

Absolute Pressure Gauges Series 1500 8½" Dial

WIKA Datasheet 1500 8.5A

Applications

- Suitable for test, laboratory, and production applications.

Special Features

- Capsule-type pressure elements up to and including the 50 psia range; 100 psia and above use Bourdon tubes
- In the 100 psia and above with Bourdon tubes, pressure is applied to a Bourdon tube, which is referenced against an evacuated Bourdon
- Available in 14 standard ranges



Absolute Pressure Gauge Series 1500 - 8.5" Dial

Standard Features

Sizes

8½" dial

Scale length

To 500 psia

Accuracy

0.066% of full scale

Repeatability

0.03% of full scale

Sensitivity

0.01% of full scale

Hysteresis

Below 100 psia, 0.15% of full scale;
100 psia and above, 0.1% of full scale

Maximum temperature effect

Below 100 psia, 0.019% of full scale per 10°C/50°F change
from 23°C/73.4°F

100 psia and above, 0.1% of full scale per 10°C/50°F from
23°C/73.4°F

Case pressure

For gauges with ranges below 100 psia, maximum case pressure is 35 psig.

For gauges with ranges of 100 psia and above, volume of the pressure Bourdon system is 10 cc and the case is vented to atmosphere.

Case volume

3070 cc

Maximum case leak rate

Will not exceed 1.03×10^{-3} std cc/sec or 0.018 psi/hr in ranges below 100 psia; 100 psia and above, case is vented to atmosphere.

Case connections

Below 100 psia, ½" female NPT; 100 psia and above, ¼" female NPT. Both have a built-in stainless steel filter and are located in the bottom of the case.

Case construction

- Aluminum
- Instruments have tempered-glass windows
- All cases are flush mounted by three screws through the bezel

Standard Features, cont.

Materials exposed to measured gas

Below 100 psia: Ni-Span C® brass, phosphor bronze, beryllium-cooper, magnesium, aluminum, nylon, 303 stainless steel, Elgiloy, soft solder, silver solder, Hypalon, synthetic sapphire, paper, epoxy cement, TFE, nickel silver, nickel plating, drawing ink, lacquer.

100 psia and above: 302, 303, and 304 stainless steel, Ni-Span C®, Easy-flow #45 brazing alloy, silver solder, nylon.

Options

Calibration in most metric units available at no extra cost. Other calibration units and dual scale dials are available at extra cost. Gauges with a range of 100 psia or higher can be calibrated for liquid service.

Also available is a compact (12¾" H, 12" W, 81/16" D) suitcase-type carrying case with the gauge in a mounted panel. The cover is easily removed and pressure connections can be made without removing the gauge from the case.

Weight and shipping weight

Approximately 12 lbs.

Ordering information

When ordering, please specify ordering number, range, and mounting angle. (Extra cost if mounting angle is other than vertical).

Note: Gases must be non-corrosive, no liquid media.

Series 1500 8½" Absolute Pressure Gauge

Direct Readout, No Barometric Adjustments

Because applied pressure is referenced against an evacuated element, WIKA gauges read out true absolute pressure directly. No corrections or adjustments required.

Wide Spaced Graduations Give Excellent Readability

Because the pointer covers full scale in two revolutions, Series 1500 scales are approximately 45" long. This is 2½ times as long as single-revolution gauges with the same dial diameter (8½") and even 20% longer than gauges with twice the dial diameter. The expanded scale allows a minimum of 0.045" of white space between graduations.

* These valves are emergency-protective devices only. Systems must be designed to operate at pressure no higher than 25% above full scale range.

Calibration is Traceable to National Institute of Standards and Technology (NIST)

A computer-assisted plotter marks calibration points and the graduations between them on each dial. This produces a scale which precisely matches the characteristics of its own mechanism and pressure element. Instruments supplied are certified traceable to NIST.

Performs Better than the Rated Accuracy

Excellent readability, custom dial calibration, and individual assembly and adjustment of each mechanism add up to an accuracy of 0.066% full scale. This figure is the minimum performance, which can be expected. After rigorous testing, any WIKA gauge which fails to perform better than the rated accuracy is rejected.

Rugged Design

The case is heavy cast aluminum.

Ranges of 50 psia and below have extra strong tempered-glass windows and built-in case-pressure relief valves.*

Ranges of 100 psia and above have extra strong tempered glass windows and a blowout plug in the back of the case. Overpressuring these gauges up to 10% above full scale will not damage the mechanism nor affect accuracy.

Series 1500 8½" Absolute Pressure Gauge

Standard Ranges and Ordering Numbers

Range and Calibration	Ordering Number	Graduation
0-15.5 psia	61A-1A-0015	0.02 psia
0-25 psia	61A-1A-0025	0.05 psia
0-35 psia	61A-1A-0035	0.05 psia
0-50 psia	61A-1A-0050	0.05 psia
0-100 psia	61A-1A-0100	0.1 psia
0-150 psia	61A-1A-0150	0.2 psia
0-200 psia	61A-1A-0200	0.2 psia
0-300 psia	61A-1A-0300	0.5 psia
0-500 psia	61A-1A-0500	0.5 psia

Range and Calibration	Ordering Number	Graduation
0-800 mm Hg	61A-1D-0800	1.0mm
0-31.5" Hg	61A-1B-0031	0.05"
0-50" Hg	61A-1B-0050	0.05"
0-70" Hg	61A-1B-0070	0.1"
0-100" Hg	61A-1B-0100	0.1"



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