

Diaphragm Seals

Models

MDM 73..

Connection with Flat or Form Sealing

For Food and Beverage Industry, Hygienic Process Conditions

Application

Diaphragm seals model MDM 73... for connection with flat or form sealing are mainly applied in the food industry where hygienic process conditions are required.

Pressure gauges, pressure switches, pressure transmitters and other pressure measuring instruments can be attached.

Diaphragm seals for aseptic connections with O-ring sealing are to find in data sheet 7301.

Important information about advantages, applications and features can be found in our model overview 7000 where you will also find an overview of our other chemical seal series.

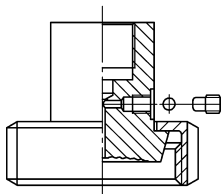
Please note especially the explanations about the influences of temperature and other special operating conditions, and the requirement of detailed ordering information resp. inquiries.

Please use our check list for pressure measuring instruments with chemical seal to ensure the completeness of all required ordering information (for download to find at our website, PDF-Download). You can receive the check list in printed version with mail upon request.

Construction

The diaphragm is flush welded to the body.

The complete measuring system is evacuated, completely filled with a suitable filling liquid and hermetically sealed.



Do not open any connection of the system! Otherwise filling liquid will leak out and the measuring system cannot work properly anymore!

Standard Configuration

Process Connection:

Norm: Nom. Size: Model:

With union nut 304 stainless steel (1.4301) polished



DIN 11851	DN 25...80	MDM 7310
APV-ISS	DN 1"...3"	MDM 7320
APV-RJT	DN 1"...3"	MDM 7330
IDF	DN 1"...3"	MDM 7350
SMS	DN 1"...3"	MDM 7370
DS 722	DN 25...80	MDM 7380

Male thread



DIN 11851	DN 25...80	MDM 7315
APV-ISS	DN 1"...3"	MDM 7325
SMS	DN 1"...3"	MDM 7375
DS 722	DN 25...80	MDM 7385

Attachment flange stainless steel 316 L (1.4435)



DRD	DN 50	MDM 7392
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MDM 7310, DN 32, PN 40, here with Bourdon tube gauge model RCh 100-3

Continuation Process Connection:

Norm: Nom. Size: Model:

Clamp



ISO 2852	DN 1"...3"	MDM 7340
DIN 32 676	DN 25...80	MDM 7340.1

CERTIFIED EHEHG
EHEHG approved if applied with an EHEHG approved form sealing

Body

Stainless steel 316 L (1.4435)

Diaphragm

Stainless steel 316 L (1.4435) flush welded, effective diaphragm Ø dM see tables on pages 3-4

Nominal Pressure

PN 25 to 40, dependent on model and size, see pages 3-4

Instrument Connection¹⁾

G ½ (½" BSP) female

Filling Liquid

Vegetable oil (FN 1)

Pressure Ranges Measuring Instrument

Pressure gauge: dependent on model and size, minimum pressure range and PN see tables on pages 3-4
Minimum pressure ranges for other measuring instruments upon request

Reference Temperature

+20 °C (+68 °F), dial inscription for pressure gauges: t_A 20 °C

Max. Cleaning Temperature CIP/SIP

+150 °C (+302 °F), dial inscription for pressure gauges: t_R 150 °C for the complete pressure measuring system consisting of pressure gauge NCS 100 (4") and chemical seal, mounted at our factory and filled with vegetable oil (without electrical accessories); t_R max. for other versions upon request.

Sealing

Flat or form sealing in dependence on diaphragm seal model; the sealings are not part of our standard supply, compare "Accessories"

¹⁾ Separately delivered standard MDM (not mounted to a measuring instrument) are provided with a filling port at the instrument connection piece.



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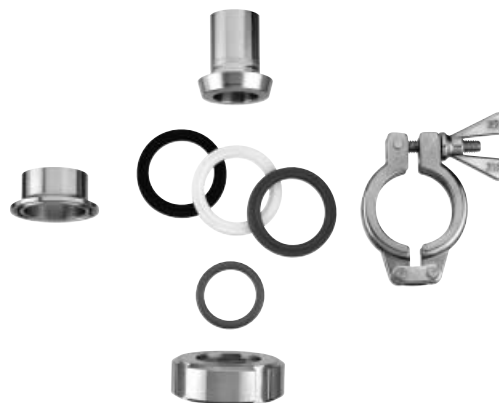
Accessories, Special Configurations, How to Order

Accessories

Process Connection Pieces and Sealings

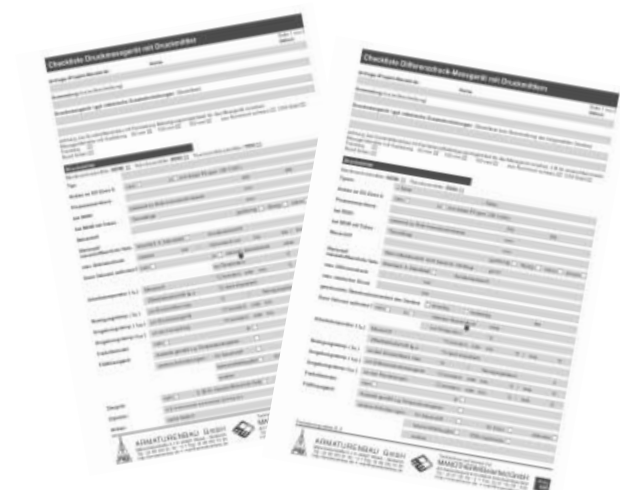
Process connection pieces such as welding connection pieces, clamps, union nuts, and sealings are not part of our standard supply, but available upon request.

 The nominal pressures PN stated in the following tables are valid for our diaphragm seals only. Possibly valid further restrictions for the applied process connection pieces are to consider. Reinforced clamps or union nuts might be required for certain applications.



Special Configurations et. al.

- Diaphragm seal additionally welded to the measuring instrument upon request;
Twice welded diaphragm seal/pressure gauge version (Hygienic Desing) see data sheets 7303/1903
- Instrument connection female: G ¼, ½"NPT, ¾" NPT; others upon request
- Process connection: other versions and sizes upon request
- Working temperature different than +20 °C (+68 °F)
- Cleaning temperature > +150 °C (+302 °F) upon request
- Filling Liquid
Paraffin oil (FN2), with FDA approval,
Glycerine (FN3), with FDA approval,
Glycerine/water (FN4),
others upon request
- Other materials diaphragm and/or body (compare model overview 7000) upon request
- Capillary line between diaphragm seal and instrument (length limit upon request), or cooling element, see data sheet 7002, strongly recommended for medium temperatures >+100 °C (>+212 °F)



How to Order:

Please note the details about the required ordering information

- in our model overview 7000 and our check list for measuring instruments with chemical seal
- on the data sheet for the measuring instrument that shall be attached.

Model: e.g. **MDM 7310, MDM 7315** see p. 1

Nominal size: see tables p. 3-4

Nominal pressure: **PN 25 or PN 40**, see p. 3-4

Material: **1.4435** (316 L)

Instrument connection¹⁾ **G ½ (½" BSP)**

Special options: see left, e.g. other instrument connection, cooling element, capillary line etc.

Please point out especially when the medium or ambient temperature is different than +20 °C (+68 °F) as well as all special process or cleaning conditions.

Example: MDM 7310, DN 25, PN 40, 1.4435, G½ for measuring instrument

¹⁾ to state only for separate ordered chemical seals

Dimensional Data, Weight, Minimum Pressure Ranges for Pressure Gauges

Diaphragm Seals with Groove Union Nut or Hexagon Union Nut:

Dimensions (mm / inches) and Weight (kg / lb), Minimum Pressure Ranges

Model	DN	PN (bar/psi)	D	dM	b	m	g1	Minimum Pressure Range ¹⁾	Weight (approx.)	
MDM 7310 DIN 11 851 Fig. A	25	40 580	63 2.48	28 1.1	54	21 .83	G 1/2 1/2" BSP	0 - 2.5 bar 0 - 30 psi	0.50 1.10	
	32		70 2.76	34 1.34	48			0.65 1.43		
	40		78 3.07	38 1.5	53 2.09			0.73 1.61		
	50	92 3.62	46 1.81	48 1.89	22 .87	0 - 1 bar 0 - 15 psi		1.10 2.43		
	65	25 360	112 4.41	52 2.05	54 2.13	25 .98		2.00 4.41		
	80	127 5	72 2.83	59 2.32	30 1.18	0 - 0.6 bar 0 - 10 psi		2.55 5.62		
MDM 7320 APV-ISS Fig. B	1"	40 580	SW 47 1.85	24 .94	65 2.56	30 1.18	G 1/2 1/2" BSP	0 - 2.5 bar 0 - 30 psi	0.35 .77	
	1 1/2"		SW 62 2.44	34 1.34	70 2.76			0.59 1.30		
	2"		SW 77 3.03	45 1.77	2.76			1.00 2.20		
MDM 7330 APV-RJT Fig. C	1"	40 580	57 2.24	21 .83	58.6 2.31	20 .79		G 1/2 1/2" BSP	0 - 4 bar 0 - 60 psi	0.40 .88
	1 1/2"		72 2.83	28 1.10	59.6 2.35	21 .83			0 - 2.5 bar 0 - 30 psi	0.75 1.65
	2"		86 3.39	38 1.5	60.6 2.39	22 .87			0 - 1 bar 0 - 15 psi	1.00 2.20
MDM 7350 IDF Fig. B	1"	40 580	52 2.05	24 .94	66.5 2.62	30 1.18	G 1/2 1/2" BSP		0 - 2.5 bar 0 - 30 psi	0.35 .77
	1 1/2"		64 2.52	34 1.34	61.5 2.42				0.70 1.54	
	2"		79 3.11	45 1.77	1.17 2.58					
MDM 7370 SMS Fig. D	1"	40 580	51 2.01	24 .94	55.5 2.19	20 .79		G 1/2 1/2" BSP	0 - 2.5 bar 0 - 30 psi	0.22 .49
	1 1/2"		74 2.91	34 1.34	57 2.24	25 .98			0.60 1.32	
	2"		84 3.31	46 1.81	62 2.44	26 1.02			0 - 1 bar 0 - 15 psi	1.00 2.20
	2 1/2"	25 360	100 3.94	52 2.05	61 2.40	30 1.18	1.30 2.87			
	3"	114 4.49	72 2.83	66 2.6	32 1.26	0 - 0.6 bar 0 - 10 psi	2.00 4.41			
MDM 7380 DS 722 Fig. D	25	40 580	57 2.24	24 .94	59 2.32	20 .79	G 1/2 1/2" BSP		0 - 2.5 bar 0 - 30 psi	0.40 .88
	32		65 2.56	28 1.10				0.52 1.15		
	40		71 2.8	34 1.34				0.60 1.32		
	50	25 360	86 3.39	46 1.81	61 2.4	22 .87		0 - 1 bar 0 - 15 psi	1.00 2.20	
	65	103 4.06	59 2.32	62 2.44	24 .94	1.20 2.65				
	75	115 4.53	62 2.44	25 .98	1.30 2.87					

Fig. A

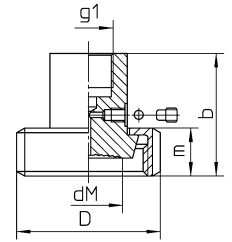


Fig. B

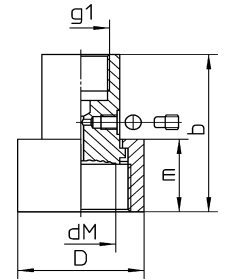


Fig. C

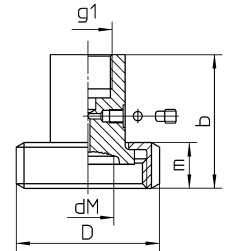
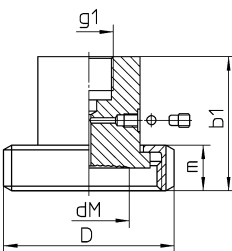


Fig. D



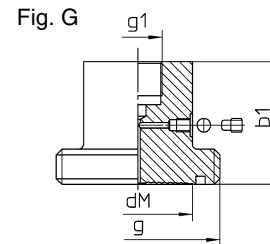
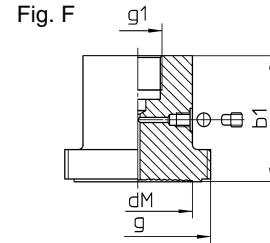
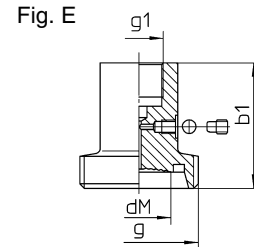
¹⁾ Valid for pressure gauge NCS 100 (4"); also valid for corresponding vacuum and vacuum/pressure compound ranges.
Data for other pressure measuring instruments upon request.

Dimensional Data, Weight, Minimum Pressure Ranges for Pressure Gauges

Diaphragm Seals with Male Thread:

Dimension (mm / inches) and Weight (kg / lb), Minimum Pressure Ranges

Model	DN	PN (bar/psi)	dM	b1	g	g1	Minimum Pressure Range ¹⁾	Weight (approx.)
MDM 7315 DIN 11 851 Fig. E	25	40 580	26 1.02	55 2.17	Rd 52 x 1/6	G 1/2 1/2" BSP	0 - 2.5 bar 0 - 30 psi	0.35 .77
	32		30 1.18		Rd 58 x 1/6			0.50 1.10
	40		34 1.34		Rd 65 x 1/6			0.70 1.54
	50	25 360	46 1.81		Rd 78 x 1/6		0.90 1.98	
	65	59 2.32	Rd 95 x 1/6		1.95 4.30			
	MDM 7325 APV-ISS Fig. F	1 1/2"	40 580		34 1.34		1 63/64"	G 1/2 1/2" BSP
2"	45 1.77	2 17/32"		0.95 2.09				
MDM 7375 SMS Fig. G	1 1/2"	40 580	34 1.34	Rd 60 x 1/6	G 1/2 1/2" BSP	0 - 2.5 bar 0 - 30 psi	0.80 1.76	
	2"		45 1.77	Rd 70 x 1/6			0.95 2.09	
MDM 7385 DS 722 Fig. G	32	25 360	24 .94	55 2.17	Rd 52 x 1/6	G 1/2 1/2" BSP	0 - 2.5 bar 0 - 30 psi	0.35 .77
	40		30 1.18		Rd 58 x 1/6			0.50 1.10
	50		38 1.5		Rd 72 x 1/6			0.80 1.76
	65	52 2.05	Rd 88 x 1/6		1.43 3.15			
	75	59 2.32	Rd 100 x 1/6		1.95 4.30			

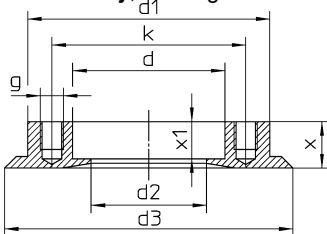


Diaphragm Seals with Attachment Flange:

Dimensions (mm / inches) and Weight (kg / lb), Minimum Pressure Range (MA)

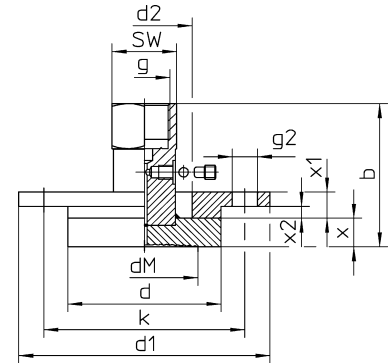
Model	DN	PN (bar/psi)	b	d	d1	d2	dM	g	g2	k	SW	x	x1	x2	MA ¹⁾	Weight (approx.)
MDM 7392 DRD	50	40 580	61 2.4	65 2.56	105 4.13	40 1.57	46 1.81	G 1/2 1/2" BSP	4 x 10.5 .41	84 3.31	27 1.06	12 .47	11 .43	5 .2	0 - 1 bar 0-15 psi	0.90 1.98

Accessory, welding counter flange available at option:



Dimensions (mm / inches) and Weight (kg / lb)

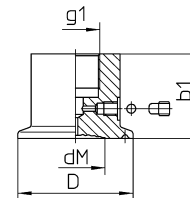
d	d1	d2	d3	g	x	x1	Weight (approx.)
66 2.6	105 4.13	50 1.97	125 4.92	4x M10 .39	20 .79	16 .63	0.95 2.09



Diaphragm Seals with Clamp:

Dimensions (mm / inches) and Weight (kg / lb), Minimum Pressure Ranges

Model	DN	PN (bar/psi)	D	dM	b1	g1	Minimum Pressure Range ¹⁾	Weight (approx.)	
MDM 7340 ISO 2852	1"	40 580	50.5 1.99	24 .94	37 1.46	G 1/2 1/2" BSP	0 - 2.5 bar 0 - 30 psi	0.32 .71	
	1 1/2"		64 2.52	34 1.34	45 1.77			0 - 1 bar 0 - 15 psi	0.70 1.54
	2"		77.5 3.05	55 2.17					1.10 2.43
	2 1/2"	25 360	91 3.58	72 2.83	45 1.77		0 - 0.6 bar 0 - 10 psi	1.30 2.87	
	3"	106 4.17	72 2.83	1.90 4.19					
MDM 7340.1 DIN 32676	25	40 580	50.5 1.99	24 .94	37 1.46	G 1/2 1/2" BSP	0 - 2.5 bar 0 - 30 psi	0.32 .71	
	32		64 2.52	34 1.34	45 1.77			0 - 1 bar 0 - 15 psi	0.70 1.54
	40		77.5 3.05	55 2.17					1.10 2.43
	50	25 360	91 3.58	72 2.83	45 1.77		0 - 0.6 bar 0 - 10 psi	1.30 2.87	
	65	106 4.17	72 2.83	1.90 4.19					
	80	106 4.17	72 2.83	1.90 4.19					



¹⁾ Valid for pressure gauge NCS 100 (4"); also valid for corresponding vacuum and vacuum/pressure compound ranges. Data for other pressure measuring instruments upon request.

The information in this leaflet is given in good faith, but we reserve the right to make changes without notice.