Bourdon Tube Pressure Gauges
Bayonet ring case stainless steel

Standard Versions

Information on general and metrological features (e.g. load limits/temperature resistance) and standard pressure ranges/scale divisions can be found in model overview 1000.

Accuracy (DIN EN 837-1)
Class 1.6
Class 2.5 for pressure ranges 0 – 600 bar and 0 – 1000 bar
(0 – 10,000 psi and 0 – 15,000 psi)

Case
With bayonet ring, stainless steel 304 (1.4301)

Degree of Protection (DIN EN 60 529/IEC 529)
IP54
IP65 for model RChG with closed blow-out plug

 Blow-out Device
Blow-out plug at the top of the case coverage

Case Ventilation
Via blow-out plug, ventilation required for internal pressure compensation for measuring spans ≤ 10 bar, and also recommended for other pressure ranges if the operating conditions permit

Case Filling
For model RChG: glycerin

Nominal Case Size
63 mm (2 1⁄4"

Wetted Parts
Type – 3: connection: stainless steel 316L (1.4404)
Bourdon tube: stainless steel 316L (1.4404)
gas-shielded arc welding
≤ 60 bar (800 psi) c-form
g ≥ 100 bar (1,500 psi) helical form

Type – 1: connection: brass
Bourdon tube: bronze
≤ 40 bar (600 psi) c-form soft-soldered
≥ 60 bar (800 psi) helical form silver brazed

Case Configuration
Connection: screwed
Position of the connection:
- bottom connection
- lower back connection (r) / centre back connection (rm)
Mounting device:
- without
- back flange for surface mounting (Rh)
- front flange for panel mounting (Fr)

Pressure Ranges (DIN EN 837-1)
0 – 0.6 bar to 0 – 1000 bar (0 – 10 psi to 0 – 15,000 psi) for type – 3
0 – 0.6 bar to 0 – 600 bar (0 – 10 psi to 0 – 10,000 psi) for type – 1

Process Connection
G ¼ B (¼” BSP)

Window
Laminated safety glass for type – 3
Instrument glass for type – 1

Movement
Stainless steel for type – 3
Brass/German silver for type – 1

Dial
Aluminum white, scale black

Pointer
Aluminum black

Safety Category According to DIN EN 837-1
S1 pressure gauges with blow-out device
S2 safety pressure gauge,
proved: RCh 63 – 3 up to 1000 bar (15,000 psi)
RChG 63 – 3 up to 600 bar (10,000 psi)
optional: type – 1 with laminated safety glass or polycarbonate

Ordering Information, Standard Pressure Ranges, Options
See pages 3 and 4

Special Versions and Further Options
- Special process connections, e.g. VCR-F, VCR-M, VCR-M short
  (see technical information sheet T01-000-016) or cannula connection with needle for vacuum/pressure test of cans (see technical information sheet T01-000-022), others upon request
- Increased measurement accuracy
- Other pressure ranges and/or special scales, e.g. dual scale bar/psi, coloured fields or ranges, dial inscriptions, negative scale
- Version as refrigeration gauge with temperature scale
- Case parts 316L (1.4404) upon request
- Increased degree of protection, e.g. IP65 without case filling, upon request
- Case/connection welded for lower back process connection or centre back process connection upon request
- Other case fillings upon request
- Model RChG 63 – 3, bottom connection (lower back connection or centre back connection upon request) for ambient temperatures to −40 °C (−40 °F)
- Other than vertical installation (90°)
  - for models without case filling and filled models with pressure equalizing membrane
  - for filled models without pressure equalizing membrane upon request
- GOST version for Russia, Ukraine, Kazakhstan, Belarus
- Sour gas resistant version according to NACE

Accessories
Chemical seals: see catalogue heading 7
Other accessory: see catalogue heading 11

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Tel.: +49 2803 9130 – 0 • Fax: +49 2803 1035
mail@armano-wesel.com
### Case Configurations, Code Letters, Dimensional Data and Weights, Blow-out Device

<table>
<thead>
<tr>
<th>Bottom Connection</th>
<th>Lower Back Connection without mounting device</th>
<th>Centre Back Connection</th>
</tr>
</thead>
<tbody>
<tr>
<td>(without code letters)</td>
<td>code letter: r</td>
<td>code letters: rm</td>
</tr>
</tbody>
</table>

#### Dimensional Data (mm/inch) and Weights (kg/lb)

| NCS | a  | a1 | b  | b1 | b2 | b3  | c  | c1 | c2 | c3  | D  | D1 | D2 | d1 | d2 | d3 | e  | G  | G1 | g  | g1 | h1 | h1` |
|-----|----|----|----|----|----|-----|----|----|----|-----|----|----|----|----|----|----|----|----|----|----|----|----|
| 63  | 10 | 13 | 33 | 37 | 36 | 40  | 5  | 2  | 0.08 | 0.51 | 0.13 | 0.00 | 0.51 | 0.13 | 0.08 | 2.52 | 2.6 | 2.55 | 0.71 | 18  | 0.29 | 0.29 |
| 2½" | 0.39 | 0.51 | 1.3 | 1.46 | 1.42 | 1.57 | 0.2 | 5  | 2  | 0.08 | 0.51 | 0.13 | 0.00 | 0.51 | 0.13 | 0.08 | 2.52 | 2.6 | 2.55 | 0.71 | 18  | 0.29 | 0.29 |

#### Blow-out Device

- **Blow-out plug no. 19**
  - Model RChG, case configurations bottom connection, r, rm:
  - Blow-out plug no. 24 (reclosable, IP65)

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1) data for versions without mounting device
## Ordering Information

<table>
<thead>
<tr>
<th>Basic Model: Bourdon Tube Pressure Gauge with Bayonet Ring Case</th>
<th>RCh</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Case filling:</strong> without</td>
<td>without code letters</td>
</tr>
<tr>
<td>glycerin</td>
<td>G</td>
</tr>
<tr>
<td>fillable version</td>
<td>(G)</td>
</tr>
<tr>
<td><strong>Nominal case size:</strong> case Ø 63 mm (2 ½&quot;)</td>
<td>63</td>
</tr>
<tr>
<td><strong>Wetted material:</strong> copper alloy</td>
<td>– 1</td>
</tr>
<tr>
<td>stainless steel</td>
<td>– 3</td>
</tr>
<tr>
<td>Monel, 0 – 1 bar to 0 – 1000 bar, movement stainless steel, laminated safety glass, Bourdon tube Monel gas-shielded arc welding, ≤60 bar c-form, ≥100 bar helical form, bottom connection, optional r (no rm) safety version S2 up to 0 – 600 bar</td>
<td>– 6</td>
</tr>
<tr>
<td><strong>Case configuration:</strong> case / connection</td>
<td>screwed</td>
</tr>
<tr>
<td></td>
<td>welded (only type – 3 bottom connection)</td>
</tr>
<tr>
<td></td>
<td>welded (only type – 3 bottom connection)</td>
</tr>
<tr>
<td></td>
<td>without code letters</td>
</tr>
<tr>
<td></td>
<td>v</td>
</tr>
<tr>
<td>position of the connection</td>
<td>bottom connection</td>
</tr>
<tr>
<td></td>
<td>without code letters</td>
</tr>
<tr>
<td></td>
<td>r</td>
</tr>
<tr>
<td></td>
<td>rm</td>
</tr>
<tr>
<td>mounting device</td>
<td>without</td>
</tr>
<tr>
<td></td>
<td>back flange for surface mounting</td>
</tr>
<tr>
<td></td>
<td>without code letters</td>
</tr>
<tr>
<td></td>
<td>Rh</td>
</tr>
<tr>
<td></td>
<td>Fr</td>
</tr>
<tr>
<td><strong>Pressure ranges:</strong></td>
<td></td>
</tr>
<tr>
<td>–1200 / 0 mbar</td>
<td>30&quot; hg vac. – 0 psi</td>
</tr>
<tr>
<td>–0.6 / 0 bar</td>
<td></td>
</tr>
<tr>
<td>–1 / 0 bar</td>
<td></td>
</tr>
<tr>
<td>–1 / +0.6 bar</td>
<td>30&quot; hg vac. – 15 psi</td>
</tr>
<tr>
<td>–1 / +1.5 bar</td>
<td>30&quot; hg vac. – 30 psi</td>
</tr>
<tr>
<td>–1 / +3 bar</td>
<td>30&quot; hg vac. – 60 psi</td>
</tr>
<tr>
<td>–1 / +5 bar</td>
<td>30&quot; hg vac. – 100 psi</td>
</tr>
<tr>
<td>–1 / +9 bar</td>
<td>30&quot; hg vac. – 160 psi</td>
</tr>
<tr>
<td>–1 / +15 bar</td>
<td>30&quot; hg vac. – 200 psi</td>
</tr>
<tr>
<td>0 – 0.6 bar</td>
<td>30&quot; hg vac. – 300 psi</td>
</tr>
<tr>
<td>0 – 1 bar</td>
<td>30&quot; hg vac. – 10 psi</td>
</tr>
<tr>
<td>0 – 1.6 bar</td>
<td>30&quot; hg vac. – 15 psi</td>
</tr>
<tr>
<td>0 – 2.5 bar</td>
<td>30&quot; hg vac. – 30 psi</td>
</tr>
<tr>
<td>0 – 4 bar</td>
<td>30&quot; hg vac. – 60 psi</td>
</tr>
<tr>
<td>0 – 6 bar</td>
<td>30&quot; hg vac. – 100 psi</td>
</tr>
<tr>
<td>0 – 10 bar</td>
<td>30&quot; hg vac. – 160 psi</td>
</tr>
<tr>
<td>0 – 16 bar</td>
<td>30&quot; hg vac. – 200 psi</td>
</tr>
<tr>
<td>0 – 25 bar</td>
<td>30&quot; hg vac. – 300 psi</td>
</tr>
<tr>
<td>0 – 40 bar</td>
<td>30&quot; hg vac. – 400 psi</td>
</tr>
<tr>
<td>0 – 60 bar</td>
<td>30&quot; hg vac. – 600 psi</td>
</tr>
<tr>
<td>0 – 100 bar</td>
<td>30&quot; hg vac. – 800 psi</td>
</tr>
<tr>
<td>0 – 160 bar</td>
<td>30&quot; hg vac. – 1,000 psi</td>
</tr>
<tr>
<td>0 – 250 bar</td>
<td>30&quot; hg vac. – 1,500 psi</td>
</tr>
<tr>
<td>0 – 400 bar</td>
<td>30&quot; hg vac. – 2,000 psi</td>
</tr>
<tr>
<td>0 – 600 bar</td>
<td>30&quot; hg vac. – 3,000 psi</td>
</tr>
<tr>
<td>0 – 1000 bar</td>
<td>30&quot; hg vac. – 4,000 psi</td>
</tr>
<tr>
<td>0 – 2000 bar</td>
<td>30&quot; hg vac. – 5,000 psi</td>
</tr>
<tr>
<td>0 – 3000 bar</td>
<td>30&quot; hg vac. – 6,000 psi</td>
</tr>
<tr>
<td>0 – 4000 bar</td>
<td>30&quot; hg vac. – 10,000 psi</td>
</tr>
<tr>
<td>0 – 5000 bar</td>
<td>30&quot; hg vac. – 15,000 psi</td>
</tr>
<tr>
<td><strong>Process connection:</strong> standard thread</td>
<td>G ½B</td>
</tr>
<tr>
<td>options</td>
<td>– 1</td>
</tr>
<tr>
<td></td>
<td>max. 0 – 600 bar</td>
</tr>
<tr>
<td></td>
<td>1/4” NPT</td>
</tr>
<tr>
<td></td>
<td>– 3 and – 6</td>
</tr>
<tr>
<td></td>
<td>max. 0 – 1000 bar</td>
</tr>
<tr>
<td></td>
<td>M 12x1.5</td>
</tr>
<tr>
<td></td>
<td>– 3</td>
</tr>
<tr>
<td></td>
<td>max. 0 – 600 bar</td>
</tr>
<tr>
<td></td>
<td>G ½B</td>
</tr>
<tr>
<td></td>
<td>– 1 and – 6</td>
</tr>
<tr>
<td></td>
<td>max. 0 – 400 bar</td>
</tr>
<tr>
<td></td>
<td>¼” NPT</td>
</tr>
<tr>
<td></td>
<td>– 6</td>
</tr>
<tr>
<td></td>
<td>max. 0 – 15,000 psi</td>
</tr>
<tr>
<td></td>
<td>G ½B</td>
</tr>
<tr>
<td></td>
<td>– 1 and – 6</td>
</tr>
<tr>
<td></td>
<td>max. 0 – 400 bar</td>
</tr>
<tr>
<td></td>
<td>¼” NPT</td>
</tr>
<tr>
<td></td>
<td>– 6</td>
</tr>
<tr>
<td></td>
<td>max. 0 – 15,000 psi</td>
</tr>
<tr>
<td><strong>Options:</strong> see page 4</td>
<td></td>
</tr>
<tr>
<td><strong>Example:</strong> RCh 63 – 3 rmFr, 0 – 6 bar, G ½B</td>
<td></td>
</tr>
</tbody>
</table>

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# Ordering Information, Further Options

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<tr>
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</thead>
<tbody>
<tr>
<td><strong>Options:</strong></td>
<td>see page 3</td>
</tr>
<tr>
<td>adjustable pointer</td>
<td></td>
</tr>
<tr>
<td>red mark</td>
<td>on the dial</td>
</tr>
<tr>
<td>stationary red pointer</td>
<td>on the dial adjustable with removable ring</td>
</tr>
<tr>
<td>stationary red pointer</td>
<td>integrated in polycarbonate window adjustable externally</td>
</tr>
<tr>
<td>min./max. drag indicator</td>
<td>integrated in polycarbonate window adjustable externally</td>
</tr>
<tr>
<td>measuring spans 2.5 bar onwards</td>
<td>removable key</td>
</tr>
<tr>
<td></td>
<td>non-removable key</td>
</tr>
<tr>
<td>receiver gauge 0.2 – 1 bar (3 – 15 psi), scale 0 – 100 %</td>
<td>linear</td>
</tr>
<tr>
<td></td>
<td>square</td>
</tr>
<tr>
<td>special adjustment (reference points = odd values, e.g. 100 KN = 8.735 bar)</td>
<td></td>
</tr>
<tr>
<td>window</td>
<td>laminated safety glass for type – 1 (= S2 see below)</td>
</tr>
<tr>
<td></td>
<td>acrylic glass (PMMA)(^1)</td>
</tr>
<tr>
<td></td>
<td>polycarbonate (PC) for type – 1 (= S2 see below)</td>
</tr>
<tr>
<td>movement</td>
<td>stainless steel for type – 1 (for – 3 and – 6 standard)</td>
</tr>
<tr>
<td>pressure equalizing membrane for model RChG with blow-out device Ø 1&quot; (25 mm)</td>
<td></td>
</tr>
<tr>
<td>at the back of the case for bottom connection and lower back connection</td>
<td></td>
</tr>
<tr>
<td>blow-out plug no. 24 (reclosable, IP65)</td>
<td></td>
</tr>
<tr>
<td>case ventilation no. 22 for outdoor installation</td>
<td></td>
</tr>
<tr>
<td>case polished</td>
<td></td>
</tr>
<tr>
<td>bayonet ring polished</td>
<td></td>
</tr>
<tr>
<td>leak test of the measuring unit</td>
<td>with helium leak detection up to 10⁻⁹ mbar l/s for types – 3 and – 6</td>
</tr>
<tr>
<td>wetted parts free of grease and oil up to 0 – 600 bar (0 – 10,000 psi)</td>
<td>adjustment ≤250 bar (3,000 psi) with dry air, ≥400 bar (5,000 psi) with distilled water, dial marking: symbol crossed out oil can</td>
</tr>
<tr>
<td>oxygen version up to 0 – 600 bar (0 – 10,000 psi)(^2)</td>
<td>free of grease and oil as above, additional restrictor screw in the inlet port, orifice Ø 0.3 mm (0.01”) dial inscription: oxygen DIN EN 837-1 in connection with oxygen version requires safety category S2(^3) or S3</td>
</tr>
<tr>
<td>silicone-free version</td>
<td></td>
</tr>
<tr>
<td>version:</td>
<td>dial marking: symbol</td>
</tr>
<tr>
<td>DNV GL or Russian Sea Register RChG 63</td>
<td>copy of the certificate upon request</td>
</tr>
<tr>
<td>safety category S2</td>
<td>for type – 1 to 0 – 600 bar (0 – 10,000 psi), window laminated safety glass or polycarbonate (PC)</td>
</tr>
<tr>
<td>restrictor screw in the pressure inlet port, material: like process connection brass, stainless steel or Monel</td>
<td>orifice Ø 0.8 mm (0.03”)</td>
</tr>
<tr>
<td></td>
<td>orifice Ø 0.6 mm (0.02”) (not for Monel)</td>
</tr>
<tr>
<td></td>
<td>orifice Ø 0.3 mm (0.01”) (not for Monel)</td>
</tr>
<tr>
<td>instrument tag</td>
<td>stainless steel plate 12 x 55 mm (0.47 x 2.17”), wire mounting sticker on the case coverage</td>
</tr>
</tbody>
</table>

Special Versions: Please describe your requirements in cleartext!!

\(^1\) not for S2
\(^2\) for instruments without case filling
\(^3\) see “Safety Category” page 1