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.

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.
Model T9000 Electro-Pneumatic Transducer

T9000

T9010

Flow Characteristics
T9020 See T9000 For Top View

Flow Characteristics
T9040 See T9000 For Top View
Model T9000 Electro-Pneumatic Transducer

Flow Characteristics
T9060-4074N4FNT Pressure Controller

<table>
<thead>
<tr>
<th>Output Pressure, PSIG</th>
<th>Air Flow, SCFM</th>
</tr>
</thead>
<tbody>
<tr>
<td>150</td>
<td>150 psig [10 BAR] Supply</td>
</tr>
<tr>
<td>120</td>
<td>60 psig [4 BAR] Downstream Pressure</td>
</tr>
<tr>
<td>90</td>
<td>1 SCFM</td>
</tr>
<tr>
<td>60</td>
<td>12 SCFM</td>
</tr>
<tr>
<td>30</td>
<td>90 SCFM</td>
</tr>
<tr>
<td>220</td>
<td>110 SCFM</td>
</tr>
<tr>
<td>150</td>
<td>220 SCFM</td>
</tr>
<tr>
<td>700</td>
<td>700 SCFM</td>
</tr>
</tbody>
</table>

Flow Characteristics Chart

<table>
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<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>Foward</td>
</tr>
<tr>
<td>150 psig [10 BAR] Supply</td>
</tr>
<tr>
<td>T9000</td>
</tr>
<tr>
<td>T9010</td>
</tr>
<tr>
<td>T9020</td>
</tr>
<tr>
<td>T9040</td>
</tr>
<tr>
<td>T9060</td>
</tr>
<tr>
<td>T9080</td>
</tr>
</tbody>
</table>
## Specifications

### Supply Pressure
- 200 psig, [14 BAR], (1400 kPa) Maximum

### Pneumatic Outputs
- **psig:** 0-30, 0-75, 0-150
- **[BAR]:** [0-2], [0-5], [0-10]
- **(kPa):** (0-200), (0-500), (0-1000)

### Minimum Span
- **psig:** 12, 30, 60, 0
- **[BAR]:** [0.8], [2.0], [4.0], 0
- **(kPa):** (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 / Impedence
- 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

### 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.)

## Catalog Information

### Catalog Number T90

<table>
<thead>
<tr>
<th>Flow Rate</th>
<th>Input</th>
<th>Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 SCFM (Basic Transducer)</td>
<td>0-10 VDC</td>
<td>4-20 mA</td>
</tr>
<tr>
<td>12 SCFM</td>
<td>12 SCFM</td>
<td>4-20 mA</td>
</tr>
<tr>
<td>90 SCFM</td>
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<td>700 SCFM</td>
<td>700 SCFM</td>
<td>4-20 mA</td>
</tr>
</tbody>
</table>

### Feedback Option
- None
- 0-10 VDC Analog Output
- 4-20 MA Analog Output
- 0-10 VDC Feedback Input
- 4-20 MA Feedback Input

### Exhaust Port
- Tapped

### Remote Pressure Sensing Capability
- Freeze (Maintains Setpoint)

### Port Threads
- NPT Thread
- BSPT Thread (Not Available on T9010)

### Power Failure Mode
- None

### Port Size
- 1/4” NPT (T9000,10,20,40 only)
- 80 SCFM
- 3/8” NPT (T9020,40 only)
- 12 SCFM
- 1/2” NPT (T9060,80 only)
- 1 SCFM (Basic Transducer)
- 1/4” NPT (T9080 only)

### Elastomers
- Nitrile (Not available in T9040)
- Fluorocarbon

### Feedback Option
- None
- 0-10 VDC Analog Output
- 4-20 MA Analog Output
- 0-10 VDC Feedback Input
- 4-20 MA Feedback Input

### Power Failure Mode
- None

### Exhaust Port
- Tapped

### Remote Pressure Sensing Capability
- Freeze (Maintains Setpoint)

### T9000 Cables and Accessories (sold separately)

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>032-IPI-018-2</td>
<td>Straight, Shielded 6 pin Female</td>
</tr>
<tr>
<td>032-IPI-019-2</td>
<td>Right angle, Shielded 6 pin Female</td>
</tr>
<tr>
<td>032-IPI-009-2F</td>
<td>Straight, Shielded Cable for DeviceNet™</td>
</tr>
<tr>
<td>032-IPI-009-2R</td>
<td>Right angle, Shielded Cable for DeviceNet™</td>
</tr>
<tr>
<td>21695-1N</td>
<td>1/8-27 NPTF Remote Pressure Sensor fitting</td>
</tr>
<tr>
<td>21695-1U</td>
<td>1/8-28 BSPT Remote Pressure Sensor fitting</td>
</tr>
</tbody>
</table>

### 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.