Bourdon tube pressure gauge
Model 213.40, liquid filling, forged brass case

Applications
- For measuring points with high dynamic pressure loads or vibrations
- For gaseous and liquid media that are not highly viscous or crystallising and will not attack copper alloy parts
- Mining
- Hydraulics
- Shipbuilding

Special features
- Vibration and shock resistant
- Especially robust design
- NS 63 and 100 with Germanischer Lloyd and Gosstandart approval
- Scale range up to 0 ... 1,000 bar

Description
Design
EN 837-1

Nominal size in mm
63, 80, 100

Accuracy class
NS 63, 80: 1.6
NS 100: 1.0

Scale ranges
0 ... 0.6 to 0 ... 1,000 bar
or all other equivalent vacuum or combined pressure and vacuum ranges

Pressure limitation
NS 63, 80:
- Steady: 3/4 x full scale value
- Fluctuating: 2/3 x full scale value
- Short time: Full scale value
NS 100:
- Steady: Full scale value
- Fluctuating: 0.9 x full scale value
- Short time: 1.3 x full scale value

Permissible temperature
Ambient: -20 ... +60 °C
Medium: +60 °C maximum

Temperature effect
When the temperature of the measuring system deviates from the reference temperature (+20 °C): max. ±0.4 %/10 K of the span

Ingress protection
IP 65 per EN 60529 / IEC 60529

Data sheets showing similar products:
Liquid filling, stainless steel case; model 213.53; see data sheet PM 02.12
Standard version

Process connection
Copper alloy, lower mount (LM) or back mount (BM)
NS 63: G ¼ B (male), 14 mm flats
NS 80, 100: G ½ B (male), 22 mm flats

Pressure element
NS 63:
Copper alloy, C-type or helical type
NS 80, 100:
Copper alloy, C-type
Stainless steel 1.4571 or 1.4404, helical type

Movement
Copper alloy

Dial
NS 63: Plastic ABS, white, with pointer stop pin
NS 80, 100: Aluminium, white
Black lettering

Pointer
Aluminium, black

Window
Clear non-splintering plastic

Case
Solid forged brass, with blow-out device at case circumference, 12 o'clock.
Scale ranges ≤ 0 ... 16 bar with compensating valve to vent case.

Bezel ring
Crimp ring, stainless steel
NS 63, 80: Natural finish
NS 100: Polished

Filling liquid
Glycerine

Options
- Other process connection
- Sealings (model 910.17, see data sheet AC 09.08)
- Internal pressure compensation (pressure compensation foil)
- Increased medium temperature up to 100 °C with special soft solder
- Ambient temperature resistant -40 ... +60 °C with silicone oil filling
- Panel or surface mounting flange
- Triangular bezel with clamp
- Centre back mount (CBM) for NS 80 with scale range ≥ 60 bar

CE conformity

Pressure equipment directive
97/23/EC, PS > 200 bar, module A, pressure accessory

Approvals
- GL, ships, shipbuilding (e.g. offshore), Germany
- EAC, import certificate, customs union Russia/Belarus/Kazakhstan
- GOST, metrology/measurement technology, Russia
- CRN, safety (e.g. electr. safety, overpressure, ...), Canada

Certificates (Option)
- 2.2 test report per EN 10204 (e.g. state-of-the-art manufacturing, material proof, indication accuracy)
- 3.1 inspection certificate per EN 10204 (e.g. indication accuracy)

Approvals and certificates, see website
Dimensions in mm

Standard version

**Lower mount (LM)**

**NS 63, centre back mount (CBM)**

**NS 80, 100, lower back mount (LBM)**

### Dimensions in mm

<table>
<thead>
<tr>
<th>NS</th>
<th>Dimensions in mm</th>
<th>Weight in kg</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>a</td>
<td>b</td>
</tr>
<tr>
<td>63</td>
<td>12</td>
<td>36</td>
</tr>
<tr>
<td>80</td>
<td>14</td>
<td>38.5</td>
</tr>
<tr>
<td>100</td>
<td>13.5</td>
<td>49</td>
</tr>
</tbody>
</table>

Process connection per EN 837-1 / 7.3

### Ordering information

Model / Nominal size / Scale range / Connection size / Connection location / Options

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