Heavy Duty
Pressure Transmitter

measuring
•
monitoring
•
analyzing

PAS

- Span: -14.7 … 21 PSIG up to 0…8700 PSIG
- t_{max}: 248 °F
- Process Connection: ½" NPT, ¼" NPT, or Various Diaphragm Seals on Request
- Material: 316L Stainless Steel, HAST-C®, or Tantalum
- Output: 4 ... 20 mA
- Sensor Input: Gauge or Absolute Pressure
- Self-Diagnostic Function: Sensor, Memory A/D Converter, Power etc.
- Digital Communication with HART® Protocol

KOBOLD companies worldwide:

ARGENTINA, AUSTRIA, BELGIUM, BULGARIA, CANADA, CHILE, CHINA, COLUMBIA, CZECH REPUBLIC, EGYPT, FRANCE, GERMANY, GREAT BRITAIN, HUNGARY, INDIA, INDONESIA, ITALY, MALAYSIA, MEXICO, NETHERLANDS, PERU, POLAND, ROMANIA, SINGAPORE, SOUTH KOREA, SPAIN, SWITZERLAND, TAIWAN, THAILAND, TUNISIA, USA, VIETNAM

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Description

The KOBOLD Pressure Transmitter model PAS is a microprocessor based high performance transmitter, which has a scalable pressure calibration and output signal. It automatically compensates for ambient temperature and process variables. Communication with the instrument and configuration of various parameters is possible via HART® protocol. All of the sensor's data is input, modified and stored via EEPROM.

Features

Superior Performance

- High reference accuracy:
  ±0.075 % of calibrated span
  (option: ±0.04 % of calibrated span)
- Long-term stability
- High rangeability (100 : 1)

Flexibility

- Data configuration with HART® configurator
- Measurement of gauge or absolute pressure

Reliability

- Continuous self-diagnostic function
- Automatic ambient temperature compensation
- EEPROM write-protection
- Fail-mode process function

Transmitter Description

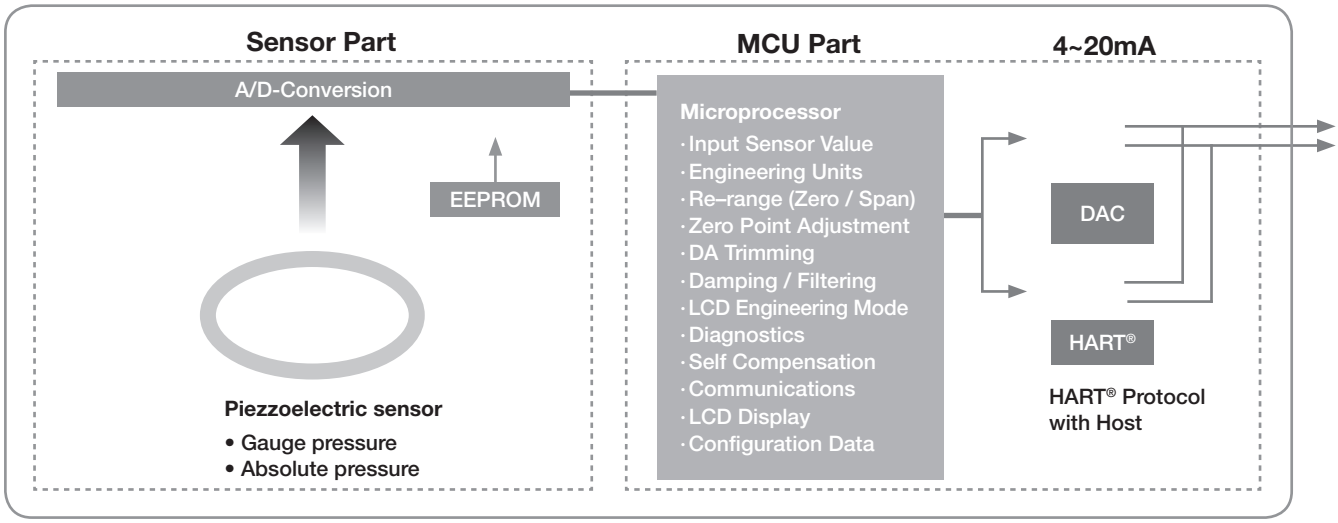
Electronics Module

The Electronics module consists of a circuit board sealed in an enclosure. There is an MCU module, an analog module, an LCD module, and a terminal module within the transmitter. The MCU module acquires the digital value from the analog module and applies correction coefficients selected from EEPROM. The output section of the MCU module converts the digital signal to a 4…20 mA output. The MCU module communicates with the HART®-based configurator or control system, such as DCS (Distrubuted Control System). The power section of the MCU module has a DC-to-DC power conversion circuit and an input/output isolation circuit. The LCD module plugs into the MCU module and displays the digital output in a user configured unit.

Sensor Inputs

The pressure transmitter model PAS is available as a piezoresistive pressure transmitter which measures gauge pressure as well as absolute pressure. The sensor module converts the resistance into a digital value. The MCU module calculates the process pressure based on this digital value.

Functional Block Diagram



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The sensor modules include the following features:

- 0.075 % accuracy
- The software of the transmitter compensates for thermal effects, improving performance.
- Precise Input Compensation during operation is achieved with temperature and pressure correction coefficients that are characterized over the range of the transmitter and stored in the sensor module's EEPROM memory.
- EEPROM stores sensor information and correction coefficients separately from the MCU module, allowing for easy repair, reconfiguration and replacement.

Basic Setups

The following settings can be easily configured from any host that can support HART® protocol:

- Operational parameters
- 4 … 20 mA (zero points/span)
- Engineering units
- Damping time: 0.25…60 sec.
- Tag: 8 alphanumeric characters
- Descriptor: 16 characters
- Message: 32 characters
- Date: day/month/year

Calibration and Adjustment

- Lower/Upper range (zero/span)
- Sensor zero adjustment
- Zero point adjustment
- DAC output adjustment
- Transfer function
- Self-compensation

Self-Diagnostics and others

- CPU & Analog Module Fault Detection
- Communication error
- Fail-mode handling
- LCD indication
- Temperature measurement of sensor module

Process Connection via Diaphragm Seals

For connecting the model PAS to different process connections, diverse diaphragm seal versions are necessary. They can be connected to the pressure transmitter directly or via a capillary tube. Depending on the application; different combinations of diaphragm seals, capillary tubes and fill fluids are possible. To clarify those possibilities, the special connections via diaphragm seals should be requested separately from the pressure transmitter.

Technical Details

Measuring principle:	piezo-resistive sensor
Measuring span:	-14.7…21 PSIG up to 0…8700 (depending on instrument version), Zero and span values can be set anywhere within the range limits. Span must be greater than or equal to the minimum span.
Accuracy:	0.075 % of calibrated span (better accuracy on request)
Process temperature:	-40 °F…248 °F (Approval codes may effect limits. Max. ambient temperature at LCD = 176°F.)
Ambient temperature:	-22 °F…176 °F
Storage temperature:	-40 °F…185 °F (non-condensing)
Humidity limit:	5 %...98 % RH

Pressure limits (with silicone oil)

(Valid for stand-alone unit only, without assembled diaphragm seals.)

Model G	-14.5...43.5 PSIG (for range 3) -14.5...435 PSIG (for range 4) 0...1552.5 PSIG (for range 5) 0...5800 PSIG (for range 6) 0...10875 PSIG (for range 7)
Model A	0...72.5 PSIG (for range 4) 0...435 PSIG (for range 5) 0...754 PSIG (for range 6)

Wetted Materials

Isolating diaphragms:	1.4404 (316L st. st.), Tantalum, HAST-C®
Connection thread:	1.4401 (316 st. st.), HAST-C®

Non-wetted Materials

Fill Fluid:	silicone oil or inert fill
Electronics housing:	aluminum, flameproof (Ex d) and waterproof (IP 67), 316 L st. st. (option)
Cover O-ring:	NBR
Paint:	epoxy-polyester or polyurethane
Mounting bracket:	2-inch pipe, 1.4301 (304 st. st.), painted carbon steel with 1.4301 (304 st. st.), U-bolt
Nameplate:	1.4301 (304 st. st.)
Process connections:	½" NPT female (via adapter) ¼" NPT female
Mounting position:	upright
Display:	5 Digit LCD
Power supply:	12 … 45 V_{DC} -operation 17.5 … 45 V_{DC} -HART® communcations
Maximum load:	250 Ω at 17.5 V_{DC} 550 Ω at 24 V_{DC} max. loop resistance = $\frac{(U - 12\ V_{DC})}{0.022\ A}$
Electrical connection:	½" NPT conduit with M4 screw terminals G ½ conduit with M4 screw terminals
Output:	two wire 4…20 mA, user-configurable for linear output, digital process value superimposed on 4…20 mA signal, available to any host that conforms to the HART® protocol
Update time:	0.12 seconds
Turn-On time:	3 seconds
Protection:	IP 67 for standard (code S)
Weight:	3.8 lbs (excluding options) 6.3 lbs (st. steel housing option)
Failure mode:	fail high: current ≥ 21.1 mA fail low: current ≤ 3.78 mA
EMC conformity standards:	EMI (emission) - EN 50081-2:1993 EMS (immunity) - EN 50082-2:1995
ATEX approval (Option):	II 2G Exd IIC T6...T4

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Order Details (Example: **PAS- G EE 3 S 2 N S 0 0**):

Model	Version	Material Diaphragm/Other	Measuring Range	Measuring Span
PAS-	**..G..** = Gauge Pressure **..A..** = Absolute Pressure	**..EE..** = 316L st. st./316 st. steel **..HE..**[1] = HAST-C®/316 st. steel **..TE..**[1] = Tantalum/316 st. steel **..HH..**[1] = HAST-C®/HAST-C®	**for PAS-G**	
			..3.. = -14.7...21 PSIG **..4..** = -14.7...217 PSIG **..5..** = 0...725 PSIG **..6..** = 0...3625 PSIG **..7..** = 0...8700 PSIG **..X..**[2] = custom	6 W.C....21 PSIG 60 W.C....217 PSIG 200 W.C....725 PSIG 36.3 PSIG...3625 PSIG 87 PSIG...8700 PSIG custom
			for PAS-A	
			..4.. = 0...36 PSIA **..5..** = 0...217 PSIA **..6..** = 0...362 PSIA **..X..**[2] = custom	10 W.C....36.3 PSIA 60 W.C....217 PSIA 100 W.C....362 PSIA custom

Order Details continued:

Fill Liquid	Process Connection	Electrical Connection	Approvals	Manifold Valve	Options
..S.. = silicone **..I..** = inert filling liquid **..X..** = special filling liquid	**..2..** = ¼" NPT female (adapter) **..4..** = ½" NPT female (standard) **..X..**[2] = special	**..N..** = ½" NPT epoxy-polyester painted aluminium **..G..** = G ½ epoxy-polyester painted aluminium **..X..**[2] = special	**..S..** = standard (waterproof IP67) **..F..** = ATEX, flameproof, Ex d **..E*..** = ATEX, intrinsically safe, Ex i **..1*..** = FM explosion proof **..2*..** = FM intrinsically safe *consult factory for availability	**..0..** = without **..2..** = manifold 2-ways (st. steel)	**..0** = without **..E** = oil free finish **..M** = housing in stainless steel **..N**[3] = mounting of PAS onto diaphragm seal

[1] on request
[2] Order code X must be specified in writing
[3] Diaphragm seal model and application data to be clearly specified. The application Index on page 17-18 must be completed. For summary of diaphragm seal models and possible ranges, see page 9 onwards. For dimensional details see DRM data sheet.

Order Details Mounting brackets:

Description	Order Number
Angle type bracket for PAD/PAS vertical pipe mounting for PAS vertical pipe mounting for PAD incl. U-Clamp for 2“ pipe mounting bracket and 2 x mounting nuts/ washers incl. 4 x mounting screws for PAS incl. 4 x mounting screws for PAD	**ZUB-PAD/PAS-K**
Flat type bracket for PAD/PAS horizontal pipe mounting for PAS vertical pipe mounting for PAD incl. U-Clamp for 2“ pipe mounting bracket and mounting nuts/ washers incl. 4 x mounting bolts and washers for PAS incl. 4 x mounting bolts for PAD	**ZUB-PAD/PAS-L**

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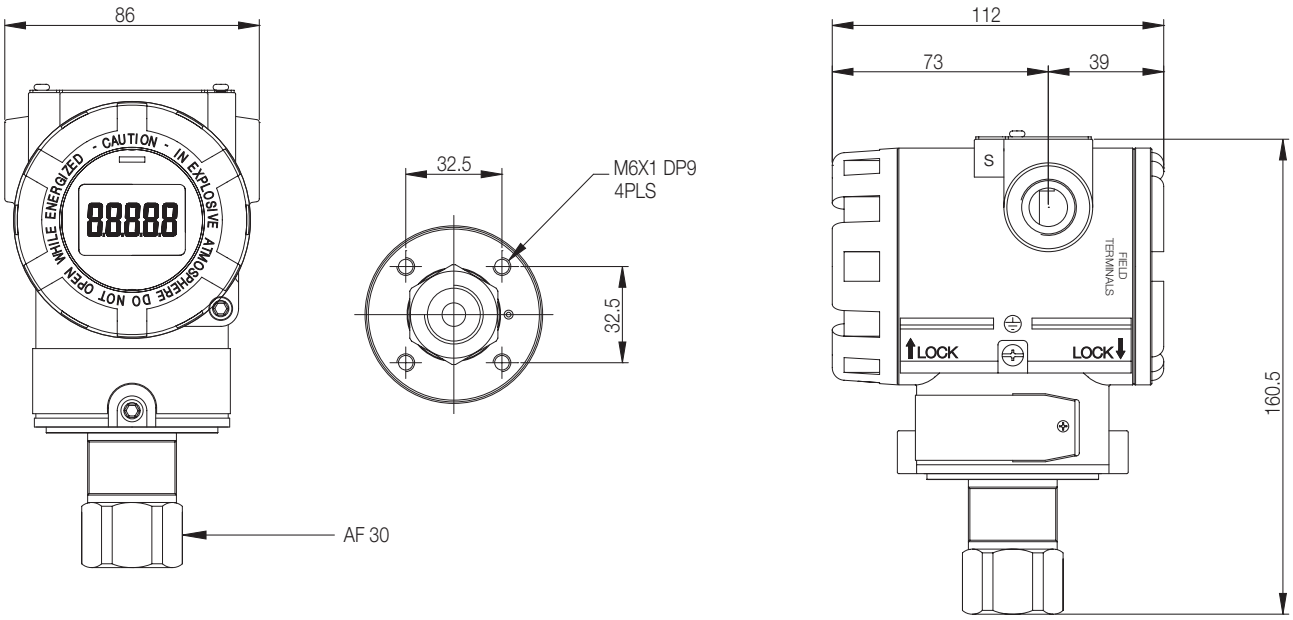
Dimensions (in mm)

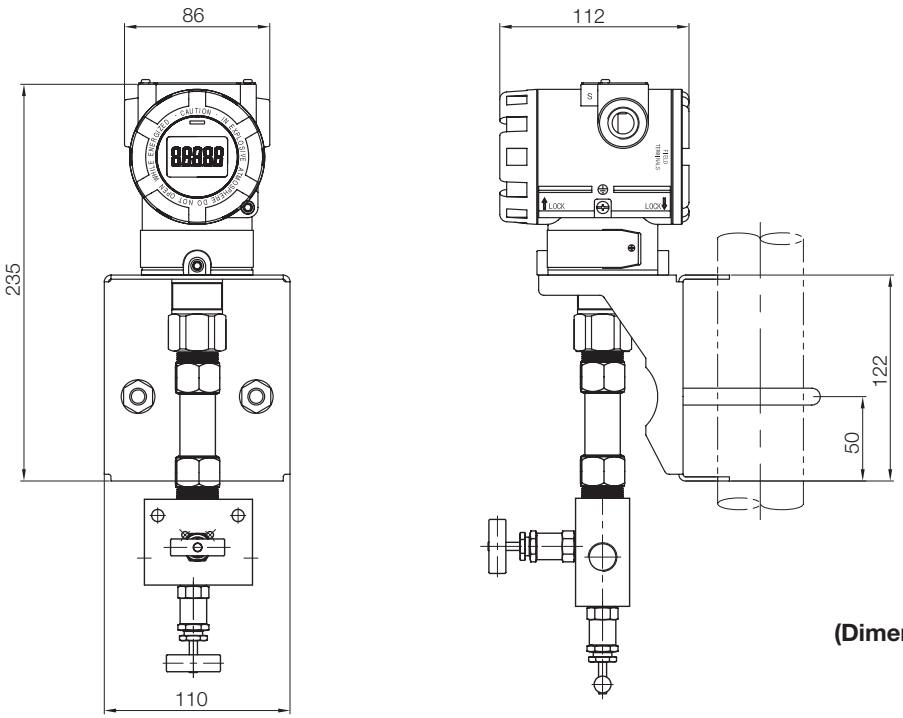
Standard model



PAS with 2-way manifold valve and angle type bracket (vertically mounted)

Technical Specifications (of 2-way manifold valve)

Material: 316SS
Connection & Size: ½" NPT (F)
Pressure rating: 6000 PSIG at 100 °F (≈410 bar)
Temperature range: -65°F ... 449 °F



(Dimensions in mm)

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Example of PAS directly assembled with diaphragm seal
(for dimensional details, see DRM data sheet)

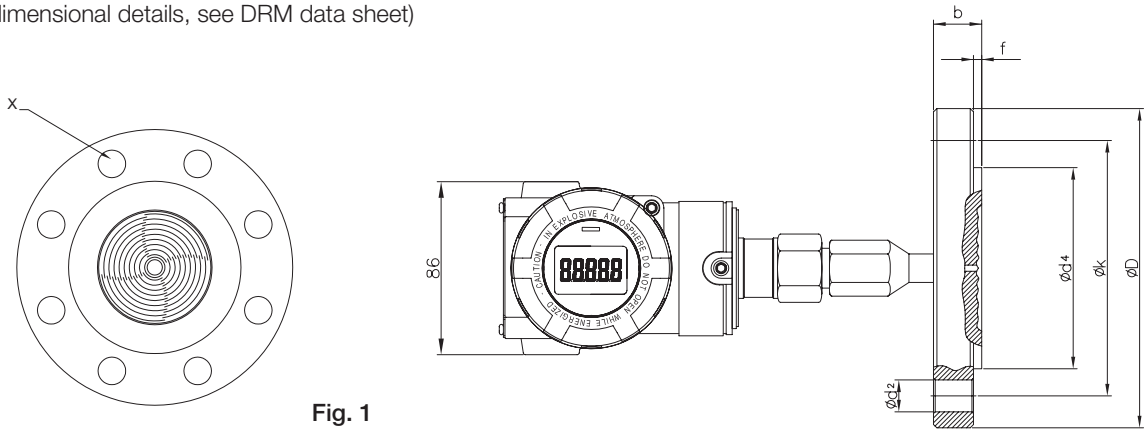

Fig. 1

Example of PAS remotely assembed with diaphragm seal and capillary
(for dimensional details, see DRM data sheet)

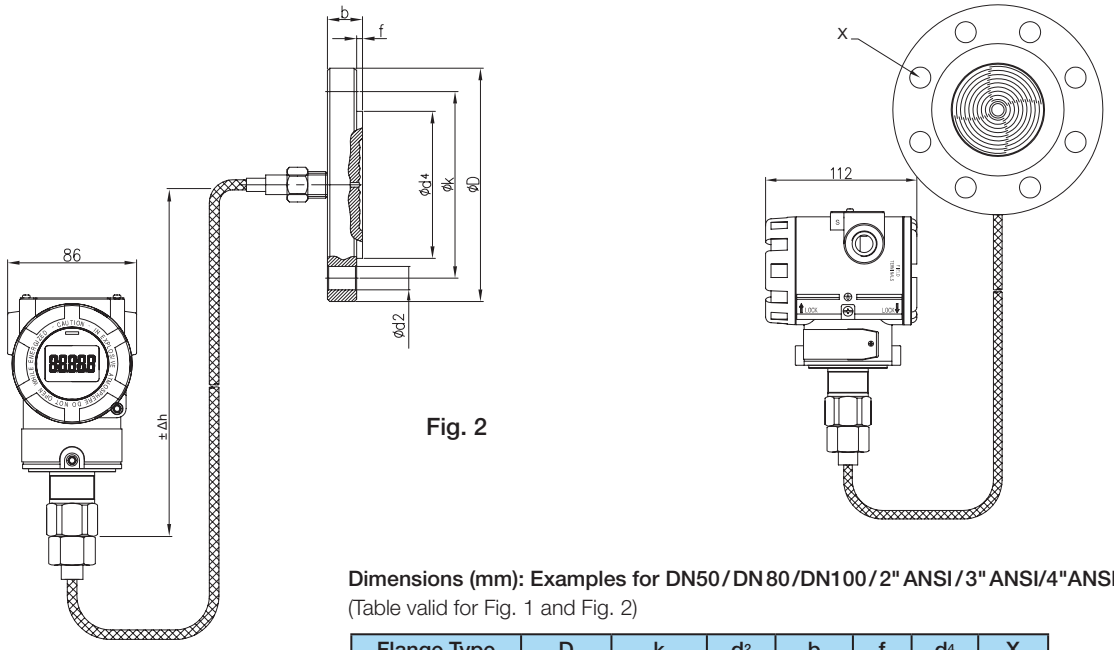

Fig. 2

Dimensions (mm): Examples for DN50 / DN 80 / DN100 / 2" ANSI / 3" ANSI / 4"ANSI
(Table valid for Fig. 1 and Fig. 2)

Flange Type	D	k	d_2	b	f	d_4	X
DN50 PN16	165	125	18	18	2	102	4
DN50 PN40	165	125	18	20	2		4
2" ANSI Cl. 150	152.4	120.6	19	19.1	2	92	4
2" ANSI Cl. 300	165.1	127	19	22.3	2		8
DN80 PN16	200	160	18	20	2	138	8
DN80 PN40	200	160	18	24	2		8
3" ANSI Cl. 150	190.5	152.4	19	23.9	1.6	127	4
3" ANSI Cl. 300	209.5	168.3	22	28.4	1.6		8
DN100 PN16	220	180	18	20	2	149	8
DN100 PN40	235	190	22	24	2	149	8
4" ANSI Cl. 150	228.6	190.5	19	24	1.6	157.2	8
4" ANSI Cl. 300	254	200	22	32	1.6	157.2	8

Example of PAS remotely assembled with extended diaphragm seal and capillary
(for dimensional details, see DRM data sheet)

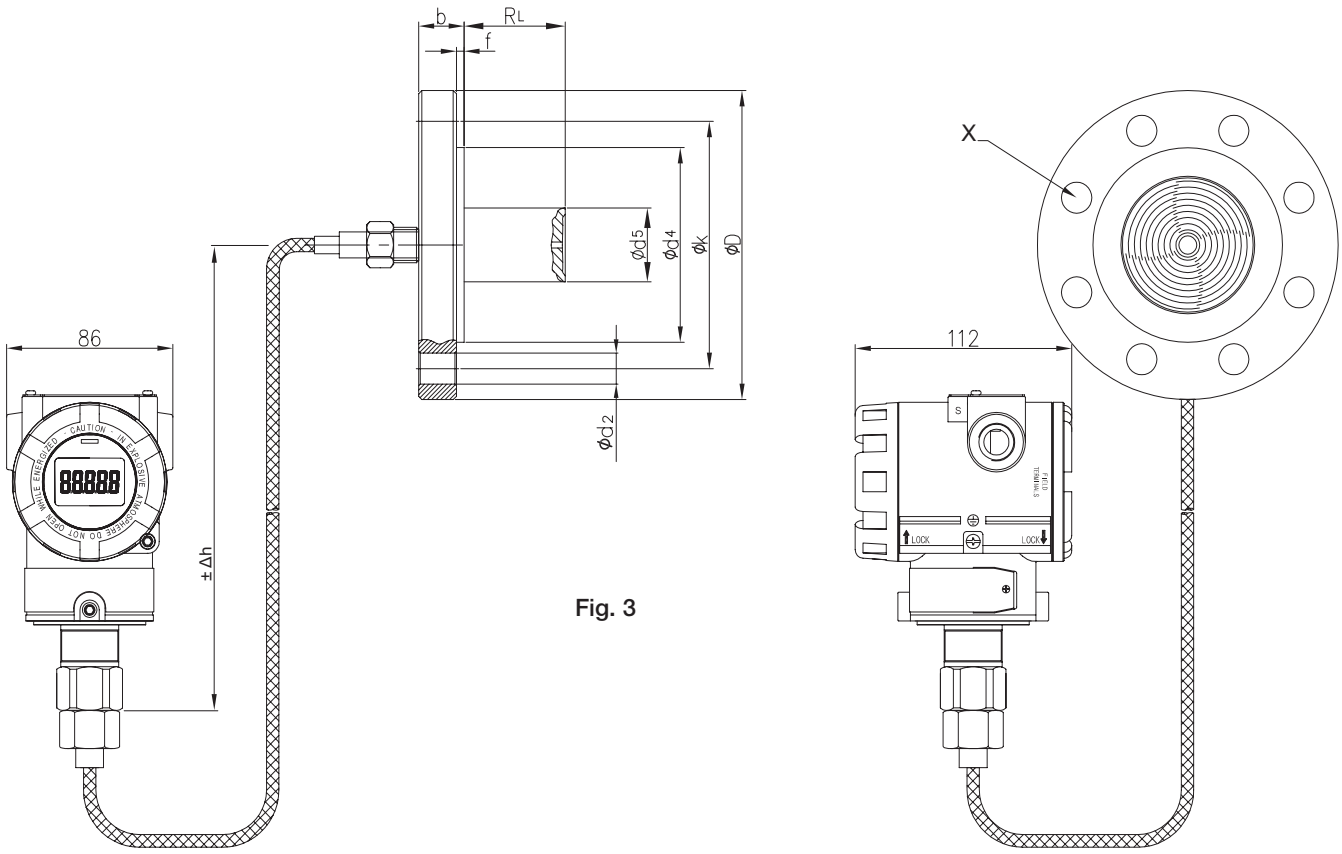

Fig. 3

Dimensions (mm): Examples for DN50 / DN 80 /DN100 / 2" ANSI / 3" ANSI/4"ANSI

Flange Type	D	k	d²	b	f	d⁴	X	d⁵	R_L
DN50 PN16	165	125	18	18	2	102	4	48	50 mm (2")/ 100 mm (4")/ 150 mm (6")/ 200 mm (8")/ (customer specified)
DN50 PN40	165	125	18	20	2		4	48	
2" ANSI Cl. 150	152.4	120.6	19	19.1	2	92	4	48	
2" ANSI Cl. 300	165.1	127	19	22.3	2		8	48	
DN80 PN16	200	160	18	20	2	138	8	76	
DN80 PN40	200	160	18	24	2		8	76	
3" ANSI Cl. 150	190.5	152.4	19	23.9	1.6	127	4	76	
3" ANSI Cl. 300	209.5	168.3	22	28.4	1.6		8	76	
DN100 PN16	220	180	18	20	2	149	8	89	
DN100 PN40	235	190	22	24	2	149	8	89	
4" ANSI Cl. 150	228.6	190.5	19	24	1.6	157.2	8	89	
4" ANSI Cl. 300	254	200	22	32	1.6	157.2	8	89	

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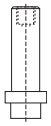
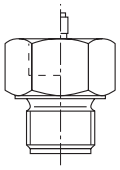
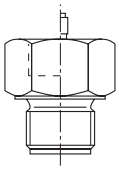
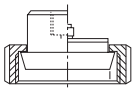
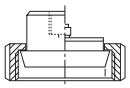
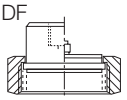
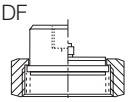
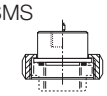
Diaphragm Seal Models (Direct or Remote Assembly)

(Standard device without additional options (e.g. coatings, special materials etc.).
For dimensions/technical data, see DRM data sheet. Accuracy: 0.075% of calibrated span + influence of seal).
Over and under ranges of the min./max. span may be possible, but must be verified by KOBOLD for each application.
The indicated min./max. spans do not consider any coating of the diaphragm seals. For additional information contact KOBOLD.

Model DRM	Size Code	Size	Note	Ø Diaphragm	Max. Media Temperature	Min. Span [PSIG]	Max. Span [PSIG]
DRM-189 	**F23**	Ø 18	For homogenising machines, direct	Ø 18	248 °F	0 ... 58	14500
DRM-600 	**R15**	G ½	Fixed male thread, direct	Ø 18	212 °F	0 ... 58	14500
	R20	G ¾		Ø 23.8		0 ... 23.2	14500
	R25	G 1		Ø 29.5		0 ... 14.5	8700
	R32	G 1 ¼		Ø 38		0 ... 8.7	8700
	R40	G 1 ½		Ø 40		0 ... 8.7	8700
	N15	½" NPT		Ø 18		0 ... 58	14500
	N20	¾" NPT		Ø 18		0 ... 58	14500
	N25	1" NPT		Ø 23.8		0 ... 23.2	8700
	N32	1 ¼" NPT		Ø 34.5		0 ... 14.5	8700
	M20	M20 x 1,5		Ø 18		0 ... 58	8700
	M48	M 48 x 3		Ø 40		0 ... 8.7	8700
DRM-601 	**R15**	G ½	Fixed male thread with capillary	Ø 18	392 °F	0 ... 58	14500
	R20	G ¾		Ø 23.8		0 ... 23.2	14500
	R25	G 1		Ø 29.5		0 ... 14.5	8700
	R32	G 1 ¼		Ø 38		0 ... 8.7	8700
	R40	G 1 ½		Ø 40		0 ... 8.7	8700
	N15	½" NPT		Ø 18		0 ... 58	14500
	N20	¾" NPT		Ø 18		0 ... 58	14500
	N25	1" NPT		Ø 23.8		0 ... 23.2	8700
	N32	1 ¼" NPT		Ø 34.5		0 ... 14.5	8700
	M20	M20 x 1,5		Ø 18		0 ... 58	8700
	M48	M 48 x 3		Ø 40		0 ... 8.7	8700
DRM-602 DIN 11851 	**R20**	DN 20	Dairy connection, direct	Ø 18	212 °F	0 ... 58	580
	R25	DN 25		Ø 23.8		0 ... 23.2	580
	R32	DN 32		Ø 29.5		0 ... 14.5	580
	R40	DN 40		Ø 38		0 ... 8.7	580
	R50	DN 50		Ø 45.5		0 ... 5.8	362.5
	R65	DN 65		Ø 64		0 ... 3.6	362.5
	R80	DN 80		Ø 64		0 ... 3.6	362.5
	R1H	DN 100		Ø 64		0 ... 3.6	362.5

Diaphragm Seal Models (Direct or Remote Assembly)

Model DRM	Size Code	Size	Note	Ø Diaphragm	Max. Media Temperature	Min. Span [PSIG]	Max. Span [PSIG]
DRM-603 DIN 11851 	**R20**	DN 20	Dairy connection, capillary	Ø 18	392 °F	0 ... 58	580
	R25	DN 25		Ø 23.8		0 ... 23.2	580
	R32	DN 32		Ø 29.5		0 ... 14.5	580
	R40	DN 40		Ø 38		0 ... 8.7	580
	R50	DN 50		Ø 45.5		0 ... 5.8	362.5
	R65	DN 65		Ø 64		0 ... 3.6	362.5
	R80	DN 80		Ø 64		0 ... 3.6	362.5
	R1H	DN 100		Ø 64		0 ... 3.6	362.5
DRM-604 IDF 	**R25**	1"	IDF socket with union nut, direct	Ø 29.5	212 °F	0 ... 23.2	580
	R40	1 ½"		Ø 42		0 ... 14.5	580
	R50	2"		Ø 56		0 ... 8.7	580
DRM-605 IDF 	**R25**	1"	IDF socket with union nut, capillary	Ø 29.5	392 °F	0 ... 14.5	580
	R40	1 ½"		Ø 42		0 ... 8.7	580
	R50	2"		Ø 56		0 ... 5.8	580
DRM-606 	**R20**	G ¾	Capsule seal with rotable male, capillary	short capsule	662 °F	0 ... 87	8700
	R28	M28 x 1.5				0 ... 87	8700
DRM-607 	**R15**	G ½	Capsule seal with fixed male, direct	long capsule	212 °F	0 ... 14.5	8700
	R20	G ¾				0 ... 14.5	8700
DRM-607/1 	**R15**	G ¾	Capsule seal with fixed male, direct	long capsule		0 ... 14.5	8700
	R20	G 1				0 ... 14.5	8700
DRM-608/1 	**R20**	G ¾	Capsule seal with union nut, capillary	long capsule	662 °F	0 ... 14.5	8700
	R25	G 1	Capsule seal with union nut, capillary	long capsule		0 ... 14.5	8700
DRM-610 SMS 	**R40**	1 ½"	SMS socket with union nut, direct	Ø 34.5	212 °F	0 ... 14.5	580
	R50	2"		Ø 45.5		0 ... 5.8	580

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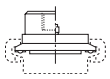
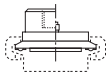
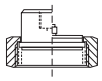
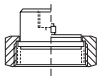
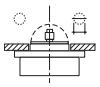
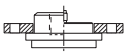
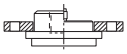
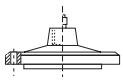
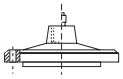
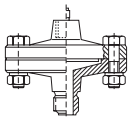
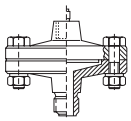
Diaphragm Seal Models (Direct or Remote Assembly)

Model DRM	Size Code	Size	Note	Ø Diaphragm	Max. Media Temperature	Min. Span [PSIG]	Max. Span [PSIG]
DRM-611 SMS 	**R40**	1 ½"	SMS socket with union nut, capillary	Ø 34.5	392 °F	0 ... 1.4	580
	R50	2"		Ø 45.5		0 ... 5.8	580
DRM-612 Clamp 	**R25**	1"	Tri-Clamp, direct	Ø 18	212 °F	0 ...58	232
	F40	1 ½"		Ø 35.5		0 ...14.5	232
	F50	2"		Ø 45.5		0 ...5.8	232
	R65	2 ½"		Ø 52		0 ...5.8	232
	R80	3"		Ø 64		0 ...3.6	145
DRM-613 Clamp 	**R25**	1"	Tri-Clamp, capillary	Ø 18	392 °F	0 ...58	232
	F40	1 ½"		Ø 35.5		0 ...14.5	232
	F50	2"		Ø 45.5		0 ...5.8	232
	R65	2 ½"		Ø 52		0 ...5.8	232
	R80	3"		Ø 64		0 ...3.6	145
DRM-614 APV-RJT 	**R20**	1"	Union-nut, direct	Ø 29.5	212 °F	0 ... 23.2	1450
	R40	1 ½"		Ø 42.5		0 ... 8.7	1450
	R50	2"		Ø 56		0 ... 5.8	1450
DRM-615 APV-RJT 	**R20**	1"	Union-nut, capillary	Ø 29.5	392 °F	0 ... 23.2	1450
	R40	1 ½"		Ø 42.5		0 ...8.7	1450
	R50	2"		Ø 56		0 ... 5.8	1450
DRM-616 	**R45**	M 45 x 2	Union-nut, direct	Ø 23.8	212 °F	0 ... 23.2	23200
DRM-617 	**R45**	M 45 x 2	Union-nut, capillary	Ø 23.8	248 °F	0 ... 23.2	23200

Diaphragm Seal Models (Direct or Remote Assembly)

Model DRM	Size Code	Size	Note	Ø Diaphragm	Max. Media Temperature	Min. Span [PSIG]	Max. Span [PSIG]
DRM-620 	**R20**	G¾	Union-nut, capillary	Ø 23.8	662 °F	0 ... 23.2	8700
DRM-620/1 	**R20**	G¾	Union-nut, capillary	Ø 23.8	662 °F	0 ... 23.2	8700
DRM-621 	**F38**	Ø 38 mm	Flange, direct	Ø 38	482 °F	0 ... 5.8	580
DRM-622 	**F48**	Ø 48 mm	Flange, direct	Ø 48	212 °F	0 ... 5.8	580
	F48 1	Ø 48 mm		Ø 48		0 ... 5.8	580
	F48 2	Ø 48 mm		Ø 48		0 ... 5.8	580
DRM-622/1 	**F48**	Ø 48 mm	Flange, capillary	Ø 48	392 °F	0 ... 5.8	580
	F48 1	Ø 48 mm		Ø 48		0 ... 5.8	580
	F48 2	Ø 48 mm		Ø 48		0 ... 5.8	580
DRM-624 	**F1H**	Ø 100 mm	Flange, direct	Ø 63.5	212 °F	0 ... 3.6	580
	F1H T	Ø 100 mm	Flange, direct			0 ... 3.6	580
DRM-624/1 	**F1H**	Ø 100 mm	Flange, capillary		482 °F	0 ... 3.6	580
DRM-625 	**R15**	G½	Fixed male, direct	Ø 63.5	212 °F	0 ... 3.6	580
	N15	½ NPT				0 ... 3.6	580
	I15	G½ IG				0 ... 3.6	580
DRM-625/1 	**R15**	G½	Fixed male, capillary	Ø 63.5	482 °F	0 ... 3.6	580
	N15	½ NPT				0 ... 3.6	580
	I15	G½ IG				0 ... 3.6	580

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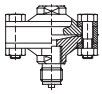
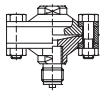
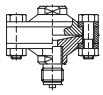
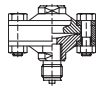
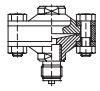
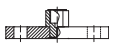
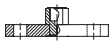
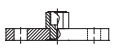
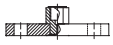
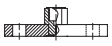
Diaphragm Seal Models (Direct or Remote Assembly)

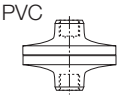
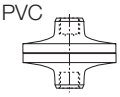
Model DRM	Size Code	Size	Note	Ø Diaphragm	Max. Media Temperature	Min. Span [PSIG]	Max. Span [PSIG]
DRM-626 PN 25 	**R08 A025**	G ¼ male	Fixed male, direct	Ø 56	176 °F	0 ... 5.8	362.5
	R08 I025	G ¼ female	Fixed female, direct	Ø 56		0 ... 5.8	362.5
	R15 A025	G ½ male	Fixed male, direct	Ø 56		0 ... 5.8	362.5
	R15 I025	G ½ female	Fixed female, direct	Ø 56		0 ... 5.8	362.5
	N15 A025	½ NPT male	Fixed male, direct	Ø 56		0 ... 5.8	362.5
DRM-626 PN 100 	**R08 A100**	G ¼ male	Fixed male, direct	Ø 56	176 °F	0 ... 5.8	1450
	R08 I100	G ¼ female	Fixed female, direct	Ø 56		0 ... 5.8	1450
	R15 A100	G ½ male	Fixed male, direct	Ø 56		0 ... 5.8	1450
	R15 I100	G ½ female	Fixed female, direct	Ø 56		0 ... 5.8	1450
	N15 A100	½ NPT male	Fixed male, direct	Ø 56		0 ... 5.8	1450
DRM-626 PN 250 	**R08 A250**	G ¼ male	Fixed male, direct	Ø 56	176 °F	0 ... 5.8	3625
	R08 I250	G ¼ female	Fixed female, direct	Ø 56		0 ... 5.8	3625
	R15 A250	G ½ male	Fixed male, direct	Ø 56		0 ... 5.8	3625
	R15 I250	G ½ female	Fixed female, direct	Ø 56		0 ... 5.8	3625
	N15 A250	½ NPT male	Fixed male, direct	Ø 56		0 ... 5.8	3625

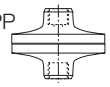
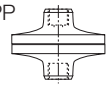
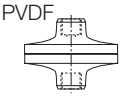
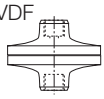
DRM-627 PN 25 	**R08 A025**	G ¼ male	Fixed male, capillary	Ø 56	482 °F	0 ... 5.8	362.5
	R08 I025	G ¼ female	Fixed female, capillary	Ø 56		0 ... 5.8	362.5
	R15 A025	G ½ male	Fixed male, capillary	Ø 56		0 ... 5.8	362.5
	R15 I025	G ½ female	Fixed female, capillary	Ø 56		0 ... 5.8	362.5
	N15 A025	½ NPT male	Fixed male, capillary	Ø 56		0 ...5.8	362.5
DRM-627 PN 100 	**R08 A100**	G ¼ male	Fixed male, capillary	Ø 56	482 °F	0 ... 5.8	1450
	R08 I100	G ¼ female	Fixed female, capillary	Ø 56		0 ... 5.8	1450
	R15 A100	G ½ male	Fixed male, capillary	Ø 56		0 ... 5.8	1450
	R15 I100	G ½ female	Fixed female, capillary	Ø 56		0 ... 5.8	1450
	N15 A100	½ NPT male	Fixed male, capillary	Ø 56		0 ... 5.8	1450
DRM-627 PN 250 	**R08 A250**	G ¼ male	Fixed male, capillary	Ø 56	482 °F	0 ... 5.8	3625
	R08 I250	G ¼ female	Fixed female, capillary	Ø 56		0 ... 5.8	3625
	R15 A250	G ½ male	Fixed male, capillary	Ø 56		0 ... 5.8	3625
	R15 I250	G ½ female	Fixed female, capillary	Ø 56		0 ... 5.8	3625
	N15 A250	½ NPT male	Fixed male, capillary	Ø 56		0 ... 5.8	3625

DRM-628 PN 06 	**F25P06**	DN 25	Flange to EN1092-1, direct	Ø 24	176 °F	0 ... 23.2	87
	F32P06	DN 32		Ø 30		0 ... 23.2	87
	F40P06	DN 40		Ø 38		0 ... 8.7	87
	F50P06	DN 50		Ø 48		0 ... 5.8	87
	F65P06	DN 65		Ø 64		0 ... 3.6	87
	F80P06	DN 80		Ø 64		0 ... 3.6	87
	N1HP06	DN 100		Ø 64		0 ... 3.6	87
DRM-628 PN 16 	**F25P16**	DN 25	Flange to EN1092-1, direct	Ø 24	176 °F	0 ... 23.2	232
	F32P16	DN 32		Ø 30		0 ... 23.2	232
	F40P16	DN 40		Ø 38		0 ... 8.7	232
	F50P16	DN 50		Ø 48		0 ... 5.8	232
	F65P16	DN 65		Ø 64		0 ... 3.6	232
	F80P16	DN 80		Ø 64		0 ... 3.6	232
	N1HP16	DN 100		Ø 64		0 ... 3.6	232
DRM-628 PN 40 	**F25P40**	DN 25	Flange to EN1092-1, direct	Ø 24	176 °F	0 ... 23.2	580
	F32P40	DN 32		Ø 30		0 ... 23.2	580
	F40P40	DN 40		Ø 38		0 ... 8.7	580
	F50P40	DN 50		Ø 48		0 ... 5.8	580
	F65P40	DN 65		Ø 64		0 ... 3.6	580
	F80P40	DN 80		Ø 64		0 ... 3.6	580
	N1HP40	DN 100		Ø 64		0 ... 3.6	580

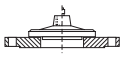
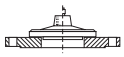
Diaphragm Seal Models (Direct or Remote Assembly)

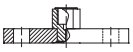
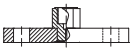
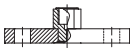
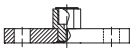
Model DRM	Size Code	Size	Note	Ø Diaphragm	Max. Media Temperature	Min. Span [PSIG]	Max. Span [PSIG]
DRM-629 PN 06 	**F25P06**	DN 25	Flange to EN1092-1, capillary	Ø 24	482 °F	0 ... 23.2	87
	F32P06	DN 32		Ø 30		0 ... 23.2	87
	F40P06	DN 40		Ø 38		0 ... 8.7	87
	F50P06	DN 50		Ø 48		0 ... 5.8	87
	F65P06	DN 65		Ø 64		0 ... 3.6	87
	F80P06	DN 80		Ø 64		0 ... 3.6	87
	N1HP06	DN 100		Ø 64		0 ... 3.6	87
DRM-629 PN 16 	**F25P16**	DN 25	Flange to EN1092-1, capillary	Ø 24	482 °F	0 ... 23.2	232
	F32P16	DN 32		Ø 30		0 ... 23.2	232
	F40P16	DN 40		Ø 38		0 ... 8.7	232
	F50P16	DN 50		Ø 48		0 ... 5.8	232
	F65P16	DN 65		Ø 64		0 ... 3.6	232
	F80P16	DN 80		Ø 64		0 ... 3.6	232
	N1HP16	DN 100		Ø 64		0 ...3.6	232
DRM-629 PN 40 	**F25P40**	DN 25	Flange to EN1092-1, capillary	Ø 24	482 °F	0 ... 23.2	580
	F32P40	DN 32		Ø 30		0 ... 23.2	580
	F40P40	DN 40		Ø 38		0 ... 8.7	580
	F50P40	DN 50		Ø 48		0 ... 5.8	580
	F65P40	DN 65		Ø 64		0 ... 3.6	580
	F80P40	DN 80		Ø 64		0 ... 3.6	580
	N1HP40	DN 100		Ø 64		0 ... 3.6	580

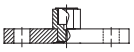
DRM 630 PVC 	**R08**	G ¼ female	Fixed female, direct	Ø 64	104 °F	0 ... 3.6	145
	R15	G ½ female		Ø 64		0 ...3.6	145
	N15	½ NPT female		Ø 64		0 ... 3.6	145
DRM-630/1 PVC 	**R08**	G ¼ female	Fixed female, capillary	Ø 64		0 ... 3.6	145
	R15	G ½ female		Ø 64		0 ... 3.6	145
	N15	½ NPT female		Ø 64		0 ... 3.6	145

DRM-631 PP 	**R08**	G ¼ female	Fixed female, direct	Ø 64	104 °F	0 ... 3.6	145
	R15	G ½ female		Ø 64		0 ... 3.6	145
	N15	½ NPT female		Ø 64		0 ... 3.6	145
DRM-631/1 PP 	**R08**	G ¼ female	Fixed female, capillary	Ø 64		0 ... 3.6	145
	R15	G ½ female		Ø 64		0 ... 3.6	145
	N15	½ NPT female		Ø 64		0 ... 3.6	145
DRM-632 PVDF 	**R08**	G ¼ female	Fixed female, direct	Ø 64	122 °F	0 ... 3.6	232
	R15	G ½ female		Ø 64		0 ... 3.6	232
	N15	½ NPT female		Ø 64		0 ... 3.6	232
DRM-632/1 PVDF 	**R08**	G ¼ female	Fixed female, capillary	Ø 64		0 ... 3.6	232
	R15	G ½ female		Ø 64		0 ... 3.6	232
	N15	½ NPT female		Ø 64		0 ... 3.6	232

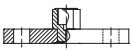
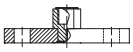
Diaphragm Seal Models (Direct or Remote Assembly)

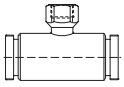
Model DRM	Size Code	Size	Note	Ø Diaphragm	Max. Media Temperature	Min. Span [PSIG]	Max. Span [PSIG]
DRM-633 	**F50**	DN 50	Flange to DIN2527 Form C, direct	Ø 64	212 °F	0 ... 3.6	580
	F1H	DN 100		Ø 64		0 ... 3.6	580
DRM-633/1 	**F50**	DN 50	Flange to DIN2527 Form C, capillary	Ø 64	482 °F	0 ... 3.6	580
	F1H	DN 100		Ø 64		0 ... 3.6	580

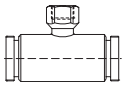
DRM-634 150 lbs 	**F25P150**	1"	Flange to ASME B16.5, direct	Ø 30	176 °F	0 ... 23.2	145
	F32P150	1¼"		Ø 38		0 ... 8.7	145
	F40P150	1 ½"		Ø 38		0 ... 8.7	145
	F50P150	2"		Ø 48		0 ... 5.8	145
	F65P150	2 ½"		Ø 48		0 ... 5.8	145
	F80P150	3"		Ø 64		0 ... 3.6	145
	F90P150	3 ½"		Ø 64		0 ... 3.6	145
	F1HP150	4"		Ø 64		0 ... 3.6	145
DRM-634 300 lbs 	**F25P300**	1"	Flange to ASME B16.5, direct	Ø 30	176 °F	0 ... 23.2	290
	F32P300	1¼"		Ø 38		0 ... 8.7	290
	F40P300	1 ½"		Ø 38		0 ... 8.7	290
	F50P300	2"		Ø 48		0 ... 5.8	290
	F65P300	2 ½"		Ø 48		0 ... 5.8	290
	F80P300	3"		Ø 64		0 ... 3.6	290
	F90P300	3 ½"		Ø 64		0 ... 3.6	290
	F1HP300	4"		Ø 64		0 ... 3.6	290
DRM-634 600 lbs 	**F25P600**	1"	Flange to ASME B16.5, direct	Ø 30	176 °F	0 ... 23.2	580
	F32P600	1¼"		Ø 38		0 ... 8.7	580
	F40P600	1 ½"		Ø 38		0 ... 8.7	580
	F50P600	2"		Ø 48		0 ... 5.8	580
	F65P600	2 ½"		Ø 48		0 ... 5.8	580
	F80P600	3"		Ø 64		0 ... 3.6	580
	F90P600	3 ½"		Ø 64		0 ... 3.6	580
	F1HP600	4"		Ø 64		0 ... 3.6	580
DRM-634 1500 lbs 	**F25P1K5**	1"	Flange to ASME B16.5, direct	Ø 30	176 °F	0 ... 23.2	1450
	F32P1K5	1¼"		Ø 38		0 ... 8.7	1450
	F40P1K5	1 ½"		Ø 38		0 ... 8.7	1450
	F50P1K5	2"		Ø 48		0 ... 5.8	1450
	F65P1K5	2 ½"		Ø 48		0 ... 5.8	1450
	F80P1K5	3"		Ø 64		0 ... 3.6	1450
	F90P1K5	3 ½"		Ø 64		0 ... 3.6	1450
	F1HP1K5	4"		Ø 64		0 ... 3.6	1450

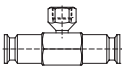
DRM-635 150 lbs 	**F25P150**	1"	Flange to ASME B16.5, capillary	Ø 30	482 °F	0 ... 23.2	145
	F32P150	1¼"		Ø 38		0 ... 8.7	145
	F40P150	1 ½"		Ø 38		0 ... 8.7	145
	F50P150	2"		Ø 48		0 ... 5.8	145
	F65P150	2 ½"		Ø 48		0 ... 5.8	145
	F80P150	3"		Ø 64		0 ... 3.6	145
	F90P150	3 ½"		Ø 64		0 ... 3.6	145
	F1HP150	4"		Ø 64		0 ... 3.6	145

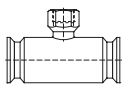
Diaphragm Seal Models (Direct or Remote Assembly)

Model DRM	Size Code	Size	Note	Ø Diaphragm	Max. Media Temperature	Min. Span [PSIG]	Max. Span [PSIG]
DRM-635 300 lbs 	**F25P300**	1"	Flange to ASME B16.5, capillary	Ø 30	482 °F	0 ... 23.2	290
	F32P300	1¼"		Ø 38		0 ... 8.7	290
	F40P300	1½"		Ø 38		0 ... 8.7	290
	F50P300	2"		Ø 48		0 ... 5.8	290
	F65P300	2½"		Ø 48		0 ... 5.8	290
	F80P300	3"		Ø 64		0 ... 3.6	290
	F90P300	3½"		Ø 64		0 ... 3.6	290
	F1HP300	4"		Ø 64		0 ... 3.6	290
DRM-635 600 lbs 	**F25P600**	1"	Flange to ASME B16.5, capillary	Ø 30	482 °F	0 ... 23.2	580
	F32P600	1¼"		Ø 38		0 ... 8.7	580
	F40P600	1½"		Ø 38		0 ... 8.7	580
	F50P600	2"		Ø 48		0 ... 5.8	580
	F65P600	2½"		Ø 48		0 ... 5.8	580
	F80P600	3"		Ø 64		0 ... 3.6	580
	F90P600	3½"		Ø 64		0 ... 3.6	580
	F1HP600	4"		Ø 64		0 ... 3.6	580
DRM-635 1500 lbs 	**F25P1K5**	1"	Flange to ASME B16.5, capillary	Ø 30	482 °F	0 ... 23.2	1450
	F32P1K5	1¼"		Ø 38		0 ... 8.7	1450
	F40P1K5	1½"		Ø 38		0 ... 8.7	1450
	F50P1K5	2"		Ø 48		0 ... 5.8	1450
	F65P1K5	2½"		Ø 48		0 ... 5.8	1450
	F80P1K5	3"		Ø 64		0 ... 3.6	1450
	F90P1K5	3½"		Ø 64		0 ... 3.6	1450
	F1HP1K5	4"		Ø 64		0 ... 3.6	1450

DRM 500 ISO Sterile 	**D15**	DN 15	Inline, direct	Inline	176 °F	0 ... 23.2	580
	D20	DN 20		Inline		0 ... 23.2	580
	D25	DN 25		Inline		0 ... 8.7	580
	D32	DN 32		Inline		0 ... 8.7	580
	D40	DN 40		Inline		0 ... 5.8	580
	D50	DN 50		Inline		0 ...5.8	580

DRM 501 ISO Sterile 	**D15**	DN 15	Inline, capillary	Inline	176 °F	0 ... 23.2	580
	D20	DN 20		Inline		0 ... 23.2	580
	D25	DN 25		Inline		0 ... 8.7	580
	D32	DN 32		Inline		0 ...8.7	580
	D40	DN 40		Inline		0 ... 5.8	580
	D50	DN 50		Inline		0 ... 5.8	580

DRM 502 Clamp ISO 2852 	**D15**	DN 15	Inline, direct	Inline	176 °F	0 ... 23.2	580
	D20	DN 20		Inline		0 ... 23.2	580
	D25	DN 25		Inline		0 ... 8.7	580
	D32	DN 32		Inline		0 ... 8.7	580
	D40	DN 40		Inline		0 ... 5.8	580
	D50	DN 50		Inline		0 ... 5.8	580

DRM 503 Clamp ISO 2852 	**D15**	DN 15	Inline, capillary	Inline	176 °F	0 ... 23.2	580
	D20	DN 20		Inline		0 ... 23.2	580
	D25	DN 25		Inline		0 ... 8.7	580
	D32	DN 32		Inline		0 ... 8.7	580
	D40	DN 40		Inline		0 ... 5.8	580
	D50	DN 50		Inline		0 ... 5.8	580

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Application Index

Please fill out the following Application Data Sheet when inquiring/ordering model PAS assembly with diaphragm seal model DRM

Order/ Inquiry Ref./ Item No.

Pressure Transmitter (Model, Calibration range)	
Diaphragm Seal (Model, Size Code)	
Diaphragm material of DRM (wetted part)	

Media:		
Operating density		**g/cm² or S.G.**
Operating viscosity		**cSt**

Temperature:	**nominal**	**minimal**	**maximal**	
Medium temperature				**°C/°F**
Ambient temperature				**°C/°F**
Rinsing temperature diaphragm seal				**°C/°F**
Rinsing temperature capillary				**°C/°F**

Pressure Specification:		**Value**	
1.1) Operating pressure static	or 1.2		**bar/psi**
1.2) Operating pressure dynamic min + max	or 1.3		**bar/psi**
1.3) Operating pressure as frequency in Hz			**Hz**
2.) Max. negative pressure			
3.) Max. over pressure			
4.1) Display damping: without / light / middle / strong	or 4.2		
4.2) Pressure decrease with time + range			

Arrangement with Direct Mounting:	
1.) Standard (DRM six o'clock position)	or 2.0
2.) Left (DRM nine o'clock position)	or 3.0
3.) Right (DRM three o'clock position, see Fig. 1)	or 4.0
4.) Special, with description	or 5.0
5.) Position (vertically/horizontally) with pipe diaphragm seal	

Arrangement with Capillary:	
1.) Standard (DRM six o'clock position)	or 2.0
2.) On the side (DRM three or 9 o'clock position)	or 3.0
3.) Top (DRM twelve o'clock position)	or 4.0
4.) Special, with description	or 5.0
5.) Position (vertically/horizontally) with pipe diaphragm seal	

Capillary (Stainless steel 1.4571/316Ti):		
Length in 'inches'		**in**
Protection hose required (Yes/No)		

Continued.....

Application Index

Please fill out the following Application Data Sheet when inquiring/ordering model PAD assembly with diaphragm seal model DRM

Order/ Inquiry Ref./ Item No.

Height Adjustment:			
	No		
1.) PAS same level as DRM (diaphragm - pressure transmitter)	or 2.)		
	Yes		
2.) PAS higher than DRM (specify Δh as in Fig. 2 or Fig. 3)	or 3.)		**m**
3.) PAS lower than DRM (specify Δh as in Fig. 2 or Fig. 3)			**m**

Options:	
Extended diaphragm seal (Mark the desired box)	
No	
Yes	
If Yes, length 'R_L' of extended diaphragm seal (in mm)	
If Yes, length 'R_L' of extended diaphragm seal (in inches)	
Fill Liquid (Mark the desired box)	
Glycerine oil (silicone free, food grade) for Operation temp. (14 … 176 °F)	
Paraffine oil (silicone free, food grade) for Operation temp. (14 … 248 °F)	
Silicone oil for Operation temp. (-40 … 392 °F)	
Silicone oil for Operation temp. (-4 … 662 °F)	
Silicone oil for Operation temp. (-4 … 752 °F)	

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