

Bourdon Tube Pressure Gauge

Subsea gauge to a depth of 3000 m (10000 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 3000 m (10000 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 overpressure 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 60529 / IEC 60529)
IP68 applicable to a water depth of 3000 m (10000 ft)

Blow-out Device
Model RChG 100 blow-out plug in the back of the case, Ø 40 mm (1 1/2")
Model RChG 160 3x blow-out plug in the back of the case, Ø 40 mm (1 1/2")

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
1600 bar (20000 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 – 1600 bar (0 – 10 psi to 0 – 20000 psi)



figure with front flange

Process Connection
G 1/2 B, 1/2" NPT or M20x1.5

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 1/4" HPF 9/16" – 18 UNF

Special Versions Upon Request

- Other process connections, e.g. high pressure connection with male thread (from 0 – 60 bar (0 – 800 psi))
- Other pressure ranges and / or special scales, e.g. dual scale bar / psi, coloured fields or ranges, dial inscriptions
- Case parts 316L (1.4404)
- Other case fillings
- Certificates and approvals, e.g. GOST (see also website)

www.armano-messtechnik.com

ARMANO

ARMANO Messtechnik GmbH

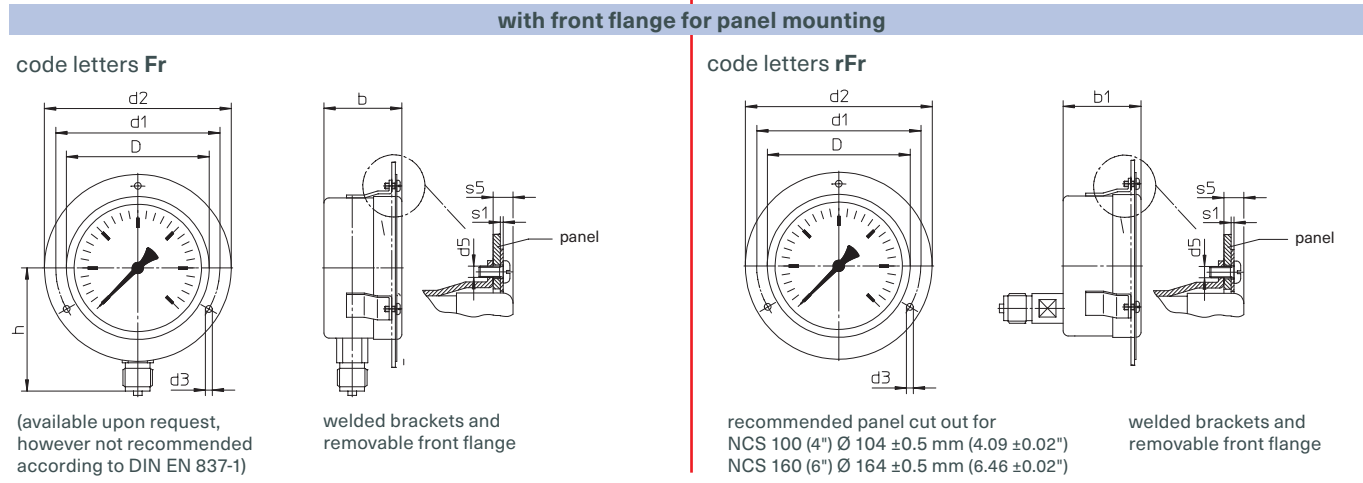
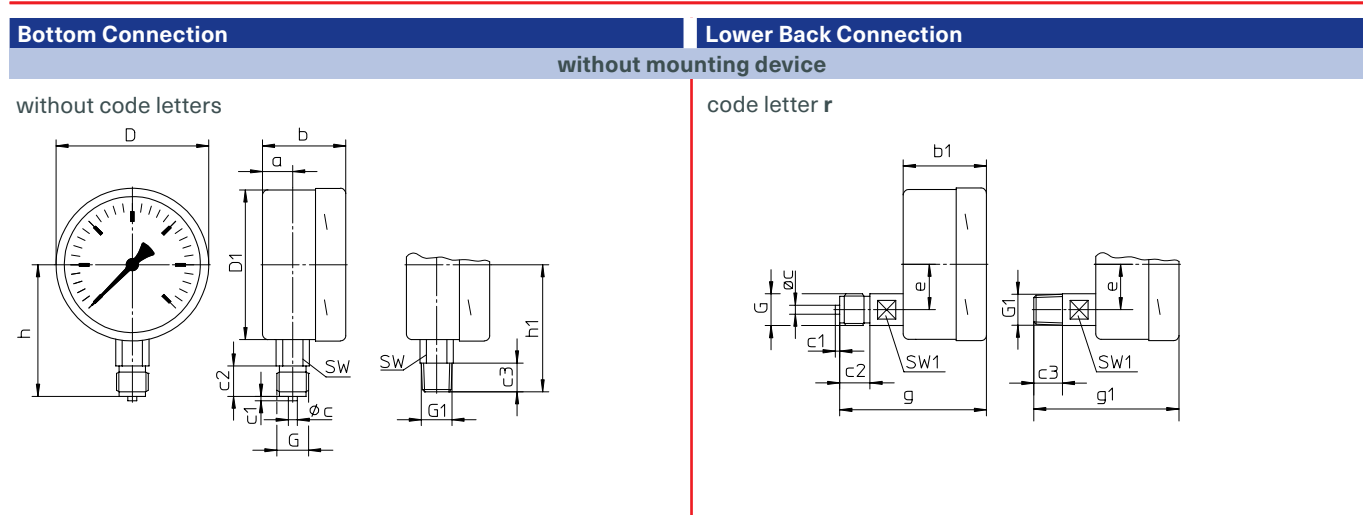
Location Beierfeld
Am Gewerbepark 9 • 08344 Grünhain-Beierfeld
Tel.: +49 3774 58 – 0 • Fax: +49 3774 58 – 545
mail@armano-beierfeld.com

Location Wesel
Manometerstraße 5 • 46487 Wesel-Ginderich
Tel.: +49 2803 9130 – 0 • Fax: +49 2803 1035
mail@armano-wesel.com

1810

12/22

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



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 ½ B 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 ½ B 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	7	22	17	0.60	0.95
0.04	0.28	0.87	0.67	1.32	2.09
1.5	8	22	17	1.10	1.95
0.06	0.31	0.87	0.67	2.43	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	without code letters	
	front flange for panel mounting	Fr	
Pressure ranges	-1200 / 0 mbar		
	-0.6 / 0 bar		
	-1 / 0 bar	-30" Hg - 0 psi	
	-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 - 1000 psi	
	0 - 100 bar	0 - 1500 psi	
	0 - 160 bar	0 - 2000 psi	
		0 - 3000 psi	
	0 - 250 bar	0 - 4000 psi	
		0 - 5000 psi	
0 - 400 bar	0 - 6000 psi		
0 - 600 bar	0 - 10000 psi		
0 - 1000 bar	0 - 15000 psi		
0 - 1600 bar	0 - 20000 psi		
Process connection	standard thread	G ½ B	G ½ B
		½" NPT	½" NPT
		M20x1.5	M20x1.5
	options	G ¼ B ¹⁾	G ¼ B
		¼" NPT	¼" NPT
	high pressure connection female thread (0 - 60 bar onwards) for ¼" tube, with 60° cone	M 16x1.5 9/16" - 18 UNF	HP connection M 16x1.5 HP connection 9/16" - 18 UNF
Options	see page 4		
Example	RChG 100 - 3 rFr, 0 - 6 bar, G ½ B		

¹⁾ NCS 100 (4")

Ordering Information, Further Options

These options are to be ordered in written form. Please contact us to ensure compatibility when combining options.

Indication accuracy acc. to ASME B 40.1¹⁾ Grade 2A ($\pm 0.5\%$)

Special adjustment reference points = odd values, e.g. 100 KN = 8.735 bar

Leak test of the measuring unit with helium leak detection up to 10^{-9} mbar l/s

Wetted parts free of grease and oil adjustment ≤ 250 bar (3000 psi) with dry air, > 250 bar (3000 psi) with distilled water
up to 0 – 600 bar (0 – 10000 psi) dial marking: symbol crossed out oil can

Silicone-free version

Restrictor screw orifice \varnothing 0.8 mm (0.03")
in the pressure inlet port orifice \varnothing 0.6 mm (0.02")
material: stainless steel orifice \varnothing 0.3 mm (0.01")

Special Versions Please describe your requirements in cleartext!

¹⁾ for pressure ranges ≤ 10000 psi