

# NT™ Pressure Transducers for Hydrofluoric Acid and Vacuum Applications, Models 4150, 4250

*Single-port and flow-through models*

Entegris combines the latest electronic sensing technology and high-purity materials to create a pressure transducer for hydrofluoric acid and vacuum applications. Using an 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 ( $\pm 1\%$ ) 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 ( $\pm 1\%$ ) 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 pressure measurements, the pressure transducers use an inert sapphire sensor for vacuum and/or hydrofluoric acid applications. Each product is calibrated and 100 percent verified, so there is no need to slow down installation with unnecessary field calibration or adjustments.



## 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 hydrofluoric acid
- Monitor purge cycles for aspirated liquid waste systems
- Verify hydrochloric acid gas pressure for furnaces
- Determine bulk delivery pressure for chemical dispense systems
- Monitor pressurized corrosive gas systems

# NT Pressure Transducer, Single-port, Model 4150

## SPECIFICATIONS

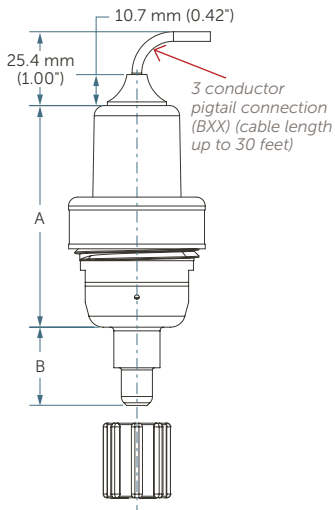
|                                   |   |   |          |
|-----------------------------------|---|---|----------|
| <b>Materials</b>                  | Wetted parts  | Body  | PTFE     |
|                                   |   | Sensor interface  | Sapphire |
|                                   |   | Primary seal  | Perfrez® |
|                                   | Nonwetted parts   | Polypropylene, polyethylene, Viton®, PVDF (in addition to materials listed above) |          |
| <b>Pressure range</b>             | -83 to 207 kPa (-12 to 30 psig)   | 0 to 207 kPa (0 to 30 psig)   |          |
|                                   | -83 to 414 kPa (-12 to 60 psig)   | 0 to 414 kPa (0 to 60 psig)   |          |
|                                   | -83 to 690 kPa (-12 to 100 psig)  | 0 to 690 kPa (0 to 100 psig)  |          |
| <b>Over-pressure limit</b>        | 150% of full scale range or maximum pressure rating of fitting                                    |   |          |
| <b>Process temperature</b>        | 10° – 35°C (50° – 95°F)   |   |          |
| <b>Process connection options</b> | Flaretek® tube fitting  | 1/4", 3/8", 1/2"  |          |
|                                   | PrimeLock® tube fitting   | 3/8", 1/2"  |          |
|                                   | FNPT  | 1/4", 1/2"  |          |
|                                   | MNPT  | 1/4"  |          |
|                                   | Super 300 type Pillar® tube fitting   | 1/4", 1/2"  |          |
| <b>Electrical input</b>           | 24 VDC (12 – 30 VDC input voltage)  |   |          |
| <b>Electrical output</b>          | 4 – 20 mA   |   |          |
| <b>Reference accuracy</b>         | ±1% of span @ 23°C (73°F) (includes combined effects of linearity, hysteresis, and repeatability) |   |          |
| <b>Electrical enclosure</b>       | IP54  |   |          |
| <b>Approvals</b>                  |                |   |          |

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

## DIMENSIONS

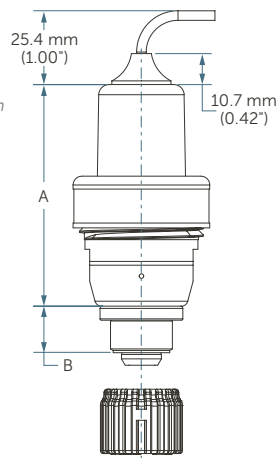
### Flaretek Connection

#### Side View



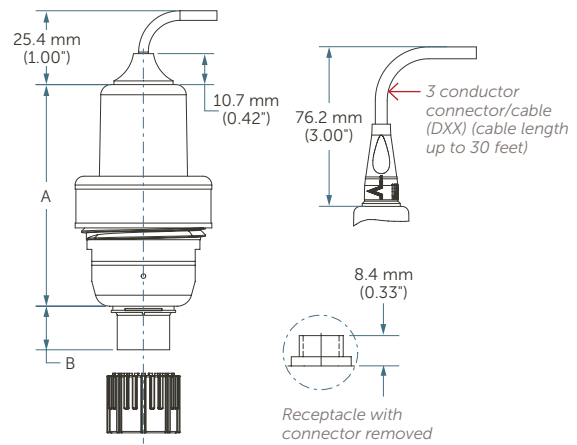
### PrimeLock Connection

#### Side View

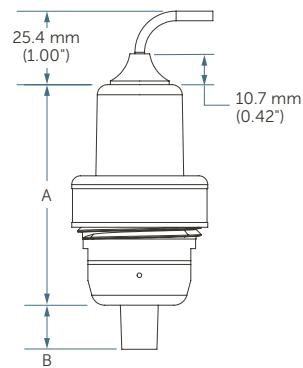


### Super 300 Type Pillar Connection

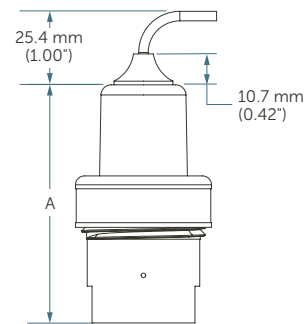
#### Side View



### Male Pipe Thread Connection



### Female Pipe Thread Connection



#### DIMENSION

| Inlet/outlet port connections         | A               | B               |
|---------------------------------------|-----------------|-----------------|
| ¼" Flaretek tube fitting              | 76.2 mm (3.00") | 25.2 mm (0.99") |
| ⅜" Flaretek tube fitting              | 76.2 mm (3.00") | 26.9 mm (1.06") |
| ½" Flaretek tube fitting              | 76.2 mm (3.00") | 29.0 mm (1.14") |
| ⅜" PrimeLock tube fitting             | 76.2 mm (3.00") | 20.3 mm (0.80") |
| ½" PrimeLock tube fitting             | 76.2 mm (3.00") | 22.6 mm (0.89") |
| ¼" FNPT                               | 82.3 mm (3.24") | —               |
| ½" FNPT                               | 88.9 mm (3.50") | —               |
| ¼" MNPT                               | 76.2 mm (3.00") | 15.0 mm (0.59") |
| ¼" Super 300 type Pillar tube fitting | 76.2 mm (3.00") | 11.0 mm (0.43") |
| ½" Super 300 type Pillar tube fitting | 76.2 mm (3.00") | 17.5 mm (0.69") |

## ORDERING INFORMATION

NT Pressure Transducers, Model 4150: part number

4150-

- - - - A -

**Primary/secondary seal**

U3 = Perfrez PXC Ultra/Viton

S3 = Perfrez PXC Ultra/Perfrez PXC Ultra

**Electrical outputs**

A = 4 – 20 mA (12 – 30 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)

D12 = Polypropylene connector and 12' PVC cable

D30 = Polypropylene connector and 30' PVC cable

**Inlet/outlet connection**

F02 = 1/4" Flaretek tube fitting

F03 = 3/8" Flaretek tube fitting

F04 = 1/2" Flaretek tube fitting

K03 = 3/8" PrimeLock tube fitting

K04 = 1/2" PrimeLock tube fitting

N02 = 1/4" FNPT

N04 = 1/2" FNPT

M02 = 1/4" MNPT

W02 = 1/4" Super 300 type Pillar tube fitting

W04 = 1/2" Super 300 type Pillar tube fitting

**Pressure range**

030V = -83 to 207 kPa (-12 to 30 psig)

060V = -83 to 414 kPa (-12 to 60 psig)

100V = -83 to 690 kPa (-12 to 100 psig)

030G = 0 to 207 kPa (0 to 30 psig)


060G = 0 to 414 kPa (0 to 60 psig)

100G = 0 to 690 kPa (0 to 100 psig)

*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.*

# NT Pressure Transducer, Flow-through, Model 4250

## SPECIFICATIONS

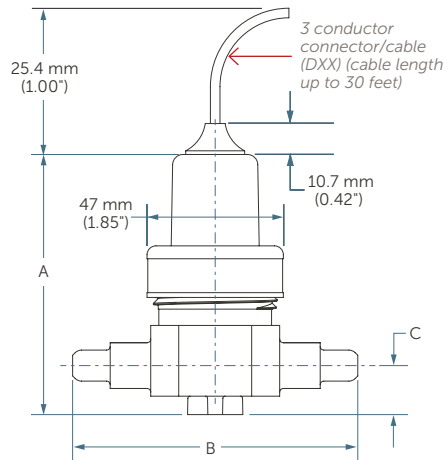
|                                   |   |  |          |
|-----------------------------------|---|--|----------|
| <b>Materials</b>                  | Wetted parts  | Body   | PTFE     |
|                                   |   | Sensor interface   | Sapphire |
|                                   |   | Primary seal   | Perfrez  |
|                                   | Nonwetted parts   | Polypropylene, polyethylene, Viton, PVDF (in addition to materials listed above) |          |
| <b>Pressure range</b>             | -83 to 207 kPa (-12 to 30 psig)   | 0 to 207 kPa (0 to 30 psig)  |          |
|                                   | -83 to 414 kPa (-12 to 60 psig)   | 0 to 414 kPa (0 to 60 psig)  |          |
|                                   | -83 to 690 kPa (-12 to 100 psig)  | 0 to 690 kPa (0 to 100 psig)   |          |
| <b>Over-pressure limit</b>        | 150% of full scale range or maximum pressure rating of fitting                                    |  |          |
| <b>Process temperature</b>        | 10° – 35°C (50° – 95°F)   |  |          |
| <b>Process connection options</b> | Flaretek tube fitting   | 1/4", 3/8", 1/2", 3/4", 1"   |          |
|                                   | Super 300 type Pillar tube fitting  | 3/8", 1/2", 3/4", 1"   |          |
| <b>Electrical input</b>           | 24 VDC (12 – 30 VDC input voltage)  |  |          |
| <b>Electrical output</b>          | 4 – 20 mA   |  |          |
| <b>Reference accuracy</b>         | ±1% of span @ 23°C (73°F) (includes combined effects of linearity, hysteresis, and repeatability) |  |          |
| <b>Electrical enclosure</b>       | IP54  |  |          |
| <b>Approvals</b>                  |                |  |          |

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

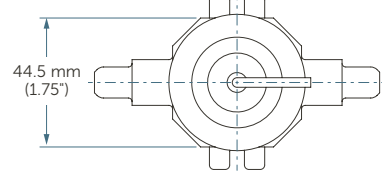
## DIMENSIONS

### Flaretek Connection

#### Side View

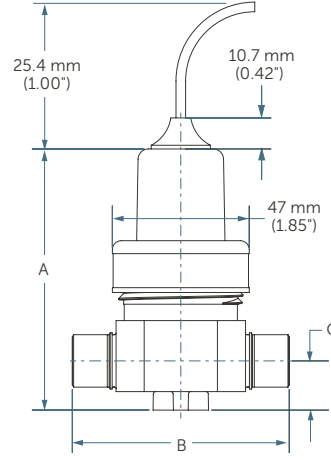


#### Top View

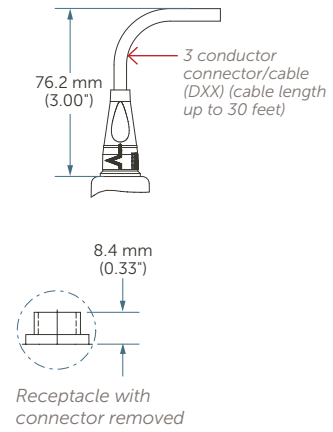
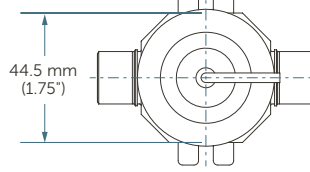


### Super 300 Type Pillar Connection

#### Side View



#### Top View



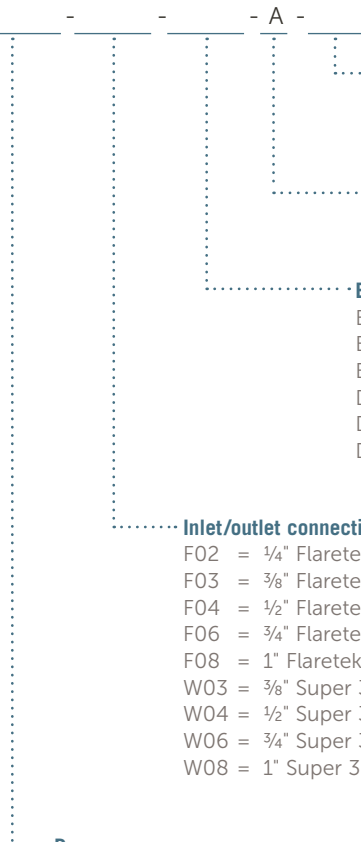
### DIMENSION

| Inlet/outlet port connections           | A                | B                | C               |
|---|------------------|------------------|-----------------|
| 1/4" Flaretek tube fitting              | 89.7 mm (3.53")  | 94.7 mm (3.73")  | 18.5 mm (0.73") |
| 3/8" Flaretek tube fitting              | 89.7 mm (3.53")  | 98.3 mm (3.87")  | 17.0 mm (0.67") |
| 1/2" Flaretek tube fitting              | 96.0 mm (3.78")  | 102.4 mm (4.03") | 21.6 mm (0.85") |
| 3/4" Flaretek tube fitting              | 104.4 mm (4.11") | 108.5 mm (4.27") | 25.4 mm (1.00") |
| 1" Flaretek tube fitting                | 112.5 mm (4.43") | 120.7 mm (4.75") | 30.5 mm (1.20") |
| 3/8" Super 300 type Pillar tube fitting | 89.7 mm (3.53")  | 74.4 mm (2.93")  | 17.0 mm (0.67") |
| 1/2" Super 300 type Pillar tube fitting | 93.2 mm (3.67")  | 79.5 mm (3.13")  | 18.3 mm (0.72") |
| 3/4" Super 300 type Pillar tube fitting | 104.4 mm (4.11") | 88.4 mm (3.48")  | 25.4 mm (1.00") |
| 1" Super 300 type Pillar tube fitting   | 111.8 mm (4.40") | 98.6 mm (3.88")  | 29.7 mm (1.17") |

## ORDERING INFORMATION

NT Pressure Transducers, Model 4250: part number

4250-



**Primary/secondary seal**

U3 = Perfrez PXC Ultra/Viton  
S3 = Perfrez PXC Ultra/Perfrez PXC Ultra

**Electrical outputs**

A = 4 – 20 mA (12 – 30 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)  
D12 = Polypropylene connector and 12' PVC cable  
D30 = Polypropylene connector and 30' PVC cable

**Inlet/outlet connection**

F02 = 1/4" Flaretek tube fitting  
F03 = 3/8" Flaretek tube fitting  
F04 = 1/2" Flaretek tube fitting  
F06 = 3/4" Flaretek tube fitting  
F08 = 1" Flaretek tube fitting  
W03 = 3/8" Super 300 type Pillar tube fitting  
W04 = 1/2" Super 300 type Pillar tube fitting  
W06 = 3/4" Super 300 type Pillar tube fitting  
W08 = 1" Super 300 type Pillar tube fitting

**Pressure range**

030V = -83 to 207 kPa (-12 to 30 psig)  
060V = -83 to 414 kPa (-12 to 60 psig)  
100V = -83 to 690 kPa (-12 to 100 psig)  
030G = 0 to 207 kPa (0 to 30 psig)  
060G = 0 to 414 kPa (0 to 60 psig)  
100G = 0 to 690 kPa (0 to 100 psig))

*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 MORE INFORMATION

Please call your Regional Customer Service Center today to learn what Entegris can do for you. Visit [entegris.com](http://entegris.com) and select the [Contact Us](#) link to find the customer service center nearest you.

## TERMS AND CONDITIONS OF SALE

All purchases are subject to Entegris' Terms and Conditions of Sale. To view and print this information, visit [entegris.com](http://entegris.com) and select the [Terms & Conditions](#) link in the footer.



### Corporate Headquarters

129 Concord Road  
Billerica, MA 01821  
USA

### Customer Service

Tel +1 952 556 4181  
Fax +1 952 556 8022  
Toll Free 800 394 4083

Entegris®, the Entegris Rings Design®, and other product names are trademarks of Entegris, Inc. as listed on [entegris.com/trademarks](http://entegris.com/trademarks). All third-party product names, logos, and company names are trademarks or registered trademarks of their respective owners. Use of them does not imply any affiliation, sponsorship, or endorsement by the trademark owner.

U.S. Patent 5,869,766, 5,693,887 5,852,244, other patents pending.

©2004-2023 Entegris, Inc. | All rights reserved. | Printed in the USA | 3960-1596ENT-0523