

Bourdon Tube Pressure Gauge

Subsea gauge to a depth of 3 000 m (10 000 ft)

Bayonet ring case stainless steel

RChG

100/160 – 3

Application

Subsea gauge models RChG are specially designed for subsea applications to a water depth of 3 000 m (10 000 ft).

Their construction is characterised by chemical resistance to salt water as well as mechanical insensitivity to ambient hydrostatic pressure.

The special design enables the measurement of positive over-pressure at great depths with reference to the hydrostatic pressure prevailing there.

The high-contrast design of pointer and scale guarantees best readability by camera systems.

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 1.0

Case

With bayonet ring, stainless steel 304 (1.4301)

Degree of Protection (DIN EN 60 529 / IEC 529)

IP68 applicable to a water depth of 3 000 m (10 000 ft)

Blow-out Device

Model RChG 100 blow-out plug in the back of the case, Ø 40 mm (1 ½")
Model RChG 160 3x blow-out plug in the back of the case, Ø 40 mm (1 ½")

Case Ventilation

Without ventilation

Case Filling

Glycerin

Nominal Case Size

100, 160 mm (4, 6")

Wetted Parts

Connection stainless steel 316L (1.4404)
Bourdon tube stainless steel 316L (1.4404)
gas-shielded arc welding
≤ 40 bar (600 psi) c-form
≥ 60 bar (800 psi) helical form
1 600 bar (20 000 psi) NiFe-alloy
helical form

Case Configuration

Connection screwed
Position of the connection - bottom connection
- lower back connection (r)
Mounting device - without
- front flange for panel mounting (Fr)

Pressure Ranges (DIN EN 837-1)

0 – 0.6 bar to 0 – 1 600 bar (0 – 10 psi to 0 – 20 000 psi)



figure with front flange

Process Connection

G ½ B (½" BSP)

Window

Polycarbonate

Movement

Stainless steel

Dial

Aluminum black, scale white

Pointer

Aluminum white
Adjustable pointer with aluminum mechanism

Safety Category According to DIN EN 837-1

S1 pressure gauges with blow-out device

Ordering Information, Standard Pressure Ranges, Options

See pages 3 and 4

Further Options

- Position of connection radial at 3 o'clock, 9 o'clock, 12 o'clock or other than vertical installation (90°)
- High-pressure connection ¼" HPF ⅝" – 18 UNF
- GOST version for Russia and Kazakhstan

Special Versions Upon Request

- Other process connections, e.g. high pressure connection with male thread (from 0 – 60 bar)
- 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)
- Other case fillings

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

Bottom Connection	Lower Back Connection
without mounting device	
without code letters 	code letter r

with back flange for surface mounting	
code letters Fr <p>(available upon request, however not recommended according to DIN EN 837-1)</p> <p>welded brackets and removable front flange</p>	code letters rFr <p>recommended panel cut out for NCS 100 (4") Ø 102 ± 0.5 mm (4.02 ± 0.02") NCS 160 (6") Ø 162 ± 0.5 mm (6.38 ± 0.02")</p> <p>welded brackets and removable front flange</p>

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

NCS	a	b	b1	c	c1	c2	c3	D	D1	d1	d2	d3	d5	e	G	G1	g	g1	h ^{±1}	h1 ^{±1}
100 4"	20 0.79	55 2.17	55 2.17	6 0.24	3 0.12	20 0.79	19 0.75	101 3.98	99 3.9	116 4.57	132 5.2	4.8 0.19	M4	30 1.18	G ½B M20x1.5	½" NPT	97 3.82	96 3.78	87 3.43	84 3.31
160 6"	15 0.59	50 1.97	55 2.17	6 0.24	3 0.12	20 0.79	19 0.75	161 6.34	159 6.26	178 7.01	196 7.72	5.8 0.23	M5	30 1.18	G ½B M20x1.5	½" NPT	92.5 3.64	91.5 3.6	115 4.53	114 4.49

s1	s5	SW	SW1	approx. weight ¹⁾	
				RCh	RChG
1 0.04	7 0.28	22 0.87	17 0.67	0.60 1.32	0.95 2.09
1.5 0.06	8 0.31	22 0.87	17 0.67	1.10 2.43	1.95 4.3

Blow-out Device

Blow-out plug
 1 x Ø 40 mm (1 ½") for model RChG 100
 3 x Ø 40 mm (1 ½") for model RChG 160
 with pressure equalising membrane

¹⁾ data for version without mounting device

Ordering Information

Basic Model	Bourdon Tube Pressure Gauge with Bayonet Ring Case		RCh
Case filling	glycerin		G
Nominal case size	case Ø 100, 160 mm (4, 6")		100, 160
Wetted material	stainless steel		- 3
Case configuration	case/connection	screwed	without code letters
		welded (bottom connection only)	v
	position of the connection	bottom connection	without code letters
		lower back connection	r
mounting device	without front flange for panel mounting	without code letters Fr	
Pressure ranges	-1 200 / 0 mbar	-30" Hg - 0 psi	
	-0.6 / 0 bar		
	-1 / 0 bar		
	-1 / +0.6 bar	-30" Hg - 15 psi	
	-1 / +1.5 bar	-30" Hg - 30 psi	
	-1 / +3 bar	-30" Hg - 60 psi	
	-1 / +5 bar	-30" Hg - 100 psi	
	-1 / +9 bar	-30" Hg - 160 psi	
	-1 / +15 bar	-30" Hg - 200 psi	
		-30" Hg - 300 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 - 300 psi	
	0 - 25 bar	0 - 400 psi	
	0 - 40 bar	0 - 600 psi	
	0 - 60 bar	0 - 800 psi	
		0 - 1 000 psi	
	0 - 100 bar	0 - 1 500 psi	
	0 - 160 bar	0 - 2 000 psi	
		0 - 3 000 psi	
	0 - 250 bar	0 - 4 000 psi	
		0 - 5 000 psi	
0 - 400 bar	0 - 6 000 psi		
0 - 600 bar	0 - 10 000 psi		
0 - 1 000 bar	0 - 15 000 psi		
0 - 1 600 bar	0 - 20 000 psi		
Process connection	standard thread options	G ½ B	G ½ B
		½" NPT	½" NPT
		M20x1.5	M20x1.5
		high pressure connection female thread (0 - 60 bar onwards) for ¼" tube, with 60° cone	HP connection M16x1.5 HP connection ¼" - 18 UNF
Options	see page 4	M16x1.5	
		¼" - 18 UNF	
Example			RChG 100 - 3 rFr, 0 - 6 bar, G ½ B

