

Diaphragm Seals Flange Type with Extension Tube

Flange connection according to DIN EN, ASME, membrane flush welded

MDM 7515v
MDM 7525v

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 find information on other chemical seal versions.

Application

Diaphragm seals of the type series 75.. are suitable for aggressive, contaminated and hot media.

Numerous common pressure gauges of our supply programme can be equipped with these chemical seals, but also pressure switches, pressure transmitters and pressure transducers, depending on the nominal width of the chemical seal up to PN 40 or Class 300.

Construction

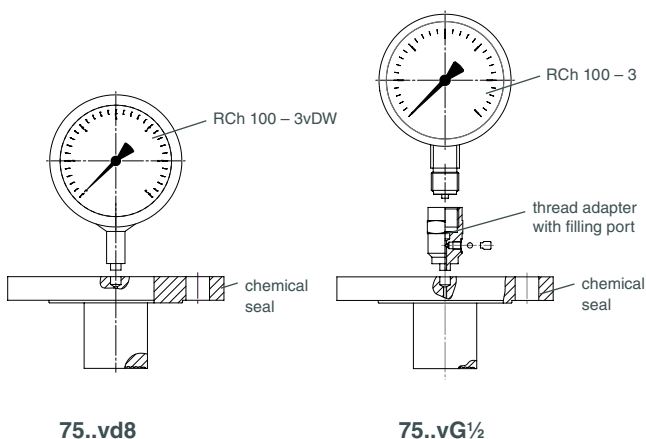
The diaphragm is welded free of dead space to the process side of the chemical seal.

Model 75..vd8 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.

Leakage cannot occur at the welded connection of pressure gauge/chemical seal and the filling port that is not accessible externally. The parts can be easily cleaned externally.

Model 75..vG½ has a gauge adapter with female thread for direct mounting to measuring instruments with male thread.

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



Standard Versions

NACE/Sour Gas Application

The material we use complies with the NACE MR 0175 standards (NACE MR 0103 upon request). Only material with test certification is used.

Chemical Seal and Process Connection

Stainless steel 316L (1.4404)

Instrument Connection

75..vd8: for welding to measuring instrument, capillary line or cooling element with welding connection (recommended for medium temperatures higher than 100 °C (212 °F))

75..vG½: G½ female



Diaphragm

Stainless steel 316L (1.4435) flush welded with chemical seal,

He-leak detection up to 10⁻⁹ mbar l/s

Effective diaphragm diameter dM, see tables on pages 2 and 3

Sealing Face

According to DIN EN 1092-1 form B, sealing face B1, flange stamped B, raised face (RF) for ASME B 16.5

Nominal Pressure

See tables on pages 2 and 3

Minimum Span Pressure Gauges

See tables on pages 2 and 3

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

See tables on pages 2 and 3 (silicone oil FA 1)

Options

See page 4

Special Versions

- Other instrument connections upon request, whereas we do not recommend NPT female threads
- Other material combinations upon request
- Version according to other standards (such as JIS), other sealing faces, shapes and nominal widths upon request
- Special extension tube lengths or diameters upon request

Accessory

Capillary line, cooling elements: see data sheet 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

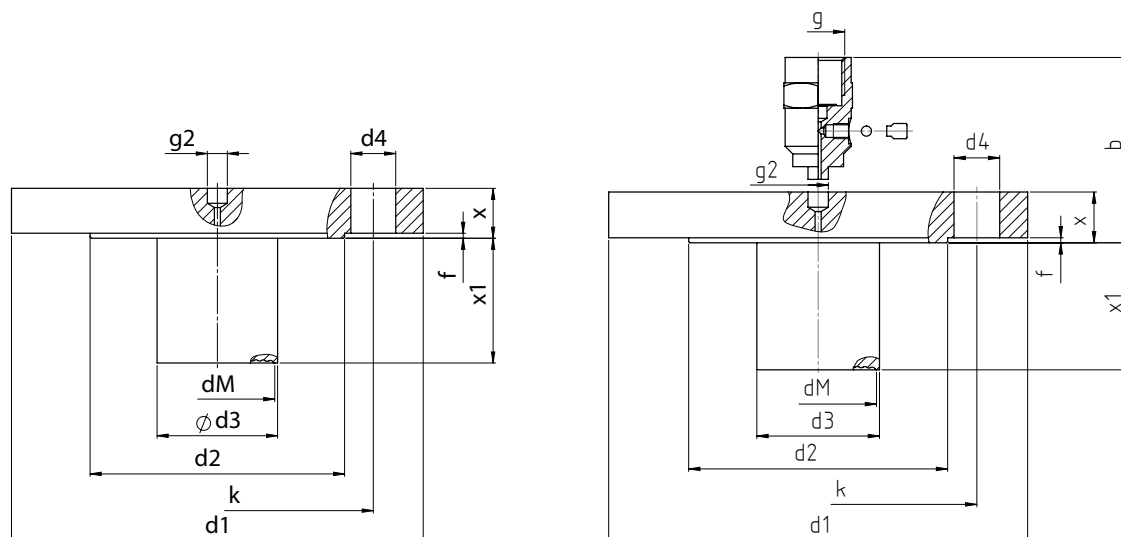
See page 4

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Connection, Dimensional Data (mm) and Weight (kg), Minimum Span (bar), t_k -Value (mbar/10 K)

Flange Connection Similar to DIN EN 1092-1 Form B1

MDM 7515v



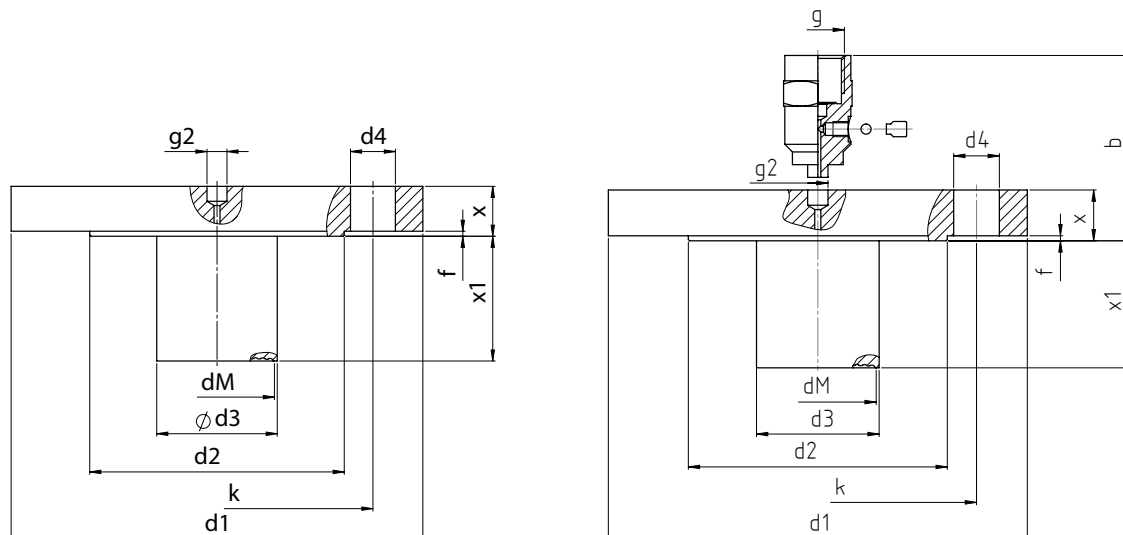
| DN | PN | b | d1 | d2 | TuD d3 | d4 | dM | f | g2 | g | k | x | TuL x1 | Minimum span | t_k - value | (approx.) weight | |
|-----|-------|----|-----|-----|-----------|----------------------|----------------------|---|----|-----------------|-----|-----|-----------|-----------------------|------------------|---------------------|------------------|
| | | | | | | | | | | | | | | | | vd8 | vG $\frac{1}{2}$ |
| 50 | 25/40 | 63 | 165 | 102 | 48.3 | 4 x \varnothing 18 | 46 | | | | 125 | 20 | | 0 – 1 ¹⁾ | 0.45 | 3.44 | 3.67 |
| | | | | | | | | | | | | | | | | 3.76 | 3.99 |
| | | | | | | | | | | | | | | | | 4.07 | 4.30 |
| | | | | | | | | | | | | | | | | 4.37 | 4.60 |
| 80 | 10/16 | 63 | 200 | 138 | 76 | 8 x \varnothing 18 | 72 | | | | 160 | 20 | | 0.64 | 5.25 | 5.48 | |
| | | | | | | | | | | | | | | | 5.81 | 6.04 | |
| | | | | | | | | | | | | | | | 6.37 | 6.60 | |
| | | | | | | | | | | | | | | | 6.92 | 7.15 | |
| | 25/40 | 67 | | | | | | 3 | d8 | G $\frac{1}{2}$ | | 24 | | 0 – 0.6 ¹⁾ | 0.54 | 6.15 | 6.38 |
| | | | | | | | | | | | | | | | | 6.71 | 6.94 |
| | | | | | | | | | | | | | | | | 7.27 | 7.50 |
| | | | | | | | | | | | | | | | | 7.82 | 8.05 |
| 100 | 10/16 | 63 | 220 | 158 | 94 | 8 x \varnothing 18 | 80 | | | | 180 | 20 | | 0.54 | 6.25 | 6.48 | |
| | | | | | | | | | | | | | | | 7.50 | 7.73 | |
| | | | | | | | | | | | | | | | 8.75 | 8.98 | |
| | | | | | | | | | | | | | | | 10.00 | 10.23 | |
| | 25/40 | 67 | 235 | 162 | | | 8 x \varnothing 22 | | | | | 190 | 24 | | 0.54 | 8.15 | 8.38 |
| | | | | | | | | | | | | | | | | 9.40 | 9.63 |
| | | | | | | | | | | | | | | | | 10.70 | 10.93 |
| | | | | | | | | | | | | | | | | 12.00 | 12.23 |

¹⁾ for Bourdon tube pressure gauges NCS 100

Connection, Dimensional Data (mm) and Weight (kg), Minimum Span (bar), t_k -Value (mbar/10 K)

Flange Connection Similar to ASME B16.5

MDM 7525v



| NPS | Class | b | d1 | d2 | d3 | d4 | dM | f | g2 | g | k | x | x1 | Minimum span | t_k -value | (approx.) weight | | |
|-----|-------|------|-------|-------|------|------------------------|-----|----|-----------------|---|-------|------|----|-----------------------|--------------|------------------|------------------|------|
| | | | | | | | | | | | | | | | | vd8 | vG $\frac{1}{2}$ | |
| 2" | 150 | 62.1 | 152.4 | 91.9 | 48.3 | 4 x \varnothing 19.1 | 46 | | | | 120.7 | 19.1 | 50 | 0 - 1 ¹⁾ | 0.45 | 3.84 | 4.07 | |
| | | | | | | | | | | | | | | | | 100 | 4.16 | 4.39 |
| | | | | | | | | | | | | | | | | 150 | 4.47 | 4.70 |
| | | | | | | | | | | | | | | | | 200 | 4.77 | 5.00 |
| 3" | 150 | 66.9 | 190.5 | 127 | 76 | 4 x \varnothing 19.1 | 72 | | | | 152.4 | 23.9 | 50 | 0.64 | 6.01 | 6.24 | | |
| | | | | | | | | | | | | | | | 100 | 6.56 | 6.79 | |
| | | | | | | | | | | | | | | | 150 | 7.12 | 7.35 | |
| | | | | | | | | | | | | | | | 200 | 7.67 | 7.90 | |
| | 300 | 71.4 | 209.6 | | | 8 x \varnothing 22.4 | 1.6 | d8 | G $\frac{1}{2}$ | | 168.1 | 28.4 | 50 | 0 - 0.6 ¹⁾ | 0.54 | 7.90 | 8.13 | |
| | | | | | | | | | | | | | | | | 100 | 8.46 | 8.69 |
| | | | | | | | | | | | | | | | | 150 | 9.02 | 9.25 |
| | | | | | | | | | | | | | | | | 200 | 9.57 | 9.80 |
| 4" | 150 | 66.9 | 228.6 | 157.2 | 94 | 8 x \varnothing 19.1 | 80 | | | | 190.5 | 23.9 | 50 | 0.54 | 8.63 | 8.86 | | |
| | | | | | | | | | | | | | | | 100 | 9.90 | 10.13 | |
| | | | | | | | | | | | | | | | 150 | 11.15 | 11.38 | |
| | | | | | | | | | | | | | | | 200 | 12.40 | 12.63 | |
| | 300 | 74.8 | 254 | | | 8 x \varnothing 22.4 | | | | | 200.2 | 31.8 | 50 | 0.54 | 13.13 | 13.36 | | |
| | | | | | | | | | | | | | | | 100 | 14.40 | 14.63 | |
| | | | | | | | | | | | | | | | 150 | 15.65 | 15.88 | |
| | | | | | | | | | | | | | | | 200 | 16.91 | 17.14 | |

¹⁾ for Bourdon tube pressure gauges NCS 100

Ordering Information, Further Options and Special Versions

| Basic Model: | | Diaphragm Seal | | | | MDM 75..v |
|---|---|---|----------------------|----------------------|----------------------|---|
| Please regard our detailed ordering information in model overview 7000 and in the check lists for pressure measuring instruments with chemical seal and in the respective data sheets of the required pressure measuring instrument and add the information for the respective chemical seal: | | | | | | |
| Model | MDM 7515vd8, MDM 7525vG½ | | | | | |
| Process connection | e.g. NPS 2", DN 25 | | | | | |
| Nominal pressure | e.g. Class 300, PN 40 | | | | | |
| Extension tube length/diameter | TuL/TuD see tables on pages 2 and 3 | | | | | |
| The reference temperature is +20 °C (+68 °F). Please specify if an operating temperature (t _A) deviating from +20 °C (+68 °F) is required (dial inscription t _A ...). | | | | | | |
| Instrument connection: | orifice d8 for direct welding to measuring instrument (with cooling element or with capillary line) | | | | | 75..vd8 |
| | G ½ female thread | | | | | 75..vG ½ |
| | option: G ¼ female | | | | | 75..vG ¼ |
| Chemical seal: | flange | extension tube | sealing face | diaphragm | | |
| | stainless steel 316L | stainless steel 316L | stainless steel 316L | stainless steel 316L | stainless steel 316L | stainless steel 316L |
| | option: wetted parts special material (coating) | | | | | |
| | tantalum | stainless steel 316L | tantalum | tantalum | tantalum | stainless steel 316L/ tantalum |
| | options: flange stainless steel, wetted parts special material | | | | | |
| | Hastelloy C276 | stainless steel 316L | Hastelloy C276 | Hastelloy C276 | Hastelloy C276 | stainless steel 316L/ Hastelloy C276 |
| | Monel 400 | stainless steel 316L | Monel 400 | Monel 400 | Monel 400 | stainless steel 316L/ Monel 400 |
| | options: solid made of special material | | | | | |
| | titanium Grade 2 | titanium Grade 2 | titanium Grade 2 | titanium Grade 2 | titanium Grade 2 | titanium Grade 2 |
| | options: wetted parts stainless steel, diaphragm special material | | | | | |
| | tantalum | stainless steel 316L | stainless steel 316L | stainless steel 316L | tantalum | stainless steel 316L/ diaphragm tantalum |
| | Hastelloy C276 | stainless steel 316L | stainless steel 316L | stainless steel 316L | Hastelloy C276 | stainless steel 316L/ diaphragm Hastelloy C276 |
| | Monel 400 | stainless steel 316L | stainless steel 316L | stainless steel 316L | Monel 400 | stainless steel 316L/ diaphragm Monel 400 |
| Process connection: | according to DIN EN 1092-1 or ASME see pages 2 and 3 | | | | | |
| Further options: | form of the sealing face | sealing face according to DIN EN 1092-1 form B2, stamped B2, A, C, D, E, F, G, ASME RJF-circular groove | | | | |
| | other special materials upon request, e.g. | 2.4819 | Hastelloy C276 | | | |
| | | 2.4610 | Hastelloy C4 | | | |
| | | 1.4462 | Duplex | | | |
| | in the case configurations | solid made of special material | | | | |
| | | flange stainless steel 316L/ wetted parts made of special material | | | | |
| | | wetted parts stainless steel 316L/ diaphragm made of special material | | | | |
| | coating on extension tube, diaphragm, flange and sealing face | PFA ECTFE | | | | |
| | coating on diaphragm | gold/rhodium (protection against hydrogen diffusion) PTC | | | | |
| | calculation of the temperature-related additional error for the entire pressure measuring system | | | | | |
| Example: | MDM 7515vd8, DN 50, PN 40, TuL 76, t_A +80 °C | | | | | |