Entegris

NT® PRESSURE TRANSDUCERS FOR VACUUM APPLICATIONS

accurate vacuum measurements

Reliable Pressure Measurement

Entegris combines the latest electronic sensing technology and high purity materials to create a pressure transducer for vacuum applications. Using a new inert sapphire sensor, the NT® Pressure Transducer measures vacuum and positive pressure conditions. Constructed without fill fluids or diaphragms, the transducer provides reliability in conditions where other nonmetallic sensors fail and offers accuracy to one percent (1%) of span. Available in single-port or flow-through designs, the compact transducer easily integrates anywhere pressure measurement is needed.

- Inert sapphire pressure sensor for vacuum and positive pressure applications
- Nonmetallic sensing technology for reliable measurement
- No fill fluids to contaminate your process
- Available with a flow-through design to minimize dead volume
- Compact design to minimize footprint
- One percent (1%) of span accuracy for critical measurements

Constructed for Compatibility

Packaged for harsh environments, NT® Pressure Transducers contain no moving parts or fill fluids, which could contaminate your process. The transducer's wetted parts are constructed with PTFE, sapphire and other fluoropolymers for corrosion resistance and high purity, while the encapsulated electronics provide protection against corrosive fumes and liquids.

Sensing Technology

For accurate and reliable inert vacuum measurements, the pressure transducers use an inert sapphire pressure sensor for vacuum and positive pressure applications. Each product is calibrated for vacuum and 100 percent verified, so there is no need to slow down installation with unnecessary field calibration or adjustments. Also, use the pressure transducer with an Entegris digital display to obtain valuable and critical diagnostic information for monitoring and alarms.

Applications

NT® Pressure Transducers measure gas or liquid pressure, allowing you to monitor process conditions for increased safety and system performance.

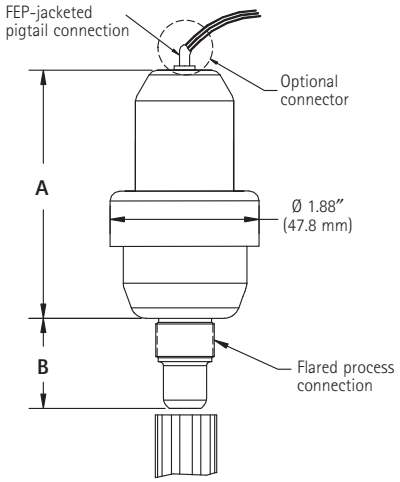
- Measure dispense pressure for HF acid
- Monitor purge cycles for aspirated liquid waste systems
- Verify HCl gas pressure for furnaces
- Determine bulk delivery pressure for chemical dispense systems
- Monitor pressurized corrosive gas systems

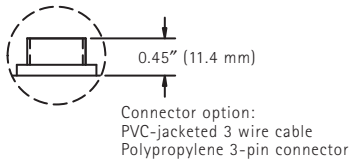
NT® Pressure Transducer, Single-port

Model 4150 Dimensional Information

Inlet/Outlet	A		
Port Connection	Connector	Pigtail	B
1/4″ Flaretek®	2.90″ (73.7 mm)	2.90″ (73.7 mm)	0.99″ (25.2 mm)
3/8″ Flaretek®	2.90″ (73.7 mm)	2.90″ (73.7 mm)	1.06″ (26.9 mm)
1/2″ Flaretek®	2.90″ (73.7 mm)	2.90″ (73.7 mm)	1.14″ (29.0 mm)
1/4″ FNPT	3.07″ (78.0 mm)	3.24″ (82.3 mm)	–
1/2″ FNPT	3.33″ (84.6 mm)	3.50″ (88.9 mm)	–
1/4″ MNPT	2.90″ (73.7 mm)	2.90″ (73.7 mm)	0.59″ (15.0 mm)

Side View





Specifications

Description Model 4150		
Materials of construction:	Wetted parts	Body: PTFE Sensor interface: Sapphire Primary seal: Kalrez®
	Nonwetted parts	Polypropylene, polyethylene, PVDF and PVC or FEP-jacketed cable (in addition to materials listed above)
Pressure range:	-12 to 30 PSIG (-83 to 207 kPa); -12 to 60 PSIG (-83 to 414 kPa); -12 to 100 PSIG (-83 to 690 kPa)	
Over-pressure limit:	150% of full scale range	
Process temperature:	50° to 95°F (10° to 35°C)	
Process connection options:	Flaretek® flared tube: 1/4″, 3/8″, 1/2″ FNPT: 1/4″, 1/2″ MNPT: 1/4″	
Electrical input:	24 VDC (12-28 VDC input voltage)	
Electrical output:	4-20 mA	
Reference accuracy:	±1% of span at 73°F (23°C) (includes combined effects of linearity, hysteresis and repeatability)	
Enclosure:	NEMA 5/IP54	
Approvals:	CE	

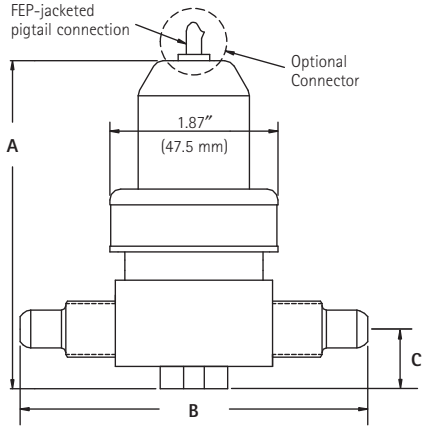
Note: Specifications are subject to change without notice. Please consult the factory for the most current information.

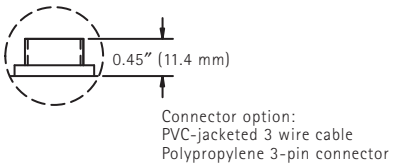
NT® Pressure Transducer, Flow-through

Model 4250 Dimensional Information

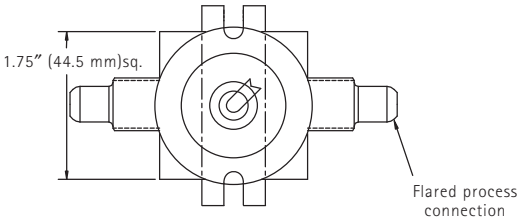
Inlet/Outlet Port Connection	A		B	C
	Connector	Pigtail		
1/4″ Flaretek®	3.53″ (89.7 mm)	3.53″ (89.7 mm)	3.72″ (94.5 mm)	0.73″ (18.5 mm)
3/8″ Flaretek®	3.53″ (89.7 mm)	3.53″ (89.7 mm)	3.87″ (98.3 mm)	0.67″ (17.0 mm)
1/2″ Flaretek®	3.78″ (96.0 mm)	3.78″ (96.0 mm)	4.03″ (102.4 mm)	0.85″ (21.6 mm)
3/4″ Flaretek®	4.11″ (104.4 mm)	4.11″ (104.4 mm)	4.27″ (108.5 mm)	1.00″ (25.4 mm)
1″ Flaretek®	4.43″ (112.5 mm)	4.43″ (112.5 mm)	4.75″ (120.7 mm)	1.20″ (30.5 mm)

Side View





Top View



Specifications

Description Model 4250		
Materials of construction:	Wetted parts	Body: PTFE Sensor interface: Sapphire Primary seal: Kalrez®
	Nonwetted parts	Polypropylene, polyethylene, PVDF and PVC or FEP-jacketed cable (in addition to materials listed above)
Pressure range:	-12 to 30 PSIG (-83 to 207 kPa); -12 to 60 PSIG (-83 to 414 kPa); -12 to 100 PSIG (-83 to 690 kPa)	
Over-pressure limit:	150% of full scale range	
Process temperature:	50° to 95°F (10° to 35°C)	
Process connection options:	Flaretek® flared tube: 1/4″, 3/8″, 1/2″, 3/4″ or 1″	
Electrical input:	24 VDC (12-28 VDC input voltage)	
Electrical output:	4-20 mA	
Reference accuracy:	±1% of span at 73°F (23°C) (includes combined effects of linearity, hysteresis and repeatability)	
Enclosure:	NEMA 5/IP54	
Approvals:	CE	

Note: Specifications are subject to change without notice. Please consult the factory for the most current information.

Ordering Information

Part Number

4150–100V–F02–D06–A–U1

Primary/Secondary Seal
U1 = Kalrez® 4079/Viton® (default)
U2 = Kalrez® 1050/Viton®
U3 = Kalrez® 6375UP/Viton®
S1 = Kalrez® 4079/Kalrez® 4079
S2 = Kalrez® 1050/Kalrez® 1050
S3 = Kalrez® 6375UP/Kalrez® 6375UP

Electrical Outputs
A = 4-20 mA (12-28 VDC input)

Electrical Connector Type
B06 = FEP-jacketed 6′ pigtail electrical cable
B12 = FEP-jacketed 12′ pigtail electrical cable
B30 = FEP-jacketed 30′ pigtail electrical cable
D00 = Polypropylene connector (cable not included)
D06 = Polypropylene connector and 6′ PVC cable
D12 = Polypropylene connector and 12′ PVC cable
D30 = Polypropylene connector and 30′ PVC cable

Inlet/Outlet Port Connection
F02 = 1/4″ Flaretek®
F03 = 3/8″ Flaretek®
F04 = 1/2″ Flaretek®
N02 = 1/4″ FNPT
N04 = 1/2″ FNPT
M02 = 1/4″ MNPT

Pressure Range
030V = -12 to 30 PSIG (-83 to 207 kPa)
060V = -12 to 60 PSIG (-83 to 414 kPa)
100V = -12 to 100 PSIG (-83 to 690 kPa)

Note: Product specified with a flared connection is packaged with one PVDF nut. For alternative nut material or custom configurations and specifications, please contact the factory.

Part Number

4250–100V–F02–D06–A–U1

Primary/Secondary Seal
U1 = Kalrez® 4079/Viton® (default)
U2 = Kalrez® 1050/Viton®
U3 = Kalrez® 6375UP/Viton®
S1 = Kalrez® 4079/Kalrez® 4079
S2 = Kalrez® 1050/Kalrez® 1050
S3 = Kalrez® 6375UP/Kalrez® 6375UP

Electrical Outputs
A = 4-20 mA (12-28 VDC input)

Electrical Connector Type
B06 = FEP-jacketed 6′ pigtail electrical cable
B12 = FEP-jacketed 12′ pigtail electrical cable
B30 = FEP-jacketed 30′ pigtail electrical cable
D00 = Polypropylene connector (cable not included)
D06 = Polypropylene connector and 6′ PVC cable
D12 = Polypropylene connector and 12′ PVC cable
D30 = Polypropylene connector and 30′ PVC cable

Inlet/Outlet Port Connection
F02 = 1/4″ Flaretek®
F03 = 3/8″ Flaretek®
F04 = 1/2″ Flaretek®
F06 = 3/4″ Flaretek®
F08 = 1″ Flaretek® (030V, 060V types only)

Pressure Range
030V = -12 to 30 PSIG (-83 to 207 kPa)
060V = -12 to 60 PSIG (-83 to 414 kPa)
100V = -12 to 100 PSIG (-83 to 690 kPa)

Note: Product specified with a flared connection is packaged with two PVDF nuts. For alternative nut material or custom configurations and specifications, please contact the factory.

Wet Chemical Process Control

Entegris' patented products measure and control the pressure, flow and level of high purity corrosive acids, bases and solvents used in semiconductor processing. The proven reliability, performance and ease of integration provided by Entegris' products offer you new levels of wet chemical process control.

For Additional Information

For more information on using NT® Pressure Transducers for reliable, accurate inert vacuum measurements or our complete line of fluoro-polymer fluid handling solutions, contact your local Entegris distributor or Entegris, Inc.

To review our complete line of sensing and control product solutions visit Entegris' Web site at *www.entegrisfluidhandling.com* or contact Entegris Customer Service.

Terms and Conditions of Sale

All purchases are subject to Entegris' "Terms and Conditions of Sale."

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