



Pressure &

Vacuum Measurement Solutions

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Type 627F

BARATRON® TEMPERATURE REGULATED CAPACITANCE MANOMETER

The Type 627F Baratron® is the latest RoHS-compliant version of the industry standard for stability and accuracy. The Type 627F Baratron is temperature controlled 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 inter-changeable with earlier Type 627A, 627B, and 627D Baratron capacitance manometers and can be used with MKS power supplies, display units and pressure controllers, or the user's compatible power supply/readout devices.

Features & Benefits

Accurate

- 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
- Measures total pressure directly, independent of gas composition

Robust

- 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
- High overpressure rating for improved reliability

Compatible

- Cleanroom-compatible stainless steel package
- Compatible with earlier Baratron capacitance manometers, MKS power supply/readout modules, and pressure controllers
- CE and RoHS (Restriction of Hazardous Substances) compliant



Specifications and Ordering Information

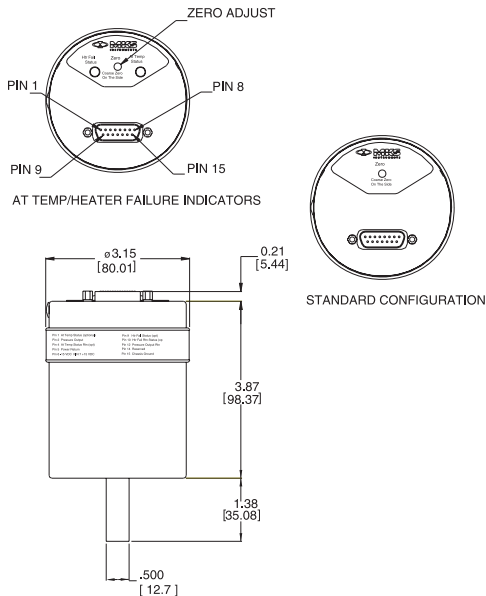
Full Scale Ranges	0.02, 0.05, 0.1, 0.25, 1, 2, 10, 20, 100, 200, 1000, 2000, 5000, 10000, 15 000, 20000, 25000 Torr
Resolution	0.001% of F.S. (0.002% of F.S. for 0.02 and 0.05 Torr)
Accuracy (including non-linearity, hysteresis, and non-repeatability)	0.12% of Reading , 0.15% for 0.25, 0.1, and 0.05 Torr
Temperature Coefficients	
Zero	0.002% of F.S./°C for 1 - 25000 Torr range; 0.005% F.S./°C for 0.25 and 0.1 Torr, 0.015% F.S./°C for 0.05 Torr, 0.03% F.S./°C for 0.02 Torr
Span	0.02% of Rdg./°C
Ambient Operating Temperature	15°C to 40°C
Volume	6.3 cc
Warm-Up Time	2 hours for 25000 Torr F.S., 4 hours for 0.1 Torr F.S. and lower
Overpressure Limit	45 psia (310 kPa) or 120% F.S., 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 LED's 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.
Electromagnetic Compatibility	CE compliant to ECD Directive 2004/108/EEC
Restriction of Hazardous Substances	Fully compliant to RoHS Directive 2002-95-EC
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

Specifications for Semiconductor Switch

Current Charge Capacity	120mA max.
Switch on Resistance	20 Ω max. @ 120mA, 50°C
Open Circuit Voltage	28V max.

Ordering Code Example: 627F01TBC1B

Type 627F	Code	Configuration
Pressure Range Full Scale - Torr	627F	627F
0.02	U2T	01T
0.05	U5T	
0.1	.1T	
0.25	RET	
1	01T	
2	02T	
10	11T	
20	21T	
100	12T	
1000	13T	
2000	23T	
5000	53T	
10000	14T	
15000	RBT	
20000	24T	
25000	RCT	
Fittings	A B C D E L Q	B
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)		
Accuracy (see specifications for applicability)	C D E	C
0.12% of Reading 0.15% of Reading 0.25% of Reading		
Options	1 2 5 6	1
Standard Configuration, vertical calibration (ranges ≥ 1 Torr) Optional Temperature/Heater Status, vertical calibration (ranges ≥ 1 Torr) Standard Configuration, horizontal calibration (ranges < 1 Torr only) Optional Temperature/Heater Status, horizontal calibration (ranges < 1 Torr only)		
Connector	B P	B
15 pin Type "D" with Thread Lock 15 pin Type "D" with Slide Lock		



Dimensional Drawing —

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



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