Bourdon Tube Pressure Gauges
Ultra High Purity (UHP) Series
Type 230.25

Applications

- Semiconductor and electronic industry, medical industry, gene technology, biotechnology and pharmaceutical industries.
- Suitable for corrosive environments and gaseous or liquid media that will not obstruct the pressure system
- Where measurement of high purity gases is needed without contamination of the process media.

Special Features

- 316L SS and 316L SS VIM/VAR wetted parts
- Electropolished SS case, socket & face-seal connection
- Positive and compound pressure ranges to 5000 psi

Standard Features

Design
ASME B40.100

Sizes
2" (50 mm)
1 ½" (40 mm)

Accuracy Class
2": ± 2/1/2% of span (ASME B40.100 Grade A)
1 ½": ± 3/2/3% of span (ASME B40.100 Grade B)

Ranges
Vacuum / compound to 30"Hg/0/300 psi
Pressure from 15 psi up to 5000 psi
or other equivalent units of pressure or vacuum

Working Pressure
Steady: ¾ full-scale value
Fluctuating: ½ full-scale value
Short time: full-scale value

Operating Temperature
Ambient: -40°F to +140°F (-40°C to +60°C)
Medium: +212°F (+100°C) maximum

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

Weather Protection
Weather resistant (NEMA 3 / IP 54)

Pressure Connection
Material: Face-seal nut, 316 SS
Face-seal gland, 316L SS VOD or VIM/VAR
Position: Lower mount (LM)
Center back mount (CBM)
Type of Connection: Face-seal fixed male, swivel male or female
Wetted Surface Finish: R<sub>a</sub> < 0.25µm (R<sub>a</sub> < 10µinch)

Bourdon Tube
Material: 316L SS
30"Hg (vac) to 1,000 psi, C-type
1,500 to 5,000 psi, helical type
Helium leak tested 1 x 10<sup>-9</sup> scc/sec (inboard)

Socket
Material: 316L VIM/VAR electropolished
R<sub>a</sub> < 0.25µm (R<sub>a</sub> < 10µinch) - internal

(Standard Features continued on Page 2 of 6)
**Movement**
Stainless steel

**Dial**
White aluminum with stop pin and black lettering

**Pointer**
Black aluminum

**Case**
304 SS, electropolished

**Window**
Polycarbonate: twist-lock (2"), snap cap (1½")

**Cleanliness**
UHP 'clean' for semiconductor gas applications - in accordance with SEMI/SEMATECH
Cleaned and packed in class 100/10 cleanroom
Packaged in two bags
Purged with Nitrogen
Protective cap over threaded connection

**Order Options (minimum order may apply)**
Inductive Pressure Switch (830.1E)
Custom dial layout
Dual pressure scales
Optional materials for Male / Female Face-seal Nuts - 316 SS, Gall Resistant (Nitronic 60)

**Dimensions**
For pressure ranges greater than 250 bar (3,625 psi), the dimension of the face seal gland diameter changes from 9.53 mm (0.375") to 8.86 mm (0.349").
230.25 2" CBM
FACE SEAL FIXED MALE (FSFM)

230.25 2" CBM
FACE SEAL MALE SWIVEL (FSM)

230.25 2" CBM
FACE SEAL FEMALE SWIVEL (FSF)

230.25 2" CBM
1/4" WELD STUB

230.25 2" CBM
U-CLAMP OPTION

230.25 2" CBM
FRONT FLANGE OPTION

Recommended panel cutout = 55 mm (2.17")
### Field No. Code Feature

<table>
<thead>
<tr>
<th>Nominal Case Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 1.5&quot; (40 mm)</td>
</tr>
<tr>
<td>7 2.0&quot; (50 mm)</td>
</tr>
</tbody>
</table>

### Primary (Outer) Scale

- **P**: psi
- **B**: bar
- **L**: kPa
- **E**: MPa
- **K**: Kg/cm²

### Pressure Range

- V310: -30 inHg ... 0 psi
- V321: -30 inHg ... 15 psi
- V331: -30 inHg ... 30 psi
- V352: -30 inHg ... 60 psi
- V379: -30 inHg ... 100 psi
- V412: -30 inHg ... 160 psi
- V415: -30 inHg ... 200 psi
- V422: -30 inHg ... 300 psi
- G310: 0 ... 15 psi
- G321: 0 ... 30 psi
- G341: 0 ... 60 psi
- G369: 0 ... 100 psi
- G410: 0 ... 150 psi
- G411: 0 ... 160 psi
- G414: 0 ... 200 psi
- G417: 0 ... 250 psi
- G421: 0 ... 300 psi
- G428: 0 ... 400 psi
- G434: 0 ... 500 psi
- G441: 0 ... 600 psi
- G455: 0 ... 800 psi
- G469: 0 ... 1000 psi
- G510: 0 ... 1500 psi
- G514: 0 ... 2000 psi
- G521: 0 ... 3000 psi
- G528: 0 ... 4000 psi
- G534: 0 ... 5000 psi

### Secondary (Inner) Scale

- **Z**: without
- **P**: psi
- **B**: bar
- **L**: kPa
- **E**: MPa
- **K**: Kg/cm²
- **?**: Special scale
<table>
<thead>
<tr>
<th>Field No.</th>
<th>Code</th>
<th>Feature</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>WH</td>
<td>¼&quot; Swivel Male Face Seal (FSM)</td>
</tr>
<tr>
<td>2</td>
<td>WI</td>
<td>¼&quot; Swivel Female Face Seal (FSF)</td>
</tr>
<tr>
<td>3</td>
<td>WG</td>
<td>¼&quot; Fixed Male Face Seal (FSFM)</td>
</tr>
<tr>
<td>4</td>
<td>VN</td>
<td>¼&quot; Weld Stub</td>
</tr>
<tr>
<td>5</td>
<td>9F</td>
<td>¼&quot; Swivel Female Face Seal, 9/16-18 UNF, Gall Resistant (FSF-GR)</td>
</tr>
<tr>
<td>6</td>
<td>9M</td>
<td>¼&quot; Swivel Male Face Seal, 9/16-16 UNF, Gall Resistant (FSM-GR)</td>
</tr>
<tr>
<td>7</td>
<td>?</td>
<td>other - please specify</td>
</tr>
<tr>
<td>8</td>
<td>B</td>
<td>Center back mount</td>
</tr>
<tr>
<td>9</td>
<td>U</td>
<td>Lower mount</td>
</tr>
<tr>
<td>10</td>
<td>Z</td>
<td>Without</td>
</tr>
<tr>
<td>11</td>
<td>K</td>
<td>Panel mount with stainless steel mounting bracket (2&quot; CBM only)</td>
</tr>
<tr>
<td>12</td>
<td>F</td>
<td>Front flange, polished stainless steel (2&quot; CBM only)</td>
</tr>
<tr>
<td>13</td>
<td>?</td>
<td>other - please specify</td>
</tr>
<tr>
<td>14</td>
<td>Z</td>
<td>without</td>
</tr>
<tr>
<td>15</td>
<td>N</td>
<td>Inductive NPN (2&quot; Case only) 830.1E</td>
</tr>
<tr>
<td>16</td>
<td>P</td>
<td>Inductive PNP (2&quot; Case only) 830.1E</td>
</tr>
<tr>
<td>17</td>
<td>ZZ</td>
<td>without</td>
</tr>
<tr>
<td>18</td>
<td>Z</td>
<td>without</td>
</tr>
<tr>
<td>19</td>
<td>Z</td>
<td>without</td>
</tr>
<tr>
<td>20</td>
<td>2</td>
<td>certificate 2.2 EN 10204</td>
</tr>
<tr>
<td>21</td>
<td>3</td>
<td>certificate 3.1 EN 10204</td>
</tr>
<tr>
<td>22</td>
<td>A</td>
<td>2.2 and 3.1 certificates acc. EN 10204</td>
</tr>
<tr>
<td>23</td>
<td>Z</td>
<td>without</td>
</tr>
<tr>
<td>24</td>
<td>T</td>
<td>Additional text*</td>
</tr>
</tbody>
</table>

Order Code: 230.25 - 1 - 2 - 3 - 4 - 5 - 6 - 7 - 8 - 9 - 10 - 11 - 12*  
*Additional order details