

DOUBLE BOURDON DIFFERENTIAL PRESSURE GAUGE

MODEL
M2.04



PRODUCT DESCRIPTION

Differential Pressure Gauge consists essentially of two opposing bourdon tubes, each having its own connection but operating a common pointer that shows the difference between the two pressures. These instruments are used to check filter Obstructions, pressure drops, flow rate differences, level, measurements. The modular design enables a multitude of combinations of case materials, process connections, nominal sizes and scale ranges.



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KEY FEATURES

- All SS measuring system
- Optional Electric contact version
- Dry & liquid filled
- ATEX approved II 2 GD Ex h T6
- Standard Followed EN 837-1
- Liquid-filled for applications with pulsations or vibrations

SPECIFICATIONS

Design Standard	: According to EN 837-1
Sensing Element	: Double Bourdon
Accuracy	: $\pm 1.6\%$ of Span (Standard)
Dial Size	: 100mm (4"), 150mm (6")
Pressure Range	: 0...1 bar up to 0...100 bar
Process Conn. Location	: Direct ,bottom connection
Process Conn. Size & Type	: $\frac{1}{4}$ " NPT (F) (Other sizes on request)
Mounting	: Direct bottom Connection
Service Temperature	: 200 °C max.
Ingress Protection	: IP68
Approvals	: Atex

MATERIAL OF CONSTRUCTION

Case & Bezel Ring	: SS 304 (Bayonet type)
Process Connection	: SS 316L
Accuracy	: $\pm 1.6\%$ of Span
Movement	: SS 304
Bourdon tube & shanks:	SS 316L
Pointer	: Aluminum, Black colored Micrometer zero adjustable
Dial	: Aluminum, Black graduation on white background
Window	: Shatter proof safety Glass
Window gasket & Filling plug	: Neoprene

APPLICATION

- Refinery
- Nuclear
- Aerospace
- Fertilizer
- Petrochemicals
- Pharmaceuticals
- Power
- Cement
- Chemical
- Sugar
- Food & Beverages
- Paper & Allied process industries

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

Note: The variation of indication caused by the effect of temperature shall not exceed: $\pm 0.4\%$ / 10K FS

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

CERTIFICATION & APPROVALS

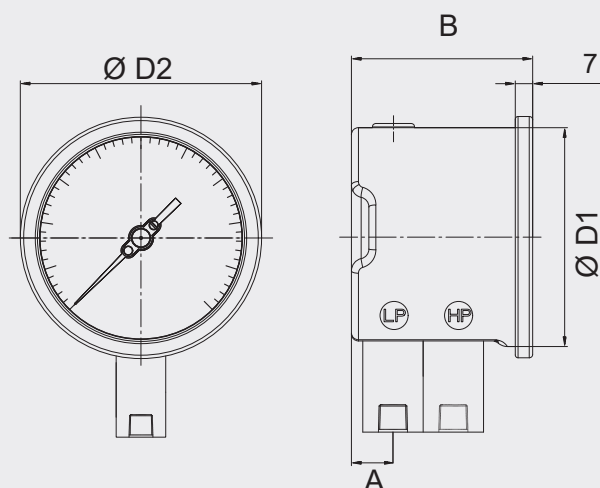
Calibration Certificate	: Gauges are factory calibrated to full range by default 5-Point Calibration Cert.
Material Certification	: Only For Wetted parts With Chemical Composition
NACE Compliance	: Available as per MR 01 75/ MR 01 03 (ISO 15156) for wetted parts (Optional)
Approvals	: ATEX: Conformity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

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DIMENSIONAL DRAWINGS

Direct, Bottom Connection - B



NS	Dimension in mm			
	A	B	Ø D1	Ø D2
100	16	74	99.5	107
160	16	74	160	163

Important Notes: Above drawings are not to scale. All Dimension are in mm

TABLE-1 PRESSURE RANGE

bar		kg/cm ²		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

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MODEL M2.04

MODEL CODING & ORDERING INFORMATION

DESCRIPTION	CODE	M2.04	04	2	B	14BF	BR040	X20	S6	SL	SL	S6
Model												
Double Bourdon Differential Pressure Gauge	M2.04	M2.04										
Dial Size												
100 mm (4")	04		04									
160 mm (6")	06											
Version												
Dry (But Fillable)	1											
Glycerin Filled	2			2								
Silicon Oil Filled	3											
Type of Mounting / Connection Orientation												
Direct Bottom Connection	B				B							
Front Flange Direct Lower Back Connection Flush Panel Mounting	LP											
Process Connection (Size and Type)												
1/4" BSP (F)	14BF					14BF						
1/4" NPT (F)	14NF											
3/8" BSP (F)	38BF											
3/8" NPT (F)	38NF											
(Note: For 1/2" connections possible in tubing only)												
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											
Tag no Marking on Dial	XTM											
Wetted Parts Complied To NACE	X20							X20				
Custom Dial Design / Private Labeling	X29											
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	S6											
MTC for Wetted Parts												

DEFAULT SELECTION											
MOC SELECTION	DEFAULT									ON REQUEST	
CASE AND RING	SS316	S6	SS304	S4							CODE
BOURDON	SS316L	SL	MONEL	M4	INCONEL	IC	HC-276	HC			SL
SOCKET	SS316L	SL	MONEL	M4	INCONEL	IC	HC-276	HC			SL
MOVEMENT	SS316	S6	SS304	S4							S6

SAMPLE ORDERING CODE:

M2.04-04-2-B-14BF-BR040-X20-S6-SL-SL-S6

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.