

Bourdon Tube Pressure Gauges

Bayonet Ring Case Carbon Steel Black,
Standard (RB) or Liquid Filled (RBOe)

Nom. Case Size 160 (6")

Models

RB
RBOe

with Limit-Switch Contact Assemblies

This data sheet contains ordering information, minimum pressure ranges, information about electrical connections and dimensional drawings of Bourdon tube pressure gauges models RB and RBOe with limit-switch contact assemblies.

Standard Configuration

Data sheet 1101 contains the important features of these models without electrical accessories. These technical details are valid also for gauges assembled with limit-switches, as far as you do not find a deviating description below.

The ordering code for the liquid-filled version with limit-switch contact assembly is RBOe. The **filling liquid** is a special oil.

For detailed information about use and operation of our limit-switch contact assemblies please note our **general information leaflet 9000**, and for further information, especially about the available make/break operations, see the data sheets for the individual limit-switch models:

Mechanical (Standard- and magnetic contacts)	Data sheet 9100
Inductive	Data sheet 9200
Electronic	Data sheet 9201
Pneumatic	Data sheet 9300

Minimum Pressure Ranges

Every pressure gauge needs a sufficient amount of torque to operate a limit-switch contact assembly with minimized error. The following minimum pressure ranges are to consider ¹⁾:

Limit-Switch Type:	Minimum Pressure Ranges ¹⁾	
	bar	(psi)
S	1 x Standard	1.0 (15)
	2 x Standard	1.6 (30)
	3 x Standard	2.5 (40)
	4 x Standard	2.5 (40)
M	1 x Magnetic	1.6 (30)
	2 x Magnetic	2.5 (40)
	3 x Magnetic	4.0 (60)
	4 x Magnetic	4.0 (60)
I	1 x Inductive	1.0 (15)
	2 x Inductive	1.6 (30)
	3 x Inductive ²⁾	2.5 (40)
E	1 x Electronic	1.0 (15)
	2 x Electronic	1.6 (30)
	3 x Electronic ²⁾	2.5 (40)
P	1 x Pneumatic	1.0 (15)
	2 x Pneumatic	1.6 (30)

¹⁾ lower pressure ranges upon request

²⁾ 4x limit-switch contact assemblies upon request

For pressure gauges with 3 or 4 contacts it is not always possible to set all set pointers one above the other. Therefore you should state when ordering for which contacts resp. set pointers the opportunity to set one above the other is required. Or simply point out where your set points are.

Lens

Acrylic glass lens resp. polycarbonate (details upon request)

Case ventilation

Model RBOe with ventilation device at the top



Electrical Connection

- Mechanical contacts (standard [S] or magnetic [M]):

RB 160: 1 m connection cable passing through the back side of the case respectively for case configurations Rh, rRh passing through the right side of the case

RBOe 160: Universal plug connector mounted on the right side of the case respectively for case configurations Fr, rFr, rBFR on the back side

- Inductive / electronic limit-switch assemblies (I, E):

Terminal box mounted on the right side of the case, respectively for case configurations Fr, rFr, rBFR on the back side

The universal plug connector has 6 terminals and a ground terminal. The terminal box has 6 terminals only.

- Pneumatic limit-switch assemblies (P)

For each limit-switch one PE- or optionally one PP converter on the backside of the case (IP 30); dimensional drawings upon request

Special Versions

- Other electrical connections, e.g. universal plug connector for model RB 160
- Other position of the electrical connection upon request

Ordering Information

The ordering code of the individual gauge model RB 160 resp. RBOe 160 (compare data sheet 1101) is extended by the

- Code letter for the limit-switch contact assembly: **S, M, I, E** or **P** and the
- Code number for the make/break operation, e.g. **1, 11, 12, 2, 22, 21**

Examples:

RBOe 160-1, -1/+5 bar, G ½ B, **M 12**
RB 160-3, 0-400 bar, ½"NPT, **I 1**



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Case Configurations, Electrical Connections, Dimensional Data and Weights

The dimensions are the same as from the basic model, except the front-to-back sizes, **dimensions B and B1**, see table below. For the other dimensions, please see data sheet 1101.

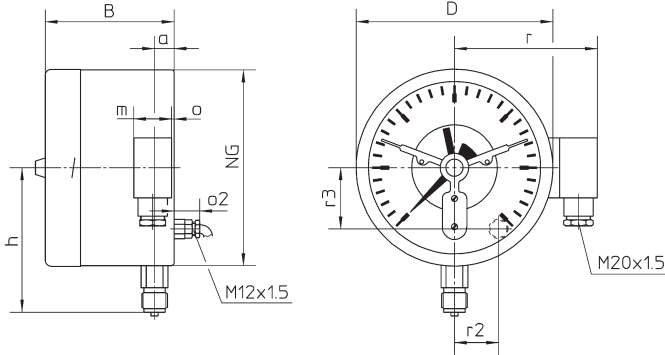
Others than standard locations are available only upon request at extra charges.

The locations of the electrical connections are shown in the dimensional drawings below.

The front-to-back sizes of versions with pneumatic limit-switch assembly are the same as below. Technical drawings for the PP/PE converter upon request.

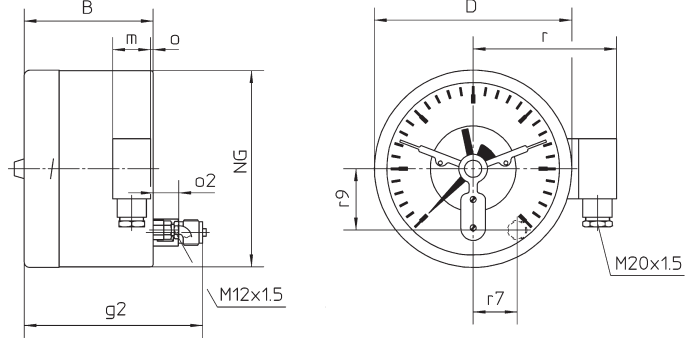
Bottom connection

Connection cable or Universal plug connector / terminal box



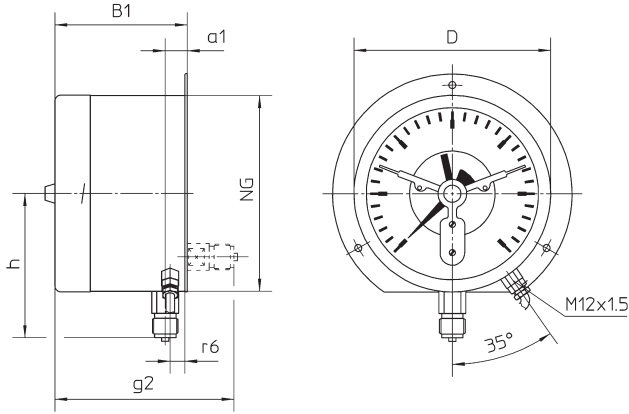
Back connection (r)

Connection cable or Universal plug connector / terminal box

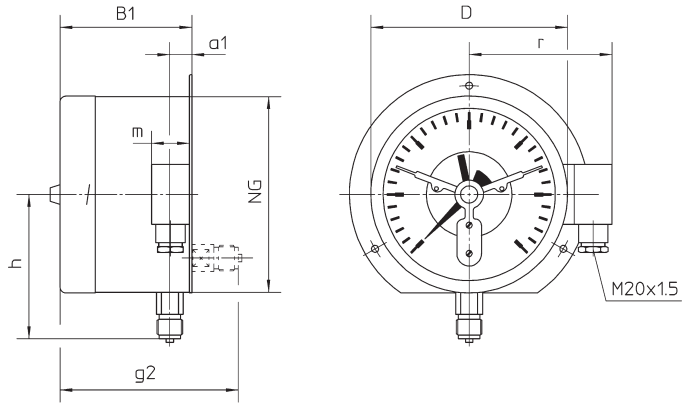


Bottom or lower back connection, rear mounting flange (Rh, rRh)

Connection cable



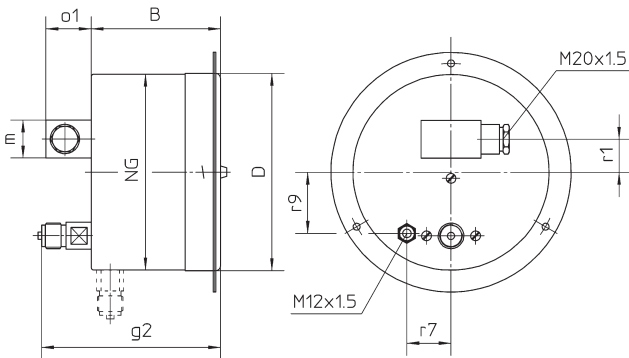
Universal plug connector/terminal box



Bottom or lower back connection, front mounting flange (Fr, rFr)

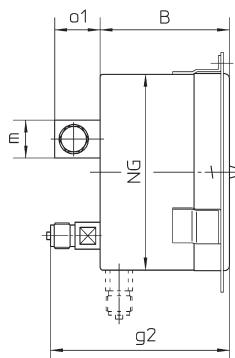
Connection cable or Universal plug connector / terminal box

Model RB 160 (dry version):



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

Liquid filled model RBOe 160:



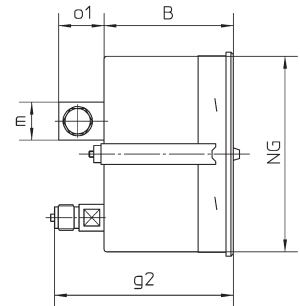
Mounting brackets welded to the case, and a separate front flange

Lower back connection ¹⁾

U-clamp for panel mtg. (rBFr)

Connection cable (position as for rFr)

Universal plug connector / terminal box



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

NG (Case Size)	a	a1	B	B1	D	g2	h ±1	m	o	o1	o2	r	r1	r2	r3	r6	r7	r9	Weight	
																			RB 160	RBOe 160
160	16	18	105	108	161	146	115	31	6	37	21	117	27	36	50	12	36	50	1.50	2.90
6"	.63	.71	4.13	4.25	6.34	5.75	4.53	1.22	.24	1.46	.83	4.61	1.06	1.42	1.96	.47	1.42	.197	3.30	6.38

¹⁾ only dry version available; alternatively filled version: model RChaOe 160 rBFr (see data sheet 1290)

²⁾ For inductive and electronic limit switches with 2 similar make/break operations (i.e. I 11 or E 22, also as part of 3x inductive or electronic limit-switch

assemblies) and for 4x standard or magnetic contacts please add 10 mm (0,39") to length B and B1.

³⁾ approx. weights for case with bottom connection and with 2 contacts

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