

# Diaphragm Manometer; 0.5 to 1200.0 Torr ± 0.1 Torr



Photo shows the indicator and 1200 Torr head with Conflat flange.

- 0.5 to 1200.0 Torr Range; ± 0.1 Torr Resolution
- Available 0.5 to 1600.0 mbar & 0.1 to 160.00 kPa
- 316 S.S. Diaphragm Measures Gas Or Liquid
- Dual Set Point Controller With 2 Relays
- Easy To Use; No Keyboards or Scrolling Menus
- Linear 0 to 10 VDC Output; 4-20 mA Optional
- Fast Response; Less Than 400 mSec. Full Scale

The Vacuum Research Diaphragm Manometers are compact vacuum measurement and control instruments that are unaffected by gas composition. The sensors have 316 L stainless steel diaphragms and any sensor can measure liquid or gas pressure as well as vacuum.

Response time is less than 400 milliseconds for full scale and sensors are available with a variety of flanges including VCR and KF or NW styles. With any sensor, these instruments offer

the precision and high resolution of digital electronics at the same price as analog instruments. Both indicator and controllers are provided in 1/4 DIN enclosures.

The Dual Set Point Controller operates two control relays. Set point values are adjusted from the front panel and displayed on the meter. Push-to-set switches simplify display of the set point pressures. Relays have 3 Amp contacts, SPDT, and have screw terminal connectors on the rear of the instruments.

## Specifications

**Pressure Range:** 0.5 to 1200 Torr; ± 0.1 Torr  
**Resolution:** ± 0.1 Torr over entire range.  
**Display:** 4 1/2 digit red LED; characters .47 in. (12 mm) high.  
**Calibration:** Any gas, liquid or vacuum compatible with sensor materials.  
**Accuracy:** 1% of reading or 1 Torr.  
**Response Time:** Less than 400 msec. for response to a step change.  
**Linearity:** ± 0.15% Full Scale. Sensitivity: ± 0.1 Torr  
**Analog Output:** 0 to 10 Volt DC into 2000 Ohm load or higher. 2 pin connector included. 4 to 20 mA output in addition to 0 to 10 Volt D.C. available.  
**Sensor:** See "ordering Information" below for list of sensor heads.  
**Materials:** All parts in contact with process are 316 L Stainless Steel.  
**Set Point Range:** Full Scale, 0.5 to 1200 Torr. Repeatability: ± 1 Torr.  
**Relays:** Controller model includes 2 relays; SPDT contacts rated 3A @ up to 220 VAC non-inductive.  
**Sensor Internal Volume:** 1.25 ml for stainless steel sensor.

**Line Power:** 115 VAC, 50/60 Hz; 230 VAC or 24 VDC optional at no additional cost.  
**Wattage:** Less than 1 Watt for indicator; 2 Watts for controller.  
**Line Regulation:** ± 20% change in line voltage produces less than 1% change in reading.  
**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:** Sensor can be baked to 100 °C (212 °F) in air or vacuum.  
**Dimensions:** 1/4 DIN enclosure. See drawing on page 44.  
**Mounting:** Panel mounting hardware is standard. Bench mount and portable cabinets are also available, see page 43.  
**Sensor Cables:** 10 ft. (3m) attached.  
**Extension Cables:** Change sensor cable length without recalibration. Extensions to 250 ft. (75 m) can be used. See page 42.  
**Line Cord:** 3 wire, 65 inch (170 cm) attached.  
**Net Weight:** Indicator 1 lb., 2 oz. (0.5 kg); Controller 1 lb., 6 oz. (0.6 kg)  
**Shipping Wt.:** Indicator 2 lbs., 8 oz. (1.1 kg); Controller: 3 lbs. (1.3 kg)

## Ordering Information Specify 115 or 230 V, 50/60 Hz or 24 VDC Power When Ordering

### Digital Indicator and Controller

**Dual Set Point Controller With Digital Display** in 1/4 DIN enclosure. Included are 2 adjustable set points with SPDT relays. Contacts rated 3 Amps up to 220 VAC non-inductive. 10 ft (3 m) sensor head cable, power line cord jack screws for panel mounting. 0 to 10 VDC analog output. Built to CSA standards. Sensor not included.  
P/N:902226 .....\$840.

**Digital Indicator only** in 1/4 DIN enclosure. Includes 10 ft (3 m) sensor head cable, power line cord, jack screws for panel mounting. 0 to 10 VDC analog output. Built to CSA standards. Sensor not included.  
P/N: 902225 .....\$630.

**4 to 20 mA Output** in addition to 0 to 10 VDC analog output.  
P/N: V801082 .....add \$214.

**Calibrator for 0.5 to 1200 Torr Instruments** See page 37 for a complete description of the calibrator. P/N:912300 ..... \$345.

**Gauge and sensor accessories** .....see pages 42 and 43.

### 1200 Torr Sensor Heads, 316 SS Diaphragms

**Sensor Heads with Stainless Steel Diaphragm.** outer case and wetted parts 316 L stainless steel. Connector pins are nickel plated Kovar. Maximum bake-out temperature 100 °C.

**1200 Torr Head, SS Diaphragm, 1/4 in. NPT.** P/N:912261. ....\$402.

**1200 Torr Head, SS Diaphragm, VCR-8 Female,** P/N:912262. ....\$507.

**1200 Torr Head, SS Diaphragm, VCR-4 Female,** P/N: 912263. ....\$452.

**1200 Torr Head, SS Diaphragm, NW-16 Flange,** P/N:912264. ....\$452.

**1200 Torr Head, SS Diaphragm, NW-25 Flange,** P/N:912265. ....\$452.

**1200 Torr Head, SS Diaphragm, 1.33 in. Conflat®,** P/N:912266. ....\$452.

**1200 Torr Head, SS Diaphragm, 1/2 in. OD Tube,** P/N:912267. ....\$452.

**1200 Torr Head with All Stainless External Parts** for outdoor applications or wherever the use of all stainless steel is appropriate. All external parts are 316 SS except connector pins which are 304 SS. Add SS suffix to sensor P/N and to price: .....add \$42.