Bourdon tube pressure gauge, Hastelloy
For the process industry, high corrosion resistance
Model PG28, NS 100 [4"] and 160 [6”]

Applications
- With case filling for applications with high dynamic pressure loads and vibrations
- For gaseous and liquid aggressive media that are not highly viscous or crystallising, also in aggressive environments
- Oil and gas industry, chemical and petrochemical industries

Special features
- Wetted parts from Hastelloy C276
- Excellent resistance against corrosive media such as sulphuric acid, nitric acid, chlorine gas etc.
- Also available as safety version “S3” per EN 837-1
- Scale ranges from 0 … 0.6 to 0 … 700 bar [0 … 10 to 0 … 10,000 psi]

Description
The model PG28 Bourdon tube pressure gauge with wetted parts from Hastelloy C276 is particularly suitable for applications with aggressive media.

Hastelloy C276 belongs to the group of highly corrosion-resistant nickel-chromium-molybdenum-tungsten alloys and is notable for its high resistance to crevice corrosion, pitting corrosion and stress corrosion cracking in corrosive, oxidising and reducing media.

WIKA manufactures the model PG28 per EN 837-1 both in the “S1” version and in the “S3” safety version. The safety version is made up of a non-splintering window, a solid baffle wall between measuring system and dial and a blow-out back. In the event of a failure, the operator is protected at the front side, as media or components can only be ejected via the back of the case.

For harsh operating conditions (e.g. vibrations), all instruments are also available with an optional liquid filling.

As an alternative, WIKA offers diaphragm seals of models 990.34 and 990.10 as well as model 4 diaphragm pressure gauges in a Hastelloy version. Diaphragm seals are always the first choice for safety-relevant applications.
## Model PG28

### Design
Per EN 837-1 and ASME B40.100

### Nominal size (NS) in mm [in]
- 100 [4”]
- 160 [6”]

### Accuracy
Class 1.0 per EN 837-1, ±1.0 % of measuring span per ASME B40.100 (grade 1A)

### Scale ranges
0 ... 0.6 to 0 ... 700 bar [0 ... 10 to 0 ... 10,000 psi]
or all other equivalent vacuum or combined pressure and vacuum ranges

### Pressure limitation
<table>
<thead>
<tr>
<th>Type</th>
<th>Limitation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Steady</td>
<td>Full scale value</td>
</tr>
<tr>
<td>Fluctuating</td>
<td>0.9 x full scale value</td>
</tr>
<tr>
<td>Short time</td>
<td>1.3 x full scale value</td>
</tr>
</tbody>
</table>

### Permissible temperature
- Ambient:
  - ≤ -40 ... +60 °C [-40 ... +140 °F] for unfilled instruments
  - ≤ -20 ... +60 °C [-4 ... +140 °F] for instruments with glycerine filling
  - ≤ -40 ... +60 °C [-40 ... +140 °F] for instruments with silicone oil filling
- Medium:
  - ≤ 200 °C [≤ 392 °F] for unfilled instruments
  - ≤ 100 °C [≤ 212 °F] for filled instruments

### Temperature effect
When the temperature at the measuring system deviates from the reference temperature
+20 °C [68 °F]: ≤ ±0.4 %/10 K [≤ ±0.4 %/18 °F] of full scale value

### Ingress protection per IEC/EN 60529
IP65 1)

### Process connection
- Material: Hastelloy C276
- Connection location:
  - Lower mount (radial)
  - Lower back mount 2)
- Thread:
  - G ½ B male (SW 22)
  - ½ NPT male (SW 22)
  - M20 x 1.5 male (SW 22)
  - Others on request
- Pressure element: Hastelloy C276
  - C-type or helical type

### Movement
- Material: Stainless steel

### Dial
- Material: Aluminium
- Colour: White
- Scale colour: Black

### Pointer
- Material: Aluminium
- Colour: Black

### Case
- Material:
  - Stainless steel 1.4301
  - Stainless steel 1.4571

### Design
- Version “S1” with blow-out device in case back (per EN 837)
- Safety version “S3” with solid baffle wall (Solidfront) and blow-out back (per EN 837)
  - Scale ranges ≤ 0 ... 16 bar [0 ... 232 psi] with compensating valve to vent case

### Window
- Laminated safety glass

### Ring
- Bayonet ring, stainless steel

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1) IP54 for back mount (safety version “S3”)
2) For NS 160 [6”], lower back mount, only version “S1” is available
**Model PG28**

**Case filling**
- Without
- Glycerine
- Glycerine-water mixture, for scale ranges \(0 \ldots 2.5 \text{ bar} \ [\leq 0 \ldots 40 \text{ psi}]\)
- Silicone oil

<table>
<thead>
<tr>
<th>Weight</th>
<th>Version &quot;S1&quot;</th>
<th>Safety version &quot;S3&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>NS 100 [4&quot;]</td>
<td>0.60 kg [1.32 lbs]</td>
<td>0.90 kg [1.98 lbs]</td>
</tr>
<tr>
<td>NS 160 [6&quot;]</td>
<td>1.10 kg [2.43 lbs]</td>
<td>2.00 kg [4.41 lbs]</td>
</tr>
</tbody>
</table>

**Approvals**

<table>
<thead>
<tr>
<th>Logo</th>
<th>Description</th>
<th>Country</th>
</tr>
</thead>
<tbody>
<tr>
<td>![CE]</td>
<td>EU declaration of conformity</td>
<td>European Union</td>
</tr>
<tr>
<td></td>
<td>- Pressure equipment directive</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- PS &gt; 200 bar, module A, pressure accessory</td>
<td></td>
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<tr>
<td></td>
<td>- ATEX directive (option)</td>
<td></td>
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<tr>
<td></td>
<td>- Ignition protection type &quot;c&quot;, constructive safety</td>
<td></td>
</tr>
</tbody>
</table>

**Certificates (option)**

- 2.2 test report per EN 10204 (e.g. state-of-the-art manufacturing, material proof)
- 3.1 inspection certificate per EN 10204 (e.g. material proof for wetted metal parts)

Approvals and certificates, see website
## Dimensions in mm [in]

**Model PG28, version “S1”**

**NS 100 [4"], 160 [6"], lower mount (radial)**

<table>
<thead>
<tr>
<th>NS</th>
<th>G</th>
<th>Dimensions in mm [in]</th>
</tr>
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<tbody>
<tr>
<td>100</td>
<td>G ½ B</td>
<td>h ±1 87 [3.43]  h1 ±1 83 [3.27]  a 15.5 [0.61]  b 49.5 [1.95]  D1 101 [3.98]  D2 99 [3.90]  e 30 [1.18]  i 6.5 [0.26]  j 14.5 [0.57]  k 22.5 [0.89]  SW 22 [0.87]</td>
</tr>
<tr>
<td>160</td>
<td>G ½ B</td>
<td>h ±1 118 [4.65]  h1 ±1 -  a 15.5 [0.61]  b 49.5 [1.95]  D1 161 [6.34]  D2 159 [6.26]  e -  i 6.5 [0.26]  j 14.5 [0.57]  k 22.5 [0.89]  SW 22 [0.87]</td>
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**NS 100 [4"], lower back mount**

**Process connection with thread per ISO 1179-2**

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<tr>
<td>100</td>
<td>½ NPT</td>
<td>h ±1 86 [3.39]  h1 ±1 82 [3.23]  a 15.5 [0.61]  b 49.5 [1.95]  D1 101 [3.98]  D2 99 [3.90]  e 30 [1.18]  i 6.5 [0.26]  j 14.5 [0.57]  k 22.5 [0.89]  SW 22 [0.87]</td>
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<td>160</td>
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<td>h ±1 117 [4.61]  h1 ±1 -  a 15.5 [0.61]  b 49.5 [1.95]  D1 161 [6.34]  D2 159 [6.26]  e -  i 6.5 [0.26]  j 14.5 [0.57]  k 22.5 [0.89]  SW 22 [0.87]</td>
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**Process connection with thread per ANSI/B1.20.1**

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Model PG28, safety version “S3”

NS 100 [4”], 160 [6”], lower mount (radial)

≤ 16 bar [≤ 200 psi] with vent valve
> 16 bar [> 200 psi] without vent valve

NS 100 [4”], lower back mount

Process connection with thread per ISO 1179-2

<table>
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<tr>
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<th>Dimensions in mm [in]</th>
<th>h ±1</th>
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<th>b₁</th>
<th>b₂</th>
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<tr>
<td></td>
<td>M20 x 1.5</td>
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<td>27</td>
<td>65 [2.56]</td>
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<td>-</td>
<td>161 [6.34]</td>
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Process connection with thread per ANSI/B1.20.1

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Ordering information

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

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