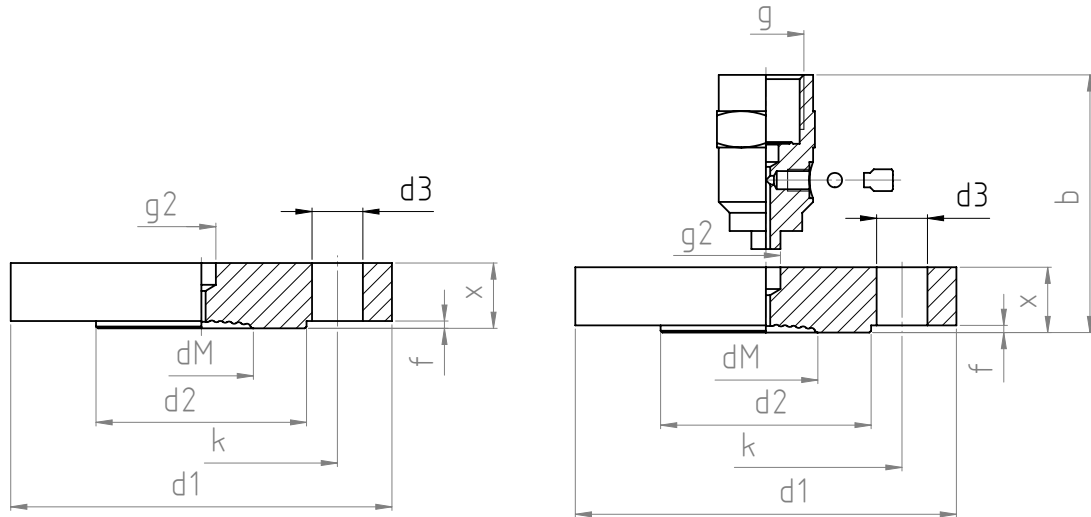
¹⁾ for Bourdon tube pressure gauges NCS 100 (4")

²⁾ for Bourdon tube pressure gauges RCh / RChG 100 - 3 without limit switch contact assembly (GSG)

Connection, Dimensional Data (mm) and Weight (kg), Minimum Span (bar), t_k -Value (mbar / 10 K)

Flange Connection Similar to ASME B16.5

MDM 7520v



NPS	Class	b	d1	d2	d3	dM	f	g	g2	k	x	minimum span	t_k -value	approx. weight	
														vd8	vG $\frac{1}{2}$
1"	150	57.2	108	50.8	4x Ø 15.7	28	1.6	G $\frac{1}{2}$	Ø 8	79.2	14.2	0 - 2.5 ²⁾	2.30	1.77	1.90
	300	60.5	124		88.9					17.5	2.97			3.10	
	400/600	66.9	124		101.6		23.9			3.37	3.50				
	900/1500	77.8	149.4		108		41.5			7.77	7.90				
	2500	84.5	158.8		108		41.5			10.77	10.90				
1½"	150	60.5	127	73.2	4x Ø 15.7	38	1.6	G $\frac{1}{2}$	Ø 8	98.6	17.5	0 - 1 ²⁾	0.80	3.27	3.40
	300	63.6	155.4		114.3					20.6	5.77			5.90	
	400/600	71.8	155.4		114.3		28.8			7.07	7.20				
High-Soft Membrane															
2"	150	62.1	152.4	91.9	4x Ø 19.1	57	1.6	G $\frac{1}{2}$	Ø 8	120.7	19.1	0 - 1 ¹⁾	0.09	2.47	2.60
	300	65.4	165.1		127					22.4	3.27			3.40	
	400/600	74.8	165.1		165.1		31.8			4.17	4.30				
	900/1500	87.5	215.9		165.1		44.5			10.17	10.30				
	2500	101.2	235		171.5		57.2			15.67	15.80				
3"	150	66.9	190.5	127	8x Ø 19.1	84	1.6	G $\frac{1}{2}$	Ø 8	152.4	23.9	0 - 0.6 ¹⁾	0.04	4.97	5.10
	300	71.4	209.6		168.1					28.4	6.87			7.00	
	400/600	71.4	209.6		168.1		38.2			8.47	8.60				
	900	87.5	241.3		190.5		44.5			13.17	13.30				
	1500	97.2	266.7		203.2		54.2			19.17	19.30				
	2500	115.9	304.8		228.6		72.9			34.87	35.00				
4"	150	66.9	228.6	157.2	8x Ø 19.1	84	1.6	G $\frac{1}{2}$	Ø 8	190.5	23.9	0 - 0.6 ¹⁾	0.04	7.07	7.20
	300	74.8	254		200.2					31.8	11.57			11.70	
	400	84.5	254		200.2		41.5			13.77	13.90				
	600	87.5	273.1		215.9		44.5			17.37	17.50				
	900	93.8	292.1		234.9		50.8			26.97	27.10				
	1500	103.2	311.2		241.3		60.2			28.77	28.90				

¹⁾ for Bourdon tube pressure gauges NCS 100 (4")

²⁾ for Bourdon tube pressure gauges RCh / RChG 100 - 3 without limit switch contact assembly (GSG)

Ordering Information, Options

Basic Model	Diaphragm Seal	MDM 75..v
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Please regard our detailed ordering information

- in model overview 7000
- in the checklists for pressure measuring instruments with chemical seal
- in the data sheet of the required pressure measuring instrument

and add the information for the respective chemical seal

Model MDM 7510vd8, MDM 7520vG ½

Process connection e.g. NPS 2", DN 25

Nominal pressure e.g. Class 300, PN 40

Options, if necessary e.g. wetted parts PTFE

The reference temperature is +20 °C (+68 °F). Please specify if an operating temperature (t_A) deviating from +20 °C (+68 °F) is required (dial inscription t_A...).

Instrument connection	orifice d8 for direct welding to measuring instrument (with cooling element or with capillary line)				d8
	G ½ female thread				G ½
	option: G ¼ female				G ¼
Chemical seal		flange	sealing face	diaphragm	
	stainless steel 316L	stainless steel 316L	stainless steel 316L	stainless steel 316L	stainless steel 316L
flange stainless steel 316L (1.4404)	options: wetted parts special material				
	tantalum	stainless steel 316L	tantalum	tantalum	stainless steel 316L / tantalum
	Hastelloy C276	stainless steel 316L	Hastelloy C276	Hastelloy C276	stainless steel 316L / Hastelloy C276
	Monel 400	stainless steel 316L	Monel 400	Monel 400	stainless steel 316L / Monel 400
	PTFE¹⁾	stainless steel 316L	PTFE	stainless steel 316L / PTFE	stainless steel 316L / PTFE
	tantalum / PTFE¹⁾	stainless steel 316L	tantalum	tantalum / PTFE	stainless steel 316L / tantalum / PTFE
	options: solid made of special material				
	titanium Grade 2	titanium Grade 2	titanium Grade 2	titanium Grade 2	titanium Grade 2
	Hastelloy C276	Hastelloy C276	Hastelloy C276	Hastelloy C276	Hastelloy C276
	Monel 400	Monel 400	Monel 400	Monel 400	Monel 400
Process connection	according to DIN EN 1092-1 or ASME see pages 2 and 3				

These options are to be ordered in written form. Please contact us to ensure compatibility when combining options.

Form of the sealing face	sealing face according to DIN EN 1092-1 form B2, stamped B2, A, C, D, E, F, G, ASME RJF circular groove	
Diaphragm and sealing face made of special material	2.4819	Hastelloy C276
	2.4610	Hastelloy C4
	2.4602	Hastelloy C22
	2.4816	Inconel 600
	1.4462	Duplex
Protection foil on diaphragm and sealing face	PTFE (0.5 mm) ¹⁾ silver foil (0.10 mm) ²⁾	
Coating on diaphragm and sealing face	PFA (coating also on flange) ECTFE gold (protection against hydrogen diffusion) gold / rhodium PTC	

Wetted parts electropolished

Calculation of the temperature-related additional error for the entire pressure measuring system

Example MDM 7510vd8, DN 25, PN 40, t_A +80 °C

¹⁾ temperature resistance max. +260 °C (+500 °F), max. 400 bar, vacuum-resistant up to +260 °C (+500 °F) – only if there is no permeation
²⁾ temperature resistance max. +150 °C (+302 °F), max. 100 bar, vacuum-resistant up to +80 °C (+176 °F)