

Diaphragm Pressure Gauges Process Industry Series Sealgaug[®] Type 452.50 - Dry Case / Type 453.50 - Liquid-filled Case

WIKA Datasheet 45X.50

Applications

- With liquid filled case optional for applications with high dynamic pressure pulsations or vibration
- Suitable in corrosive environments for gaseous, liquid or highly viscous media.
- Process industry: chemical/petrochemical, power stations, mining, on and offshore, environmental technology, mechanical engineering and plant construction
- Ideally for applications in the water/wastewater industry

Product features

- PTFE wetted parts
- All stainless steel construction
- High overpressure safety
- Ideal for crystallizing media

Specifications

Design

EN 837-3

Sizes

4" & 6" (100 & 160 mm)

Accuracy class

± 2.5% of span

Ranges

Vacuum / Compound to 300 psi (20bar)

Pressure from 6" H₂O (16 mbar) to 100" H₂O (250 mbar) -
(6"/160 mm flange diameter)

Pressure from 6 psi (400 mbar) to 360 psi (25 bar) -
(4"/100 mm flange diameter)

or other equivalent units of pressure or vacuum

Working pressure

Steady: full scale value

Fluctuating: 0.9 x full scale value

Overpressure safety

5 x full scale value, max. 600 psi (40 bar)



Diaphragm Pressure Gauge Model 452.50

Operating temperature

Ambient: -4°F to +140°F (-20°C to +60°C)

Medium: +212°F maximum (+100°C)

Storage: -40°F...+158°F (-40°C to +70°C)
for ranges > 25" WC (80 mbar)
-4°F...+158°F (-20°C to +70°C)
for ranges ≤ 25" WC (60 mbar)

Temperature error

Additional error when temperature changes from reference temperature of 68°F (20°C) ±0.8% of span for every 18°F (10°K) rising or falling.

Weather protection

Weather resistant (NEMA 3 / IP54) - dry case

Weather tight (NEMA 4X / IP66) - liquid-filled case

Case and upper diaphragm housing

Material: stainless steel

Case with pressure relief disc and stainless steel bayonet ring

Pressure connection and lower diaphragm housing

316L stainless steel with PTFE lining

1" 150# RF flange

2" 150# RF flange

Diaphragm element

≤ 100" H₂O (250 mbar): 316 stainless steel with PTFE lining

> 100" H₂O (250 mbar): Inconel[®] (NiCr-alloy) with PTFE lining

Movement

Material: stainless steel

Dial

White aluminum with black lettering

Pointer

Black aluminum, adjustable - Type 452.50

Black aluminum, non-adjustable - Type 453.50

Window

Laminated safety glass with Buna-N gasket

Case fill

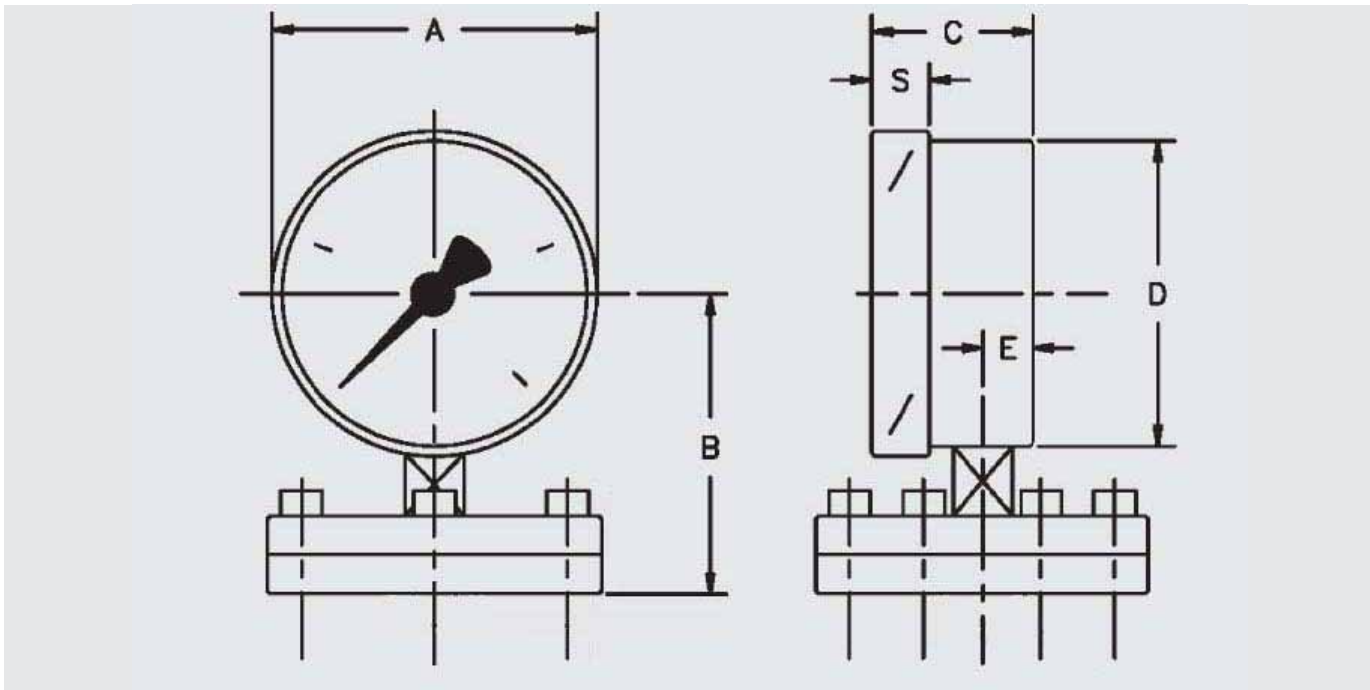
Standard dry

Glycerine 86.5% - Type 453.50

Optional extras

- 10X overpressure safety, max. 600 psi (40 bar)
- Silicone or fluorolube case filling
- Open flange connections (300# ASME maximum)
- Instrument glass or acrylic window
- Cleaned for oxygen service
- Extended media temperature to +392°F (+200°C)
- Alarm contacts switches (magnetic or inductive)
- Custom dial layout
- Special wetted materials

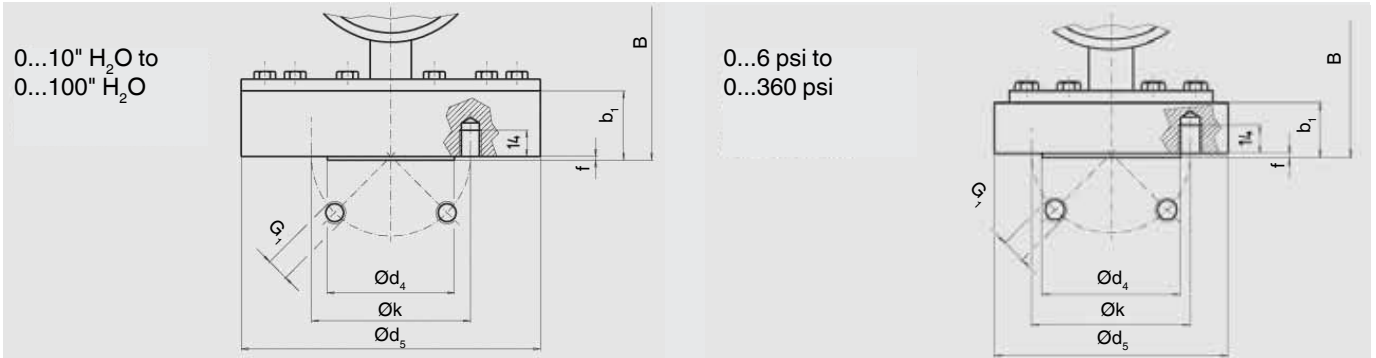
Gauge Dimensions



Size		A	C	D	E	S
4"	mm	100	49.5	99	15.5	17.5
	in	4	1.95	3.9	0.61	0.69
6"	mm	160	49.5	159	15.5	17.5
	in	6	1.95	6.26	0.61	0.69

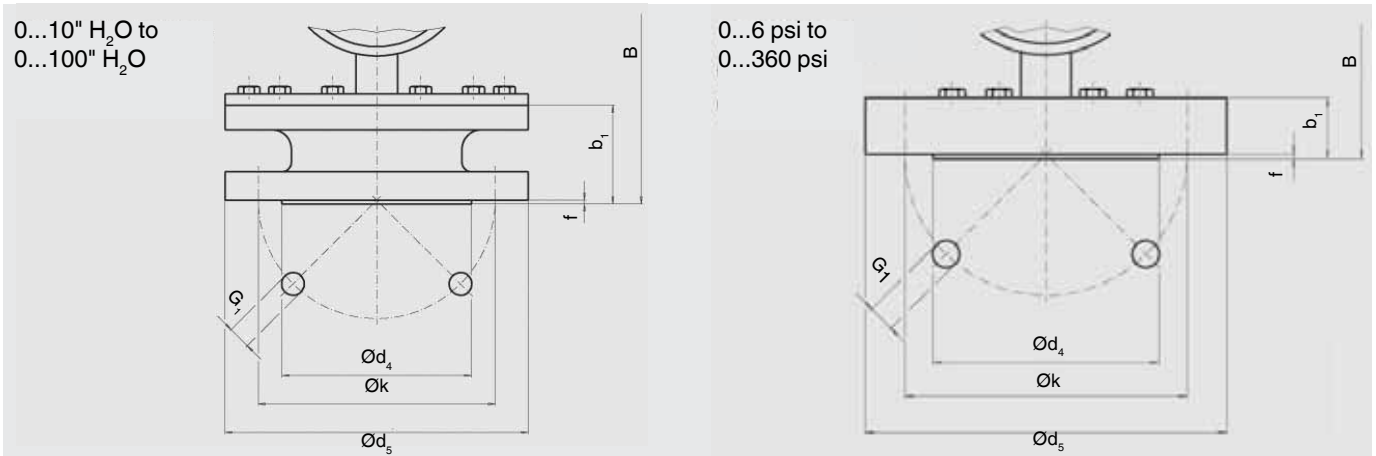
NOTE: For "B", see "Connecting Flange" dimensions on sheet 3 of 3.

Connecting Flange Dimensions ASME B 16.5, Size 1", Class 150



Connecting Flange	Pressure Gauge	Pressure Ranges		d_5	k	d_4	b_1	f	G_1	B	Total Weight
ASME Size 1" Class 150	4"	≤ 0.25 bar	mm	160	79.5	51	36	2	4 x 1/2-13 UNC	114	5.6 kg
		≤ 3.63 psi	in	6.30	3.13	2.01	1.42	0.08		4.49	12.32 lbs
	> 0.25 bar	mm	160	79.5	51	36	2	4 x 1/2-13 UNC	144	6 kg	
		> 3.63 psi	in	6.30	3.13	2.01	1.42	0.08		5.67	13.2 lbs
	6"	≤ 0.25 bar	mm	115	79.5	51	27	2	4 x 1/2-13 UNC	103	2.2 kg
		≤ 3.63 psi	in	4.53	3.13	2.01	1.06	0.08		4.06	4.84 lbs
		> 0.25 bar	mm	115	79.5	51	27	2	4 x 1/2-13 UNC	133	2.6 kg
		> 3.63 psi	in	4.53	3.13	2.01	1.06	0.08		5.24	5.72 lbs

Connecting Flange Dimensions ASME B 16.5, Size 2", Class 150



Connecting Flange	Pressure Gauge	Pressure Ranges		d_5	k	d_4	b_1	f	G_1	B	Total Weight
ASME Size 2" Class 150	4"	≤ 0.25 bar	mm	150	120.5	92	54	2	4 x O20	132	4.9 kg
		≤ 3.63 psi	in	5.91	4.74	3.62	2.13	0.08		4.49	10.78 lbs
	> 0.25 bar	mm	150	120.5	92	54	2	4 x O20	162	5.3 kg	
		> 3.63 psi	in	5.91	4.74	3.62	2.13	0.08		5.67	11.66 lbs
	6"	≤ 0.25 bar	mm	150	120.5	92	26.5	2	4 x O17	96	3.2 kg
		≤ 3.63 psi	in	5.91	4.74	3.62	1.04	0.08		3.98	7.04 lbs
		> 0.25 bar	mm	150	120.5	92	26.5	2	4 x O17	126	3.6 kg
		> 3.63 psi	in	5.91	4.74	3.62	1.04	0.08		5.16	7.92 lbs

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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