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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.



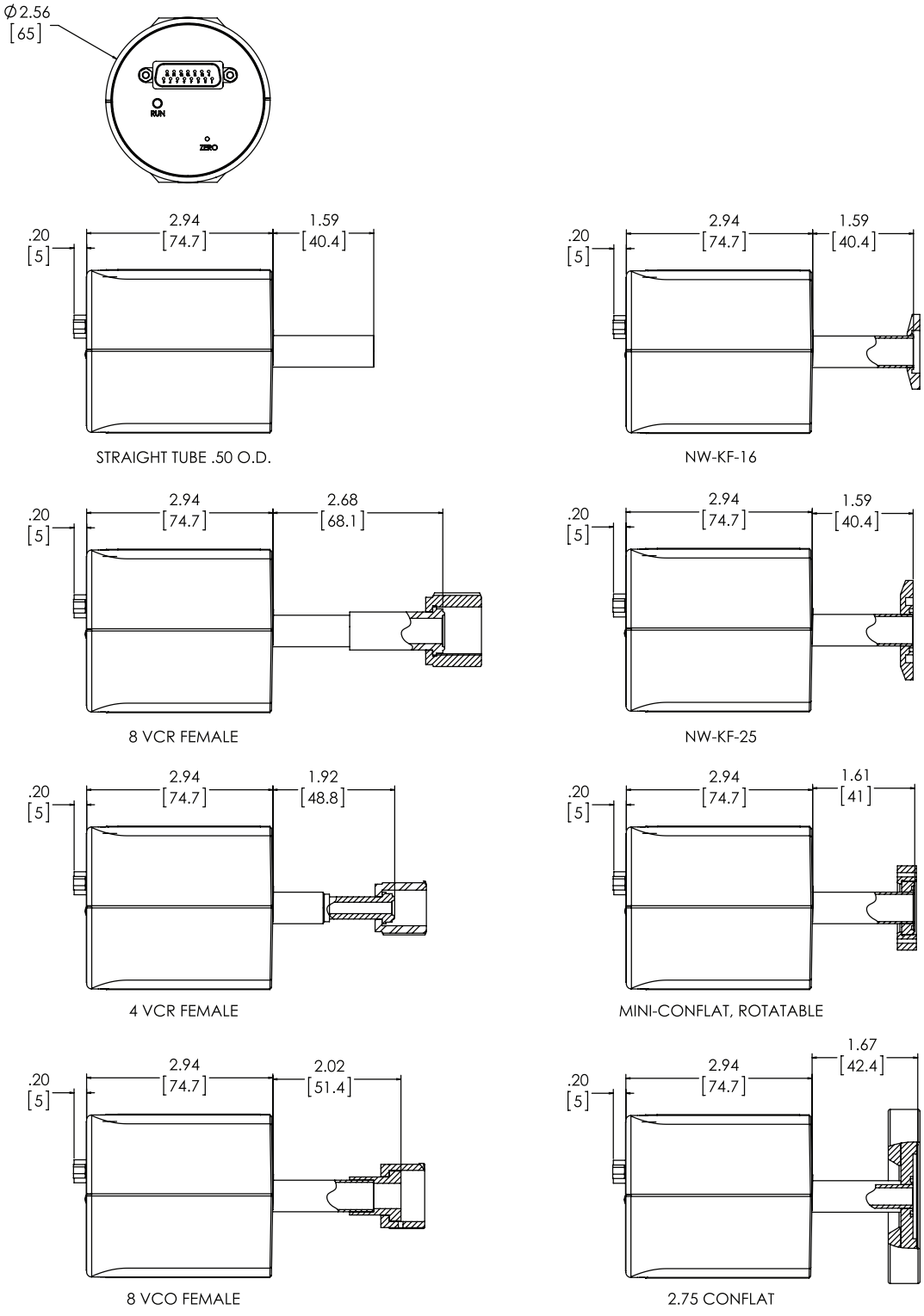
Product Features

- 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

Dimensional Drawing



Dimensional Drawing

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

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 (0.15% optional)
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 cm^3
8 VCR	8.605 cm^3
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” (12.7 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.

Ordering Information

Ordering Code Example: AA01A11TBAS3B00000	Code	Configuration
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
Options		
None	0	0
15 pin D terminal block adapter	U	

* 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.

www.MKSINST.com
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AA01A_01/20
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