Bourdon Tube Pressure Gauges
Stainless Steel Series
Type 232.50 - Dry Case
Type 233.50 - Liquid-filled Case

Applications
- With liquid-filled case for applications with high dynamic pressure pulsations (add restrictor) or vibration
- Suitable for corrosive environments and gaseous or liquid media that will not obstruct the pressure system
- Process industry: chemical/petrochemical, power stations, mining, on and offshore, environmental technology, mechanical engineering and plant construction

Product Features
- Excellent load-cycle stability and shock resistance
- All stainless steel construction
- Positive pressure ranges to 20,000 psi (1600 bar)

Specifications

Design
ASME B40.100 & EN 837-1

Sizes
2½”, 4” & 6” (63, 100 and 160 mm)

Accuracy class
2½”: ± 2/1/2% of span (ASME B40.100 Grade A)
4” & 6”: ± 1.0% of span (ASME B40.100 Grade 1A)

Ranges
Vacuum / Compound to 200 psi (16 bar)
Pressure from 0/15 psi (1 bar) to 0/15,000 psi (1,000 bar)
- 2½”, 4”
Pressure from 0/10 (0.6 bar) to 0/20,000 psi (1,600 bar) - 6”
or other equivalent units of pressure or vacuum

Working pressure
2½”: Steady: ¾ scale value
Fluctuating: 2/3 full-scale value
Short time: full-scale value

4” & 6”: Steady: full-scale value
Fluctuating: 0.9x full-scale value
Short time: 1.3x full-scale value

Operating temperature
Ambient: -40°F to +140°F (-40°C to +60°C) - dry
-4°F to +140°F (-20°C to +60°C) - glycerine-filled

Temperature error
Additional error when temperature changes from reference temperature of 68°F (20°C) ±0.4% of span for every 18°F (10°K) rising or falling.

Weather protection
Weather tight (NEMA 4X / IP65)

Pressure connection
Material: 316L stainless steel
Lower mount (LM) or lower back mount (LBM)
Center back mount (CBM) for 2½” size
¼” NPT or ½” NPT (other connections available)

Bourdon tube
Material: 316 stainless steel
> 1,000 psi (100 bar): C-shape
≤ 1,500 psi (100 bar): helical

Movement
Stainless steel

Dial
White aluminum with black lettering; 2½” with stop pin

Pointer
Case
- 304 Stainless steel
  - 2½" - with pressure relief/fill plug on top of case
  - 4" and 6" - with blow out plug on back of case and fill plug on top of case
- For pressure ranges ≤ 300 psi, case has compensating valve/fill plug to vent case pressure

Bezel ring
Stainless steel, bayonet-type

Window
Poly carbonate (2½") and Safety Glass (4" & 6") with Buna-N gasket

Case fill
Glycerine 99.7% - Type 233.50

Optional extras
- Other pressure connections
- Restrictors for applications with high dynamic pressure pulsations
- Monel wetted parts (Type 26X.50), not available in 6" LBM
- Front flange, SS (CBM and LBM only)
- Rear flange, SS
- 316 SS case material
- U-clamp mounting, SS (not available on 4½”)
- Silicone or Halocarbon case filling
- Non-adjustable pointer
- Red drag pointer or mark pointer
- Safety glass window
- Custom dial layout
- Other pressure scales available: bar, kPa, MPa, kg/cm² and dual scales
- Integral alarm contacts or transmitters
- For size 4 ½” please see date sheet 23X.40 4.5

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**Dimensions**

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<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D¹</th>
<th>E</th>
<th>G</th>
<th>H</th>
<th>J</th>
<th>L</th>
<th>M</th>
<th>N</th>
<th>S</th>
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<th>Weight³</th>
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<td>118</td>
<td>49.5²</td>
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¹ Center back mount (CBM)
² Plus 0.63" (16 mm) for pressure ranges ≥ 1,500 psi
³ Weight without optional accessories

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Ordering information
Pressure gauge model / Nominal size / Scale range / Size of connection / Optional extras required
Specifications and dimensions given in this leaflet represent the state of engineering at the time of printing.
Modifications may take place and materials specified may be replaced by others without prior notice.