



Pressure Gauges with Membrane Diaphragm Seal for the Paper Industry



measuring
•
monitoring
•
analysing

MAN-RF...D



- Housing: 100 mm
- Connection: flange 85 mm
- Material: stainless steel
- Indicating range:
0 ... 0.6 bar ... 0 ... 40 bar



P1

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Application

The KOBOLD pressure gauges with integrated diaphragm seal have been developed to also measure difficult media. The membrane prevents high-viscosity, crystallising, or pulp-containing media penetrating into the measuring element and disturbing the proper functioning of the pressure gauge. A version with a vibration damper is available especially for strong vibrations.

Measuring principle

Diaphragm seals are mounted direct to the pressure gauge or connected to the measuring unit by using capillary tube. The connection has to be hermetically sealed to ensure proper transmission of pressure by the filling media thus guaranteeing the correct measurement.

The pressure in the process medium in front of the diaphragm is transmitted via the filling to the movement where it causes a deflection of the measuring element which in turn indicates the current pressure.

Housing

The housing material is from stainless steel or aluminium and the housing diameter is 100 mm.

Installation

The gauges are generally built into the piping using the diaphragm seal flange. The MAN-RF 2MD pressure gauge is supplied with a transmission line and a gauge mounting. The MAN-RF 3MD version has a transmission line and a housing for integration into control panels.

Connection

The gauges are supplied with directly attached diaphragm seals with an 85 mm stainless steel connecting flange. The diaphragm has a diameter of 48 mm. The connections can be made to lead downward, to the back or with a 90° bend to the rear.

Measuring ranges

The measuring ranges are graduated according to DIN re-recommendations and lie between 0...0.6 bar and 0...40 bar. Measuring ranges between -1 ... +3 bar and -1 ... +15 bar are available for low pressure. Other scales with measuring ranges in PSI, Pa or with your company logo are available on request.

Operating conditions

Since the correct pressure indication is dependent on the temperature of the filling liquid, a pressure gauge with diaphragm seals have to be adjusted to suit the operating conditions. To reduce this error, the measuring systems are adjusted to suit the ambient and 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 to a height differential of 0 m 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.

Damping liquid

Pressure gauges with liquid filling are used in locations with high alternating dynamic loads, strong vibrations and pulses. The filling ensures easy readability through steady pointer movement even when subjected to extreme loading and heavy vibration. The lubricating effect of the glycerine also keeps wear to a minimum. Glycerine is always used as a matter of principle. In gauges with a contact or an electrical measuring transducer, liquid paraffin is used as a non-conductive alternative. Silicon fillings of various viscosities are also optionally available.

Contacts

For monitoring the system pressure and controlling process flows can be fitted up to four limit contacts. Slow action, magnetic spring, inductive and pneumatic contacts are also available (see Chapter »Contact Device for Pressure Gauges«).

Application areas

- Paper industry
- Petrochemie
- Varnish industry



Pressure gauges with membrane diaphragm seal for the paper industry							
Model/Code	MAN...	...RF2CD...	...RF2DD...	...RF2ED...	...RF2FD...	...RF2MD...	...RF3MVD...
Accuracy class	1.6					1.6	
Diameter	100 mm					100 mm	
Housing version	stainless steel					stainless steel	Aluminium
Ring	stainless steel						
Pointer	Aluminium, black anodised						
Movement	brass						
Throttle D=	none						
Window	instrument glass						
Measuring element	CuSn						
Protection	IP 65 (filled housing: IP 67)						
Overrange protection	1,3-times full scale value						
Ambient temperature	-20 ... +60 °C						
Filling of diaphragm seal	paraffin oil, FDA conform (other upon request)						
Connection	bottom	back	rear with 90° elbow			1 m transmission line	
Connection flange	85 mm steel					85 mm	
Diaphragm	48 mm stainless steel					48 mm stainless steel	
Max. medium temperature	-20 ... +200 °C					-20 ... +200 °C	
Contacts	max. 4 (max. 3 with filled devices)					max. 4 (max. 3 with filled devices)	
Vibration damper	without			with		without	
Indicating range bar		Code of indicating range					
-1 ... +3 bar	..A2	..A2	..A2	..A2	..A2	..A2	
-1 ... +5 bar	..A3	..A3	..A3	..A3	..A3	..A3	
-1 ... +9 bar	..A4	..A4	..A4	..A4	..A4	..A4	
-1 ... +15 bar	..A5	..A5	..A5	..A5	..A5	..A5	
0 ... 0,6 bar	..B1	..B1	..B1	..B1	..B1	..B1	
0 ... 1 bar	..B2	..B2	..B2	..B2	..B2	..B2	
0 ... 1,6 bar	..B3	..B3	..B3	..B3	..B3	..B3	
0 ... 2,5 bar	..B4	..B4	..B4	..B4	..B4	..B4	
0 ... 4 bar	..B5	..B5	..B5	..B5	..B5	..B5	
0 ... 6 bar	..B6	..B6	..B6	..B6	..B6	..B6	
0 ... 10 bar	..B7	..B7	..B7	..B7	..B7	..B7	
0 ... 16 bar	..B8	..B8	..B8	..B8	..B8	..B8	
0 ... 25 bar	..B9	..B9	..B9	..B9	..B9	..B9	
0 ... 40 bar	..B0	..B0	..B0	..B0	..B0	..B0	

The measuring ranges are calibrated at 20 °C as standard.

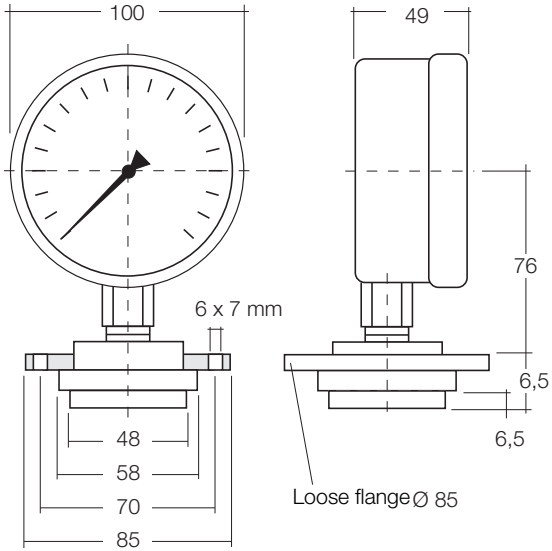
Options

(please specify in writing)

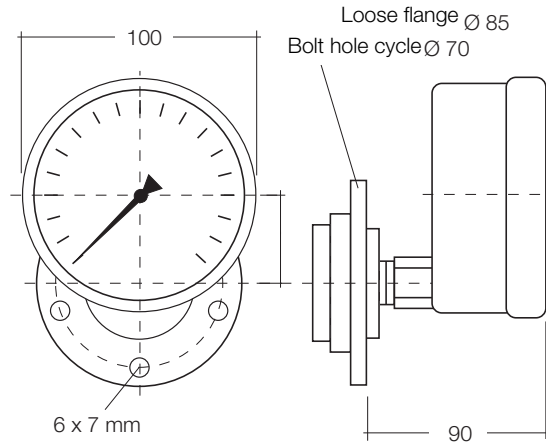
- Mounting flange stainless steel 1.4301
- Housing with liquid filling
- Sealing collar height 18 mm, 44 mm or customer-specific instead of 6.5 mm
- Calibration to operating conditions according to customer specifications

Dimensions

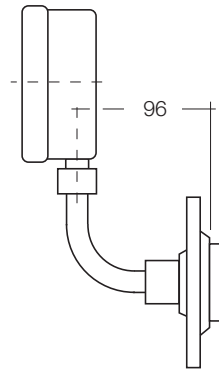
MAN-RF2CD



MAN-RF2DD



MAN-RF2ED



MAN-RF2FD

