



# Dual Range Pirani; Rough & High Vacuum 1 mT to 20 T



Photo shows the Model 2000-20 with the standard enclosure for panel mounting on the left, and with the optional cabinet and handle on the right.

- 1 to 2000 mTorr Range — Extended to 20 Torr
- Available in .001 to 2.000 mbar—to 20.00 mbar
- Digital Green LED Display For 1 to 2000 mTorr
- Bargraph LED Indicator For 3, 5, 10, 15, 20 Torr
- Fast Response Time, 0.3 Sec. Time Constant
- Perfect For Refrigeration and Leak Detection
- Withstands Vibration, Mount On Pump Stands
- Fits Hastings, Varian, TeleVac Panel Cut-Outs

This low cost vacuum gauge indicates vacuum from 1 to 2000 mTorr with a 3 1/2 digit display, then extends its range to 20 Torr with pressure levels of 3, 5, 10, 15, and 20 Torr indicated by an easy to read, brightly lit LED bar graph. These solid state displays can withstand shock and vibration much better than analog meters, so the gauge can be mounted directly on pump stands. It is well suited to both portable and mobile applications. A breakthrough in thermal sensor design permits this gauge to outperform conventional instruments by a wide margin. The sensor is constructed with a solid, inert metal that maintains its calibration over long periods. It withstands fluorine, mercury vapor, oxidizers, and other corrosives extremely well. The gauge tubes withstand working pressures to 300 PSI, tested to 1200 PSI, and the tube's outer shell is so rugged you can stand on it.

This instrument is perfect for applications such as refrigeration where a typical pump down cycle will show water boiling off starting at 20 Torr, yet also requires high resolution in the milli-Torr range for finish pressures. Now, this single instrument can cover the entire range while providing sensitivities of only 1 mTorr in the 1 to 2000 mTorr range! The high sensitivity of this gauge also makes it extremely useful for detecting leaks.

This instrument features simple, single hole panel installation. Panel mounting hardware is included with every instrument. Bezels for mounting in 1/4 DIN panel cutouts and cabinets for bench or portable applications are available.

### Gauges calibrated in mbar:

In mbar the digital display reads from 1 to 2000 X 10<sup>-3</sup> mbar. The bargraph segments indicate 3, 5, 10, 20 and 30 mbar. Add "mbar" suffix to the part number.

### Specifications

**Pressure Range:** 0 to 20 Torr; Green LED Digital display: 0 to 2000 mT; Bar Graph Segments: 3 - 5 - 10 - 15 - 20 Torr.  
**Calibration:** Air or Nitrogen.  
**Accuracy:** Better than 5% of pressure or ±5 Microns, whichever is larger.  
**Sensitivity:** 1 mTorr on 1 to 2000 mTorr range.  
**Response Time:** 0.3 second time constant.  
**Gauge Tube:** (purchase separately) Standard gauge tubes have 1/8 NPT male thread or fit into quick connects sized for 1/8 inch pipe (0.405" dia.), NW, VCR and Conflat® flanges are also available.  
**Line Power:** 115 VAC, 50/60 Hz; 230 VAC optional at no additional cost.  
**Line Regulation:** ± 20% change in voltage from 95 to 130V or 200 to 250V produces less than 1% change in reading.  
**Power Consumption:** Approximately 4 Watts.

**Line Cord:** 3 wire, 65 inch (170 cm) attached.  
**Temperature Effects:** Changes in ambient temperature between 32 °F (0 °C) and 120 °F (50 °C) change the reading less than 0.1 mT per °F at 50 mT; less than 2 mT per °F at 900 mT.  
**Bakeout Temperature:** Gauge tube can be baked to 212 °F (100 °C) in air or vacuum.  
**Dimensions:** See page 44.  
**Mounting:** Panel mounting hardware is standard. Bench mount and portable cabinets are also available, see page 43.  
**Gauge Tube Cables:** 10 ft. (3m) attached.  
**Extension Cables:** Change gauge tube cable length without recalibration. Extensions to 500 ft. (150m) can be used. See page 42.  
**Weight:** Net: 1 lb., 2 oz. (0.5 kg); Shipping: 2 lbs., 8 oz. (1.1 kg)

### Ordering Information Specify 115 or 230 V, 50/60 Hz Power When Ordering

**Digital Indicator without Set Points; 1 to 2000 mTorr and 3 to 20 Torr in standard enclosure** P/N: 902025 . . . . . \$370.  
**Digital Indicator without Set Points; 1 to 2000 x 10<sup>-3</sup> mbar and bargraph segments 3, 5, 10, 20, 30 mbar,** P/N: 902025-mbar . . . . . \$370.  
**Calibrator for Dual Range Instruments**  
 See page 37 for a complete description of the calibrator. P/N: 912010 . . . . . \$231.  
**Gauge tube baffles and traps** . . . . . see pages 40 and 41.  
**Quick connect couplings, waterproof vacuum sensors, gauge tube selector switch, explosion-proof gauges, and extension cable** . . . . . see pages 42 and 43.

**Standard Gauge Tube For 1 mT to 20 Torr Instruments**  
 Gauge tube body is 304 SS, connector pins are nickel plated Kovar.  
**With 1/8 in. NPT Male Thread,** P/N: 912057 . . . . . \$84.  
**With NW-16 Flange,** P/N: 912066 • **NW-25 Flange,** P/N: 912205 \$122.  
**With 1.33 in. Conflat® Flange,** non-rotatable, P/N: 912076 . . . . . \$122.  
**With VCR-4 Fitting,** P/N: 912077 . . . . . \$155.  
**With 15 mm Diameter Tube,** P/N: 912127 . . . . . \$111.  
**All Stainless Steel Gauge Tubes For Outdoor Applications or Wherever the Use of 304 SS is Appropriate.** All wetted parts as well as all external parts and connector pins are 304 SS. 1/8 inch NPT, NW-16, Conflat®, VCR-4 and special flanges can be provided. Add "SS" suffix to any tube P/N and to standard tube price: . . add \$42.