PGE050

Pirani Gauge Enhanced - Passive

The Pirani Gauge Enhanced 050 (PGE050) is the passive version of our active convection enhanced Pirani gauges PGE300 and PGE500. Equipped with the same sensor technology, PGE050 works in conjunction with our VGC031 and VGC083 passive gauge controller units. Thanks to its convection enhanced principle, PGE050 is capable of high accuracy readings in the measurement range between 1.3×10^{-3} to 1333 mbar. With its wider measuring range and unmatched accuracy, especially at near-atmospheric pressures, PGE050 is the first choice when replacing other Pirani or thermocouple gauges in your vacuum system. The robust sensor design makes PGE050 a high value/low cost of ownership choice and qualifies for many applications where an economical vacuum measurement from atmosphere to high vacuum range is required.

ADVANTAGES

- Convection enhanced Pirani technology for wide measurement range and higher accuracy near atmosphere
- Gold plated tungsten filament, platinum filament for enhanced corrosion resistance available on request
- Mechanical robust and less susceptible to mechanical shock and vibration
- Large choice of flange options
- Compliance & standards: CE, RoHS
- Direct drop in replaces MKS / Granville-Phillips® Convectron® gauge sensor (same plug/ pinouts)
- PGE050 accepts MKS / Granville-Phillips® Convectron® controllers, cables and modules
- Ideal gauge sensor for upgrading your installed thermocouple gauges

APPLICATIONS

- General vacuum measurement and control from low to the high vacuum range

OPERATING UNITS

- Vacuum Gauge Controller VGC083 and VGC031

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PGE050

ORDERING INFORMATION

Type	PGE050
DN 16 ISO-KF	352-500
DN 25 ISO-KF	352-501
DN 40 ISO-KF	352-502
DN 16 CF-R	352-503
DN 40 CF-R	352-504
4 VCR female	352-505
8 VCR female	352-506
1/8" NPT	352-507

SPECIFICATIONS

Type	PGE050
Measurement system	Pirani, convection-enhanced
Display range (N_2) with VGC083 or VGC031 controller	1.3×10^{-4} … 1333 mbar 1×10^{-4} … 1000 Torr 1.3×10^{-2} … 133000 Pa
Measurement range (N_2) with VGC083 or VGC031 controller	1.3×10^{-3} … 1333 mbar 1×10^{-3} … 1000 Torr 1.3×10^{-1} … 133000 Pa
Accuracy (N_2, typical)	
1.3×10^{-4} … 1.3×10^{-3} mbar | 1.3×10^{-4} … 1.3×10^{-3} Torr	0.1×10^{-3} mbar | 0.1 mTorr resolution
1.3×10^{-3} … 530 mbar | 1×10^{-3} … 400 Torr	±10 % of reading
530 … 1333 mbar | 400 ... 1000 Torr	±2.5 % of reading
Repeatability (N_2, typical)	±2 % of reading
Mounting orientation	recommended horizontal
< 1.3 mbar | 1 Torr	any
Admissible temperature	
Ambient, in operation	0 … +50 °C
Bake-out	≤150 °C[1)]
Storage	-40 … +70 °C
Relative humidity	≤ 95% (non-condensing)
Materials exposed to vacuum	
Filament	gold-plated tungsten
Other	AISI 304 and 316 stainless steel, glass, nickel, Teflon®
Internal volume	26 cm^3 | 1.589 $in.^3$
Internal surface area	59.7 cm^2 | 9.25 $in.^2$
Weight	85 g

[1)] With high temperature cable or without cable

PGE050

DIMENSIONS

Dimension A	mm	(in.)
DN 16 ISO-KF	33	(1.3)
DN 25 ISO-KF	33	(1.3)
DN 40 ISO-KF	33	(1.3)
DN 16 CF-R	27.4	(1.08)
DN 40 CF-R	37.3	(1.47)
4 VCR female	47.2	(1.86)
8 VCR female	44.5	(1.75)
1/8" NPT	25.4	(1)

[mm]

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