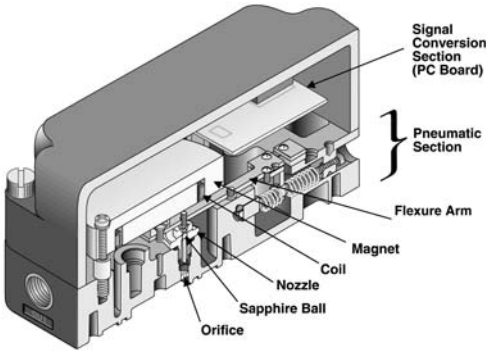
B

Model T5200

## Features

- Fast Response to Input Signal changes results in faster loop control and savings in process materials.
- Minimal Air Consumption allows use in systems where operating gas is expensive.
- Five Input Signal Ranges meet most process and machine requirements.
- Temperature Compensation provides stable operation during temperature changes.
- Compact Size permits use in space restricted areas.
- Vibration Resistance maintains set points under adverse vibration conditions.
- Various Mounting Configurations allow installation flexibility for most applications.
- NEMA 3R Enclosure available for outdoor and indoor installations.

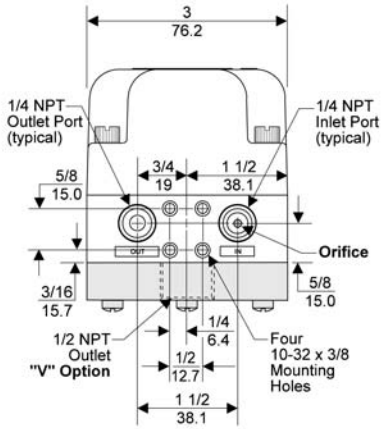


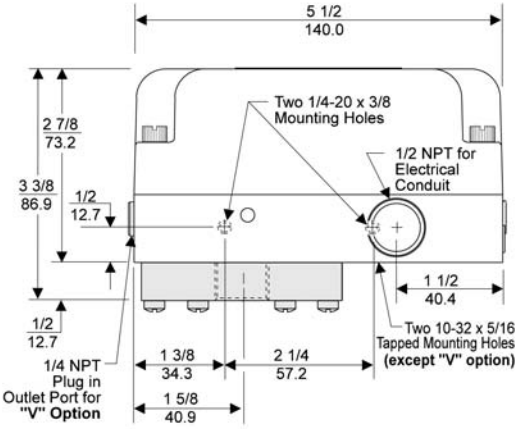

## Operating Principles

The T5200 Transducer is an electro-pneumatic device that is controlled by a 4-20 mA current in a control loop. This device is made up of two sections, the Signal Conversion Section and the Pneumatic Section.

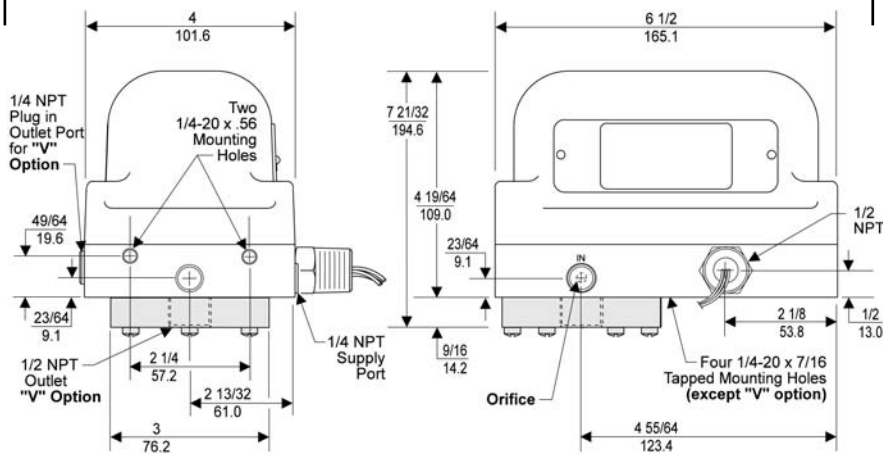
The Signal Conversion Section (PC Board) accepts a 4-20 mA current from the control loop. This signal current is applied to a coil which creates a magnetic force that moves a Flexure Arm.

The Pneumatic Section operates as a force balance system. A Sapphire Ball floats inside a Nozzle and controls the output pressure by exhausting air supplied through an Orifice. This Sapphire Ball acts as a piston exerting a force which is balanced against the force of the Flexure Arm.




T5200 Explosion-Proof

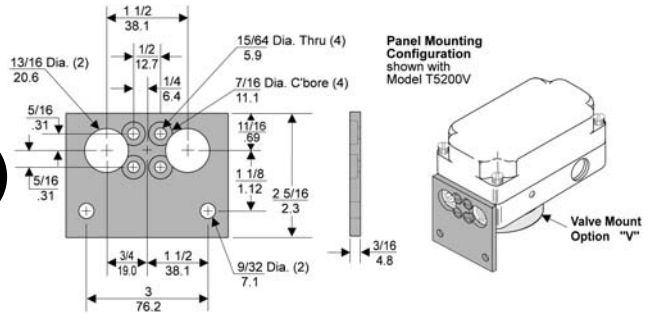


## Hazardous Area Specifications

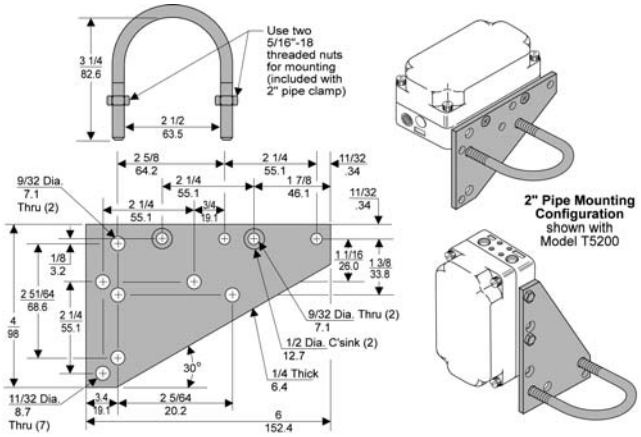
<table>
<tr><th></th><th>Explosion-Proof</th><th>Intrinsically Safe</th></tr>
<tr><td rowspan="3">Factory Mutual (FM) Approvals</td><td>TFXPD5200<br>Class I, Division 1, Groups B, C and D;<br>Class II, Division 1, Groups E, F, and G;<br>Maximum Ambient 65° C.</td><td rowspan="3">TFI5200<br>Class I, Division 1, Groups A, B, C, and D;<br>Class II, Division 1, Groups E, F, and G;<br>Class III, Division 1, Fibers;<br>NEMA 3R Enclosure. (Upright Position ONLY)<br><br>Entity Parameters<br>Voc[1] = 40 VDC | Ca[3] = 0 µF<br>Isc[2] = 125 mA | La[4] = 0 mH<br><br>[1]Voc = Open Circuit Voltage | [3]Ca = External Capacitance<br>[2]Isc = Short Circuit Voltage | [4]La = External Inductance</td></tr>
<tr><td>TFXPDI5200<br>Class I, Division 1, Groups A, B, C, and D;<br>Class II, Division 1, Groups E, F, and G;<br>Class III, Division 1, Fibers;<br>NEMA 3R Enclosure. (Upright Position ONLY)</td></tr>
<tr><td>TFN5200<br>NEMA 4X Enclosure.</td></tr>
<tr><td>Canadian Standards Association (CSA) Approvals</td><td>Approvals are valid when connected through a Shunt Zener Diode Safety Barrier meeting the following parametric requirements:<br>Rated: 28V Maximum 300 Ohm Minimum</td><td>TCI5200<br>Class I, Division 1, Groups A, B, C, and D;<br>Class II, Division 1, Groups E, F, and G;<br>Type 3 Enclosure;<br>Rated 1-5 mA, 4-20 mA, 10-50 mA,<br>1-5 VDC, 1-9 VDC;<br>Temperature Code T4A.</td></tr>
</table>

FM APPROVED

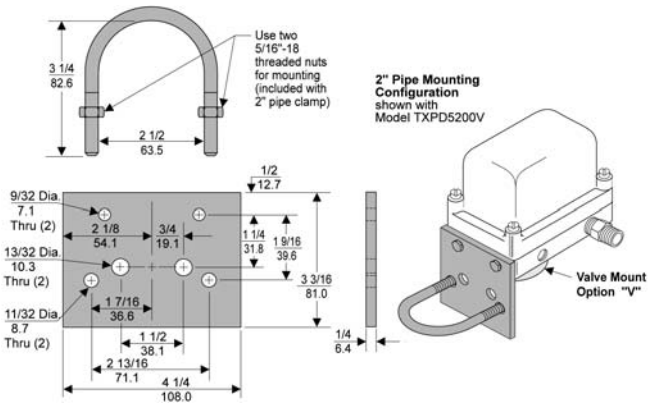
## Mounting Kits




Mounting Bracket: 15268




Mounting Bracket: 14596




Mounting Bracket: 14140

## Model T5200 Transducer Kits & Accessories

**Mounting Bracket Kits**.....15268 (sold separately)
14596 (sold separately)
14140 (sold separately)

## Installation

For Installation Instructions, refer to the *Fairchild T5200 Series Electro-Pneumatic Transducer Installation, Operation and Maintenance,* IS-500T5200.

## Catalog Information

**Catalog Number T [ ] [ ] [ ] 5200 [ ] [ ] [ ]**

**Underwriting Group**
Canadian Standard . . . . . C
Factory Mutual . . . . . F

**Approval Class**
Explosion-Proof[1] . . . . . XPD
NEMA 4X/IP65[1] . . . . . N
None (leave blank) . . . . .

Intrinsically Safe[2] . . . . . I
None (leave blank) . . . . .

**Input**
1-5 mA . . . . . 1
4-20 mA . . . . . 4
10-50 mA[3]
1-5 VDC . . . . . 5
1-9 VDC . . . . . 9

**Output**
psig . . . . . 0
[BAR] . . . . . 1
(kPa) . . . . . 2

**Options**
Valve Mount . . . . . V

*[1] Factory Mutual Approval Only.*
*[2] Intrinsically Safe Units cannot be set for Reverse Acting Mode in field.*
*[3] Units shipped calibrated 4-20 mA; 10-50 mA units must be calibrated in field.*

## Specifications

**Supply Pressure**
20 + 2 psig, [1.5 + 0.15 BAR], (150 + 15 kPa)

**Output Capacity (SCFM)**
0.15 (0.26 $m^3$/HR) Maximum

**Air Consumption (SCFM)**
0.16 (0.27 $m^3$/HR) Maximum

**Output Range**
3-15 psig, [0.2-1.0 BAR], (20-100 kPa)

**Supply Pressure Effect**
+ 0.3% of Span for a 1 psig, [0.1 BAR], (10 kPa) supply change

**Impedence / Input Signal**

| *Range* | *OHMS* |
|---|---|
| 1-5 mA | 2000 |
| 4-20 mA | 120[1] |
| 10-50 mA | 50[1] |
| 1-9 VDC | 2550 |
| 1-5 VDC | 375 |

**Shock & Vibration Effect**
Negligible up to 2 g's between 5 Hz and 200 Hz

**Terminal Based Linearity**
+ 0.50% Full Scale

**Independent Linearity**
+ 0.25% Full Scale

**Temperature Coefficient**
Less than 1% of Span / 50° F (10° C)

**Hysteresis**
Within 0.1% Full Scale

**Frequency Response**
-3 db @ 20 Hz (unloaded)

**Ambient Temperature**
-40° F to +150° F, (-40° C to +65.5° C)

**Materials of Construction**
Body and Housing . . . . . .Aluminum
Ball and Orifice. . . . . Sapphire, Brass
Nozzle . . . . . Stainless Steel

[1] *Add 332 OHMS for CSA Units.*