

T9000



## Features

### Common Features of the T9000 Products

- Fully functional keypad and display.
- Backlit Liquid Crystal display screen.
- Output pressure displays in psig, BAR, kPa, or user-defined pressure units.
- Independently adjustable PID tuning coefficients.
- Reverse acting capability for analog input and output signals.
- Select Current or Voltage mode for input signal or optional analog channels using the keypad.
- RFI/EMI protection eliminates electromagnetic and radio interference.

T9060



T9010



## Operating Principles

The Model T9000 Series Pressure Controllers have a closed-loop, integrated, microprocessor control system that regulates outlet pressure. You can control the output from the Model T9000 products using the keypad or from an analog control signal. You can control the output from the Model T9000D using the keypad and through DeviceNet™ Communication network.

The Feed and Bleed Solenoid Valves control pressure in the Signal Chamber of the Booster Section. A pressure sensor measures the outlet pressure and provides a feedback signal to the Electronics Section. Any variation in pressure between the setpoint and the outlet pressure activates the Feed and Bleed Solenoid Valves to correct the output pressure.

T9080



T9020

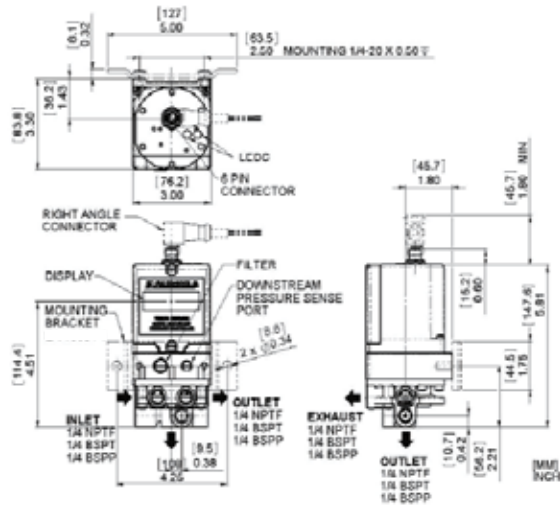


T9040

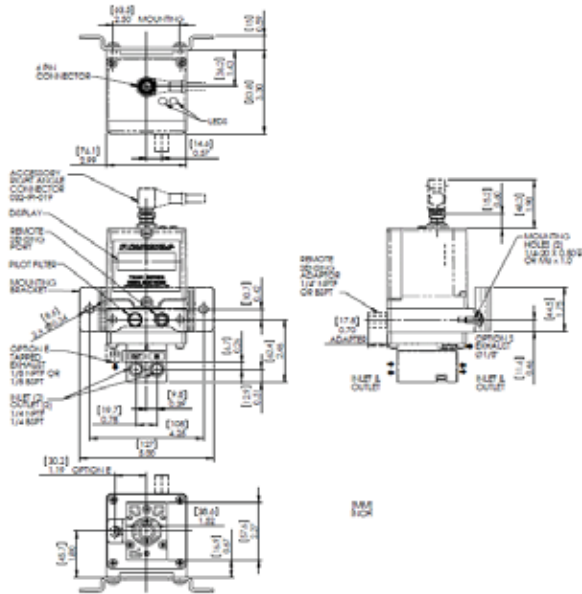


# Model T9000 Electro-Pneumatic Transducer

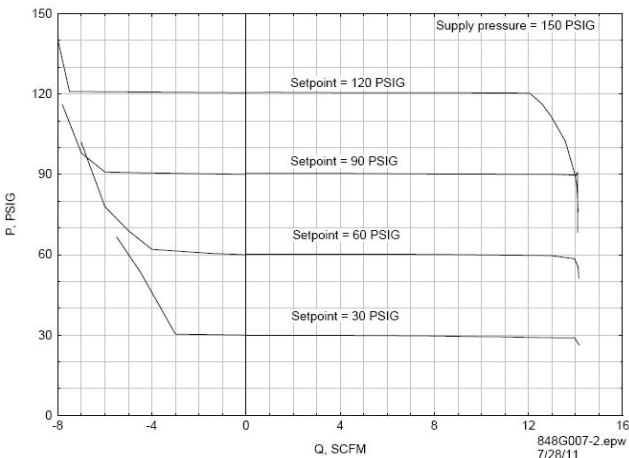
## T9000



## T9010

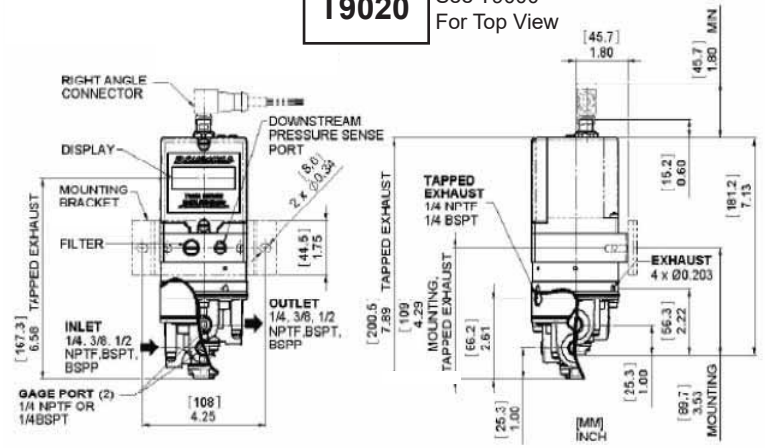


Flow Characteristics  
Fairchild T9010-4012N Pressure Controller

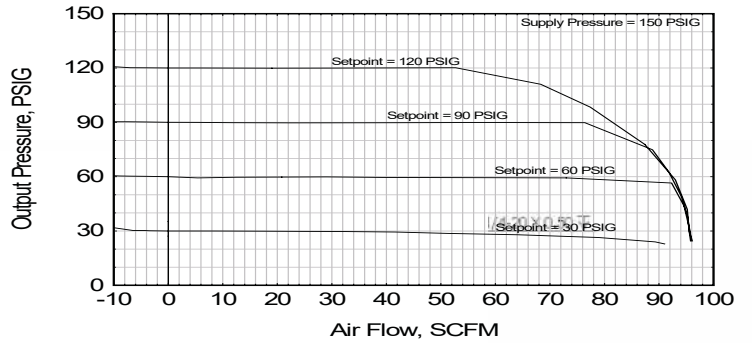


## T9020

See T9000  
For Top View

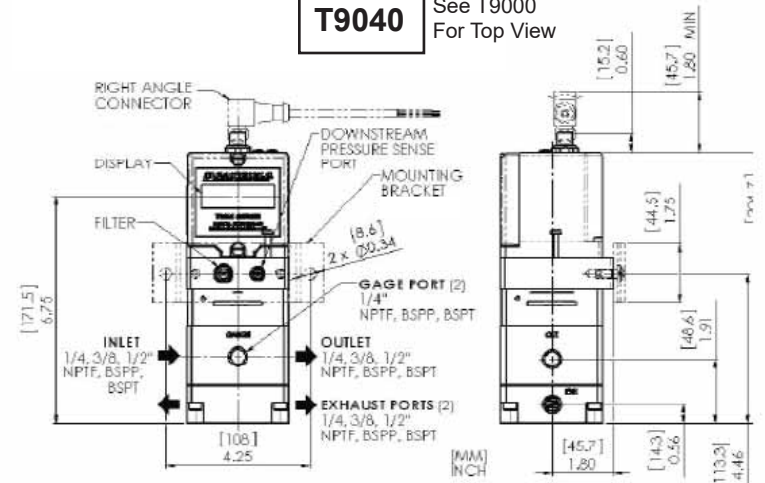


Flow Characteristics  
T9020-4072N4NFS Pressure Controller

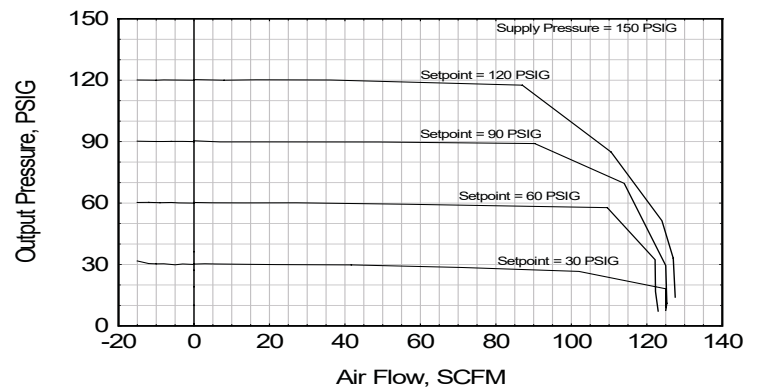


## T9040

See T9000  
For Top View



Flow Characteristics  
T9040-4074N4FJT Pressure Controller





# Model T9000 Electro-Pneumatic Transducer

## Specifications

### Supply Pressure<sup>1</sup>

200 psig, [14 BAR], (1400 kPa) Maximum

<b>Pneumatic Outputs</b>	<b>psig:</b>	0-30	0-75	0-150
	<b>[BAR]:</b>	[0-2]	[0-5]	[0-10]
	<b>(kPa):</b>	(0-200)	(0-500)	(0-1000)
<b>Minimum Span</b>	<b>psig:</b>	12	30	60
	<b>[BAR]:</b>	[0.8]	[2.0]	[4.0]
	<b>(kPa):</b>	(80)	(200)	(400)

### Input Signal

4-20 mA, 0-10 VDC

**Flow Rate** 1-700 SCFM (Select desired configuration)

**Exhaust Flow** 1-350 SCFM (Select desired configuration)

### Air Consumption

0 @ steady state output with Deadband @ 1 % of Full Scale

### Supply Pressure Effect

No Measurable Effect

### Electrical Supply

24 VDC ± 10 %

### Power Consumption

Less than 5 watts

### Analog Output Signal / Impedance

4-20 mA/500 ohms Maximum, 0-10 VDC/400 ohms Minimum

### Deadband (ISA S51.1)

Adjustable from 0 to 10 % of Full Scale

### Unit Accuracy (ISA S51.1)

Less than 0.50% Output Span

### Frequency Response

-3 db @ 1 HZ per ISA S26.4.3.1 load Configuration A (typical but depends on specific T9000 product configuration)

### Vibration Effect

Less than 1 % of Span under the following conditions: 5 - 15 Hz @ 0.8 inches constant displacement 15-500 Hz @ 10 g's

### RFI/EMI Effect

Less than 0.5%. EMC Directive 89/336/EEC European Norms EN 50081-2 & EN 50082-2.

### Temperature Range

0° F to + 160° F, (-18° C to + 71° C)

### Materials of Construction

Body Housing.....Polymer, Chromate Treated Aluminum  
Trim ..... Zinc Plated Steel  
Elastomers.....Nitrile, Fluorocarbon  
Finish.....Epoxy

<sup>1</sup> Supply Pressure must be no less than 5 psig, [0.35 BAR], (35 kPa) above maximum output.

## Catalog Information

### Catalog Number T90

#### Flow Rate

1 SCFM (Basic Transducer) .....	00
12 SCFM .....	10
90 SCFM .....	20
110 SCFM .....	40
220 SCFM .....	60
700 SCFM .....	80

#### Input

0-10 VDC .....	0
4-20 mA .....	4
DeviceNet™ .....	D

#### Output

0-30 psig .....	04
0-75 psig .....	05
0-150 psig .....	07
[0-2.0 BAR] .....	14
[0-5.0 BAR] .....	15
[0-10.0 BAR] .....	17
(0-200 kPa) .....	24
(0-500 kPa) .....	25
(0-1000 kPa) .....	27

#### Port Size

1/4" NPT (T9000,10,20,40 only) .....	02
3/8" NPT (T9020,40 only) .....	03
1/2" NPT (T9020,40 only) .....	04
3/4" NPT (T9060,80 only) .....	06
1" NPT (T9080 only) .....	08

#### Port Threads

NPTF Thread .....	N
BSPT Thread .....	U
BSPF Thread (Not Available on T9010) .....	H

#### Feedback Option

None .....	N
0-10 VDC Analog Output .....	0
4-20 MA Analog Output .....	4
0-10 VDC Feedback Input .....	5
4-20 MA Feedback Input .....	6

#### Elastomers

Nitrile (Not available in T9040) .....	N
Fluorocarbon .....	J

#### Power Failure Mode

Freeze (Maintains Setpoint) .....	F
-----------------------------------	---

#### Exhaust Port

Tapped .....	E
--------------	---

### Remote Pressure Sensing Capability (see table below)

#### T9000 Cables and Accessories (sold separately)

Part Number	Description
032-IPI-018-2	Straight, Shielded 6 pin Female
032-IPI-019-2	Right angle, Shielded 6 pin Female
032-IPI-009-2F	Straight, Shielded Cable for DeviceNet™
032-IPI-009-2R	Right angle, Shielded Cable for DeviceNet™
21665-1N	1/8-27 NPTF Remote Pressure Sensor fitting
21665-1U	1/8-28 BSPT Remote Pressure Sensor fitting

## Installation

For operating instructions, refer to the corresponding Fairchild *Operation and Maintenance Instructions*, OM-500T90FI, OM-500T90AB, OM-500T90AO, OM-500T90DB, OM-500T90DI, OM-500T90DO.

For installation instructions, refer to II-500T9000.

### Unique Feature of the T9000D

- DeviceNet™ Communications connect the Model T9000D to a digital network to increase functional flexibility, installation speed, and reduce system wiring cost.

### Available Options for the T9000 Series Transducer

- Optional analog output channel configured as an output pressure monitor or as a user-defined output.
- External Pneumatic Feedback port to sense down stream pressure. (See Cables and Accessories table)
- Optional Feedback Input Channel configurable to control setpoint, external process variable, or accept a user defined input. (Consult factory for availability.)

