Model 730

Vacuum Capacitance Manometer

Features

- Chemical resistive nickel alloy design
- Precise low vacuum measurements
- Industry standard connections
- High accuracy: ±0.5% of reading Std., ±0.25% optional
- Tensioned diaphragm provides superior performance
- Wide compensated operating temperature
- Fast response time with low circuit noise
- Insensitive to environmental changes
- Exceptional overpressure capability
- CE & RoHS compliant

Applications

- Semiconductor
- Petrochemical
- Plasma sterilizers
- Vacuum packaging

Setra's Model 730 is a high accuracy absolute capacitance manometer (also referred to as Capacitance Diaphragm Gauge (CDG)), for measuring low vacuum pressure ranges that are critical to the control of processes in photovoltaic, semiconductor and industrial markets. The 730 utilizes welded, all nickel alloy wetted components which provides capability with the most aggressive process media. Its high frequency electronics design is fully RoHS compliant and yields extremely low noise, while maintaining the fast response time required for today's critical control applications. External noise rejection, fast warm-up, resistance to environmental effects, and long term stability are unmatched by competing models.

High performance for demanding applications

The Model 730 capacitance manometer uses a rigid single electrode variable capacitance sensing element resulting in high over pressure capability and superior long term stability. It's percent of reading accuracy, low hysteresis, and high resolution provides a wide dynamic range, making the 730 an ideal fir for measuring and controlling critical manufacturing processes.

Process compatible nickel alloy sensor

The 730 is designed using nickel alloy for all its wetted parts. Nickel alloy is highly resistive to the corrosive media used in semiconductor and industrial vacuum processes. Their material, along with the all welded construction, ensures long life in the most demanding applications.

Direct pressure measurement

Unlike some vacuum measuring technologies, the Model 730 capacitance manometer measures direct pressure; force/unit area. Its 0-5 or 0-10 VDC analog output signal is proportional to the applied pressure and independent of the process gas composition.

1 YEAR WARRANTY

USA Made

RoHS

CE

Specifications

Performance data

Accuracy	±0.5% of reading ±0.25% of reading (Opt)
Response time	<20 ms
Resolution	Infinite, limited only by output noise level (≤0.005% FS)

Thermal effects

Compensated range	0º to +50ºC
Zero shift	±0.25% FS/50ºC
Span shift	±1.35% Rdg/ 50ºC
Long term stability	0.5% FS/1 YR, excluding environmental effects

Electrical data (voltage)

Excitation/Output[4]	12 to 30 VDC for 0-10 VDC 9 to 30 VDC for 0-5 VDC
Current consumption	<10 mA max
Output load	>10 kΩ Load
Output impedance	<1 ohm
Circuit	3-Wire

[1]Includes non-linearity, non-repeatability and hysteresis
[2]Units calibrated at nominal 66ºF. Maximum thermal error computed from this datum.
[3]±1.0% FS/yr for ranges <100 Torr full scale when operated at 80ºC
[4]Calibrated into a 50K ohm load, operable into a 5000 ohm load or greater

Specifications subject to change without notice.

Physical description

Pressure fittings	See ordering information
Wetted material	Nickel alloy
Electrical connection	5-Pin Screw terminal, 9-Pin D-Sub, or 15-Pin D-Sub on 6" pigtail
Case	Stainless steel
Cavity volume	<6.0 ccl
Weight (approx.)	<250 gl

Pressure media

Gases or liquids compatible with nickel alloy. Nickel alloy wetted material is for 0.5" tube option only. Other fitting options will add stainless steel.

Environmental data

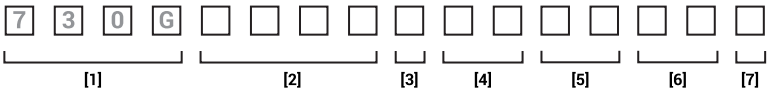
Temperature	0º to +80ºC

Approvals

CE, RoHS

Ordering information

Example part number: 730G010TA4T2BD9K
Model 730, 10 Torr pressure range, Absolute pressure type, 0.5" OD Tube fitting, 0-5VDC output, 9-Pin D-Sub termination, ±0.5% of Reading accuracy



[1]

Model	
730G	Model 730

[2]

Pressure range[1]	
010T	10 Torr
020T	20 Torr
100T	100 Torr
200T	200 Torr
10CT	1000 Torr
010M	10 mBar[1]
020M	20 mBar
100M	100 mBar
10CM	1000 mBar
001K	1 kPa[1]
002K	2 kPa
010K	10 kPa
100k	100 kPa

[3]

Pressure type	
A	Absolute

[4]

Fitting	
4T	0.5"OD tube
N0	ISO NW10
N1	ISO NW16
N2	ISO NW25
D8	8 VCR® Int. swivel
2T	0.25" OD tube
D4	4 VCR Int. swivel
2M	0.25" NPT Ext.

[5]

Output	
2B	0-5 VDC
2C	0-10 VDC

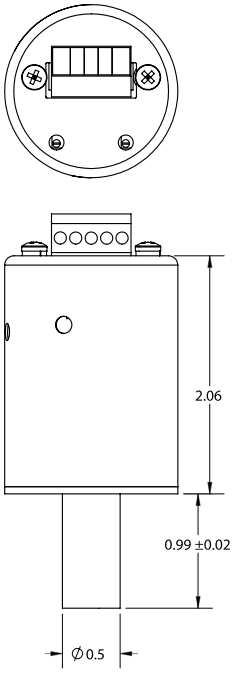
[6]

Elec. termination	
D9	9-pin D-Sub
T1	Terminal strip
D7	15-pin D-Sub on 6" pigtail

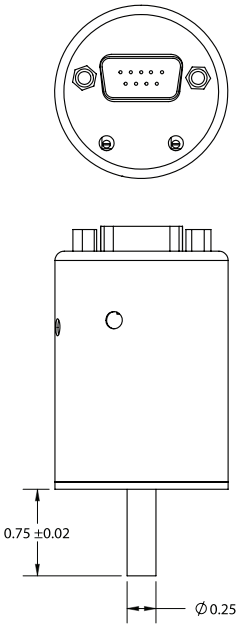
[7]

Accuracy	
K	±0.5% of reading
A	±0.25% of reading
J	±1% of reading

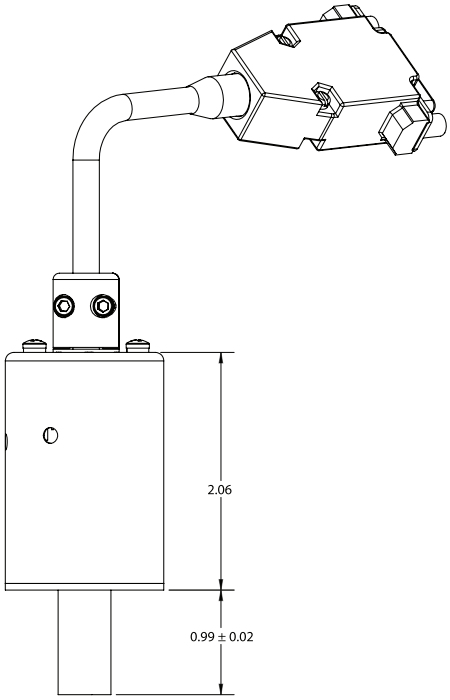
Dimensions



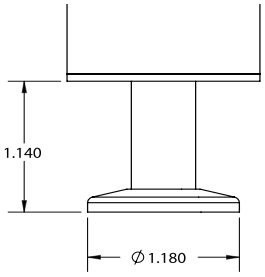
Elec. termination code "4T"



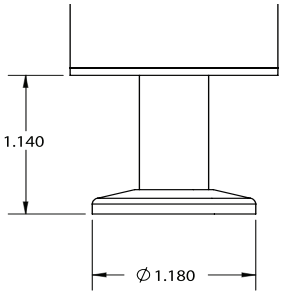
Elec. termination code "2T"



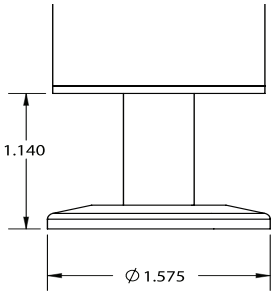
Elec. termination code "4T" with fitting code "D7"



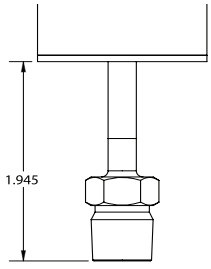
Fitting code "N0"



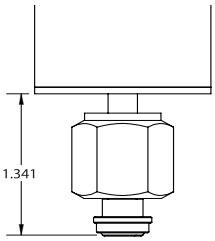
Fitting code "N1"



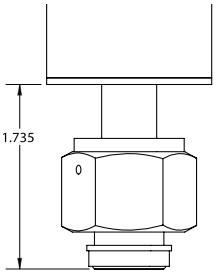
Fitting code "N2"



Fitting code 2M



Fitting code D4



Fitting code D8

SSP-730 Rev. F 11/14/2022

Setra Systems, Inc.
159 Swanson Road
Boxborough, MA 01719

800.257.3872
www.setra.com