



Diaphragm Seals for Pressure Gauges



measuring
•
monitoring
•
analysing

DRM



- Measuring ranges:
0-1 bar ... 0-1600 bar
- t_{\max} : 350 °C
- Protection of the measuring device against aggressive, highly viscous, solidifying or crystallising media
- Transmission lines enable high temperatures of the media to be measured
- Protection of the measuring device against vibrations by use of capillary tube
- Cavity free measuring points for special hygienic conditions
- Damping of pressure changes and pressure peaks



P1

Order from: **C A Briggs Company**

622 Mary Street; Suite 101; Warminster, PA 18974

Phone: 267-673-8117 - Fax: 267-673-8118

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Description

Diaphragm seals are partitions for pressure gauges that prevent the material being measured penetrating the measuring system. For measuring pressure in the food industry the use of diaphragm seals is mostly indispensable. With the right choice of diaphragm seal systems it is possible to solve measuring problems that can often not be overcome with the pressure gauge alone.

Application

KOBOLD membrane diaphragm seals are used when the pressure gauge cannot stand up to the requirements of the measuring position. Diaphragm seals transmit the pressure to be measured over that of the transmission liquid that is separated from the medium to be measured by means of the membrane. The transmitted pressure affects the pressure gauge, pressure switch or pressure sensor. The diaphragm seals can be connected to the pressure gauge either directly or indirectly using a transmission line. Diaphragm seal and pressure gauge are joined together at the works to create one unit. Assembly and adjustment are carried out with extreme precision and years of experience.

Areas of Application:

- Media enriched with solids
- Crystallising measured medium
- Polymerising measured medium
- HMh viscosity measured medium
- Corrosive measured medium
- Toxic and environmentally hazardous measured medium
- Very low measured medium temperature
- Very high measured medium temperature
- Hygienic requirements for the food and pharmaceutical sector
- Batch changing without product residues in the measuring system

Construction Type

We mainly manufacture diaphragm seals with every conceivable connecting system. Tongue and Bourdon diaphragm seals fill the gaps to cover all the requirements of the measuring point. KOBOLD diaphragm seals cover every type of assembly, whether with internal or external screw thread, or with coupling rings, clamp or flange mounting. Our tongued diaphragm seals are used when the measuring point only provides a very restricted space.

Our Bourdon diaphragm seals measure the pressure within the pipe through which the measured medium flows. The type of construction means that the diaphragm seal can be kept very sterile. We are constantly developing new diaphragm seals and improving our existing models.

Characteristics

A diaphragm seal barely influences the characteristics of a pressure gauge. The following items do influence them:

Fill and work volumes

The diaphragm seals only contain the minimum amount of pressure transmission liquid required for temperature and

pressure. This volume covers what is needed for the pressure gauge, the compressibility and the thermal expansion.

Membrane

The membranes used are optimally coordinated with the corresponding diaphragm seals.

Transmission line

Reduced volume transmission lines are used to keep the influence on the measuring system as small as possible. Transmission lines are however indispensable for high measured media temperatures, pressure or system pulsation or for unfavourably positioned measuring points.

Pressure Transmission Liquid

The pressure transmission liquid transmits the pressure from diaphragm seal to pressure gauge. There are various liquids that can be used, depending on the operational conditions. All these liquids fulfil the requirement for minimum compressibility and lowest thermal expansion. Glycerine (up to +80 °C) and liquid paraffin (from -10 to +120 °C) are used as siliconefree liquids. Silicone oils are available for temperature ranges from -40 to +200 °C, -20 to +350 °C and -20 to +400 °C. For special applications we can also fill the gauges with MF 7 (Hg, -20 to +350 °C).

In the choice of liquid not all factors can be taken into consideration because, depending on the application, other requirements have to be met, such as food safety specs or that they must be absolutely siliconefree. Our process technicians can choose the best pressure transmission liquid for the requirements.

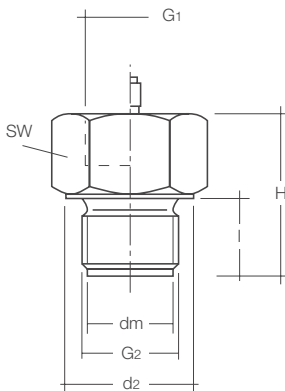
Operating Conditions

Since the proper pressure indication depends on the temperature of the filling liquid the pressure gauge with diaphragm seals can be adjusted for the operating conditions. To keep these errors to a minimum, the measuring systems are configured to suit the ambient and measured medium temperatures of the application. Without readings the gauges are as standard calibrated to a temperature of +20 °C (± 2 °C). Gauges with a transmission line are set without a height differential between gauge and diaphragm seal. Other height differentials must be stated when ordering because this greatly influences the accuracy of measurement, especially within small measuring ranges.

Materials

All diaphragm seals are made of 1.4571 or 1.4404 stainless steel, as a matter of principle. Other materials can however be used for the membranes or the whole diaphragm seal. It is also possible to coat the diaphragm or the whole diaphragm seal – for example with PFA.

Accessories are listed as of page 14.



Diaphragm seal DRM-600 / 601 with fixed male thread

Measuring range: 0 - 6 bar ... 0 - 1600 bar (with pressure sensors also smaller)
 Temperature range: -40 °C ... +200 °C
 Material: stainless steel 1.4301, st. steel 1.4571, others on request
 Diaphragm: flush mounted, stainless steel 1.4571
 Max. length of capillary tube: up to 15 m, if required with armour
 Filling liquid: following operating conditions

Model for direct mounting	Model for capillary tube	G2	G1	dm	SW	d2	l	H _{max}	Pressure range [bar]	
									min.	max.
DRM-600 R15	DRM-601 R15	G ½ M	G ½	18	27	27	20	42	0-100	0-1000
DRM-600 R20	DRM-601 R20	G ¾ M	G ½	23.8	36	36	20	46	0-40	0-1000
DRM-600 R25	DRM-601 R25	G 1 M	G ½	29.5	41	40.5	20	46	0-10	0-600
DRM-600 R32	DRM-601 R32	G 1 ¼ M	G ½	38	50	49.5	20	46	0-6	0-600
DRM-600 R40	DRM-601 R40	G 1 ½ M	G ½	40	60	59.5	20	46	0-6	0-600
DRM-600 N15	DRM-601 N15	½" NPT M	G ½	18	27	27	20	42	0-100	0-1000
DRM-600 N20	DRM-601 N20	¾" NPT M	G ½	18	32	-	20	46	0-40	0-1000
DRM-600 N25	DRM-601 N25	1" NPT M	G ½	23.8	36	-	20	46	0-10	0-600
DRM-600 N32	DRM-601 N32	1 ¼" NPT M	G ½	34.5	41	-	20	46	0-6	0-600
DRM-600 M20	DRM-601 M20	M20x1,5M	G ½	18	27	27	20	46	0-100	0-600
DRM-600 M48	DRM-601 M48	M48x3 M	G ½	40	60	59.5	20	46	0-6	0-600

100 °C	200 °C	max. medium temperature
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Welding sleeve for DRM-600 / 601

Model	Connection	Height	Version
MZB-R15 A1	G ½ M	15 mm	PN 100
MZB-R15 A3	G ½ M	34 mm	PN 100
MZB-R20 A1	G ¾ M	16.5 mm	PN 100
MZB-R20 A3	G ¾ M	36 mm	PN 100
MZB-R25 A1	G 1 M	19 mm	PN 100
MZB-R25 A4	G 1 M	43 mm	PN 100
MZB-R32 A2	G 1 ¼ M	22 mm	PN 100
MZB-R32 A4	G 1 ¼ M	48 mm	PN 100
MZB-R32 D4	G 1 ¼ M	48 mm	PN 600
MZB-R40 A2	G 1 ½ M	22 mm	PN 100
MZB-R40 A4	G 1 ½ M	48 mm	PN 100

Seal for DRM-600 / 601

Model	Material	Size
MZB-DCU R25	copper	for G 1
MZB-DCU R32	copper	for G 1 ¼
MZB-DHD R20	metal + NBR	for G ¾
MZB-DHD R25	metal + NBR	for G 1
MZB-DHD R32	metal + NBR	for G 1 ¼

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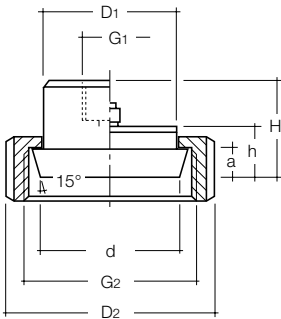
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Diaphragm Seals Model DRM



Diaphragm seal DRM-602 / 603 with union nut according to DIN 11851 (sanitary connection)

Measuring range: 0 - 1 bar ... 0 - 40 bar (depending on nominal size)
 Temperature range: -10 °C ... +200 °C (not with electr. transmitter)
 Material: stainless steel 1.4301, st. steel 1.4571, others on request
 Diaphragm: flush mounted, stainless steel 1.4571
 Max. length of capillary tube: up to 10 m, if required with protection hose
 Filling liquid: compatible with foodstuffs

Model for direct mounting	Model for capillary tube	G2	D1	D2	G1	Dn	d	a	h	H
DRM-602 R20	-	Rd44 x 1/8"	30	54	G 1/2	20	32	8	16	31
DRM-602 R25	DRM-603 R25	Rd52 x 1/8"	35	63	G 1/2	25	40	8	16	31
DRM-602 R32	DRM-603 R32	Rd58 x 1/8"	70	70	G 1/2	32	46	11	16	32
DRM-602 R40	DRM-603 R40	Rd65 x 1/8"	48	78	G 1/2	40	52	11	16	32
DRM-602 R50	DRM-603 R50	Rd78 x 1/8"	61	92	G 1/2	50	64	11	16	32
DRM-602 R65	DRM-603 R65	Rd95 x 1/8"	79	112	G 1/2	65	84	13	16	32
DRM-602 R80	DRM-603 R80	Rd110 x 1/4"	93	127	G 1/2	80	96	13	16	32
DRM-602 R1H	DRM-603 R1H	Rd130 x 1/4"	114	148	G 1/2	100	117	13	16	32

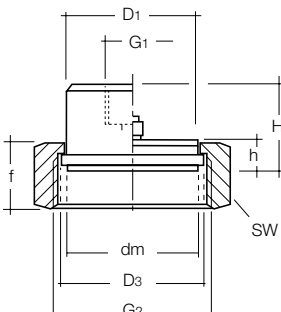
100 °C	200 °C	max. medium temperature
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Diaphragm seal DRM-602G with round thread according to DIN 11851 (for counterpiece with union nut)

Model for direct mounting	Model for capillary tube	G2	D1	D2*	G1	Dn	d**	a	h	H
DRM-602 G25	-	Rd52 x 1/8"	30	(63)	G 1/2	25	43	11	16	32
DRM-602 G32	-	Rd58 x 1/8"	32	(70)	G 1/2	32	49	11	16	32
DRM-602 G40	-	Rd65 x 1/8"	38	(78)	G 1/2	40	55	11	16	32
DRM-602 G50	-	Rd78 x 1/8"	50	(92)	G 1/2	50	64	11	16	32

max. medium temperature 100 °C

* D2 = existing on customer side only **d = start of cone of thread connection



Diaphragm seal DRM-604 / 605 with union nut acc. to IDF standard

Measuring range: 0 - 1 bar ... 0 - 100 bar (depending on nominal size)
 Temperature range: -10 °C ... +200 °C (not with electr. transmitter)
 Material: stainless steel 1.4301, st. steel 1.4571, others on request
 Diaphragm: front flush, stainless steel 1.4571
 Max. length of capillary tube: up to 10 m, if required with protection hose
 Filling liquid: compatible with foodstuffs

Model for direct mounting	Model for capillary tube	G2IDF	D1, dm	D3	G1	SW	f	h	H
DRM-604 R25	DRM-605 R25	1"	29.5	33.5	G 1/2	47	30	13	31
DRM-604 R40	DRM-605 R40	1 1/2"	42.5	47	G 1/2	62	30	13	30.5
DRM-604 R50	DRM-605 R50	2"	56	60	G 1/2	77	30	13	30.5

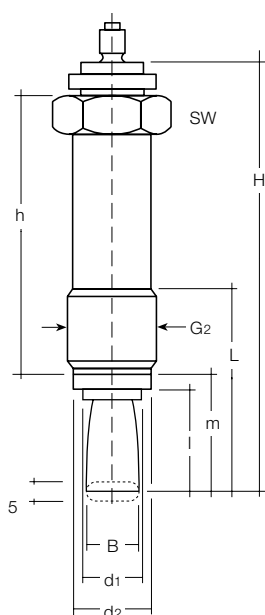
100 °C	200 °C	max. medium temperature
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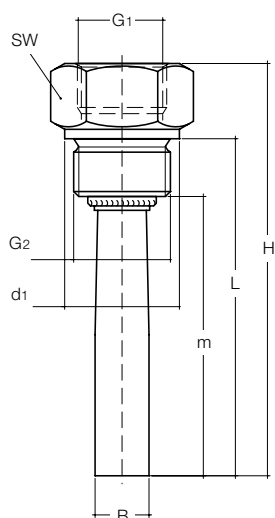
**Capsule seal DRM-606, 33 cm long,
standard with running nut G 3/4 A, M28x1.5**

for capillary connection

Measuring range: 0 - 100 bar ... 0 - 600 bar
 Temperature range: -40 °C ... +350 °C
 Material: stainless steel 1.4571, others on request
 Tongue sensor: stainless steel 1.4571
 Max. length of capillary tube: up to 15 m, if required with protection hose
 Filling liquid: MF 7 recommended

Model for capillary tube	SW	G2	B	d1	d2	l	m	L	h	H
DRM-606 R20	32	G 3/4	16.5	18	24	33	39	67	76	130
DRM-606 R28	32	M28x1,5M	16.5	18	24	33	39	67	76	130

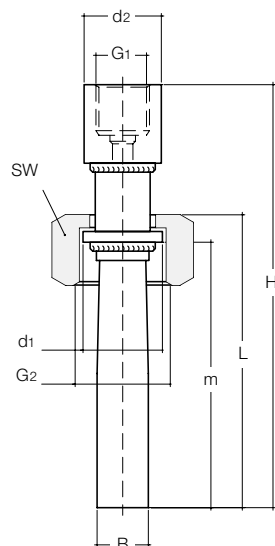
350 °C	max. medium temperature
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Capsule seal DRM-607 with fixed male thread

Measuring range: 0 - 6 bar ... 0 - 600 bar
 Temperature range: -40 °C ... +100 °C
 Material: stainless steel 1.4301, others on request
 Tongue sensor: stainless steel 1.4571
 Max. length of capillary tube: up to 15 m, if required with protection hose
 Filling liquid: MF 7 recommended

Model for direct mounting	Model for capillary tube	G2	SW	B	G1	d1	m	L	H
DRM-607 R15	-	G 1/2 M	27	16.5	G 1/2	27	94	102	126
DRM-607 R20	-	G 1/2 M	32	16.5	G 1/2	32	94	100	118

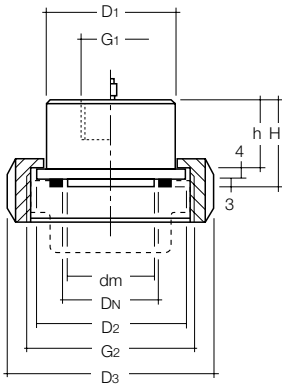


Capsule seal DRM-607 / 1 and DRM-608 / 1 with union nut

Measuring range: 0 - 6 bar ... 0 - 600 bar
 Temperature range: -40 °C ... +350 °C
 Material: stainless steel 1.4301, others on request
 Tongue sensor: stainless steel 1.4571
 Max. length of capillary tube: up to 15 m, if required with protection hose
 Filling liquid: MF 7 recommended

Model for direct mounting	Model for capillary tube	G2	SW	B	G1	d1	d2	m	L	H
DRM-607/1 R20	DRM-608/1 R20	G 3/4 F	32	16.5	G 1/2	23.5	25	85	94	132
DRM-607/1 R25	DRM-608/1 R25	G 1 F	36	16.5	G 1/2	29	25	85	94	132

100 °C	350 °C	max. medium temperature
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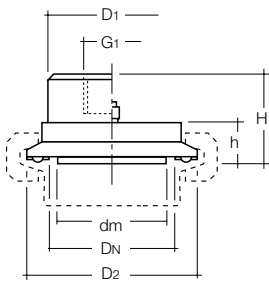


Diaphragm seal DRM-610 / 611 with union nut to SMS standard

Measuring range: 0 - 1 bar ... 0 - 10 bar (depending on nominal size)
 Temperature range: -10 °C ... +200 °C (not with electr. transmitter)
 Material of housing: stainless steel 1.4571, others on request
 Diaphragm: front flush, stainless steel 1.4571
 Max. length of capillary tube: up to 10 m, if required with protection hose
 Filling liquid: compatible with foodstuffs

Model for direct mounting	Model for capillary tube	G2 SMS-Norm	D1	D2	dm	G1	DN	D3	h	H
DRM-610 R40	DRM-611 R40	1½"	47.5	55	34.5	G½	1½"	74	20	27
DRM-610 R50	DRM-611 R50	2"	60	65	45.5	G	2"	84	20	27

100 °C	200 °C	max. medium temperature
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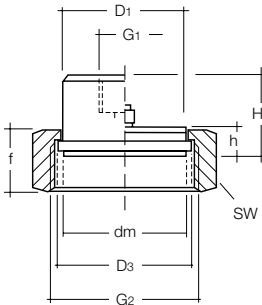


Diaphragm seal DRM-612/613 with clamp connection

Measuring range: 0 - 2.5 bar ... 0 - 10 bar
 Temperature range: -10 °C ... +200 °C (not with electr. transmitter)
 Material of housing: stainless steel 1.4571, others on request
 Diaphragm: front flush, stainless steel 1.4571
 Max. length of capillary tube: up to 10 m, if required with protection hose
 Filling liquid: compatible with foodstuffs

Model for direct mounting	Model for capillary tube	DN	D1	D2	dm	G1	h	H
DRM-612 R25	DRM-613 R25	1"	42.5	50.5	18	G½	10.5	25
DRM-612 R40	DRM-613 R40	1½"	42.5	50.4	34.5	G½	10.5	25
DRM-612 R50	DRM-613 R50	2"	51	64	45.5	G½	10.5	25
DRM-612 R65	DRM-613 R65	2½"	63.5	77.5	52	G½	10.5	25
DRM-612 R80	DRM-613 R80	3"	76	91	64	G½	10.5	25

100 °C	200 °C	max. medium temperature
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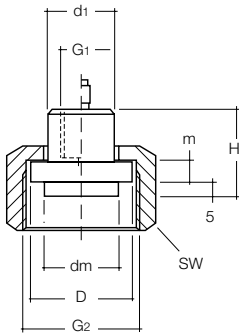


Diaphragm seal DRM-614 / 615 with union nut to APV-RJT standard

Measuring range: 0 - 1 bar ... 0 - 100 bar (depending on nominal size)
 Temperature range: -10 °C ... +200 °C (not with electr. transmitter)
 Material of housing: stainless steel 1.4571, others on request
 Diaphragm: front flush, stainless steel 1.4571
 Max. length of capillary tube: up to 10 m, if required with protection hose
 Filling liquid: compatible with foodstuffs

Model for direct mounting	Model for capillary tube	G2 APV-RJT	D1, dm	D3	G1	SW	f	h	H
DRM-614 R25	DRM-615 R25	1"	29.5	33.5	G ½	47	30	13	31
DRM-614 R40	DRM-615 R40	1½"	42.5	47	G ½	62	30	13	30.5
DRM-614 R50	DRM-615 R50	2"	56	60	G ½	77	30	13	30.5

100 °C	200 °C	max. medium temperature
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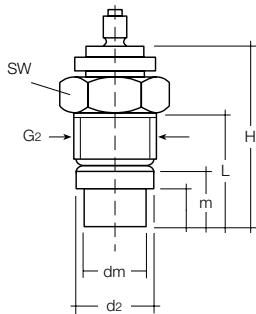


Diaphragm seal DRM-616 / 617 with union nut

Measuring range: 0 - 100 bar ... 0 - 1600 bar
 Temperature range: 0 °C ... +120 °C (not with electr. transmitter)
 Material of housing: stainless steel 1.4571
 Diaphragm: front flush, stainless steel 1.4571
 Max. length of capillary tube: up to 10 m, if required with protection hose
 Filling liquid: MF 8 (foodstuff-compatible) recommended

Model for direct mounting	Model for capillary tube	G2	G1	SW	dm	D	d1	m	H
DRM-616 R45	DRM-617 R45	M45x2	G ¾	55	23.8	33.3	22	6	27

100 °C	120 °C	max. medium temperature
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Diaphragm seal DRM-620, Ø 18 mm, rotatable

with running nut for connection of capillary tube

Measuring range: 0 - 100 bar ... 0 - 600 bar
 Temperature range: 0 °C ... +350 °C (not with electr. transmitter)
 Material of housing: stainless steel 1.4571, others on request
 Diaphragm: front flush, stainless steel 1.4571
 Max. length of capillary tube: up to 10 m, if required with protection hose
 Filling liquid: MF 7 recommended

Model for capillary tube	G2	dm	d2	SW	l	m	L	H
DRM-620 R20	G ¾ AG	18	23.8	32	11	17	35	60

350 °C	max. medium temperature
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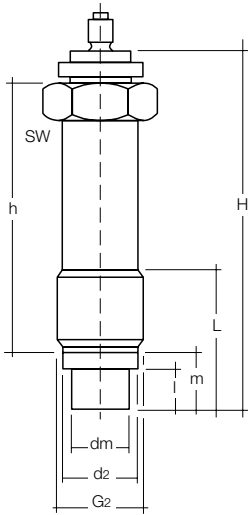
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Diaphragm Seals Model DRM



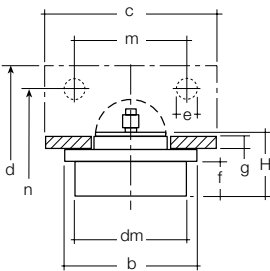
Diaphragm seal DRM-620/1, Ø 18 mm, rotatable, long

with running nut for connection of capillary tube

Measuring range: 0 - 100 bar ... 0 - 600 bar
 Temperature range: 0°C ... +350°C
 Material of housing: stainless steel 1.4571, others on request
 Diaphragm: front flush, stainless steel 1.4571
 Max. length of capillary tube: up to 10 m, if required with protection hose
 Filling liquid: MF 7 recommended

Model for capillary tube	G2	dm	d2	SW	l	m	L	h	H
DRM-620/1 R20	G ¼	18	23.8	32	11	17	45	76	107

350°C	max. medium temperature
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Diaphragm seal DRM-621, Ø 38 mm, rotatable

Measuring range: 0 - 4 bar ... 0 - 25/40 bar
 Temperature range: -20°C ... +250°C (not with electr. transmitter)
 Material of housing: stainless steel 1.4571, others on request
 Diaphragm: front flush, stainless steel 1.4571
 Rectangle flange: material: passivated steel
 Max. length of capillary tube: up to 12 m, if required with protection hose
 Filling liquid: depending on operating conditions

Model for capillary tube	dm	b	c	d	e	f	g	H	m	n
DRM-621 F38	38	45	58	50	6.5	12	6	25	45	35

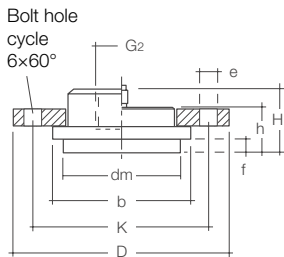
250°C	max. medium temperature
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Diaphragm seal DRM-622 Ø 48 mm with mounting flange

Measuring range: vacuum, 0 - 4 bar...0 - 25/40 bar
 Temperature range: -20 °C... +200 °C
 Material of housing: stainless steel 1.4571, others on request
 Diaphragm: front flush, stainless steel 1.4571
 Flange: Ø 85 mm, material: passivated steel, 1.4571, aluminium
 Max. length of capillary tube: up to 15 m, if required with protection hose
 Filling liquid: depending on operating conditions

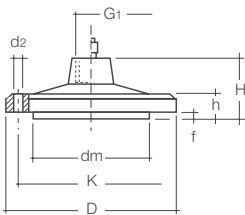
Model for direct mounting	Model for capillary tube	dm	b	D	K	e	f	h	H	G1
DRM-622 F48	DRM-622/1 F48	48	58	85	70	7	6.5	18	25	G½
DRM-622 F48 1	DRM-622/1 F48 1	48	58	85	70	7	18	29.5	36.5	G½
DRM-622 F48 2	DRM-622/1 F48 2	48	58	85	70	7	44	55.5	62.5	G½

100 °C	200 °C	max. medium temperature
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Seal for DRM-622 F48

Model	Material
MZB-D T1F48	PTFE
MZB-D P1F48	Paper

**Counter flange DRM-622
 Model: MZB-G DRM622**



Diaphragm seal with flange connection DRM-624 Ø 100 mm

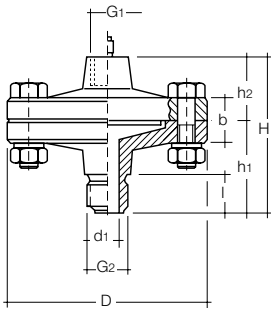
Measuring range: 0 - 1 bar...0 - 40 bar
 Temperature range: -40 °C... +250 °C
 Material of housing: stainless steel 1.4571, others on request
 Diaphragm: front flush, stainless steel 1.4571
 Max. length of capillary tube: up to 15 m, if required with protection hose
 Filling liquid: depending on operating conditions

Model for direct mounting	Model for capillary tube	G1	dm	K	d2	D	f	b	H
DRM-624 F1H	DRM-624/1 F1H	G½	63.5	82	7	100	2	8	34.5
DRM-624 F1H T (PTFE-coating)		G½	63.5	82	7	100	2	8	34.5

100 °C	250 °C	max. medium temperature
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Diaphragm Seals Model DRM

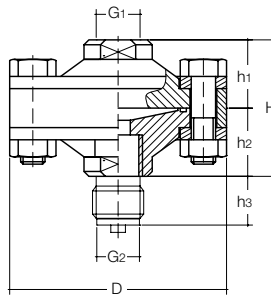


Diaphragm seal DRM-625 with connection G $\frac{1}{2}$ and enlarged bore, Ø 10 mm

Measuring range: 0 - 1 bar ... 0 - 40 bar (depending on nominal size)
 Temperature range: -40 °C ... +250 °C
 Material of housing: stainless steel 1.4571, others on request
 Diaphragm: front flush, stainless steel 1.4571
 Max. length of capillary tube: up to 10 m, if required with protection hose
 Filling liquid: depending on operating conditions

Model for direct mounting	Model for capillary tube	D	G1	G2	d1	b	l	h1	h2	H
DRM-625 R15	DRM-625/1 R15	100	G $\frac{1}{2}$ F	G $\frac{1}{2}$ M	10	18	20	46	34.5	80.5
DRM-625 N15	DRM-625/1 N15	100	G $\frac{1}{2}$ F	$\frac{1}{2}$ " NPT M	10	18	20	46	34.5	80.5
DRM-625 I15	DRM-625/1 I15	100	G $\frac{1}{2}$ F	G $\frac{1}{2}$ F	10	18	20	46	34.5	80.5

100 °C	250 °C	max. medium temperature
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Diaphragm seal DRM-626 / 627 Vario, Ø 90 mm

Meas. range pressure gauge: 0 - 2.5 bar ... 0 - 250 bar
 Meas. range sensor: 0 - 0.6 bar ... 0 - 250 bar
 Temperature range: -40 °C ... +250 °C
 Material for body: stainless steel 1.4571, others on request
 Material for assembly elements: galvanised steel (optional stainless steel 1.4571)
 Material for O-ring: FPM
 Material diaphragm: stainless steel 1.4571, optional: stainless steel 1.4571 with ECTFE-coating, tantalum, Monel, others on request
 Max. length of capillary tube: up to 10 m, if required with protection hose
 Filling liquid: depending on operating conditions

Model for direct mounting	Model for capillary tube	D	G1	G2	H	H1	H2	H3	PN [bar]
DRM-626 R08 A025	DRM-627 R08 A025	90	G $\frac{1}{2}$	G $\frac{1}{4}$ M	56	28	28	15	25
DRM-626 R08 I025	DRM-627 R08 I025	90	G $\frac{1}{2}$	G $\frac{1}{4}$ F	56	28	28	-	25
DRM-626 R15 A025	DRM-627 R15 A025	90	G $\frac{1}{2}$	G $\frac{1}{2}$ M	56	28	28	20	25
DRM-626 R15 I025	DRM-627 R15 I025	90	G $\frac{1}{2}$	G $\frac{1}{2}$ F	56	28	28	-	25
DRM-626 N15 A025	DRM-627 N15 A025	90	G $\frac{1}{2}$	$\frac{1}{2}$ " NPT M	56	28	28	20	25
DRM-626 R08 A100	DRM-627 R08 A100	90	G $\frac{1}{2}$	G $\frac{1}{4}$ M	56	28	28	15	100
DRM-626 R08 I100	DRM-627 R08 I100	90	G $\frac{1}{2}$	G $\frac{1}{4}$ F	56	28	28	-	100
DRM-626 R15 A100	DRM-627 R15 A100	90	G $\frac{1}{2}$	G $\frac{1}{2}$ M	56	28	28	20	100
DRM-626 R15 I100	DRM-627 R15 I100	90	G $\frac{1}{2}$	G $\frac{1}{2}$ F	56	28	28	-	100
DRM-626 N15 A100	DRM-627 N15 A100	90	G $\frac{1}{2}$	$\frac{1}{2}$ " NPT M	56	28	28	20	100
DRM-626 R08 A250	DRM-627 R08 A250	90	G $\frac{1}{2}$	G $\frac{1}{4}$ M	56	28	28	15	250
DRM-626 R08 I250	DRM-627 R08 I250	90	G $\frac{1}{2}$	G $\frac{1}{4}$ F	56	28	28	-	250
DRM-626 R15 A250	DRM-627 R15 A250	90	G $\frac{1}{2}$	G $\frac{1}{2}$ M	56	28	28	20	250
DRM-626 R15 I250	DRM-627 R15 I250	90	G $\frac{1}{2}$	G $\frac{1}{2}$ F	56	28	28	-	250
DRM-626 N15 A250	DRM-627 N15 A250	90	G $\frac{1}{2}$	$\frac{1}{2}$ " NPT M	56	28	28	20	250

100 °C	250 °C	max. medium temperature pressure gauges
80 °C	250 °C	max. medium temperature pressure sensors

Assembly type up to 25 bar: 4 screws

Assembly type up to 100 bar: 4 screws, supporting ring

Assembly type up to 250 bar: 8 screws, supporting ring

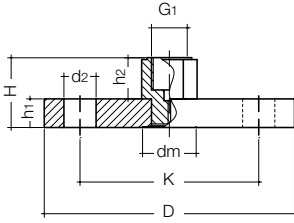
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Diaphragm seal with flange connection DRM-628 / 629 to DIN with sealed-in membrane

- Meas. range pressure gauge: 0 - 1.0 bar...0 - 40 bar*
- Meas. range sensor: 0 - 0.25 bar...0 - 40 bar*
*(depending on PN and DN of flange)
- Temperature range: -40 °C... +250 °C
- Material flange: stainless steel 1.4571, others on request
- Material diaphragm: stainless steel 1.4571, others on request
- Coating: PFA-coating on request
- Max. length of capillary tube: up to 10 m, if required with protection hose
- Filling liquid: depending on operating conditions
- Connection device: G ½ female thread (G1)

Model for direct mounting	Model for capillary tube	DN	D	K	d2	H	h1	h2	dm	P1 min [bar]	P2 min [bar]	PN
DRM-628 F25 P06	DRM-629 F25 P06	25	100	75	11	37	14	23	24	2.5	-	6
DRM-628 F32 P06	DRM-629 F32 P06	32	120	90	14	37	14	23	30	1.6	-	6
DRM-628 F40 P06	DRM-629 F40 P06	40	130	100	14	37	14	23	38	1.0	4	6
DRM-628 F50 P06	DRM-629 F50 P06	50	140	110	14	37	14	23	48	0.6	2.5	6
DRM-628 F65 P06	DRM-629 F65 P06	65	160	130	14	37	14	23	64	0.25	1.0	6
DRM-628 F80 P06	DRM-629 F80 P06	80	190	150	18	39	16	23	64	0.25	1.0	6
DRM-628 F1H P06	DRM-629 F1H P06	100	210	170	18	39	16	23	64	0.25	1.0	6
DRM-628 F25 P16	DRM-629 F25 P16	25	115	85	14	39	16	23	24	2.5	-	16
DRM-628 F32 P16	DRM-629 F32 P16	32	140	100	18	39	16	23	30	1.6	6	16
DRM-628 F40 P16	DRM-629 F40 P16	40	150	110	18	39	16	23	38	1.0	4	16
DRM-628 F50 P16	DRM-629 F50 P16	50	165	125	18	41	18	23	48	0.6	2.5	16
DRM-628 F65 P16	DRM-629 F65 P16	65	185	145	18	41	18	23	64	0.25	1.0	16
DRM-628 F80 P16	DRM-629 F80 P16	80	200	160	18	43	20	23	64	0.25	1.0	16
DRM-628 F1H P16	DRM-629 F1H P16	100	220	180	18	43	20	23	64	0.25	1.0	16
DRM-628 F25 P40	DRM-629 F25 P40	25	115	85	14	41	18	23	24	2.5	25	40
DRM-628 F32 P40	DRM-629 F32 P40	32	140	100	18	41	18	23	30	1.6	6	40
DRM-628 F40 P40	DRM-629 F40 P40	40	150	110	18	41	18	23	38	1.0	4	40
DRM-628 F50 P40	DRM-629 F50 P40	50	165	125	18	43	20	23	48	0.6	2.5	40
DRM-628 F65 P40	DRM-629 F65 P40	65	185	145	18	45	22	23	64	0.25	1.0	40
DRM-628 F80 P40	DRM-629 F80 P40	80	200	160	18	47	24	23	64	0.25	1.0	40
DRM-628 F1H P40	DRM-629 F1H P40	100	235	190	22	47	24	23	64	0.25	1.0	40

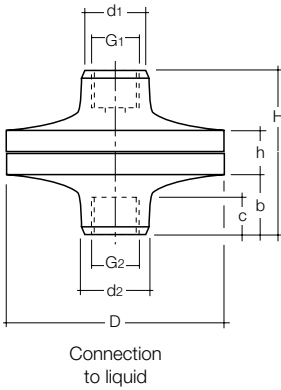
100 °C	250 °C	max. medium temperature pressure gauge
80 °C	250 °C	max. medium temperature pressure sensor

P1 = mounting of pressure sensors
 P2 = mounting of pressure gauge

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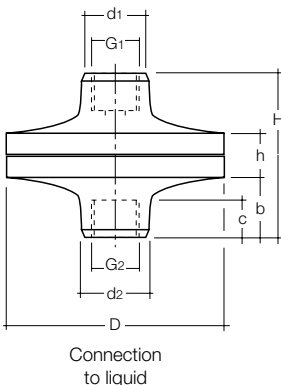
Diaphragm Seals Model DRM



Diaphragm seal DRM-630 / 631 from plastic

Measuring range: 0 - 1.6 bar... 0 - 10 bar
 Temperature range: 0°C... +40°C
 Material housing: PVC (Polyvinylchlorid), PP (Polypropylen)
 Diaphragm: Hypalon® with PTFE-coating (others on request)
 Filling liquid: depending on operating conditions

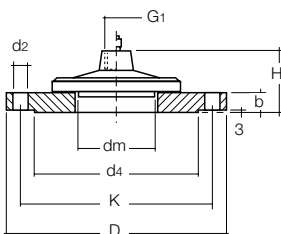
Model for direct mounting	Model for capillary tube	Material	D	G1	G2	d1	d2	b	c	h	H
DRM-630 R08	DRM-630/1 R08	PVC	90	G ¼	G ¼	32	32	25	18	24	75
DRM-630 R15	DRM-630/1 R15	PVC	90	G ½	G ½	32	32	25	18	34	75
DRM-630 R25	DRM-630/1 R25	PVC	90	G ½	G 1 male	32	32	25	18	34	75
DRM-630 N15	DRM-630/1 N15	PVC	90	½" NPT	½" NPT	32	32	25	18	34	75
DRM-631 R08	DRM-631/1 R08	PP	90	G ¼	G ¼	32	32	25	18	24	75
DRM-631 R15	DRM-631/1 R15	PP	90	G ½	G ½	32	32	25	18	34	75
DRM-631 R25	DRM-631/1 R25	PP	90	G ½	G 1 male	32	32	25	18	34	75
DRM-631 N15	DRM-631/1 N15	PP	90	½" NPT	½" NPT	32	32	25	18	34	75



Diaphragm seal DRM-632 from PVDF

Measuring range: 0 - 1.6 bar... 0 - 16 bar
 Temperature range: 0°C... +50°C
 Material housing: PVDF (Polyvinylfluorid)
 Diaphragm: Hypalon® with PTFE-coating (others on request)
 Filling liquid: depending on operating conditions

Model for direct mounting	Model for capillary tube	D	G1	G2	d1	d2	b	c	h	H
DRM-632 R08	DRM-632/1 R08	90	G ¼	G ¼	32	32	25	18	24	75
DRM-632 R15	DRM-632/1 R15	90	G ½	G ½	32	32	25	18	24	75
DRM-632 N15	DRM-632/1 N15	90	½" NPT	½" NPT	32	32	25	18	24	75



Diaphragm seal with flange connection DRM-633, Ø 100 mm, with open mounting flange DIN 2527 type C

Measuring range: 0 - 1 bar... 0 - 40 bar (0 - 6 bar with DN100)
 Temperature range: -40°C... +250°C
 Material: stainless steel 1.4301, st. steel 1.4571, others on request
 Diaphragm: front flush, stainless steel 1.4571
 Max. length of capillary tube: up to 15 m, if required with protection hose
 Filling liquid: depending on operating conditions

Model for direct mounting	Model for capillary tube	Flange DN/PN	G1	dm	d4	K	D	d2	b	H
DRM-633 F50	DRM-633/1 F50	50/40	G ½	64	102	125	165	18	20	54.5
DRM-633 F1H	DRM-633/1 F1H	100/6	G ½	64	148	210	210	18	16	50.5

100°C	250°C	max. medium temperature
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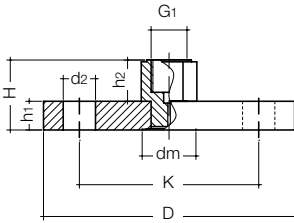
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Diaphragm seal with flange connection DRM-634/635 to ANSI B16,5 with sealed-in membrane

- Meas. range pressure gauge: 0 - 15 psi ... 0 - 1500 psi (0 - 1,0 bar ... 0 - 100 bar) depending on PN und DN of flange
- Meas. range sensor: 0 - 4 psi ... 0 - 1500 psi (0 - 0,25 bar ... 0 - 100 bar) depending on PN and DN of flange
- Temperature range: -40 °C ... +250 °C
- Material flange: stainless steel 1.4571, others on request
- Material diaphragm: stainless steel 1.4571, others on request
- Coating: PFA-coating on request
- Max. length of capillary tube: 10 m, if required with protection hose
- Filling liquid: depending on operating conditions
- Connection device: G ½ female thread (G1)

Model for direct mounting	Model for capillary tube	DN	D	K	d2	H	h1	h2	dm	P1 min [psi]	P2 min [psi]	PN [psi]
DRM-634 A25 P150	DRM-635 A25 P150	1"	107.9	76.4	16	37.3	14.3	23	30	25	90	150
DRM-634 A32 P150	DRM-635 A32 P150	1¼"	117.5	88.9	16	38.9	15.9	23	38	15	60	150
DRM-634 A40 P150	DRM-635 A40 P150	1½"	127	98.4	16	40.5	17.5	23	38	15	60	150
DRM-634 A50 P150	DRM-635 A50 P150	2"	152.4	120.6	19	42	19	23	48	10	40	150
DRM-634 A65 P150	DRM-635 A65 P150	2½"	177.8	139.7	19	45.2	22.2	23	48	10	40	150
DRM-634 A80 P150	DRM-635 A80 P150	3"	190.5	152.4	19	46.8	23.8	23	64	4	15	150
DRM-634 A90 P150	DRM-635 A90 P150	3½"	215.9	177.8	19	46.8	23.8	23	64	4	15	150
DRM-634 A1H P150	DRM-635 A1H P150	4"	228.6	190.5	19	46.8	23.8	23	64	4	15	150
DRM-634 A25 P300	DRM-635 A25 P300	1"	123.8	88.9	19	40.5	17.5	23	30	25	90	300
DRM-634 A32 P300	DRM-635 A32 P300	1¼"	133.3	98.4	19	42	19	23	38	15	60	300
DRM-634 A40 P300	DRM-635 A40 P300	1½"	155.6	114.3	22	43.2	20.6	23	38	15	60	300
DRM-634 A50 P300	DRM-635 A50 P300	2"	165.1	127	19	45.2	22.2	23	48	10	40	300
DRM-634 A65 P300	DRM-635 A65 P300	2½"	190.5	149.2	22	48.4	25.4	23	48	10	40	300
DRM-634 A80 P300	DRM-635 A80 P300	3"	209.5	168.3	22	51.6	28.6	23	64	4	15	300
DRM-634 A90 P300	DRM-635 A90 P300	3½"	228.6	184.1	22	53.2	30.2	23	64	4	15	300
DRM-634 A1H P300	DRM-635 A1H P300	4"	254	200	22	54.7	31.7	23	64	4	15	300
DRM-634 A25 P600	DRM-635 A25 P600	1"	123.8	88.9	19	46.9	23.9	23	30	25	90	600
DRM-634 A32 P600	DRM-635 A32 P600	1¼"	133.3	98.4	19	40	27	23	30	15	60	600
DRM-634 A40 P600	DRM-635 A40 P600	1½"	155.6	114.3	22	41.6	28.6	23	38	15	60	600
DRM-634 A50 P600	DRM-635 A50 P600	2"	165.1	127	19	54.8	31.8	23	48	10	40	600
DRM-634 A65 P600	DRM-635 A65 P600	2½"	190.5	149.2	22	58	35	23	48	10	40	600
DRM-634 A80 P600	DRM-635 A80 P600	3"	209.5	168.3	22	61.1	38.1	23	64	4	15	600
DRM-634 A90 P600	DRM-635 A90 P600	3½"	228.6	184.1	25	64.3	41.3	23	64	4	15	600
DRM-634 A1H P600	DRM-635 A1H P600	4"	273	215.9	25	67.5	44.5	23	64	4	15	600
DRM-634 A25 P1K5	DRM-635 A25 P1K5	1"	149.2	101.6	25	58	35	23	30	25	90	1500
DRM-634 A32 P1K5	DRM-635 A32 P1K5	1¼"	158.7	111.1	25	58	35	23	38	15	60	1500
DRM-634 A40 P1K5	DRM-635 A40 P1K5	1½"	177.8	123.8	29	61.1	38.1	23	38	15	60	1500
DRM-634 A50 P1K5	DRM-635 A50 P1K5	2"	215.9	165.1	25	67.5	44.5	23	48	10	40	1500
DRM-634 A65 P1K5	DRM-635 A65 P1K5	2½"	244.5	190.5	29	70.7	47.7	23	48	10	40	1500
DRM-634 A80 P1K5	DRM-635 A80 P1K5	3"	266.7	203.2	32	77	54	23	64	4	15	1500
DRM-634 A1H P1K5	DRM-635 A1H P1K5	4"	311.1	241.3	35	83.4	60.4	23	64	4	15	1500

100 °C	250 °C	max. medium temperature pressure gauge
80 °C	250 °C	max. medium temperature pressure sensor

P1 = mounting of pressure sensors

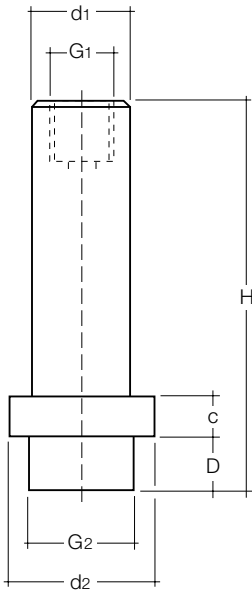
P2 = mounting of pressure gauge

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Diaphragm seals DRM-189 for homogenising machines, for direct mounting to pressure gauges

Measuring range: 0 - 100 bar... 0 - 1000 bar
 Temperature range: 0°C... +120°C (calibration temperature +85°C)
 Material housing: stainless steel 1.4571
 Diaphragm: front flush, stainless steel 1.4571
 Max. length of capillary tube: not available
 Filling liquid: MF 8 (foodstuff-compatible) recommended

Model for direct mounting	D	dm	d1	a	h	H	G1
DRM-189 F23	34.5	23.8	22	10	12.5	90.5	G $\frac{3}{8}$

Information for diaphragm seal

The end unit ready for operation is made up of the pressure gauges and the diaphragm seal and assembling options (Mounting of the diaphragm seal and capillary, filling with filling liquid) and possible special parts.

Diaphragm seals options for assembling together with pressure gauges with bourdon tube or transmitter

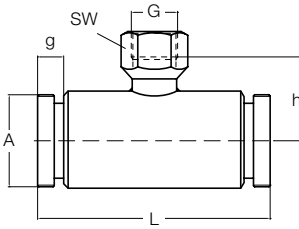
Filling liquid	silicone free*				MF7		
Assembly design	Glycerin oil		Paraffine oil		Mercury		
Max. operating temperatur. °C	Code	-10...+80	Code	-10...+120	Code	-20...+350	
Direct mounting	DF1	✓	DP2	✓	DH3	✓	
Direct mounting w. cooling element, multipart	KF1	✓	KP2	✓	KH3	✓	
Capillary stainless steel 1.4571	1.0 m	LF1	✓	LP2	✓	LH3	✓
	2.0 m	MF1	✓	MP2	✓	MH3	✓
	Base price: x m	NF1	✓	NP2	✓	NH3	✓
	Add-on price/m						

* For food and finish (according to FDA)

Filling liquid	Silicone oil						
Assembly design	Glycerin oil		Paraffine oil		Mercury		
Max. operating temperatur. °C	Code	-40...+200	Code	-20...+350	Code	-20...+400	
Direct mounting	DS2	✓	DP3	✓	DS4	✓	
Direct mounting w. cooling element, multipart	KS2	✓	KP3	✓	KS4	✓	
Capillary stainless steel 1.4571	1.0 m	LS2	✓	LP3	✓	LS4	✓
	2.0 m	MS2	✓	MP3	✓	MS4	✓
	Base price: x m	NS2	✓	NP3	✓	NS4	✓
	Add-on price/m						

Accessories for pressure gauges

	Material	Code
Protection hose (capillary tube)	W. 1.4301	A
Protection against buckling (capillary tube)	steel	C
Elbow joint	passivated steel	D
Intermediate piece	passivated steel	E
Temperature calibration up to +100°C		G
Temperature calibration from +100°C		H
Special calibration (e. g. height adjustment, 2 temperatures)		I
PTFE-coating		K
Halar-coating		L
Special materials		S
Welded contra flange for measuring adapter 48 mm (DRM-622)		DRM-622 G
Mounting set (screw and sealings)		GRM-ZM1
Mounting set PTFE (VA-screws and PTFE-sealings)		DRM-ZM2



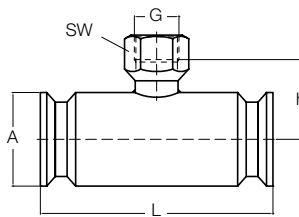
Inline diaphragm seal DRM-500 / 501, sterile connection ISO, for direct mounting and with capillary tube

Measuring range: 1,6 - 40 bar ... 2,5 - 40 bar (depending on the pipe diameter)
 Temperature range: up to 80 °C (> 30 min. to 140 °C)
 Housing: stainless steel 1.4571
 Diaphragm tube: stainless steel 1.4571 (DN 15/20/25/40), stainless steel 1.4404 resp. 1.4435 (DN 50)
 Socket connection: stainless steel 1.4301 (DN 15/20), stainless steel 1.4435 (DN 25/40/50)
 Filling liquid: depending on operating conditions

Model for direct mounting	Model for capillary tube	DN	A	L	h	G	g	SW
DRM-500 D15	DRM-501 D15	15	M30x2	130	26	G¼	12	17
DRM-500 D20	DRM-501 D20	20	M36x2	120	30	G¼	12	17
DRM-500 D25	DRM-501 D25	25	M42x2	120	33	G½	12	27
DRM-500 D40	DRM-501 D40	40	M56x2	110	39	G½	14	27
DRM-500 D50	DRM-501 D50	50	M68x2	100	45	G½	14	27

Model for direct mounting	Model for capillary tube	DN	for tube	O-ring	Weight [kg]	Inner form
DRM-500 D15	DRM-501 D15	15	26.9x2.0	18.5x3.0	0.6	square
DRM-500 D20	DRM-501 D20	20	33.7x2.0	25.0x3.0	0.8	square
DRM-500 D25	DRM-501 D25	25	48.3x2.0	30.0x3.0	0.9	hexagonal
DRM-500 D40	DRM-501 D40	40	60.3x2.0	45.0x3.0	1.3	hexagonal
DRM-500 D50	DRM-501 D50	50	88.9x2.0	55.0x3.0	1.6	hexagonal

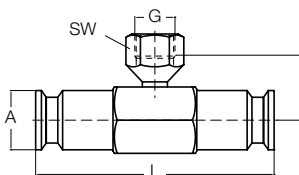
DN ½" - 1"



Inline diaphragm seal DRM-502 with clamp connection ISO 2852 for direct mounting

Measuring range: 1,6 - 40 bar ... 2,5 - 40 bar (depending on the pipe diameter)
 Temperature range: up to 80 °C (> 30 min to 140 °C)
 Housing: stainless steel 1.4435
 Diaphragm tube: stainless steel 1.4435 (DN 15/20/25), stainless steel 1.4404 (DN 40/50)
 Socket connection: stainless steel 1.4301 (DN 15/20/25), stainless steel 1.4435 (DN 40/50)
 Filling liquid: depending on operating conditions

DN 1 ½" - 2"



Model for direct mounting	DN	A	L	h	G	SW	Weight [kg]	Inner form
DRM-502 D15	½"	25	140	24	G½	17	0.5	square
DRM-502 D20	¾"	25	120	27	G½	27	0.5	square
DRM-502 D25	1"	50.5	120	36	G½	27	1.6	square
DRM-502 D40	1½"	50.5	120	36	G½	27	1.2	hexagonal
DRM-502 D50	2"	64	100	45	G½	27	1.3	hexagonal

Order from: **C A Briggs Company**

622 Mary Street; Suite 101; Warminster, PA 18974

Phone: 267-673-8117 - Fax: 267-673-8118

Sales@cabriggs.com - www.cabriggs.com

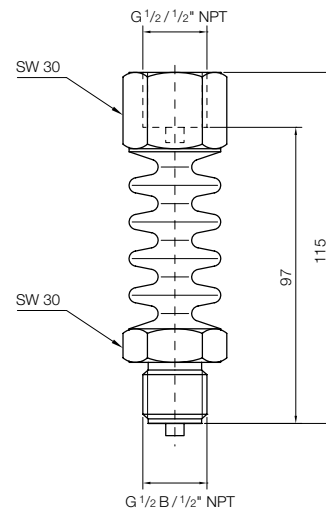
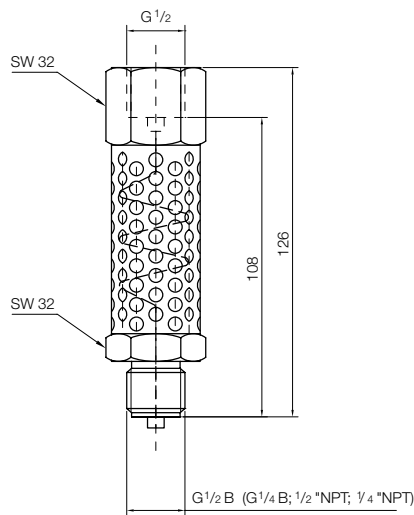


Multipart design

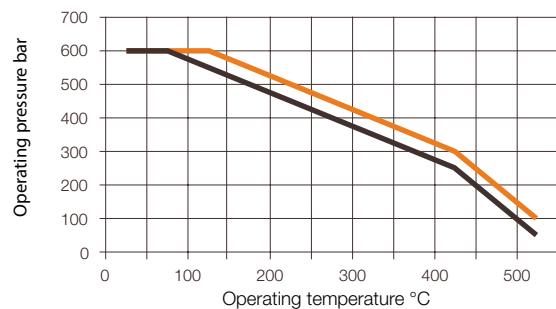
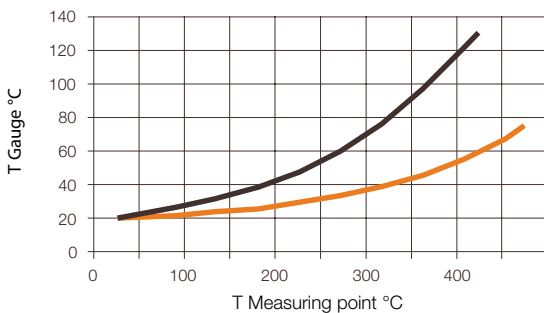
- Very good cooling effect
- Perforated sheet body transmits little heat
- $t_{max} = 450^{\circ}C$
- PN 600 (temperature-dependent)
- All parts are made of 1.4571 stainless steel
- Pressure transmission with a capillary line (\varnothing inner 1.0 mm), that in addition balances out the pulsation of the measured pressure
- Also for direct mounting of diaphragm seals ($t_{max} = 350^{\circ}C$)

One-part design

- Good cooling effect
- Optimum ratio of surface to geometry
- $t_{max} = 300^{\circ}C$
- PN 600 (temperature-dependent)
- Body made of 1.4571 stainless steel
- Pressure transmission with tube diameter (\varnothing inner 3.5 mm), thus no change in reaction time
- Cheaper version
- For use with high viscosity media



Temperature drift (guide value for cooling effect) and range of use (rated pressure)



■ MZB-711.7221 to MZB-711.7224 = multipart design
■ MZB-711.7225 and MZB-711.7226 = one-part design

Order Details

Model	Connection meas. device	Process connection
MZB-711.7221	G 1/2 F	G 1/4 M
MZB-711.7222	G 1/2 F	G 1/2 M
MZB-711.7223	G 1/2 F	1/4" NPT M

Model	Connection meas. device	Process connection
MZB-711.7224	G 1/2 F	1/2" NPT M
MZB-711.7225	G 1/2 F	G 1/2 M
MZB-711.7226	1/2" NPT F	1/2" NPT M

Other connections on request

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No responsibility taken for errors; subject to change without prior notice.