



Diaphragm Pressure Gauges

all stainless steel version
for aggressive media



measuring
•
monitoring
•
analysing

MAN-C



- Housing Ø100 + 160 mm
- Connection DIN or ANSI flange
- Basic material: stainless steel
- Wetted parts: ECTFE and PTFE
- Measuring ranges: 25 mbar ... 25 bar
- Medium temperature up to 200 °C
- Option: filling liquid, contacts, transmitter, overpressure resistant



P1

KOBOLD companies worldwide:

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

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

KOBOLD all stainless steel diaphragm pressure gauges are preferably used for aggressive media where standard diaphragm pressure gauges are challenged. Diaphragm pressure gauges have a relatively high actuating force. The circular diaphragm is insensitive to jarring or vibration. An extremely high resistance to overpressure is achieved by underpropping the diaphragm.

For highly viscous, crystallising or strongly heterogeneous media, open flange connections are used. The wetted parts are coated by high quality polymers (PTFE/ECTFE) for specific use with aggressive media. Also the used seals are made of PTFE or covered by it.

In contrast to pressure gauges assembled with membrane chemical seals, the accuracy and zero point stability is ensured over a bigger temperature range. Even the mechanical stability and robustness is multifold in comparison to sensitive membrane chemical seals.

Measuring Principle

The weld-in or clamped diaphragm is subjected to pressure from one side. The pressure bends the diaphragm and an indicator mechanism converts the amount it is bent into a corresponding movement of the pointer. The scale on the dial then shows the actual pressure. Because of the diaphragm's shape and the fact that it is mounted on the side means it is mechanically very stable, and consequently less susceptible to vibration than Bourdon gauges.

Housing

The following housing diameters are available: 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. Open measuring flanges for special operational conditions are available either as Norm or customer specifications.

Connection

The gauges are supplied with DIN or ANSI flanges. Other flanges are available as per Norm or customer specifications.

Measuring Ranges

The measuring ranges are graduated according to DIN recommendations and lie between 25 mbar and 25 bar. Other scales with measuring ranges in PSI, Pa or as OEM version 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 website »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
- Process technology

All Stainless Steel Diaphragm Pressure Gauges

| Model/Code | MAN-CF2... | MAN-CF7... | MAN-CG2... | MAN-CG7... |
|---|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Measuring chamber and measuring spring ECTFE (HALAR®) coated PTFE or comparable seal with standoff (neckpipe) 50 mm from 0,4 bar measuring spring welded | Ø 100 unfilled | Ø 100 filled | Ø 160 unfilled | Ø 160 filled |
| Housing | 1.4301 | 1.4301 | 1.4301 | 1.4301 |
| Housing diameter | 100 mm | 100 mm | 160 mm | 160 mm |
| Ø measuring flange (up to 0,25 bar Ø 160 mm) | 100 mm (from 0,4 bar) | 100 mm (from 0,4 bar) | 100 mm (from 0,4 bar) | 100 mm (from 0,4 bar) |
| Pointer | stainless steel | stainless steel | stainless steel | stainless steel |
| Wetted materials | ECTFE + PTFE | ECTFE + PTFE | ECTFE + PTFE | ECTFE + PTFE |
| Connection | DIN/ANSI flange | DIN/ANSI flange | DIN/ANSI flange | DIN/ANSI flange |
| Connection | at bottom | at bottom | at bottom | at bottom |
| max. temperature | 80 °C (option 160°C) | 80 °C (option 160°C) | 80 °C (option 160°C) | 80 °C |
| max. pressure | 1,3-fold (for a short time) | 1,3-fold (for a short time) | 1,3-fold (for a short time) | 1,3-fold (for a short time) |
| Protection | IP54 (option IP65) | IP65 | IP54 (option IP65) | IP65 |
| Measuring range | Code measuring range | | | |
| -25...0 mbar | E7 | E7 | E7 | E7 |
| -40...0 mbar | E8 | E8 | E8 | E8 |
| -60...0 mbar | E9 | E9 | E9 | E9 |
| -100...0 mbar | E0 | E0 | E0 | E0 |
| -160...0 mbar | E1 | E1 | E1 | E1 |
| -250...0 mbar | E2 | E2 | E2 | E2 |
| 0...25 mbar | F9 | F9 | F9 | F9 |
| 0...40 mbar | F0 | F0 | F0 | F0 |
| 0...60 mbar | F1 | F1 | F1 | F1 |
| 0...100 mbar | F2 | F2 | F2 | F2 |
| 0...160 mbar | F3 | F3 | F3 | F3 |
| 0...250 mbar | F4 | F4 | F4 | F4 |
| -0,4...0 bar | AB | AB | AB | AB |
| -0,6...0 bar | AC | AC | AC | AC |
| -1...0 bar | AD | AD | AD | AD |
| -1...0,6 bar | A0 | A0 | A0 | A0 |
| -1...+1,5 bar | A1 | A1 | A1 | A1 |
| -1...+3 bar | A2 | A2 | A2 | A2 |
| -1...+5 bar | A3 | A3 | A3 | A3 |
| -1...+9 bar | A4 | A4 | A4 | A4 |
| -1...+15 bar | A5 | A5 | A5 | A5 |
| 0...0,4 bar | BA | BA | BA | BA |
| 0...0,6 bar | B1 | B1 | B1 | B1 |
| 0...1 bar | B2 | B2 | B2 | B2 |
| 0...1,6 bar | B3 | B3 | B3 | B3 |
| 0...2,5 bar | B4 | B4 | B4 | B4 |
| 0...4 bar | B5 | B5 | B5 | B5 |
| 0...6 bar | B6 | B6 | B6 | B6 |
| 0...10 bar | B7 | B7 | B7 | B7 |
| 0...16 bar | B8 | B8 | B8 | B8 |
| 0...25 bar | B9 | B9 | B9 | B9 |



Diaphragm Pressure Gauges Model MAN-C

All Stainless Steel Diaphragm Pressure Gauges (continued)

| Connection DIN 2501 flange | Code connection DIN flange | | | |
|------------------------------|-----------------------------|------|------|------|
| DN15 PN6 | D201 | D201 | D201 | D201 |
| DN20 PN6 | D251 | D251 | D251 | D251 |
| DN25 PN6 | D321 | D321 | D321 | D321 |
| DN32 PN6 | D401 | D401 | D401 | D401 |
| DN40 PN6 | D501 | D501 | D501 | D501 |
| DN50 PN6 | D651 | D651 | D651 | D651 |
| DN65 PN6 | D801 | D801 | D801 | D801 |
| DN80 PN6 | D1F1 | D1F1 | D1F1 | D1F1 |
| DN100 PN6 | D1F1 | D1F1 | D1F1 | D1F1 |
| DN15 PN16 (=10) | D152 | D152 | D152 | D152 |
| DN20 PN16 (=10) | D202 | D202 | D202 | D202 |
| DN25 PN16 (=10) | D252 | D252 | D252 | D252 |
| DN32 PN16 (=10) | D322 | D322 | D322 | D322 |
| DN40 PN16 (=10) | D402 | D402 | D402 | D402 |
| DN50 PN16 (=10) | D502 | D502 | D502 | D502 |
| DN65 PN16 (=10) | D652 | D652 | D652 | D652 |
| DN80 PN16 (=10) | D802 | D802 | D802 | D802 |
| DN100 PN16 (=10) | D1F2 | D1F3 | D1F4 | D1F5 |
| DN15 PN40 (=25) | D154 | D154 | D154 | D154 |
| DN20 PN40 (=25) | D204 | D204 | D204 | D204 |
| DN25 PN40 (=25) | D254 | D254 | D254 | D254 |
| DN32 PN40 (=25) | D324 | D324 | D324 | D324 |
| DN40 PN40 (=25) | D404 | D404 | D404 | D404 |
| DN50 PN40 (=25) | D504 | D504 | D504 | D504 |
| DN65 PN40 (=25) | D654 | D654 | D654 | D654 |
| DN80 PN40 (=25) | D804 | D804 | D804 | D804 |
| DN100 PN40 (=25) | D1F4 | D1F5 | D1F6 | D1F7 |
| Connection ANSI B16,5 flange | Code connection ANSI flange | | | |
| ½" 150 lb/square inch | A051 | A051 | A051 | A051 |
| ¾" 150 lb/sq.in | A071 | A071 | A071 | A071 |
| 1" 150 lb/sq.in | A101 | A101 | A101 | A101 |
| 1¼" 150 lb/sq.in | A121 | A121 | A121 | A121 |
| 1½" 150 lb/sq.in | A151 | A151 | A151 | A151 |
| 2" 150 lb/sq.in | A201 | A201 | A201 | A201 |
| 2½" 150 lb/sq.in | A251 | A251 | A251 | A251 |
| 3" 150 lb/sq.in | A301 | A301 | A301 | A301 |
| 3½" 150 lb/sq.in | A351 | A351 | A351 | A351 |
| 4" 150 lb/sq.in | A401 | A401 | A401 | A401 |
| ½" 300 lb/sq.in | A053 | A053 | A053 | A053 |
| ¾" 300 lb/sq.in | A073 | A073 | A073 | A073 |
| 1" 300 lb/sq.in | A103 | A103 | A103 | A103 |
| 1¼" 300 lb/sq.in | A123 | A123 | A123 | A123 |
| 1½" 300 lb/sq.in | A153 | A153 | A153 | A153 |
| 2" 300 lb/sq.in | A203 | A203 | A203 | A203 |
| 2½" 300 lb/sq.in | A253 | A253 | A253 | A253 |
| 3" 300 lb/sq.in | A303 | A303 | A303 | A303 |
| 3½" 300 lb/sq.in | A353 | A353 | A353 | A353 |
| 4" 300 lb/sq.in | A403 | A403 | A403 | A403 |
| 1" 600 lb/sq.in | A106 | A106 | A106 | A106 |
| 1¼" 600 lb/sq.in | A126 | A126 | A126 | A126 |
| 1½" 600 lb/sq.in | A153 | A153 | A153 | A153 |
| 2" 600 lb/sq.in | A203 | A203 | A203 | A203 |
| 2½" 600 lb/sq.in | A253 | A253 | A253 | A253 |
| 3" 600 lb/sq.in | A303 | A303 | A303 | A303 |



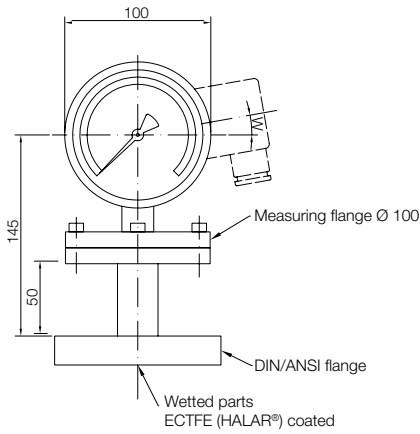
All Stainless Steel Diaphragm Pressure Gauges (continued)

| Connection ANSI B16,5 flange | Code connection ANSI flange | | | |
|---|-----------------------------|------|------|------|
| 3½" 600 lb/sq.in | A353 | A353 | A353 | A353 |
| 4" 600 lb/sq.in | A403 | A403 | A403 | A403 |
| 1" 1500 lb/sq.in | A109 | A109 | A109 | A109 |
| 1¼" 1500 lb/sq.in | A129 | A129 | A129 | A129 |
| 1½" 1500 lb/sq.in | A159 | A159 | A159 | A159 |
| 2" 1500 lb/sq.in | A209 | A209 | A209 | A209 |
| 2½" 1500 lb/sq.in | A259 | A259 | A259 | A259 |
| 3" 1500 lb/sq.in | A309 | A309 | A309 | A309 |
| 4" 1500 lb/sq.in | A409 | A409 | A409 | A409 |
| Options | Code options | | | |
| Slow action contacts from 160 mbar | S | S | S | S |
| Magnetic spring contacts from 600 mbar | M | M | M | M |
| Inductive contacts from 60 mbar | I | I | I | I |
| Transmitter in-built from 160 mbar | | | | |
| Further options (specify in writing): | Y | Y | Y | Y |
| Protection IP65 (fillable) | x | x | x | x |
| Medium density adjustment | x | x | x | x |
| Medium temperature >100 °C* | x | - | x | - |
| Display PSI/Pa... instead of (m)bar | x | x | x | x |
| Special pointer (for zero-point setting) | x | x | x | x |
| Temperature adjustment up to 80 °C | x | x | x | x |
| Temperature adjustment from 80 °C... 160 °C | x | - | x | - |
| Overpressure safe 4-fold, max. 40 bar | x | x | x | x |
| Overpressure safe up to 40 bar | x | x | x | x |

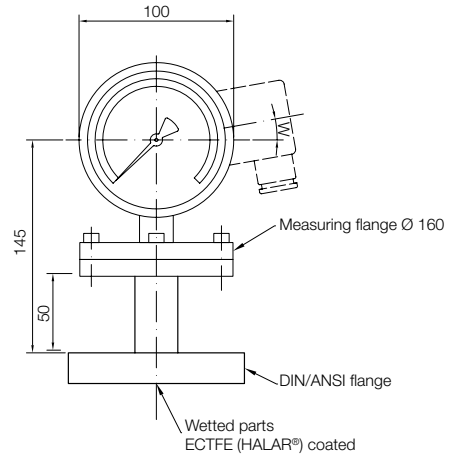
* Additional 50 mm between housing and measuring flange

Dimensions mm]

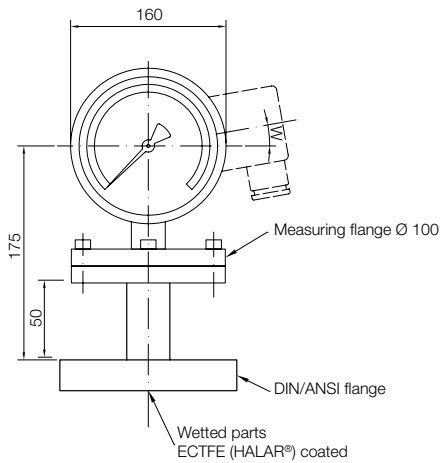
All Stainless Steel Diaphragm Type Pressure Gauges MAN-CF
 > 250 mbar



All Stainless Steel Diaphragm Type Pressure Gauges MAN-CF
 ≤ 250 mbar



All Stainless Steel Diaphragm Type Pressure Gauges MAN-CG
 > 250 mbar



All Stainless Steel Diaphragm Type Pressure Gauges meter MAN-CG
 ≤ 250 mbar

