Bourdon Tube Pressure Gauge

Acc. to EN 837 for Industrial Applications

measuring • monitoring • analyzing

MAN-R

- Heavy-Duty Bourdon Tube Design
- Easy to Read 4" or 6" Diameter Dials
- Brass or Stainless Steel Wetted Parts
- Stainless Steel Housing
- Bottom or Rear Process Connections
- Magnetic, Sliding, or Inductive Switches
- Optional Oil Filled Indicators

KOBOLD companies worldwide:

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Description

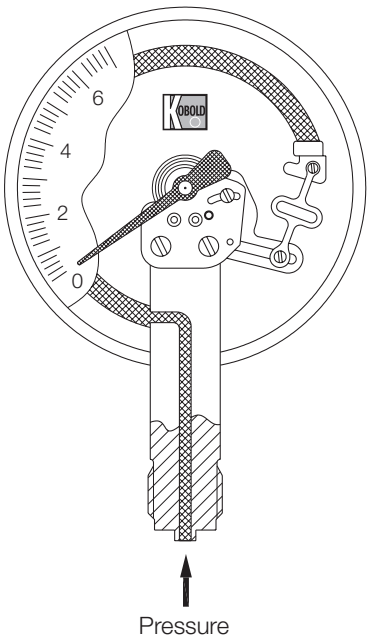
KOBOLD's MAN-R Pressure Gauges provide both pressure indication and optional switching capabilities within a single device. The bourdon tube sensing element and internal movement is available in a rugged copper alloy or chemically resistive stainless steel. The housings are made of stainless steel with NPT fitting choices with a back or bottom mount configuration. Those with rear mount fittings are also available with a panel mounting front flange. The MAN-R offers a choice of up to four magnetic, sliding, or highly reliable inductive switches. Glycerin oil filling is available as an option to dampen excessive pointer movement caused by machine vibrations and offers increased service life under extreme operating conditions. Paraffin oil is specified when higher temperature conditions or optional switches are required.

Resistance to aggressive media and environments is achieved by using high-grade materials such as stainless steel both for the movement and the housing. They can be used for liquid or gaseous substances which do not crystallize and are not highly viscous. The extensive range of options allows the user to adapt the instruments to his own special requirements. All the pressure gauges comply with general international guidelines and take account of standard as well as application-specific requirements. They are the result of the over 70 years experience we have in building pressure gauges.

Measuring Principle

Mechanical pressure measurement uses the principle of an elastic measuring element, which generates a precisely defined, reproducible deflection when subjected to pressure. The motion works convert this into a rotary motion of the pointer.The pressure at the measuring element can be read on the scale of the dial.

Pressure Port Mechanical Drawing



Specifications

Available Ranges:	-30" Hg...15,000 PSIG
Usable Range	
Static Load:	0-100 % of Full Scale
Dynamic Load:	0-90% of Full Scale
Sensing Element:	Bourdon Tube
DIN Accuracy Class:	1.0
Operating Temperature	
Media:	Non-Freezing Media, 32...176 °F
Ambient:	-4...140 °F
Process Connection:	1/4" or 1/2" MNPT
Materials of Construction	
Wetted Parts	
Element:	< 1000 PSIG = Copper/Tin Alloy > 1000 PSIG = Stainless Steel
Fitting:	Brass or Stainless Steel
Exterior	
Movement:	Brass or Stainless Steel
Housing:	304 SS
Bezel:	304 SS
Pointer:	Black Aluminum
Indicator Dial:	White Aluminum
Window:	Instrument Glass
Magnetic Spring Switch	
Repeatability:	± 5% of Full Scale
Max. Ratings:	250 VAC/VDC, 0.6 A, 10 W or 18 VA
Inductive Switch	
Repeatability:	± 0.5% of Full Scale
Logic:	NAMUR (DIN 19234)
Power Supply/Relay:	Required, see our KFA/KFD Series
Environmental Protection	
Unfilled Housings:	IP 65
Glycerin/Paraffin Oil Filled:	IP 67

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

Order Details (Example: **MAN-R F 2 L P090 S 12**)

Model	Housing Size	Housing Material/ Fill Option	Connection Material/ Position	Pressure Range	Switch Options	
					Switch Type	Switch Function
MAN-R..	**..F..** = 4" Dial **..G..** = 6" Dial	**..2..** = Stainless Steel **..7..** = Stainless Steel with Glycerin Fill Fluid****	**..L..** = Brass 1/4" NPT Bottom **..M..** = Brass 1/2" NPT Bottom **..N..** = Brass 1/4" NPT Back **..P..** = Brass 1/2" NPT Back **..NV..** = Brass 1/4" NPT Back with Front Flange **..PV..** = Brass 1/2" NPT Back with Front Flange **..R..** = Stainless Steel 1/4" NPT Bottom **..S..** = Stainless Steel 1/2" NPT Bottom **..T..** = Stainless Steel 1/4" NPT Back **..U..** = Stainless Steel 1/2" NPT Back **..TV..** = Stainless Steel 1/4" NPT Back with Front Flange **..UV..** = Stainless Steel 1/2" NPT Back with Front Flange	**..H315** = -30"...0" Hg **..H325** = -30"...15 PSIG **..H345** = -30"...30 PSIG **..H360** = -30"...60 PSIG **..H365** = -30"..100 PSIG **..H375** = -30"...150 PSIG **..H385** = -30"...200 PSIG **..P015** = 0...10 PSIG **..P025** = 0...15 PSIG **..P045** = 0...30 PSIG **..P060** = 0...60 PSIG **..P065** = 0...100 PSIG **..P075** = 0...150 PSIG **..P085** = 0...200 PSIG **..P090** = 0...300 PSIG **..P105** = 0...600 PSIG **..P115** = 0...1000 PSIG **..P126** = 0...1500 PSIG **..P130** = 0...2000 PSIG **..P140** = 0...3000 PSIG **..P150** = 0...5000 PSIG **..P160** = 0...6000 PSIG **..P170** = 0...7500 PSIG **..P175** = 0...10000 PSIG **..P185** = 0...15000 PSIG **..R025** = 0...15 PSIA **..R045** = 0...30 PSIA **..R060** = 0...60 PSIA **..R065** = 0...100 PSIA **..R075** = 0...150 PSIA **..R085** = 0...200 PSIA **..E** = Custom Range***	**..M..** = Magnetic **..S..** = Sliding **..I..** = Inductive	**..10** = 1x, N/O **..20** = 1x, N/C **..30** = 1x, SPDT* **..33** = 2x, SPDT* **..11** = N/O Low & N/O High **..12** = N/O Low & N/C High **..21** = N/C Low & N/O High **..22** = N/C Low & N/C High **..3A** = 3x, N/O **..3Z** = 3x, N/C **..3G** = 3x, N/C or N/O** **..4A** = 4x, N/O **..4Z** = 4x, N/C **..4G** = 4x, N/O or N/C**

* Only for switch types M or S

** Please specify switch logic per each contact

*** Please specify in clear writing the requested range and units; additional pricing may apply

**** Paraffin fill fluid for gauges for higher temperatures or for gauges specified wtih switch contacts

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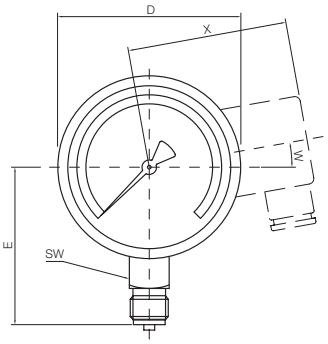
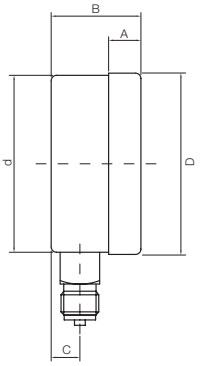
Dimensions (mm)

Bottom Connection

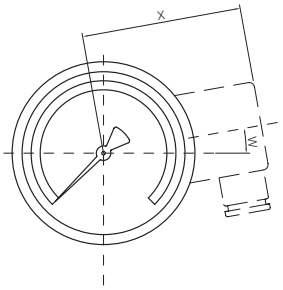
Code	Dial Size	A	B without contact	B 1 or 2 contacts	B 3 contacts	B 4 contacts	C	d	D	E	SW	W	X
MAN-RF	4 Inch	17	48	82	97	110	15	100	101	86.5	22	0	88
MAN-RG	6 Inch	21	50	101	120	120	15	159	162	117	22	0	118

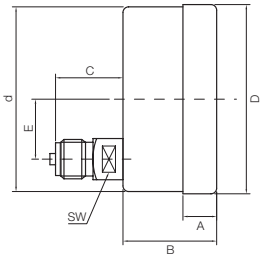




Back Connection

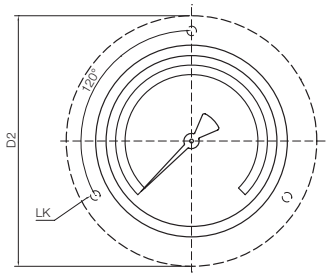
Code	Dial Size	A	B without contact	B 1 or 2 contacts	B 3 contacts	B 4 contacts	C	d	D	E	SW	W	X
MAN-RF	4 Inch	17	49	82	97	110	34	100	101	32.5	22	0	88
MAN-RG	6 Inch	21	50	101	120	120	34	159	162	32.5	22	0	118

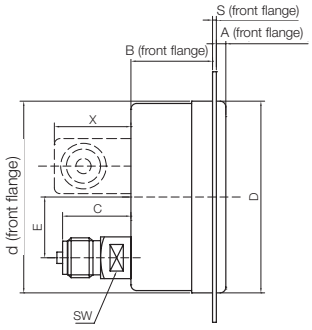


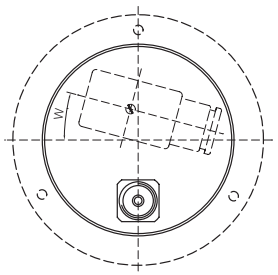


Front Flange

Code	Dial Size	A	B without contact	B 1 or 2 contacts	B 3 contacts	B 4 contacts	C	d	D	D2	E	LK	S	SW	W	X
MAN-RF..V	4 Inch	6	43	86	92	105	34	104	101	132	32.5	116	2	22	15	42
MAN-RG..V	6 Inch	6	43	95	110	110	34	164	161	196	32.5	178	2	22	15	42







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