



All Stainless Steel Bourdon Tube Pressure Gauges

S3 acc. to EN 837-1 · for Exceptional Safety



measuring
•
monitoring
•
analysing

MAN-R...S



MAN-RF 26 S



MAN-RD 25 S

- Housing:
63 mm, 100 mm, 160 mm
- Connection:
G $\frac{1}{4}$ (63 mm housing)
G $\frac{1}{2}$ (100 mm, 160 mm housing)
- Material
Housing: stainless steel
Connection: stainless steel
- Measuring ranges:
-1 ... 0 bar ... 0 ... +1000 bar
(1600 bar with NG 160)
- Accuracy class:
1.0 (1.6 with 63 mm)
- Options:
damping liquid,
contacts, transmitter



P1

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KOBOLD Messring GmbH
Nordring 22-24
D-65719 Hofheim/Ts.
Head Office:
+49(0)6192 299-0
+49(0)6192 23398
info.de@kobold.com
www.kobold.com

Application

The KOBOLD all stainless steel pressure gauges for increased safety according to EN 837-1 are ideal for the hard conditions and the resulting high demands on pressure measurement in production facilities in chemical industry and other comparable areas. Resistance to aggressive media and environments is achieved by using high-graded 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.

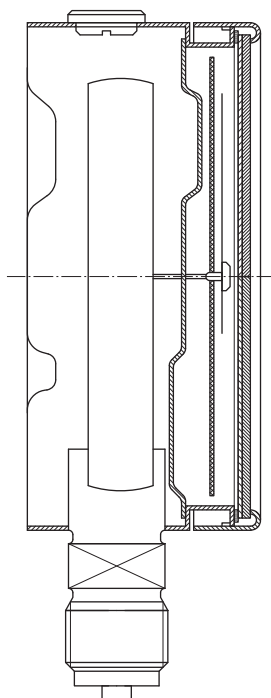
Safety execution

The safety execution of the pressure gauges comprises a burstproof solid front between dial and Bourdon tube, a laminated safety glass as well as a blow-out back (according to EN 837-1). Glycerine-filled pressure gauges are equipped with a pressure compensating diaphragm. This diaphragm prevents a pressure increase inside the housing due to volume expansion caused by the temperature increase of the glycerine filling fluid, thus avoiding a wrong reading.

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.

Unifilar drawing



Housing

The following housing diameters are available:

63 mm, 100 mm and 160 mm. The housing material is stainless steel.

Installation

The gauges are most often installed straight into the customer's screw necks. Optional gauge models with an installation border on the front are also available for installation into or onto control panels.

Connection

The gauges with 63 housing diameter are supplied with a G $\frac{1}{4}$ connecting thread as standard, gauges with housing diameter of 100 mm and above with G $\frac{1}{2}$ connecting thread. The connection is made of stainless steel. Diaphragm seals can be mounted for viscous, crystallising, aggressive materials or higher temperature materials to prevent the material being measured from penetrating into the measuring system. Other connection types are available on request.

Measuring ranges

The measuring ranges are graduated according to DIN recommendations and lie between -1...0 bar and 0...1600 bar. Other scales with measuring ranges in PSI, Pa or with your company logo are available on request.

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, gauges with 100 mm or 160 mm diameter can be fitted with up to four limit contacts. Slow action, magnetic spring, inductive and pneumatic contacts are also available (see Chapter »Contact Fittings for Pressure Gauges«).

Fields of application

- Chemical and petrochemical industries
- Plastics and paper-manufacturing industries
- Food and beverage industries
- Machine and plant construction



Technical Details

| Connection/Housing | NG 63 | | NG 100 | | NG 160 | |
|---|---------------------------------|----------------|--|----------------|----------------|----------------|
| | Model | | | | | |
| Bottom connection  MAN-... | ...RD25S... | ...RD75S... | ...RF26S... | ...RF76S... | ...RG26S... | ...RG76S... |
| Accuracy class | 1,6 | | 1,0 | | | |
| Housing version | stainless steel 1.4301 | | | | | |
| Filling | - | glycerine* | - | glycerine* | - | glycerine* |
| Ring | stainless steel 1.4301 | | | | | |
| Pointer | aluminium, black anodized | | | | | |
| Movement | stainless steel 1.4571 | | | | | |
| Throttle D= | from 60 bar D = 0.5 mm | | | | | |
| Window | polyamide | | | safety glass | | |
| Measuring element | stainless steel 1.4571 | | | | | |
| Protection | IP 65 | IP 67 | IP 65 | IP 67 | IP 65 | IP 67 |
| Overrange protection | none | | short time 1.3 times (from 1000 bar 1,1 times) of full scale | | | |
| Weight (without contacts) | 0.2 kg | 0.28 kg | 1. kg | 1.2 kg | 1.6 kg | 3.6 kg |
| Ambient temperature | -20 ... +80 °C | -20 ... +60 °C | -20 ... +80 °C | -20 ... +60 °C | -20 ... +80 °C | -20 ... +60 °C |
| Connection | stainless steel 1.4571 | | | | | |
| Thread connection | G ¼ male | | G ½ male | | | |
| Max. temperature of medium | 80 °C | | | | | |
| Contacts (inductive only) | no | | max. 3 contacts (inductive only) | | | |
| | Indicating range | | | | | |
| | Code of indicating range | | | | | |
| -0.6...0 bar | - | - | ..AC | ..AC | ..AC | ..AC |
| -1...0 bar | ..AD | ..AD | ..AD | ..AD | ..AD | ..AD |
| -1...+0.6 bar | ..A0 | ..A0 | ..A0 | ..A0 | ..A0 | ..A0 |
| -1...+1.5 bar | ..A1 | ..A1 | ..A1 | ..A1 | ..A1 | ..A1 |
| -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 |
| 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 |
| 0...60 bar | ..C1 | ..C1 | ..C1 | ..C1 | ..C1 | ..C1 |
| 0...100 bar | ..C2 | ..C2 | ..C2 | ..C2 | ..C2 | ..C2 |
| 0...160 bar | ..C3 | ..C3 | ..C3 | ..C3 | ..C3 | ..C3 |
| 0...250 bar | ..C4 | ..C4 | ..C4 | ..C4 | ..C4 | ..C4 |
| 0...400 bar | ..C5 | ..C5 | ..C5 | ..C5 | ..C5 | ..C5 |
| 0...600 bar | ..C6 | ..C6 | ..C6 | ..C6 | ..C6 | ..C6 |
| 0...1000 bar | ..D7 | ..D7 | ..D7 | ..D7 | ..D7 | ..D7 |
| 0...1600 bar | - | - | - | - | ..D8 | ..D8 |

* Special filling: Paraffin oil for higher temperatures (on request) or with contacts



All Stainless Steel Bourdon Tube Pressure Gauges S3 according to EN 837-1 for Exceptional Safety
Model MAN-R...S

Dimensions

| Code | NG | A | B without contact | B 1 or 2 contacts | B 3 contacts | C | d | D | E | AF | W | X |
|----------------|--------|----|-------------------------|-------------------------|--------------------|----|-----|-----|------|----|---|-----|
| MAN-RD 25/75 S | 63 mm | 6 | 31 | - | - | 13 | 62 | 68 | 55 | 14 | - | - |
| MAN-RF 26/76 S | 100 mm | 17 | 48 | 82 | 97 | 15 | 100 | 101 | 86.5 | 22 | 0 | 88 |
| MAN-RG 26/76 S | 160 mm | 21 | 50 | 101 | 120 | 15 | 159 | 162 | 117 | 22 | 0 | 118 |

