

Bourdon Tube Pressure Gauges

Case and Bayonet Ring Stainless Steel Standard (RCh) or Liquid Filled (RChG)

Nom. Sizes 100 mm (4")
160 mm (6")
250 mm (10")

Accuracy Class 1.0

Models

R Ch
RChG

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 and/or chemical resistance are required.

Nominal Case Sizes:

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

Accuracy Class: 1.0 according to EN 837-1 (i.e. + 1.0% f.s.)

Pressure Ranges (EN 837-1)

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

½" BSP¹⁾ bottom (standard) or lower back (ordering code letter: r)

Wetted Parts

Ordering code –1 : Socket²⁾ = brass

Bourdon tube:

< 40 bar = bronze, C-form,
(800 psi) soft soldered

> 60 bar = 316 st.st. (1.4571), helical³⁾,
(1,000 psi) silver brazed

> 600 bar = alloy steel, helical³⁾,
(8,000 psi) silver brazed

Ordering code –2 : (0/1600 bar, 0/20,000 to 0/25,000 psi)

Socket²⁾ = 316 stainless steel (1.4571)

Bourdon tube = alloy steel, helical³⁾,
argon arc welded

Ordering code –3: Socket²⁾ = 316 stainless steel (1.4571)

Bourdon tube:

< 40 bar = 316 st. steel (1.4571), C-form,
(800 psi) argon arc welded 316 st.st.

> 60 bar = (1.4571), helical³⁾, argon arc
(1,000 psi) welded NiFe-alloy, helical³⁾

1600 bar = argon arc welded
(> 20,000 psi)

Movement

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

Dial:

Aluminium alloy, black figures, white background

Pointer:

Aluminium black

Case and Ring

304 stainless steel (1.4301); bayonet ring

Window

Version –1: single strength glass, –2 and – 3: laminated safety glass

Case Filling (Model RChG only)

Glycerine

Safety Features

RCh: 1" Blow-out (Ø 25 mm) in the back of the case, RChG 100:

Blow-out Ø 40 mm (~ 1.57") in the back of the case, with
pressure equalizing membrane,

RChG 160: Top blow-out device

¹⁾ = G ½ B₂ = 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,
stainless steel movement, Bourdon tube < 40 bar (800 psi) C-
form, > 60 bar (1000 psi) helical³⁾, argon arc welded

Process connection M 20 x 1.5, ½" NPT, G ¼ B, ¼" NPT, high-
pressure connections; 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 ¼" 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 R11,
R12B1, R13, R13B1, R23, R113, R114, R134a, R500, R503,
R744 and others, safety glass lens also for –1; 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 connection

Nom. sizes 100 or 160 (4", 6") for higher temperatures

Other case fillings, e.g. silicone oil for low temperatures down
to -40 °C and others upon request

Electrical accessories, see data sheets 1291 and 9000 ff

How to Order:

Please specify:

Model code: **RCh** (no case filling, IP 54)
RChG (glycerine filled case, IP 65)
RCh(G) (fillable case, IP 65)

Nominal size: **100, 160, 250**

Wetted parts: **– 1, – 2 or – 3** (see left side)

Case configuration: **r, Rh, rRh, Fr, rFr, rBFr,**

compare reverse side
(standard case = bottom connection =
without additional code letter)

Pressure range: according to EN 837-1

e.g. 0 - 4 bar or 0/60 bar
(compare general information leaflet 1000)

Process connection: ½" **BSP** (= standard) or ½" **NPT**

(others: see above)

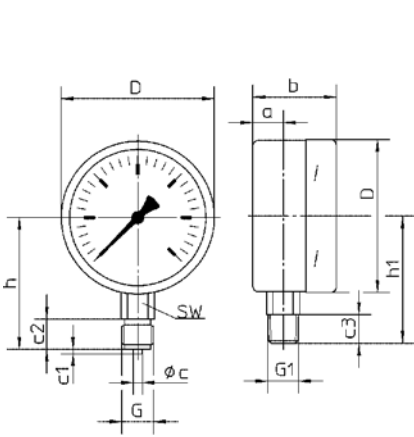
Special options: (see above)

Examples for Ordering Information:

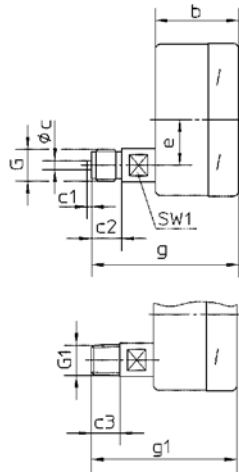
- RCh 100–3 rFr, 0/6 bar, ½" BSP* (*resp. G½B)
- RChG 160–1, -1/+9 bar, ½" NPT

Case Configuration, Code Letters, Dimensional Data and Weights

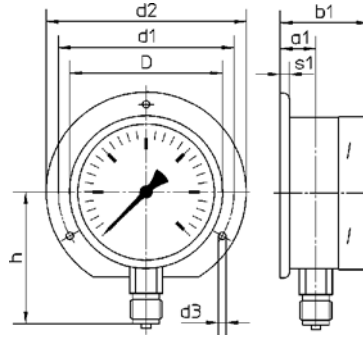
Bottom connection,
without additional code letter



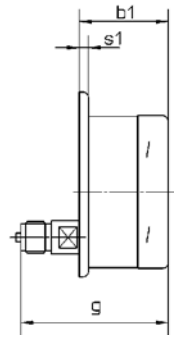
Lower back connection,
code letter: r



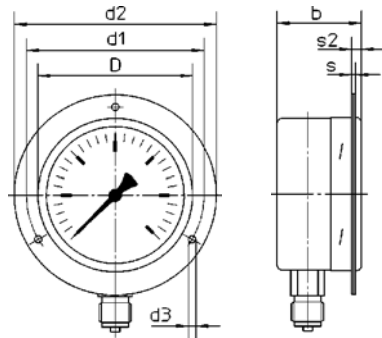
Bottom connection,
rear mounting flange¹⁾,
code letters: Rh



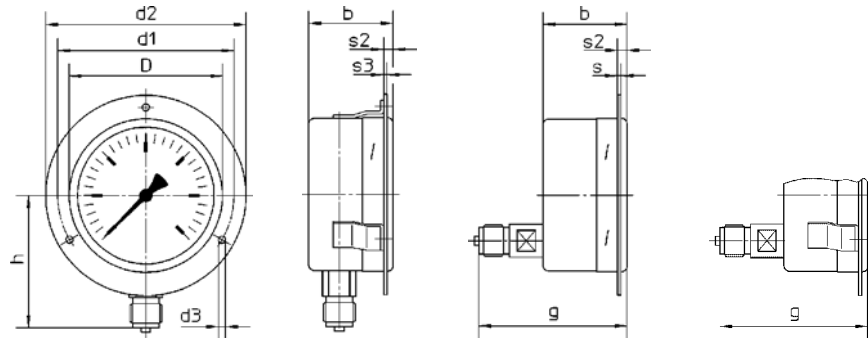
Lower back connection,
rear mounting flange²⁾,
code letters: rRh



Bottom connection, front mounting flange²⁾,
code letters: Fr



Lower back connection, front mounting flange²⁾,
code letters: rFr



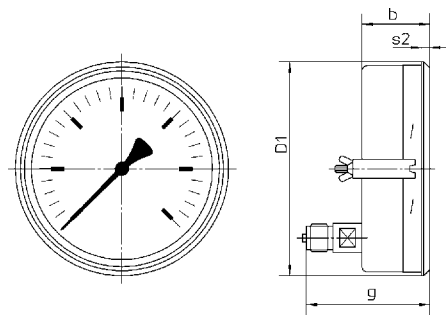
Dry case version, model RCh:
Front flange with longholes attached to the case, and a separate cover front flange

Filled case version, model RChG:
Mounting brackets welded to the case, and a separate front flange

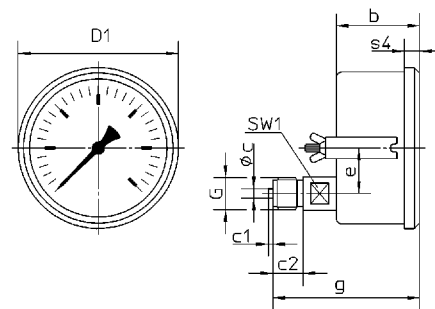
Dry case version, model RCh:
Front flange with longholes attached to the case, and a separate cover front flange

Filled case version, model RChG:
Mounting brackets welded to the case, and a separate front flange

Model RCh 160 (dry version) only:
Lower back connection,
U-clamp for panel mounting,
code letters: rBFr



Nominal size 100:
Lower back connection,
U-clamp for panel mounting, crimped-on ring,
Model: RChg resp. RChG 100... rBFr
(compare data sheet 1202)



Safety blow-outs:

Top blow-out device
model RChG 160

Blow-out Ø 1" (25,4 mm)
models RCh 100, 160, 250

Blow-out Ø 40 mm (~1.57")
model RChG 100

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

Nom Size	D	D1	a	a1	b	b1	c	c1	c2	c3	d1	d2	d3	e	g	g1
100	101	106	20	23.5	55	58.5					116	132	4.8	30	97	96
4"	3.98	4.17	.79	.93	2.17	2.30					4.57	5.20	.19	1.18	3.82	3.78
160	161	167	15.5	19	51	54	6	3	20	19	178	196			92.5	91.5
6"	6.34	6.57	.61	.75	2.01	2.13	.24	.12	.79	.75	7.08	7.72	5.8	52	3.64	3.60
250	251	—		17.5	55	57					270	285			97	96
10"	9.88	—		.69	2.17	2.24					10.63	11.22	.23	2.05	3.82	3.78
Nom. Size	G		G1		h	h1	s	s1	s2	s3	s4	SW	SW1	Weight (approx.) RCh RChG		
100					87	84					10			0.600	1	0.950
4"					3.43	3.31	2	6	6	1	.39			.30		2.10
160	G½ B		½" NPT		115	114	.08	.24	.24	.04	—	22	17	1.100		1.950
6"	½" BSP ³⁾				4.53	4.49						.87	.67	2.40		4.30
250					165	164	—	2	—	—	—			0 01.2		—
10"					6.50	6.46		.08						4.60		—

¹⁾ RCh 250 with mtg. brackets welded to the case

²⁾ not with nom. size 250 ³⁾ optional M 20 x 1,5

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