

Bourdon Tube Pressure Gauges

Bayonet Ring Case Stainless Steel,
American Case Type (wide ring)

RCha 63
RChaG 63

Standard Versions

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

Accuracy (EN 837-1)

Class 1.6

Class 2.5 for pressure ranges 0-600 and 0-1,000 bar
(0-10,000 and 0-15,000 psi)

Case

Wide bayonet ring, polished (American case type),
1.4301 (304 stainless steel)

Case Protection Type (EN 60 529 / IEC 529)

IP 54,

IP 65 for model RChaG (pressure ranges ≥ 2.5 bar and above),
for case configuration rFr and closed blow-out plug

Blow-out Device

Blow-out device at the top of the case;
Blow-out plug for case configuration rFr

Case Ventilation

By blow-out device resp. blow-out plug; for blow-out plug ventilation
for internal pressure compensation required for pressure ranges
 ≤ 10 bar and also recommended for other pressure ranges, as far
as the operating conditions allow this.

Case Filling

for model RChaG: glycerine

Nominal Case Size

63 (mm) (2½")

Wetted Parts

Type -3: Connection: 1.4571 (316 stainless steel)

Bourdon tube: 1.4571 (316 stainless steel),
argon arc welding,
 ≤ 60 bar (800 psi) c-form,
 ≥ 100 bar (1,500 psi) helical

Type -1: Connection: brass

Bourdon tube: bronze,
 ≤ 40 bar (600 psi) soft-soldered, c-form,
 ≥ 60 bar (800 psi) silver brazed, helical

Case Configuration

Connection: screwed

Position of the connection: bottom connection,
optional lower back connection (**r**) /
centre back connection (**rm**)

Mounting device:
without, optional back flange for
surface mounting (**Rh**) / front flange
for panel mounting (**Fr**) or u-clamp for
panel mounting (**BFr**), see page 2

Pressure Ranges (EN 837-1)

0-0.6 bar (0-10 psi) to 0-1,000 bar (0-15,000 psi) for type -3

0-0.6 bar (0-10 psi) to 0- 600 bar (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, black figures, white background

Pointer

Aluminum, black

Safety Category according to EN 837-1

S1 pressure gauges with blow-out device

Ordering Information, Standard Pressure Ranges, Options:

see pages 3 and 4

Special Versions and further Options among others

- Other process connections upon request
- Other pressure ranges and / or special scales, e.g. double scale bar/psi, coloured fields or areas, dial inscriptions, negative scale etc.
- Version as refrigeration gauge with temperature scale
- Case parts 1.4404 (316 L stainless steel)
- Increased case protection type, e. g. IP 65 without case filling, upon request
- Other case fillings upon request
- Model RChaG
for ambient temperatures down to -40 °C (-40 °F) upon request.
Our recommendation for ambient temperatures below
-20 °C (-4 °F); models RChg resp. RChgG
- Versions for medium temperatures up to 300 °C (572 °F),
but without case filling upon request
- Position of connection radial at 3 o'clock, 9 o'clock or 12 o'clock
(others upon request), or other than vertical installation (90°)
for dry version
- GOST-version for Russia, Ukraine, Kazakhstan
- Sour gas-resistant version according to NACE

Accessory:

Chemical seals: see catalogue-heading 7

Electrical: limit switch contact assembly and reed switch
DS 1219.4 and catalogue heading 9.1

Other accessory: see catalogue-heading 11



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

Bottom connection	Lower back connection	Centre back connection
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No mounting device		
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<p>(no additional code letter)</p>	<p>code letter: r</p>	<p>code letters: rm</p>
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Back flange for surface mounting		
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<p>code letters: Rh</p>	<p>code letters: rRh</p> <p>(available upon request, but according to EN 837-1 not recommended)</p>	<p>code letters: rmRh</p> <p>(available upon request, but according to EN 837-1 not recommended)</p>
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Front flange for panel mounting		
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<p>code letters: rFr</p> <p>recommended panel cut out $\varnothing 64 \pm 0.5 \text{ mm (0.02")}$</p>	<p>code letters: rmFr</p> <p>recommended panel cut out $\varnothing 64 \pm 0.5 \text{ mm (0.02")}$</p>
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U-clamp for panel mounting		
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<p>code letters: rBFr</p> <p>recommended panel cut-out $\varnothing 64 \pm 0.5 \text{ mm (0.02")}$</p>	<p>code letters: rmBFr</p> <p>recommended panel cut out $\varnothing 64 \pm 0.5 \text{ mm (0.02")}$</p>
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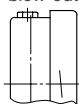
Dimensional data (mm / inches) and weights (kg / lb)																					
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NCS	a	a1	b	b1	b2	b3	c	c1	c2	c3	D	D1	d1	d2	d3	d4	e	G	G1	g	g1	h ± 1	h1 ± 1
63	9.5	13.5	31	37	35	41	5	2	13	13	68.5	62	75	85	3.6	67	18	G 1/4 B	1/4" NPT	60	60	54	54
2 1/2"	.37	.53	1.22	1.46	1.38	1.61	.20	.08	.51	.51	2.7	2.44	2.95	3.35	.14	2.64	.71	1/4" BSP		2.36	2.36	2.13	2.13
																		M 12x1.5					

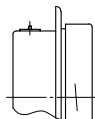
s	s1	s3	s4	s6	SW	approx. weight ¹⁾	
						RChA	RChAG
5	3	17	15	12	14	0.18	0.25
.20	.12	.67	.59	.47	.55	.4	.56

Blow-out device

Blow-out device
 Pressure range $\leq 1.6 \text{ bar (23.20 psi)}$ blow-out device no.5
 $\geq 2.5 \text{ bar (30 psi)}$ blow-out device no.3



Case configuration rFr
 Blow-out plug 19



¹⁾ Information for version without mounting device

Ordering Information with Standard Pressure Ranges, Options

Basic Model:	Bourdon Tube Pressure Gauge		RCha
Case Filling:	without		without code letters
	glycerine		G
	fillable version		(G)
Nominal Case Size:	case- Ø 63 (mm) (2½")		63
Wetted Material:	copper alloy		-1
	stainless steel		-3
Monel 0-1 bar (15 psi) to 0-1,000 bar (15,000 psi), movement stainless steel, laminated safety glass, bourdon tube Monel argon arc welding, ≤ 60 bar (1,000 psi) c-form, ≥ 100 bar (1,500 psi) helical, bottom connection, optional r (no rm)			-6
Case Configuration:	case / connection	screwed	without code letters
	position of the connection:	bottom connection	without code letters
		lower back connection	r
		centre back connection	rm
	mounting device:	without	without code letters
		back flange for surface mounting	Rh
front flange for panel mounting		Fr	
	u-clamp for panel mounting	BFr	
Pressure Ranges:	-1,200 – 0 mbar	30" Hg vac. – 0 psi	
	-0.6 – 0 bar		
	-1 – 0 bar		
	-1 – 0.6 bar	30" Hg vac. – 15 psi	
	-1 – 1.5 bar	30" Hg vac. – 30 psi	
	-1 – 3 bar	30" Hg vac. – 60 psi	
	-1 – 5 bar	30" Hg vac. – 100 psi	
	-1 – 9 bar	30" Hg vac. – 160 psi	
	-1 – 15 bar	30" Hg vac. – 200 psi	
	0 – 0.6 bar	0 – 10 psi	
	0 – 1 bar	0 – 15 psi	
	0 – 1.6 bar		
	0 – 2.5 bar	0 – 30 psi	
	0 – 4 bar	0 – 60 psi	
	0 – 6 bar	0 – 100 psi	e. g. 0-6 bar
	0 – 10 bar	0 – 160 psi	
	0 – 16 bar	0 – 200 psi	
	0 – 25 bar	0 – 300 psi	
	0 – 40 bar	0 – 600 psi	
	0 – 60 bar	0 – 800 psi	
	0 – 100 bar	0 – 1,500 psi	
	0 – 160 bar	0 – 2,000 psi	
	0 – 250 bar	0 – 3,000 psi	
	0 – 400 bar	0 – 5,000 psi	
0 – 600 bar	0 – 10,000 psi		
0 – 1,000 bar	for type -3 0 – 15,000 psi		
Process Connection:	standard thread	G ¼ B (¼" BSP)	G ¼ B
	options:	¼" NPT	¼" NPT
		M 12 x 1.5	M 12 x 1,5
		G ⅜ B (⅜" BSP)	
	⅜" NPT		
		-1 max. 0- 600 bar;	
		-3 and -6 max. 0-1,000 bar	
		-1 and -6 max. 0-400 bar;	
		-3 max. 0-600 bar	
Options:	see page 4		
Example:	RCha 63-3 rmFr, 0-6 bar, G ¼ B		

Further Options regarding Ordering Information

Basic Model: Bourdon Tube Pressure Gauge, Bayonet Ring Case		RCha	
Model Code:		see page 3	
Options:	adjustable pointer		
	red mark on the dial		
	stationary red pointer on the dial		
		adjustable when removable ring	
	stationary red pointer	adjusting mechanism brass, nickelplated	
		with convex window made of acrylic glass, screwed	
		adjustable externally	removable key
			non-removable key
		adjusting mechanism stainless steel,	
		with convex window made of acrylic glass, screwed	
		adjustable externally	removable key
			non-removable key
	min.- or max.- drag indicator	adjusting mechanism brass, nickelplated	
	2.5 bar (30 psi) and above	with convex window made of acrylic glass, screwed	
		adjustable externally	removable key
			non-removable key
		adjusting mechanism stainless steel,	
		with convex window made of acrylic glass, screwed	
		adjustable externally	removable key
			non-removable key
	receiver gauge 0.2-1 bar, scale 0-100%		linear square
	special adjustment (reference points = odd values, e. g. 100 KN = 8.735 bar)		<i>(order at the moment still as cleartext)</i>
window	laminated safety glass ¹⁾ for type -1 acrylic glass (PMMA) polycarbonate (PC) ¹⁾		
movement stainless steel for type -1 (for -3 and -6 standard)			
blow-out device	Ø 1" (25 mm) in the back of the case when bottom connection and lower back connection		
case ventilation no. 22 for outdoor installation			
case polished			
density examination of the measuring unit	with helium leak detection up to 10 ⁻⁹ mbar l/s for types -3 and -6		
wetted parts, free of grease and oil, up to 0-600bar (0-10,000 psi)	adjustment ≤ 250 bar (3,000 psi) with dry air, ≥ 400 bar (5,000 psi) with distilled water, dial marking: symbol cancelled oil can		
oxygen version up to 0-600 bar ²⁾ (0-10,000 psi)	free of grease and oil, additional restrictor screw in the inlet port, orifice Ø 0.3 mm (0.01"), dial inscription: oxygen no version according to EN 837-1 ³⁾		
silicone-free version			
restrictor screw in pressure inlet port material: as process connection brass, stainless steel or Monel	orifice Ø 0.8 mm (0.03") orifice Ø 0.6 mm (0.02") (not Monel) orifice Ø 0.3 mm (0.01") (not Monel)		
measuring point marking	stainless steel-plate, 12 mm x 55 mm (0.47" x 2.17") wire mounting or sticker on case coverage		

Special Versions: Please describe your requirements clearly

¹⁾ not when stationary pointer resp. drag indicator

¹⁾ for instruments without case filling

²⁾ EN 837-1 in connection with oxygen version requires safety category S2 or S3

Technical changes, replacement of materials and errors excepted