

Bourdon Tube Pressure Gauges

Bayonet Ring Case Stainless Steel

American Case Type (wide ring)

RCha
RChaG

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 1.0

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 RChG 100 and

model RChG 160 (pressure ranges ≥ 2.5 bar and above)

Blow-out Device

Model RCha Blow-out plug in the back of the case,
1" (\varnothing 25mm)

Model RChaG Blow-out plug at the top of the
case coverage

Case Ventilation

Model RChaG by blow-out device

Case Filling

for model RChaG: glycerine

Nominal Case Size

100, 160 (mm) (4", 6")

Wetted Parts

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

Bourdon tube: 1.4571 (316 stainless steel),
argon arc welding,
 ≤ 40 bar (600 psi) c-form
 ≥ 60 bar (800 psi) helical
1,600 bar (20,000 psi) NiFe-alloy, helical

Type -1: Connection: brass

Bourdon tube: ≤ 40 bar (600 psi) bronze, c-form
soft-soldered
 ≥ 60 bar (800 psi) 1.4571 (316 stain-
less steel), helical
silver brazed

Case Configuration

Connection: screwed

Position of the connection: bottom connection,
optional lower back connection (r)
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 0-1,600 bar (0-20,000 psi) for type -3

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

Process Connection

G $\frac{1}{2}$ B ($\frac{1}{2}$ " 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

NCS 100 (4"): 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, e.g. high pressure connection with external male thread (0-60 bar / 0-800 psi and above)
- 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 (NCS 100)
- Case parts 1.4404 (316 L stainless steel) upon request
- 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

Other accessory: see catalogue-heading 11



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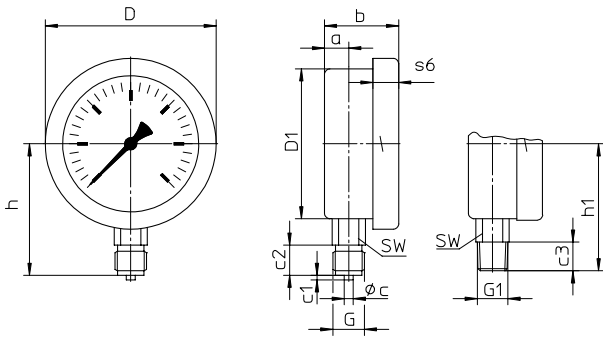
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Case Configuration, Code Letters, Dimensional Data and Weights, Blow-out Device

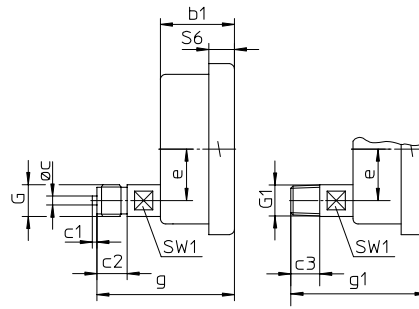
Bottom connection Lower back connection

No mounting device

(no additional code letter)

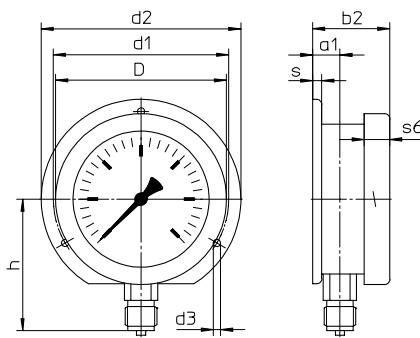


code letter: r

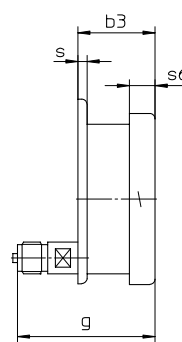


Back flange for surface mounting

code letters: Rh



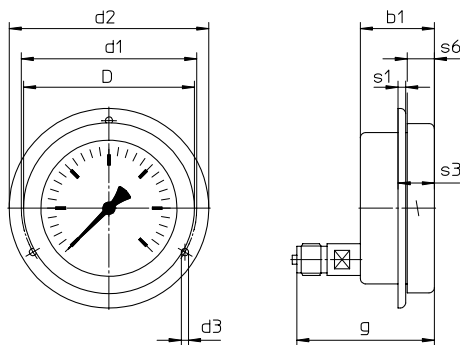
code letters: rRh



(available upon request, but according to EN 837-1 not recommended)

Front flange for panel mounting

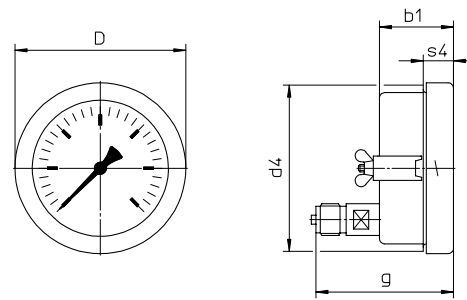
code letters: rFr



recommended panel cut out for NCS 100 (4") Ø 102 ± 0.5 mm (0.02")
NCS 160 (6") Ø 162 ± 0.5 mm (0.02")

U-clamp for panel mounting

code letters: rBFr



recommended panel cut out for NCS 100 (4") Ø 102 ± 0.5 mm (0.02")
NCS 160 (6") Ø 162 ± 0.5 mm (0.02")

Dimensional data (mm / inches) and weights (kg / lb)

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}	s	s1
100 4"	.63	.71	1.93	1.93	2.01	2.01	.24	.12	.79	.75	4.45	3.9	4.57	5.2	.19	4.33	1.34	G 1/2" B 1/2" BSP M 20x1.5	1/2" NPT	91 3.58	90 3.54	87 3.43	84 3.31	6 .24	4 .16
160 6"	.63	.71	1.97	1.97	2.05	2.05	.24	.12	.79	.75	6.82	6.26	7.01	7.72	.23	6.69	1.34	G 1/2" B 1/2" BSP M 20x1.5	1/2" NPT	92 3.62	91 3.58	115 4.53	114 4.49	6 .24	3 .12

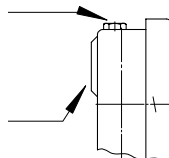
Blow-out device

Blow-out device for model RChaG

Pressure range < 1.6 bar (23.20 psi) blow-out device no.5
> 2.5 bar (30 psi) blow-out device no.3

Blow-out plug

Ø 1" (25 mm) for model Rcha



s3	s4	s6	SW	W1	approx. weight ¹⁾	
					RCha	RChaG
24	20	17	2	17	0.55	0.85
.94	.79	.67	.08	.67	1.2	1.9
24	22	19	22	17	1.00	1.85
.94	.87	.75	.87	.67	2.2	4.1

¹⁾ Information for versions without mounting device

Ordering Information, Standard Pressure Ranges, Options

Basic Model:	Bourdon Tube Pressure Gauge, Bayonet Ring Case		RCha
Case Filling:	without		without code letters
	glycerine		G
	fillable version		(G)
Nominal Case Size:	case-Ø 100,160 (mm) (4", 6")		100, 160
Wetted Material:	copper alloy		-1
	stainless steel		-3
	Monel, 0-0.6 bar (10 psi) to 0-1,000 bar (15,000 psi), movement stainless steel, laminated safety glass, bourdon tube Monel argon arc welding, ≤ 40 bar (0-600 psi) c-form, ≥ 60 bar (1,000 psi) helical, bottom connection, optional r		-6
Case Configuration:	case / connection	screwed	without code letters
	position of the connection:	bottom connection	without code letters
		lower back connection	r
	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	
	-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	0 – 15,000 psi	
	0 – 1,600 bar for type -3	0 – 20,000 psi	
Process Connection:	standard thread	G ½ B (½"BSP)	G ½ B
	options:	½" NPT	-1 and -6 max. 0-1,000 bar;
		M 20x1.5	-3 max. 0-1,600 bar
		G ¼ B (¼"BSP)	G ¼ B
		¼" NPT	-1 max. 0- 600 bar;
		M 12x1.5	-3 and -6 max. 0-1,000 bar
		high pressure connection female thread (0-60 bar and above) for ¼" tube, with 60° cone	
	M16 x 1.5	HD-Anschluss M 16x1,5	
	9/16" - 18 UNF	HD-Anschluss 9/16"-18 UNF	
Options:	see page 4		
Example:	RCha 100-3 rFr, 0-6 bar, G ½ B		

Further Options regarding Ordering Information

Basic Model:	Bourdon Tube Pressure Gauge, Bayonet Ring Case	RCha
Model Code:		see page 3
Options:	adjustable pointer, aluminum mechanism red mark on the dial stationary on the dial, red pointer adjustable when removable ring stationary adjusting mechanism brass, nickelplated red pointer 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.- adjusting mechanism brass, nickelplated drag indicator with convex window made of acrylic glass, screwed 2.5 bar (30 psi) and above 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 indication accuracy grade 2A ($\pm 0.5\%$) according to ASME B 40.1 ¹⁾ special adjustment (reference points = odd values, e. g. 100 KN = 8.735 bar) window laminated safety glass ²⁾ for type -1 acrylic glass (PMMA) polycarbonate (PC) ²⁾ movement stainless steel for type -1 (for -3 and -6 standard) movement silicone damped brass / polyacetal case ventilation no. 22 for outdoor installation case polished density examination with helium leak detection up to of the measuring unit 10^{-9} mbar l/s for types -3 and -6 wetted parts, free of adjustment ≤ 250 bar (3,000 psi) with dry air, ≥ 400 bar (5,000 psi) with of grease and oil, up to distilled water, dial marking: symbol cancelled oil can 0-600bar (0-10,000 psi) oxygen version free of grease and oil, additional restrictor screw in the inlet port, up to 0-600 bar orifice \varnothing 0.3 mm (0.01"), dial inscription: oxygen (0-10,000 psi) ³⁾ no version according to EN 837-1 ⁴⁾ silicone-free version restrictor screw in orifice \varnothing 0.8 mm (0.03") pressure inlet port orifice \varnothing 0.6 mm (0.02") (not Monel) material: as process orifice \varnothing 0.3 mm (0.01") (not Monel) connection brass, stain- less steel or Monel measuring point stainless steel-plate 12 mm x 55 mm (0.47" x 2.17"), wire mounting marking or sticker on case coverage deflagration volume version 5 according DS 11001 protection Adapt FS	(order at the moment still as cleartext)

Special Versions: Please describe your requirements clearly

¹⁾ for pressure ranges $\leq 10,000$ psi
²⁾ not for stationary pointer resp. drag indicator
³⁾ for instruments without case filling

⁴⁾ EN 837-1 in connection with oxygen version requires safety category S3

Technical changes, replacement of materials and errors excepted.