

Application

In-line seals models RDM 7690 bis 7695.1, flange type and cellular type ("pancake") are to be integrated directly into the process pipe. This offers the very best prerequisite for perfect production processes. In-line seals are especially suitable also for circulating, highly viscous media and such that are inclined to swirl, and for often changing media, since in-line seals are very well cleanable. Further more, the thermal behaviour of in-line seals is of remarkable advantage in comparison to diaphragm seals. Pressure gauges, pressure switches, pressure transmitters and pressure transducers can be mounted.

In-line seals for food industry, biotechnis and pharmacy are to find in data sheet 7630.

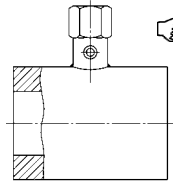
Important information about advantages, applications, and features can be found in our model overview 7000 where you will also find an overview of our other chemical seal series.

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 tube is flush welded to the cylindrical 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 Connections

	Norm	Sealing Face	Nom. Size	Model
Cellular type:	DIN EN	PN 16-100:		
		DIN EN 1092-1		
		Form B2		
	PN 160-400:			
	DIN 2526 Form E	DN 20...100	RDM 7690	
	ASME	ASME B 16.5 RF	1"...4"	RDM 7695
Flange type:	DIN EN	DIN EN 1092-1		
		Form B1	DN 20...100	RDM 7690.1
	ASME	ASME B 16.5 RF	DN 1"...4"	RDM 7695.1

Body

Stainless steel 316 L (1.4435)

Diaphragm

Diaphragm tube 316 L (1.4435) welded to the cylindrical body

Nominal Pressure

PN 16 to 400 bar and 150 to 2500 lb/sq.in., dependent on model and size, see page 2

Instrument Connection¹⁾

G ½ female (½" BSP-F), stainless steel 316 L (1.4435)

Filling Liquid

Silicone oil (FA1)

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



Pressure Ranges Measuring Instrument

Pressure gauge: 0-1 bar resp. 0-2.5 bar up to PN, dependent on model and size, compare table page 2 (also corresponding pressure/vacuum compound ranges) Minimum pressure ranges for other measuring instruments upon request

Reference Temperature

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

Sealings

Not part of our standard supply

Special Options

- Female instrument connection G ¼ (¼" BSP-F), ½"NPT, ¾"NPT, others upon request
- Other materials diaphragm tube and/or body upon request
- Working temperature differing from +20 °C (+68 °F)
- Other filling liquid, e. g. high temperature oil (FA3)
- Tongue or groove DIN EN 1092-1 / DIN 2512, ring groove ASME B 16.5 form RJF
- Other nominal sizes (compare page 2) upon request
- Special fitting length
- 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:	e. g. RDM 7690
Nom. size:	DN , compare table page 2
Nom. pressure:	PN , compare table page 2
Material:	1.4435 (316 L)
Instrument connection ²⁾	G ½ (½" BSP-F)
Special options:	see above, e. g. other materials, cooling element, capillary line etc.

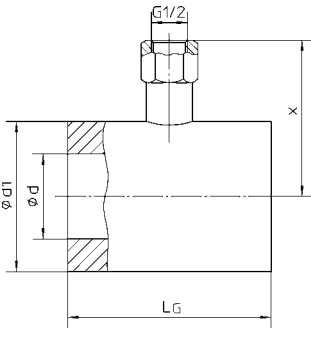
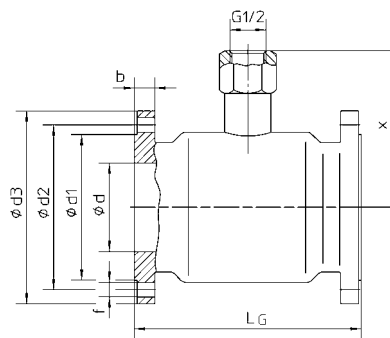
Please point out especially when the medium or ambient temperature is different than +20 °C (+68 °F).

Example: RDM 7690, DN 50, PN 400, 1.4435, G½ for measuring instrument²⁾

²⁾ to state only for separate ordered chemical seals

Dimensional Data, Weight, Minimum Pressure Ranges for Pressure Gauges

Dimensional Data mm / inches , Weight kg / lb, Minimum Pressure Ranges for Bourdon tube pressure gauges NCS 100 (MA)¹⁾

Model	DN	PN	b	d	d1	d2	d3	d5	f	L _G ^{±0.5}	x	MA ¹⁾	Weight (approx.)		
Cellular type 	RDM 7690 DIN EN 1092-1 Form B2 (PN 16-PN 100) DIN 2526 Form E (PN 160-PN 400)	20	16 - 40		19.8 .78	58 2.28					76 2.99	2.5 bar 30 psi	1.56 3.44		
		25	16 - 400		26.2 1.03	63 2.48					126 4.96	78.5 3.09	1 bar 15 psi	2.46 5.42	
		40			38.5 1.52	85 3.35						89.5 3.52		4.19 9.24	
		50	16 - 320		50.7 2	95 3.74						94.5 3.72			3.77 8.31
		80	400	bar								139.5 5.49			3.92 8.64
			16 - 250		79.7 3.14	130 5.12						112 4.41			6.18 13.62
	100	320 - 400									157 6.18			6.33 13.96	
		16 - 160		99.7 3.93	150 5.91						122 4.8		7.18 15.83		
	250 - 400										167 6.57		7.33 16.16		
		RDM 7695 ASME B 16.5 RF	1"	150 - 2500		26.2 1.03	63 2.48						78.5 3.09		2.41 5.31
	1 1/2"		150				82					89.5 3.52		4.04 8.91	
			300 - 2500		38.5 1.52	85 3.35								4.43 9.77	
	2"		150 - 1500		50.7 2	95 3.74							94.5 3.72		3.77 8.31
			2500	lb/sq.in.									139.5 5.49		3.92 8.64
	3"		150 - 1500		79.7 3.14	130 5.12							112 4.41		6.18 13.62
		2500										157 6.18		6.33 13.96	
	4"	150 - 600		99.7 3.93	150 5.91							122 4.80		7.18 15.83	
		900 - 2500										167 6.57		7.33 16.16	
Flange type 	RDM 7690.1 DIN EN 1092-1 Form B1	20	16 - 40	18	19.8 .78	58 2.28	75 2.95	105 4.13	50 1.97	4 x 14 .55	72 2.83	2.5 bar 30 psi	3.07 6.77		
		25			26.2 1.03	68 2.68	85 3.35	115 4.53	60 2.36		126 4.96	77 3.03		4.46 9.83	
		40			38.5 1.52	88 3.46	110 4.33	150 5.91	70 2.76			82 3.23		6.55 14.44	
		50	16			50.7 2	102 4.02	125 4.92	165 6.5	90 3.54	4 x 18 .71	92 3.62		7.44 16.40	
			40		bar									7.54 16.62	
		80	16			79.7 3.14	138 5.43	160 6.3	200 7.87	124 4.88	8 x 18 .71	109 4.29		10.73 23.66	
	40											11.98 26.41			
	100	16		99.7 3.93	158 6.22	180 7.09	220 8.66	150 5.91		122 4.8		13.14 28.97			
	RDM 7695.1 ASME B 16.5 RF	1"	150	14,2	26.2 1.03	51 2.01	79 3.11	108 4.25	45 1.77	4 x 16 .63		69.5 2.74	2.5 bar 30 psi	2.40 5.29	
			300 - 600			89 3.50	124 4.88	177 6.97		4 x 19 .75				3.38 7.45	
		1 1/2"	150	17,5				98.6 3.88	127 5	65 2.56	4 x 16 .63	126 4.96		4.27 9.41	
			300	20,6	38.5 1.52	73 2.87	114 4.49	155 6.10		4 x 22.4 .88		79.5 3.13		6.35 14.00	
		600		22,4										7.45 16.42	
			150	19,1				121 4.76	152 5.98		4 x 19 .75			6.00 13.23	
		2"	300	22,8	50.7 2	92 3.62	127 5	165 6.5	84 3.31	8 x 19 .75	100 3.94		89 3.5		7.17 15.81
			600	25,4										8.89 19.60	
		3"	150	23,9				152 5.98	191 7.52		4 x 19 .75				10.30 22.71
			300	28,4	79.7 3.14	127 5	168 6.61	210 8.27	117 4.61	8 x 22.4 .88	140 5.51	106 4.17		15.17 33.44	
600			31,8										17.76 39.15		
		150	23,9				191 7.52	254 10		8 x 19 .75	100 3.94		14.57 32.12		
4"	300	31,8	99.7 3.93	157 6.18	200 7.87	273 10.75	145 5.71	8 x 22.4 .88	140 5.51		120 4.72		24.21 53.37		
	600	38,1						8 x 25.4 1				34.26 75.53			

¹⁾ also valid for corresponding vacuum and vacuum/pressure compound ranges

Data for other pressure measuring instruments upon request.