



- 50 mT - 1000 Torr Standard; .5 - 1300 mb Optional
- Select Transmitter, Indicator or Controller
- 316L S.S. Diaphragm Measures Gas Or Liquid
- All 3 Styles Have 0-10 V Plus 4-20 mA Outputs
- Easy To Use; No Keyboards or Scrolling Menus
- Fast Response; Less Than 1 Second Full Scale
- All Popular Flanges Available; NW, VCR, CF

These Diaphragm Manometers are compact vacuum measurement and control instruments that are unaffected by gas composition. The diaphragm is 316L stainless steel and can measure liquid or gas under vacuum.

Response time is less than 1 second for full scale and instruments are available with a variety of flanges including VCR and CF, NPT or NW styles.

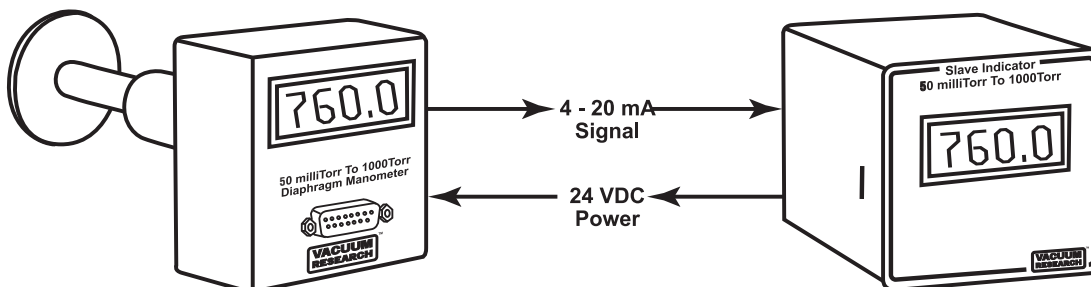
All models of the Diaphragm Manometer provide simultaneous linear outputs of 0 - 10 VDC and 4-20 mA. To improve the resolution of your PLC or data system the 4-20 mA signal can be changed in the field to have spans of either 0 to 10, 50, 100, 200 or 1000 Torr. 4 mA is always "zero" pressure but by moving a pin jumper on the circuit board 20 mA can be 50 or 1000 Torr.

The Dual Set Point Controller option provides set point values adjusted from the front panel and displayed on the meter. Push-to-set switches simplify display of the set point vacuum. Because it is often helpful to display the vacuum reading in more than one place or to have the diaphragm sensor at a distance from the control room or operators console we offer slave displays.

The slave displays do not have a diaphragm sensor but are accessories to the manometers and can be used with the transmitter, indicator or controller models.

The slave is built in a standard 1/4 DIN enclosure for panel mounting and is connected to the manometers with up to 500 ft. (150 m) of 4 conductor cable. The slave is powered with 115/230V, 50/60 Hz and provides 24 VDC to power the manometer. The 4-20 mA signal from the manometer is displayed on the slave in Torr or mbar.

## Diaphragm Manometer With Slave Display



**Diaphragm Manometer, Indicator**  
Transmitter and Controller Models Also Available

**Optional Slave Indicator**  
Indicator Shown. Also Available as a Controller with Two Set Points

## Specifications

**Standard Range:** 0.05 to 1000 Torr **Optional Range:** 0.05 to 1300 mbar

**Readings From 50 milliTorr to 30.0 Torr:**

**Resolution:** ± 10 milliTorr    **Sensitivity:** 10 milliTorr  
**Accuracy:** ± 20 milliTorr    **Hysteresis:** Less than 10 milliTorr,

**Readings From 30.0 Torr to 1,000 Torr:**

**Resolution:** ± 0.1 Torr    **Sensitivity:** 0.1 Torr,  
**Accuracy:** ± 1 Torr    **Hysteresis:** Less than 0.1Torr,

**Display:** 4 digit green LED; characters 0.56 in. (15 mm) high.

**Calibration:** Any gas, liquid or vacuum compatible with sensor materials.

**Response Time:** For increasing pressure: less than 1 second for full scale. For decreasing pressure: atmosphere to 1 Torr ≈ 1.5 seconds; atmosphere to 200 mTorr ≈ 10 seconds; atmosphere to 50 mTorr ≈ 90 seconds; 10 Torr to 10 mTorr ≈ 0.5 seconds.

**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:** Instrument can be baked to 100 °C (212 °F) in air or vacuum.

**Maximum Pressure:** Pressure in excess of 1,000 Torr (5 psig) may damage the diaphragm.

**Analog Outputs:** 2 simultaneous linear signals

1.) 0 to 10 Volt DC, linear, for 0 to 1000 Torr (1mv=100 mTorr)

2.) 4-20 mA, 4mA is always high vacuum ("zero" pressure). But 20 mA can be jumper selected by the user to be 10, 50 100, 200 or 1000 Torr. Shipped with jumper in 1000 Torr position unless otherwise requested.

**Materials:** Diaphragm is 316L Stainless Steel. Other parts in contact with the process are 300 Series Stainless.

**Optional Set Points:** SPDT (Form C) max current: 250 mA. Maximum power 350mw, Maximum voltage: 250 V AC/DC.

**Set Point Range:** Full range of instrument. 50 mT to 1,000 Torr

**Power:** Any voltage from +15 to +35 VDC unreg; Less than 250 mA.

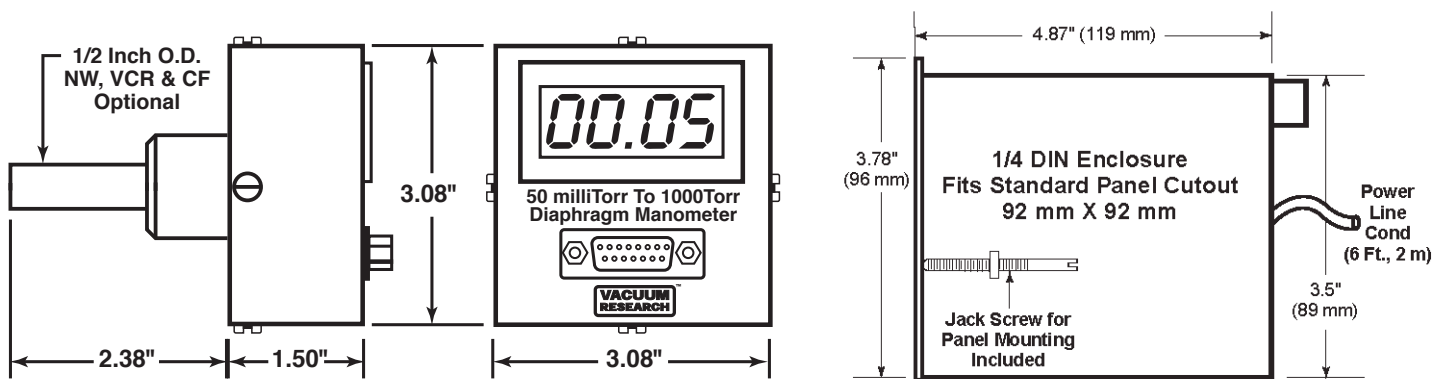
**Wattage:** Less than 1 Watt for indicator; 2 Watts with set points.

**Connector:** 15 pin DB 15

**Weight:** Net : 0.75 lbs. (0.34 kg) Ship: 1.5 lbs. (0.68 kg)



# Diaphragm Manometer; 50 milli Torr To 1000 Torr



**Dimensions of Diaphragm Manometer Transmitter, Indicator & Controller Models**

**Dimensions of Slave Displays Indicator & Controller Models**

## Ordering Information Select from 3 Styles; All With Linear 0-10 V and 4-20 mA Outputs

*Buy Now! Go to [www.vacuumresearch.com](http://www.vacuumresearch.com) to order online*

### Transmitter Analog Output only No Display or Setpoints

**Diaphragm Manometer** with 316L S.S diaphragm. Range of 50 mTorr to 1000 Torr. Analog outputs of 0 to 10 VDC and 4-20 mA. Power required is +15 to +35 VDC, unregulated. No display or set points for process control.

- With 1/8 NPT P/N: 902368 . . . . . \$587.
- With 1/2" O.D. Stem P/N: 902356 . . \$587.
- With NW-16 flange P/N: 902344 . . . \$632.
- With NW-25 flange P/N: 902357 . . . \$632.
- With VCR-4 female P/N: 902347 . . . \$654.
- With VCR-6 female P/N: 902358 . . . \$654.
- With VCR-8 female P/N: 902359 . . . \$654.
- With 1.33 inch CF P/N: 902360 . . . \$632.
- With 2.75 inch CF P/N: 902361 . . . \$632.

### Indicator Analog Output and Display No Setpoints

**Diaphragm Manometer** with 316L S.S diaphragm. Range of 50 mTorr to 1000 Torr. Analog outputs of 0 to 10 VDC and 4-20 mA. Four place green LED display .56 inch high. Power required is +15 to +35 VDC, unregulated. No set points for process control.

- With 1/8 NPT P/N: 902369 . . . . . \$664.
- With 1/2" O.D. Stem P/N: 902350 . . \$664.
- With NW-16 flange P/N: 902345 . . . \$709.
- With NW-25 flange P/N: 902351 . . . \$709.
- With VCR-4 female P/N: 902348 . . . \$732.
- With VCR-6 female P/N: 902352 . . . \$732.
- With VCR-8 female P/N: 902353 . . . \$732.
- With 1.33 inch CF P/N: 902354 . . . \$709.
- With 2.75 inch CF P/N: 902355 . . . \$709.

### Controller Analog Output & Display Plus 2 Adjustable Set Points

**Diaphragm Manometer** with 316L S.S diaphragm. Range of 50 mTorr to 1000 Torr. Analog outputs of 0 to 10 VDC and 4-20 mA. Four place green LED display .56 inch high. Power required is +15 to +35 VDC unregulated. Digital display and 2 adjustable set points included.

- With 1/8 NPT P/N: 902370 . . . . . \$756.
- With 1/2" O.D. Stem P/N: 902362 . . \$756.
- With NW-16 flange P/N: 902346 . . . \$802.
- With NW-25 flange P/N: 902363 . . . \$802.
- With VCR-4 female P/N: 902349 . . . \$824.
- With VCR-6 female P/N: 902364 . . . \$824.
- With VCR-8 female P/N: 902365 . . . \$824.
- With 1.33 inch CF P/N: 902366 . . . \$802.
- With 2.75 inch CF P/N: 902367 . . . \$802.

## Accessories for 50 mTorr To 1000 Torr Manometers

These accessories for the 50 mTorr Diaphragm Gauges can be used with any model of transmitter, indicator or Controller. The Slave Indicator is built in a standard 1/4 DIN housing and jack screws for panel mounting are included. Power required is 115/230 V, 50 to 60 Hz.

The Diaphragm Gauge and Slave Display are connected with a 4 conductor shielded cable up to 500 ft. (150 m) long, which carries 24 VDC power to the Diaphragm Gauge, and a 4-20 mA signal back to the Slave Indicator or Slave Controller.

### **Slave Indicator for 50 mTorr to 1000 Torr Diaphragm Gauge.**

4 place LED display in 1/4 DIN panel mount enclosure. 4 to 20 mA and 0 to 10 VDC analog outputs. 115/230 V. 50-60 Hz power required; less than 500 mA. Provides 24 VDC output to power the Diaphragm Gauge. Receives 4-20 mA signal in from the Diaphragm Gauge.  
P/N 902297 . . . . . \$304.

### **Slave Indicator/Controller for 50 mTorr to 1000 Torr Diaphragm Gauge.**

2 Set points with front panel adjustments and 2 SPDT solid state relays (form C), with maximum current of 250 mA, maximum power of 350 mW, and maximum voltage of 250 V AC/DC. Includes four place LED display in 1/4 DIN panel mount enclosure. 4-20 mA and 0-10 VDC analog outputs. 115/230; 50-60 Hz power required; less than 500 mA. Provides 24 VDC output to power the Diaphragm Gauge. Receives 4-20 mA signal in from the Diaphragm Gauge.  
P/N 902298 . . . . . \$509.

**Power Supply** 100 to 240 V, 50-60 Hz input, 15 VDC @ 1.0 A output. Wallmount style with adapter plugs for US, UK, Europe, Australia. P/N: V104124 . . . . . \$52. each

### **Cable With DB-15 Connector on Each End**

Add length in ft. to P/N. P/N 902080-XXX Ft. . . \$46. + \$1. per foot