

F6 Convector™ Ionization Gauge Controllers

Granville - Phillips Model 475 for accurate low vacuum measurement

- Wide Pressure Range 10⁻⁴ - 1000 Torr
- Highly Accurate Convector Design
- High Repeatability
- Fast Response Time
- RoHS/CE Compliant

Series 475 Convector gauges provide useful pressure measurement over 7 decades from 10⁻⁴ to 1000 Torr, or from 1 x 10⁻³ mbar to 1000 mbar. This innovation in the art of vacuum measurement is accomplished with a single gauge tube and controller. The gauge tube contains a temperature compensated heat loss sensor which utilizes conduction cooling to sense pressure at lower pressures. At higher pressures, it utilizes convection cooling in which gas molecules are circulated through the gauge tube by gravitational force.

Convector gauges offer the following advantages relative to thermocouple gauges:

- System performance can be monitored continuously from atmosphere down without pressure blind spots.
- Purchase of additional controller and gauge tube models is not necessary if your needs change to different segments of the range.
- A much wider range can be covered with one Convector gauge than with thermocouple gauges.
- There is no chance of error that might be caused by using the wrong gauge tube-controller combination. One gauge tube fits all controller models.

Their wide useful range, highly predictable performance and low prices make Convector gauges an excellent replacement for conventional thermocouple and Pirani gauges. They also are the measurement systems to consider in applications where conventional thermocouple and Pirani gauges have not been suitable because of limited range, or drift, or slow response.

Pressure in Torr for Air

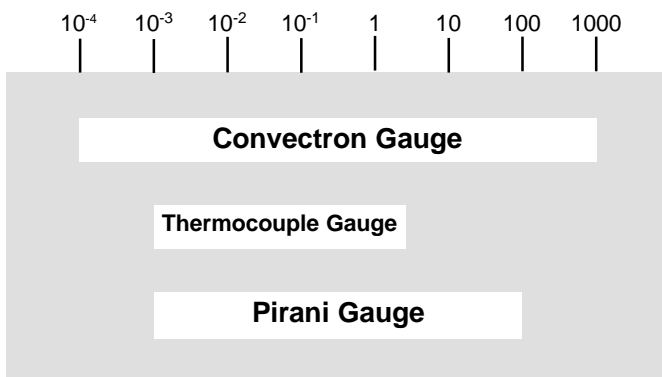


Fig. 1 Comparison of the range of a single convector gauge with the range of typical thermocouple and Pirani gauges.



Series 275 Gauge Specifications

Useful Measuring Range

1 millitorr to 1000 Torr, or 1 x 10⁻³ mbar to 1000 mbar, for N₂ using a single gauge tube and controller.

Digital Readout

Seven decade range indicated by lighted LED's, automatic ranging displays correct measuring units at all times.

An easy to read VFO pressure display configurable to use scientific notation or two ranges (Torr and mTorr, mbar and 10⁻³ mbar or kPa and Pa) to provide a continuous measurement readout from atmosphere to low pressure.

Gauge Tube Mounting

Gauge tube axis must be horizontal to provide accurate measurement above about 1 Torr (1 mbar). Excessive vibration can slightly affect readout of digital gauge above about 1 Torr (1 mbar) because of forced convection effects in the tube.

Gauge Tube

Internal Volume: 40 cc (2.5 cu. in.)

Sensor: Gold plated tungsten.

Stability with Voltage Variation

Pressure reading changes by less than 0.02% of reading per 1% change in line voltage over most of the pressure range.

Gauge Weights

	lbs.	kg
Net	3.5	1.6

Controller Dimensions

	in.	mm
Front of panel, h., w.	3.81	97
Front of panel, depth	0.75	19
Rear of panel, depth		
with connector	8.65	220
Mounting hole, square	3.63	92

Part No.	Description	Price ea.
475001-AAT*	Controller RS232, 2 set points reads Torr	
275071	1/8 NPT Convector Tube	
375006-1	Power Supply Wall Mount 115 VAC	
375007-3	Power Supply, CE Compliant 220 VAC Europe	
475112-10	10' Cable	

*This is the controller only. Purchase cables and tubes separately.