



629F

BARATRON® TEMPERATURE REGULATED CAPACITANCE MANOMETER (45°C OR 100°C)

The 629F Baratron® capacitance manometer is an improved version of the industry standard 629B capacitance manometer. The 629F process capacitance manometer is temperature controlled to either 45°C or 100°C, is accurate to 0.12% of Reading, and includes improved temperature control electronics to provide superior long-term stability and repeatability. It has an optional external zero input, which accepts a voltage equal and opposite to the zero offset, to provide a zero output at zero pressure. The “At Temperature” LED/switch indicates that the sensor is at controlled temperature (either 45°C or 100°C). The 629F is available in Full Scale ranges down to 20 mTorr to accommodate today’s lower process pressures.

Based on well established Baratron capacitance manometer technology, the sensor’s wetted surfaces are constructed of Inconel® for excellent resistance to corrosive gases. The stainless steel package provides a cleanroom compatible product. The 629F product is directly interchangeable with earlier 629A, 629B, and 629D Baratron capacitance manometers, as well as many competitive products.

Features & Benefits

Accurate

- Excellent long-term stability
- Percent of Reading accuracy calibration for more precise output signal in lower part of pressure ranges
- Full Scale ranges low as 20 mTorr 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 condition of the unit
- High overpressure rating for improved reliability

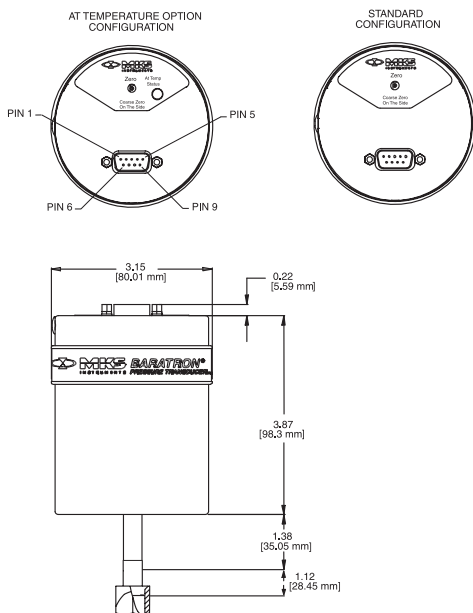
Compatible

- Cleanroom-compatible stainless steel package
- Compatible with earlier Baratron capacitance manometers, MKS power supply/readout modules, and pressure controllers



Specifications and Ordering Information

Full Scale Ranges	0.02 (45°C only), 0.05, 0.1, 0.25, 1, 2, 10, 20, 100, 1000, 2000, 5000, 10000, 15000, 20000, 25000 Torr
Resolution	0.001% of F.S. (0.002% of F.S. for 0.02 and 0.05 Torr)
Accuracy	
45°C version	0.12% of reading (including non-linearity, hysteresis, and non-repeatability) for 1 - 25,000 Torr; 0.15% of reading for 0.25, 0.1, and 0.05 Torr; and 0.25% for 0.02 Torr
100°C version	0.25% of reading (including non-linearity, hysteresis, and non-repeatability) for 1 - 25,000 Torr; 0.50% of reading for < 1 Torr
Temperature Coefficients	
Zero	
45°C version	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
100°C version	0.002% of F.S./°C for 1-25000 Torr, 0.01% F.S./°C for 0.25 and 0.1 Torr; and 0.02% of F.S./°C for 0.05 Torr
Span	0.02% of Reading/°C
Ambient Operating Temperature	15°C to 40°C for 45°C version 15°C to 50°C for 100°C version
Volume	6.3 cc
Warm-Up Time	2 hours for 1 - 25,000 Torr ranges, 4 hours for ranges < 1 Torr
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 for 45°C, 0.6 Amps for 100°C
Output Signal	Pressure: 0 to +10 VDC into >10K Ω load
Optional Features at Temperature Status (LED and Switch) and External Zero	At temperature status: semiconductor switch will turn "ON" and corresponding green LED will be "ON" when the instrument is at temperature. Option not available: 0.02 Torr/45°C and 0.05 Torr/100°C. External Zero allows voltage input that is equal to and opposite to a zero offset. Option not available: 0.02 Torr/45°C and 0.05 Torr/100°C
Compliance	CE
Fittings	Standard: 1/2" (12.7 mm) tubulation; Optional: 8 VCR® and 8 VCO® female, NW16 KF and NW25 KF, 1.33" OD CF and 2.75" OD CF



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

Ordering Code Example: 629F01TACJ1B	Code	Configuration
629F	629F	629F
Pressure Range Full Scale		
0.02 (not available in 100°C)	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		
1/2" diameter tubulation	A	A
8 VCR® female	B	
1.33" OD CF	C	
NW16 KF (range < 5000 Torr)	D	
8 VCO® female	E	
2.75" OD CF	L	
NW25 KF (range < 5000 Torr)	Q	
Accuracy		
0.12% of Reading (standard on 45°C, 1 thru 25000 Torr)	C	C
0.15% of Reading (standard on 45°C, 0.05 Torr, & 0.1 Torr)	D	
0.25% of Reading (standard on 100°C, 1 thru 1000 Torr, 45°C - 0.02 Torr)	E	
0.5% of Reading, (standard on 100°C, <1 Torr)	F	
Temperature		
45°C	J	J
100°C	L	
Options		
Standard Configuration	1	1
Optional Heater Status	2	
External Zero (not available on 0.02 Torr 45°C and 0.05 Torr 100°C)	3	
Heater Status and External Zero (not available on 0.02 Torr 45°C and 0.05 Torr 100°C)	4	
Connector		
9 pin Type "D" with Thread Lock (standard)	B	B
9 pin Type "D" with Slide Lock (optional)	P	



MKS Instruments, Inc. Global Headquarters

2 Tech Drive, Suite 201
Andover, MA 01810
Tel: 978.645.5500
Tel: 800.227.8766 (in U.S.A.)
Web: www.mksinst.com

MKS Instruments, Inc. Pressure & Vacuum Measurement Solutions

Six Shattuck Road
Andover, MA 01810
Tel: 978.975.2350