

# Diaphragm Seals for food / bio / pharmaceutical industries

SÜDMO (W 500 D), Ingoldstutzen, APV-In-Line, NEUMO BioControl®, Varivent® (for Varinline® case), Clamp DIN 32 676 Series C

**MDM 73..**  
**MDM 73..v**

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

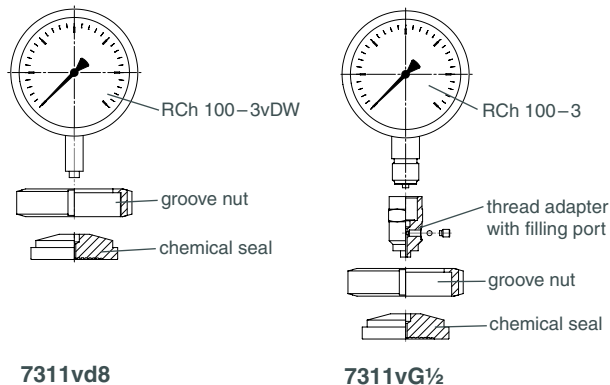
## Construction

**Model 73..vd8** has an orifice d8 as instrument connection for welding to a pressure gauge with process connection d8x5, e.g. RCh 100–3vDW.

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

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



## Minimum Span Pressure Gauges

See tables on page 2 ff.

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

See tables on page 2 ff. (for vegetable oil FN 1)

## Options

- Wetted parts Ra < 0.4 µm
- Wetted parts electropolished
- Reinforced groove nut
- Calculation of the temperature-related additional error for the entire pressure measuring system

## Special Versions

- Other instrument connections upon request, whereas we do not recommend NPT female threads
- Other material combinations upon request
- Versions according to other standards and nominal widths, upon request

## Accessory

Capillary line, cooling elements: see data sheet 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

## Standard Versions

### Chemical Seal and Process Connection

Stainless steel 316L (1.4435)

### Instrument Connection

73..vd8: orifice d8  
73..vG½: G½ female

### Diaphragm

Stainless steel 316L (1.4435) flush welded with chemical seal, helium leak detection up to 10<sup>-9</sup> mbar l/s  
Effective diaphragm diameter dM, see tables on page 2 ff.

### Surface Roughness of the Wetted Parts

Ra < 0.8 µm

### Union Nut (if applicable)

Stainless steel

### Nominal Pressure

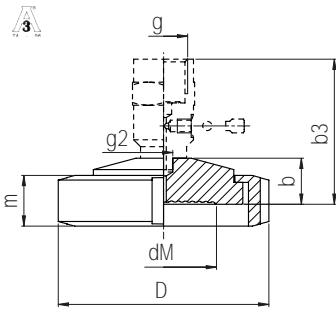
See tables on page 2 ff.

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

## Groove Union Nut

MDM 7311v... Südmo W500

form A for tubes according to DIN 11866 – series A (DIN 11850)

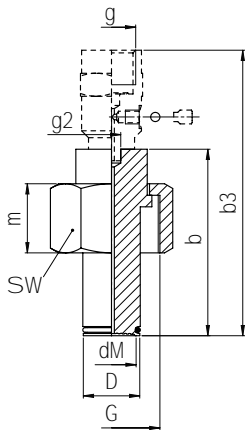


DN	PN	For outer tube $\varnothing$ x wall thickness	Inner tube $\varnothing$	b	b3	D	dM	d <sup>1)</sup>	g	g2	m	Minimum span	$t_k$ -value	(approx.) weight		
														vd8	vG 1/2	
25		29 x 1.5	26			63	21	23				0 - 4 <sup>2)</sup>	5.50	0.32	0.45	
32	25	35 x 1.5	32			70	28	30			21	0 - 2.5 <sup>2)</sup>	2.30	0.37	0.50	
40		41 x 1.5	38			78	34	36				0 - 1 <sup>2)</sup>	1.20	0.50	0.63	
50		53 x 1.5	50	20	63	92	46	48	G <sup>1/2</sup>	$\varnothing$ 8	22	0 - 1 <sup>3)</sup>	0.45	0.85	0.98	
65	20	70 x 2	66			112	60	62				25	0 - 0.6 <sup>3)</sup>	0.82	1.28	1.41
80		85 x 2	81			127	72	75			29	0 - 0.6 <sup>3)</sup>	0.64	1.39	1.52	

## Hexagon Union Nut

MDM 7319.10v... Ingoldstutzen

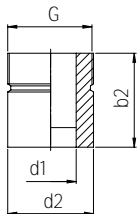
suitable for welding connection pieces



DN	PN	For outer tube $\varnothing$ x wall thickness	Inner tube $\varnothing$	b	b3	D	dM	d <sup>1)</sup>	g	g2	G	m	SW
25	60	29 x 1.5	26	71	114	25	21	23	G <sup>1/2</sup>	$\varnothing$ 8	1/4	30	46
50		53 x 1.5	50	85	128	50	46	48			2	35	70

DN	PN	Minimum span	$t_k$ -value	(approx.) weight	
				vd8	vG 1/2
25	60	0 - 4 <sup>2)</sup>	5.50	0.33	0.46
50		0 - 1 <sup>3)</sup>	0.45	0.50	0.63

FDA compliant EPDM seal is within the scope of delivery.



## Welding Connection Piece

DN	PN	b2	d1	d2	G	(approx.) weight
25	60	46	25	42	1/4	0.32
50		60	50	68	2	0.48

<sup>1)</sup> external diameter diaphragm

<sup>2)</sup> for Bourdon tube pressure gauge RCh/RChG 100 – 3 without without limit switch contact assembly (GSG)

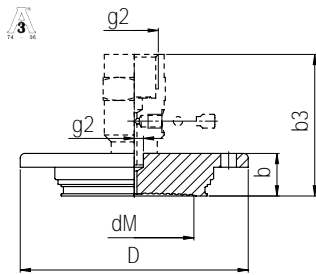
<sup>3)</sup> for Bourdon tube pressure gauge NCS 100

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

## Flange Connection

### MDM 7319v... APV In-Line

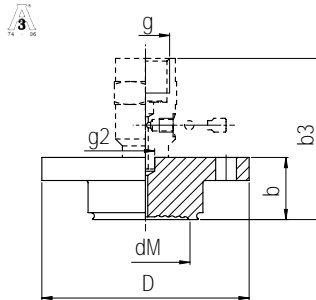
### for APV In-Line case



DN	PN	Inner tube Ø	b	b3	D	dM	d <sup>1)</sup>	g	g2	Minimum span	$t_k$ -value	(approx.) weight	
												vd8	vG ½
50	40	66.2	18.5	61.5	99	52	54	G½	Ø 8	0 - 1 <sup>2)</sup>	0.95	0.67	0.80

### MDM 7391v... NEUMO BioControl®

### for NEUMO BioControl® case connection flange

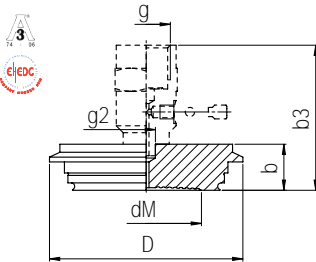


DN	PN	NEUMO BioControl® case connection	Inner tube Ø	b	b3	D	dM	d <sup>1)</sup>	g	g2	Minimum span	$t_k$ -value	(approx.) weight	
													vd8	vG ½
25	16	30.5	30.5	20	63	64	21	23	G½	Ø 8	0 - 4 <sup>3)</sup>	5.50	0.30	0.43
50		50	50	27	70	90	46	48			0 - 1 <sup>2)</sup>	0.45	0.57	0.70
65		68	68			120	60	62			0 - 0.6 <sup>2)</sup>	0.82	0.70	0.83
80		87.5	87.5	37	80	140	72	74			0 - 0.6 <sup>2)</sup>	0.64	1.17	1.30

## Clamp Connection

### MDM 7313v... Varivent®

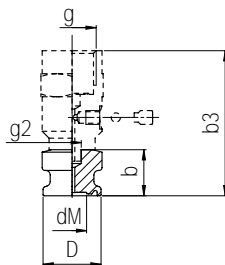
### Clamp connection Varivent® for Varinline® case



Type	PN	Process orifice	Tubes according to DIN 11866 <sup>4)</sup> series			b	b3	D	dM	d <sup>1)</sup>	g	g2	Minimum span	$t_k$ -value	(approx.) weight	
			A	B	C										vd8	vG ½
F	25	50	25	25	1"	19	62	66	32	34	G½	Ø 8	0 - 1 <sup>3)</sup>	1.40	0.57	0.70
N		68	40...125	32...100	1½...4"			84	48	50			0 - 1 <sup>2)</sup>	0.40	0.70	0.83

### MDM 7340.13v... DIN 32676 Series C

### form A for tubes according to DIN 11866 series C



NPS	PN	For outer tube Ø x wall thickness	Inner tube Ø	b	b3	D	dM	d <sup>1)</sup>	g	g2	Minimum span	$t_k$ -value	(approx.) weight	
													vd8	vG ½
¾"	40	19.05 x 1.65	15.75	20	63	25	16	18	G½	Ø 8	0 - 4 <sup>5)</sup>	9	0.06	0.19

<sup>1)</sup> external diameter diaphragm

<sup>2)</sup> for Bourdon tube pressure gauge NCS 100

<sup>3)</sup> for Bourdon tube pressure gauge RCh/RChG 100 – 3 without limit switch contact assembly (GSG)

<sup>4)</sup> other tube series upon request

<sup>5)</sup> for Bourdon tube pressure gauge RCh/RChG 63 – 3 without limit switch contact assembly (GSG)

## Ordering Information, Options

Basic Model: Diaphragm Seal		MDM 73..
Please regard our detailed ordering information <ul style="list-style-type: none"> <li>• in model overview 7000</li> <li>• in the check lists for pressure measuring instruments with chemical seal</li> <li>• in the respective data sheet of the required pressure measuring instrument</li> </ul> and add the information for the respective chemical seal		e.g. <b>MDM 7311</b>
<b>Instrument connection:</b>	orifice d8 for direct welding with measuring instrument (with cooling element or capillary line)	<b>vd8</b>
	G ½ female	<b>vG ½</b>
<b>Nominal width:</b>	DN, cf. dimensions table page 2 and 3	e.g. <b>DN 25</b>
<b>Nominal pressure:</b>	PN, cf. dimensions table page 2 and 3	e.g. <b>PN 25</b>
<b>Wetted material:</b>	stainless steel 316L (1.4435)	<b>1.4435</b>
<b>Options:</b>	wetted parts Ra < 0.4 µm wetted parts electropolished reinforced groove nut calculation of the temperature-related additional error for the entire pressure measuring system  The reference temperature is +20 °C (+68 °F). Please specify if an operating temperature (t <sub>A</sub> ) deviating from +20 °C (+68 °F) is required (dial inscription t <sub>A</sub> ...) or if the cleaning temperature (t <sub>R</sub> max) exceeds +150 °C (+302 °F) (dial inscription t <sub>R</sub> max...).	
<b>Example:</b>	<b>MDM 7311vd8, DN 25, PN 25, 1.4435, t<sub>A</sub> 80 °C</b>	
<b>Special Versions:</b> Please describe your requirements in cleartext!		