

# Diaphragm Seals Flange Type

Flange connection according to DIN EN, ASME or JIS  
Membrane flush welded

**MDM 7510v**  
**MDM 7520v**

## Standard Version

Information on applications, properties, metrological influences such as temperature, level difference, floating time and others, can be found in model overview 7000. Furthermore, you will also find indications 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 case size 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, cooling element or capillary line.

Leakage cannot occur at the welded connection of pressure gauge / upper part and the filling port, which is not accessible from the outside.

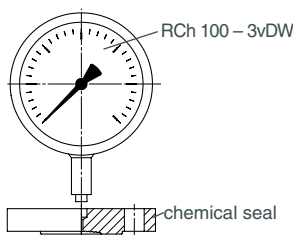
The parts can be easily cleaned externally.

**Model 75..vG½** has a measuring instrument 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 at any time, or else filling fluid will leak and the measuring unit loses its efficiency.

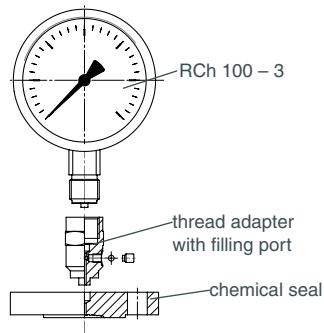
### NACE resp. Sour Gas Application

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

75..vd8



75..vG½



### Chemical seal

Stainless steel 1.4404 (316 L)

### Instrument Connection

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

75..vG ½ : G ½ female (½" BSP)

### Diaphragm

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

## Minimum Span Pressure Gauges

See tables on page 3

## t<sub>k</sub>-Value (mbar/10K) (Temperature Coefficient of the Chemical Seal)

See tables on page 3 (Silicone oil FA 1)

## Accessories

Capillary line, cooling elements: see data sheet 7002  
Process connection pieces and sealings do not belong to the standard supply programme, but are available upon request.

## Construction / Filling / Certificates

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

## Ordering Information Chemical Seals

Please note our detailed ordering information

- in model overview 7000
  - in the check lists for pressure measuring instruments with chemical seals and
  - in the data sheets of the requested pressure measuring instrument and add the information for the respective chemical seal:
    - Model : e.g. MDM 7510vd8, MDM 7520vG½
    - Nominal case size: e.g. NPS 2", DN 25
    - Nominal pressure: e.g. Class 300, PN 40
- if necessary, options: see page 2, e.g. wetted parts PTFE

The reference temperature is +20 °C (+68 °F). Please indicate, if an operating temperature (tA) deviating from +20 °C (+68 °F) max. is required (dial inscription tA...).

Example: Pressure gauge...,  
Chemical seal: MDM 7510vd8, DN 25, PN 40, tA +80°C



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## Ordering Information, Further Options

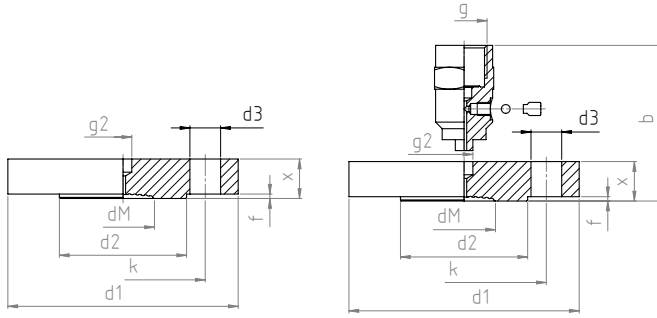
Basic Models:		Diaphragm Seals			MDM 75..v	
<b>Instrument connection:</b>	orifice d8 for direct welding to measuring instrument, with cooling element or with capillary line				75..vd8	
	G ½ female (½" BSP) option: G ¼ female (¼" BSP)				75..vG ½	
<b>Chemical seal:</b>		<b>Flange</b>	<b>Sealing Face</b>	<b>Diaphragm</b>		
	Flange: stainless steel 1.4404 (316 L)	<b>Standard</b>				
		<b>Stainless steel 316 L</b>	stainless steel 316 L	stainless steel 316 L	stainless steel 316 L	<b>Stainless steel 316 L</b>
		<b>Options wetted parts special material</b>				
		<b>Tantalum</b>	stainless steel 316 L	Tantalum	Tantalum	<b>Stainless steel 316 L / Tantalum</b>
		<b>Hastelloy C276</b>	stainless steel 316 L	Hastelloy C276	Hastelloy C276	<b>Stainless steel 316 L / Hastelloy C276</b>
		<b>Monel 400</b>	stainless steel 316 L	Monel 400	Monel 400	<b>Stainless steel 316 L / Monel 400</b>
		<b>PTFE<sup>1)</sup> (0.25 mm)</b>	stainless steel 316 L	PTFE	stainless steel 316 L / PTFE	<b>Stainless steel 316 L / PTFE</b>
		<b>Tantalum / PTFE<sup>1)</sup> (0.25 mm)</b>	stainless steel 316 L	Tantalum	Tantalum / PTFE	<b>Stainless steel 316 L / Tantalum / PTFE</b>
		<b>Options solid made of special material</b>				
		<b>Titanium</b>	Titanium	Titanium	Titanium	<b>Titanium</b>
		<b>Hastelloy C276</b>	Hastelloy C276	Hastelloy C276	Hastelloy C276	<b>Hastelloy C276</b>
		<b>Monel 400</b>	Monel 400	Monel 400	Monel 400	<b>Monel 400</b>
<b>Process connection:</b>	according to DIN EN 1092-1 or ASME					
<b>Further options:</b>	<b>Form of sealing face</b> sealing face according to DIN EN 1092-1 Form B2, stamped B2, A, C, D, E, F, G, ASME RJF-circular groove					
	<b>Special material for diaphragm and sealing face</b>					
		2.4617	Hastelloy C2			
		2.4610	Hastelloy C4			
		2.4602	Hastelloy C22			
		2.4816	Inconel 600			
		1.4462	Duplex			
	<b>Protection foil on diaphragm and sealing face</b>					
		PTFE (0.5 mm) <sup>1)</sup>				
		silver foil (0.10 mm) <sup>2)</sup>				
<b>Coating on diaphragm and sealing face</b>						
	PFA					
	ECTFE					
	gold/rhodium (protection against hydrogen diffusion)					
	PTC					
<b>Wetted parts</b>						
	electropolished					
<b>Special versions:</b>	other instrument connections upon request, whereas we do not recommend NPT female threads					
	other material combinations upon request					
	versions according to other standards (such as JIS), other sealing faces, shapes and nominal case sizes upon request					
	calculation of the temperature related additional error for the whole measuring unit					

<sup>1)</sup> Temperature resistance max. 260 °C (500 °F), max. 400 bar, vacuum-resistant up to 260 °C (500 °F) - only if there is no penetration

<sup>2)</sup> Temperature resistance max. 150 °C (302 °F), max. 100 bar, vacuum-resistant up to 80 °C (176 °F)

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

## Flange Connection Similar to DIN EN 1092-1 Form B1 / ASME B16.5



### MDM 7510v DIN EN 1092-1

DN	PN	b	d1	d2	d3	dM	f	g	g2	k	x	Minimum span	$t_k$ -value	Weight (approx.)	
														vd8	vG $\frac{1}{2}$
25	10/40	61	115	68	4xØ14	28	2	G $\frac{1}{2}$	Ø 8	85	18	0 – 2.5 <sup>2)</sup>	2.30	1.27	1.40
	63/100	67	140		4xØ18					100	24			2.37	2.50
	160	71	150		4xØ22					105	28			2.97	3.10
	250	77	160		4xØ26					115	34			4.57	4.70
	400	81	180		4xØ26					130	38			6.27	6.40
32	10/40	61	140	78	4xØ18	34	3	G $\frac{1}{2}$	Ø 8	100	18	0 – 1 <sup>2)</sup>	1.20	2.17	2.30
40	10/40		150	88	4xØ18	38				110	18			0.80	2.37

### High Soft Membrane

50	25/40	63	165	102	4xØ18	57	3	G $\frac{1}{2}$	Ø 8	125	20	0 – 1 <sup>1)</sup>	0.09	2.87	3.00
	63	69	180		4xØ22					135	26			4.47	4.60
	100	71	195		4xØ26					145	28			5.57	5.70
	160	73	200		8xØ26					150	38			6.02	6.15
	250	81	210		8xØ26					160	42			7.57	7.70
	320	85	235		8xØ30					180	52			9.37	9.50
65	25/40	65	185	122	8xØ18	72	3	G $\frac{1}{2}$	Ø 8	145	22	0 – 0.6 <sup>1)</sup>	0.04	4.37	4.50
80	10/16	63	200	138		8xØ22				84	160			20	4.22
	25/40	67	215		8xØ22	170	28	5.12	5.25						
	63	71	230		8xØ26	180	32	6.82	6.95						
	100	75	255		8xØ30	200	36	8.72	8.85						
	160	79	230		8xØ30	200	46	9.92	10.05						
100	10/16	63	220	158	8xØ18	162	3	G $\frac{1}{2}$	Ø 8	180	20	0 – 0.6 <sup>1)</sup>	0.04	15.57	15.70
	25/40	67	235	8xØ22	190					24	4.62			4.75	
	63	73	250	8xØ26	190					24	6.52			6.65	
	100	79	265	8xØ30	200					30	10.37			10.50	
	160	83	265	8xØ30	210					36	13.87			14.00	
	250	97	300	8xØ33	235					54	14.47			14.60	

### MDM 7520v ASME B16.5

NPS	Class	b	d1	d2	d3	dM	f	g	g2	k	x	Minimum span	$t_k$ -value	Weight (approx.)	
														vd8	vG $\frac{1}{2}$
1"	150	57.2	108	50.8	4xØ15.7	28	1.6	G $\frac{1}{2}$	Ø 8	79.2	14.2	0 – 2.5 <sup>2)</sup>	2.30	1.77	1.90
	300	60.5	124		4xØ19.1					88.9	17.5			2.97	3.10
	400/600	66.9	124		4xØ25.4		101.6			23.9	3.37			3.50	
	900/1500	77.8	149.4		8xØ25.4		108			34.8	7.77			7.90	
	2500	84.5	158.8				108			41.5	10.77			10.90	
1½"	150	60.5	127	73.2	4xØ15.7	38	1.6	G $\frac{1}{2}$	Ø 8	98.6	17.5	0 – 1 <sup>2)</sup>	0.80	3.27	3.40
	300	63.6	155.4		4xØ22.4					114.3	20.6			5.77	5.90
	400/600	71.8	155.4		4xØ22.4		114.3			28.8	7.07			7.20	

### High Soft Membrane

2"	150	62.1	152.4	91.9	4xØ19.1	57	1.6	G $\frac{1}{2}$	Ø 8	120.7	19.1	0 – 1 <sup>1)</sup>	0.09	2.47	2.60
	300	65.4	165.1		8xØ19.1					127	22.4			3.27	3.40
	400/600	74.8	215.9		8xØ25.4		165.1			31.8	4.17			4.30	
	900/1500	87.5	235		8xØ28.4		171.5			44.5	10.17			10.30	
	2500	101.2	235		8xØ28.4		171.5			57.2	15.67			15.80	
3"	150	66.9	190.5	127	4xØ19.1	84	1.6	G $\frac{1}{2}$	Ø 8	152.4	23.9	0 – 0.6 <sup>1)</sup>	0.04	4.97	5.10
	300	71.4	209.6		8xØ22.4					168.1	28.4			6.87	7.00
	400/600	87.5	241.3		8xØ25.4		190.5			38.2	8.47			8.60	
	1500	97.2	266.7		8xØ31.8		203.2			44.5	13.17			13.30	
	2500	115.9	304.8		8xØ35.1		228.6			54.2	19.17			19.30	
	150	66.9	228.6		8xØ19.1		190.5			23.9	7.07			7.20	
4"	300	74.8	254	157.2	8xØ22.4	84	1.6	G $\frac{1}{2}$	Ø 8	200.2	31.8	0 – 0.6 <sup>1)</sup>	0.04	11.57	11.70
	400	84.5	273.1		8xØ25.4					200.2	41.5			13.77	13.90
	600	87.5	273.1		8xØ25.4		215.9			44.5	17.37			17.50	
	900	93.8	292.1		8xØ31.8		234.9			50.8	26.97			27.10	
	1500	103.2	311.2		8xØ35.1		241.3			60.2	28.77			28.90	

<sup>1)</sup> for Bourdon tube pressure gauges NCS 100, <sup>2)</sup> for Bourdon tube pressure gauges RCh / RChG 100 – 3 without limit switch contact assembly