



# Thermocouple Gauges; 1 to 1000 mTorr, DV-6 Tube



Panel Mount Indicator on left  
1/4 DIN Dual Set Point Controller on right



Photo shows Bench Mount Cabinet with optional carry handle and 3 position gauge tube selector switch.

- Reliable T/C Gauge 1 to 1000 mTorr (Microns)
- Indicator Only or Indicator with 2 Set Points
- Stainless Tubes & Special Flanges Available
- Stem and Flanges 300 Series Stainless Steel
- Operates With Power From 90 to 240 V, 50/60 Hz
- 0 to 5 Volt Output For Computer I/O or Control
- Fits Same Cutout As Hastings, Televac & Varian
- Use With VRL-6 or Hastings DV-6 Gauge Tubes

Vacuum Research's thermocouple vacuum gauge is a simple and low cost instrument for vacuum measurement in the popular 1 to 1000 mTorr range (microns). It operates with any line voltage from 90 to 240V at 50 or 60 Hz, and can be used with our VRL-6 or Hastings DV-6 gauge tubes. A 0 to 5 VDC analog output is standard on both the indicator and dual set point controller models.

## Thermocouple Gauge Tubes

The VRL-6M and 6R are direct plug-in replacements for the Teledyne-Hastings DV-6M and DV-6R gauge tubes. No adjustment to your instrument is required; just plug them in. These T/C gauge tubes are tested to 1200 PSIG for operation up to 300 PSIG without damage. There is no fragile plastic header, and no easy-to-break plastic key. The result of 30 years of vacuum gauge experience, all tubes have stainless steel bodies with heavy plated metal key and connector pins. For outdoor applications select our 'R' version which has stainless steel connector pins as well as our standard all stainless steel body.

## Specifications

**Pressure Range:** 1 to 1000 milliTorr (1 to 1000 Microns). Air/N<sub>2</sub>

**Accuracy:** Better than ± 1 mTorr from 1 to 20 mTorr. Better than 5% from 20 to 1000 mTorr.

**Response Time:** 1 mTorr up to atmosphere: less than 1 sec.

**Analog Output:** 0 to 5 VDC into 10 K ohms minimum.

**Gauge Tube:** Gauge tubes available with 1/8 inch NPT, KF-16, VCR-4, 1.33 O.D. Conflat® flanges and all stainless steel bodies. This instrument also operates with Hastings DV-6 thermocouple gauge tubes.

**Bakeout Temperature:** 100 °C (212 °F) in air or vacuum.

**Power:** Any voltage from 90 to 240 V, 50 / 60 Hz under 2 watts.

**Line Regulation:** Reading changes less than ±0.3% for line voltage change from 90 to 240 Volts.

**Relays on Controller Model:** Separate relays for each set point. Form C, SPDT, contacts rated 3 amps non-inductive at voltages up to 250 VAC.

## Mounting

**Indicator Dimensions:** See rear of this catalog.

**Controller:** 1/4 DIN panel mount is std. Jack screws included.

**Cables:** 10 ft. (3 m) cable with connector and 6 ft. line cord provided. Extension cables up to 200 ft. (60 m) available.

**Net Weight:** Indicator: 0.5 lbs. (0.2 kg); Controller: 1.4 lbs. (0.6 kg).

**Ship Weight:** Indicator: 2 lbs. (0.9 kg); Controller: 3 lb. (1.4 kg).

## Ordering Information

### Dual Set Point Controller

Thermocouple gauge, 1 to 1000 mTorr range with 0 to 5 VDC analog output plus 2 adjustable set points each with its own SPDT relay contacts rated 3 Amps up to 220 VAC non-inductive. Operates from any line power between 90 and 240 volts, 50 or 60 Hz. 1/4 DIN enclosure with panel mounting jack screws included. Gauge tube not included. P/N 902109 . . . . . \$451.

### Indicator; 1 to 1000 mTorr Meter

Thermocouple gauge, 1 to 1000 mTorr range with 0 to 5 VDC analog output, operates with any line power between 90 and 240 volts, 50 or 60 Hz. Gauge tube not included. See drawing on Page 44 for dimensions. P/N 902111. . . . . \$228.

### Bench Mount Stand with Carrying Handle

5.3 in. wide X 4 in. F to B X 4.7 in. High (6.7 in. handle extended) (134 X 100 X 120 mm) P/N: 902112 . . . . . \$48.

### 3 Position Thermocouple Gauge Indicator; 1 to 1000 mTorr Meter

Includes 3 cables 10 ft. (3 m) long and 3 connectors, bench mount stand and carry handle, gauge tubes not included. Cable length up to 500 ft; (60 m) available. P/N: 902113. . . . . \$364.

**5 position Thermocouple Gauge Indicator 1 to 1000 mTorr** Similar to above 3 position indicator P/N 902181. . . . . \$413.

**Standard Thermocouple Gauge Tubes** Interchangeable with Teledyne-Hastings DV-6M & DV-6R. All parts in contact with the process are stainless steel: cup, stem, and flange. The connector pins are nickel plated Kovar.

VRL-6M 1/8" NPT Stainless Steel Body, P/N: 912086 . . . . . \$55.

VRL-6M NW-16 Stainless Steel Body, P/N: 912096 . . . . . \$101.

VRL-6M NW-25 Stainless Steel Body, P/N: 912203 . . . . . \$101.

VRL-6M VCR-4 Stainless Steel Body, P/N: 912082 . . . . . \$116.

VRL-6M 1.33 in. Conflat® Stainless Steel Body, P/N: 912083 . . . \$101.

VRL-6M 1/2" OD Smooth Flange SS Body, P/N: 912085 . . . . . \$55.

VRL-6M 2.75 Conflat® Stainless Steel Body, P/N: 912178. . . . . \$148.

VRL-6M VCR-8 FEM Stainless Steel Body, P/N: 912079. . . . . \$121.

### Thermocouple Gauge Tubes with Stainless Steel Connector Pins

For outdoor use or applications that require frequent unplugging of the gauge tube connector. All parts are stainless steel: cup, stem, flange, and connector pins.

VRL-6R 1/8" NPT Stainless Steel Pins & Body, P/N: 912087 . . . \$104.

VRL-6R NW-16 Stainless Steel Pins & Body, P/N: 912098 . . . . \$145.

VRL-6R VCR-4 Stainless Steel Pins & Body, P/N: 912099 . . . . \$160.

VRL-6R 1.33 in. Conflat® S.S. Pins & Body, P/N: 912084 . . . . \$145.

VRL-6R 2.75 Conflat® Stainless Steel Pins & Body, P/N: 912213 \$160.