



Pressure &

Vacuum Measurement Solutions

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Types 622C & 626C

ABSOLUTE AMBIENT TEMPERATURE BARATRON® CAPACITANCE MANOMETERS

The Types 622C and 626C ambient temperature Baratron® capacitance manometers are the latest of MKS' analog RoHS-compliant, capacitance-based, high-performance vacuum and pressure transducers. They require $\pm 15\text{VDC}$ input voltage and provide a high-level 0-10VDC analog output signal that is linear with pressure. This analog output can be interfaced with an MKS pressure controller, an MKS power supply/display instrument, or any instrument that meets these requirements. Changes in pressure/vacuum are determined by measuring the change in capacitance between the sensor's diaphragm and an adjacent electrode disk. This capacitance change is converted to a useable output by patented signal-conditioning electronic circuits. The radially-tensioned Inconel® diaphragm in the sensor provides very fast response (<20 msec in many cases), low hysteresis, excellent repeatability, very high resolution (to 0.001% of Full Scale), exceptionally high corrosion resistance, and double-walled welded construction for operator safety. The sensor itself can withstand repeated exposures to 45 psia (3.1 bar) without permanent degradation or shifting, allowing it to operate in virtually any process system.

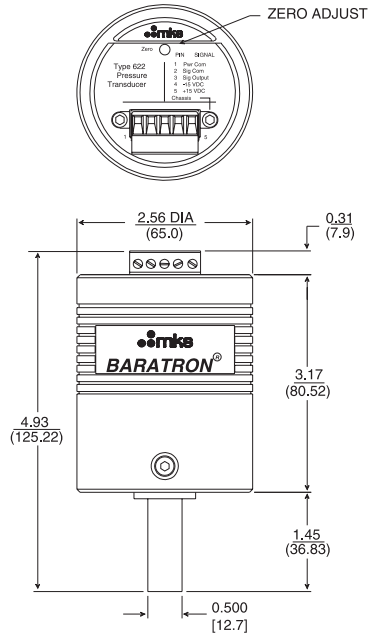
The Types 622C and 626C Baratron capacitance manometers operate at ambient conditions. They are available in Full Scale pressure/vacuum ranges from 0.1 to 1000 Torr (and metric equivalents) and are suited for many industrial, electronic, and research applications. The Type 622C has a terminal block electrical connector and the Type 626C has a 15-pin D-subminiature electrical connector.

Features & Benefits

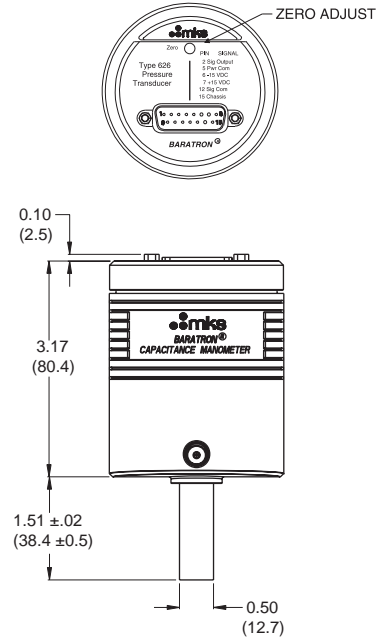
- Full scale pressure/vacuum ranges as low as 0.10 Torr (mm Hg) allow for accurate measurement of vacuum as low as 1×10^{-3} Torr (1.3×10^{-3} mbar)
- All products are specified in percent of reading for best accuracy and improved process yield
- Direct measurement of chamber total pressure independent of gas type or composition, eliminating need for lookup tables and conversion factors
- Best-available long-term output stability ensures state-of-the-art process repeatability in nearly any application
- Inconel® and Incoloy® nickel alloy construction of basic sensor operates without damage in virtually any chemical environment, including halogens, deionized water and steam, and ozone
- High overpressure limit ensures reliability from occasional system mishaps
- CE and RoHS compliant



Type 622C



Type 626C



Dimensional Drawing —

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



Specifications

| | |
|--|---|
| Full Scale Pressure Ranges | 0.1 (626C only), 0.25 (626C only), 1, 2, 10, 20, 100, 500, 1000 Torr and metric equivalents |
| Accuracy - % of Reading* | 0.25% for 1 to 1000 Torr, 0.50% for < 1 Torr (626C only) |
| Temperature Coefficients | |
| Zero | 0.005% FS/°C for 10 to 1000 Torr ranges, 0.010% FS/°C for 2 Torr range, 0.015% FS/°C for 1 Torr range, and 0.020% FS/°C for ranges < 1 Torr (626C only) |
| Span | 0.04% of Reading/°C |
| Resolution | 0.001% of Full Scale |
| Ambient Operating Temperature | 0 to 50°C |
| Overpressure Limit | 45 psia (310 kPa) |
| Materials Exposed to Process | Inconel® and Incoloy® nickel alloys |
| Volume (Measurement Side) | 6.3 cm ³ |
| Input Power Required | ±15VDC (±5%) @ 35 mA |
| Output Signal | 0 – 10 VDC into > 10 kΩ load |
| Electrical Connector | Terminal block for 622C, 15-pin D-subminiature for 626C |
| Regulatory Approvals | CE compliant to EMC Directive 2004/108/EEC** |
| Restriction of Hazardous Substances | Fully compliant to RoHS Directive 2002-95-EC |
| Fittings | |
| Standard | ½" (12.7 mm) OD tube standard |
| Optional | 8 female VCR®, 8 female VCO®, NW16-KF, NW25-KF, 1.33" (33.8mm) OD Conflat®, 2.75" (70 mm) OD Conflat |

*Includes hysteresis, non-linearity, and non-repeatability.

**For CE compliance, the mating connector must be properly grounded.



Ordering Information

| Ordering Code Example: GGGGXXYZ | Code | Configuration |
|---|------|---------------|
| Model (GGGG) | | |
| Ambient manometer, terminal block electrical connector | 622C | 622C |
| Ambient manometer, 15-pin D-subminiature electrical connector | 626C | |
| Full Scale Range (XXX) | | |
| 0.1 Torr (626C only) | .1T | 11T |
| 0.25 Torr (626C only) | RET | |
| 1 Torr | 01T | |
| 2 Torr | 02T | |
| 10 Torr | 11T | |
| 20 Torr | 21T | |
| 100 Torr | 12T | |
| 500 Torr | 52T | |
| 1000 Torr | 13T | |
| Fittings (Y) | | |
| 1/2" (12.7 mm) OD tube | A | B |
| 8 female VCR | B | |
| 1.33" OD (33.8 mm) Conflat, rotatable | C | |
| NW16-KF | D | |
| 8 female VCO | E | |
| NW25-KF | Q | |
| Accuracy (Z) | | |
| 0.25% Reading (1 to 1000 Torr) - standard | E | E |
| 0.15% Reading (10 to 1000 Torr) - optional | D | |
| 0.50% of Reading (< 1 Torr) - standard | F | |



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