

Diaphragm Seals for food- / biotechnics- / pharmaceutical industry

for o-ring sealing

DIN 11 864-1, -2 and -3

MDM 73..
MDM 73..v

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

Construction

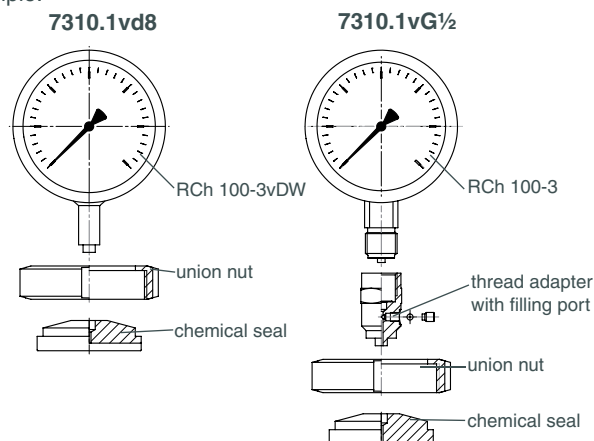
Model 73..vd8 has an orifice d8 as instrument connection for welding to a pressure gauge with process connection d8x5, e.g. RCh 100-3vDW.

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

Model 73..vG½ has a measuring instrument adapter with a 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:



Standard Configuration

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 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.

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 union 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
- Versions 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, 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 following information for the particular chemical seal:
 - Model : e.g. MDM 7315.1vd8
 - Nominal size: e.g. DN 40
 - Nominal pressure: e.g. 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 7315.1vd8, DN 40, PN 40, tA +80°C,
wetted parts electropolished



Sales and Export South, West, North

ARMATURENBAU GmbH

Manometerstraße 5 • D-46487 Wesel - Ginderich
Tel.: +49 (0) 28 03/91 30-0 • Fax: +49 (0) 28 03/ 10 35
armaturenbau.com • mail@armaturenbau.com

Subsidiary Company, Sales and Export East

MANOTHERM Beierfeld GmbH

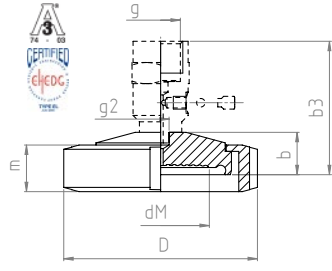
Am Gewerbepark 9 • D-08344 Grünhain-Beierfeld
Tel.: +49 (0) 37 74/58-0 • Fax: +49 (0) 37 74/58-545
manotherm.com • mail@manotherm.com

7302
09/12

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

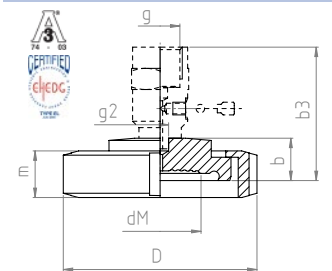
Welding Male with Groove Nut DIN 11 864-1 Form A

MDM 7310.1v... for tubes according to DIN 11 866 , series A (DIN 11 850)



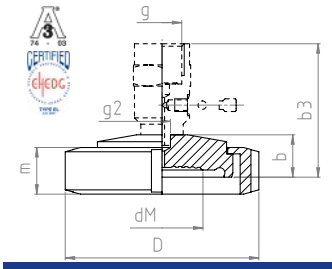
DN	PN	For tube male-Ø x wall thickness	Tube female-Ø	b	b3	D	dM	d*	g	g2	m	Minimum measuring span	tk-value	Weight (approx.) vd8 vG ½	
20	40	23 x 1.5	20	20	63	54	17	19	G½	Ø 8	20	0 - 4 ³⁾	7.80	0.26	0.39
25		29 x 1.5	26			63	21	23				0 - 4 ²⁾	5.50	0.36	0.49
32		35 x 1.5	32			70	28	30				0 - 2.5 ²⁾	2.30	0.41	0.54
40		41 x 1.5	38			78	34	36				0 - 1 ²⁾	1.20	0.54	0.67
50	25	53 x 1.5	50	20	63	92	46	48	G½	Ø 8	21	0 - 1 ¹⁾	0.45	0.89	1.02
65		70 x 2	66			112	60	62				0 - 0.6 ¹⁾	0.82	1.32	1.45
80		85 x 2	81			127	72	75				0 - 0.6 ¹⁾	0.64	1.60	1.73

MDM 7310.2v... for tubes according to DIN 11 866, series B (DIN EN ISO 1127)



DN	PN	For tube male-Ø x wall thickness	Tube female-Ø	b	b3	D	dM	d*	g	g2	m	Minimum measuring span	tk-value	Weight (approx.) vd8 vG ½	
26.9	40	26.9 x 1.6	23.7	20	63	63	21	23	G½	Ø 8	21	0 - 4 ²⁾	5.50	0.32	0.45
33.7		33.7 x 2	29.7			70	28	30				0 - 2.5 ²⁾	2.30	0.40	0.53
42.4	25	42.4 x 2	38.4	20	63	78	32	34	G½	Ø 8	22	0 - 1 ²⁾	1.40	0.50	0.63
48.3		48.3 x 2	44.3			92	38	40				0 - 1 ²⁾	0.80	0.88	1.01
60.3		60.3 x 2	56.3			112	52	54				0 - 1 ¹⁾	0.95	1.30	1.43
76.1		76.1 x 2	72.1			127	66	68				0 - 0.6 ¹⁾	0.73	1.59	1.73

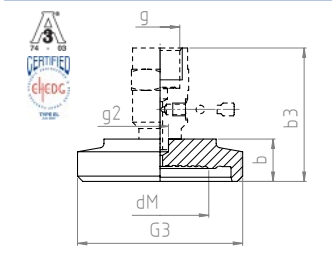
MDM 7310.3v... for tubes according to DIN 11 866, series C (ASME-BPE)



NPS	PN	For tube male-Ø x wall thickness	Tube female-Ø	b	b3	D	dM	d*	g	g2	m	Minimum measuring span	tk-value	Weight (approx.) vd8 vG ½	
¾"	40	19.05 x 1.65	15.75	20	63	44	16	18	G½	Ø 8	21	0 - 4 ³⁾	9.00	0.24	0.37
1"		25.4 x 1.65	22.1			63	19	21				0 - 2.5 ³⁾	6.50	0.33	0.46
1½"		38.1 x 1.65	34.8			78	32	34				0 - 1 ²⁾	1.40	0.55	0.68
2"	25	50.8 x 1.65	47.5	20	63	92	38	40	G½	Ø 8	22	0 - 1 ²⁾	0.80	0.91	1.04
2½"		63.5 x 1.65	60.2			112	52	54				0 - 1 ¹⁾	0.95	1.32	1.45
3"		76.2 x 1.65	72.9			127	66	68				0 - 0.6 ¹⁾	0.73	1.61	1.74

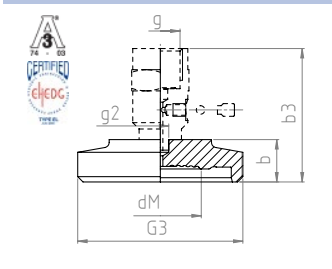
Thread Connection Pieces DIN 11 864-1 Form A

MDM 7315.1v... for tubes according to 11 866, series A (DIN 11 850)



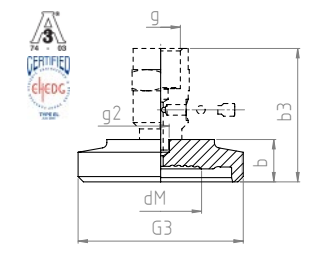
DN	PN	For tube male-Ø x wall thickness	Tube female-Ø	b	b3	dM	d*	g	g2	G3	Minimum measuring span	tk-value	Weight (approx.) vd8 vG ½	
20	40	23 x 1.5	20	20	63	17	19	G½	Ø 8	Rd 44 x 1/6	0 - 4 ³⁾	7.80	0.16	0.29
25		29 x 1.5	26			21	23			Rd 52 x 1/6	0 - 4 ²⁾	5.50	0.20	0.33
32		35 x 1.5	32			28	30			Rd 58 x 1/6	0 - 2.5 ²⁾	2.30	0.24	0.37
40		41 x 1.5	38			34	36			Rd 65 x 1/6	0 - 1 ²⁾	1.20	0.34	0.47
50	25	53 x 1.5	50	20	63	46	48	G½	Ø 8	Rd 78 x 1/6	0 - 1 ¹⁾	0.45	0.46	0.59
65		70 x 2	66			60	62			Rd 95 x 1/6	0 - 0.6 ¹⁾	0.82	1.01	1.14
80		85 x 2	81			72	75			Rd 110 x ¼	0 - 0.6 ¹⁾	0.64	1.44	1.57

MDM 7315.2v... for tubes according to DIN 11 866, series B (DIN EN ISO 1127)



DN	PN	For tube male-Ø x wall thickness	Tube female-Ø	b	b3	dM	d*	g	g2	G3	Minimum measuring span	tk-value	Weight (approx.) vd8 vG ½	
26.9	40	26.9 x 1,6	23.7	20	63	21	23	G½	Ø 8	Rd 52 x 1/6	0 - 4 ²⁾	5.50	0.19	0.32
33.7		33.7 x 2	29.7			28	30			Rd 58 x 1/6	0 - 2.5 ²⁾	2.30	0.23	0.36
42.4	25	42.4 x 2	38.4	20	63	32	34	G½	Ø 8	Rd 65 x 1/6	0 - 1 ²⁾	1.40	0.33	0.46
48.3		48.3 x 2	44.3			38	40			Rd 78 x 1/6	0 - 1 ²⁾	0.80	0.45	0.58
60.3		60.3 x 2	56.3			52	54			Rd 95 x 1/6	0 - 1 ¹⁾	0.95	1.00	1.13
76.1		76.1 x 2	72.1			66	68			Rd 110 x ¼	0 - 0.6 ¹⁾	0.73	1.43	1.56

MDM 7315.3v... for tubes according to DIN 11 866, series C (ASME-BPE)



NPS	PN	For tube male-Ø x wall thickness	Tube female-Ø	b	b3	dM	d*	g	g2	G3	Minimum measuring span	tk-value	Weight (approx.) vd8 vG ½	
¾"	40	19.05 x 1.65	15.75	20	63	16	18	G½	Ø 8	Rd 34 x 1/6	0 - 4 ³⁾	9.00	0.10	0.23
1"		25.4 x 1.65	22.1			19	21			Rd 52 x 1/6	0 - 2.5 ³⁾	6.50	0.20	0.33
1½"		38.1 x 1.65	34.8			32	34			Rd 65 x 1/6	0 - 1 ²⁾	1.40	0.34	0.47
2"	25	50.8 x 1.65	47.5	20	63	38	40	G½	Ø 8	Rd 78 x 1/6	0 - 1 ²⁾	0.80	0.46	0.59
2½"		63.5 x 1.65	60.2			52	54			Rd 95 x 1/6	0 - 1 ¹⁾	0.95	1.01	1.14
3"		76.2 x 1.65	72.9			66	68			Rd 110 x ¼	0 - 0.6 ¹⁾	0.73	1.44	1.57

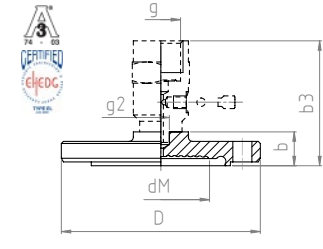
¹⁾ for bourdon tube pressure gauges NG 100
²⁾ for bourdon tube pressure gauges RCh / RChG 100-3 without limit switch contact assembly
³⁾ for bourdon tube pressure gauges RCh / RChG 63-3 without limit switch contact assembly

* = external diameter diaphragm

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

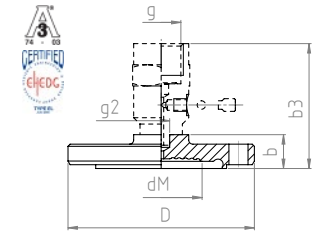
Groove Flange DIN 11 864-2 Form A

MDM 7393v... for tubes according to DIN 11 866, series A (DIN 11 850)



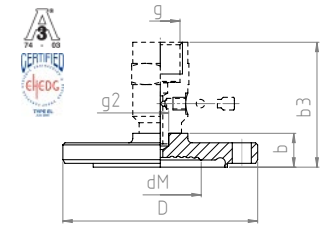
DN	PN	For tube male- \varnothing x wall thickness	Tube female- \varnothing	b	b3	D	dM	d*	g	g2	Minimum measuring span	tk-value	Weight (approx.) vd8 vG 1/2	
20	25	23 x 1.5	20	16	59	64	17	19	G 1/2	Ø 8	0 - 4 ³⁾	7.80	0.22	0.35
25		29 x 1.5	26			70	21	23			0 - 4 ²⁾	5.50	0.27	0.40
32		35 x 1.5	32			76	28	30			0 - 2.5 ²⁾	2.30	0.32	0.45
40		41 x 1.5	38			82	34	36			0 - 1 ²⁾	1.20	0.36	0.49
40	16	53 x 1.5	50	18	61	94	46	48			0 - 1 ¹⁾	0.45	0.47	0.60
65		70 x 2	66			113	60	62			0 - 0.6 ¹⁾	0.82	0.56	0.69
80		85 x 2	81			133	72	75			0 - 0.6 ¹⁾	0.64	0.70	0.83

MDM 7393.12v... for tubes according to DIN 11 866, series B (DIN EN ISO 1127)



DN	PN	For tube male- \varnothing x wall thickness	Tube female- \varnothing	b	b3	D	dM	d*	g	g2	Minimum measuring span	tk-value	Weight (approx.) vd8 vG 1/2	
26.9	25	26.9 x 1,6	23.7	16	59	69	21	23	G 1/2	Ø 8	0 - 4 ²⁾	5.50	0.27	0.40
33.7		33.7 x 2	29.7			74	28	30			0 - 2.5 ²⁾	2.30	0.30	0.43
42.4	16	42.4 x 2	38.4	18	61	82	32	34			0 - 1 ²⁾	1.40	0.36	0.49
48.3		48.3 x 2	44.3			88	38	40			0 - 1 ²⁾	0.80	0.41	0.54
60.3		60.3 x 2	56.3			103	52	54			0 - 1 ¹⁾	0.95	0.50	0.63
76.1		76.1 x 2	72.1			125	66	68			0 - 0.6 ¹⁾	0.73	0.65	0.78

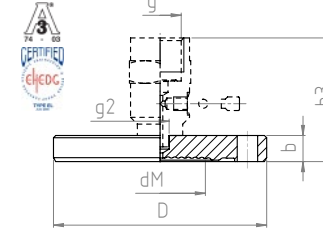
MDM 7393.13v... for tubes according to DIN 11 866, series C (ASME-BPE)



NPS	PN	For tube male- \varnothing x wall thickness	Tube female- \varnothing	b	b3	D	dM	d*	g	g2	Minimum measuring span	tk-value	Weight (approx.) vd8 vG 1/2	
3/4"	25	19.05 x 1.65	15.75	16	59	59	16	18	G 1/2	Ø 8	0 - 4 ³⁾	9.00	0.19	0.32
1"		25.4 x 1.65	22.1			66	19	21			0 - 2.5 ²⁾	6.50	0.24	0.37
1 1/2"		38.1 x 1.65	34.8			79	32	34			0 - 1 ²⁾	1.40	0.34	0.47
2"	16	50.8 x 1.65	47.5	18	61	92	38	40			0 - 1 ²⁾	0.80	0.45	0.58
2 1/2"		63.5 x 1.65	60.2			107	52	54			0 - 1 ¹⁾	0.95	0.50	0.63
3"		76.2 x 1.65	72.9			125	66	68			0 - 0.6 ¹⁾	0.73	0.65	0.78

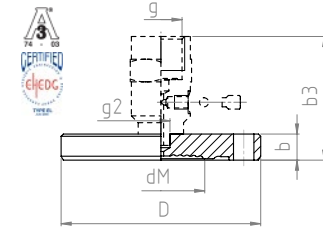
Loose Flange DIN 11 864-2 Form A

MDM 7393.1v... for tubes according to DIN 11 866, series A (DIN 11 850)



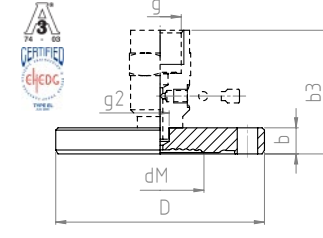
DN	PN	For tube male- \varnothing x wall thickness	Tube female- \varnothing	b	b3	D	dM	d*	g	g2	Minimum measuring span	tk-value	Weight (approx.) vd8 vG 1/2	
20	25	23 x 1.5	20	10	53	64	17	19	G 1/2	Ø 8	0 - 4 ³⁾	7.80	0.25	0.38
25		29 x 1.5	26			70	21	23			0 - 4 ²⁾	5.50	0.30	0.43
32		35 x 1.5	32			76	28	30			0 - 2.5 ²⁾	2.30	0.34	0.47
40		41 x 1.5	38			82	34	36			0 - 1 ²⁾	1.20	0.42	0.55
50	16	53 x 1.5	50	12	55	94	46	48			0 - 1 ¹⁾	0.45	0.57	0.70
65		70 x 2	66			113	60	62			0 - 0.6 ¹⁾	0.82	0.70	0.83
80		85 x 2	81			133	72	75			0 - 0.6 ¹⁾	0.64	1.17	1.3

MDM 7393.2v... for tubes according to DIN 11 866, series B (DIN EN ISO 1127)



DN	PN	For tube male- \varnothing x wall thickness	Tube female- \varnothing	b	b3	D	dM	d*	g	g2	Minimum measuring span	tk-value	Weight (approx.) vd8 vG 1/2	
26.9	25	26.9 x 1,6	23.7	10	53	69	21	23	G 1/2	Ø 8	0 - 4 ²⁾	5.50	0.29	0.42
33.7		33.7 x 2	29.7			74	28	30			0 - 2.5 ²⁾	2.30	0.35	0.48
42.4	16	42.4 x 2	38.4	12	55	82	32	34			0 - 1 ²⁾	1.40	0.41	0.54
48.3		48.3 x 2	44.3			88	38	40			0 - 1 ²⁾	0.80	0.50	0.63
60.3		60.3 x 2	56.3			103	52	54			0 - 1 ¹⁾	0.95	0.60	0.73
76.1		76.1 x 2	72.1			125	66	68			0 - 0.6 ¹⁾	0.73	0.81	0.94

MDM 7393.3v... for tubes according to DIN 11 866, series C (ASME-BPE)



NPS	PN	For tube male- \varnothing x wall thickness	Tube female- \varnothing	b	b3	D	dM	d*	g	g2	Minimum measuring span	tk-value	Weight (approx.) vd8 vG 1/2	
3/4"	25	19.05 x 1.65	15.75	10	53	59	16	18	G 1/2	Ø 8	0 - 4 ³⁾	9.00	0.22	0.35
1"		25.4 x 1.65	22.1			66	19	21			0 - 2.5 ²⁾	6.50	0.27	0.40
1 1/2"		38.1 x 1.65	34.8			79	32	34			0 - 1 ²⁾	1.40	0.40	0.53
2"	16	50.8 x 1.65	47.5	12	55	92	38	40			0 - 1 ²⁾	0.80	0.55	0.68
2 1/2"		63.5 x 1.65	60.2			107	52	54			0 - 1 ¹⁾	0.95	0.62	0.75
3"		76.2 x 1.65	72.9			125	66	68			0 - 0.6 ¹⁾	0.73	0.81	0.94

¹⁾ for bourdon tube pressure gauges NG 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

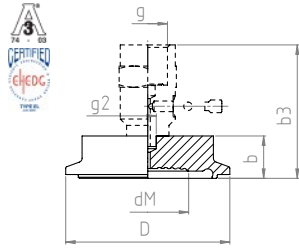
Dimensional Data (mm), Weights (kg), Minimum Span (bar) and t_k -values (mbar /10K)

Nutclamp

DIN 11 864-3 Form A

MDM 7340.48v...

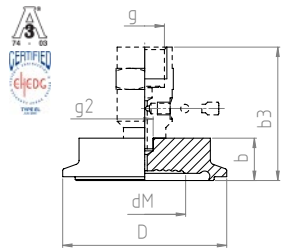
for tubes according to DIN 11 866, series A (DIN 11 850)



DN	PN	For tube male-Ø x wall thickness	Tube female-Ø	b	b3	D	dM	d*	g	g2	Minimum measuring span	tk-value	Weight (approx.)	
													vd8	vG ½
20	40	23 x 1.5	20	20	63	50.5	17	19	G½	Ø 8	0 - 4 ³⁾	7.80	0.18	0.31
25		29 x 1.5	26										0.20	0.33
32		35 x 1.5	32										0.22	0.35
40		41 x 1.5	38										0.29	0.42
50	25	53 x 1.5	50	20	63	64	34	36	G½	Ø 8	0 - 1 ²⁾	1.20	0.29	0.42
50		53 x 1.5	50										0.43	0.59
65	16	70 x 2	66	20	63	91	60	62	G½	Ø 8	0 - 0.6 ¹⁾	0.82	0.51	0.64
80		85 x 2	81										0.65	0.78

MDM 7340.61v...

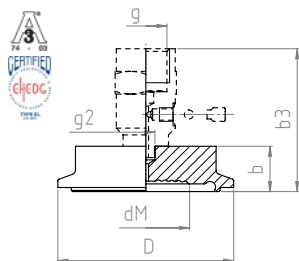
for tubes according to DIN 11 866, series B (DIN EN ISO 1127)



DN	PN	For tube male-Ø x wall thickness	Tube female-Ø	b	b3	D	dM	d*	g	g2	Minimum measuring span	tk-value	Weight (approx.)	
													vd8	vG ½
26.9	40	26.9 x 1.6	23.7	20	63	50.5	21	23	G½	Ø 8	0 - 4 ²⁾	5.50	0.18	0.31
33.7		33.7 x 2	29.7										0.20	0.33
42.4		42.4 x 2	38.4										0.22	0.35
48.3	25	48.3 x 2	44.3	20	63	64	38	40	G½	Ø 8	0 - 1 ²⁾	0.80	0.46	0.59
60.3		60.3 x 2	56.3										0.95	0.64
76.1	16	76.1 x 2	72.1	20	63	106	66	68	G½	Ø 8	0 - 0.6 ¹⁾	0.73	0.65	0.78

MDM 7340.62v...

for tubes according to DIN 11 866, series C (ASME-BPE)



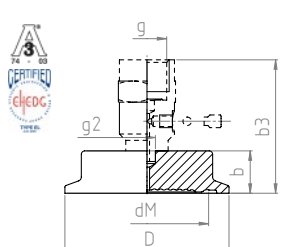
NPS	PN	For tube male-Ø x wall thickness	Tube female-Ø	b	b3	D	dM	d*	g	g2	Minimum measuring span	tk-value	Weight (approx.)	
													vd8	vG ½
¾"	40	19.05 x 1.65	15.75	20	63	34	16	18	G½	Ø 8	0 - 4 ³⁾	9.00	0.12	0.25
1"		25.4 x 1.65	22.1										0.18	0.31
1½"		38.1 x 1.65	34.8										0.22	0.35
2"	25	50.8 x 1.65	47.5	20	63	77.5	38	40	G½	Ø 8	0 - 1 ²⁾	0.80	0.45	0.59
2½"		63.5 x 1.65	60.2										0.95	0.64
3"	16	76.2 x 1.65	72.9	20	63	106	66	68	G½	Ø 8	0 - 0.6 ¹⁾	0.73	0.65	0.78

Loose Clamp

DIN 11 864-3 Form A

MDM 7340.58v...

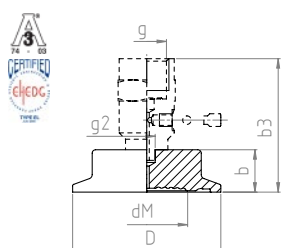
for tubes according to DIN 11 866, series A (DIN 11850)



DN	PN	For tube male-Ø x wall thickness	Tube female-Ø	b	b3	D	dM	d*	g	g2	Minimum measuring span	tk-value	Weight (approx.)	
													vd8	vG ½
20	40	23 x 1.5	20	20	63	50.5	17	19	G½	Ø 8	0 - 4 ³⁾	7.80	0.22	0.35
25		29 x 1.5	26										0.25	0.38
32		35 x 1.5	32										0.33	0.46
40		41 x 1.5	38										0.40	0.53
50	25	53 x 1.5	50	20	63	77.5	46	48	G½	Ø 8	0 - 1 ¹⁾	0.45	0.51	0.64
65		70 x 2	66										0.62	0.75
80	16	85 x 2	81	20	63	106	72	75	G½	Ø 8	0 - 0.6 ¹⁾	0.64	0.80	0.93

MDM 7340.63v...

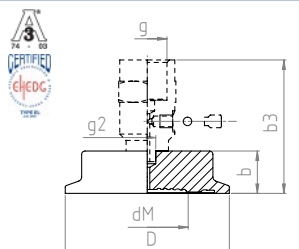
for tubes according to DIN 11 866, series B (DIN EN ISO 1127)



DN	PN	For tube male-Ø x wall thickness	Tube female-Ø	b	b3	D	dM	d*	g	g2	Minimum measuring span	tk-value	Weight (approx.)	
													vd8	vG ½
26.9	40	26.9 x 1.6	23.7	20	63	50.5	21	23	G½	Ø 8	0 - 4 ²⁾	5.50	0.29	0.42
33.7		33.7 x 2	29.7										0.34	0.47
42.4		42.4 x 2	38.4										0.41	0.54
48.3	25	48.3 x 2	44.3	20	63	64	38	40	G½	Ø 8	0 - 1 ²⁾	0.80	0.34	0.47
60.3		60.3 x 2	56.3										0.59	0.72
76.1	16	76.1 x 2	72.1	20	63	106	66	68	G½	Ø 8	0 - 0.6 ¹⁾	0.73	0.75	0.88

MDM 7340.64v...

for tubes according to DIN 11 866, series C (ASME-BPE)



NPS	PN	For tube male-Ø x wall thickness	Tube female-Ø	b	b3	D	dM	d*	g	g2	Minimum measuring span	tk-value	Weight (approx.)	
													vd8	vG ½
¾"	40	19.05 x 1.65	15.75	20	63	34	16	18	G½	Ø 8	0 - 4 ³⁾	9.00	0.16	0.29
1"		25.4 x 1.65	22.1										0.33	0.46
1½"		38.1 x 1.65	34.8										0.41	0.54
2"	25	50.8 x 1.65	47.5	20	63	77.5	38	40	G½	Ø 8	0 - 1 ²⁾	0.80	0.51	0.64
2½"		63.5 x 1.65	60.2										0.95	0.72
3"	16	76.2 x 1.65	72.9	20	63	106	66	68	G½	Ø 8	0 - 0.6 ¹⁾	0.73	0.75	0.88

¹⁾ for bourdon tube pressure gauges NG 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