

Bourdon Tube Test Gauges

Bayonet ring case stainless steel

RFCh
RFChG

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 2000.

Accuracy (DIN EN 837-1)
Class 0.6

Case
With bayonet ring, stainless steel 304 (1.4301)

Degree of Protection (DIN EN 60 529/IEC 529)
IP54
IP65 for model RFChG 100 and
model RFChG 160 (measuring spans ≥ 2.5 bar)

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

Case Ventilation
Model RFChG via blow-out device

Case Filling
Model RFChG: glycerin

Nominal Case Size
Model RFCh: 100, 160, 250 mm (4, 6, 10")
Model RFChG: 100, 160 mm (4, 6")

Wetted Parts
Type – 1: connection: brass
Bourdon tube: ≤ 40 bar (600 psi) bronze, c-form
soft-soldered
60 bar (800 psi) CuBe, c-form
silver brazed
 ≥ 100 bar (1 500 psi) stainless steel
316L (1.4404)
helical form
silver brazed
600 bar (10 000 psi) NiFe-alloy
helical form
silver brazed

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
 ≥ 600 bar (10 000 psi) NiFe-alloy
helical form

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)
- u-clamp for panel mounting (BFr)



Pressure Ranges (DIN EN 837-1)
RFCh 0 – 0.6 to 0 – 600 bar (0 – 10 to 0 – 10 000 psi) for type – 1
0 – 0.6 to 0 – 1600 bar (0 – 10 to 0 – 20 000 psi) for type – 3
RFChG 0 – 2.5 to 0 – 600 bar (0 – 30 to 0 – 10 000 psi) for type – 1
0 – 2.5 to 0 – 1600 bar (0 – 30 to 0 – 20 000 psi) for type – 3

Process Connection
G 1/2 B (1/2" BSP)

Window
Instrument glass for type – 1
Laminated safety glass for type – 3

Movement
Brass/German silver, low friction

Dial
Aluminum white, scale black

Pointer
Knife edge pointer, aluminum black

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

- Bleeding port at the Bourdon tube tip (only unfilled instruments)
- Position of connection radial at 3 o'clock, 9 o'clock, 12 o'clock or other than vertical installation (90°) for unfilled instruments
- GOST version for Russia and Kazakhstan

Special Versions Upon Request

- Other process connections
- 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 poly-carbonate or laminated safety glass for NCS 160
- Case parts 316L (1.4404)
- Increased degree of protection, e.g. IP65 without case filling
- Other case fillings
- Other position of connection
- Sealable

Accessories

Upon request

www.armano-messtechnik.com

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 	code letters rRh
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	for NCS 250 (10") with 3 brackets (available upon request, however not recommended according to DIN EN 837-1)

with front flange for panel mounting	
code letters Fr 	code letters rFr
model RFChG: welded brackets and removable front flange	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") model RFChG: welded brackets and removable front flange
(available upon request, however not recommended according to DIN EN 837-1)	

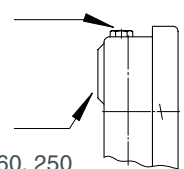
with u-clamp for panel mounting	
code letters rBFr 	RFCh 160 only (not available with case filling)

Dimensional Data (mm/inch) and Weight (kg/lb)																				
NCS	a	a1	b	b1	c	c1	c2	c3	D	D1	d1	d2	d3	e	g	g1	G	G1	h±1	h1±1
100	20	23.5	55	55	6	3	20	19	101	99	116	132	4.8	30	97	96	G ½B	½" NPT	87	84
4"	0.79	0.93	2.17	2.17	0.24	0.12	0.79	0.75	3.98	3.9	4.57	5.2	0.19	1.18	3.82	3.78	M20x1.5		3.43	3.31
160	15.5	19	51	54	6	3	20	19	161	167	178	196	5.8	52	92.5	91.5	G ½B	½" NPT	115	114
6"	0.61	0.75	2.01	2.13	0.24	0.12	0.79	0.75	6.34	6.57	7.01	7.72	0.23	2.05	3.64	3.6	M20x1.5		4.53	4.49
250	15.5	17.5	58	60	6	3	20	19	251	-	270	285	5.8	52	97	96	G ½B	½" NPT	165	164
10"	0.61	0.69	2.28	2.36	0.24	0.12	0.79	0.75	9.88		10.63	11.22	0.23	2.05	3.82	3.78	M20x1.5		6.5	6.46

Blow-out Device

Blow-out device for model RFChG 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) for models RFCh 100, 160, 250
Ø 40 mm (1 ½") for model RFChG 100 with pressure equalising membrane



s	s1	s2	s3	SW	SW1	approx. weight ¹⁾	
						RFCh	RFChG
6	1	2	6	22	17	0.60	0.95
0.24	0.04	0.08	0.24	0.87	0.67	1.32	2.09
2.5	6	6	1.5	22	17	1.10	1.95
0.1	0.24	0.24	0.06	0.87	0.67	2.43	4.3
2	2	7	2	22	17	2.10	-
0.08	0.08	0.28	0.08	0.87	0.67	4.63	-

¹⁾ data for version without mounting device

Ordering Information

Basic Model:		Bourdon Tube Test Gauge with Bayonet Ring Case			RFCh
Case filling:	without glycerin fillable version				without code letters G (G)
Nominal case size:	case Ø 100, 160, 250 mm (4, 6, 10")				100, 160, 250
Wetted material:	copper alloy stainless steel				- 1 - 3
Case configuration:	case/connection	screwed			without code letters
	position of the connection	bottom connection lower back connection			without code letters r
	mounting device	without back flange for surface mounting front flange for panel mounting u-clamp for panel mounting			without code letters Rh Fr BFr
Pressure ranges:	-1 200 / 0 mbar -0.6 / 0 bar -1 / 0 bar -1 / +0.6 bar -1 / +1.5 bar -1 / +3 bar -1 / +5 bar -1 / +9 bar -1 / +15 bar 0 - 0.6 bar 0 - 1 bar 0 - 1.6 bar 0 - 2.5 bar 0 - 4 bar 0 - 6 bar 0 - 10 bar 0 - 16 bar 0 - 25 bar 0 - 40 bar 0 - 60 bar 0 - 100 bar 0 - 160 bar 0 - 250 bar 0 - 400 bar 0 - 600 bar 0 - 1 000 bar for type - 3 0 - 1 600 bar for type - 3		-30" Hg - 0 psi -30" Hg - 15 psi -30" Hg - 30 psi -30" Hg - 60 psi -30" Hg - 100 psi -30" Hg - 160 psi -30" Hg - 200 psi -30" Hg - 300 psi 0 - 10 psi 0 - 15 psi 0 - 30 psi 0 - 60 psi 0 - 100 psi 0 - 160 psi 0 - 200 psi 0 - 300 psi 0 - 400 psi 0 - 600 psi 0 - 800 psi 0 - 1 000 psi 0 - 1 500 psi 0 - 2 000 psi 0 - 3 000 psi 0 - 4 000 psi 0 - 5 000 psi 0 - 6 000 psi 0 - 10 000 psi 0 - 15 000 psi 0 - 20 000 psi		e.g. 0 - 6 bar
Process connection:	standard thread options	G ½B ½" NPT M20x1.5 G ¼B ¹⁾ ¼" NPT ¹⁾ M 12x1.5 ¹⁾	- 1 - 3 - 1 - 3	max. 0 - 600 bar max. 0 - 1 600 bar max. 0 - 600 bar max. 0 - 1 000 bar	G ½B ½" NPT M20x1.5 G ¼B ¼" NPT M 12x1.5
Options:	see page 4				
Example:					RFCh 100 - 1, 0 - 6 bar, G ½ B

¹⁾ not for NCS 250 (10")

