

Test Gauges, Bourdon Tube Type

Bayonet Ring Case Carbon Steel Standard (RFB) or Liquid Filled (RFBG)

NCS: 160 (6")
250 (10")

Accuracy Class
0.6 EN 837-1

Models

RFB RFBG

Applications

Testing and comparing process instruments, and measuring services where high accuracy is required (indoor use only). Pressure ranges up to 0-25 bar (400 psi) for gaseous media, dial marked with "G", 0-40 bar (600 psi) and up for liquid media (dial marked with "F").

Nominal Case Sizes (NCS)

Model RFB: 160 mm (6"), 250 mm (10"), model RFBG: 160 (6")

Accuracy

Class 0.6 according to EN 837-1

Pressure Ranges (EN 837-1)

Version -1* = 0-0.6 ... 0- 600 bar or 0-10 psi ... 0-10,000 psi

Version -3* = 0-0.6 ... 0-1,600 bar or 0-10 psi ... 0-30,000 psi

Model RFBG 0-2.5 bar resp. 0-30 psi and up for all versions also vacuum and compound ranges (*see below)

Pressure Limitations

Steady pressure: full scale value

Cyclic pressure: 90% of full scale value

Overpressure: 130% of full scale value (temporary)

Protection Type (EN 60529 / IEC 529)

Model RFB: IP 54, model RFBG: IP 65

Further information about advantages, specifications, temperature limitations and pressure ranges of test gauges can be found in our **model overview 2000**.

Standard Configuration

Connection

G ½ B (½" BSP), optionally ½" NPT, bottom connection (standard) or lower back connection (code letter r)

Wetted Parts

| | | |
|-------------------|------------------------------|--|
| Ordering Code -1: | <u>Socket:</u> | = brass |
| | <u>Bourdon tube:</u> | |
| | ≤ 40 bar (≤ 600 psi) | = bronze, C-form, soft soldered |
| | 60 bar (≥ 800 psi) | = copper/beryllium, C-form, silver brazed |
| | ≥ 100 bar (≥ 1,500 psi) | = 316 stainless steel (1.4571), helical, silver brazed |
| Ordering Code -3: | <u>Socket:</u> | = 316 stainless steel (1.4571) |
| | <u>Bourdon tube:</u> | |
| | ≤ 40 bar (≤ 600 psi) | = 316 stainless steel (1.4571), C-form, argon arc welded |
| | ≥ 60 bar (≥ 800 psi) | = 316 stainless steel (1.4571), helical, argon arc welded |
| | ≥ 1000 bar (≥ 15,000 psi) | = NiFe alloy, helical, argon arc welded |

Movement

Brass/German silver, low friction

Dial

Aluminum alloy, black figures, white background

Pointer

Knife edge pointer aluminum alloy black

Case and Bayonet Ring

Carbon steel black

Case Filling

Model RFBG 160 only: Glycerine

Lens

Single strength glass, 0-1600 bar (≥ 0-20,000 psi) laminated safety glass

Safety Features:

RFBG: Top blow-out assembly

RFB with 0-1600 bar (≥ 0-20,000 psi) : 1" Blow-out in the case back



Optional Special Configurations

- Test gauge Grade 3A ASME ($\pm 0.25\%$), parallax-free mirror scale
- Accuracy class 0.25 EN 837-1, with parallax-free mirror scale, for RFB 250-1; for -3 and NCS 160 upon request
- Zero adjustment by a turnable dial (± 5 scale graduations), knurled adjustment screw at the right side, for models RFB 160, 250
- Parallax-free mirror scale
- Case size 100 (4") upon request
- Process connection ¼" NPT or M 20 x 1,5, others upon request
- Inlet port restrictor screw brass or stainless steel
- Movement stainless steel with jewel bearing
- Maximum indicating pointer, external adjustment, acrylic glass lens (pressure ranges ≥ 2.5 bar or 30 psi)
- Acrylic glass or laminated safety glass lens
- 1" blow-out relief on the back of the case for model RFB
- Special scales, such as dual scales, e.g. bar/psi
- Receiver gauge 0.2-1 bar or 3-15 psi
- Top or side connection or installation not vertical, e.g. 90° to the right side (right side from a viewer's perspective)
- Bleeding port at the tip of the Bourdon tube for models RFB 160, 250
- Version -1, pressure ranges ≥ 100 bar with Bourdon tube made of hardened, tempered alloy steel, C-form, screwed together
- Wetted parts monel (ordering code -6) up to range 0-400 bar (6,000 psi)
- Electrical accessories upon request

How to Order:

Model code/case size: **RFB 160** (6") or **RFB 250** (10")
RFBG 160 (6")

Wetted parts: -1 or -3 (compare left) OR -6 (see above)

Case configuration: **r, Rh, rRh, Fr, rFr**
(see reverse side)
rBFr (model RFB 160 only)
(Standard case = bottom connection = without code letter)

Pressure range: according to EN 837-1, e.g. **0-6 bar**
(compare general info. leaflet 2000)

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

Special configurations: (see above)

Examples for Ordering Information:

- RFBG 160-3, rFr, 0-6 bar, G ½ B
- RFB 250-1, -1/+9 bar, ½" NPT



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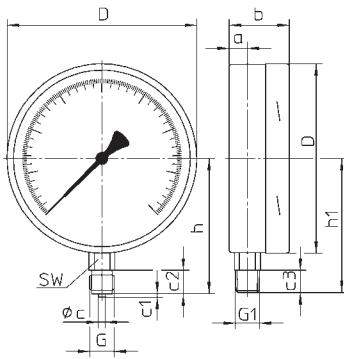
W: www.itruk.com

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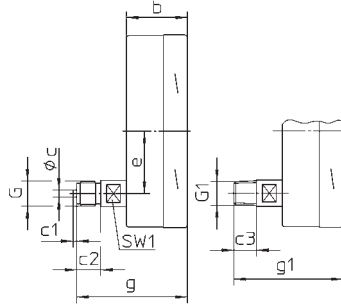
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Case Configurations, Code Letters, Dimensional Data and Weight

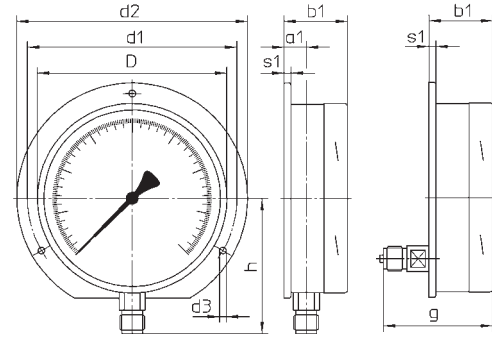
Bottom connection,
without code letter



Lower back connection,
code letter: **r**



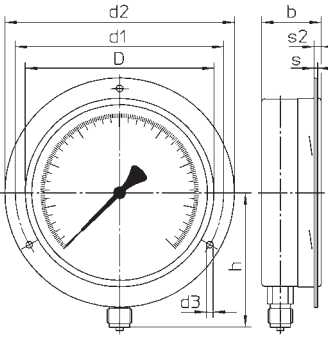
Bottom connection,
rear flange,
code letters: **Rh**



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

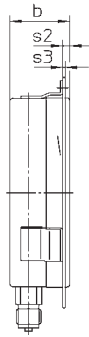
Bottom connection,
front flange,
code letters: **Fr**

Models RFB 160, RFB 250:



Front flange, NCS 160 with longholes, attached to the case, and a separate cover front flange

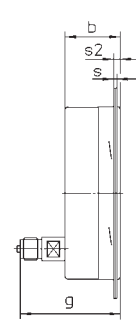
Model RFBG 160:



Mounting brackets welded to the case, and a separate front flange

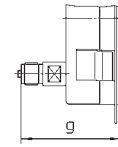
Lower back connection,
front flange,
code letters: **rFr**

Models RFB 160, RFB 250:



Front flange, NCS 160 with longholes, attached to the case, and a separate cover front flange

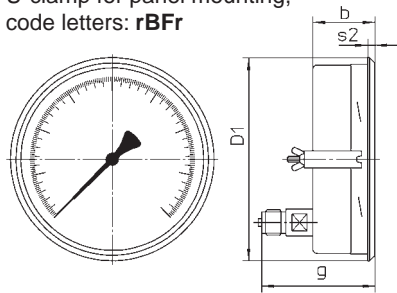
Model RFBG 160:



Mounting brackets welded to the case, and a separate front flange

Model RFB 160 only (liquid filled case not available):

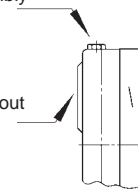
Lower back connection,
U-clamp for panel mounting,
code letters: **rBFr**



Safety Blow-Outs

Top blow-out assembly
RFBG 160

Optionally: 1" Blow-out
Ø 25.4 mm
RFB 160, RFB 250



Dimensions (mm / inches) and Weight (kg / lb)

| NCS | a | a1 | b | b1 | c | c1 | c2 | c3 | D | D1 | d1 | d2 | d3 | e | g | g1 |
|------------|-------------|-------------|------------|------------|----------|----------|-----------|-----------|-------------|-------------|--------------|--------------|------------|------------|--------------|--------------|
| 160 6" | 15.5 .61 | 19 .75 | 51 2.01 | 54 2.13 | 6 .24 | 3 .12 | 20 .79 | 19 .75 | 161 6.34 | 167 6.57 | 178 7.08 | 196 7.72 | 5.8 .23 | 52 2.05 | 92.5 3.64 | 91.5 3.60 |
| 250 10" | | 17.5 .69 | 58 2.28 | 60 2.36 | | | | | 251 9.88 | — | 270 10.63 | 285 11.22 | | | 97 3.82 | 96 3.78 |

| NCS | G | G1 | h | h1 | s | s1 | s2 | s3 | SW | SW1 | Weight (approx.) | |
|------------|---|--------|-------------|-------------|------------|----------|----------|------------|-----------|-----------|------------------|--------------|
| | | | | | | | | | | | RFB | RFBG |
| 160 6" | G ½ B ½" BSP optionally M 20x1,5 | ½" NPT | 115 4.53 | 114 4.49 | 2.5 .10 | 6 .24 | 6 .24 | 1.5 .06 | 22 .87 | 17 .67 | 1.10 2.50 | 1.95 4.50 |
| 250 10" | | | 165 6.50 | 164 6.46 | 2 .08 | 2 .08 | 7 .28 | 2 .08 | | | 2.10 4.90 | — |

¹⁾ NCS 250 with welded mounting brackets