

Diaphragm Seals

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

7910v...
7980v...

Standard Version

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

Application

The diaphragm seal models MDM 7910v.../MDM 7980v... were especially designed for application under extreme process conditions. Diaphragm, upper part 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 to min. -40 °C (-40 °F) and/or medium temperatures up to max. $+150\text{ °C}$ ($+302\text{ °F}$).

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

Model 7910vd8 or 7980vd8 has an orifice d8 as instrument connection for welding to a pressure gauge with process connection d8x5, e.g. RCh 100 – 3vDW, cooling element or capillary line. With the welded connection of pressure gauge/upper part and a filling port, which is not accessible externally, no leakage can occur. The parts are easy to clean externally.

Model 7910vG½ or 7980vG½ has an instrument adapter with female thread for direct mounting to pressure measuring instruments with male thread. The screwed connections pressure gauge/adapter and the filling port may not be loosened or opened, as otherwise the filling fluid leaks and the pressure measuring system loses its functional capability.



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 M20x1.5 or ½" NPT
- MDM 7910v... to PN 400 upon request

Special Versions and Others

- Other instrument connections upon request, but we do not recommend NPT female threads
- Other material combinations (process connection, diaphragm), e.g. titanium (to PN 60), Monel, Hastelloy upon request
- Calculation of the temperature-related additional error for the entire measuring system

Accessories

Capillary line, cooling elements: see data sheet 7002
Other accessories: available upon request

Mounting/Filling/Certificates

Information on mounting and filling, on approvals and certificates are available upon request

Ordering Information Chemical Seals

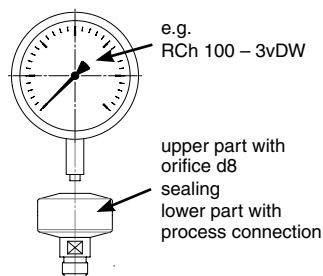
Please regard our detailed ordering information in model overview 7000, in the check lists for pressure measuring instruments with chemical seals and in the data sheets of the requested pressure measuring instrument and add the information for the particular chemical seal:

- Model: e.g. MDM 7910vd8, MDM 7980vG½
- Process connection: G ½ B, M20x1.5
- Nominal pressure: e.g. PN 250
- Options, if applicable: tA +80 °C (+176 °F)

The reference temperature is $+20\text{ °C}$ ($+68\text{ °F}$). Please indicate if a working temperature (tA) deviating from $+20\text{ °C}$ ($+68\text{ °F}$) max. is required (dial inscription tA...).

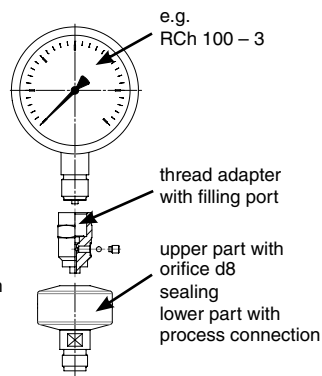
Example: Pressure gauge...,
Chemical seal: MDM 7910vd8, G ½ B, PN 250, tA +80°C

7910/7980vd8



Upper Part
Stainless steel 316L

7910/7980vG½



Instrument Connection

7910/7980vd8: orifice d8
7910/7980vG½: G ½ female

Diaphragm

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

Lower Part with Process Connection

Stainless steel 316L, connection male thread G ½ B
Orifice $d = 10\text{ mm}$ (0.4"), e.g. for medium crude oil
Connection options, see page 2

Nominal Pressure

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



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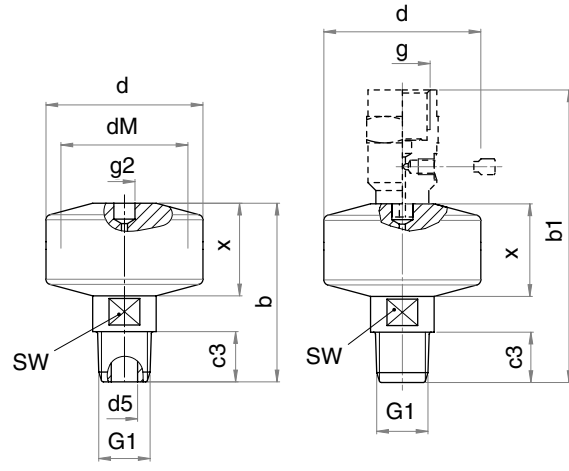
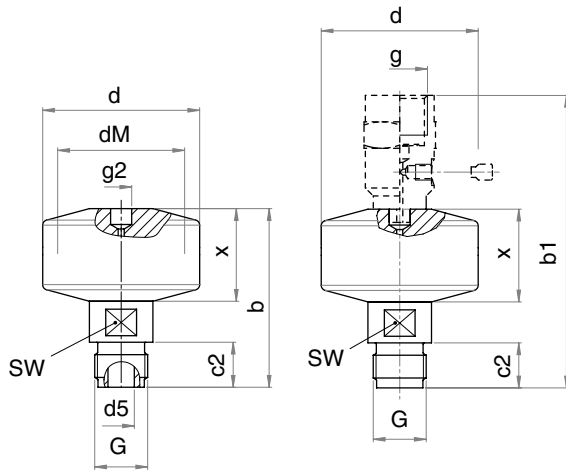
Dimensional Data and Weights

Male Thread Connections

MDM 7910v...

G 1/2 B

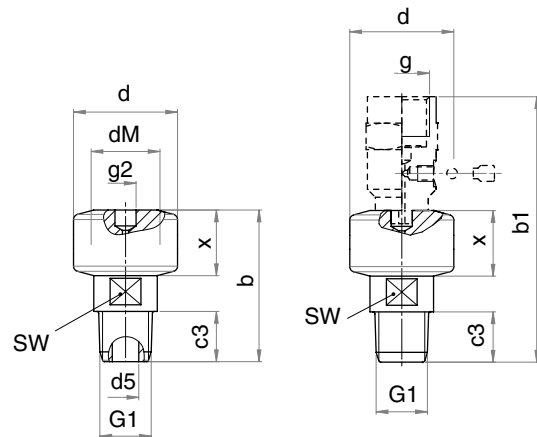
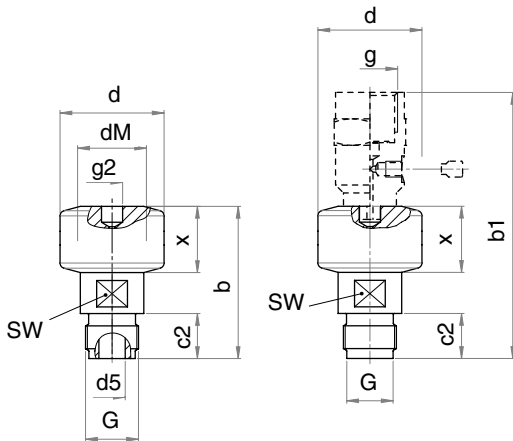
1/2" NPT



MDM 7980v...

G 1/2 B

1/2" NPT



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

Model	b	b1	c2	c3	d	d5	d6	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	8 0.31	48 1.89	G 1/2	d8	G 1/2 B 1/2" BSP 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	8 0.31	30 1.18	G 1/2	d8	G 1/2 B 1/2" BSP M20x1.5	1/2" NPT	21 0.83	27 1.06	0.33 0.73	0.46 1.01