627F

Heated (45°C) Absolute Baratron® Capacitance Manometer

The 627F Baratron® capacitance manometer is heated to 45°C, accurate to 0.12% of Reading and includes updated temperature-control electronics to provide superior long-term stability and repeatability. Optional heater and temperature status LED/switches indicate that the heater (which maintains the sensor temperature to 45°C) is in control. This capacitance manometer is available in Full Scale ranges down to 20 mTorr (0.03 mbar) to accommodate today's lower process pressures.

Based on established Baratron capacitance manometer technology, the sensor's wetted surfaces are Inconel® for excellent resistance to corrosive gases. The contemporary stainless steel package provides a cleanroom-compatible product. The product is interchangeable with earlier 627A, 627B, and 627D Baratron capacitance manometers and can be used with MKS power supplies, display units and pressure controllers, or other compatible power supply/readout devices.

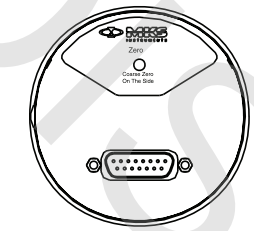
Product Features

- Excellent long-term stability
- Percent of Reading accuracy for more precise output signal in lower pressure ranges
- Full Scale ranges low as 20 mTorr (0.03 mbar) for precise measurement of low pressure processes
- All-Inconel corrosion-resistant wetted surfaces
- Integrated sump (US patent #5,822,685) provides particle protection
- Faster warm-up time
- Visual and electrical status of temperature and heater control circuit
- Compatible with earlier Baratron capacitance manometers, MKS power supply/readout modules, and pressure controllers

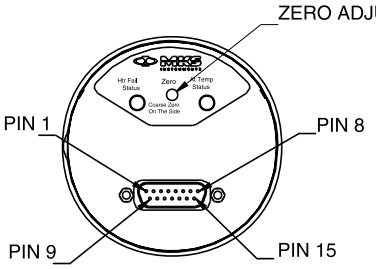
Key Benefits

- Measures total pressure directly, independent of gas composition
- High overpressure rating for improved reliability
- Cleanroom-compatible stainless steel package

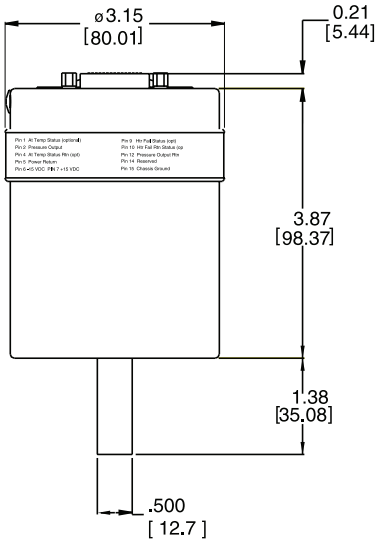
Specifications	
Full Scale Ranges	0.02, 0.05, 0.1, 0.25, 1, 2, 10, 20, 100, 1000, 2000, 5000, 10000, 15000, 20000, 25000 Torr
Resolution	0.001% of Full Scale (0.002% of Full Scale for 0.02 and 0.05 Torr)
Accuracy	0.12% of Reading, 0.15% for 0.25, 0.1, and 0.05 Torr (including non-linearity, hysteresis, and non-repeatability)
Temperature Coefficients **Zero**	• 0.002% of Full Scale/°C for 1 - 25000 Torr range; 0.005% of Full Scale/°C for 0.25 and 0.1 Torr, 0.015% of Full Scale/°C for 0.05 Torr, 0.03% of Full Scale/°C for 0.02 Torr
Span	• 0.02% of Reading/°C
Ambient Operating Temperature	15°C to 40°C
Volume	6.3 cc
Warm-Up Time	2 hours for 25000 Torr Full Scale, 4 hours for 0.1 Torr Full Scale and lower
Overpressure Limit	45 psia (310 kPa) or 120% Full Scale, whichever is greater
Materials Exposed to Gases	Inconel®
Input Power Required	±15 VDC ±5% @ 0.25 Amps (max.)
Output Signal	Pressure: 0 to +10 VDC into >10K Ω load
Optional Features LEDs and Switches **Temperature Status**	• One semiconductor switch will turn “ON” and corresponding green LED will be “ON” when the instrument is at temperature.
Heater Status	• Second semiconductor switch will turn “OFF” when heater failure occurs and corresponding bi-color LED will be blinking red, otherwise light will remain green.
Fittings **Standard**	• 1/2'' (12.7 mm) OD tube
Optional	• 8 VCR® and 8 VCO® female, NW16 KF and NW25 KF, 1.33'' OD CF and 2.75'' OD CF
Compliance	CE
Specifications for Semiconductor Switch	
Current Charge Capacity	120mA max.
Switch on Resistance	20 Ω max. @ 120mA, 50°C
Open Circuit Voltage	28V max.



STANDARD CONFIGURATION



AT TEMP/HEATER FAILURE INDICATORS



Dimensional Drawing -

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

Ordering Code Example: 627F01TBC1B	Code	Configuration
Model		
627F	627F	627F
Ranges		
0.02 0.05 0.1 0.25 1 2 10 20 100 1000 2000 5000 10000 15000 20000 25000	U2T U5T .1T RET 01T 02T 11T 21T 12T 13T 23T 53T 14T RBT 24T RCT	01T
Fittings		
1/2'' (12.7 mm) OD tube 8 VCR female 1.33'' OD CF NW16 KF (range < 5000 Torr) 8 VCO female 2.75'' OD CF NW25 KF (range < 5000 Torr)	A B C D E L Q	B
Accuracy (see specifications for applicability)		
0.12% of Reading 0.15% of Reading 0.25% of Reading	C D E	C
Options		
Standard Configuration, vertical calibration Optional Temperature/Heater Status, vertical calibration Standard Configuration, horizontal calibration (ranges < 1 Torr only) Optional Temperature/Heater Status, horizontal calibration (ranges < 1 Torr only)	1 2 5 6	1
Connector		
15 pin Type “D” with Thread Lock 15 pin Type “D” with Slide Lock	B P	B

www.MKSINST.com

627F_8/21