These battery powered Pirani and diaphragm gauges were designed for reliable vacuum measurement on applications such as over-the-road cryogenic trailers. The easy to read digital display eliminates the fragile meter movements used in old style instruments. Our gauge tube stem and cup are all stainless steel and are strong enough to stand on and resist the corrosive effects of rain and road salt.

Lower operating temperatures in our Pirani gauge tubes are half that of thermopile gauges. This enhances stability as does a unique temperature compensation network. Gauge tubes are matched so they can be replaced without recalibration and they can withstand working pressures to 300 psi, tested to 1200 psi. Gauge tubes are available with 1/8 NPT male thread (fit into quick connects sized for 1/8 inch pipe (0.405" dia.). NW flanges, VCR-4 fittings, 15 mm diameter tube, and Mini Conflat® flanges are also available.

**Gauge Pressure vs. Absolute Pressure**

Most of the instruments in this catalog are built to measure pressure in “Absolute” units such as Torr, Microns, and mbar. But “Gauge” pressure units such as inches Hg are also available. “Gauge” pressure means that atmospheric pressure is used as the reference for zero and 29.92 in. Hg (or some other unit of measure) designates high vacuum. “Gauge” pressure measurement can be useful in certain applications such as determining if a vacuum chamber is actually at atmospheric pressure so that the door can be opened safely. But, because the zero of “Gauge” measurements changes with atmospheric pressure the entire scale also changes. For example, if you are reading 28.00 inches Hg and the next day your instrument reads 28.39 inches Hg it may be that your pump is working better or it may be that a storm moved into your area and atmospheric pressure dropped. Changes in altitude also affect the readings of “Gauge” pressure instruments. There is a difference of 5 inches Hg (127 Torr) between sea level and Denver, Colorado.

For most vacuum measurements we recommend “Absolute” measurement systems, but if “Gauge” pressure is preferred add the suffix “Gauge” and the unit of measure to the part number. For most units of measure there is no additional charge.
### Battery Specifications
- **Battery Life:** Approximately 150 readings of 1 minute each can be made without recharging. Gauge automatically turns off after 1 minute.
- **Battery Charger:** Built-in and completely regulated against over-charge. 115VAC is standard. 230 VAC, 50 Hz optional for an additional cost.
- **Battery Recharge Time:** Approximately 10 hours.
- **Recharge Power:** Less than 5 Watts.  

#### Line Voltage for Recharge Power Supply
- 115 VAC, 50/60 Hz is standard; 230 VAC, 50 Hz optional for an additional cost.
- **Dimensions:** 4.25 in. W x 6.5 in. H x 2.5 in. D (108 mm W x 165 mm H x 63 mm D)

### Gauge Tube Information
- **Gauge Tube:** 5 ft. foil cord (1.5M) attached.
- **Net Weight Including Case:** 1 lb. 2 oz. (0.5 kg)
- **Shipping Weight Including Case:** 2 lbs. 8 oz. (1.1 kg)

### Diaphragm Gauge Specifications

**Diaphragm Gauge, 1 to 1500 Torr**
- **Pressure Range:** 1 to 1500 Torr; ± 1 Torr (± 0.1 Torr resolution available at extra cost).
- **Alternate Range:** 30° Hg to 200 PSI Gauge.
- **Calibration:** Any gas, liquid or vacuum compatible with sensor materials.
- **Accuracy:** 1% of reading or 2 Torr.
- **Response Time:** Less than 400 msec. for response to a step change.
- **Linearity:** ± 0.15% Full Scale. Sensitivity: ± 1 Torr.

**Transducer**
- See “ordering Information” below.

**Materials:** Parts in contact with process are 316, 304 SS, silicone & silicon.

**Sensor Internal Volume:** 1.25 ml for SS; 0.5 ml for Silicon.

**Temperature Effects:** When changes occur in ambient temperature between 0°C and 50°C, reading will change no more than ±0.02% per °C.

**Bakeout Temperature:** Gauge tube can be baked to 100°C (212°F) in air or vacuum.

### Pirani Gauge Specifications

**Pirani Gauge, 1 to 2000 mTorr**
- **Pressure Range:** 1 to 2000 mTorr.
- **Calibration:** Air or Nitrogen.
- **Accuracy:** Better than 5% of value or ± 0.03 Torr, whichever is larger.
- **Response Time:** 0.3 second time constant.

**Gauge Tube:** Standard gauge tubes have a 1/8 NPT male thread or fit into quick connects sized for 1/8 inch pipe (0.405" dia.), NW, VCR and Mini Conflat® available.

**Tubes Internal Volume:** 0.79 cc (1/8 NPT).

**MATERIALS:** Parts in contact with the process are 304 SS platinum alloy or Ni plated Kvar.

**Temperature Effects:** Changes in ambient temperature between 0°C and 50°C change the reading less than 0.1 Torr per °C.

**Bakeout Temperature:** Gauge tube can be baked to 100°C (212°F) in air or vacuum. Tubes for 250°C (482°F) bakeout available.

### Ordering Information

**Specify 115 or 230 V, 50/60 Hz Power for Battery Charger When Ordering**

<table>
<thead>
<tr>
<th>Gauge Tube</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conflat® Flange</td>
<td>$61</td>
</tr>
<tr>
<td>NW-16 Flange</td>
<td>$145</td>
</tr>
<tr>
<td>1/8 in. NPT Male Thread</td>
<td>$100</td>
</tr>
<tr>
<td>NW-25 Flange</td>
<td>$145</td>
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<tr>
<td>NW-35 Flange</td>
<td>$145</td>
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<tr>
<td>NW-45 Flange</td>
<td>$145</td>
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</tbody>
</table>

**Gauge Tube Price:** $50

### Calibrator Specifications

**Calibrator**
- For 1500 T instruments, See page 33.

**Dust Baffles**
- See page 36.

**Spare battery charger**
- 100 to 240 V, 50-60 Hz input, 15 VDC @ 2.0 A output. Wallmount style with adapter plugs for US, UK, Europe, Australia. P/N: V104124

**Shipping Weight Including Case:** 2 lbs. 8 oz. (1.1 kg)