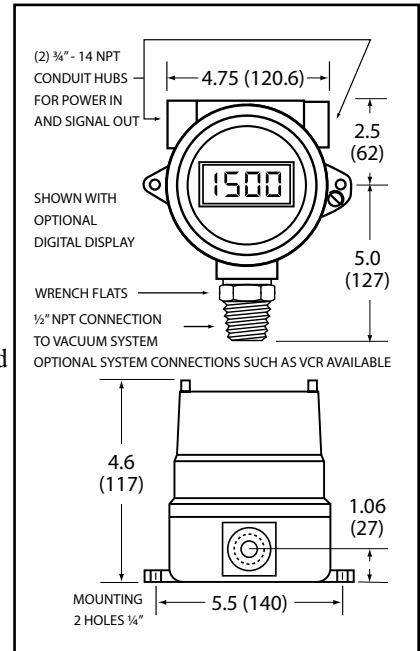




Sensor and gauge with & without optional digital display. Both provide 4 - 20 mA and 0-10 VDC output. Enclosures meet ATEX 95 equipment directive 94/9/EC requirements for Apparatus Group II, Categories 2G/2D: II 2 G EEx e II T3-T4; II 2 G EEx D IIC T3-T4; II 2 D IP66 TI 10°C - T140°C.

VRC offers two approaches to measuring high vacuum in hazardous areas. The first is with the sensor, gauge and optional display built into a Killark enclosure approved by UL, CSA and FM. ATEX certificate is provided with all gauges. All gauges provide both 4-20 mA and 0-10 VDC linear outputs. The alternate approach described at the bottom of this page is to have only the sensor located in the hazardous area with the gauge and display located in a non-hazardous area that can be up to 500 feet away. Power required is 15 to 35 VDC.



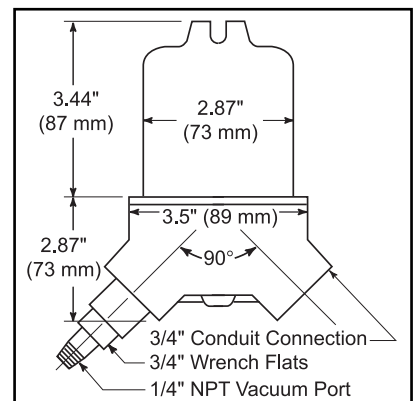
Ordering Information: Gauge, Sensor and Optional Display

Measurement Range, Sensor Type	Maximum Working Pressure	Performance Specifications Catalog Page	Gauge & Sensor with Display & 4-20, 0-10 V Analog Output		Gauge & Sensor with 4-20, 0-10 V Output but No Display		Replacement Sensor Only	
			Part No.	Price	Part No.	Price	Part No.	Price
0.01 to 100 mTorr; Pirani	300 PSIG	14, 24	913050	\$1298.	913056	\$1049.	902049	\$182.
1 to 2000 mTorr; Pirani	300 PSIG	15, 17, 24	913051	\$1209.	913057	\$955.	902077XP	\$139.
0.01 to 20.00 Torr; Pirani	300 PSIG	16, 17, 24	913052	\$1209.	913058	\$955.	902089	\$139.
1 to 1500 Torr; 316L Diaph.	30 PSIG	9, 17, 24	913053	\$1308.	913059	\$1059.	902079XP	\$498.
-30" Hg to 150 PSIG; 316L Diaph.	150 PSIG	10, 17, 24	913054	\$1308.	913060	\$1059.	902086	\$498.
1 to 200 PSIG; 316L Diaph.	300 PSIG	11	913055	\$1308.	913061	\$1059.	902088	\$498.

Sensors for Hazardous Areas



These explosion proof Diaphragm and Pirani sensors can be used with any of the indicators and controllers described in this catalog. These sensors are complete and ready to install in any Class 1, Group C or D, Div. 1 area. Simply select the range that fits your application from the table below. Like standard Vacuum Research sensors, these explosion-proof sensors are unaffected by lead length and can be located up to 500 feet (150 m) from the display unit.



Ordering Information		Performance Specifications Catalog Page	Maximum Working Pressure	Complete Enclosure with Sensor: 1/4" NPT standard, 1/2" NPT optional		Replacement Sensor Only	
Measurement Range	Sensor Type			Part No.	Price	Part No.	Price
1 to 2000 mTorr	Pirani	15, 17, 24	300 PSIG	913006	\$636.	902077XP	\$139.
.01 to 20 Torr	Pirani	16, 17, 24	300 PSIG	913007	\$636.	902089	\$139.
1 to 1500 Torr	316L Diaph.	9, 17, 24	30 PSIG	913001	\$895.	902079XP	\$498.
-30" Hg to 150 PSIG	316L Diaph.	10, 17	150 PSIG	913003	\$895.	902086	\$498.
1 to 200 PSIG	316L Diaph.	11	300 PSIG	913005	\$895.	902088	\$498.



Available in 3 Ranges

- 1 to 1500 Torr Stainless Steel Diaphragm
- 1 to 2000 mTorr & .01 to 20 Torr Pirani Gauges
- Linear 0 to 10 VDC and 4-20 mA Outputs
- Power Required 12 to 35 Volt DC, 200 mA
- Dust and Water Proof Enclosure Rated IP-65

SS Diaphragm Gauge

1 to 1500 Torr
1 to 2000 mbar
0.1 to 200 kPa

Specifications

Measurement Range: 1 to 1500 Torr (1 to 2000 mbar and 0.1 to 200 kPa).

Calibration: Any gas.

Resolution: ± 1 Torr.

Response Time: Less than 1 sec. for 90% of an increase in pressure. ≈ 1.5 sec. for decrease from atmosphere to 1 Torr.

Power: 12 to 35 volt DC; less than 100 mA.

Analog Output: Linear 0 to 10 V and 4 to 20 mA standard.

Temperature Effects: Automatic compensation from 0° to 35 °C.

Bake Out Temperature: Gauge can be baked to 100 °C (212 °F) in air or vacuum.

Vacuum Connection: 1/4 NPT male. Others such as NW, VCR and 1/2" O.D. tube available.

Materials: All wetted parts 300 series S.S.

SS Sensor Max. Pressure w/o Damage: 4,500 Torr, burst 6,000 Torr.

Dimensions: Enclosure 3 X 3 X 2 In. 1/4 In. NPT vacuum connection is 1 5/8 In. (41 mm) long.

Mounting: Gauge can be supported by the vacuum connection and oriented in any plane.

Net Wt.: 0.75 lb. (0.3 kg) **Ship:** 1 lb. (0.45 kg)

Pirani Gauge

1 to 2000 milliTorr
0.001 to 2.000 mbar
0.1 to 200.0 Pa

Specifications

Measurement Range: 1 to 2000 milliTorr (.001 to 2 mbar, and 0.1 to 200 Pa)

Calibration: Air or Nitrogen.

Accuracy: Better than 5% of value or ± 3 mTorr, whichever is larger.

Response Time: 0.3 second time constant.

Power: 12 to 35 volt DC; less than 200 mA.

Analog Output: Linear 0 to 10 VDC & 4 to 20 mA standard.

Temperature Effects: Changes in ambient temperature between 0 °C and 50 °C change the reading less than 0.2 mT per °C at 50 mT; less than 4 mT per °C at 900 mT.

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

Vacuum Connection: 1/4 NPT male. Others such as NW, VCR and 1/2" O.D. tube available.

Dimensions: Enclosure 3 X 3 X 2 In. (76 X 76 X 50 mm) 1/4 In. NPT vacuum connection is 1 5/8 In. (41 mm) long.

Mounting: Gauge can be supported by the vacuum connection and oriented in any plane.

Net Wt.: 0.75 lb. (0.3 kg) **Ship:** 1 lb. (0.45 kg)

Pirani Gauge

.01 to 20 Torr
0.01 to 20.00 mbar
1.0 to 2000 Pa

Specifications

Measurement Range: 0.01 to 20 Torr (.01 to 20 mbar, and 1 to 2000 Pa)

Calibration: Air or Nitrogen.

Accuracy: Better than 5% of value or ± 0.03 Torr, whichever is larger.

Response Time: 0.3 second time constant.

Power: 12 to 35 volt DC; less than 200 mA.

Analog Output: 0 to 10 VDC, non-linear standard. Linear 0-10 V & 4-20 mA optional.

Temperature Effects: Changes in ambient temperature between 0 °C and 50 °C change the reading less than 0.01 Torr per °C.

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

Vacuum Connection: 1/4 NPT male. Others such as NW, VCR and 1/2" O.D. tube are available.

Dimensions: Enclosure 3 X 3 X 2 In. (76 X 76 X 50 mm) 1/4 In. NPT vacuum connection is 1 5/8 In. (41 mm) long.

Mounting: Gauge can be supported by the vacuum connection and oriented in any plane.

Net Wt.: 0.75 lb. (0.3 kg) **Ship:** 1 lb. (0.45 kg)

Buy Now! Go to www.vacuumresearch.com to order online

Ordering Information

1 to 1500 Torr Stainless Steel Diaphragm Vacuum Transducer. 12 to 35 VDC power. IP-65 dust & water proof enclosure. 1/4 In. NPT Vacuum Connection. Others such as NW, VCR and 1/2 In. O.D. tube available. Linear 0 to 10 VDC and 4 to 20 mA output.

P/N: 912384-Torr (1 to 1500 Torr) \$648.

P/N: 912384-mbar (1 to 2000 mbar) \$648.

P/N: 912384-Pa (0.1 to 200.0 kPa) \$648.

Ordering Information

1 to 2000 mTorr Vacuum Transducer. 12 to 35 VDC power IP-65 dust & water proof enclosure. 1/4 In. NPT Vacuum Connection. Others such as NW, VCR and 1/2 In. O.D. tube available. Linear outputs of 0 to 10 VDC and 4 to 20 mA.

P/N: 912365-mTorr (1 to 2000 mTorr) \$466.

P/N: 912365-mbar (0.001 to 2000 mbar) . . \$466.

P/N: 912365-Pa (0.1 to 200.0 Pa) \$466.

Ordering Information

0.01 to 20 Torr Vacuum Transducer. 12 to 35 VDC power IP-65 dust & water proof enclosure. 1/4 In. NPT Vacuum Connection. Others such as NW, VCR and 1/2 In. O.D. tube available. Linear outputs of 0 to 10 VDC and 4 to 20 mA.

P/N: 912367-Torr (0.01 to 20 Torr) \$466.

P/N: 912367-mbar (0.01 to 20.00 mbar) . . \$466.

P/N: 912367-Pa (1 to 2000 Pa) \$466.