

# Bourdon Tube Pressure Gauges Stainless Steel Series Type 232.50 - Dry Case Type 233.50 - Liquid-filled Case

WIKA Datasheet 23X.50

## Applications

- With liquid-filled case for applications with high dynamic pressure pulsations (add restrictor) or vibration
- Suitable for corrosive environments and gaseous or liquid media that will not obstruct the pressure system
- Process industry: chemical/petrochemical, power stations, mining, on and offshore, environmental technology, mechanical engineering and plant construction

## Product Features

- Excellent load-cycle stability and shock resistance
- All stainless steel construction
- Positive pressure ranges to 20,000 psi (1600 bar)

## Specifications

### Design

ASME B40.100 & EN 837-1

### Sizes

2½", 4" & 6" (63, 100 and 160 mm)

### Accuracy class

2½": ± 2/1/2% of span (ASME B40.100 Grade A)

4" & 6": ± 1.0% of span (ASME B40.100 Grade 1A)

### Ranges

Vacuum / Compound to 200 psi (16 bar)

Pressure from 0/15 psi (1 bar) to 0/15,000 psi (1,000 bar) - 2½", 4"

Pressure from 0/10 (0.6 bar) to 0/20,000 psi (1,600 bar) - 6" or other equivalent units of pressure or vacuum

### Working pressure

2½":  
Steady: ¼ scale value  
Fluctuating: ⅔ full-scale value  
Short time: full-scale value

4" & 6":  
Steady: full-scale value  
Fluctuating: 0.9x full-scale value  
Short time: 1.3x full-scale value

### Operating temperature

Ambient: -40°F to +140°F (-40°C to +60°C) - dry

-4°F to +140°F (-20°C to +60°C) - glycerine-filled



Bourdon Tube Pressure Gauge Model 232.50, 6"

-40°F to +140°F (-40°C to +60°C) - silicone-filled

Medium: +392°F (+200°C) maximum - dry

+212°F (+100°C) maximum - liquid-filled

### Temperature error

Additional error when temperature changes from reference temperature of 68°F (20°C) ±0.4% of span for every 18°F (10°K) rising or falling.

### Weather protection

Weather tight (NEMA 4X / IP65)

### Pressure connection

Material: 316L stainless steel

Lower mount (LM) or lower back mount (LBM)

Center back mount (CBM) for 2½" size

¼" NPT or ½" NPT (other connections available)

### Bourdon tube

Material: 316 stainless steel

> 1,000 psi (100 bar): C-shape

≤ 1,500 psi (100 bar): helical

### Movement

Stainless steel

### Dial

White aluminum with black lettering; 2½" with stop pin

### Pointer

## Case

- 304 Stainless steel
  - 2½"- with pressure relief/fill plug on top of case
  - 4" and 6"- with blow out plug on back of case and fill plug on top of case
- For pressure ranges ≤ 300 psi, case has compensating valve/fill plug to vent case pressure

## Bezel ring

Stainless steel, bayonet-type

## Window

Polycarbonate (2½") and Safety Glass (4" & 6")  
with Buna-N gasket

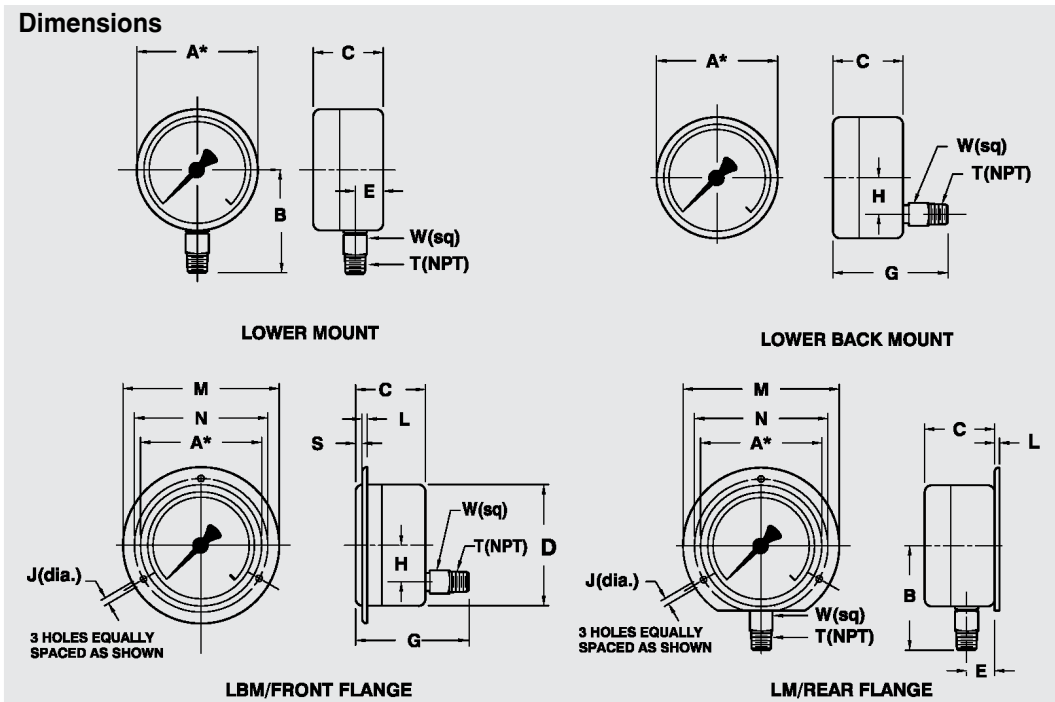
## Case fill

Glycerine 99.7% - Type 233.50

## Optional extras

- Other pressure connections
- Restrictors for applications with high dynamic pressure pulsations
- Monel wetted parts (Type 26X.50), not available in 6" LBM
- Front flange, SS (CBM and LBM only)
- Rear flange, SS
- 316 SS case material
- U-clamp mounting, SS (not available on 4½")
- Silicone or Halocarbon case filling
- Non-adjustable pointer
- Red drag pointer or mark pointer
- Safety glass window
- Custom dial layout
- Other pressure scales available: bar, kPa, MPa, kg/cm<sup>2</sup> and dual scales
- Integral alarm contacts or transmitters
- For size 4 ½" please see date sheet 23X.40 4.5

## Dimensions



Size		A	B	C	D <sup>4</sup>	E	G	H	J	L	M	N	S	T	W	Weight <sup>3</sup>	
2½"	mm	63	54	33	62	9.5	57	Note1	3.6	3	85	75	5		14	0.35 lb.	dry
	in	2.48	2.13	1.30	2.44	0.37	2.24		0.14	0.12	3.35	2.95	0.20	1/4"	0.55	0.44 lb.	filled
4"	mm	101	86	49.5	99	15.5	83	30	4.8	3	132	116	5		22	1.32 lb.	dry
	in	3.98	3.43	1.95	3.90	0.61	3.27	1.18	0.19	0.12	5.20	4.57	0.20	1/2"	0.87	1.98 lb.	filled
6"	mm	161	118	49.5 <sup>2</sup>	159	15.5	83	50	5.8	3	196	178	5		22	2.42 lb.	dry
	in	6.34	4.65	1.95 <sup>2</sup>	6.26	0.61	3.27	1.97	0.23	0.12	7.72	7.01	0.20	1/2"	0.87	4.40 lb.	filled

<sup>1</sup> Center back mount (CBM)

<sup>2</sup> Plus 0.63" (16 mm) for pressure ranges ≥ 1,500 psi

<sup>3</sup> Weight without optional accessories

<sup>4</sup> D (+) 1mm for panel cutout

## Ordering information

Pressure gauge model / Nominal size / Scale range / Size of connection / Optional extras required  
Specifications and dimensions given in this leaflet represent the state of engineering at the time of printing.  
Modifications may take place and materials specified may be replaced by others without prior notice.



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