

Diaphragm Seals for food- / biotechnics- / pharmaceutical industry

for flat- / form-sealing

DIN 11851, APV-RJT, ISO 2853 (IDF), SMS, DS 722, DRD,

Clamp ISO 2852, Clamp DIN 32 676, Tri-Clamp

MDM 73..

MDM 73..v

Standard Version

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

Construction

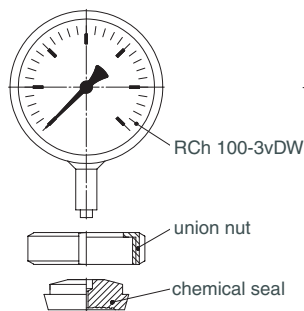
Model 73..vd8 has an orifice d8 as instrument connection for welding to a pressure gauge with process connection d8x5, e.g. RCh 100-3vDW.

For the welded connection to pressure gauge / chemical seal and the filling port which is not accessible externally could no leakage occur. The parts are easy to clean externally.

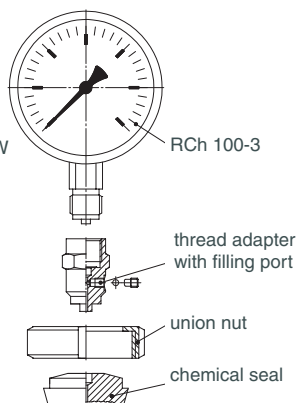
Model 73..vG½ has a measuring instrument adapter with female thread for direct mounting to the measuring instrument with external thread.

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

Example: **7310vd8**



Example: **7310vG½**



Chemical Seal and Process Connection

1.4435 (316 L stainless steel)

Instrument Connection

73..vd8: orifice d8

73..vG½: G ½ female

Diaphragm

1.4435 (316L stainless steel) flush welded, welded to chemical seal, helium leak detection up to 10^{-9} mbar l/s

Effective diaphragm diameter dM, see table 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.

Minimum Span Pressure Gauges

See tables on page 2 ff.

t_k-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 whole pressure measuring system

Special Options among others

- Other instrument connections upon request, but NPT-female thread is not recommendable
- Other material combinations upon request
- Version according to other norms and nominal sizes upon request

Accessories

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

Construction / Filling / Certificates

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

Ordering Information Chemical Seals

Please regard 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 instruments and add the information for the particular chemical seal:
 - Model : e.g. MDM 7310 vd8, MDM 7315 vG½
 - Nominal size: e.g. NW 1", DN 25
 - Nominal pressure: e.g. PN 25, PN 40
 - if applicable options: see page 1, e.g. Ra < 0.4 µm

The reference temperature is +20 °C.

Please specify, if a +20°C deviating working temperature (tA) is required (dial inscription tA...) or the cleaning temperature (tR max) is +150 °C and above (dial inscription tR max)

Example: pressure gauge....,
chemical seal: MDM 7310vd8, DN 25, PN 40, tA +80°C,
wetted parts electropolished



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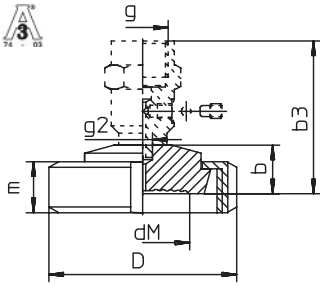
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Dimensional Data (mm), Weights (kg), Minimum Span (bar) and t_k -value (mbar /10K)

Conical Coupling resp. Welding Male with Groove- or Hexagon Nut

MDM 7310v... DIN 11851

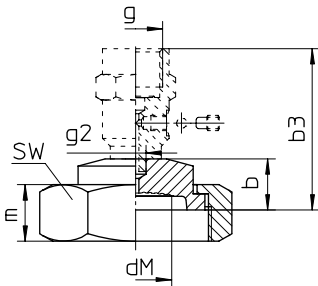
Conical coupling and groove nut



DN	PN	For tube male-Ø x wall thickness	Tube female-Ø	b	b3	D	dM	d*	g	g2	m	Minimum measuring span	t_k -value	Weight (approx.)	
														vd8	vG½
20	40	23 x 1.5	20	20	63	54	21	23	G½	Ø 8	20	0 - 4 ²⁾	5.50	0.20	0.33
25		29 x 1.5	26			63	26	28				0 - 2,5 ²⁾	2.80	0.34	0.47
32		35 x 1.5	32			70	32	34				0 - 1 ²⁾	1.40	0.43	0.56
40		41 x 1.5	38			78	38	40				0 - 1 ²⁾	0.80	0.54	0.67
50	25	53 x 1.5	50	20	63	92	48	50	G½	Ø 8	22	0 - 1 ¹⁾	0.40	0.76	0.89
65		70 x 2	66			112	60	62				0 - 0.6 ¹⁾	0.82	1.28	1.41
80		85 x 2	81			127	72	75				0 - 0.6 ¹⁾	0.64	1.52	1.65

MDM 7330v... APV-RJT

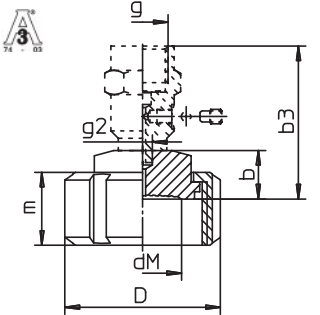
Welding male and hexagon nut



NPS	PN	For tube male-Ø x wall thickness	Tube female-Ø	b	b3	SW	dM	d*	g	g2	m	Minimum measuring span	t_k -value	Weight (approx.)	
														vd8	vG½
1"	40	25.4 x 1.6	22.2	20	63	51	19	21	G½	Ø 8	22	0 - 2.5 ³⁾	6.50	0.19	0.32
1½"		38.1 x 1.6	34.9			65	32	34				0 - 1 ²⁾	1.40	0.35	0.48
2"		50.8 x 1.6	47.6			79	38	40				0 - 1 ²⁾	0.80	0.55	0.68
2½"	25	63.5 x 1.6	60.3	20	63	92	54	56	G½	Ø 8	22	0 - 1 ¹⁾	0.93	0.68	0.81
3"		76.2 x 1.6	73			105	66	68				0 - 0.6 ¹⁾	0.73	0.83	0.96

MDM 7350v... ISO 2853 (IDF)

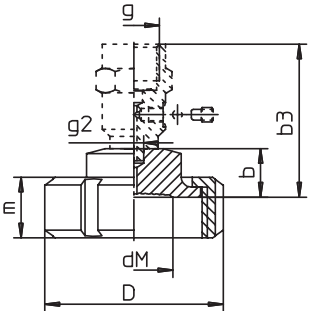
Welding male and groove nut



NPS	PN	For tube male-Ø x wall thickness	Tube female-Ø	b	b3	D	dM	d*	g	g2	m	Minimum measuring span	t_k -value	Weight (approx.)	
														vd8	vG½
1"	40	25.6 x 1.5	22.6	20	63	52	19	21	G½	Ø 8	30	0 - 2.5 ³⁾	6.50	0.36	0.49
1½"		38.6 x 1.5	35.6			64	32	34				0 - 1 ²⁾	1.40	0.5	0.63
2"		51.6 x 1.5	48.6			79	46	48				0 - 1 ¹⁾	0.45	0.87	1
2½"	25	64.1 x 1.9	60.3	20	63	92	56	58	G½	Ø 8	30	0 - 1 ¹⁾	0.90	1.46	1.59
3"		76.7 x 1.9	72.9			109	66	68				0 - 0.6 ¹⁾	0.73	1.57	1.7

MDM 7370v... SMS

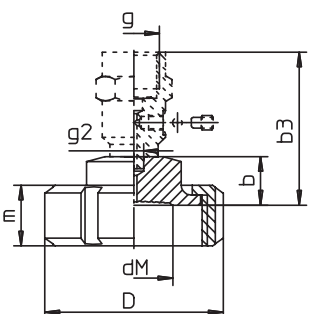
Welding male and groove nut



NPS	PN	For tube male-Ø x wall thickness	Tube female-Ø	b	b3	D	dM	d*	g	g2	m	Minimum measuring span	t_k -value	Weight (approx.)	
														vd8	vG½
1"	40	25 x 1.2	22.6	20	63	51	19	21	G½	Ø 8	30	0 - 2.5 ³⁾	6.50	0.21	0.34
1½"		38 x 1.2	35.6			74	32	34				0 - 1 ²⁾	1.40	0.48	0.61
2"		51 x 1.2	48.6			84	46	48				0 - 1 ¹⁾	0.45	0.78	0.91
2½"	25	63.5 x 1.6	60.3	20	63	100	56	58	G½	Ø 8	30	0 - 1 ¹⁾	0.90	1.1	1.23
3"		76.1 x 1.6	72.9			114	66	68				0 - 0.6 ¹⁾	0.73	1.59	1.63

MDM 7380v... DS 722

Welding male and groove nut



DN	PN	For tube male-Ø x wall thickness	Tube female-Ø	b	b3	D	dM	d*	g	g2	m	Minimum measuring span	t_k -value	Weight (approx.)	
														vd8	vG½
25	40	29 x 2	25	20	63	57	21	23	G½	Ø 8	20	0 - 4 ²⁾	5.50	0.3	0.43
32		36 x 2	32			65	28	30				0 - 2.5 ²⁾	2.30	0.41	0.54
40		42 x 2	38			71	34	36				0 - 1 ²⁾	1.20	0.48	0.61
50		55 x 2	51			86	46	48				0 - 1 ¹⁾	0.45	0.77	0.9
63	25	67.5 x 2	63.5	20	63	103	60	62	G½	Ø 8	24	0 - 0.6 ¹⁾	0.84	1.13	1.26
75		80 x 2	76			115	72	75				0 - 0.6 ¹⁾	0.64	1.45	1.58

¹⁾ for bourdon tube pressure gauges NCS 100

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

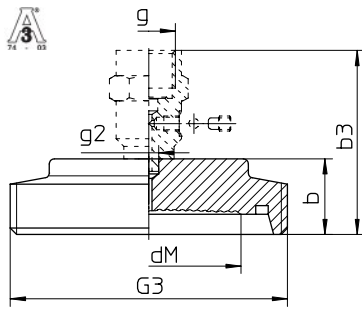
³⁾ for bourdon tube pressure gauges RCh / RChG 63-3 without limit switch contact assembly

* = external diameter diaphragm

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

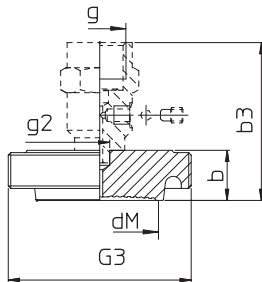
Thread Connection Pieces

MDM 7315v... DIN 11851



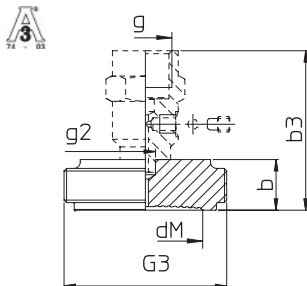
DN	PN	For tube male-Ø x wall thickness	Tube female-Ø	b	b3	dM	d*	g	g2	G3	Minimum measuring span	t_k -value	Weight (approx.) vd8	vG $\frac{1}{2}$
20	40	23 x 1.5	20	20	63	21	23	G $\frac{1}{2}$	Ø 8	Rd 44 x $\frac{1}{6}$	0 - 4 ²⁾	5.50	0.15	0.28
25		29 x 1.5	26			26	28			Rd 52 x $\frac{1}{6}$	0 - 2.5 ²⁾	2.80	0.18	0.31
32		35 x 1.5	32			32	34			Rd 58 x $\frac{1}{6}$	0 - 1 ²⁾	1.40	0.22	0.35
40		41 x 1.5	38			38	40			Rd 65 x $\frac{1}{6}$	0 - 1 ²⁾	0.80	0.29	0.42
50	25	53 x 1.5	50	30	73	48	50	G $\frac{1}{2}$	Ø 8	Rd 78 x $\frac{1}{6}$	0 - 1 ¹⁾	0.40	0.42	0.55
65		70 x 2	66			60	62			Rd 95 x $\frac{1}{6}$	0 - 0.6 ¹⁾	0.82	0.95	1.08
80		85 x 2	81			72	75			Rd 110 x $\frac{1}{4}$	0 - 0.6 ¹⁾	0.64	1.40	1.53

MDM 7335v... APV-RJT



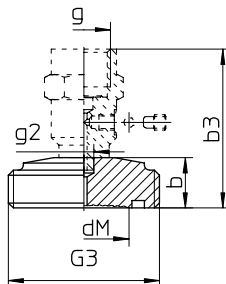
NPS	PN	For tube male-Ø x wall thickness	Tube female-Ø	b	b3	dM	d*	g	g2	G3	Minimum measuring span	t_k -value	Weight (approx.) vd8	vG $\frac{1}{2}$
1"	40	25.4 x 1.6	22.2	20	63	19	21	G $\frac{1}{2}$	Ø 8	1 $\frac{3}{16}$ x $\frac{1}{8}$ "	0 - 2.5 ³⁾	6.50	0.19	0.32
1 $\frac{1}{2}$ "		38.1 x 1.6	34.9			32	34			2 $\frac{5}{16}$ x $\frac{1}{8}$ "	0 - 1 ²⁾	1.40	0.35	0.48
2"		50.8 x 1.6	47.6			38	40			2 $\frac{7}{8}$ x $\frac{1}{16}$ "	0 - 1 ²⁾	0.80	0.55	0.68
2 $\frac{1}{2}$ "		63.5 x 1.6	60.3			54	56			3 $\frac{3}{8}$ x $\frac{1}{16}$ "	0 - 1 ¹⁾	0.93	0.68	0.81
3"	25	76.2 x 1.6	73	30	73	66	68	G $\frac{1}{2}$	Ø 8	3 $\frac{7}{8}$ x $\frac{1}{16}$ "	0 - 0.6 ¹⁾	0.73	0.83	0.96

MDM 7355v... ISO 2853 (IDF)



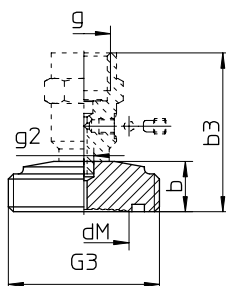
NPS	DN	PN	For tube male-Ø x wall thickness	Tube female-Ø	b	b3	dM	d*	g	g2	G3	Minimum measuring span	t_k -value	Weight (approx.) vd8	vG $\frac{1}{2}$
1"	25	40	25.6 x 1.5	22.6	20	63	19	21	G $\frac{1}{2}$	Ø 8	1" IDF	0 - 2.5 ³⁾	6.50	0.26	0.39
1 $\frac{1}{2}$ "	38		38.6 x 1.5	35.6			32	34			1 $\frac{1}{2}$ " IDF	0 - 1 ²⁾	1.40	0.43	0.56
2"	51		51.6 x 1.5	48.6			46	48			2" IDF	0 - 1 ¹⁾	0.45	0.60	0.73
2 $\frac{1}{2}$ "	63.5		64.1 x 1.9	60.3			56	58			2 $\frac{1}{2}$ " IDF	0 - 1 ¹⁾	0.90	0.87	1.00
3"	76.1	25	76.7 x 1.9	72.9	30	73	66	68	G $\frac{1}{2}$	Ø 8	3" IDF	0 - 0.6 ¹⁾	0.73	1.49	1.62

MDM 7375v... SMS



NPS	PN	For tube male-Ø x wall thickness	Tube female-Ø	b	b3	dM	d*	g	g2	G3	Minimum measuring span	t_k -value	Weight (approx.) vd8	vG $\frac{1}{2}$
1"	40	25 x 1.2	22.6	20	63	19	21	G $\frac{1}{2}$	Ø 8	Rd 40-6	0 - 2.5 ³⁾	6.50	0.17	0.30
1 $\frac{1}{2}$ "		38 x 1.2	35.6			32	34			Rd 60-6	0 - 1 ²⁾	1.40	0.38	0.51
2"		51 x 1.2	48.6			46	48			Rd 70-6	0 - 1 ²⁾	0.45	0.52	0.65
2 $\frac{1}{2}$ "		25	63.5 x 1.6			60.3	56			58	Rd 85-6	0 - 1 ¹⁾	0.90	0.76
3"	76.1 x 1.6	72.9	66	68	Rd 98-6	0 - 0.6 ¹⁾	0.73	1.02	1.15					

MDM 7385v... DS 722



DN	PN	For tube male-Ø x wall thickness	Tube female-Ø	b	b3	dM	d*	g	g2	G3	Minimum measuring span	t_k -value	Weight (approx.) vd8	vG $\frac{1}{2}$
25	40	29 x 2	25	20	63	21	23	G $\frac{1}{2}$	Ø 8	RdG 44	0 - 4 ²⁾	5.50	0.19	0.32
32		36 x 2	32			28	30			RdG 52	0 - 2.5 ²⁾	2.30	0.26	0.39
40		42 x 2	38			34	36			RdG 58	0 - 1 ²⁾	1.20	0.32	0.45
50		55 x 2	51			46	48			RdG 72	0 - 1 ¹⁾	0.45	0.50	0.63
63	25	67.5 x 2	63.5	30	73	60	62	G $\frac{1}{2}$	Ø 8	RdG 88	0 - 0.6 ¹⁾	0.84	0.74	0.86
75	80 x 2	76	72			75	RdG 100			0 - 0.6 ¹⁾	0.64	0.95	1.08	

¹⁾ for bourdon tube pressure gauges NCS 100

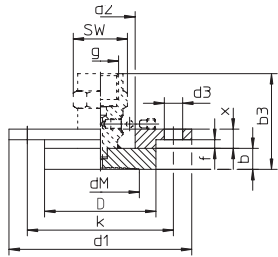
²⁾ for bourdon tube pressure gauges RCh / RChG 100-3 without limit switch contact assembly

* = external diameter diaphragm ³⁾ for bourdon tube pressure gauges RCh / RChG 63-3 without limit switch contact assembly

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

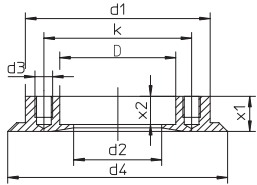
Chemical Seal with Attachment Flange

MDM 7392v... DRD



DN	PN	b	b3	D	d1	d2	d3	dM	d*	f	g	g2	k	SW	x
50	40	12	61	65	105	40	4xØ10.5	46	48	5	G ½	Ø 8x6	84	27	11

Minimum measuring span	t_k -value	Weight (approx.)	
		vd8	vG½
0 - 1 ¹⁾	0.45	0.32	0.45



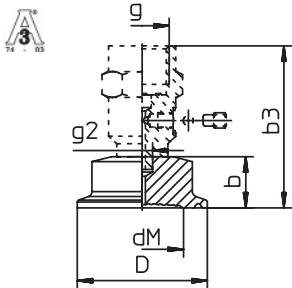
Counter Flange for Welding

D	d1	d2	d3	d4	k	x1	x2	Weight (approx.)
66	105	50	4x M10	125	84	20	16	0.95

Chemical Seal with Clamp Connection

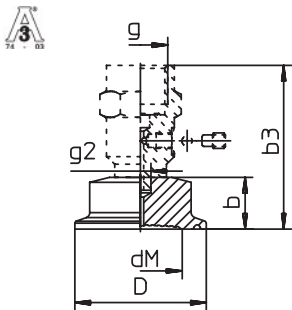
MDM 7340v... ISO 2852

for tubes according to ISO 2037 and BS 4825



DN mm	PN	For tube male-Ø x wall thickness	Tube female-Ø	b	b3	D	dM	d*	g	g2	Minimum measuring span	t_k -value	Weight (approx.)	
													vd8	vG½
25	16/40	25 x 1.2	22.6	20	63	50.5	21	23	G ½	Ø 8	0 - 4 ²⁾	5.50	0.19	0.32
38		38 x 1.2	35.6				32	34			0 - 1 ²⁾	1.40		
51		51 x 1.2	48.6				64	46			48	0 - 1 ¹⁾	0.45	0.31
63.5	10/25	63.5 x 1.6	60.3			77.5	56	58			0 - 1 ¹⁾	0.90	0.40	0.53
76.1		76.1 x 1.6	72.9				91	66			68	0 - 0.6 ¹⁾	0.73	0.63

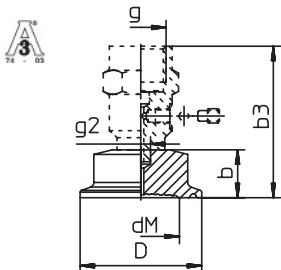
MDM 7340.1v...DIN 32 676, Series A for tubes according to DIN 11 850



DN	PN	For tube male-Ø x wall thickness	Tube female-Ø	b	b3	D	dM	d*	g	g2	Minimum measuring span	t_k -value	Weight (approx.)	
													vd8	vG½
15	16/40	19 x 1.5	16	20	63	34	16	18	G ½	Ø 8	0 - 4 ³⁾	9.00	0.07	0.20
20		23 x 1.5	20				17	19			0 - 4 ³⁾	7.50		
25		29 x 1.5	26			50.5	24	26			0 - 2.5 ²⁾	3.60	0.19	0.32
32		35 x 1.5	32				28	30			0 - 2.5 ²⁾	2.30		
40		41 x 1.5	38				32	34			0 - 1 ²⁾	1.40		
50	10/25	53 x 1.5	50			64	46	48			0 - 1 ¹⁾	0.45	0.37	0.50
65		70 x 2	66			91	60	62			0 - 0.6 ¹⁾	0.84	0.63	0.76
80		85 x 2	81			106	72	75			0 - 0.6 ¹⁾	0.64	0.92	1.05

MDM 7340.6v... Tri-Clamp

for tubes according to BS 4825 and O.D.-Tube; ASME BPE and ISO 1127



NPS	DN ⁴⁾	PN	For tube male-Ø x wall thickness		For tube female-Ø		b	b3	D	dM	d*	g	g2	Minimum measuring span	t_k -value	Weight (approx.)				
			BS 4825 and O.D.-tube / ASME BPE	ISO 1127	BS 4825 and O.D.-tube / ASME BPE	ISO 1127										vd8	vG½			
¾"	20	16/40	19.05 x 1.2	26.9 x 1.6	16.65	23.7	20	63	25.4	16	18	G ½	Ø 8	0 - 4 ³⁾	9.00	0.05	0.18			
1"	25		25.4 x 1.6	33.7 x 2	22.2	29.7								50.5	21			23	0 - 4 ²⁾	5.50
1½"	38		38.1 x 1.6	42.4 x 2	34.8	38.4									30	32	0 - 2.5 ²⁾	1.80		
2"	51	10/25	50.8 x 1.6	48.3 x 2	47.5	44.3			64	38	40			0 - 1 ²⁾	0.80	0.32	0.45			
2½"	63.5		63.5 x 1.6	60.3 x 2	60.3	56.3								77.5	52	54	0 - 1 ¹⁾	0.95	0.45	0.58
3"	76.1		76.2 x 1.6	76.1 x 2	73.0	72.1											91	66	68	0 - 0.6 ¹⁾

¹⁾ for bourdon tube pressure gauges NCS 100

³⁾ for bourdon tube pressure gauges RCh / RChG 63-3 without limit switch contact assembly

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

⁴⁾ for BS 4825 and ISO 1127

* = external diameter diaphragm