

# 629H

## Heated (45°C or 100°C) Absolute Baratron® Capacitance Manometer



The 629H Baratron® capacitance manometer is an improved version of the industry standard 629F capacitance manometer. The 629H process capacitance manometer is heated 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 629H 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 629H product is directly interchangeable with earlier 629A, 629B, 629D, and 629F Baratron capacitance manometers, as well as many competitive products.

### Product Features

- 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
- 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
- Compatible with earlier Baratron capacitance manometers, MKS power supply/readout modules, and pressure controllers



### Key Benefits

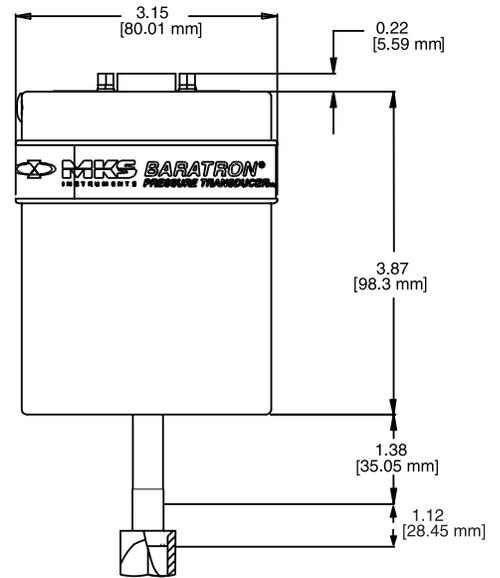
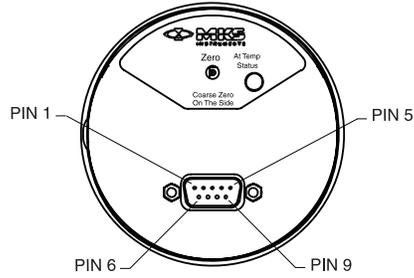
- Measures total pressure directly, independent of gas composition
- High overpressure rating for improved reliability
- Cleanroom-compatible stainless steel package

Specifications		
<b>Full Scale Ranges</b>		0.02 (45°C only), 0.05, 0.1, 0.25, 1, 2, 10, 20, 100, 1000, 2000, 5000, 10000, 15000, 20000, 25000 Torr
<b>Resolution</b>		0.001% of Full Scale (0.002% of Full Scale for 0.02 and 0.05 Torr)
<b>Accuracy</b>	<b>45°C version</b> <b>100°C version</b>	<ul style="list-style-type: none"> <li>• 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</li> <li>• 0.25% of Reading (including non-linearity, hysteresis, and non-repeatability) for 1 - 25,000 Torr; 0.50% of Reading for &lt; 1 Torr</li> </ul>
<b>Temperature Coefficients - Zero</b>	<b>45°C version</b> <b>100°C version</b>	<ul style="list-style-type: none"> <li>• 0.002% of Full Scale/°C for 1-25000 Torr range; 0.005% Full Scale/°C for 0.25 and 0.1 Torr, 0.015% Full Scale/°C for 0.05 Torr, 0.03% Full Scale/°C for 0.02 Torr</li> <li>• 0.002% of Full Scale/°C for 1-25000 Torr, 0.01% Full Scale/°C for 0.25 and 0.1 Torr; and 0.02% of Full Scale/°C for 0.05 Torr</li> </ul>
<b>Temperature Coefficients - Span</b>		0.02% of Reading/°C
<b>Ambient Operating Temperature</b>	<b>45°C version</b> <b>100°C version</b>	<ul style="list-style-type: none"> <li>• 15°C to 40°C</li> <li>• 15°C to 50°C</li> </ul>
<b>Volume</b>		6.3 cc
<b>Warm-Up Time</b>		2 hours for 1 - 25,000 Torr ranges, 4 hours for ranges < 1 Torr
<b>Overpressure Limit</b>		45 psia (310 kPa) or 120% Full Scale, whichever is greater
<b>Materials Exposed to Gases</b>		Inconel
<b>Input Power Required</b>	<b>45°C version</b> <b>100°C version</b>	<ul style="list-style-type: none"> <li>• ±15 VDC ±5% @ 0.25 Amps</li> <li>• 0.6 Amps for 100°C</li> </ul>
<b>Output Signal</b>		Pressure: 0 to +10 VDC into >10K Ω load
<b>Optional Features at Temperature Status (LED and Switch) and External Zero</b>		<ul style="list-style-type: none"> <li>• At temperature status: semiconductor switch will turn "ON" and corresponding green LED will be "ON" Status (LED and Switch) and when the instrument is at temperature. Option not available: 0.02 Torr/45°C and 0.05 Torr/100°C.</li> <li>• 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</li> </ul>
<b>Fittings</b>	<b>Standard</b> <b>Optional</b>	<ul style="list-style-type: none"> <li>• 1/2" (12.7 mm) tubulation</li> <li>• 8 VCR® and 8 VCO® female, NW16 KF and NW25 KF, 1.33" OD CF and 2.75" OD CF</li> </ul>
<b>Compliance</b>		CE

STANDARD CONFIGURATION



AT TEMPERATURE OPTION CONFIGURATION



Dimensional Drawing -

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

Ordering Code Example: 629H01TACJ1B	Code	Configuration
<b>Model</b>		
629H	629H	629H
<b>Ranges</b>		
0.02 (not available in 100°C) 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
<b>Fittings</b>		
1/2" diameter tubulation 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	A
<b>Accuracy (see specifications for applicability)</b>		
0.12% of Reading (standard on 45°C, 1 thru 25000 Torr) 0.15% of Reading (standard on 45°C, 0.05 Torr, & 0.1 Torr) 0.25% of Reading (standard on 100°C, 1 thru 1000 Torr, 45°C - 0.02 Torr) 0.5% of Reading, (standard on 100°C, <1 Torr)	C D E F	C
<b>Temperatures</b>		
45°C 100°C	J L	J
<b>Options</b>		
Standard Configuration Optional Heater Status External Zero (not available on 0.02 Torr 45°C and 0.05 Torr 100°C) Heater Status and External Zero (not available on 0.02 Torr 45°C and 0.05 Torr 100°C)	1 2 3 4	1
<b>Connector</b>		
9 pin Type "D" with Thread Lock (standard) 9 pin Type "D" with Slide Lock (optional)	B P	B