

Diaphragm Seals

Thread Connection, Flush Membrane

Models
MDM 7410
MDM 7420
MDM 7450

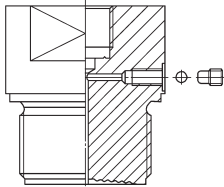
Applications

Diaphragm seals model series 74.. are used for high pressures and/or aggressive, contaminated or hot media. Pressure gauges, pressure switches, pressure transmitters and pressure transducers can be mounted. 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 fluid will leak out and the measuring system cannot work properly anymore!

Standard Configurations

Process Connection

MDM 7410: Male thread 1/2" ², 3/4", 1", 1 1/2" or 2" BSP

MDM 7420: Male thread 1/2" ², 3/4" ², 1", 1 1/2" or 2" NPT

MDM 7450: Hexagon union nut 1", 1 1/4", 1 1/2" or 2" BSP, 304 stainless steel (1.4301)

Body

Stainless steel 316 L (1.4435)

Diaphragm

Stainless steel 316 L (1.4435), flush welded to the body; eff. Ø diaphragm depends on connection size, see overleaf

Nominal Pressure

PN 600 (10.000 lb/sq.in.), PN 40 for MDM 7450 DN 1 1/2" or 2" BSP

Instrument Connection ¹⁾

1/2" BSP female resp. 1/4" BPS-f for certain sizes, see tables overleaf

Filling Liquid

Silicone oil

Pressure Ranges Measuring Instrument

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

Reference Temperature

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

Sealing

Not supplied; suitable sealing required
 (Gasket can be ordered as separate item upon request.)

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

²⁾ Pressure gauges: nom. sizes 40 (1 1/2") or 63 mm (2 1/2") can be attached only



Optional Special Configurations

- Instrument connection female thread 1/4" BSP, 1/4" NPT, or 1/2" NPT
- Other process connection sizes upon request
- MDM 7450: Union nut PN 600 (10,000 lb/sq.in.) 1 1/2" or 2" BSP
- Diaphragm (welded) tantalum, hastelloy B2, or hastelloy C276, others upon request
- MDM 7410, MDM 7420: complete body hastelloy C4 or hastelloy C 276 (diaphragm hastelloy C 276 welded); other special materials upon request
- Reference temperature differing from +20 °C (+68 °F)
- Other filling fluid, compatible to the medium (see overview 7000)
- 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: **MDM 7410, MDM 7420, or MDM 7450**

Nominal size: G, see tables overleaf

Nominal pressure: **PN 600 or PN 40**, see p. 2

Material: **1.4435 (316 L)**

Instrument connection³⁾ **G 1/2 (1/2" 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 conditions.

Example: MDM 7410, 1" BSP-f, PN 600, 1.4435, G 1/2 for measuring instrument

³⁾ to state only for separate ordered chemical seals



ARMATURENBAU GmbH

Manometerstraße 5 • D-46487 Wesel - Ginderich
 Phone: (0 28 03) 9130-0 • Fax: (0 28 03) 10 35
 armaturenbau.com • mail@armaturenbau.com



Subsidiary Company and Sales East Germany and Eastern Europe

MANOTHERM Beierfeld GmbH

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

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Dimensional Data and Weight

MDM 7410

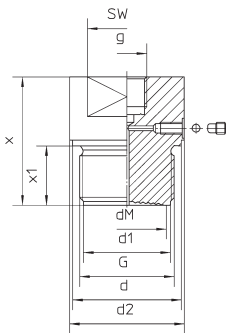
Male thread ½" BSP up to 2" BSP

Required sealing:

Gasket acc. to

DIN 3852 form A

(not part of standard supply)

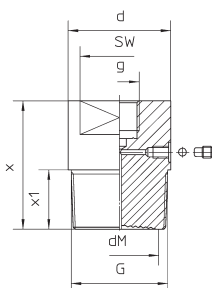


Dimensional Data (mm / inches) and Weight (kg / lb)

G	PN	d	d1	d2	dM	g	x	x1	SW	Minimum Pressure Ranges for Pressure Gauges ^{1) 2)}	Weight (approx.)	
G ½ B ³⁾ ½" BSP ³⁾	PN 600 10,000 lb/sq.in.	26 1.02	18 0.71	—	16 0.63	G ¼ female ¼" BSP-f	57 2.24	20	27 1.06	0 – 10 bar 0 – 160 psi	0.16 .35	
G ¾ B ¾" BSP		32 1.26	22 0.87		20 0.79	56 2.20	0.79	32 1.26				
G 1 B 1" BSP		39 1.54	29 1.14		28 1.10	55 2.17	21 0.83	41 1.61	0 – 6 bar 0 – 100 psi		0.40 0.88	
G 1½ B 1½" BSP		55 2.17	44 1.73		58 2.28	38 1.50	G ½ female ½" BSP-f	65 2.56	30	50 1.97	0 – 1.6 bar 0 – 30 psi	1.08 2.38
G 2 B 2" BSP		68 2.68	56 2.20		78 3.07	46 1.81		70 2.76	1.18	65 2.56	0 – 1 bar 0 – 15 psi	1.95 4.3

MDM 7420

Male thread ½" NPT up to 2" NPT



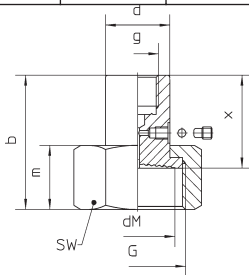
Dimensional Data (mm / inches) and Weight (kg / lb)

G	PN	d	dM	g	x	x1	SW	Minimum Pressure Ranges for Pressure Gauges ^{1) 2)}	Weight (approx.)	
½" NPT ³⁾	PN 600 10,000 lb/sq.in.	—	16	G ¼ female ¼" BSP-f	54 2.13	19 .75	27	0 – 10 bar 0 – 160 psi	.20 .44	
¾" NPT ³⁾			.63	G ¼ female ¼" BSP-f	60 2.36	25 .98	1.06		.27 .60	
1" NPT			24 0.94	G ½ female ½" BSP-f	65	28 1.10	41 1.61		.55 1.21	
1½" NPT			58 2.28	32 1.26	G ½ female ½" BSP-f	65 2.56	30	46 1.81	0 – 4 bar 0 – 60 psi	1.00 2.21
2" NPT			78 3.07	38 1.50			1.18	65 2.56	0 – 1.6 bar 0 – 30 psi	1.92 4.23

MDM 7450

Hexagon union nut

1" BSP up to 2" BSP female



Dimensional Data (mm / inches) and Weight (kg / lb)

G	PN	b ±1	d	dM	g	m ±1	x	SW	Minimum Pressure Ranges for Pressure Gauges ^{1) 2)}	Weight (approx.)
G 1 female 1" BSP-f	PN 600 10,000 lb/sq.in.	49.5 1.95	23.5 0.93	24 0.94	G ¼ female ¼" BSP-f	28.5 1.12	30 1.18	41 1.61	0 – 10 bar 0 – 160 psi	0.24 .53
G 1¼ female 1¼" BSP-f		65 2.56	30 1.18	28 1.10	G ½ female ½" BSP-f	30.5 1.20	45 1.77	50 1.97	0 – 6 bar 0 – 100 psi	0.45 .99
G 1½ female 1½" BSP-f	PN 40 600 lb/sq.in.	32 1.26	34 1.34	G ½ female ½" BSP-f	31 1.22	55 2.17	0 – 4 bar 0 – 60 psi	0.65 1.43		
G 2 female 2" BSP-f		72.5 2.85	40 1.57	46 1.81	35 1.38	50 1.97	70 2.76	0 – 1 bar 0 – 15 psi	1.23 2.71	

¹⁾ Related to pressure gauges nom. size 100 mm (4"), resp. for MDM 7410, ½" BSP-male related to pressure gauge nom. size 63 mm (2½") and 40 mm (1½"); valid also for vacuum and compound ranges.

²⁾ Minimum pressure ranges for pressure transmitters and others upon request.

³⁾ Pressure gauges: nom. sizes 40 (1½") or 63 mm (2½") can be attached only.

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