



# High Precision Absolute Pressure Gauges

## Series 300 6" Dial



For most routine test and production uses, this capsule-type gauge offers an acceptable balance among size, readability, accuracy, and price. Available in nine standard ranges, the Series 300 is convenient to use. Absolute pressure is applied to the case and readout is direct without barometric correction. Readings are referenced to zero absolute.

### STANDARD FEATURES

- Size:** 6" dial
- Scale length:** 16"
- Range:** To 30 psia
- Accuracy:** 0.33% of full scale
- Sensitivity:** 0.2% of full scale
- Case pressure and volume:** 15-psig maximum, 395-cc volume with an optional, overpressure relief valve available to protect the case.
- Maximum case leak rate:** Will not exceed  $1.44 \times 10^{-5}$  std cc/sec or 0.0019 psi/hr.
- Case connection:** 1/8-inch female NPT with built-in stainless steel filter. Connection located on back of case.
- Case construction:** Forged aluminum with tempered-glass dial covers. Flush mounted by three screws through the bezel.
- Material exposed to measured gas:** Aluminum, beryllium copper, brass, stainless steel, nylon, E.P.R. Monel, lead, nickel-plated phosphor bronze, soft or silver solder, synthetic sapphire, paper, epoxy cement, TFE, nickel silver, nickel plating, drawing ink, Duco lacquer.

### STANDARD RANGES AND ORDERING NUMBERS

#### Series 300- 6" Absolute Pressure Gauge

Range and Calibration	Ordering Number	Graduation
0.1-20 mm Hg	61C-1D-0020	0.1 mm
0-50 mm Hg	61C-1D-0050	0.2 mm
0-100 mm Hg	61C-1D-0100	0.5 mm
0-200 mm Hg	61C-1D-0200	1.0 mm
0-410 mm Hg	61C-1D-0410	2.0 mm
0-800 mm Hg	61C-1D-0800	5.0 mm
390-800 mm Hg	61C-1D-0390	2.0 mm
0-15 psia	61C-1A-0015	0.1 psia
0-30 psia	61C-1A-0030	0.2 psia

---

## STANDARD FEATURES (cont.)

**Options:** Calibration in most metric units available at no extra cost. Other calibration units and two sets of graduations on the same dial are available at extra cost. Also available are excess-pressure-relief valves for 2 and 15 psig.

**Weight and shipping weight:**

4lb. and 6lb.

**Order**

**Information:** When ordering, please specify ordering number, range, and mounting angle (Extra cost if mounting angle is other than vertical). Options as listed above.

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

---

## **Series 300 6" High Precision Absolute Pressure Gauge**

### **Direct Readout, No Barometric Adjustments**

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

### **Convenience in the Low Pressure Ranges**

Available in the low-pressure ranges (lowest is 0.1-20mm Hg.). The Series 300 is a reliable, mechanical indicator, which reads absolute pressure directly. It is less expensive, more convenient, and easier to use than most electronic transducers and lab-type liquid columns.

### **Excellent Readability**

With a 16-inch scale, the Series 300 offers excellent readability. (In the lowest range, 0.1 to 20mm Hg, the minimum graduation represents 0.1mm.) Graduations have ample white space between them. This and a knife-edge pointer read out to better than 0.1 % of full scale. Numbers on the dial are horizontally placed and a mirror ring eliminates parallax errors.

### **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 pressure capsule and mechanism. Calibration is against precision mercury manometers or sonar manometers, which are certified traceable to NIST. Wallace & Tiernan's calibration systems conform to MIL-STD-45662.

### **Performs Better than the Rated Accuracy of 0.33% of Full Scale**

A readable scale, dials individually matched to precision mechanisms, and excellent repeatability add up to an accuracy of 0.33% and a sensitivity of 0.2% of full scale. These figures are the minimum performance, which can be expected. After rigorous testing, any series 300 Gauge that fails to perform better than the rated accuracy is rejected.

### **Sensitive, Yet Rugged**

A small, sensitive capsule responds to minute pressure changes. Low-inertia parts throughout and a linkage containing flexures and jewel bearings mean high sensitivity. Yet the mechanism is rugged, will not be damaged by on-the-job handling. The Series 300 has a heavy, cast aluminum case with a tempered-glass dial cover. Ranges below 1 atmosphere will withstand 4 psig; ranges of 1 atmosphere and above are limited by the case pressure rating of 15 psig. Operation within these limits will not damage the mechanism nor affect accuracy. Optional excess pressure relief valve in the line is designed to prevent exceeding maximum case pressure. The sub-atmospheric ranges have a check valve, which protects the mechanism from sudden release to atmosphere.

Series 300 6" Absolute Pressure Gauge

