

In-Line Seals

Hygienic / Aseptic Connections

Models

RDM 763..

Application

In-line seals model RDM 7631 to 763... with hygienic connections for food and beverage industry, biotechnics and pharmacy are to be integrated directly into the process pipe. This construction allows the engineering of outstanding hygienic production plants and offers the very best prerequisite for perfect production processes.

In-line seals are especially suitable for applications completely free of dead spaces, 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.

Versions with food or aseptic process connection are suitable for CIP (cleaning in place) and SIP (sterilisation in place) procedures.

Pressure gauges, pressure switches, pressure transmitters and pressure transducers can be mounted.



Various RDM models with aseptic process connection are already EHEDG approved. The number of certified connection types grows continuously. Please contact us for the latest information.

In-line seals for common industrial applications are to find in data sheet 7600.

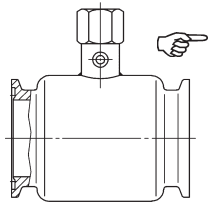
Important information about advantages, applications and features can be found in our model overview 7000 where you will also find an overview of our other chemical seal series.

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

Connections for flat or form sealing

	Norm:	Nom. Size:	Model:
<i>Male thread</i>			
	DIN 11 851	DN 20...100	RDM 7631
	APV-ISS	DN 1"...2"	RDM 7632
	APV-RJT	DN 1"...2"	RDM 7633
	IDF	DN 1"...2"	RDM 7634
	SMS	DN 1"...2"	RDM 7637
<i>Clamp</i>			
	DIN 32 676	DN 10...100	RDM 7635
	ISO 2852	DN ½"...4"	RDM 7636



Continuation Process Connection:

Aseptic connections for O-ring sealing for DIN 11850 tubes

	Norm:	Nom. Size:	Model:
<i>Male thread</i>			
	DIN 11864-1 Form A	DN 20...100	RDM 7631.1
<i>Flange</i>			
	DIN 11864-2 Form A	DN 20...100	RDM 7639
	Neumo/BioConnect®	DN 20...100	RDM 7639.4
<i>Clamp</i>			
	DIN 11864-3 Form A	DN 20...100	RDM 7635.1
	Neumo/BioConnect®	DN 20...100	RDM 7635.4

Body

Stainless steel 316 L (1.4435)

Diaphragm

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

Nominal Pressure

PN 16 to 40, dependent on model and size, see pages 3-4

Instrument Connection¹⁾

G ½ female (½" BSP-F), stainless steel 316 L (1.4435)
G ¼ female (¼" BSP-F) for DN 10 resp. ½" (RDM 7635, RDM 7636)

Filling Liquid

Vegetable oil (FN1)

Pressure Ranges Measuring Instrument

Pressure gauge: 0-1 bar up to PN,
0-2.5 bar for DN 10 and ½" (RDM 7635, RDM 7636)
(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

Max. Cleaning Temperature CIP/SIP

+150 °C (+302 °F), dial inscription for pressure gauges: t_R 150 °C,
for DN < 20 t_R +134 °C (+273.2 °F)
for the complete pressure measuring systems consisting of Bourdon tube pressure gauge NCS 100 (4") and in-line seal, mounted at our factory and filled with vegetable oil, for positive over pressure (without electrical accessories); t_R max. for other versions upon request

Sealings

Not part of our standard supply, compare "Accessories"

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



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Accessories, Special Configurations, How to Order

Accessories

Process Connection Pieces and Sealings

Process connection pieces such as welding connection pieces, clamps, union nuts, and sealings are not part of our standard supply, but available upon request.

☞ The nominal pressures PN stated in the following tables are valid for our in-line seals only. Possibly valid further restrictions for the applied process connection pieces are to consider. Reinforced clamps or union nuts might be required for certain applications.



Special Configurations

- Female instrument connection G ¼ (¼" BSP-F), ½"NPT, ¾"NPT; Upon request: in-line seal additionally welded to the measuring instrument
- Twice welded chemical seal-pressure gauge version (hygienic design) upon request
- Other materials diaphragm tube and/or body (compare model overview 7000) upon request
- With hygiene attestation for EHEDG approved versions, i. e. currently available for models RDM 7631.1, RDM 7635.1, RDM 7635.4, RDM 7639, RDM 7639.4 (EHEDG certificate, test report EN 10204, 2.2)
- Working temperature differing from +20 °C (+68 °F)
- Filling liquid
 - Paraffin oil (FN2), with FDA approval,
 - Glycerine (FN3), with FDA approval,
 - Glycerine/water (FN4),
 - others upon request
- Process connections, available upon request:
 - Tri-Clamp® for tubes acc. to ISO 1127, BS4825 part 3 or ASME BPE
 - Aseptic male thread socket Neumo/BioConnect® for DIN or ISO tubes
 - Aseptic male thread socket DIN 11864-1 for tubes acc. to ISO 2037/ BS 4825 part 1 or ISO 1127
 - Aseptic clamp Neumo/BioConnect® for ISO tubesFurther process connection types upon request.
- Other nominal sizes (compare pages 3-4) 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 7631**, compare p. 1

Nominal size: **DN**, compare tables p. 3 and 4

Nominal pressure: **PN 16, 20, 25** or **40**, compare p. 3 and 4

Material: **1.4435** (316 L)

Instrument connection¹⁾ **G ½** (½" BSP-F)

Special options: see above, e.g. other instrument connections, cooling element, capillary line etc.

Please point out especially when the medium or ambient temperature is different than +20 °C (+68 °F) as well as all special process or cleaning conditions.

Example: RDM 7635.1, DN 50, PN 40, 1.4435, G½ for measuring instrument

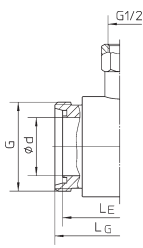
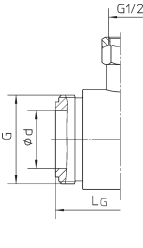
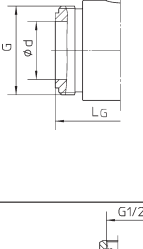
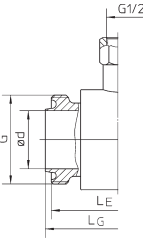
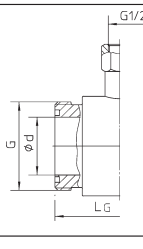
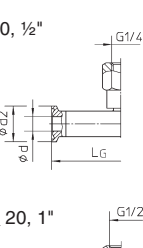
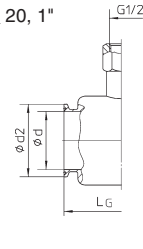
¹⁾ to state only for separate ordered chemical seals



Dimensional Data, Weight, Minimum Pressure Ranges for Pressure Gauges

Connections for Flat / Form Sealing

Dimensions (mm / inches) and Weight (kg / lb), Minimum Pressure Ranges for Pressure Gauges (MA)

Model	DN	PN (bar/psi)	d	d2	G	L _E	L _G	MA	Weight (approx.)		
RDM 7631 Male thread DIN 11851		40 580	20	19.8 .78	—	Rd 44 x 1/6	126 4.96	138 5.43	1.65 3.64		
			25	26.2 1.03		Rd 52 x 1/6			1.78 3.92		
			32	31.8 1.25		Rd 58 x 1/6			2.33 5.14		
			40	38.0 1.5		Rd 65 x 1/6			3.20 7.05		
	—	25 360	50	50.7 2	Rd 78 x 1/6	100 3.94	114 4.49	2.55 5.62			
			65	65.7 2.59	Rd 95 x 1/6			2.92 6.44			
			80	79.7 3.14	Rd 110 x 1/4			3.74 8.25			
			100	99.7 3.93	Rd 130 x 1/4			4.69 10.34			
RDM 7632 Male thread APV-ISS		40 580	1"	22.5 .89	—	1 15/32	126 4.96	1 bar ¹⁾ 15 psi	1.01 2.23		
			1 1/2"	35.5 1.4		1 63/64			1.62 3.57		
			2"	48.6 1.91		2 17/32			1.43 3.15		
			1"	22.5 .89		1 15/32			1.05 2.31		
RDM 7634 Male thread IDF		40 580	1 1/2"	35.5 1.4	—	1 63/64	126 4.96	1 bar ¹⁾ 15 psi	1.61 3.55		
			2"	48.6 1.91		2 17/32			1.43 3.15		
RDM 7633 Male thread APV-RJT		40 580	1"	22.5 .89	—	1 13/16 x 1/8	126 4.96	1 bar ¹⁾ 15 psi	1.25 2.76		
			1 1/2"	35.5 1.4		2 5/16 x 1/8			1.8 3.97		
			2"	48.6 1.91		2 7/8 x 1/8			1.6 3.53		
RDM 7637 Male thread SMS		40 580	1"	22.5 .89	—	Rd 40 x 1/6	126 4.96	1 bar ¹⁾ 15 psi	1.12 2.47		
			1 1/2"	35.5 1.4		Rd 60 x 1/6			1.97 4.34		
			2"	48.6 1.91		Rd 70 x 1/6			1.72 3.79		
RDM 7635 Clamp DIN 32 676		25 360	10	10 .39	34 1.34	—	98 3.86	2.5 bar ²⁾ 30 psi	0.25 .55		
			20	19.8 .78					126 4.96	1.86 4.10	
			25	26.2 1.03						1.48 3.26	
			32	31.8 1.25						1.19 2.62	
			40	38 1.5						0.84 1.85	
			50	50.7 2						64 2.52	1.45 3.20
65	65.7 2.59	91 3.58	2.61 5.75								
RDM 7636 Clamp ISO 2852		40 580	1/2"	10 .39	25 .98	—	98 3.86	2.5 bar ²⁾ 30 psi	0.25 .55		
			1"	22.5 .89					50.5 1.99	1.70 3.75	
			1 1/2"	35.5 1.4						0.99 2.18	
			2"	48.6 1.91						64 2.52	1.69 3.73
			2 1/2"	59.7 2.35						77.4 3.05	2.24 4.94
			3"	65.7 2.59						91 3.58	2.43 5.36
4"	99.7 3.93	119 4.69	3.09 6.81								

¹⁾ Valid for pressure gauge NCS 100 (4"); also valid for corresponding vacuum and vacuum/pressure compound ranges.

²⁾ Valid for pressure gauge NCS 63 (2 1/2"); also valid for corresponding vacuum and vacuum/pressure compound ranges.

Data for other pressure measuring instruments upon request.

Dimensional Data, Weight, Minimum Pressure Ranges for Pressure Gauges

Connections for O-ring sealing

Dimensions (mm / inches) and Weight (kg / lb), Minimum Pressure Ranges for Pressure Gauges NCS 100 (MA)

Model	DN	PN (bar/psi)	d	d2	G	L _E	L _G	MA	Weight (approx.)					
RDM 7631.1 Male thread DIN 11864-1	20	40 580	19.8 .78	—	Rd 44 x 1/6	126 4.96	135 5.31	—	1.65 3.94					
	25		26.2 1.03		Rd 52 x 1/6		137 5.39		1.78 3.92					
	32		31.8 1.25		Rd 58 x 1/6		138 5.43		2.33 5.14					
	40		38 1.50		Rd 65 x 1/6		138 5.43		3.20 7.05					
	50	25 360	50.7 2	—	Rd 78 x 1/6	100 3.94	112 4.41	—	2.55 5.62					
	65		65.7 2.59		Rd 95 x 1/6		114 4.49		2.92 6.44					
	80		79.7 3.14		Rd 110 x 1/4		118 4.65		3.74 8.25					
	100		99.7 3.93		Rd 130 x 1/4		118 4.65		4.69 10.34					
	RDM 7639 Flange DIN 11864-2		20		16 230		19.8 .78		64 2.52	—	126 4.96	128 5.04	—	2.17 4.78
			25				26.2 1.03		70 2.76			127.2 5.01		2.40 5.29
32		31.8 1.25	76 2.99	127.2 5.01		3.14 6.92								
40		38 1.50	82 3.23	127.2 5.01		3.92 8.64								
50		20 290	50.7 2	94 3.70	—	100 3.94	101.2 3.98	—	3.65 8.05					
65			65.7 2.59	113 4.45			101.2 3.98		4.24 9.35					
80			79.7 3.14	133 5.24			101.2 3.98		5.41 11.93					
100			99.7 3.93	159 6.26			101.2 3.98		7.22 15.92					
RDM 7639.4 Flange with recess Neumo / BioConnect®			20	16 230			19.8 .78		80 3.15	—	126 4.96	135 5.31	1 bar ¹⁾ 15 psi	2.31 5.09
			25				26.2 1.03		85 3.35			135 5.31		2.55 5.62
	40	38 1.50	100 3.94		135 5.31	4.10 9.04								
	50	50.7 2	110 4.33		109 4.29	3.81 8.40								
	65	65.7 2.59	140 5.51		109 4.29	4.35 9.59								
	80	79.7 3.14	150 5.91		109 4.29	5.61 12.37								
	100	99.7 3.93	175 6.89		109 4.29	7.34 16.18								
RDM 7635.1 Collar clamp socket DIN 11864-3	20	40 580	19.8 .78	50.5 1.99	—	126 4.96	128 5.04	—	1.86 4.10					
	25		26.2 1.03				127.2 5.01		1.48 3.26					
	32		31.8 1.25				127.2 5.01		1.19 2.62					
	40		38 1.50				64 2.52		127.2 5.01	1.38 3.04				
	50	20 290	50.7 2	77.5 3.05	—	100 3.94	101.2 3.98	—	1.45 3.20					
	65		65.7 2.59	91 3.58			101.2 3.98		2.61 5.75					
	80		79.7 3.14	106 4.17			101.2 3.98		3.09 6.81					
	100		99.7 3.93	130 5.12			101.2 3.98		4.21 9.28					
	RDM 7635.4 Collar clamp socket with recess Neumo / BioConnect®		20	16 230			19.8 .78		50.4 1.98	—	126 4.96	135 5.31	—	1.82 4.01
			25				26.2 1.03		50.4 1.98			135 5.31		1.46 3.22
40		38 1.50	64 2.52		135 5.31	1.32 2.91								
50		50.7 2	77.4 3.05		109 4.29	1.41 3.11								
65		65.7 2.59	90.9 3.58		109 4.29	2.61 5.75								
80		79.7 3.14	106 4.17		109 4.29	3.01 6.64								
100		99.7 3.93	118.9 4.68		109 4.29	4.20 9.26								

¹⁾ Valid for pressure gauge NCS 100 (4"); also valid for corresponding vacuum and vacuum/pressure compound ranges.
Data for other pressure measuring instruments upon request.

The information in this leaflet is given in good faith, but we reserve the right to make changes without notice.