

# Differential Pressure Gauge Series 1500 8½" Dial

WIKA Datasheet 1500 8.5D

## Applications

- Suitable for test, laboratory, and production applications

## Special features

- Capsule-type pressure elements
- High differential pressure is applied to the capsule; low pressure to the case
- Available in 22 standard ranges

## Standard Features

### Size

8½" dial

### Scale length

Approx. 45° through 2 pointer revolutions

### Range

-30" Hg -150 psi

### Accuracy

0.066% of full scale

### Sensitivity

0.01% of full scale

### Hysteresis

0.1% of full scale for all ranges except 150 psi or equivalent, which is 0.2% of full scale

### Maximum temperature effect

0.1% of full scale per 10°C/18°F change from reference temperature 23°C/73.4°F

### Pressure element volume

6.9 cc with pointer at zero; 8.6 cc at full scale,  
For the range 0-125" water only: 6.3 cc with pointer at zero;  
8.0 cc at full scale

### Case volume

3070 cc

### Maximum case pressure

35 psig

### Maximum case leak rate

Will not exceed 1.03 x 10<sup>-3</sup> std cc/sec or 0.018 psi/hr

### Case construction

Cast aluminum with tempered-glass window; flush mounted by three screws through the bezel



Differential Pressure Gauge Series 1500 - 8.5" Dial

### Case connections

⅛" female NPT pressure and static connections. Stainless steel filters are mounted in the orifice of both connections and are located in the bottom of the case.

### Materials exposed to measured gas

Capsule system: Ni-Span C®, soft solder, brass, 303 stainless steel, and silver solder. 303 SS tubing, adapter, and silver solder at pressure connection are optional instead of brass and soft solder.

Case: Ni-Span C®, brass, beryllium copper, magnesium, aluminum, ABS, nylon, Elgiloy, soft solder, Buna N, Hypalon, 303 SS, silver solder, synthetic sapphire, white paint, epoxy cement, nickel silver, nickel plating, drawing ink, lacquer.

### Options

Calibration in most metric units available at no extra cost. Other calibration units with dual scale graduations are available at extra cost.

Also available is a compact (12¾" H, 12" W, 8⅛" 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

App. 12 lbs.

### Ordering information

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

**Note:** This gauge should not be used for corrosive gases or for liquids of any kind.

## Series 1500 8½" Differential Pressure Gauge

### Wide Spaced Graduations Give Excellent Readability

Because the pointer covers full scale in two revolutions, Series 1500 scales are approximately 45" long. This is more than twice as long as single-revolution gauges with the same dial diameter (8½") and longer than gauges with twice the dial diameter. The expanded scale allows a minimum of 0.045" of white space between graduations. This and a knife-edge pointer allow readings to 0.02% of full scale.

### 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 are supplied traceable to NIST.

### Performs Better than the Rated Accuracy

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

### Rugged Design

The case is heavy cast aluminum with a tempered-glass window. A heavy aluminum dial plate, with only a 1/16" opening for the pointer, isolates the capsule. Overpressuring the instrument up to 10% above its full-scale range will not damage the mechanism nor affect accuracy. A built-in relief valve has a dumping capacity, which protects the case from applied pressures over the maximum case pressure rating.

### Series 1500 8½" Differential Pressure Gauge

#### Standard Ranges and Ordering Numbers

Range and Calibration	Ordering Number	Graduation
0-4.5 psi	62A-4A-0005	0.005 psi
0-10 psi	62A-4A-0010	0.01 psi
0-15.5 psi	62A-4A-0015	0.02 psi
0-20 psi	62A-4A-0020	0.02 psi
0-30 psi	62A-4A-0030	0.05 psi
0-45 psi	62A-4A-0045	0.05 psi
0-60 psi	62A-4A-0060	0.1 psi
0-100 psi	62A-4A-0100	0.1 psi
0-150 psi	62A-4A-0150	0.2 psi

#### Vacuum and Compound Ranges

Range	Ordering Number	Graduation
-30" Hg to 0	62A-7B-0030*	0.05"
-15" to 0 to 15" Hg	62A-6B-0030*	0.05"
-30" to 0 to 30" Hg	62A-6B-0060*	0.1"
-30" to 0 to 90" Hg	62A-6B-0120*	0.2"
-30" to 0 to 270" Hg	62A-6B-0300*	0.5"

\* Can be calibrated as shown, or in any other standard pressure unit at no extra cost. Specify if other than in Hg.

## Connection for Different Pressure Readouts

### Gauge Pressure:

pressure is applied to capsule (P), case (S) is open to atmosphere.

### Differential Pressure:

high pressure to capsule (P); low pressure to case (S).

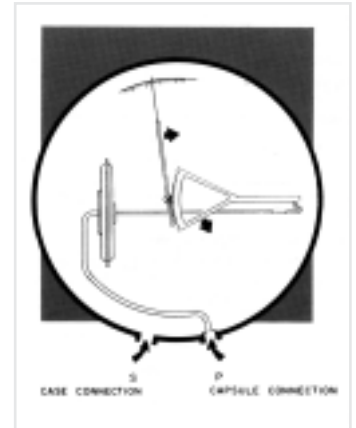
### Absolute Pressure:

pressure to capsule (P), case (S) held at full vacuum with a pump.

**Vacuum:** (clockwise pointer): capsule (P) open to atmosphere, vacuum to case (S).

**Vacuum and Compound Gauges Vacuum** (counter-clockwise pointer movement): case (S) open to atmosphere, vacuum to capsule (P)

**Compound:** The pointer can move two ways from center zero. One way is towards the capsule connection, the other way is towards the case. When the pressure to the capsule is higher than the pressure to the case, the pointer will give a positive reading; whereas when the pressure to the capsule is lower than the pressure to the case, the pointer will give a negative reading.



Range and Calibration	Ordering Number	Graduation
0-125" water	62A-4C-0125	0.2"
0-280" water	62A-4C-0280	0.5"
0-800 mm Hg	62A-4D-0800	1.0 mm
0-31.5" Hg	62A-4B-0031	0.05"
0-60" Hg	62A-4B-0060	0.1"
1-120" Hg	62A-4B-0120	0.2"
0-200" Hg	62A-4B-0200	0.2"
0-300" Hg	62A-4B-0300	0.5"

