

622C and 626C

Unheated Absolute Baratron® Capacitance Manometers



The 622C and 626C unheated absolute Baratron® capacitance manometers are the latest analog, 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.

Product Features

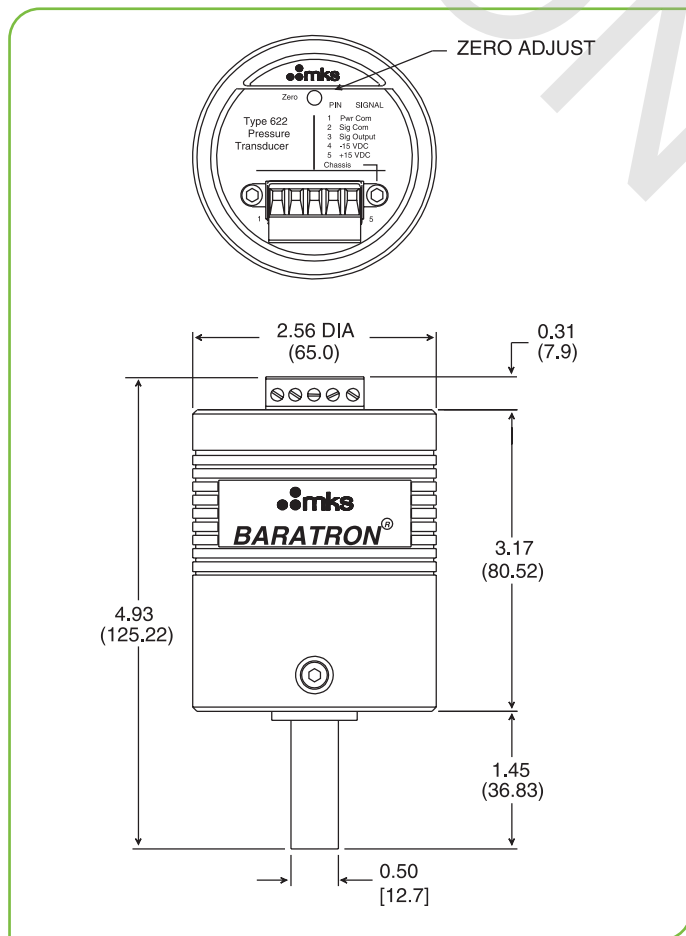
- Full Scale pressure/vacuum ranges as low as 0.10 Torr (mm Hg) allow for accurate measurement of vacuum as low as 1×10^{-3} Torr (1.3×10^{-3} mbar)
- All products are specified in percent of reading for best accuracy and improved process yield
- Direct measurement of chamber total pressure independent 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



Key Benefits

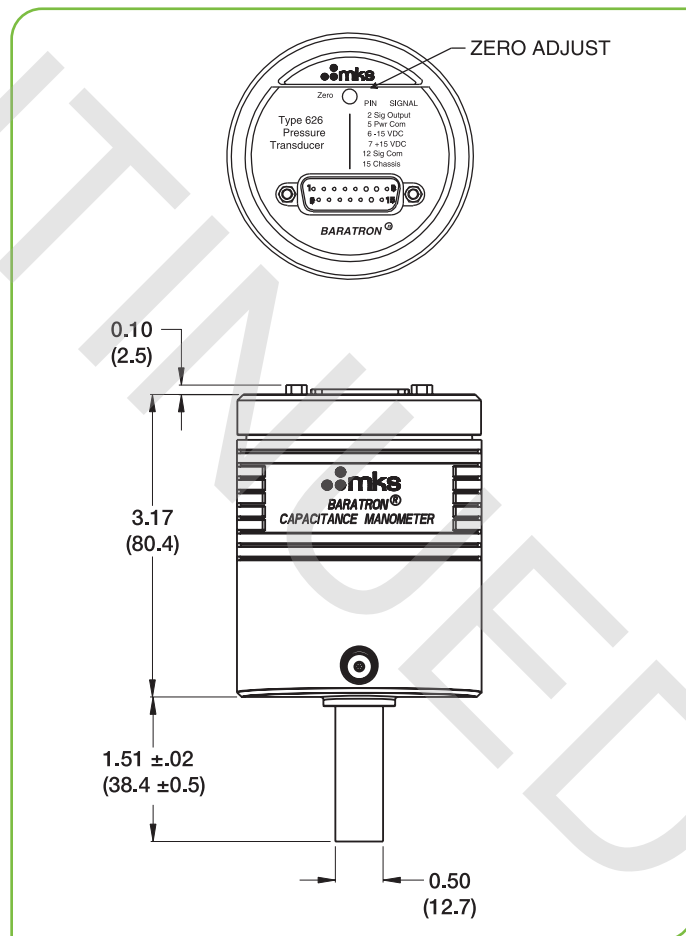
- Provides fast response, low hysteresis, and repeatability
- Operates at ambient conditions
- Suited for industrial, electronic, and research applications

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 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 622C has a terminal block electrical connector and the 626C has a 15-pin D-subminiature electrical connector.



Dimensional Drawing — 622C

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



Dimensional Drawing — 626C

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% Full Scale/°C for 10 to 1000 Torr ranges 0.010% Full Scale/°C for 2 Torr range 0.015% Full Scale/°C for 1 Torr range 0.020% Full Scale/°C for ranges < 1 Torr only (626 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
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
Compliance		CE

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

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

Ordering Code Example: GGGGXXYZ	Code	Configuration
Model (GGGG)		
Unheated manometer, terminal block electrical connector	622C	622C
Unheated 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	