

BOURDON TUBE PRESSURE GAUGE

MODEL M1.01



PRODUCT DESCRIPTION

Bourdon tube pressure gauges are the most frequently used mechanical pressure measuring instruments. A bourdon tube is used to measure pressure in a system, giving the user visual indication of the pressure level, ensuring the amount of pressure doesn't exceed the maximum level or stoop too low. When an elastic transducer is subjected to a pressure, it deflects. The reading is visual and appears on a dial face at the front of the pressure gauge.



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KEY FEATURES

- External Zero Adjustment
- Standard Followed EN 837-1
- Dry & Liquid Filled Version
- All welded Stainless steel rugged design
- ATEX approved II 2 GD Ex h T6
- For Corrosive Gasses and Liquids
- Liquid-filled for applications with pulsations or vibrations

SPECIFICATIONS

Design Standard	: According to EN 837-1
Sensing Element	: Bourdon Tube (<100 Bar: C - Type, >100 Bar: Helical)
Accuracy	: $\pm 1\%$ of Span (Standard)
Dial Size	: 100mm (4"), 160mm (6"), 250mm (10")
Range	: Vacuum/Compound: -1 to 1600 bar
Pressure	: Upto 1600 bar (Other custom ranges on request)
Process Conn. Location	: Bottom & Lower Back
Process Conn. Size & Type	: $\frac{1}{4}$ " NPT(M), $\frac{3}{8}$ " NPT(M), $\frac{1}{2}$ " NPT(M), $\frac{1}{4}$ " BSP(M), $\frac{3}{8}$ " BSP(M), $\frac{1}{2}$ " BSP(M), M20 x 1.5 (M) (Other sizes on request)
Weld Joints	: TIG Argon Arc Welding
Mounting	: Direct, Panel & Surface mounting options
Ingress Protection	: IP68
Approvals	: ATEX: Conformity acc. to RL 2014/34/EU Article 13 paragraph 1 for mechanical equipment in potential hazardous areas II 2 GD Ex h T6 (Optional)

PRESSURE LIMITS

Steady Pressure	: Up to FSD
Fluctuating Pressure	: 90% FSD
Over Range Pressure	: 130% FSD

TEMPERATURE LIMITS

Version	Ambient	Process
Dry	-40 to 65 °C	Max. 200 °C
Glycerin filled	Max. 65 °C	Max. 65 °C
Silicone filled	Max. 165 °C	Max. 165 °C

APPLICATION

- Oil & Gas
- Chemical & Petrochemical
- Power Industries
- Food & Beverages
- Pulp and paper
- Nuclear power plants
- Specialized OEM equipment & Machine Building
- Fertilizer
- Pharma

MATERIAL OF CONSTRUCTION

Case & Bezel Ring	: SS 304 (Optional SS 316)
Process Connection	: Wetted: SS 316L
Bourdon Tube	: Wetted: SS 316L (Optional Monel 400)
Movement	: SS 304 (Optional 316)
Pointer	: Aluminum, Black colored Micrometer zero adjustable
Dial	: Aluminum, Black graduation on white background
Window	: Shatter proof safety (Optional: Toughened glass)
Window gasket & Blowout disk	: Neoprene

CASE FILLING (OPTIONAL)

The gauges can be filled with different kind of fill fluids. Available fill fluids are:

- Glycerin fluid (99.7%)
- Silicon fluid
- Other fill fluids can be offered on request

SPECIFICATIONS

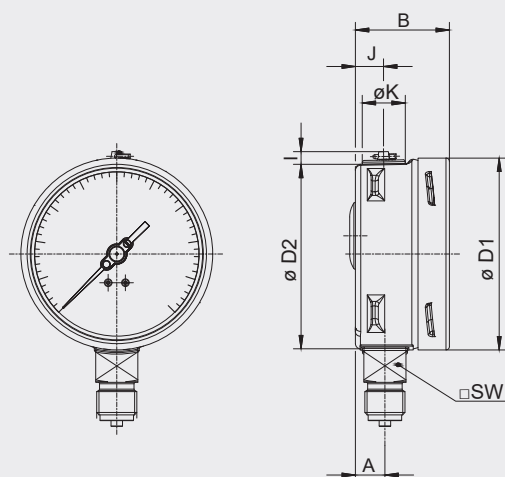
Calibration Certificate	: Gauges are factory calibrated to full range by default 5-Point Calibration Cert.
Material Certification	: Only For Wetted parts With Chemical Composition
NACE Compliance	: Available as per MR 01 75/ MR 01 03 (ISO 15156) for wetted parts (Optional)
Approvals	: ATEX: Conformity acc. to RL 2014/34/EU II 2 GD Ex h T6 (Optional)

BOURDON TUBE PRESSURE GAUGE

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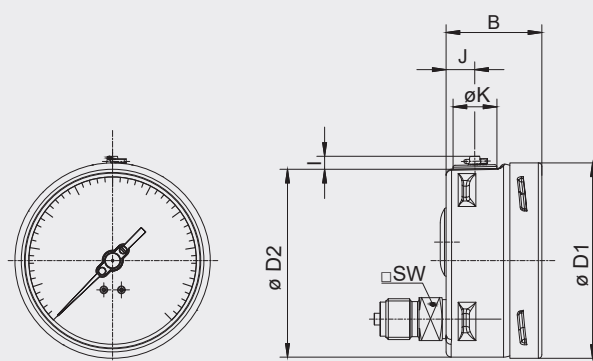
DIMENSIONAL DRAWINGS

Direct, Bottom Connection - B



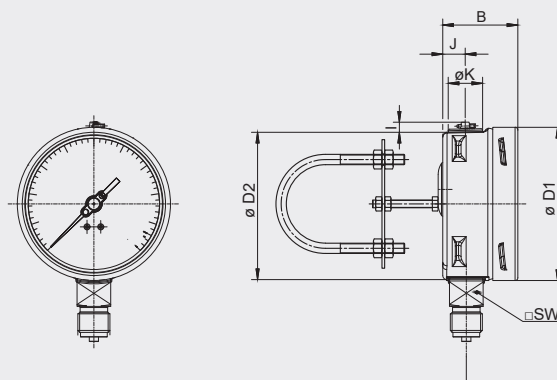
	Dimension in mm						
	B	ø D1	ø D2	I	J	K	SW
100	49.5	101	99	6.5	14.5	22.5	22
160	51.5	161	159	6.5	14.5	22.5	22
250	78	277	250	6.5	14.5	22.5	22

Direct, Lower Back Connection - L



NS	Dimension in mm						
	B	ø D1	ø D2	I	J	K	SW
100	49.5	101	99	6.5	14.5	22.5	22
160	51.5	161	159	6.5	14.5	22.5	22
250	78	277	250	6.5	14.5	22.5	22

2" Pipe mounting, Bottom Connection - BP



NS	Dimension in mm						
	B	ø D1	ø D2	I	J	K	SW
100	49.5	101	99	6.5	14.5	22.5	22
160	51.5	161	159	6.5	14.5	22.5	22
250	78	277	250	6.5	14.5	22.5	22

Important Notes: Above drawings are not to scale. All Dimension are in mm. NS = Nominal size. Weights mentioned are approximate and for standard product. Weight can be different after selection of options.

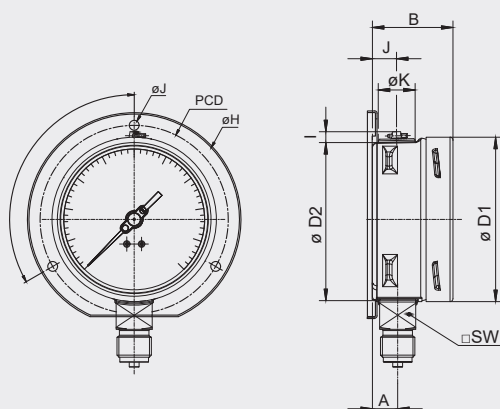


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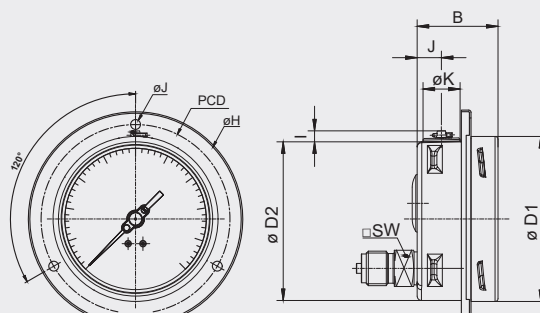
DIMENSIONAL DRAWINGS

Back Flange, Bottom Mounting - BS



NS	Dimension in mm									
	B	ø D1	ø D2	I	J	K	ø H	PCD	ø J	SW
100	49.5	101	99	6.5	14.5	22.5	134	118	6	22
160	51.5	161	159	6.5	14.5	22.5	186	168	6	22
250	78	277	250	6.5	14.5	22.5	290	276	7	22

Front Flange, Lower Back Connection - LP



NS	Dimension in mm									
	B	ø D1	ø D2	I	J	K	ø H	PCD	ø J	SW
100	49	101	99	6.5	14.5	22.5	134	118	6	22
160	51.5	161	159	6.5	14.5	22.5	186	168	6	22
250	78	277	250	6.5	14.5	22.5	290	276	7	22

Important Notes: Above drawings are not to scale. All Dimension are in mm. NS = Nominal size. Weights mentioned are approximate and for standard product. Weight can be different after selection of options.

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TABLE-1 PRESSURE RANGE

bar		kg/cm2		psi		kPa		MPa	
Code	Range	Code	Range	Code	Range	Code	Range	Code	Range
CB015	-1...0.6	CG015	-1...0.6	HP37	-30Hg/15psi	CK015	-100...60	CM015	-0.1...0.06
CB024	-1...1.5	CG024	-1...1.5	HP39	-30HG/30psi	CK024	-100...150	CM024	-0.1...0.15
CB004	-1...3	CG004	-1...3	HP41	-30HG/60psi	CK004	-100...300	CM004	-0.1...0.3
CB006	-1...5	CG006	-1...5	HP44	-30HG/100psi	CK006	-100...500	CM006	-0.1...0.5
CB010	-1...9	CG010	-1...9	HP46	-30HG/150psi	CK010	-100...900	CM010	-0.1...0.9
CB016	-1...15	CG016	-1...15	HP50	-30HG/220psi	CK016	-100...1500	CM016	-0.1...1.5
CB025	-1...24	CG025	-1...24	HP53	-30HG/300psi	CK025	-100...2400	CM025	-0.1...2.4
CB001	-1...0	CG001	-1...0	PS010	0...10	CK001	-100...0	CM001	-0.1...0
CB000	-0.6...0	CG000	-0.6...0	PS015	0...15	CK000	-60...0	CM000	-0.06...0
BR000	0...0.6	KG000	0...0.6	PS030	0...30	KP000	0...60	MP000	0...0.06
BR01	0...1	KG01	0...1	PS060	0...60	KP01	0...100	MP01	0...0.1
BR015	0...1.6	KG015	0...1.6	PS100	0...100	KP015	0...160	MP015	0...0.16
BR024	0...2.5	KG024	0...2.5	PS160	0...160	KP024	0...250	MP024	0...0.25
BR004	0...4	KG004	0...4	PS200	0...200	KP004	0...400	MP004	0...0.4
BR006	0...6	KG006	0...6	PS300	0...300	KP006	0...600	MP006	0...0.6
BR010	0...10	KG010	0...10	PS400	0...400	KP010	0...1000	MP010	0...1
BR016	0...16	KG016	0...16	PS500	0...500	KP016	0...1600	MP016	0...1,6
BR025	0...25	KG025	0...25	PS600	0...600	KP025	0...2500	MP025	0...2,5
BR040	0...40	KG040	0...40	PS800	0...800	KP040	0...4000	MP040	0...4
BR060	0...60	KG060	0...60	PS110	0...1000	KP060	0...6000	MP060	0...6
BR100	0...100	KG100	0...100	PS150	0...1500	KP100	0...10000	MP100	0...10
BR160	0...160	KG160	0...160	PS120	0...2000	KP160	0...16000	MP160	0...16
BR250	0...250	KG250	0...250	PS130	0...3000	KP250	0...25000	MP250	0...25
BR400	0...400	KG400	0...400	PS140	0...4000	KP400	0...40000	MP400	0...40
BR600	0...600	KG600	0...600	PS150	0...5000	KP600	0...60000	MP600	0...60
BR610	0...1000	KG610	0...1000	PS170	0...6000	KP610	0...100000	MP610	0...100
BR620	0...1600	KG620	0...1600	PS210	0...10000	KP620	0...160000	MP620	0...160
				PS215	0...15000				
				PS220	0...20000				

BOURDON TUBE PRESSURE GAUGE

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MODEL CODING & ORDERING INFORMATION

DESCRIPTION	CODE	M1.01	04	2	B	12NM	BR040	X20	S6	SL	SL	S6
Model												
BOURDON TUBE PRESSURE GAUGE	M1.01	M1.01										
Dial Size												
100 mm (4")	04		04									
160 mm (6")	06											
250 mm (10")	10											
Version												
Dry (But Fillable)	1											
Glycerin Filled	2			2								
Silicon Oil Filled	3											
Type of Mounting / Connection Orientation												
Direct Bottom Connection	B				B							
Direct Lower Back Connection	L											
2" Pipe Mounting - Direct Bottom Connection	BP											
Back Flange Direct Bottom Connection Surface Mounting	BS											
Front Flange Direct Lower Back Connection Flush Panel Mounting	LP											
Process Connection (Size and Type)												
1/2" NPT (M)	12NM					12NM						
1/2" BSP (M)	12BM											
3/4" BSP (M)	14BM											
1/2" NPT (M)	14NM											
3/4" BSP (M)	38BM											
3/8" NPT (M)	38NM											
M20X1.5(M)	M20M											
1" TC-(Autoclave Connection-For B Mounting only)	25TC											
1 1/2" TC-(Autoclave Connection-For B Mounting only)	38TC											
2" TC-(Autoclave Connection-For B Mounting only)	50TC											
Range												
To be selected from Table 1	XXXXX						BR040					
(Other Custom Ranges available on request)												
Other Options												
Bourdon and Socket in other Exotic Material	EXM											
Window in Toughened Glass	EXO											
Tag no Marking on Dial	XTM											
Over Range Protection 150% FSD	X10											
Wetted Parts Complied To NACE	X20							X20				
Custom Dial Design / Private Labeling	X29											
Accuracy Requirement -06%	XX5											
Quality Specific Requirement												
ATEX Conformity acc.to RL 2014/34/EU II 2 GD Ex h T6	XAT											
IBR Certification	X18											
Certificate for Oxygen Service	X21											
IGC Certificate	X79											
Leak Test Certificates	XLC											
DP Test for Socket and Case Welding	XDP											
Default Certification												
Calibration Certificates												
MTC for Wetted Parts												
DEFAULT SELECTION												
MOC SELECTON	DEFAULT							ON REQUEST				CODE
CASE AND RING	SS316L	S6	S6	SS304	S4							SL
BOURDON	SS316L	S6	SL	MONEL-400	M4	INCONEL-625	IC	HC-276	HC			SL
SOCKET	SS316L	S6	SL	MONEL-400	M4	INCONEL-625	IC	HC-276	HC			SL
MOVEMENT	SS316L	S6	S6	SS304	S4							SL

SAMPLE ORDERING CODE:

M1.01-04-2-B-12NM-BR040-X20-SL-SL-SL-SL

Note: Specifications and dimensions given in this product catalogue represents the state of engineering at the time of printing. Modifications may take place and material specified may be replaced by others without prior notice.

For Lower Back Connection maximum pressure range is only 1000 bar.