Zertifiziertes QM-System
DIN EN ISO 9001
Zertifikat-Nr. 01017

Pressure Transmitter

measuring • monitoring • analysing

PAS

- Span: -1 ... 1.5 bar up to 0...600 bar
- t_{max}: +120 °C
- Process connection: ¼ NPT, ½ NPT, various diaphragm seals on request
- Material: 316L stainless steel, HAST-C, Tantalum
- Output: 4 ... 20 mA
- Sensor input: gauge- and absolute pressure
- Self-diagnostic function: sensor, memory A/D converter, power etc.
- Digital communication with HART® protocol
- ATEX-approval

KOBOLD companies worldwide:

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Description

The Kobold Pressure Transmitter model PAS is a micro processor-based high performance transmitter, which has a flexible pressure calibration and a flexible output signal. It has an automatic compensation of ambient temperature and process variables. A communication with the instrument and a configuration of various parameters is possible via the HART® protocol. All data of sensor is to be input, modified and stored in an 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
- Measuring of gauge and absolute pressure

Reliability

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

Transmitter Description

Electronics module

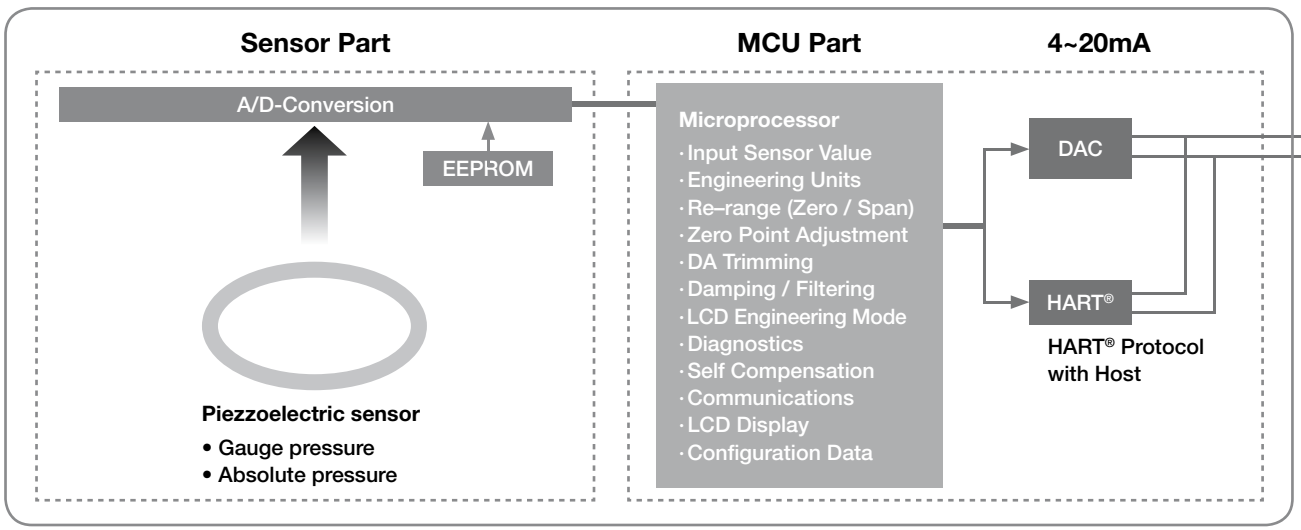
The Electronics module consists of a circuit board sealed in an enclosure. There are a MCU module, an analogue module, a LCD module and a terminal module in a transmitter.

The MCU module acquires the digital value from the analogue 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 systems such as DCS (Distrubuted Control System). The Power section of MCU module has a DC-to-DC power conversion circuit and an input/output isola tion 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 piezo-resistive 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 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 EEPROM memory.
- EEPROM stores sensor information and correction coefficients separately from MCU module, allowing for easy repair, reconfiguration and replacement.

Basic Setups

Following settings can be easily configured from any host that support the 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 trimming

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

Self-diagnosis and others

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

Process Connection via Diaphragm Seals

For the connection of the pressure transmitter model PAS to all different process connections diverse diaphragm seal versions are necessary. They can be connected to the pressure transmitter by direct mounting 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 are always to be requested separately to the pressure transmitter.

Technical Details

Measuring principle:	piezo-resistive sensor
Measuring span:	-1…1.5 bar up to 0… 600 bar (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 °C…+120 °C (Approval codes may effect limits. Max. ambiant temperature at LCD = +80 C.)
Ambient temperature:	-30 °C…+80 °C
Storage temperature:	-40 °C…+85 °C (without condensing)
Humidity limit:	5 %...98 % RH

Pressure limits (with silicone oil)
(Valid for stand-alone unit only without assembled diaphragm seals.)

Model G	-1...3 bar (for range 3) -1...30 bar (for range 4) 0...105 bar (for range 5) 0...400 bar (for range 6) 0...750 bar (for range 7)
Model A	0...5 bar (for range 4) 0...30 bar (for range 5) 0...52 bar (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:	Buna-N
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:	¼" NPT female (via adapter) ½" NPT female
Mounting position:	upright
Display:	5 Digit LCD
Power supply:	12 … 45 V_{DC} -operation 17.5 … 45 V_{DC} -HART® communi-cations
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 superimpo-sed 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:	1,7 kg (ohne Zusatzoptionen) …2.83 kg (st. steel housing)
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 Zulassung (Option):	Ⓔx 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	Messbereiche		
		diaphragm / other	code	measuring range	measuring span
			X[2]	special	special
			for PAS-G		
PAS- Pressure Transmitter	**G** = Gauge Pressure Transmitter **A** = Absolute Pressure Transmitter	**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	**3** **4** **5** **6** **7**	-1...+1.5 bar -1...+15 bar 0...50 bar 0...250 bar 0...600 bar	15 mbar…1.5 bar 150 mbar…15 bar 500 mbar…50 bar 2,5 bar…250 bar 6 bar…600 bar
			for PAS-A		
			4 **5** **6**	0...2.5 bar 0...15 bar 0...25 bar	25 mbar…2.5 bar 150 mbar…15 bar 250 mbar…25 bar

Order Details continued:

Filling liquid	Process connection	Electrical connection	Approvals for hazardous applications	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 IP 67) **F** = ATEX, flame-proof, Ex d **E*** = ATEX, intrinsically safe, Ex i * option E in preparation	**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 **Y**[2] = special

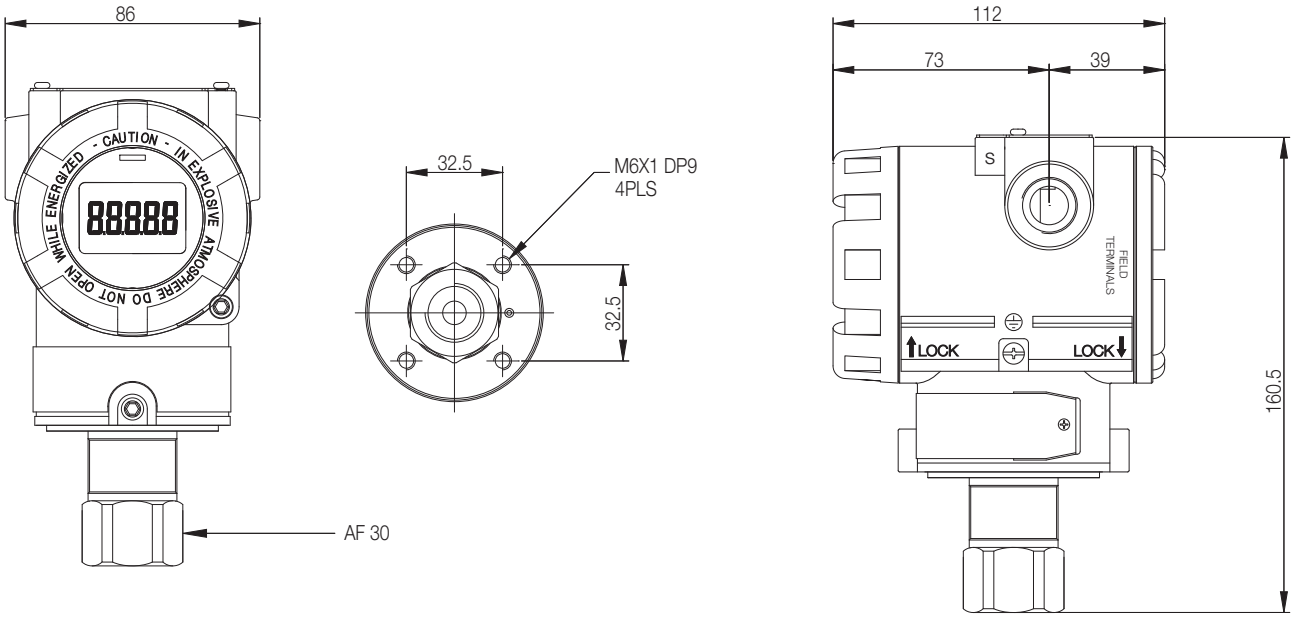
[1] on request
[2] Order code X and Y must be specified in writing
[3] Diaphragm seal model and application data to be specified in clear text. Application Index on page 17-18 to be filled out.
For summary of diaphragm seal models and possible ranges, see page 9 onwards. For dimensional details see DRM 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**

Dimensions

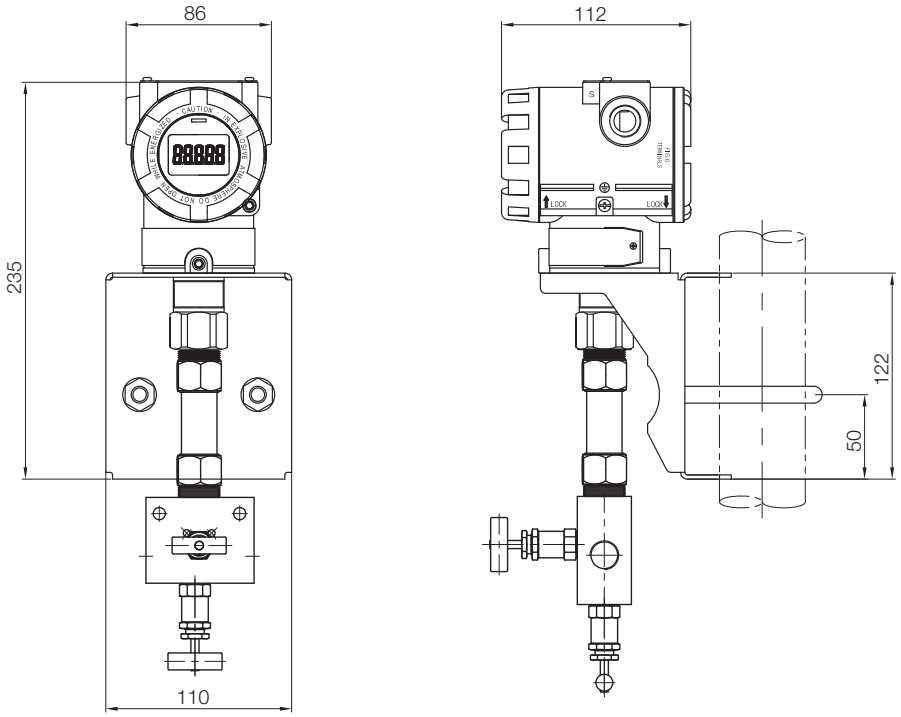
Standard model



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

Technical Specifications (of 2-way manifold valve)

Material: 316SS
Connection & Size: ½" NPT (F)
Pressure rating: 6,000 psig at 38 °C (≈410 bar)
Temperature range: -54°C ... +232 °C



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

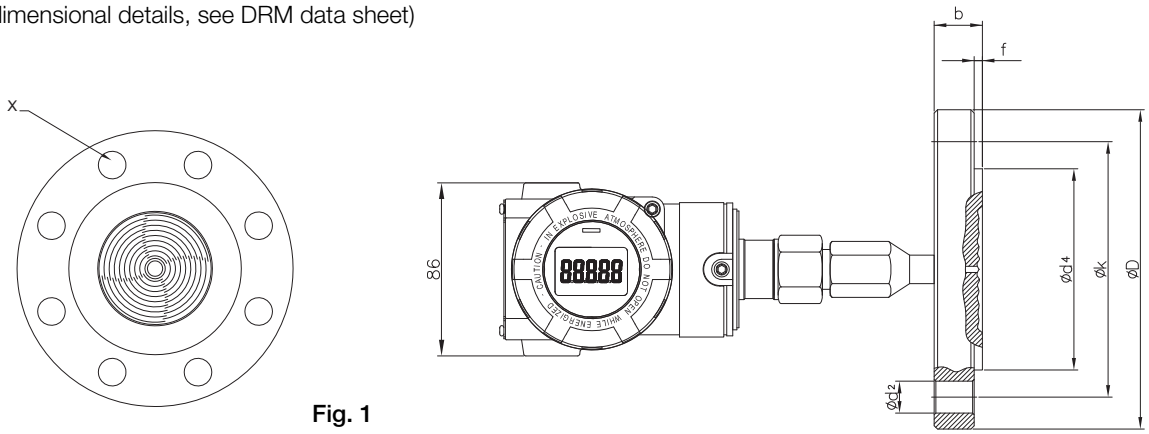


Fig. 1

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

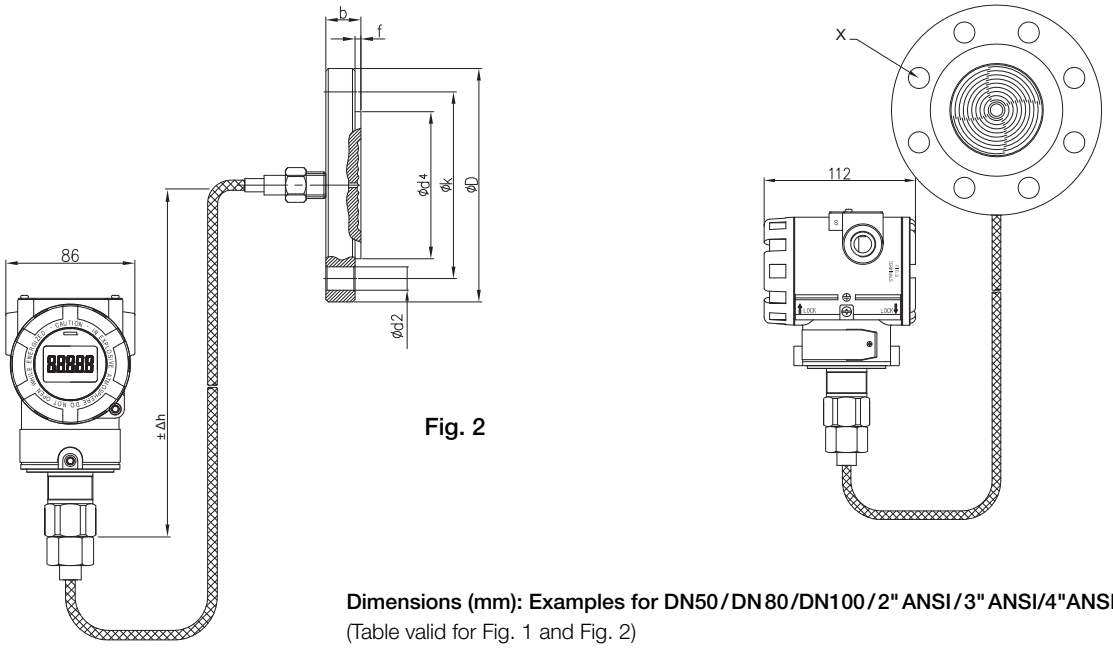


Fig. 2

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	d²	b	f	d⁴	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 remote assembed with extended diaphragm seal and capillary
(for dimensional details, see DRM data sheet)

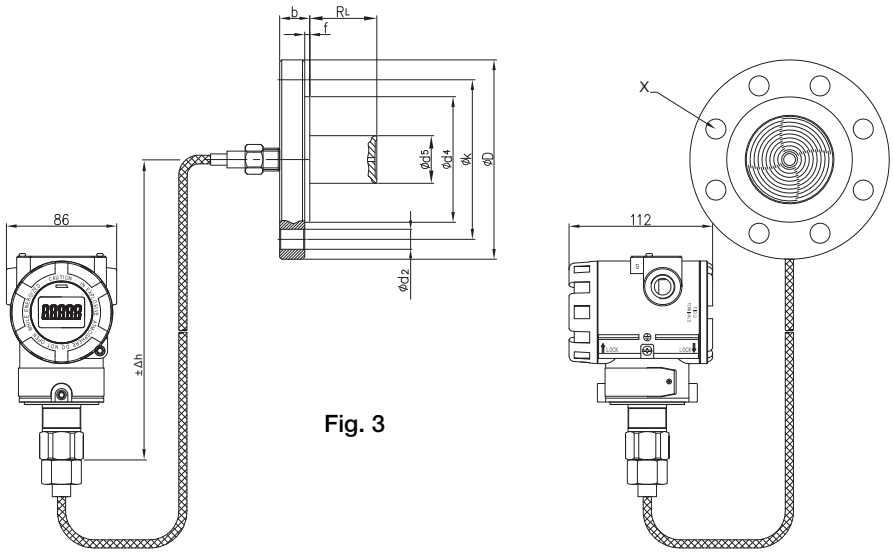


Fig. 3

Dimensions (mm): Examples for DN50 / DN80 / DN100 / 2" ANSI / 3" ANSI / 4" ANSI

Flange type	D	k	d_2	b	f	d_4	X	d_5	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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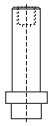
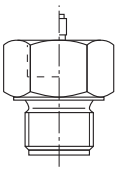
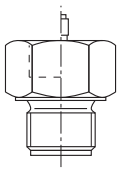
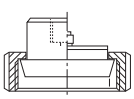
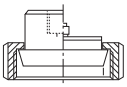
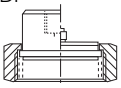
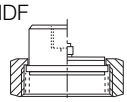
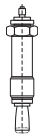
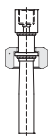
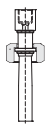
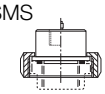
Diaphragm Seal Models (Direct or Remote assembly)

(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 might be possible, but must be verified by Kobold for each application.
The indicated min./max. spans do not consider any coating of diaphragm seals. For additional information contact Kobold.

Model DRM	Size Code	Size	Note	Ø Diaphragm	Max. Medium Temperature	Min. Span [bar]	Max. Span [bar]
DRM-189 	**F23**	Ø 18	for homogenising machines, direct	Ø 18	+120 °C	0 ... 4	1000
DRM-600 	**R15**	G ½	fixed male thread, direct	Ø 18	+100 °C	0 ... 4	1000
	R20	G ¾		Ø 23.8		0 ... 1.6	1000
	R25	G 1		Ø 29.5		0 ... 1	600
	R32	G 1 ¼		Ø 38		0 ... 0.6	600
	R40	G 1 ½		Ø 40		0 ... 0.6	600
	N15	½" NPT		Ø 18		0 ... 4	1000
	N20	¾" NPT		Ø 18		0 ... 4	1000
	N25	1" NPT		Ø 23.8		0 ... 1.6	600
	N32	1 ¼" NPT		Ø 34.5		0 ... 1	600
	M20	M20 x 1,5		Ø 18		0 ... 4	600
	M48	M 48 x 3		Ø 40		0 ... 0.6	600
DRM-601 	**R15**	G ½	fixed male thread with capillary	Ø 18	+200 °C	0 ... 4	1000
	R20	G ¾		Ø 23.8		0 ... 1.6	1000
	R25	G 1		Ø 29.5		0 ... 1	600
	R32	G 1 ¼		Ø 38		0 ... 0.6	600
	R40	G 1 ½		Ø 40		0 ... 0.6	600
	N15	½" NPT		Ø 18		0 ... 4	1000
	N20	¾" NPT		Ø 18		0 ... 4	1000
	N25	1" NPT		Ø 23.8		0 ... 1.6	600
	N32	1 ¼" NPT		Ø 34.5		0 ... 1	600
	M20	M20 x 1,5		Ø 18		0 ... 4	600
	M48	M 48 x 3		Ø 40		0 ... 0.6	600
DRM-602 DIN 11851 	**R20**	DN 20	dairy connection, direct	Ø 18	+100 °C	0 ... 4	40
	R25	DN 25		Ø 23.8		0 ... 1.6	40
	R32	DN 32		Ø 29.5		0 ... 1	40
	R40	DN 40		Ø 38		0 ... 0.6	40
	R50	DN 50		Ø 45.5		0 ... 0.4	25
	R65	DN 65		Ø 64		0 ... 0.25	25
	R80	DN 80		Ø 64		0 ... 0.25	25
	R1H	DN 100		Ø 64		0 ... 0.25	25

Diaphragm Seal Models (Direct or Remote assembly) ...suite

Model DRM	Size Code	Size	Note	Ø Diaphragm	Max. Medium Tepmperature	Min. Span [bar]	Max. Span [bar]
DRM-603 DIN 11851 	**R20**	DN 20	dairy connection, capillary	Ø 18	+200 °C	0 ... 4	40
	R25	DN 25		Ø 23.8		0 ... 1.6	40
	R32	DN 32		Ø 29.5		0 ... 1	40
	R40	DN 40		Ø 38		0 ... 0.6	40
	R50	DN 50		Ø 45.5		0 ... 0.4	25
	R65	DN 65		Ø 64		0 ... 0.25	25
	R80	DN 80		Ø 64		0 ... 0.25	25
	R1H	DN 100		Ø 64		0 ... 0.25	25
DRM-604 IDF 	**R25**	1"	IDF socket with union nut, direct	Ø 29.5	+100 °C	0 ... 1.6	40
	R40	1 ½"		Ø 42		0 ... 1	40
	R50	2"		Ø 56		0 ... 0.6	40
DRM-605 IDF 	**R25**	1"	IDF socket with union nut, capillary	Ø 29.5	+200 °C	0 ... 1	40
	R40	1 ½"		Ø 42		0 ... 0.6	40
	R50	2"		Ø 56		0 ... 0.4	40
DRM-606 	**R20**	G ¾	Capsule seal with rotable male, capillary	short capsule	+350 °C	0 ... 6	600
	R28	M 28 x 1.5				0 ... 6	600
DRM-607 	**R15**	G ½	Capsule seal with fixed male, direct	long capsule	+100 °C	0 ... 1	600
	R20	G ¾				0 ... 1	600
DRM-607/1 	**R15**	G ¾	Capsule seal with fixed male, direct	long capsule		0 ... 1	600
	R20	G 1				0 ... 1	600
DRM-608/1 	**R20**	G ¾	Capsule seal with union nut, capillary	long capsule	+350 °C	0 ... 1	600
	R25	G 1	Capsule seal with union nut, capillary	long capsule		0 ... 1	600
DRM-610 SMS 	**R40**	1 ½"	SMS socket with union nut, direct	Ø 34.5	+100 °C	0 ... 1	40
	R50	2"		Ø 45.5		0 ... 0.4	40

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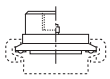
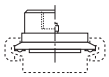
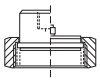
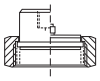
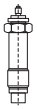
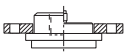
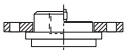
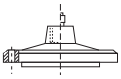
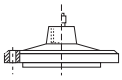
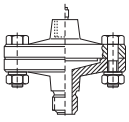
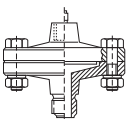
Diaphragm Seal Models (Direct or Remote assembly) ...suite

Model DRM	Size Code	Size	Note	Ø Diaphragm	Max. Medium Tepmperature	Min. Span [bar]	Max. Span [bar]
DRM-611 SMS 	**R40**	1 ½"	SMS socket with union nut, capillary	Ø 34.5	+200 °C	0 ... 0.1	40
	R50	2"		Ø 45.5		0 ... 0.4	40
DRM-612 Clamp 	**R25**	1"	Tri-Clamp, direct	Ø 18	+100 °C	0...4	16
	F40	1 ½"		Ø 35.5		0...1	16
	F50	2"		Ø 45.5		0...0.4	16
	R65	2 ½"		Ø 52		0...0.4	16
	R80	3"		Ø 64		0...0.25	10
DRM-613 Clamp 	**R25**	1"	Tri-Clamp, capillary	Ø 18	+200 °C	0...4	16
	F40	1 ½"		Ø 35.5		0...1	16
	F50	2"		Ø 45.5		0...0.4	16
	R65	2 ½"		Ø 52		0...0.4	16
	R80	3"		Ø 64		0...0.25	10
DRM-614 APV-RJT 	**R20**	1"	Union-nut, direct	Ø 29.5	+100 °C	0 ... 1.6	100
	R40	1 ½"		Ø 42.5		0 ... 0.6	100
	R50	2"		Ø 56		0 ... 0.4	100
DRM-615 APV-RJT 	**R20**	1"	Union-nut, capillary	Ø 29.5	+200 °C	0 ... 1.6	100
	R40	1 ½"		Ø 42.5		0 ... 0.6	100
	R50	2"		Ø 56		0 ... 0.4	100
DRM-616 	**R45**	M 45 x 2	Union-nut, direct	Ø 23.8	+100 °C	0 ... 1.6	1600
DRM-617 	**R45**	M 45 x 2	Union-nut, capillary	Ø 23.8	+120 °C	0 ... 1.6	1600

Diaphragm Seal Models (Direct or Remote assembly) ...suite

Model DRM	Size Code	Size	Note	Ø Diaphragm	Max. Medium Tepmperature	Min. Span [bar]	Max. Span [bar]
DRM-620 	**R20**	G¾	Union-nut, capillary	Ø 23.8	+350 °C	0 ... 1.6	600
DRM-620/1 	**R20**	G¾	Union-nut, capillary	Ø 23.8	+350 °C	0 ... 1.6	600
DRM-621 	**F38**	Ø 38 mm	Flange, direct	Ø 38	+250 °C	0 ... 0.4	40
DRM-622 	**F48**	Ø 48 mm	Flange, direct	Ø 48	+100 °C	0 ... 0.4	40
	F48 1	Ø 48 mm		Ø 48		0 ... 0.4	40
	F48 2	Ø 48 mm		Ø 48		0 ... 0.4	40
DRM-622/1 	**F48**	Ø 48 mm	Flange, capillary	Ø 48	+200 °C	0 ... 0.4	40
	F48 1	Ø 48 mm		Ø 48		0 ... 0.4	40
	F48 2	Ø 48 mm		Ø 48		0 ... 0.4	40
DRM-624 	**F1H**	Ø 100 mm	Flange, direct	Ø 63.5	+100 °C	0 ... 0.25	40
	F1H T	Ø 100 mm	Flange, direct			0 ... 0.25	40
DRM-624/1 	**F1H**	Ø 100 mm	Flange, capillary		+250 °C	0 ... 0.25	40
DRM-625 	**R15**	G½	Fix male, direct	Ø 63.5	+100 °C	0 ... 0.25	40
	N15	½ NPT				0 ... 0.25	40
	I15	G½ IG				0 ... 0.25	40
DRM-625/1 	**R15**	G½	Fix male, capillary	Ø 63.5	+250 °C	0 ... 0.25	40
	N15	½ NPT				0 ... 0.25	40
	I15	G½ IG				0 ... 0.25	40

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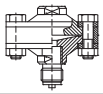
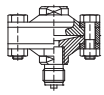
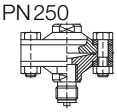
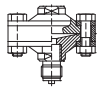
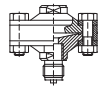
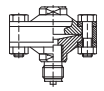
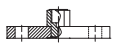
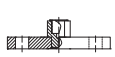
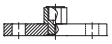
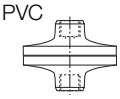
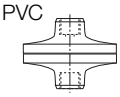
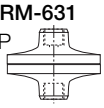
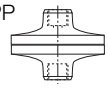
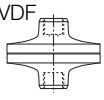
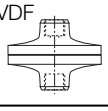
Diaphragm Seal Models (Direct or Remote assembly) ...suite

Model DRM	Size Code	Size	Note	Ø Diaphragm	Max. Medium Tepmperature	Min. Span [bar]	Max. Span [bar]
DRM-626 PN 25 	**R08 A025**	G ¼ male	Fix male, direct	Ø 56	+80 °C	0 ... 0.4	25
	R08 I025	G ¼ female	Fix female, direct	Ø 56		0 ... 0.4	25
	R15 A025	G ½ male	Fix male, direct	Ø 56		0 ... 0.4	25
	R15 I025	G ½ female	Fix female, direct	Ø 56		0 ... 0.4	25
	N15 A025	½ NPT male	Fix male, direct	Ø 56		0 ... 0.4	25
DRM-626 PN 100 	**R08 A100**	G ¼ male	Fix male, direct	Ø 56	+80 °C	0 ... 0.4	100
	R08 I100	G ¼ female	Fix female, direct	Ø 56		0 ... 0.4	100
	R15 A100	G ½ male	Fix male, direct	Ø 56		0 ... 0.4	100
	R15 I100	G ½ female	Fix female, direct	Ø 56		0 ... 0.4	100
	N15 A100	½ NPT male	Fix male, direct	Ø 56		0 ... 0.4	100
DRM-626 PN 250 	**R08 A250**	G ¼ male	Fix male, direct	Ø 56	+80 °C	0 ... 0.4	250
	R08 I250	G ¼ female	Fix female, direct	Ø 56		0 ... 0.4	250
	R15 A250	G ½ male	Fix male, direct	Ø 56		0 ... 0.4	250
	R15 I250	G ½ female	Fix female, direct	Ø 56		0 ... 0.4	250
	N15 A250	½ NPT male	Fix male, direct	Ø 56		0 ... 0.4	250
DRM-627 PN 25 	**R08 A025**	G ¼ male	Fix male, capillary	Ø 56	+250 °C	0 ... 0.4	25
	R08 I025	G ¼ female	Fix female, capillary	Ø 56		0 ... 0.4	25
	R15 A025	G ½ male	Fix male, capillary	Ø 56		0 ... 0.4	25
	R15 I025	G ½ female	Fix female, capillary	Ø 56		0 ... 0.4	25
	N15 A025	½ NPT male	Fix male, capillary	Ø 56		0 ... 0.4	25
DRM-627 PN 100 	**R08 A100**	G ¼ male	Fix male, capillary	Ø 56	+250 °C	0 ... 0.4	100
	R08 I100	G ¼ female	Fix female, capillary	Ø 56		0 ... 0.4	100
	R15 A100	G ½ male	Fix male, capillary	Ø 56		0 ... 0.4	100
	R15 I100	G ½ female	Fix female, capillary	Ø 56		0 ... 0.4	100
	N15 A100	½ NPT male	Fix male, capillary	Ø 56		0 ... 0.4	100
DRM-627 PN 250 	**R08 A250**	G ¼ male	Fix male, capillary	Ø 56	+250 °C	0 ... 0.4	250
	R08 I250	G ¼ female	Fix female, capillary	Ø 56		0 ... 0.4	250
	R15 A250	G ½ male	Fix male, capillary	Ø 56		0 ... 0.4	250
	R15 I250	G ½ female	Fix female, capillary	Ø 56		0 ... 0.4	250
	N15 A250	½ NPT male	Fix male, capillary	Ø 56		0 ... 0.4	250
DRM-628 PN 06 	**F25P06**	DN 25	Flange to EN1092-1, direct	Ø 24	+80 °C	0 ... 1.6	6
	F32P06	DN 32		Ø 30		0 ... 1.6	6
	F40P06	DN 40		Ø 38		0 ... 0.6	6
	F50P06	DN 50		Ø 48		0 ... 0.4	6
	F65P06	DN 65		Ø 64		0 ... 0.25	6
	F80P06	DN 80		Ø 64		0 ... 0.25	6
	N1HP06	DN 100		Ø 64		0 ... 0.25	6
DRM-628 PN 16 	**F25P16**	DN 25	Flange to EN1092-1, direct	Ø 24	+80 °C	0 ... 1.6	16
	F32P16	DN 32		Ø 30		0 ... 1.6	16
	F40P16	DN 40		Ø 38		0 ... 0.6	16
	F50P16	DN 50		Ø 48		0 ... 0.4	16
	F65P16	DN 65		Ø 64		0 ... 0.25	16
	F80P16	DN 80		Ø 64		0 ... 0.25	16
	N1HP16	DN 100		Ø 64		0 ... 0.25	16
DRM-628 PN 40 	**F25P40**	DN 25	Flange to EN1092-1, direct	Ø 24	+80 °C	0 ... 1.6	40
	F32P40	DN 32		Ø 30		0 ... 1.6	40
	F40P40	DN 40		Ø 38		0 ... 0.6	40
	F50P40	DN 50		Ø 48		0 ... 0.4	40
	F65P40	DN 65		Ø 64		0 ... 0.25	40
	F80P40	DN 80		Ø 64		0 ... 0.25	40
	N1HP40	DN 100		Ø 64		0 ... 0.25	40

Diaphragm Seal Models (Direct or Remote assembly) ...suite

Model DRM	Size Code	Size	Note	Ø Diaphragm	Max. Medium Tepmperature	Min. Span [bar]	Max. Span [bar]
DRM-629 PN 06 	**F25P06**	DN 25	Flange to EN1092-1, capillary	Ø 24	+250 °C	0 ... 1.6	6
	F32P06	DN 32		Ø 30		0 ... 1.6	6
	F40P06	DN 40		Ø 38		0 ... 0.6	6
	F50P06	DN 50		Ø 48		0 ... 0.4	6
	F65P06	DN 65		Ø 64		0 ... 0.25	6
	F80P06	DN 80		Ø 64		0 ... 0.25	6
	N1HP06	DN 100		Ø 64		0 ... 0.25	6
DRM-629 PN 16 	**F25P16**	DN 25	Flange to EN1092-1, capillary	Ø 24	+250 °C	0 ... 1.6	16
	F32P16	DN 32		Ø 30		0 ... 1.6	16
	F40P16	DN 40		Ø 38		0 ... 0.6	16
	F50P16	DN 50		Ø 48		0 ... 0.4	16
	F65P16	DN 65		Ø 64		0 ... 0.25	16
	F80P16	DN 80		Ø 64		0 ... 0.25	16
	N1HP16	DN 100		Ø 64		0 ... 0.25	16
DRM-629 PN 40 	**F25P40**	DN 25	Flange to EN1092-1, capillary	Ø 24	+250 °C	0 ... 1.6	40
	F32P40	DN 32		Ø 30		0 ... 1.6	40
	F40P40	DN 40		Ø 38		0 ... 0.6	40
	F50P40	DN 50		Ø 48		0 ... 0.4	40
	F65P40	DN 65		Ø 64		0 ... 0.25	40
	F80P40	DN 80		Ø 64		0 ... 0.25	40
	N1HP40	DN 100		Ø 64		0 ... 0.25	40
DRM 630 PVC 	**R08**	G ¼ female	Fix female, direct	Ø 64	+40 °C	0 ... 0.25	10
	R15	G ½ female		Ø 64		0 ... 0.25	10
	N15	½ NPT female		Ø 64		0 ... 0.25	10
DRM-630/1 PVC 	**R08**	G ¼ female	Fix female, capillary	Ø 64		0 ... 0.25	10
	R15	G ½ female		Ø 64		0 ... 0.25	10
	N15	½ NPT female		Ø 64		0 ... 0.25	10
DRM-631 PP 	**R08**	G ¼ female	Fix female, direct	Ø 64	+40 °C	0 ... 0.25	10
	R15	G ½ female		Ø 64		0 ... 0.25	10
	N15	½ NPT female		Ø 64		0 ... 0.25	10
DRM-631/1 PP 	**R08**	G ¼ female	Fix female, capillary	Ø 64		0 ... 0.25	10
	R15	G ½ female		Ø 64		0 ... 0.25	10
	N15	½ NPT female		Ø 64		0 ... 0.25	10
DRM-632 PVDF 	**R08**	G ¼ female	Fix female, direct	Ø 64	+50 °C	0 ... 0.25	16
	R15	G ½ female		Ø 64		0 ... 0.25	16
	N15	½ NPT female		Ø 64		0 ... 0.25	16
DRM-632/1 PVDF 	**R08**	G ¼ female	Fix female, capillary	Ø 64		0 ... 0.25	16
	R15	G ½ female		Ø 64		0 ... 0.25	16
	N15	½ NPT female		Ø 64		0 ... 0.25	16

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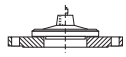
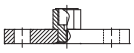
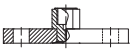
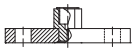
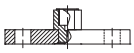
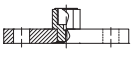
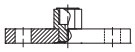
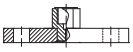
Diaphragm Seal Models (Direct or Remote assembly) ...suite

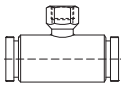
Model DRM	Size Code	Size	Note	Ø Diaphragm	Max. Medium Tepmperature	Min. Span [bar]	Max. Span [bar]
DRM-633 	**F50**	DN 50	Flange to DIN2527 Form C, direct	Ø 64	+100 °C	0 ... 0.25	40
	F1H	DN 100		Ø 64		0 ... 0.25	40
DRM-633/1 	**F50**	DN 50	Flange to DIN2527 Form C, capillary	Ø 64	+250 °C	0 ... 0.25	40
	F1H	DN 100		Ø 64		0 ... 0.25	40

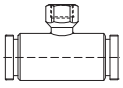
DRM-634 150 lbs 	**F25P150**	1"	Flange to ASME B16.5, direct	Ø 30	+80 °C	0 ... 1.6	10
	F32P150	1¼"		Ø 38		0 ... 0.6	10
	F40P150	1½"		Ø 38		0 ... 0.6	10
	F50P150	2"		Ø 48		0 ... 0.4	10
	F65P150	2½"		Ø 48		0 ... 0.4	10
	F80P150	3"		Ø 64		0 ... 0.25	10
	F90P150	3½"		Ø 64		0 ... 0.25	10
	F1HP150	4"		Ø 64		0 ... 0.25	10
DRM-634 300 lbs 	**F25P300**	1"	Flange to ASME B16.5, direct	Ø 30	+80 °C	0 ... 1.6	20
	F32P300	1¼"		Ø 38		0 ... 0.6	20
	F40P300	1½"		Ø 38		0 ... 0.6	20
	F50P300	2"		Ø 48		0 ... 0.4	20
	F65P300	2½"		Ø 48		0 ... 0.4	20
	F80P300	3"		Ø 64		0 ... 0.25	20
	F90P300	3½"		Ø 64		0 ... 0.25	20
	F1HP300	4"		Ø 64		0 ... 0.25	20
DRM-634 600 lbs 	**F25P600**	1"	Flange to ASME B16.5, direct	Ø 30	+80 °C	0 ... 1.6	40
	F32P600	1¼"		Ø 38		0 ... 0.6	40
	F40P600	1½"		Ø 38		0 ... 0.6	40
	F50P600	2"		Ø 48		0 ... 0.4	40
	F65P600	2½"		Ø 48		0 ... 0.4	40
	F80P600	3"		Ø 64		0 ... 0.25	40
	F90P600	3½"		Ø 64		0 ... 0.25	40
	F1HP600	4"		Ø 64		0 ... 0.25	40
DRM-634 1500 lbs 	**F25P1K5**	1"	Flange to ASME B16.5, direct	Ø 30	+80 °C	0 ... 1.6	100
	F32P1K5	1¼"		Ø 38		0 ... 0.6	100
	F40P1K5	1½"		Ø 38		0 ... 0.6	100
	F50P1K5	2"		Ø 48		0 ... 0.4	100
	F65P1K5	2½"		Ø 48		0 ... 0.4	100
	F80P1K5	3"		Ø 64		0 ... 0.25	100
	F90P1K5	3½"		Ø 64		0 ... 0.25	100
	F1HP1K5	4"		Ø 64		0 ... 0.25	100

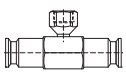
DRM-635 150 lbs 	**F25P150**	1"	Flange to ASME B16.5, capillary	Ø 30	+250 °C	0 ... 1.6	10
	F32P150	1¼"		Ø 38		0 ... 0.6	10
	F40P150	1½"		Ø 38		0 ... 0.6	10
	F50P150	2"		Ø 48		0 ... 0.4	10
	F65P150	2½"		Ø 48		0 ... 0.4	10
	F80P150	3"		Ø 64		0 ... 0.25	10
	F90P150	3½"		Ø 64		0 ... 0.25	10
	F1HP150	4"		Ø 64		0 ... 0.25	10

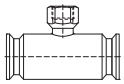
Diaphragm Seal Models (Direct or Remote assembly) ...suite

Model DRM	Size Code	Size	Note	Ø Diaphragm	Max. Medium Tepmperature	Min. Span [bar]	Max. Span [bar]
DRM-635 300 lbs 	**F25P300**	1"	Flange to ASME B16.5, capillary	Ø 30	+250 °C	0 ... 1.6	20
	F32P300	1¼"		Ø 38		0 ... 0.6	20
	F40P300	1½"		Ø 38		0 ... 0.6	20
	F50P300	2"		Ø 48		0 ... 0.4	20
	F65P300	2½"		Ø 48		0 ... 0.4	20
	F80P300	3"		Ø 64		0 ... 0.25	20
	F90P300	3½"		Ø 64		0 ... 0.25	20
	F1HP300	4"		Ø 64		0 ... 0.25	20
DRM-635 600 lbs 	**F25P600**	1"	Flange to ASME B16.5, capillary	Ø 30	+250 °C	0 ... 1.6	40
	F32P600	1¼"		Ø 38		0 ... 0.6	40
	F40P600	1½"		Ø 38		0 ... 0.6	40
	F50P600	2"		Ø 48		0 ... 0.4	40
	F65P600	2½"		Ø 48		0 ... 0.4	40
	F80P600	3"		Ø 64		0 ... 0.25	40
	F90P600	3½"		Ø 64		0 ... 0.25	40
	F1HP600	4"		Ø 64		0 ... 0.25	40
DRM-635 1500 lbs 	**F25P1K5**	1"	Flange to ASME B16.5, capillary	Ø 30	+250 °C	0 ... 1.6	100
	F32P1K5	1¼"		Ø 38		0 ... 0.6	100
	F40P1K5	1½"		Ø 38		0 ... 0.6	100
	F50P1K5	2"		Ø 48		0 ... 0.4	100
	F65P1K5	2½"		Ø 48		0 ... 0.4	100
	F80P1K5	3"		Ø 64		0 ... 0.25	100
	F90P1K5	3½"		Ø 64		0 ... 0.25	100
	F1HP1K5	4"		Ø 64		0 ... 0.25	100

DRM 500 ISO Sterile 	**D15**	DN 15	Inline, direct	Inline	+80 °C	0 ... 1.6	40
	D20	DN 20		Inline		0 ... 1.6	40
	D25	DN 25		Inline		0 ... 0.6	40
	D32	DN 32		Inline		0 ... 0.6	40
	D40	DN 40		Inline		0 ... 0.4	40
	D50	DN 50		Inline		0 ... 0.4	40

DRM 501 ISO Sterile 	**D15**	DN 15	Inline, capillary	Inline	+80 °C	0 ... 1.6	40
	D20	DN 20		Inline		0 ... 1.6	40
	D25	DN 25		Inline		0 ... 0.6	40
	D32	DN 32		Inline		0 ... 0.6	40
	D40	DN 40		Inline		0 ... 0.4	40
	D50	DN 50		Inline		0 ... 0.4	40

DRM 502 Clamp ISO 2852 	**D15**	DN 15	Inline, direct	Inline	+80 °C	0 ... 1.6	40
	D20	DN 20		Inline		0 ... 1.6	40
	D25	DN 25		Inline		0 ... 0.6	40
	D32	DN 32		Inline		0 ... 0.6	40
	D40	DN 40		Inline		0 ... 0.4	40
	D50	DN 50		Inline		0 ... 0.4	40

DRM 503 Clamp ISO 2852 	**D15**	DN 15	Inline, capillary	Inline	+80 °C	0 ... 1.6	40
	D20	DN 20		Inline		0 ... 1.6	40
	D25	DN 25		Inline		0 ... 0.6	40
	D32	DN 32		Inline		0 ... 0.6	40
	D40	DN 40		Inline		0 ... 0.4	40
	D50	DN 50		Inline		0 ... 0.4	40

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Application Index

Please fill out the following Application Data Sheet while inquiring/ordering model PAS assemble 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)	

Medium:		
Operating density		**g/cm²**
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 'mm'		**mm**
protection hose required (Yes/No)		

Application Index (suite)
Please fill out the following Application Data Sheet while inquiring/ordering model PAD assemble 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 (Tick 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)	
Filling liquid (Tick mark the desired box)	
Glycerine oil (silicone free, food grade) for Operation temp. (-10 … +80 °C)	
Paraffine oil (silicone free, food grade) for Operation temp. (-10 … +120 °C)	
Silicone oil for Operation temp. (-40 … +200 °C)	
Silicone oil for Operation temp. (-20 … +350 °C)	
Silicone oil for Operation temp. (-20 … +400 °C)	

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