

# Bourdon Tube Pressure Gauges

Bayonet ring case stainless steel

RCh 63

RChG 63

## 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  $\leq 10$  bar, and also recommended for other pressure ranges if the operating conditions permit

### Case Filling

Model RChG: glycerin

### Nominal Case Size

63 mm (2 1/2")

### Wetted Parts

Type – 3: connection: stainless steel 316L (1.4404)  
Bourdon tube: stainless steel 316L (1.4404)  
gas-shielded arc welding  
 $\leq 60$  bar (800 psi) c-form  
 $\geq 100$  bar (1 500 psi) helical form

Type – 1: connection: brass  
Bourdon tube: bronze  
 $\leq 40$  bar (600 psi) c-form  
 $\geq 60$  bar (800 psi) soft-soldered  
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 1/4 B (1/4" 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

## 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)
- Increased measurement accuracy
- Version as refrigeration gauge with temperature scale (see technical information sheet T01-000-015)
- Model RChG 63 – 3, bottom connection for ambient temperatures down to  $-40$  °C ( $-40$  °F) For ambient temperatures below  $-20$  °C ( $-4$  °F) we recommend: pressure gauges with crimped-on ring case models RChg or RChgG
- Position of connection radial at 3 o'clock, 9 o'clock, 12 o'clock or other than vertical installation ( $90^\circ$ ):
  - for unfilled models
  - for filled models with pressure equalising membrane
- GOST version for Russia and Kazakhstan
- Sour gas resistant version according to NACE

## Special Versions Upon Request

- Other process connections
- Other pressure ranges and/or special scales, e.g. dual scale bar/psi, coloured fields or ranges, dial inscriptions, negative scale
- Case parts 316L (1.4404)
- Increased degree of protection, e.g. IP65 without case filling
- Case/connection welded for lower back or centre back connection
- Other case fillings
- Model RChG 63 – 3, lower back connection or centre back connection for ambient temperatures down to  $-40$  °C ( $-40$  °F)
- Versions for medium temperatures up to  $+300$  °C ( $+572$  °F), without case filling only
- Other position of connection

## Accessory

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

[www.armano-messtechnik.com](http://www.armano-messtechnik.com)

**ARMANO**

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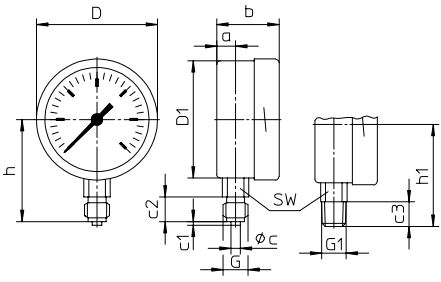
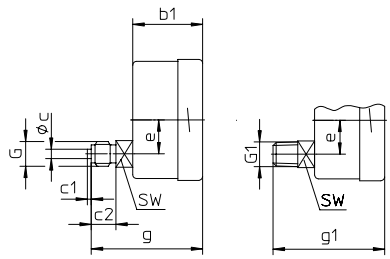
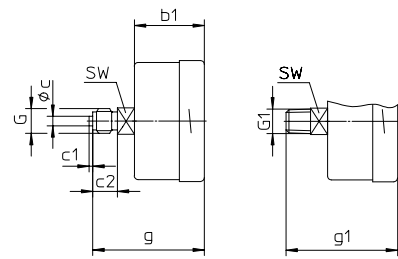
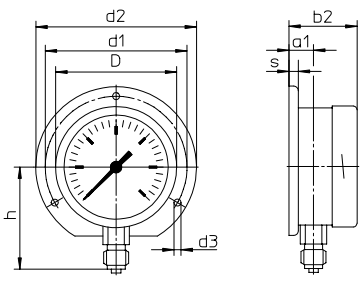
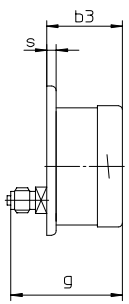
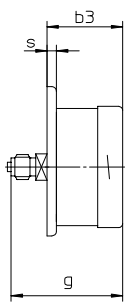
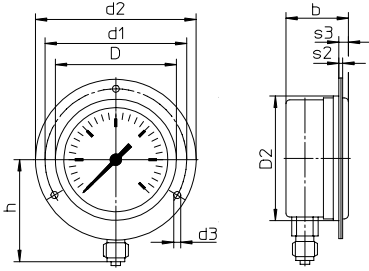
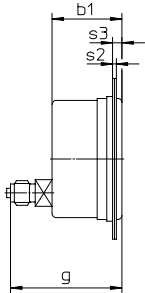
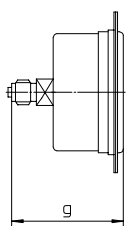
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**1211**

02/22

# Case Configurations, Code Letters, Dimensional Data and Weight, Blow-out Device

| Bottom Connection   | Lower Back Connection   | Centre Back Connection   |
|---|---|--|
| <b>without mounting device</b>  |   |  |
| without code letters<br>  | code letter r<br>  | code letters rm<br>   |
| <b>with back flange for surface mounting</b>  |   |  |
| code letters Rh<br>   | code letters rRh<br><br><small>(available upon request, however not recommended according to DIN EN 837-1)</small> | code letters rmRh<br><br><small>(available upon request, however not recommended according to DIN EN 837-1)</small> |
| <b>with front flange for panel mounting</b>   |   |  |
| code letters Fr<br><br><small>(available upon request, however not recommended according to DIN EN 837-1)</small> | code letters rFr<br>   | code letters rmFr<br>   |

**front flange** with slotted holes, separate cover ring, recommended panel cut out:  $\varnothing 67 \pm 0.3 \text{ mm}$  (2.64  $\pm$  0.012")

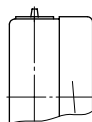
## Dimensional Data (mm/inch) and Weight (kg/lb)

| NCS    | a    | a1   | b   | b1   | b2   | b3   | c   | c1   | c2   | c3   | D    | D1   | D2  | d1   | d2   | d3   | e    | G       | G1       | g    | g1   | h <sup>±1</sup> | h1 <sup>±1</sup> |
|--------|------|------|-----|------|------|------|-----|------|------|------|------|------|-----|------|------|------|------|---------|----------|------|------|-----------------|------------------|
| 63     | 10   | 13   | 33  | 37   | 36   | 40   | 5   | 2    | 13   | 13   | 64   | 62   | 66  | 75   | 85   | 3.6  | 18   | G 1/4 B | G1       | 59   | 59   | 54              | 54               |
| 2 1/2" | 0.39 | 0.51 | 1.3 | 1.46 | 1.42 | 1.57 | 0.2 | 0.08 | 0.51 | 0.51 | 2.52 | 2.44 | 2.6 | 2.95 | 3.35 | 0.14 | 0.71 | M12x1.5 | 1/4" NPT | 2.32 | 2.32 | 2.13            | 2.13             |

| s   | s2   | s3   | SW   | approx. weight <sup>1)</sup> |      |
|-----|------|------|------|------------------------------|------|
|     |      |      |      | RCh                          | RChG |
| 5   | 2    | 5.5  | 14   | 0.18                         | 0.25 |
| 0.2 | 0.08 | 0.22 | 0.55 | 0.4                          | 0.55 |

## Blow-out Device

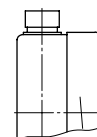
Blow-out plug no. 19



## Optional

Model RChG,  
case configurations bottom connection, r, rm:

blow-out plug no. 24  
(reclosable, IP65)



<sup>1)</sup> data for versions without mounting device

## Ordering Information

| Basic Model:               |  | Bourdon Tube Pressure Gauge with Bayonet Ring Case                             |  | RCh   |
|----------------------------|--|--|--|---|
| <b>Case filling:</b>       | without<br>glycerin<br>fillable version  |  |  | without code letters<br><b>G</b><br><b>(G)</b><br><b>63</b>                     |
| <b>Nominal case size:</b>  | case Ø 63 mm (2½")   |  |  | <b>– 1</b><br><b>– 3</b><br><b>– 6</b>  |
| <b>Wetted material:</b>    | copper alloy<br>stainless steel<br>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  |  |  |   |
| <b>Case configuration:</b> | case/connection  | screwed<br>welded<br>(type – 3 bottom connection only)                         |  | without code letters<br><b>v</b>  |
|                            | position of the connection   | bottom connection<br>lower back connection<br>centre back connection           |  | without code letters<br><b>r</b><br><b>rm</b>                                   |
|                            | mounting device  | without<br>back flange for surface mounting<br>front flange for panel mounting |  | without code letters<br><b>Rh</b><br><b>Fr</b>                                  |
| <b>Pressure ranges:</b>    | –1 200 / 0 mbar<br>–0.6 / 0 bar<br>–1 / 0 bar<br>–1 / +0.6 bar<br>–1 / +1.5 bar<br>–1 / +3 bar<br>–1 / +5 bar<br>–1 / +9 bar<br>–1 / +15 bar<br>–30" Hg – 0 psi<br>–30" Hg – 15 psi<br>–30" Hg – 30 psi<br>–30" Hg – 60 psi<br>–30" Hg – 100 psi<br>–30" Hg – 160 psi<br>–30" Hg – 200 psi<br>–30" Hg – 300 psi<br>0 – 0.6 bar<br>0 – 1 bar<br>0 – 1.6 bar<br>0 – 2.5 bar<br>0 – 4 bar<br>0 – 6 bar<br>0 – 10 bar<br>0 – 16 bar<br>0 – 25 bar<br>0 – 40 bar<br>0 – 60 bar<br>0 – 100 bar<br>0 – 160 bar<br>0 – 250 bar<br>0 – 400 bar<br>0 – 600 bar<br>0 – 1000 bar |  |  | <b>e.g. 0 – 6 bar</b>   |
| <b>Process connection:</b> | standard thread<br>options   | G ¼B – 1<br>¼" NPT – 3 and – 6<br>M 12x1.5<br>G ½B – 1 and – 6<br>½" NPT – 3   | max. 0 – 600 bar<br>max. 0 – 1 000 bar<br>max. 0 – 400 bar<br>max. 0 – 600 bar | <b>G ¼B</b><br><b>¼" NPT</b><br><b>M 12x1.5</b><br><b>G ½B</b><br><b>½" NPT</b> |
| <b>Options:</b>            | see page 4   |  |  |   |
| <b>Example:</b>            |  |  |  | <b>RCh 63 – 3 rmFr, 0 – 6 bar, G ¼B</b>   |

## Ordering Information, Further Options

| Basic Model: Bourdon Tube Pressure Gauge with Bayonet Ring Case |   | RCh  |
|---|---|--|
| <b>Model code:</b>  |   | see page 3   |
| <b>Options:</b>   | adjustable pointer  |  |
|   | red mark  | on the dial  |
|   | stationary red pointer  | on the dial  |
|   |   | adjustable with removable ring   |
|   | stationary red pointer  | integrated in polycarbonate window   |
|   |   | adjustable externally  |
|   |   | removable key  |
|   |   | non-removable key  |
|   | min./max. drag indicator  | integrated in polycarbonate window   |
|   | measuring spans 2.5 bar onwards   | adjustable externally  |
|   |   | removable key  |
|   |   | non-removable key  |
|   | receiver gauge 0.2 – 1 bar (3 – 15 psi), scale 0 – 100 %  | linear   |
|   |   | square   |
|   | special adjustment (reference points = odd values, e.g. 100 KN = 8.735 bar)   |  |
|   | window  | laminated safety glass for type – 1 (= S2 see below)   |
|   |   | acrylic glass (PMMA) <sup>1)</sup>   |
|   |   | polycarbonate (PC) for type – 1 (= S2 see below)   |
|   | movement  | stainless steel for type – 1 (standard for – 3 and – 6)  |
|   | pressure equalising membrane for model RChG with blow-out device Ø 1" (25 mm) in the back of the case for bottom connection and lower back connection |  |
|   | blow-out plug no. 24 (reclosable, IP65)   |  |
|   | case ventilation no. 22 for outdoor installation  |  |
|   | case polished   |  |
|   | bayonet ring polished   |  |
|   | leak test of the measuring unit   | with helium leak detection up to 10 <sup>-9</sup> mbar l/s for types – 3 and – 6   |
|   | wetted parts free of grease and oil up to 0 – 600 bar (0 – 10000 psi)   | adjustment ≤ 250 bar (3000 psi) with dry air, ≥ 400 bar (5000 psi) with distilled water, dial marking: symbol crossed out oil can  |
|   | oxygen version up to 0 – 600 bar (0 – 10000 psi) <sup>2)</sup>  | free of grease and oil as above, additional restrictor screw in the inlet port, orifice Ø 0.3 mm (0.01")<br>dial inscription: oxygen<br>DIN EN 837-1 in connection with oxygen version requires safety category S2 <sup>3)</sup> or S3 |
|   | silicone-free version   |  |
|   | version:<br>DNV GL or Russian Sea Register<br><b>RChG 63</b>  | dial marking: symbol<br>copy of the certificate upon request   |
|   | safety category S2  | for type – 1 up to 0 – 600 bar (0 – 10000 psi), window laminated safety glass or polycarbonate (PC)  |
|   | restrictor screw in the pressure inlet port, material: like process connection brass, stainless steel or Monel  | orifice Ø 0.8 mm (0.03")<br>orifice Ø 0.6 mm (0.02") (not for Monel)<br>orifice Ø 0.3 mm (0.01") (not for Monel)   |
|   | instrument tag  | stainless steel plate 12 x 55 mm (0.47 x 2.17"), wire mounting<br>sticker on the case coverage   |

**Special Versions:** Please describe your requirements in cleartext!

<sup>1)</sup> not for S2

<sup>2)</sup> for instruments without case filling

<sup>3)</sup> see "Safety Category" page 1