



High Precision Absolute Pressure Gauges

Series 1000 6" Dial



Series 1000 Gauge pressure elements are capsules up to and including the 50-psia range; 100 psia and above use Bourdon tubes. In the former, pressure is applied to the case and is referenced against the evacuated capsule. In the latter, pressure is applied to a Bourdon tube, which is referenced against an evacuated Bourdon. Available in 14 standard ranges, Series 1000 Gauges combine aneroid convenience with the accuracy of precision liquid columns. They are compact for efficient panels and consoles, yet readability is excellent.

STANDARD FEATURES

Size: 6" dial
Scale length: 30" through two pointer revolutions
Ranges: To 500 psia
Accuracy: 0.1% 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 change from 23°C/73.4°F.

Case pressure and volume: For gauges with ranges of 50 psia or below, maximum case pressure is 35 psig, case volume is 1775 cc with overpressure relief valve built into the back of the case. For gauges with ranges of 100 psia and above, volume of pressure Bourdon system is 10 cc and case is vented to atmosphere.

Liquid service: Gauges with ranges of 100 psia and above (Bourdon tube pressure elements) can be used for non-corrosive liquid service.

Case connections: Below 100 psia, 1/8-inch female NPT; 100 psia and above, 1/4- inch female NPT. Both have a built-in stainless steel filter and are located in the bottom of the case.

STANDARD RANGES AND ORDERING NUMBERS

Series 1000 6" Absolute Pressure Gauge

Range and Calibration	Ordering Number	Graduation
0-15.5 psia	61B-1A-0015	0.02 psia
0-25 psia	61B-1A-0025	0.05 psia
0-35 psia	61B-1A-0035	0.05 psia
0-50 psia	61B-1A-0050	0.1 psia
0-100 psia	61B-1A-0100	0.2 psia
0-150 psia	61B-1A-0150	0.2 psia
0-200 psia	61B-1A-0200	0.5 psia
0-300 psia	61B-1A-0300	0.5 psia
0-500 psia	61B-1A-0500	1.0 psia

0-800 mm Hg	61B-1D-0800	1.0mm
0-31.5" Hg	61B-1D-0031	0.05
0-50" Hg	61B-1B-0050	0.1"
0-70" Hg	61B-1B-0070	0.1"
0-100" Hg	61B-1B-0100	0.2"

STANDARD FEATURES (cont.)

Case

construction: Anodized aluminum with tempered-glass dial cover in ranges up to and including 50 psia. In ranges above 50 psia, the dial cover is high-strength, scratch-resistant plastic. The bezel has no screw holes. The case has special clips which make flush mounting easy.

Materials exposed to measured

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

100 psia and above: 302, 202, 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 are available at extra cost. (This Series 1000 Absolute Gauge is not available with two sets of graduations on the same dial.) Also available is a compact (12¾" H, 12" W, 8 1/16" D) suitcase- type carrying case with the gauge in a shock-mounted panel. The cover is easily removed and pressure connections can be made without removing the gauge from the case.

Weight and shipping

weight: 5 ½ lb. and 7 lb.

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

Series 1000 6" *High Precision Absolute Pressure Gauge*

Direct Readout, No Barometric Adjustments

Because applied pressure is referenced against an evacuated element, W&T Gauges read out true absolute pressure directly. No corrections or adjustments required.

High Accuracy and Compact Size

Accuracy is 0.1% of full scale; dial diameter is only 6". This combination of high accuracy and compact size makes for smaller and more efficient test stands.

Excellent Readability

The pointer covers full scale in two revolutions, permitting a scale 30" long. This is more than twice as long as same-size single-revolution gauges. It permits up to 1000 scale graduations with a minimum of 1/32" of white space between them. This and a knife-edge pointer allow readings to better than 0.03% of full scale.

Calibration Sheet

A computer-generated calibration sheet is supplied with each gauge. This information establishes that the gauge is capable of performing as well as or better than the advertised accuracy.

Performs Better than the Rated Accuracy

Excellent readability, 0.03% repeatability, custom dial calibration, and individual matching and adjustment of each mechanism to its dial add up to an accuracy of 0.1% and a sensitivity of 0.01% of full scale. These figures are the minimum, which can be expected. After rigorous testing, any W&T Gauge which fails to better the rated accuracy is rejected.

Accurate Readout at a Glance

Compact size makes readout convenient as well as accurate. The operator takes readings from one position, which is not possible with large diameter gauges. This cuts fatigue and errors. A revolution indicator is included and a mirror ring eliminates parallax errors. The graduations are easily seen; bold numbers are horizontally placed.

Calibration is Traceable to National Institute of Standards and Technology

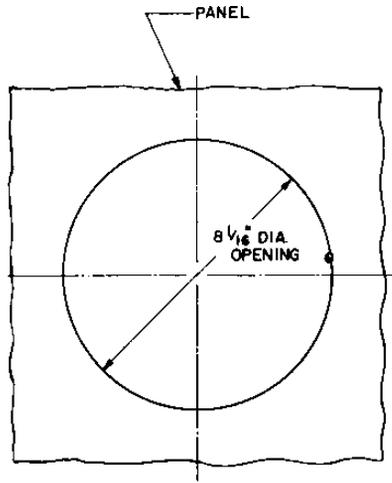
A computer-assisted plotter marks calibration points and the graduations between them on each dial. This produces a scale, which precisely matches the characteristics of its own mechanism and pressure element. Calibration may be with any of several precision mercury manometers or primary-standard pneumatic piston gauges. These are certified traceable to NIST. Wallace & Tiernan's calibration system conforms to MIL-STD-45662

Rugged Design

The case is heavy cast aluminum. Ranges of 50 psia and below have extra strong tempered-glass dial covers and built-in case-pressure relief valves*. Ranges of 100 psia and above have high strength plastic covers and a blowout plug in the back of the case. Overpressuring these gauges up to 25% above full scale will not damage the mechanism nor affect accuracy.

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

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PANEL OPENING

