

Diaphragm Seals

Compact type, male thread
PN 250 (7910v...) or PN 600 (7980v...)

MDM 7910v...
MDM 7980v...

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

Application

The chemical seal models MDM 7910v.../MDM 7980v... were especially designed for application under extreme process conditions. Membrane, upper and lower part are welded. With the use of a filling fluid, which is suitable for the specific temperature ranges, they are applicable for ambient temperatures down to -40°C (-40°F) and / or medium temperatures up to $+400^{\circ}\text{C}$ ($+752^{\circ}\text{F}$).

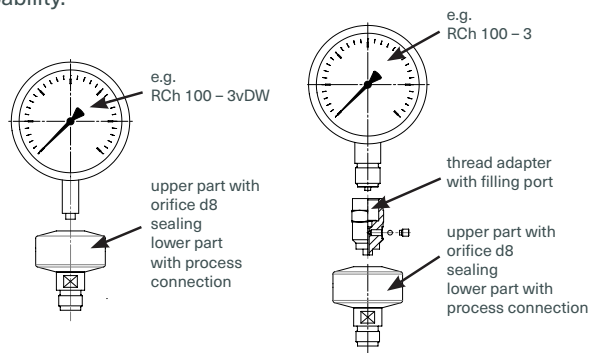
Bourdon tube pressure gauges, pressure switches, pressure transmitters, pressure transducers and other pressure measuring instruments can be equipped with diaphragm seals of this type series.

Construction

Models 7910vd8 and 7980vd8 have an orifice d8 as instrument connection for welding to a pressure gauge with process connection d8x5, e.g. RCh 100-3vDW, a cooling element or a capillary line. Leakage cannot occur at the welded connection of pressure gauge / upper part and the filling port that is not accessible externally. The parts can be easily cleaned externally.

Models 7910vG½ and 7980vG½ have a gauge adapter with female thread for direct mounting to measuring instruments with male thread.

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



7910 / 7980vd8

7910 / 7980vG½

Standard Versions

Upper Part

Stainless steel 316L (1.4404)

Instrument Connection

7910 / 7980vd8 orifice d8
7910 / 7980vG½ G½ female

Diaphragm

Membrane stainless steel 316L (1.4435) welded with upper and lower part, helium leak detection up to 10^{-9} mbar l/s
Effective diaphragm diameter $d_M = 48$ mm (1.89") 7910v...
30 mm (1.18") 7980v...

Lower Part with Process Connection

Stainless steel 316L (1.4404), connection male thread G½ B
Orifice $d = 10$ mm (0.4"), e.g. for medium crude oil



Nominal Pressure

7910v... PN 250
7980v... PN 600

Pressure Ranges

7910v... 0 - 1 bar to 0 - 250 bar
7980v... 0 - 2.5 bar to 0 - 600 bar

for Bourdon tube pressure gauges NCS 63, 100, 160 (2½, 4, 6")
for other pressure measuring instruments upon request

t_k-Value (mbar/10K) (Temperature Coefficient of the Chemical Seal)

For silicone oil FA1 7910v... 0.40 mbar / 10 K
7980v... 2.80 mbar / 10 K

Options

- Other process connections M 20x1.5 or ½" NPT
- Calculation of the temperature-related additional error for the entire pressure measuring system

Special Versions Upon Request

- Other instrument connections, whereas we do not recommend NPT female threads
- MDM 7910v... up to PN 400
- Other material combinations (process connection, membrane), e.g. titanium (up to PN 60), Monel, Hastelloy

Accessory

Capillary line, cooling elements see data sheets 7.7002 and 7.7003

Other accessory available upon request

Mounting / Filling / Certificates

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

Ordering Information Chemical Seals

Please regard our detailed ordering information

- in model overview 7000
- in the checklists for pressure measuring instruments with chemical seal
- in the data sheet of the required pressure measuring instrument and add the information for the respective chemical seal

Model MDM 7910vd8, MDM 7980vG½
Process connection G½ B, M 20x1.5
Nominal pressure e.g. PN 250
Options, if necessary t_A +80 °C

The reference temperature is $+20^{\circ}\text{C}$ ($+68^{\circ}\text{F}$). Please specify if an operating temperature (t_A) deviating from $+20^{\circ}\text{C}$ ($+68^{\circ}\text{F}$) is required (dial inscription t_A...).

Example pressure gauge ...
chemical seal MDM 7910vd8, G½ B,
PN 250, t_A +80 °C

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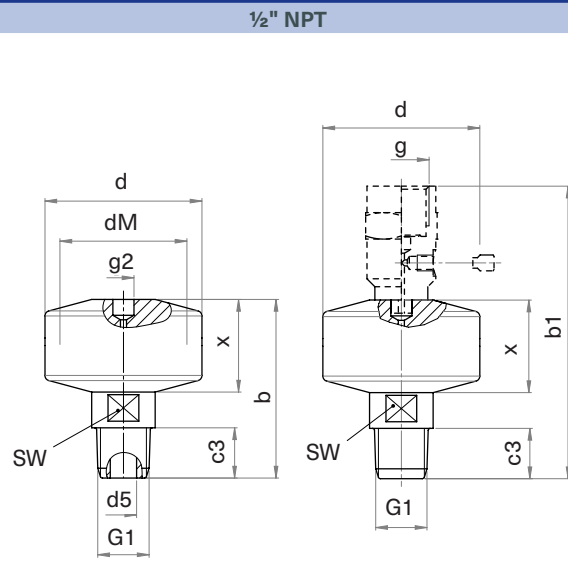
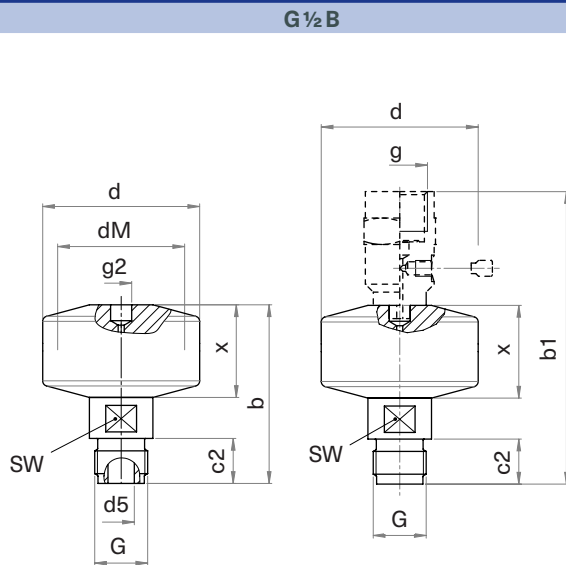
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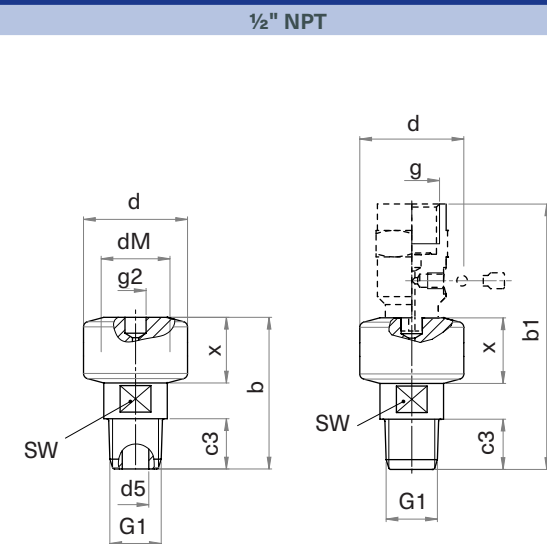
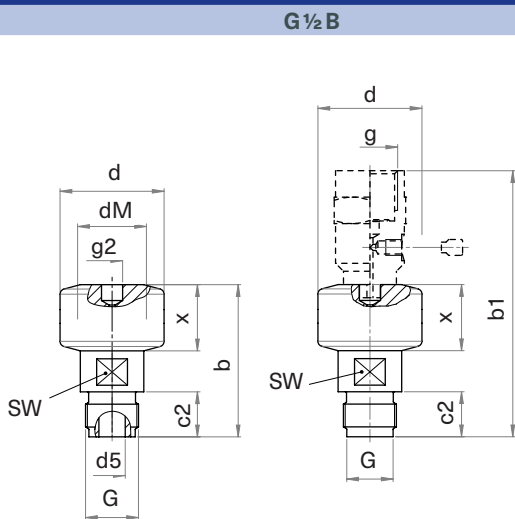
Connections, Dimensional Data and Weight

Male Thread Connections

MDM 7910v...



MDM 7980v...



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

type	b	b1	c2	c3	d	d5	dM	g	g2	G	G1	SW	x	approx. weight	
														vd8	vG1/2
MDM 7910v...	70 2.76	113 4.45	17 0.67	19 0.75	59 2.32	10 0.39	48 1.89	G1/2	d8	G1/2 B M20x1.5	1/2" NPT	21 0.83	35 1.38	0.62 1.37	0.75 1.65
MDM 7980v...	60 2.36	103 4.06	17 0.67	19 0.75	45 1.77	10 0.39	30 1.18	G1/2	d8	G1/2 B M20x1.5	1/2" NPT	21 0.813	27 1.06	0.33 0.73	0.46 1.01