

Bourdon Tube Pressure Gauges

Bayonet ring case stainless steel

RCh
RChG

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)
IP54

IP65 for model RChG 100 and
model RChG 160 (measuring spans ≥ 2.5 bar)

Blow-out Device

Model RCh	blow-out plug in the back of the case, $\varnothing 1"$ (25 mm)
Model RChG 100	blow-out plug in the back of the case, $\varnothing 40$ mm (1 1/2")
Model RChG 160	blow-out device at the top of the case coverage

Case Ventilation

Model RChG 100	without ventilation, but with internal pressure compensation via pressure equalising membrane
Model RChG 160	via blow-out device

Case Filling

Model RChG: glycerin

Nominal Case Size

Model RCh:	100, 160, 250 mm (4, 6, 10")
Model RChG:	100, 160 mm (4, 6")

Wetted Parts

Type – 3:	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 (20 000 psi) NiFe-alloy helical form

Type – 1:	connection:	brass
	Bourdon tube:	≤ 40 bar (600 psi) bronze, c-form
		≥ 60 bar (800 psi) soft-soldered stainless steel 316L (1.4404)
		helical form
		silver brazed

Case Configuration

Connection:	screwed
Position of the connection:	- bottom connection
	- lower back connection (r)
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 – 1600 bar (0 – 10 psi to 0 – 20 000 psi)	for type – 3
0 – 0.6 bar to 0 – 1000 bar (0 – 10 psi to 0 – 15 000 psi)	for type – 1

Process Connection

G 1/2 B (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 white, scale black

Pointer

Aluminum black

Safety Category According to DIN EN 837-1

S1 pressure gauges with blow-out device NCS 100 (4")

Ordering Information, Standard Pressure Ranges, Options

See pages 3 and 4

Further Options

- Version as refrigeration gauge with temperature scale (NCS 100) (see technical information sheet T01-000-015)
- Models RChG 100 – 3v and 160 – 3v 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°) for unfilled models
- GOST version for Russia and Kazakhstan
- Sour gas resistant version according to NACE

Special Versions Upon Request

- Other process connections, e.g. high pressure connection with male thread (from 0 – 60 bar onwards)
- Other pressure ranges and/or special scales, e.g. dual scale bar/psi, coloured fields or ranges, dial inscriptions, negative scale
- Stationary pointer or drag indicator with window made of polycarbonate or laminated safety glass (not for NCS 250)
- Case parts 316L (1.4404)
- Increased degree of protection, e.g. IP65 without case filling
- Other case fillings
- Versions for medium temperatures up to $+300$ °C ($+572$ °F), without case filling only (not for NCS 250)
- Other position of connection

Accessory

Chemical seals:	see catalogue heading 7
Electrical:	see catalogue heading 9.1
Other accessory:	see catalogue heading 11

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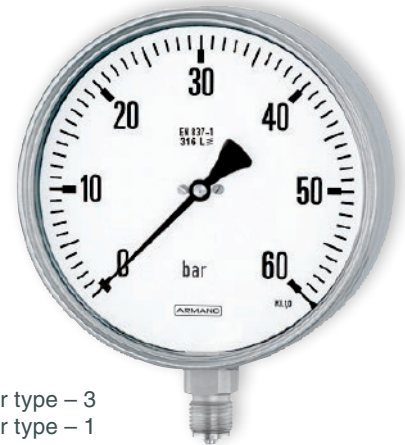
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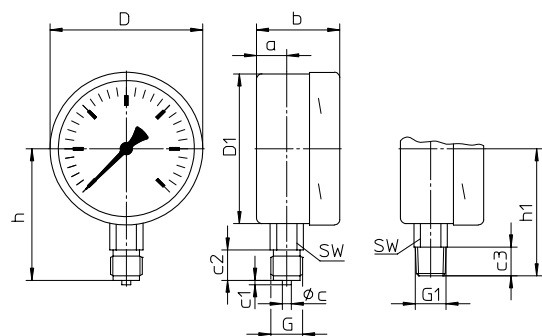
Case Configurations, Code Letters, Dimensional Data and Weight, Blow-out Device

Bottom Connection

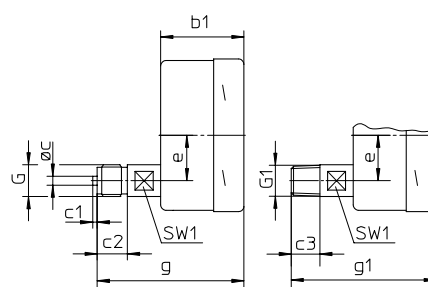
Lower Back Connection

without mounting device

without code letters

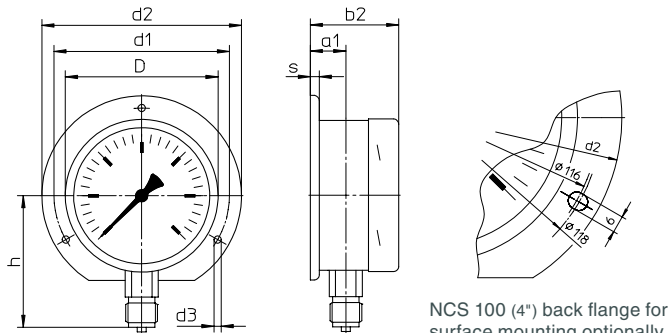


code letter r



with back flange for surface mounting

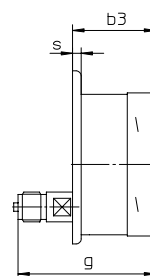
code letters Rh



for NCS 250 (10") with 3 brackets

NCS 100 (4") back flange for surface mounting optionally available with slotted holes according to DIN EN 837-1

code letters rRh

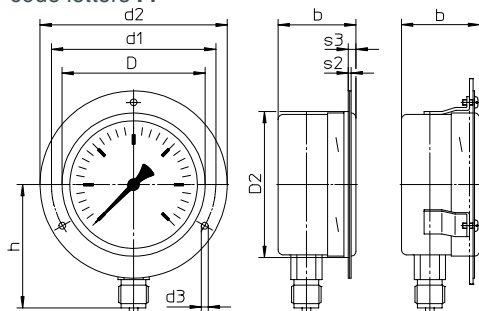


(available upon request, however not recommended according to DIN EN 837-1)

for NCS 250 (10") with 3 brackets

with front flange for panel mounting

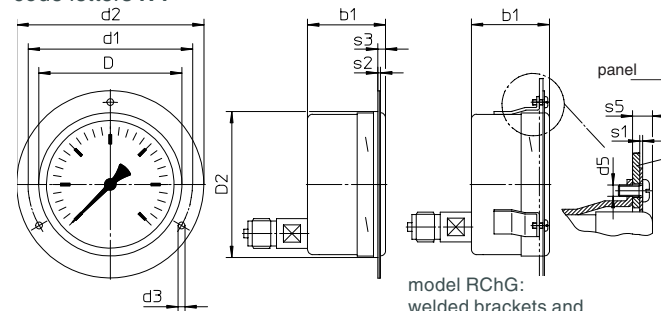
code letters Fr



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

model RChG: welded brackets and removable front flange

code letters rFr



recommended panel cut out for NCS 100 (4") Ø 104 ± 0.5 mm (4.09 ± 0.02")
NCS 160 (6") Ø 164 ± 0.5 mm (6.46 ± 0.02")
NCS 250 (10") Ø 254 ± 0.5 mm (10 ± 0.02")

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	d5	e	G	G1	g	g1	h±1	h1±1
100 4"	20 0.79	23.5 0.93	55 2.17	55 2.17	58 2.28	58 2.28	6 0.24	3 0.12	20 0.79	19 0.75	101 3.98	99 3.9	103 4.06	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	18 0.71	50 1.97	55 2.17	53 2.09	58 2.28	6 0.24	3 0.12	20 0.79	19 0.75	161 6.34	159 6.26	163 6.42	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
250 10"	15.5 0.61	17.5 0.69	58 2.28	58 2.28	60 2.36	60 2.36	6 0.24	3 0.12	20 0.79	19 0.75	251 9.88	249 9.8	—	270 10.63	285 11.22	5.8 0.23	—	52 2.05	G ½ B M20x1.5	½" NPT	99 3.9	98 3.86	165 6.5	164 6.46

Blow-out Device

Blow-out device for model RChG 160
pressure range ≤ 1.6 bar blow-out device no. 5
≥ 2.5 bar blow-out device no. 3

Blow-out plug

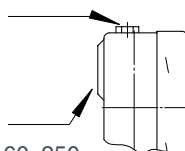
Ø 1" (25 mm)

Ø 40 mm (1 ½")

for models RCh 100, 160, 250

for model RChG 100

with pressure equalising membrane



s	s1	s2	s3	s5	SW	SW1	approx. weight ¹⁾	
							RCh	RChG
6	1	2	6	7	22	17	0.60	0.95
0.24	0.04	0.08	0.24	0.28	0.87	0.67	1.32	2.09
6	1.5	2.5	6	8	22	17	1.10	1.95
0.24	0.06	0.1	0.24	0.31	0.87	0.67	2.43	4.3
2	—	2	8.5	—	22	17	2.10	—
0.08	—	0.08	0.33	—	0.87	0.67	4.63	—

¹⁾ data for version without mounting device

Ordering Information

Basic Model:		Bourdon Tube Pressure Gauge with Bayonet Ring Case				RCh		
Case filling:	without					without code letters		
	glycerin					G		
	fillable version					(G)		
Nominal case size:	case Ø 100, 160, 250 mm (4, 6, 10")					100, 160, 250		
Wetted material:	copper alloy					– 1		
	stainless steel					– 3		
	Monel, 0 – 0.6 bar to 0 – 1 000 bar, movement stainless steel, laminated safety glass, Bourdon tube Monel gas-shielded arc welding, ≤40 bar c-form, ≥60 bar helical form, bottom connection, optionally r (not for NCS 250)					– 6		
Case configuration:	case/connection		screwed			without code letters		
			welded (type – 3 only, not for NCS 250)			v		
	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		
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 for type – 3		0		– 20 000 psi			
	Process connection:	standard thread		G ½ B		– 1 and – 6 max. 0 – 1 000 bar		G ½ B
		options		½" NPT		– 3 max. 0 – 1 600 bar		½" NPT
				M20x1.5				M20x1.5
				G ¼ B ¹⁾		– 1 max. 0 – 600 bar		G ¼ B
				¼" NPT ¹⁾		– 3 and – 6 max. 0 – 1 000 bar		¼" NPT
				M12x1.5 ¹⁾				M12x1.5
				high pressure connection		M 16x1.5		HP connection M 16x1.5
				female thread (0 – 60 bar onwards) for ¼" tube, with 60° cone		9/16" – 18 UNF		HP connection 9/16" – 18 UNF
Options:	see page 4							
Example:	RCh 100 – 3 rFr, 0 – 6 bar, G ½ B							

¹⁾ not for NCS 250 (10")

Ordering Information, Further Options

[illegible]

Special Versions: Please describe your requirements in cleartext!

¹⁾ for pressure ranges $\leq 10\,000$ psi²⁾ for instruments without case filling

³⁾ DIN EN 837-1 in connection with oxygen version requires safety category S3