

Bourdon Tube Pressure Gauges

Case and Bayonet Ring Stainless Steel
American Type with Wide Ring
Standard (RCha) or Liquid Filled (RChaG)

Nom. Sizes 100 (4")
160 (6")
Accuracy Class 1.0

Model
RCha
RChaG

Application

For fluid and gaseous media (compatible to the wetted materials), which are not highly viscous and do not tend to polymerize, especially where a sealed case (dirty damp or corrosive atmosphere) and / or chemical resistance is required.

Sizes

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

Accuracy Class

1.0 according to EN standards (i.e. \pm max. 1.0% of full span)

Pressure Ranges (EN 837)

Version - 1*: 0/0.6 to 0/1000 bar resp. 0/10 to 0/15,000 psi

Version - 2*: 0/1600 bar resp. 0/20,000 to 0/25,000 psi

Version - 3*: 0/0.6 to 0/1600 bar resp. 0/10 to 0/25,000 psi

also corresponding vacuum and compound pressure ranges

(*see below)

Pressure Limitations

Steady pressure: full scale value

Cyclic pressure: 90% of full scale value

Temporary: 130% of full scale value

Protection Type (EN 60 529 / IEC 529)

Model RCha = IP 54 / Model RChaG = IP 65

Further information about advantages, applications, specifications, temperature limitations and pressure ranges of accuracy class 1.0 Bourdon tube pressure gauges (according to EN) can be found on **general information leaflet 1000**.

Standard Configuration

Process Connection

1/2" BSP¹⁾ bottom (standard) or lower back (ordering code letter: r)

Wetted Parts

Ordering code -1 :	<u>Socket</u> ²⁾ = brass
	<u>Bourdon tube:</u>
	≤ 40 bar (800 psi) = bronze, C-form, soft soldered
	≥ 60 bar (1,000 psi) = 316 st.st. (1.4571), helical ³⁾ , silver brazed
	≥ 600 bar (8,000 psi) = alloy steel, helical ³⁾ , silver brazed
Ordering code -2 :	(0/1600 bar, 0/20,000 to 0/25,000 psi)
	<u>Socket</u> ²⁾ : = 316 stainless steel (1.4571)
	<u>Bourdon tube</u> = alloy steel, helical ³⁾ , argon arc welded
Ordering code -3:	<u>Socket</u> ²⁾ = 316 stainless steel (1.4571)
	<u>Bourdon tube:</u>
	≤ 40 bar (800 psi) = 316 st. steel (1.4571), C-form, argon arc welded
	≥ 60 bar (1,000 psi) = 316 st.st. (1.4571), helical ³⁾ , argon arc welded
	1600 bar (≥ 20,000 psi) = NiFe-alloy, helical ³⁾ , argon arc welded

Movement

Version -1 = brass/German silver; -2 and -3 = stainless steel

Dial:

Aluminum alloy, black figures, white background

Pointer:

Aluminum black

Case and Ring

304 stainl. steel (1.4301); polished bayonet ring, wide American type

Window

Laminated safety glass

Case Filling (Model RChaG only)

Glycerine

Safety Features

Dry version: 1" blow-out relief in the back of the case

Filled version: top blow-out assembly

¹⁾ = G 1/2 B ²⁾ = shank (EN 837-1); ³⁾ = coiled (EN 837-1)



Special Options

- **Wetted parts monel**, ordering code: - 6: pressure ranges 0/0.6 to 0/600 bar and 0/10 psi to 0/10,000 psi, movement stainless steel, Bourdon tube ≤ 40 bar (800 psi) C-form, ≥ 60 bar (1,000 psi) helical³⁾, argon arc welded
- **Process connection** M20x1.5, 1/2" NPT, 1/4" BSP (G1/4B), 1/4" NPT, high-pressure connections (as below); others upon request
- **Inlet port restrictor screw** brass, stainless steel, or monel
- **Pressure ranges** 0/2500 bar, 0/30,000 psi, or 35,000 psi, version -2 or -3, pressure limitation at steady pressure: full scale value, at cyclic pressure: 65% of full span, HP-connection with M16x1.5 female and sealing cone, for 1/4" pipe; optional with 9/16-18 UNF female or 9/16-18 UNF (left) male; others upon request
- **Special scales**, such as dual ranges, special units, fine division (with knife edge pointer) etc.
- **Refrigerant gauges**, standard pressure ranges -1/+15 bar, -1/+24 bar or -1/+30 bar, with temperature scale for e.g.: R11, R12B1, R13, R13B1, R23, R113, R114, R134a, R500, R503, R744 and others; NH3-version (R717) with wetted parts -3 only, completely free of copper; optional with painted case; other versions upon request
- **Receiver gauges** 0.2 - 1 bar or 3 - 15 psi
- **Micro-adjustable pointer**, mechanism aluminum
- **Stationary red pointer** on the dial
- **Maximum-indicating pointer** (pressure ranges ≥ 0/2.5 bar) or stationary red pointer with external adjustment, acrylic glass resp. polycarbonate lens
- **Other than vertical installation; top or side connections**
- **Special case filling**, e.g. silicone for low temperatures down to -40 °C, others upon request
- **Electrical accessories**, see data sheets 1290 and 9000 ff

How to Order:

Model code:	RCha = dry version, IP 54 RChaG = filled version, IP 65, filling fluid glycerine RCha(G) = fillable version, IP 65
Nominal case size:	100 (4") or 160 (6")
Wetted parts:	ordering code -1, -2 or -3, compare left side
Case configuration:	code letters: r, Rh, rRh, rFr or rBFr , compare reverse side (standard case = bottom connection, no code letter required)
Pressure range:	according to EN 837-1 e.g. 0 - 4 bar or 600 psi
Connection thread:	1/2" BSP (G 1/2 B) (= standard) or 1/2" NPT or others (see above)
Special configurations:	(see above)

Examples for Ordering Information:

- RCha 100-3, rFr, 0/6 bar, 1/2" BSP
- RChaG 160-1, rRh, 1,000 psi, 1/2" NPT



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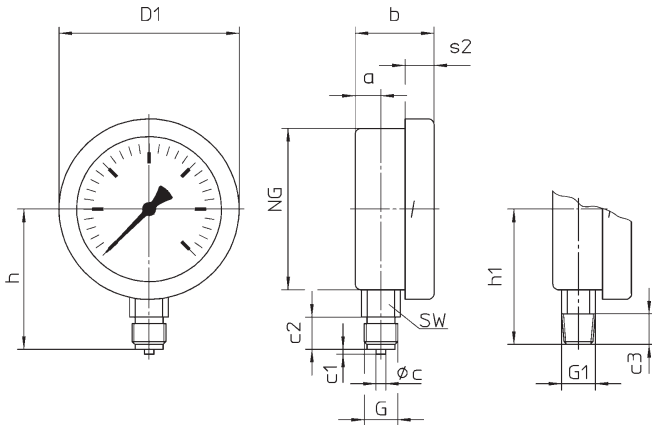


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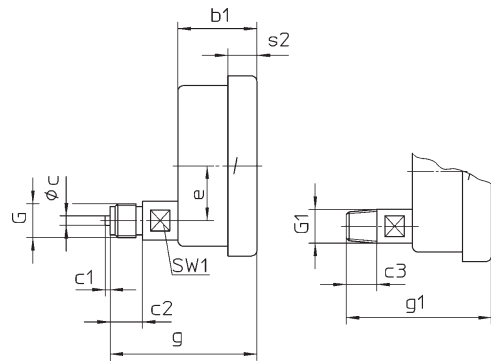
1200
8/02

Case Configurations, Dimensional Data and Weight

Bottom connection,
without additional code letter



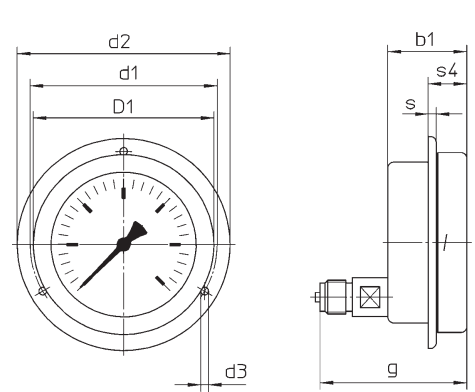
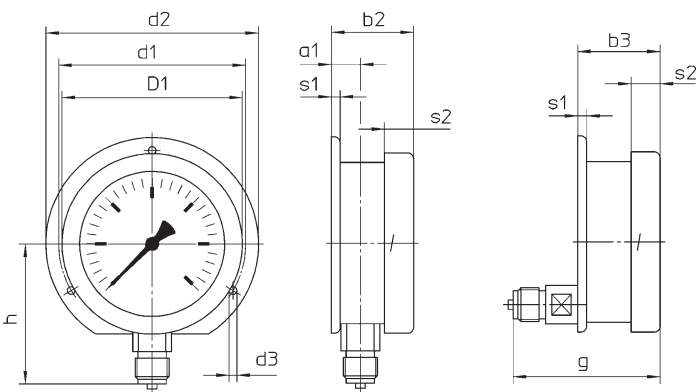
Lower back connection,
code letter: r



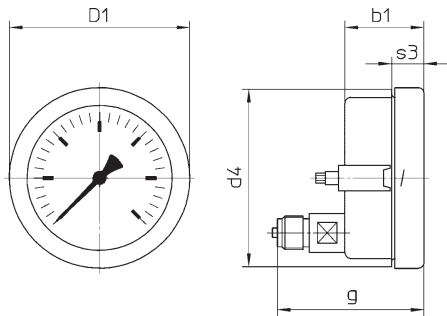
Bottom connection,
rear mounting flange,
code letters: **Rh**

Lower back connection,
rear mounting flange,
code letters: **rRh**

Lower back connection,
front mounting flange,
code letters: **rFr**



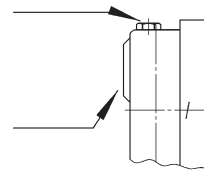
Lower back connection,
u-clamp for panel mtg.,
code letters: **rBFr**



Safety blow-outs

RChaG: top blow-out assembly

RCha: 1" blow-out in the back



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

Nominal Case Size	D1	a	a1	b	b1	b2	b3	c	c1	c2	c3	d1	d2	d3	d4	e
100 4"	112 4.41	16	18	49 1.93	49 1.93	51 2.01	51 2.01	6 .24	3 .12	20 .79	19 .75	116 4.57	132 5.2	4.8 .19	110 4.33	34 1.34
160 6"	173 6.81	.63	.71	50 1.97	56 2.2	52 2.05	58 2.28					178 7.01	196 7.72	5.8 .23	172 6.77	52 2.05

G	G1	g	g1	h±1	h1±1	s	s1	s2	s3	s4	SW	SW1	Weights (approx.)	
													RCha	RChaG
G ½ B ½" BSP	½" NPT	91	90	87	84	5	5.5	18	20	24	22	17	.55 kg	.85 kg
		3.58	3.54	3.43	3.31	.2	.22	.71	.79				1.2 lb	1.9 lb
		98	97	115	114	4	6	17	22	.94	.87	.67	1.00 kg	1.85 kg
		3.86	3.82	4.53	4.49	.16	.24	.67	.87				2.2 lb	4.1 lb

The information in this leaflet is given in good faith, but we reserve the right to make changes without notice.