

MS5 - MR5

Industrial Pressure Gauges with mechanical contacts



BOURDON
The Original by Baumer

EN-837-1

PED



Main Features

- For corrosive gasses and liquids
- Class 1 according to EN 837-1
- Mechanical contacts 1 or 2 set points
- Option : liquid-filled for applications with pulsations or vibrations
- Option : case material 1.4404 (316L) for aggressive atmosphere

Applications

- Food & Beverage
- Laboratory & Medical
- Oil & Gas / Chemical
- Water & Waste water
- Energy
- Transportation & Logistics
- Machinery

Technical Data

Nominal size	100 mm
Measurement range	-1 ... 0 to 0 ... 1600 bar
Pressure limitation	
Ranges ≤ 600 bar	Steady : 100% of full scale value Fluctuating : 90% of full scale value Short time : 130% of full scale value
Ranges > 600 bar	Steady : 75% of full scale value Fluctuating : 65% of full scale value Short time : 100% of full scale value
Accuracy	Class 1 (according EN837-1 and DIN 16085)
Protection rating	IP 65 (EN 60529)
Process Connection	Stainless steel 1.4404 (AISI 316L)
Bourdon tube	Stainless steel 1.4404 (AISI 316L)
Case	Stainless steel 1.4301 (AISI 304)
Bezel ring	Stainless steel 1.4301 (AISI 304)
Movement	Stainless steel
Window	Laminated safety glass
Window gasket	Elastomer
Dial	Aluminium, white
Pointer	Aluminium, black

Temperature	Ambient : -20 ... +70°C Medium : -40 ... +200°C (not filled) For liquid filled version see ordering details. The case temperature must not exceed +70°C Storage : -40 ... +70°C
Thermal drift	± 0.4% F.S. / 10 K (reference : 20°C)
Contacts	MS5 : sliding contact MR5 : snap-action contact
Setpoints	1 or 2
Contact material	Silver-Nickel alloy, gold plated (Ag80Ni20)
Max. ohmic contact load	MS5 : 250 V / 0.6 A / 10 W / 18 VA MR5 : 250 V / 0.6 A / 30 W / 50 VA Recommended contact load see datasheet A21.33
Electrical connection	Connecting box with terminal block Cable gland M20 x 1.5 for cable Ø 7 to 13 mm (others on request)
Minimum pressure span	1 sliding contact (MS5) : 1 bar 1 snap-action contact (MR5) : 1.6 bar 2 sliding contacts (MS5) : 1.6 bar 2 snap-action contacts (MR5) : 2.5 bar

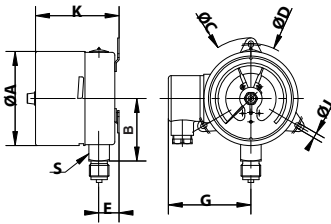
Options

Supplementary blow-out at the back (Ø 30mm)	Code 0760
Restrictor screw Ø 0.5 (for fittings > 1/4")	Code 0771
Stainless steel 1.4404 (AISI 316L) solid drawn Bourdon tube	Code 0816
Contact material Gold/Silver (Au80/Ag20)	Code 4901
Contacts with separate circuits (see datasheet A21.33)	

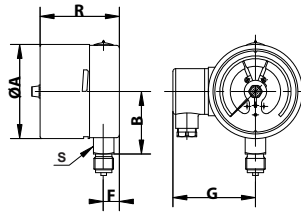
To be ordered separately

Material certificate 3.1 EN10204	Code Q003
Calibration certificate EN837-1 (5 points raising and 5 points falling)	Code Q009

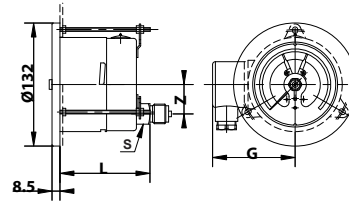
Dimensions - Types of mounting



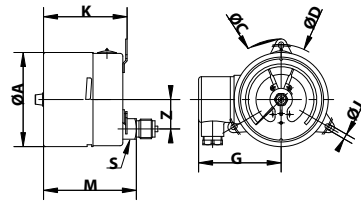
A (11)*



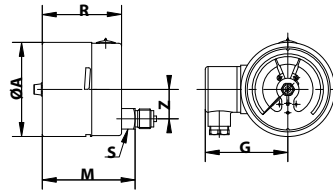
D (10)*



B (22)*



E (21)*



F (20)*

Weight (kg)
Filled : 1.300
Unfilled : 0.750

Panel cut-outs for types B and G = Ø 102 mm

*Type of mounting according to EN837-1 in brackets

mm	A	B	C	D	E	F	G	J	K	L	M	R	S	Z
NS 100	101	67	134	118	21.5	17	89	5.5	89.5	96	99	85.5	22	31.5

Pressure ranges

Code	Bar	Code	kPa	Code	kg/cm ²	Code	psi
B59	-1 ... 0	D59	-100 ... 0	F59	-1 ... 0	H59	-30" Hg ... 0
B72	-1 ... 0.6	D72	-100 ... 60	F72	-1 ... 0.6	H73	-30" Hg ... 15
B74	-1 ... 1.5	D74	-100 ... 150	F74	-1 ... 1.5	H75	-30" Hg ... 30
B76	-1 ... 3	D76	-100 ... 300	F76	-1 ... 3	H2C	-30" Hg ... 60
B77	-1 ... 5	D77	-100 ... 500	F77	-1 ... 5	H78	-30" Hg ... 100
B79	-1 ... 9	D79	-100 ... 900	F79	-1 ... 9	H79	-30" Hg ... 150
B81	-1 ... 15	D81	-100 ... 1 500	F81	-1 ... 15	H81	-30" Hg ... 220
B82	-1 ... 24	D82	-100 ... 2 400	F82	-1 ... 24	H82	-30" Hg ... 300
B15	0 ... 1	D15	0 ... 100	F15	0 ... 1	H15	0 ... 15
B16	0 ... 1.6	D16	0 ... 160	F16	0 ... 1.6	H1C	0 ... 20
B18	0 ... 2.5	D18	0 ... 250	F18	0 ... 2.5	H17	0 ... 30
B19	0 ... 4	D19	0 ... 400	F19	0 ... 4	H19	0 ... 60
B20	0 ... 6	D20	0 ... 600	F20	0 ... 6	H21	0 ... 100
B22	0 ... 10	D22	0 ... 1 000	F22	0 ... 10	H22	0 ... 160
B24	0 ... 16	D24	0 ... 1 600	F24	0 ... 16	H23	0 ... 200
B26	0 ... 25	D26	0 ... 2 500	F26	0 ... 25	H25	0 ... 300
B27	0 ... 40	D27	0 ... 4 000	F27	0 ... 40	H26	0 ... 400
B29	0 ... 60	D29	0 ... 6 000	F29	0 ... 60	H27	0 ... 600
B31	0 ... 100	D31	0 ... 10 000	F31	0 ... 100	H30	0 ... 1 000
B33	0 ... 160	D33	0 ... 16 000	F33	0 ... 160	H31	0 ... 1 500
B35	0 ... 250	D35	0 ... 25 000	F35	0 ... 250	H34	0 ... 3 000
B38	0 ... 400	D38	0 ... 40 000	F38	0 ... 400	H38	0 ... 6 000
B39	0 ... 600	D39	0 ... 60 000	F39	0 ... 600	H40	0 ... 10 000
B41	0 ... 1 000	D41	0 ... 100 000	F41	0 ... 1 000	H41	0 ... 15 000
B42	0 ... 1 600	D42	0 ... 160 000	F42	0 ... 1 600	H1D	0 ... 20 000

Ordering details MS5-MR5

	5	-					.	xxx	/
Model									
Pressure gauge with sliding contacts	MS								
Pressure gauge with snap-action contacts	MR								
Nominal size									
100 mm	5								
		-							
Contact function		N° Setpoints	Contact type						
			MS5	MR5					
Contact breaks ⁽¹⁾	1		4002	5002	1				
Contact makes ⁽¹⁾	1		4001	5001	2				
1st contact breaks / 2nd contact makes ⁽¹⁾	2		4021	5021	4				
1st contact breaks / 2nd contact breaks ⁽¹⁾	2		4022	5022	5				
1st contact makes / 2nd contact makes ⁽¹⁾	2		4011	5011	6				
1st contact makes / 2nd contact breaks ⁽¹⁾	2		4012	5012	7				
Changeover contact	1		-	5003	9				
Tendency contact	1		4004	-	B				
Type of mounting									
Stainless steel case and bezel ring 1.4301 (AISI 304)									
Bottom connection, 3 back lugs fixing						A			
Back connection, front flange, 3 mounting holes						B			
Bottom connection						D			
Back connection, 3 back lugs fixing						E			
Back connection						F			
Stainless steel case and bezel ring 1.4404 (AISI 316L)									
Bottom connection, 3 back lugs fixing					1				
Back connection, front flange, 3 mounting holes					2				
Bottom connection					4				
Back connection, 3 back lugs fixing					5				
Back connection					6				
Process connection									
G 1/4					2				
G 1/2					3				
1/4 NPT					5				
1/2 NPT					6				
Liquid filling									
Dry							0		
BH3: silicone oil (medium : -40 ... +100°C) ⁽²⁾							3		
BH5: fluor carbon for oxygen use (160 bar max.) (-15 ... +100°C) ⁽²⁾							5		
BH10: paraffin, vaseline oil (-15 ... +100°C) ⁽²⁾							K		
Unit of measurement / Pressure ranges ⁽³⁾									
bar								Bxx	
psi								Hxx	
kPa								Dxx	
MPa								Exx	
kg/cm²								Fxx	

Options to be added behind the / (see example below)

(1) With clockwise pointer motion

(2) Available only with snap-action contacts (MR5)

⁽³⁾ Available standard pressures ranges, see tables on page 2. For ranges not listed, please contact Baumer.

Ordering example with options

MS	5	-	1	A	2	0	.	B22	/	0760
----	---	---	---	---	---	---	---	-----	---	------

Pressure gauge with sliding contacts

Nominal size 100 mm

Contact breaks with clockwise pointer motion

Bottom connection, 3 back lugs fixing, case material 1.4301

Process connection G 1/4

No liquid filling

Scale bar : 0 ... 10 bar

Option : Supplementary blow-out at the back ($\varnothing$ 30mm)