Bourdon Tube Pressure Gauges
Industrial Stainless Steel Gauge
Type 232.54 - Dry Case
Type 233.54 - Liquid-filled Case

Applications
- Intended for adverse service conditions where pulsating or vibration exists
- Process industry: chemical/petrochemical, power stations, mining, on and offshore, environmental technology, mechanical engineering and plant construction
- Suitable for gaseous or liquid media that will not obstruct the pressure system

Product features
- Vibration and shock resistant (with liquid filling)
- All stainless steel construction
- Pressure ranges up to 15,000 psi

Specifications

Design
ASME B40.100 & EN 837-1

Sizes
2½” & 4” (63 & 100 mm)

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

Ranges
Vacuum / Compound to 200 psi (16 bar)
Pressure from 15 psi (1 bar) to 15,000 psi (1000 bar) or other equivalent units of pressure or vacuum

Working pressure
2½”: Steady: 3/4 scale value
Fluctuating: 2/3 full scale value
Short time: full scale value

4”: Steady: full scale value
Fluctuating: 0.9 x full scale value
Short time: 1.3 x 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
-40°F to +140°F (-40°C to +60°C) - silicone filled
Medium: +212°F (+100°C) maximum

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 / IP 65)

Pressure connection
Material: 316L stainless steel
Lower mount (LM) or center back mount (CBM) - 2½”
Lower mount (LM) or lower back mount (LBM) - 4”
1/4” NPT or 1/2” NPT limited to wrench flat area

Bourdon tube
Material: 316 stainless steel
< 1,500 psi (100 bar): C-shape,
≥ 1,500 psi (100 bar): Helical type

Movement
300-series stainless steel

Dial
White aluminum with black lettering; 2½” size with stop pin
### Pointer
Black aluminum, friction adjustable

### Case
304 stainless steel with vent plug and polished stainless steel bayonet ring. Suitable for liquid filling. Welded case/ socket connection

### Window
Laminated safety glass with Buna-N gasket

### Case fill
Glycerine 99.7% - Type 233.54

### Dimensions

<table>
<thead>
<tr>
<th>Size</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>G</th>
<th>H</th>
<th>J</th>
<th>M</th>
<th>N</th>
<th>P</th>
<th>R</th>
<th>S</th>
<th>T</th>
<th>W</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.5&quot;</td>
<td>70</td>
<td>54</td>
<td>33.5</td>
<td>62</td>
<td>13</td>
<td>55.5</td>
<td>3.6</td>
<td>85</td>
<td>75</td>
<td>87</td>
<td>72</td>
<td>13</td>
<td>14</td>
<td>0.36 lb. dry</td>
<td></td>
<td></td>
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<tr>
<td>in</td>
<td>2.75</td>
<td>2.13</td>
<td>1.32</td>
<td>2.44</td>
<td>0.51</td>
<td>2.19</td>
<td>0.14</td>
<td>3.35</td>
<td>2.95</td>
<td>3.43</td>
<td>2.83</td>
<td>0.47</td>
<td>1/4&quot;</td>
<td>0.55</td>
<td>0.44 lb. filled</td>
<td></td>
</tr>
<tr>
<td>4&quot;</td>
<td>110</td>
<td>87</td>
<td>49.5</td>
<td>100</td>
<td>15.5</td>
<td>81</td>
<td>4.8</td>
<td>132</td>
<td>116</td>
<td>125</td>
<td>110</td>
<td>15</td>
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<td>1.10 lb. dry</td>
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<td></td>
</tr>
<tr>
<td>in</td>
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<td>3.43</td>
<td>1.95</td>
<td>3.94</td>
<td>0.61</td>
<td>1.18</td>
<td>0.19</td>
<td>5.20</td>
<td>4.57</td>
<td>4.92</td>
<td>4.33</td>
<td>0.59</td>
<td>1/2&quot;</td>
<td>0.87</td>
<td>1.76 lb. filled</td>
<td></td>
</tr>
</tbody>
</table>

Recommended panel cutout is dimension D + 3 mm

### Optional extras
- 316SS restrictor
- Accuracy ±1.0% of full scale (2½" size)
- Stainless steel front or rear flange
- Zinc-plated steel or SS u-clamp bracket (field installable)
- Red drag pointer or mark pointer
- Silicone or Halocarbon oil case filling
- Special connections limited to wrench flat area
- Custom dial layout
- Other pressure scales available bar, kPa, MPa, kg/cm² and dual scales