



Series 275

CONVECTRON® VACUUM GAUGES

MKS Convector® gauges have been the world-standard convection-enhanced Pirani gauge for over 35 years and are used in thousands of vacuum processes to accurately measure pressure from atmosphere to 10^{-4} Torr. To assure the highest level of accuracy and gauge-to-gauge reproducibility, every Convector gauge is individually calibrated at the factory, thereby making controller adjustment unnecessary.

Convector gauges are a unique variation of thermal conductivity gauges where pressure measurement is based on the rate of heat loss from a sensor wire. Unlike traditional thermocouple and Pirani gauges that use only conductive heat loss, Convector gauges take advantage of heat loss due to convection at higher pressures. This extends the range of accurate, repeatable measurement to atmosphere.

The Convector gauge delivers fast response time — in milliseconds — compared to thermocouple-type gauges that respond in seconds.

Features & Benefits

- Wide range vacuum pressure measurement from atmosphere to 1×10^{-4} Torr
- Individually calibrated gauges assure the highest measurement performance
- Easy installation in space-restricted locations
- Wide selection of vacuum fittings simplifies installation on your vacuum system
- For use with several of MKS' vacuum gauge controllers
- Temperature compensation offsets the effects of ambient temperature changes
- Rugged construction

Specifications and Ordering Information

Measuring Range for N₂ or air (See Notes 1 and 2 below)

Torr	Atmosphere to 1x10 ⁻⁴
mbar	Atmosphere to 1.33x10 ⁻⁴
Pa	Atmosphere to 1.33x10 ⁻²

Mounting Position

Horizontal preferred

Weight

85 grams (3 ounces) for 1/8 NPT flange

Internal Volume

35 cm³ (2.14 in³)

Sensor Materials

Gold-plated tungsten

Other Materials Exposed to Gas

304 stainless steel, borosilicate glass, Kovar®, Alumina, NiFe alloy, polyimide

Gauge Operating Temperature

4°C to 50°C

Gauge Bakeout Temperature

150°C

Maximum Internal Pressure

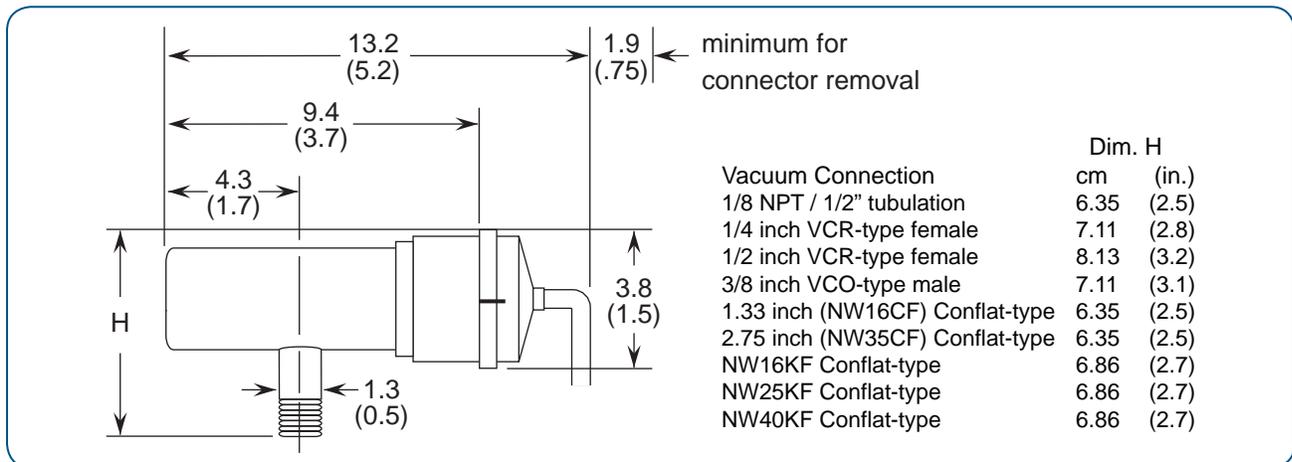
150 psi

Environmental

RoHS compliant

Note 1: Pressure measurement indications will change with different gases and mixtures. Correction parameters for common gases are provided in the controller instruction manuals and are included in the Series 475 Convector gauge controller.

Note 2: Convector gauges are not intended for use with flammable or explosive gases.



Dimensional Drawing —

Note: Unless otherwise specified, dimensions are nominal values in centimeters (inches referenced).

Ordering Information

Convector Gauges with Gold-plated Tungsten Sensor*

Catalog

1/8 NPT / 1/2 inch tubulation	275071
1/4 inch VCR® type female fitting	275185
1/2 inch VCR type female fitting	275282
3/8 inch VCO® type male fitting	275233
1.33 inch rotatable Conflat® type fitting	275256
2.75 inch rotatable Conflat type fitting	275238
NW16KF flange (welded)	275203
NW25KF flange (welded)	275196
NW40KF flange (welded)	275316

* Platinum sensor gauges are available. Contact MKS sales support at 303.652.4400.



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