

Subsea Gauge - All Stainless Steel Type 233.50 - Special Compensated

WIKA Datasheet 233.50 Subsea

Applications

- Suitable in compensated subsea environments: Tested to working depths of up to 10,000 feet of sea water
- Suitable for corrosive environments and gaseous or liquid media that will not obstruct the pressure system

Special Features

- Excellent load-cycle and shock resistance
- All 316 stainless steel construction
- Positive pressure ranges up to 20,000 psi (1,600 bar)
- Black dial face with white enlarged numerals for subsea visualization
- Matte black finish case and mounting hardware for low reflectivity



Bourdon Tube Pressure Gauge Model 233.50

Standard Features

Design

ASME B40.100

Sizes

2½" & 4" (63, 100 mm)

Accuracy class

2½": ±2/12% of span per ASME B40.100 Grade A

4": ± 1% of span per ASME B40.100 Grade 1A

Ranges

Vacuum / Compound to 200 psi (16 bar)

Pressure from 0/15 psi (1 bar) to 0/20,000 psi (1,600 bar) or other equivalent units of pressure or vacuum

Working pressure

2½": Steady: ¾ scale value

Fluctuating: 2/3 full scale value

Short time: Full scale value

4": Steady: Full scale value

Fluctuating: 0.9 x full scale value

Short time: 1.3 x full scale value

Operating temperature

Ambient: - 40°F to + 140°F (-20°C to + 60°C) dry

Media: Maximum +212°F (+ 100°C)

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

IP 68

Protected against continuous submersion in up to 10,000 feet (3048 m) of ocean depth

Pressure connection

Material: 316L stainless steel

Center back mount (CBM) for size 2½"

Lower back mount (LBM) for size 4"

1/8" NPT (size 2½") ¼"NPT (size 2½" & 4") and ½"NPT (size 4")

High-pressure autoclave, F250C, available (consult factory for other connections)

Bourdon tube

316L stainless steel
 ≤ 1,000 psi (70 bar): C-type Bourdon tube
 < 1,000 psi (70 bar): Helical type

Movement

Stainless steel

Dial

Black aluminum (matte finish) with white lettering;
 2½" with stop pin

Pointer

White aluminum, adjustable

Case

316 Stainless Steel with vinyl compensating membrane

Case Fill

Glycerin / water mixture 86.5 / 13.5%

FDA compliant

Degassed to remove any impurities (N₂, Oxygen, entrained gases) in order to minimize/eliminate compressibility of the fill fluid. 99% case fill, (air bubble no larger than ½" behind window when gauge is laid flat).

Crimp ring

316L stainless steel, matte black powder coated

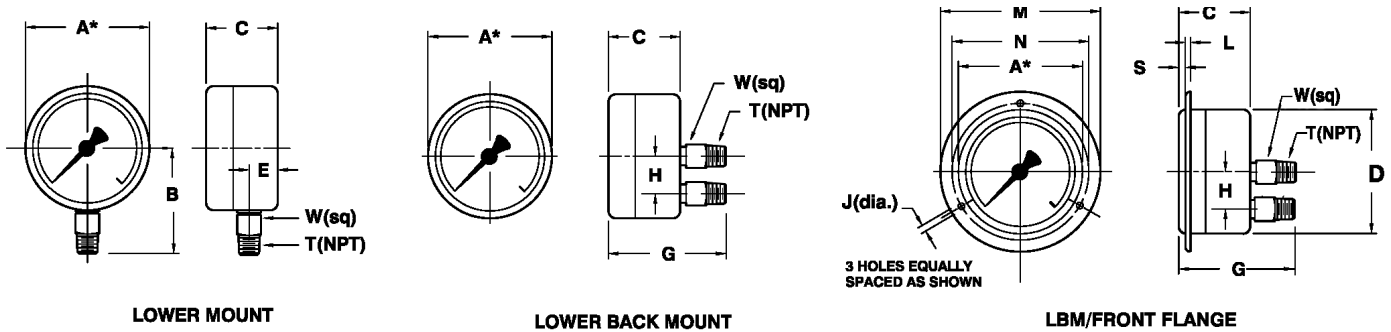
Window

Safety Glass with Buna-N gasket

Optional Features

- Other process connections (limited to wrench flat size)
- Polycarbonate window (2½")
- Monel wetted parts
- Front Flange 316 SS, matte black powder coated
- Custom dial layouts
- Restrictor (NPT connections only)
- Other pressure scales available (bar, kPa, mPa, kg/cm²) and dual scales

Dimensions



Size	A	B	C	D ¹	E	G	H	J	L	M	N	S	T	W	Weight ³
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

¹ Plus 0.63" (16 mm) for pressure ranges ≥ 1,500 psi

² Weight without optional accessories

³ 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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