

AA01A

Unheated Absolute Baratron® Capacitance Manometer



The AA01A is an advanced high-performance absolute unheated capacitance manometer developed specifically for use in vacuum and pressure measurement applications where accuracy and repeatability are crucial to process success. These capacitance manometers are used in a wide variety of applications including vacuum furnaces, freeze-drying of fruits and vegetables, gas lasers, automotive component testing, bottle coatings, and

vacuum distillation, to highlight a few. They use state-of-the-art digital architecture throughout to produce the highest possible long-term performance and reliability. These manometers operate on +15 VDC to +30 VDC input voltage, and have a standard 0 to 10 VDC analog output signal. Full Scale measurement ranges from 1 Torr (133 Pa) to 1000 Torr (133.3 kPa) are available.

Product Features

- 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
- 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
- Push button zeroing



Key Benefits

- Best-available long-term output stability ensures state-of-the-art process repeatability in nearly any application
- High overpressure limit ensures reliability from occasional system mishaps
- Used in a wide variety of applications

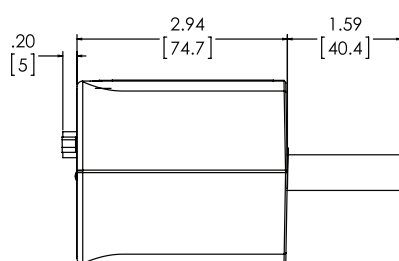
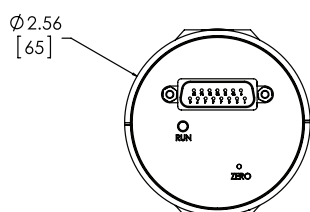
Specifications

Full Scale Pressure Ranges		1, 2, 10, 20, 100, 500, 1000 Torr and metric equivalents
Accuracy - % of Reading ¹		0.25% for 1 to 1000 Torr
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
	Span	• 0.04% of Reading/°C
Resolution		0.002% of Full Scale
Ambient Operating Temperature		0 to 50°C
Overpressure Limit		45 psia (310 kPa)
Materials Exposed to Process Gases		Inconel and Incoloy nickel alloys
Volume	1/2" Tube	• 6.29 cm³
	8 VCR	• 8.605 cm³
Input Power Required		+24 VDC (+15 to +30 VDC) Can be powered by +24 VDC or by standard MKS ±15V power supply display and cables
Output Signal		0 - 10 VDC into > 10 kΩ load
Electrical Connector		15-pin D-subminiature standard, terminal block adapter optional
Fittings	Standard	• ½" (12 mm) OD tube standard
	Optional	• 4 VCR® female, 8 VCR female, 8 VCR male, 8 VCO® female, NW16-KF, NW25-KF, 1.33" (33.8 mm) OD Conflat®, 2.75" (70 mm) OD Conflat
Compliance ²		CE

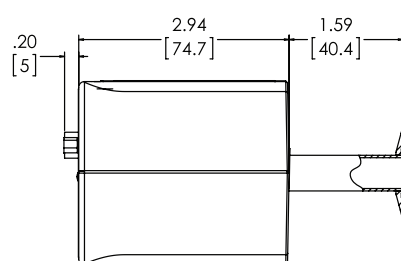
¹ Includes hysteresis, non-linearity, and non-repeatability.

² For CE compliance, the mating connector must be properly grounded.

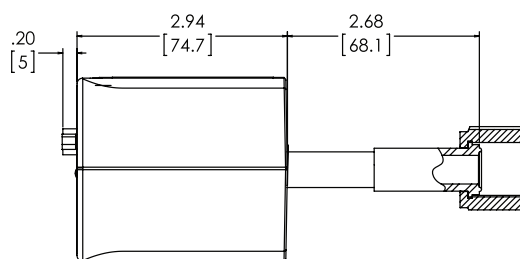
Dimensional Drawings



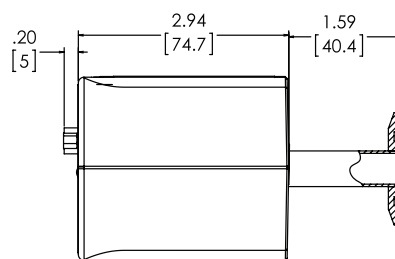
STRAIGHT TUBE .50 O.D.



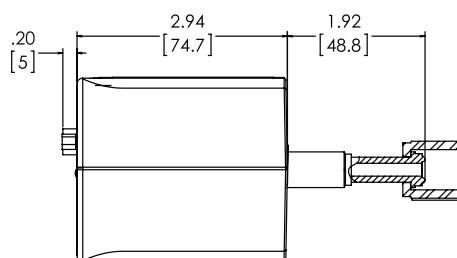
NW-KF-16



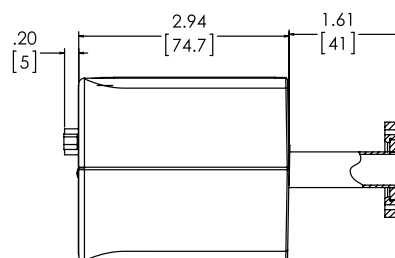
8 VCR FEMALE



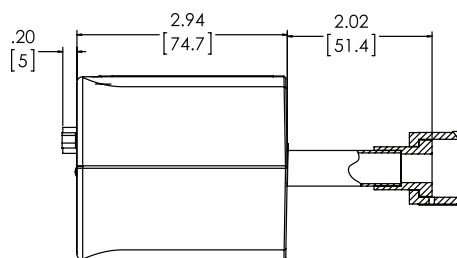
NW-KF-25



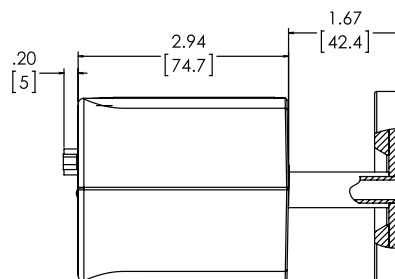
4 VCR FEMALE



MINI-CONFLAT, ROTATABLE



8 VCO FEMALE



2.75 CONFLAT

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

Ordering Code Example: AA01A11TBAS3B00000			Code	Configuration
Model				
AA01A Unheated Absolute Capacitance Manometer			AA01A	AA01A
Range Full Scale				
1			01	11
2			02	
10			11	
20			21	
100			12	
500			52	
1000			13	
Engineering Units				
Torr/mmHg			T	T
mbar			M	
kPa			K	
Fittings (compatible with)				
½" (12.7 mm) OD tube			BA	BA
4 VCR Female (V sensor only)			CD	
8 VCR female			CE	
8 VCR male			CF	
NW16-KF			GA	
NW25-KF			GC	
1.33" (33.8 mm) Conflat, rotatable			HA	
2.75" OD Conflat, rotatable			HC	
8 VCO Female			DA	
Sensor				
Standard			S	S
Short Standard (GC or HA fitting only)			T	
¼" dia. tube (CD fitting only)			V	
Input/Output Voltage*				
+24 VDC (+15 to +30 VDC) Can be powered by +24 VDC or by standard MKS ±15V power supply display and cables			3	3
Electrical Connector				
15 POS D-subminiature-M with screw locks			B	B
15 POS D-subminiature-M with slide lock posts			P	
Reserved				
Reserved			00	00
Calibration Orientation				
Ranges ≥ 1 Torr			0	0
Ranges ≤ 1 Torr, horizontal			H	
Ranges ≤ 1 Torr, vertical			V	
Accuracy				
Standard			0	0
Other Options				
None			0	0
15 pin D terminal block adapter			U	

Notes:

When using MKS ±15 VDC power supplies, the +15 VDC and power common will be used, but the -15 VDC on Pin 6 will be ignored by the AA01A.