Bourdon Tube Pressure Gauges

Bayonet ring case stainless steel

RCh 63
RChG 63

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 (ASME B40.100)
Grade 1A (±1 % of span)
Grade B (3 – 2 – 3 % of span) at 25 – 50 – 75 % full scale
for pressure ranges 0 – 600 bar and 0 – 1 000 bar
(0 – 15,000 psi and 0 – 20,000 psi)

Case
With bayonet ring, 304 stainless steel

Degree of Protection (ANSI/IEC 60529-2020)
IP54
IP65 for model RChG with closed blow-out plug

Blow-out Device
Blow-out plug at the top of the case

Case Ventilation
Via blow-out plug, ventilation for internal pressure compensation, required for measuring spans ≤ 10 bar (≤ 160 psi), and also recommended for other pressure ranges if the operating conditions permit

Case Filling
Model RCh**G** glycerin

Nominal Case Size (NCS)
2½" (63 mm)

Wetted Parts

Type – 3	connection	316L stainless steel		
	Bourdon tube	316L stainless steel		
		gas-shielded arc welding		
		≤ 60 bar	(800 psi)	c-form
		≥ 100 bar	(1,500 psi)	helical form
Type – 1	connection	brass		
	Bourdon tube	bronze		
		≤ 40 bar	(600 psi)	c-form soft-soldered
		≥ 60 bar	(800 psi)	helical form silver brazed

Case Configuration

Connection	screwed
Position of the connection	- bottom connection - lower back connection (**r**) - centre back connection (**rm**)
Mounting device	- without - back flange for surface mounting (**Rh**) - front flange for panel mounting (**Fr**)

Pressure Range (ASME B40.100)
0 – 0.6 bar to 0 – 1,000 bar (0 – 10 psi to 0 – 20,000 psi) for type – 3
0 – 0.6 bar to 0 – 600 bar (0 – 10 psi to 0 – 10,000 psi) for type – 1

Process Connection
¼" MNPT

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 (Euro standard only)

Ordering Information, Standard Pressure Ranges, Options

See pages 3 and 4

Further Options

- Ultrapure gas version (see technical information sheet T01-000-033)
- Cannula connection with needle for vacuum / pressure test of cans (see technical information sheet T01-000-022)
- S2 safety pressure gauge, proved (Euro standard only) RCh 63 up to 1,000 bar (15 000 psi), RChG 63 up to 600 bar (10 000 psi), with laminated safety glass or polycarbonate
- Increased measurement accuracy
- Version as refrigeration gauge with temperature scale (see technical information sheet T01-000-015)
- Model RChG 63 – 3, bottom connection 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
  - for filled models with pressure equalising membrane
- Sour gas resistant version according to NACE, MR0175

Special Versions Upon Request

- Other process connections
- Other pressure ranges and / or special scales, e.g. dual scale bar / psi, color fields or ranges, dial inscriptions, negative scale
- Case parts 316L stainless steel
- Increased degree of protection, e.g. IP65 without case filling
- Case / connection welded for lower or centre back connection
- Other case fillings
- Model RChG 63 – 3, lower or centre back connection for ambient temperatures down to −40 °C (−40 °F)
- Versions for medium temperatures up to +300 °C (+572 °F), without case filling only
- Other position of connection
- Certificates and approvals, e.g. DNV (see also website)

Accessories

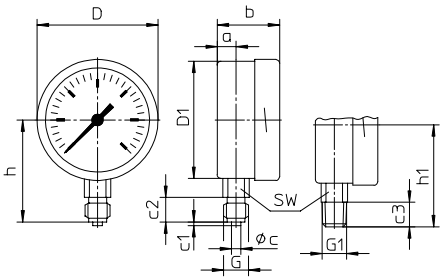
Chemical seals see catalogue heading 7
Other accessory see catalogue heading 11

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

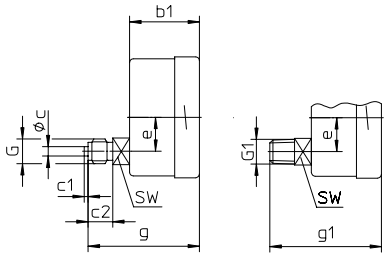
Bottom Connection	Lower Back Connection	Centre Back Connection

without mounting device

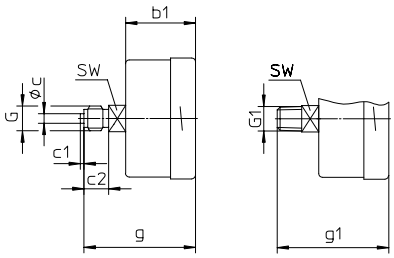
without code letters



code letter **r**

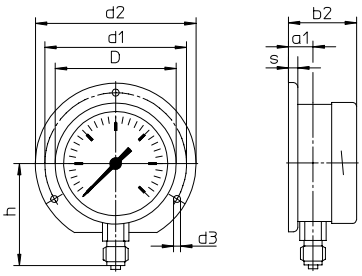


code letters **rm**

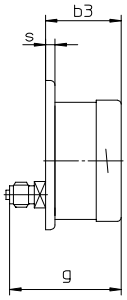


with back flange for surface mounting

code letters **Rh**

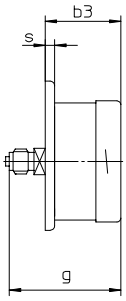


code letters **rRh**



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

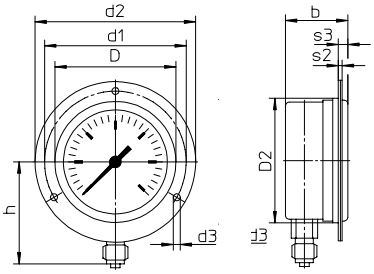
code letters **rmRh**



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

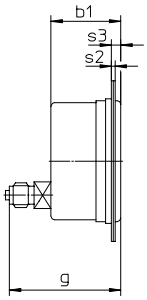
with front flange for panel mounting

code letters **Fr**

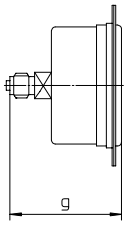


available upon request, however not recommended according to DIN EN 837-1

code letters **rFr**



code letters **rmFr**



front flange with slotted holes, separate cover ring, recommended panel cut out Ø 67 ±0.3 mm (2.64 ±0.012")

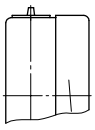
Dimensional Data (mm / inch) and Weight (kg / lb)

NCS	a	a1	b	b1	b2	b3	c	c1	c2	c3	D	D1	D2	d1	d2	d3	e	G	G1	g	g1	h±1	h1±1
63 **2½"**	10 **0.39**	13 **0.51**	33 **1.3**	37 **1.46**	36 **1.42**	40 **1.57**	5 **0.2**	2 **0.08**	13 **0.51**	13 **0.51**	64 **2.52**	62 **2.44**	66 **2.6**	75 **2.95**	85 **3.35**	3.6 **0.14**	18 **0.71**	G¼B M 12x1.5	¼" NPT	59 **2.32**	59 **2.32**	54 **2.13**	54 **2.13**

s	s2	s3	SW	approx. weight[1] RCh	approx. weight[1] RChG
5 **0.2**	2 **0.08**	5.5 **0.22**	14 **0.55**	0.18 **0.4**	0.25 **0.55**

Blow-out Device

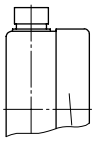
Blow-out plug no. 19



Optional

Model RChG,
case configurations bottom, r, rm

Blow-out plug no. 24 (reclosable, IP65)



[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 63 mm (2½")									**63**
Wetted material	copper alloy									**– 1**
	stainless steel									**– 3**
	Monel, 0 – 1 bar to 0 – 1,000 bar (0 – 15 psi to 0 – 15,000 psi), movement stainless steel, laminated safety glass, Bourdon tube Monel gas-shielded arc welding, ≤ 60 bar (≤ 800 psi) c-form, ≥ 100 bar (≤ 1,500 psi) helical form, bottom connection, optional r (no rm), safety version S2 up to 0 – 600 bar (0 – 10,000 psi)									**– 6**
Case configuration	case / connection								screwed	without code letters
									welded (for type – 3)	**v**
	position of the connection								bottom connection	without code letters
									lower back connection	**r**
									centre back connection	**rm**
	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	for types – 3 and – 6	0	–	15,000 psi		
						0	–	20,000 psi		
Process connection	standard thread				¼" MNPT					**¼" MNPT**
	options				G ⅛ B[1]	for type – 1				**G ⅛ B**
					⅛" MNPT[2]	for type – 3				**⅛" MNPT**
					G ¼ B					**G ¼ B**
					M 12x1.5					**M 12x1.5**
Options	see page 4									
Example										**RCh 63 – 3 rmFr, 0 – 6 bar, G ¼ B**

[1] max. 0 – 400 bar (0 – 6,000 psi)
[2] max. 0 – 600 bar (0 – 10,000 psi)

Ordering Information, Further Options

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

Adjustable pointer		
Red mark	on the dial	
Stationary red pointer	on the dial adjustable with removable ring	
	integrated in polycarbonate window adjustable externally	removable key non-removable key
Min. / max. drag indicator measuring spans ≥ 2.5 bar (30 psi)	integrated in polycarbonate window adjustable externally	removable key non-removable key
Receiver gauge 0.2 – 1 bar (3 – 15 psi) scale 0 – 100 %	linear or square	
Special adjustment	reference points = odd values, e.g. 100 KN = 8.735 bar	
Window	laminated safety glass	for type – 1
	acrylic glass (PMMA)[1]	
	polycarbonate (PC)	for type – 1
Movement	stainless steel for type – 1 (standard for – 3 and – 6)	
Pressure equalising membrane	for model RChG with blow-out device Ø 1" (25 mm) in the back of the case for bottom connection and lower back connection	
Blow-out plug no. 24	reclosable, IP65	
Case ventilation no. 22	for outdoor installation	
Case polished		
Bayonet ring polished		
Leak test of the measuring unit	with helium leak detection up to 10^{-9} mbar l/s for types – 3 and – 6	
Wetted parts free of grease and oil up to 0 – 600 bar (0 – 10,000 psi)	adjustment ≤ 250 bar (3 000 psi) with dry air, > 250 bar (3 000 psi) with distilled water dial marking: symbol crossed out oil can	
Oxygen version up to 0 – 600 bar (0 – 10,000 psi)[2]	free of grease and oil as above, additional restrictor screw in the inlet port, orifice Ø 0.3 mm (0.01"), dial inscription: oxygen DIN EN 837-1 in connection with oxygen version requires safety category S2[3] or S3 (Euro standard only)	
Silicone-free version		
Restrictor screw in the pressure inlet port material: brass, stainless steel or Monel	orifice Ø 0.8 mm (0.03")	
	orifice Ø 0.6 mm (0.02") (not for Monel)	
	orifice Ø 0.3 mm (0.01") (not for Monel)	
Instrument tag	stainless steel plate 12 x 55 mm (0.47 x 2.17"), wire mounting	
	sticker on the case coverage	

Special Versions: Please describe your requirements in cleartext!

[1] not for S2
[2] for instruments without case filling
[3] see "Safety Category" page 1

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