

# Diaphragm Seals

Cellular Type ("Pancake"), with or without Extension Tube, Suitable for Flange Connections acc. to DIN EN or ASME, Flush Membrane, Capillary Line

Models

**MDM 7550 / 7560**  
**MDM 7555 / 7565**

## Application

Important information about advantages, applications, specifications, constructions and user instructions can be found on general information leaflet **7000**. Please note especially the explanations about the influences of temperature and other special operating conditions, and the requirement of detailed ordering information resp. inquiries. You will also find an overview of our other chemical seal series there.

Diaphragm seals series MDM 7550 - 7565 are suitable for dirty, aggressive, and hot media.

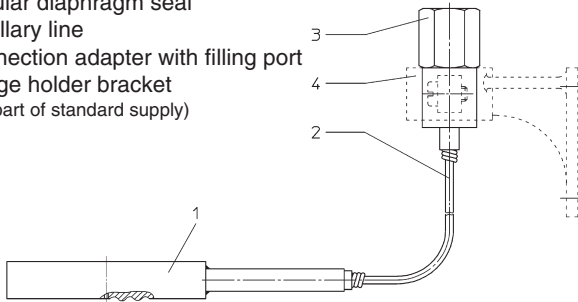
Most pressure gauges out of our supply program can be attached, but also pressure transmitters or pressure transducers up to PN 400 resp. 2500 lb/sq.in.

## Construction

The membrane is flush welded to the body at the wetted side. A capillary line connects the diaphragm seal with the measuring instrument. The complete measuring system is filled through a filling port at the connection adapter for the measuring instrument.

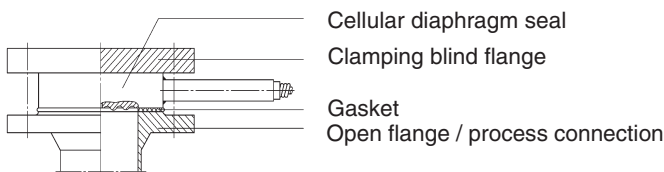
Warning: Do not open the screw which closes the filling port !

1. Cellular diaphragm seal
2. Capillary line
3. Connection adapter with filling port
4. Gauge holder bracket  
(not part of standard supply)



The diaphragm seal is constructed for mounting between an open flange and a blind flange.

## Mounting Drawing:



## Standard Configuration

### Instrument Connection

Adapter G 1/2 (1/2" BSP) female 316 stainless steel (1.4571), filling port closed with a sealed screw M6 (may not be opened!)

### Capillary Line

316 stainless steel (1.4571), Ø 4 mm (.16"), with buckle protection spirals at both ends, capillary line welded to the diaphragm seal, connection parts stainless steel, adapter for gauge holder bracket<sup>1)</sup>

1m (39.37") capillary line is included in our standard supply. Other dimensions at extra charges upon request.

The gauge holder bracket is not part of the standard supply. But a mounting device for the measuring instrument is required, e.g. a rear mounting flange, a front mounting flange or a gauge holder bracket.

<sup>1)</sup> not for versions with mounted pressure gauge with front or rear mounting flange



### Body

316 L (1.4435)

### Membrane

316 L (1.4435), flush welded to the chemical seal; effective membrane Ø (d<sub>M</sub>): see tables on the following pages

### Pressure Ranges (for Attached Pressure Gauges)

Standard ranges up to 0-400 bar (0-6,000 psi), also vacuum and compound pressure ranges

The minimum range depends on the MDM model and size, compare tables on the following pages.

Pressure ranges / minimum ranges for other instruments (pressure transmitters) upon request.

### Process Connection / Sealing Face

**MDM 7550:** Suitable for DIN EN flange DN 50, 80 or 100, raised face: PN 16 - PN 100 DIN EN 1092-1 form B2, ≥ PN 160 DIN 2526 form E

**MDM 7555:** Suitable for DIN EN flange DN 50, 80 or 100, raised face: PN 16 - PN 100 DIN EN 1092-1 form B2, ≥ PN 160 DIN 2526 form E, with extension tube 50, 100, 150 or 200 mm (1.97", 3.94", 5.91", or 7.87")

**MDM 7560:** Suitable for ASME flange 2", 3" or 4", raised face ASME B 16.5 RF

**MDM 7565:** Suitable for ASME flange 2", 3" or 4", raised face ASME B 16.5 RF, with extension tube 50, 100, 150 or 200 mm (1.97", 3.94", 5.91", or 7.87")

### Filling Fluid

Silicone oil

### Reference Temperature

+20 °C (68 °F)

**Special configurations, dimensional drawings and ordering information see following pages.**



**ARMATURENBAU GmbH**

Manometerstraße 5 • D-46487 Wesel - Ginderich  
Phone: (0 28 03) 91 30 - 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-08340 Beierfeld  
Phone: (0 37 74) 58 - 0 • Fax: (0 37 74) 58 - 545  
manotherm.com • mail@manotherm.com

**7505**

**7/04**

# Special Configurations

## ● Instrument connection

G ¼ (¼" BSP) female, ½" NPT female or ¼" NPT female

## ● Other sealing faces

## ● Other nominal sizes

## ● Extension tube

in other lengths upon request

## ● Medium- or ambient temperature

differing from +20 °C (68 °F)

## ● Filling fluid:

- Silicone oil PD 5
- Fluorolube
- Paraffin oil
- Vegetable oil

and others upon request

## ● Tongue or groove

acc. to DIN 2512 (PN 160 max.), or

RJF groove acc. to ASME B 16.5;

large or small tongue acc. to ASME B 16.5 upon request

## ● Special material (others upon request):

### MDM 7550 and 7560:

#### Membrane

- Tantalum
- Hastelloy alloy B2 (ASTM-B-335),  
Hastelloy alloy C4 or Hastelloy alloy C276 (ASTM-B-574)
- Titanium
- Inconel 600

welded to the chemical seal, covering the complete sealing face (up to PN 100 raised face DIN EN 1092-1 form B2, ≥ PN 160 DIN 2526 Form E)

#### Protection foil

- PTFE
- Silver

covering the complete sealing face (up to PN 100 raised face DIN EN 1092-1 form B2, ≥ PN 160 DIN 2526 Form E); limited vacuum-tight

#### Coating

- PFA
- ECTFE

for membrane and sealing face (up to PN 100 raised face DIN EN 1092-1 form B2, ≥ PN 160 DIN 2526 Form E)

### MDM 7555 und 7565:

#### Sheathing

- Tantalum

for membrane, extension tube and sealing face (up to PN 100 raised face DIN EN 1092-1 form B2, ≥ PN 160 DIN 2526 Form E)

#### Body, extension tube, membrane complete out of

- Hastelloy alloy B2 (ASTM-B-335),  
Hastelloy alloy C4 or Hastelloy alloy C276 (ASTM-B-574)
- Titanium
- Inconel 600

#### Coating

- PFA
- ECTFE

for membrane, raised face and extension tube (up to PN 100 raised face DIN EN 1092-1 form B2, ≥ PN 160 DIN 2526 Form E)

## How to Order:

Please note the detailed information about how to order on our general information leaflet 7000 and on the data sheet for the measuring instrument that shall be attached.

Model code: **MDM 7550, 7555, 7560 or 7565**

Capillary line: length  
and possibly special requirements  
(Please consult our sales  
department for your inquiries.)

Instrument connection G ½ (½" BSP) female (standard) or  
others (only to quote in case that  
the measuring instrument will not  
be attached at our factory)

Process connection: compare tables next page,  
e.g. DIN-flange DN 50

Nominal pressure: PN, compare tables next page

Extension tube: for MDM 7555 resp. MDM 7565  
specify length of extension tube:  
50, 100, 150 or 200 mm  
(1.97, 3.94, 5.91 or 7.87 inches)

Optional special  
configuration: see left side, e.g. different material;  
mounting device for the measuring  
instrument, e.g. gauge holder  
bracket

Please quote the process and ambient temperatures when  
differing from +20 °C (68 °F), and other special operating  
conditions.

#### Examples for Ordering Information:

- MDM 7550, DN 50, PN 100
- MDM 7565, ASME 3", PN 150, 100 mm extension tube

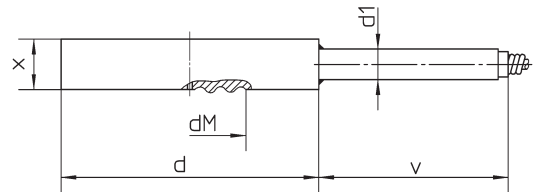
# Dimensional Data and Weight

## MDM 7550

suitable for flanges according to  
 DIN EN 1092-1 form B2 DN 50, 80, 100 PN 16...PN 100  
 DIN 2526 form E DN 50, 80, 100 PN 160...400

## MDM 7560

suitable for flanges according to  
 ASME B 16.5 2", 3", 4" PN 150 - 2500 lb/sq.in.



### Dimensional Data (mm / inches), Weight (kg / lb) and Minimum Pressure Range (bar / psi)

DN	PN	d	d1	dM	v	x	Minimum Pressure Range *)		Weight (approx.)
50 (1.97)	16 - 400	102 4.02	12 .47	52 2.05	75 2.95	20 .79	0 - 1 bar	15 psi	1.30 2.87
80 (3.15)		136 5.35		80			0 - 0.6 bar	10 psi	2.30 5.07
100 (3.94)		158 6.22		3.15			0 - 0.6 bar	10 psi	3.10 6.83
2"	150-2500	99 3.90	12 .47	52 2.05	75 2.95	20 .79	0 - 1 bar	15 psi	1.30 2.87
3"		127 5.00		80 3.15			0 - 0.6 bar	10 psi	2.30 5.07
4"		158 6.22		80 3.15			0 - 0.6 bar	10 psi	3.10 6.83

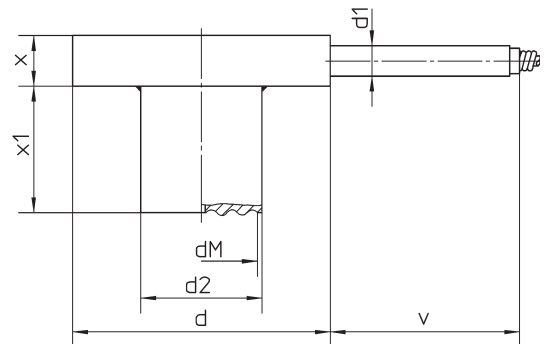
\*) related to pressure gauges nom. size 100 (4"); also valid for corresponding vacuum and compound ranges

## MDM 7555 with extension tube,

suitable for flanges according to  
 DIN EN 1092-1 form B2 DN 50, 80, 100 PN 16...PN 100  
 DIN 2526 form E DN 50, 80, 100 PN 160...400

## MDM 7565 with extension tube,

suitable for flanges according to  
 ASME B 16.5 2", 3", 4" PN 150 - 2500 lb/sq.in.



### Dimensional Data (mm / inches), Weight (kg / lb) and Minimum Pressure Range (bar / psi)

DN	PN	d	d1	d2	dM	v	x	x1	Minimum Pressure Range *)		Weight (approx.)
50 (1.97)	16 - 400	102 4.02	12 .47	48.3 1.90	45 1.77	75 2.95	20 .79	50	0 - 1 bar	15 psi	1.70
								100			3.75
								150			4.41
								200			5.18
80 (3.15)	16 - 400	136 5.35	12 .47	76 2.99	72 2.83	75 2.95	20 .79	50	0 - 0.6 bar	10 psi	3.10
								100			6.83
								150			8.16
								200			9.37
100 (3.94)	16 - 400	158 6.22	12 .47	94 3.70	80 3.15	75 2.95	20 .79	50	0 - 0.6 bar	10 psi	4.60
								100			10.14
								150			12.79
								200			15.32
2"	150-2500	99 3.90	12 .47	48.3 1.90	45 1.77	75 2.95	20 .79	50	0 - 1 bar	15 psi	1.70
								100			3.75
								150			4.41
								200			5.18
3"	150-2500	127 5	12 .47	76 2.99	72 2.83	75 2.95	20 .79	50	0 - 0.6 bar	10 psi	3.10
								100			6.83
								150			8.16
								200			9.37
4"	150-2500	158 6.22	12 .47	94 3.70	80 3.15	75 2.95	20 .79	50	0 - 0.6 bar	10 psi	4.60
								100			10.14
								150			12.79
								200			15.32

\*) related to pressure gauges nom. size 100 (4"); also valid for corresponding vacuum and compound ranges