

# Diaphragm Seals Flange Type with Extension Tube

Flange connection acc. to DIN EN, ASME, membrane flush welded

MDM 7515v

MDM 7525v

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 40 or Class 300.

## Construction

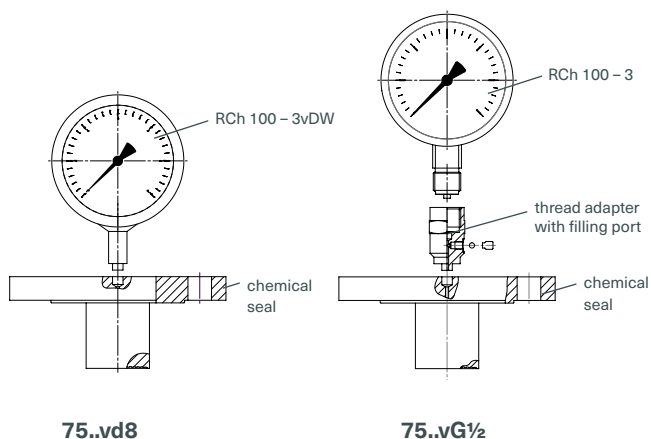
The diaphragm is welded free of dead space to the process side of the chemical seal.

**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.



## 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 and Process Connection

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

Stainless steel 316L (1.4435) 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 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<sub>K</sub>-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
- Special extension tube lengths or diameters

## 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

[www.armano-messtechnik.com](http://www.armano-messtechnik.com)

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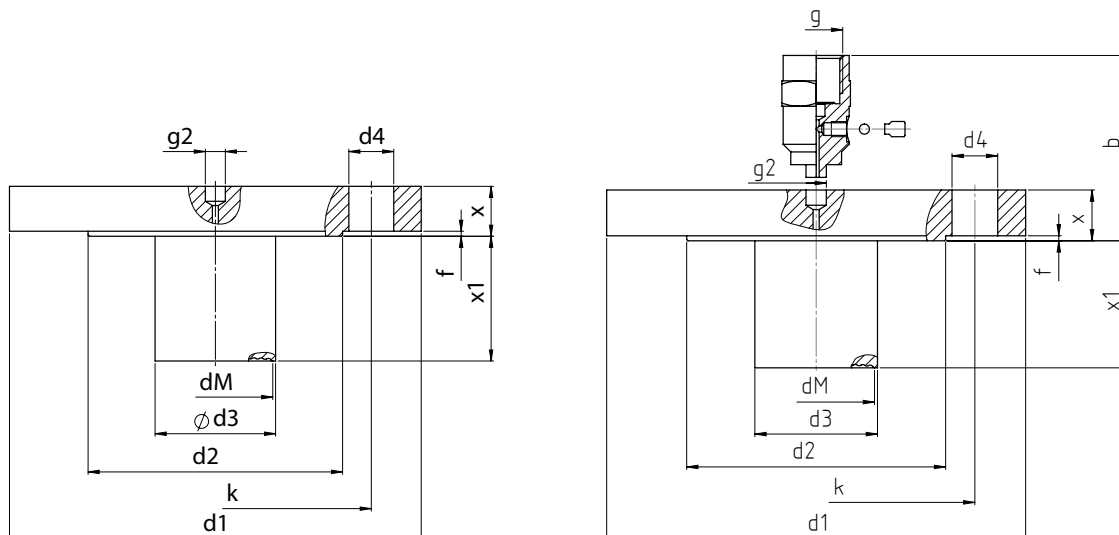
**7502**

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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 7515v



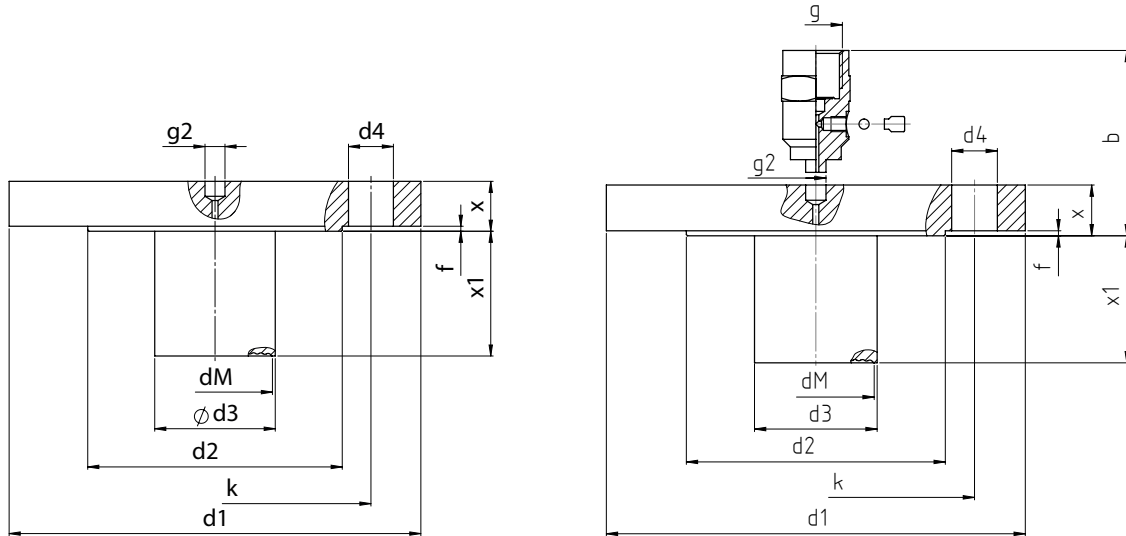
DN	PN	b	d1	d2	TuD d3	d4	dM	f	g	g2	k	x	TuL x1	minimum span	$t_k$ - value	approx. weight	
																vd8	vG $\frac{1}{2}$
50	25/40	63	165	102	48.3	4x Ø 18	46				125	20		0 - 1 <sup>1)</sup>	0.45	3.44	3.67
																3.76	3.99
																4.07	4.30
																4.37	4.60
80	10/16	63	200	138	76	8x Ø 18	72				160	20		0.64	5.25	5.48	
															5.81	6.04	
															6.37	6.60	
															6.92	7.15	
	25/40	67						3	G $\frac{1}{2}$	d8		24		0 - 0.6 <sup>1)</sup>	0.54	6.15	6.38
																6.71	6.94
																7.27	7.50
																7.82	8.05
100	10/16	63	220	158	94	8x Ø 18	80				180	20		0.54	6.25	6.48	
															7.50	7.73	
															8.75	8.98	
															10.00	10.23	
	25/40	67										190	24		0.54	8.15	8.38
																9.40	9.63
																10.70	10.93
																12.00	12.23

<sup>1)</sup> for Bourdon tube pressure gauges NCS 100 (4")

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

## Flange Connection Similar to ASME B16.5

MDM 7525v



NPS	Class	b	d1	d2	d3	d4	dM	f	g	g2	k	x	x1	minimum span	$t_k$ -value	approx. weight	
																vd8	vG $\frac{1}{2}$
2"	150	62.1	152.4	91.9	48.3	4x $\varnothing$ 19.1	46				120.7	19.1	50	0 - 1 <sup>1)</sup>	0.45	3.84	4.07
													100			4.16	4.39
													150			4.47	4.70
													200			4.77	5.00
3"	150	66.9	190.5	127	76	4x $\varnothing$ 19.1	72				152.4	23.9	50	0 - 0.6 <sup>1)</sup>	0.64	6.01	6.24
													100			6.56	6.79
													150			7.12	7.35
													200			7.67	7.90
	300	71.4	209.6				8x $\varnothing$ 22.4	1.6	G $\frac{1}{2}$	d8	168.1	28.4	50	7.90	8.13		
													100	8.46	8.69		
													150	9.02	9.25		
													200	9.57	9.80		
4"	150	66.9	228.6	157.2	94	8x $\varnothing$ 19.1	80				190.5	23.9	50	0.54	8.63	8.86	
													100		9.90	10.13	
													150		11.15	11.38	
													200		12.40	12.63	
	300	74.8	254				8x $\varnothing$ 22.4				200.2	31.8	50	13.13	13.36		
													100	14.40	14.63		
													150	15.65	15.88		
													200	16.91	17.14		

<sup>1)</sup> for Bourdon tube pressure gauges NCS 100 (4")

## Ordering Information, Options

<b>Basic Model</b>	<b>Diaphragm Seal</b>	<b>MDM 75..v</b>
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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

<b>Model</b>	MDM 7515vd8, MDM 7525vG½
<b>Process connection</b>	e.g. NPS 2", DN 25
<b>Nominal pressure</b>	e.g. Class 300, PN 40
<b>Extension tube length / diameter</b>	TuL/TuD see tables on pages 2 and 3

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  $t_A$ ...).

<b>Instrument connection</b>	orifice d8 for direct welding to measuring instrument (with cooling element or with capillary line)					<b>d8</b>
	G½ female thread					<b>G½</b>
	option: G¼ female					<b>G¼</b>
<b>Chemical seal</b>	<b>flange</b>	<b>extension tube</b>	<b>sealing face</b>	<b>diaphragm</b>		
<b>stainless steel 316L</b>	stainless steel 316L	stainless steel 316L	stainless steel 316L	stainless steel 316L	<b>stainless steel 316L</b>	
<b>flange stainless steel 316L (1.4404)</b>	<b>option: wetted parts special material (coating)</b>					
	<b>tantalum</b>	stainless steel 316L	tantalum	tantalum	tantalum	<b>stainless steel 316L / tantalum</b>
	<b>options: flange stainless steel, wetted parts special material</b>					
	<b>Hastelloy C276</b>	stainless steel 316L	Hastelloy C276	Hastelloy C276	Hastelloy C276	<b>stainless steel 316L / Hastelloy C276</b>
	<b>Monel 400</b>	stainless steel 316L	Monel 400	Monel 400	Monel 400	<b>stainless steel 316L / Monel 400</b>
	<b>options: solid made of special material</b>					
	<b>titanium Grade 2</b>	titanium Grade 2	titanium Grade 2	titanium Grade 2	titanium Grade 2	<b>titanium Grade 2</b>
	<b>options: wetted parts stainless steel, diaphragm special material</b>					
	<b>tantalum</b>	stainless steel 316L	stainless steel 316L	stainless steel 316L	tantalum	<b>stainless steel 316L / diaphragm tantalum</b>
	<b>Hastelloy C276</b>	stainless steel 316L	stainless steel 316L	stainless steel 316L	Hastelloy C276	<b>stainless steel 316L / diaphragm Hastelloy C276</b>
	<b>Monel 400</b>	stainless steel 316L	stainless steel 316L	stainless steel 316L	Monel 400	<b>stainless steel 316L / diaphragm Monel 400</b>
<b>Process connection</b>	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.**

<b>Form of the 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>Other special materials upon request, e.g.</b>	2.4819	Hastelloy C276
	2.4610	Hastelloy C4
	1.4462	Duplex
	in the case of configurations	solid made of special material flange stainless steel 316L / wetted parts made of special material wetted parts stainless steel 316L / diaphragm made of special material
<b>Coating on extension tube, diaphragm, flange and sealing face</b>	PFA ECTFE	
<b>Coating on diaphragm</b>	gold (protection against hydrogen diffusion) gold / rhodium PTC	

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

<b>Example</b>	<b>MDM 7515vd8, DN 50, PN 40, TuL 76, <math>t_A</math> +80 °C</b>
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