

# Capsule Gauges for Low Pressure

## Bayonet Ring Case Alloy Steel Black

Accuracy Class 1.6

Model

Nom. Sizes 100 (4")  
160 (6")

# KPB

### Application

Measurement of positive or negative overpressure of air or other gaseous media, pressure ranges 2.5 mbar to 600 mbar

### Nominal Case Size (NG)

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

### Accuracy Class (EN 837-3)

1.6 ( i.e. max.  $\pm 1.6\%$  of full span)

### Pressure Ranges

0 ... 2.5 mbar up to 0 ... 600 mbar according to EN 837-3, and 0/1 "WC to 0/250 "WC (Inch Water Column)  
also all standard vacuum and compound ranges  
(compare table on the backside)

### Pressure Limitations

Steady pressure: full scale value  
Cyclic pressure: 90% of full scale value  
Temporary: 130% of full scale value

### Temperature Limitations

Ambient temperature: -20 / + 60 °C (-4 / +140 °F)  
Medium temperature: max. + 80 °C (+176 °F) for version -1  
max. +100 °C (+212 °F) for version -3

### Temperature Caused Error

The accuracy error caused by media or ambient temperatures differing from +20 °C (+68 °F) is significant. It can be estimated with **.6%** per each 10 °C (+18 °F).

### Protection Type (EN 60529 / IEC 529)

IP 54

## Standard Configuration

### Connection

1/2" BSP (G 1/2 B) bottom connection, optional center back (rm);  
Version -1: brass  
Version -3: 316 stainless steel 1.4571

### Diaphragm Capsule

Version -1: Copper/beryllium CuBe2  
Version -3: Stainless steel 1.4571

### O-Ring-Sealing

Version -1: NBR (nitrile rubber , "buna N")  
Version -3: FPM (fluorocautchouc)

### Movement

Brass / German silver

### Dial

Aluminum alloy, black figures, white background

### Pointer

Aluminum alloy black

### Zero Adjustment

From the frontside

### Case and Bayonet Ring

Alloy steel black painted

### Window

Single strength glass;  
Acrylic glass lens for case configurations rmFr, rmBFR resp. rmBFRg and sealed gauges (lens punched for zero adjustment), except nom. size 160 (6")  $\leq$  10 mbar (here: single strength glass)



## Special Options

- Connection M 12x1.5, M 20x1.5, 1/2" NPT, 1/4" NPT, others upon request
- Inlet port restrictor screw brass or stainless steel (  $\varnothing$  .3 mm)
- Movement stainless steel
- Acrylic glass lens (pressure ranges  $\geq$  25 mbar) or laminated safety glass
- Special scales like dual ranges or special units
- Stationary red pointer on the dial
- Stationary red pointer with external adjustment
- 3-times overrange- or vacuum protection
- 10-times overrange protection for ranges  $\geq$  40 mbar; for vacuum and compound ranges upon request
- Nom. sizes 63 and NG 250 upon request
- Version for higher medium temperature upon request

## How to Order:

Please specify:

Model code	<b>KPB</b>
Nominal size	<b>100 or 160</b>
Wetted parts	<b>- 1 or - 3</b> (compare left)
Case configuration (see overleaf)	<b>rm, Rh, rmFr, rmBFR</b> (NG 160) <b>resp. rmBFRg</b> (NG 100) (standard = bottom connection = without additional code letter)
Pressure range	e.g. <b>0/100 mbar</b> (see table overleaf)
Process connection	<b>G 1/2 B</b> resp. 1/2" BSP (others see "Special Options")
Special options	(see above)

### Examples for Ordering Information:

- KPB 100-1, rmFr, 0/250 mbar, G 1/2 B
- KPB 160-3, -40/0 mbar, 1/2" NPT



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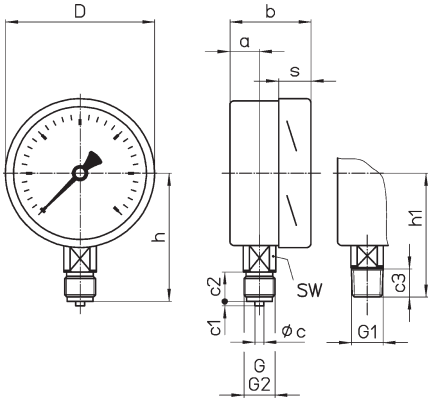
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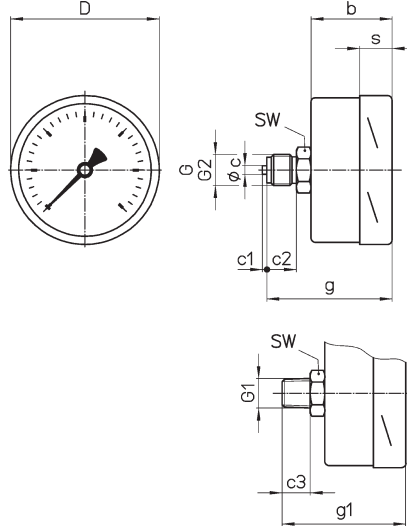
8/02

# Case Configurations, Code Letters, Dimensions and Weight, Pressure Ranges

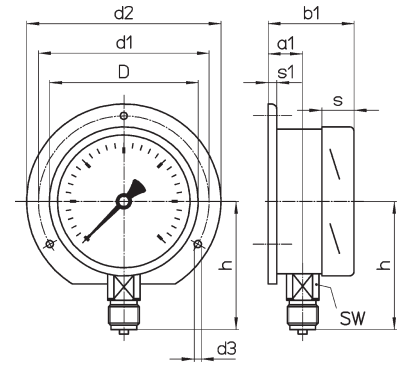
Bottom connection,  
without additional code letter



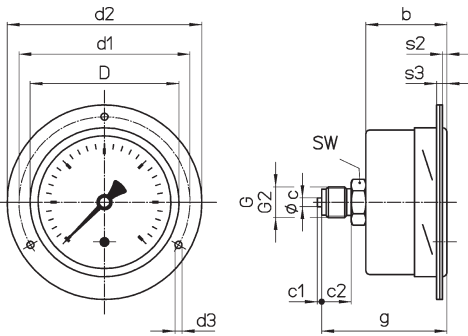
Center back connection,  
code letters: **rm**



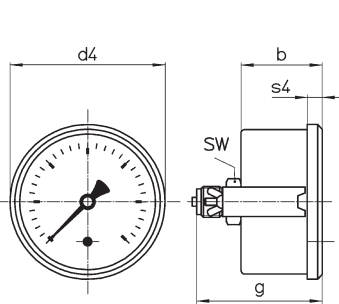
Bottom connection,  
rear mounting flange,  
code letters: **Rh**



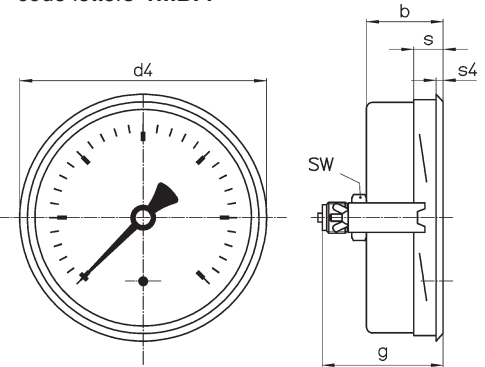
Center back connection,  
front mounting flange<sup>1)</sup>  
(front flange with longholes attached to the case and a  
separate cover front ring),  
code letters: **rmFr**



NG 100 (4")  
Center back connection,  
u-clamp for panel mounting<sup>1) 2)</sup>,  
crimped-on ring stainless steel,  
code letters: **rmBFrg**



NG 160 (6")  
Center back connection,  
u-clamp for panel mounting<sup>1) 2)</sup>,  
code letters: **rmBFrg**



## Dimensional Data ( mm / inches ) and Weights ( kg / lb )

Nominal Size (NG)	a	a1	b	b1	D	c	c1	c2	c3	d1	d2	d3	d4	G	G1	G2	g	g1
100	20	23.5	55	58.5	101					116	132	4.8	106	G 1/2 B	1/2" NPT	M 20x1.5	85	84
4"	.79	.93	2.17	2.30	3.98	6	3	20	19	4.57	5.20	.19	4.17				3.35	3.30
160	15.5	19	51.5 <sup>3)</sup>	55 <sup>3)</sup>	161	.24	.12	.79	.75	178	196	5.8	168	1/2" BSP	1/2" NPT	M 20x1.5	82 <sup>3)</sup>	81 <sup>3)</sup>
6"	.61	.75	2.03	2.17	6.34					7	7.72	.23	6.61				2.23	3.19

## Standard Pressure Ranges

Vacuum	Compound	Pressure
in mbar		
- 2.5 / 0 <sup>4)</sup>	- 1 / + 1.5 <sup>4)</sup> - 1.5 / + 1 <sup>4)</sup>	0 / 2.5 <sup>4)</sup>
- 4 / 0	- 1.5 / + 2.5 - 2.5 / + 1.5	0 / 4
- 6 / 0	- 2 / + 4 - 4 / + 2	0 / 6
- 10 / 0	- 4 / + 6 - 6 / + 4	0 / 10
- 16 / 0	- 6 / + 10 - 10 / + 6	0 / 16
- 25 / 0	- 10 / + 15 - 15 / + 10	0 / 25
- 40 / 0	- 15 / + 25 - 25 / + 15	0 / 40
- 60 / 0	- 20 / + 40 - 40 / + 20	0 / 60

Nominal Size (NG)	h ±1	h1 ±1	s	s1	s2	s3	s4	SW	Weight (approx.) kg / lb
100	87	84							0.5
4"	3.43	3.31	21	6	2	6	10	.39	1.10
160	115	114	.83	.24	.08	.24	5	.87	0.9
6"	4.53	4.49						.20	1.98

Vacuum	Compound	Pressure
in mbar		
-100 / 0	- 40 / + 60 - 60 / + 40	0 / 100
-160 / 0	- 60 / + 100 - 100 / + 60	0 / 160
-250 / 0	- 100 / + 150 - 150 / + 100	0 / 250
-400 / 0	- 150 / + 250 - 250 / + 150	0 / 400
-600 / 0	- 200 / + 400 - 400 / + 200	0 / 600

<sup>1)</sup> Recommended panel cut-out:

**NG 100, rmBFrg** Ø 101 + 1 mm (3.98" + .04")

**NG 160, rmBFrg** Ø 162 + 1 mm (6.38" + .04")

**NG 100, rmFr** Ø 103 ± 1 mm (4.06" ± .04")

**NG 160, rmFr** Ø 162 + 1 mm (6.38" + .04")

<sup>2)</sup> u-clamp stainless steel

<sup>3)</sup> dimensions b, b1, g and g1 = +5 mm (.2") for NG 160 (6") with pressure ranges ≤ 16 mbar (10 "WC)

<sup>4)</sup> scale 180 degrees for NG 100 (4")

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