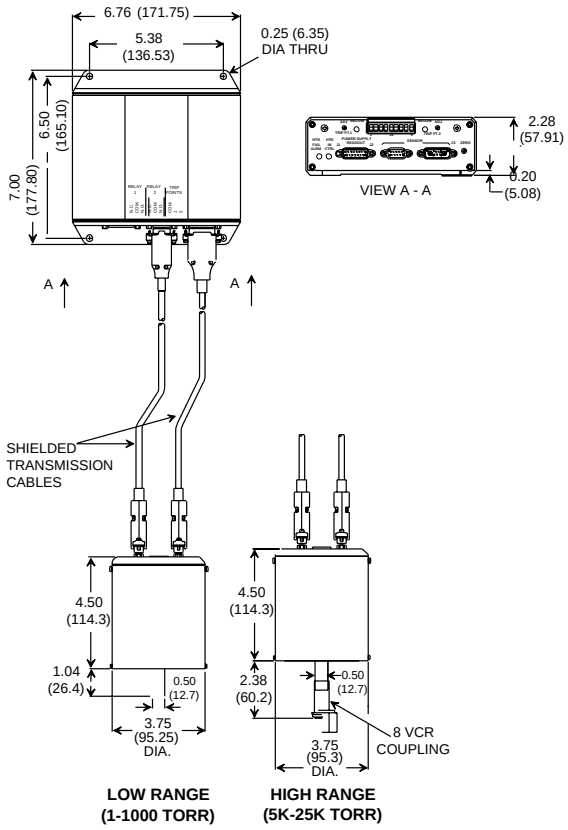
Baratron® High Temperature Pressure Transducer

Type 621C

Dimensional Drawing



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

[1] Optional cables available up to 30 feet.

Features and Benefits

- ☐ High temperature (100°C, 125°C, 150°C) sensor with integral heater designed for: LPCVD nitride semiconductor processes to prevent contamination buildup and particle generation; and pharmaceutical lyophilization to ensure sterilization temperatures are achieved to prevent bacteria growth
- ☐ Rugged, high overpressure design (45 psia) for pressure cycling applications
- ☐ Two trip point control relays for control system interfacing
- ☐ Heater status lights and relay outputs
- ☐ 0-10 VDC and 2-wire 4-20 mA outputs linear with pressure
- ☐ CE Compliant — meets requirements for European Common Market

Description

The MKS Baratron® Type 621C Absolute Pressure Transducer is designed for applications that require a high temperature sensor. In *semiconductor processes*, a high temperature transducer prevents contamination buildup. For example, chloride-based effluents (ammonia chloride, aluminum chloride) which occur in LPCVD nitride and aluminum etch processes, can condense onto surfaces cooler than 100°C and become sources of particle generation, leading to wafer defects. In *steam sterilizable type lyophilizers*, a high temperature transducer ensures that steam sterilization temperatures are achieved, thus preventing bacteria growth. Some users have found that unheated or lower temperature transducers (45°C) do not reach steam sterilization temperatures during the steam cycle. With high temperature operation and high overpressure capabilities, zero stability is ensured.

The Type 621C employs two control relay outputs that can be readily interfaced with alarms, valve actuators, computers, or process controllers. Heater status lights and relay outputs are also provided to indicate when the sensor is at or below operating temperature. The sensor and electronics are contained in separate housings and are connected by a standard 8-foot cable[1] allowing the electronics to be conveniently mounted in any location.

Specifications

Full Scale Ranges	1, 2, 10, 100, 1000 Torr (mmHg) *(For higher ranges, consult factory.)*
Resolution	1×10^{-4} F.S.
Accuracy	0.5% of Reading (including non-linearity, hysteresis, and non-repeatability)
Temperature Coefficients	
Zero	For 1 and 2 Torr ranges: 0.02% of F.S./°C , For 10-1000 Torr ranges: 0.0075% of F.S./°C
Span	0.04% of Rdg./°C
Ambient Operating Temperature	Sensor and cable: 15° to 70°C, Signal conditioner: 0° to 50°C
Volume	6.3 cc
Overpressure Limit	45 psia (310 kPa)
Materials Exposed to Gases	Inconel®
Input Power Required	±15 VDC ±5% @ 1.5 Amps (max.)
Output Signal	Pressure: 0 to +10 VDC into > 10K Ω load and 2-wire 4-20 mA @ 12 to 45 VDC into < 250 Ω load Heater status: Relay energized when sensor is at temperature; de-energized when sensor is below temperature
Trip Point Control Relays	2, each separately adjustable from 0.1 to 100% of F.S., SPDT contacts rated at 1 Amp @ 30 VDC or 0.5 Amp @ 120 VAC resistive.
Electromagnetic Compatibility	Fully CE Compliant to EMC Directive 89/336/EEC when used with an overall metal braided shielded cable, properly grounded at both ends
Product Safety	Fully CE Compliant to Low Voltage Directive 72/23/EEC
Fittings	Standard: ½" (12.7 mm) tubulation; Optional: 8 VCR® female, 8 VCO® female, NW 16 KF, mini-CF, 2¾" CF, 1½" or 2" Tri Clover

Specifications are subject to change without notice.
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Inconel® is a registered trademark of Inco Alloys International.
VCR® and VCO® are registered trademarks of Cajon Co., Macedonia, OH.

Ordering Information

model number example: 621C | 01T | A | F | L | C

Type Number	621C
Pressure Range Full Scale (mmHg)	
1	01T
2	02T
10	11T
100	12T
1000	13T
Fittings	
½" diameter tubulation	A
8 VCR female	B
Mini-CF, rotatable	C
NW 16 KF	D
8 VCO female	E
2¾" CF, rotatable	L
1½" Tri Clover	M
2" Tri Clover	N
Accuracy	
0.5% of Reading	F
Temperature	
100°C	L
125°C	M
150°C	H
Cable Length	
3 ft. (0.91 m)	A
5 ft. (1.5 m)	B
8 ft. (2.4 m)	C
12 ft. (3.7 m)	D
25 ft. (7.6 m)	E
30 ft. (9.1 m)	F

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Technology for Productivity
Baratron® & Control Products

Six Shattuck Road
Andover, MA 01810-2449
(800) 227-8766 or (508) 975-2350
Fax: (508) 975-0093
E-mail: mks@mksinst.com
Web site: http://www.mksinst.com