

## T-3610 Pneumatic Low Limit Thermostat

### Features

- **Ball Type Control Port for Increased Accuracy**
- **New Lever with Reinforced Edges for Increased Linearity**
- **Adjustable Sensitivity and Set Point Dial**
- **Integral Hypodermic Needle Test Point**

The T-3610 Pneumatic Low Limit Thermostat is a low volume controller designed to maintain a minimum air temperature. Pneumatic

feedback is incorporated into the controller design to provide an exact proportional relationship between the measured temperature and the control pressure.

Models are available for unit ventilator duct mounting applications with an 8 ft. (244 cm) liquid filled averaging element or an 18 in. (46 cm) liquid filled rigid stem element. Both elements provide air temperature control with minimum variation in response to the average temperature sensed by the element.



**Fig. 1: T-3610-1001 Pneumatic Low Limit Thermostat**

### Specifications

<b>Product</b>	T-3610 Pneumatic Low Limit Thermostat	
<b>Models</b>	<b>T-3610-1001</b>	8 ft. (244 cm) Averaging Element and Duct Mounting Bracket
	<b>T-3610-1002</b>	18 in. (46 cm) Rigid Stem Element for Unit Ventilator Mounting
	<b>T-3610-1003</b>	18 in. (46 cm) Rigid Stem Element and Duct Mounting Bracket
<b>Action</b>	Proportional, Direct Acting	
<b>Element Operating Range</b>	0 to 270°F (-18 to 132°C)	
<b>Sensitivity Range</b>	Adjustable from .25 to .75 PSI/F° (3 to 9 kPa/C°), Factory Set at Approximately .5 PSI/F° (6 kPa/C°)	
<b>Set Point Range</b>	Adjustable from 0 to 270°F (0 to 132°C) at 8 PSIG, Factory Set at Approximately 57°F (14°C)	
<b>Supply Pressure</b>	20 PSIG (140 kPa) Nominal, 25 PSIG (175 kPa) Maximum Air Supply Must Be Clean, Dry, and Oil Free	
<b>Air Consumption</b>	45 SCIM (12 mL/s)	
<b>Temperature Limits</b>	-20 to 150°F (-29 to 66°C)	
<b>Air Connection</b>	1/8 in. NPT Barbed Fitting for 5/32 or 1/4 in. O.D. Poly tubing	
<b>Materials</b>	<b>Body</b>	Die Cast Aluminum with Iridite Finish
	<b>Cover</b>	ABS Plastic
	<b>Element</b>	Copper
<b>Accessories (Order Separately)</b>	R-3710 Series .007 in. Restrictor	
	T-275-101 Averaging Element Holder	
<b>Shipping Weight</b>	<b>T-3610-1001</b>	1.5 lb (.68 kg)
	<b>T-3610-1002</b>	1.0 lb (.45 kg)
	<b>T-3610-1003</b>	1.0 lb (.45 kg)

*The performance specifications are nominal and conform to acceptable industry standards. For application at conditions beyond these specifications, consult the local Johnson Controls office. Johnson Controls, Inc. shall not be liable for damages resulting from misapplication or misuse of its products.*

### Operation

As the temperature at the element increases or decreases, the liquid in the element expands or contracts and moves a diaphragm in the controller. This diaphragm movement is transmitted through a system of levers to open or close a control port. The pressure increases or decreases accordingly and the feedback diaphragm along with the element provides an accurate linear response in direct proportion to the sensed temperature change.

### Mounting

For unit ventilator applications, the T-3610-1002 with 18 in. (46 cm) rigid stem element is furnished with a temperature resistive plastic mounting bracket. Mount the controller on the panel adjacent to the discharge air plenum inside the end compartment. Insert the rigid stem element through the

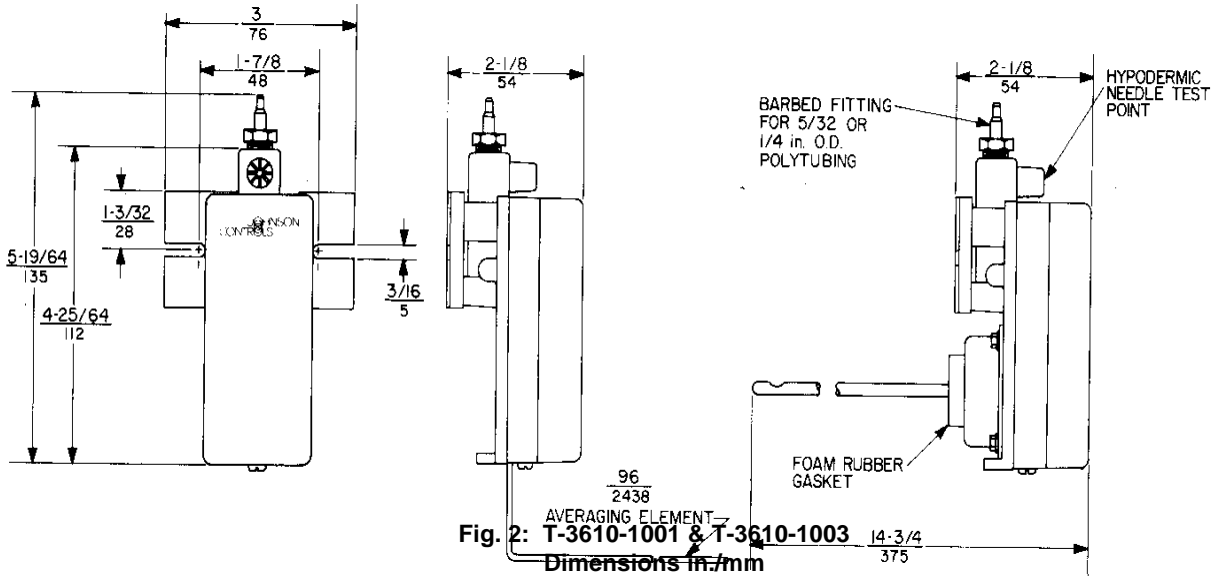


Fig. 2: T-3610-1001 & T-3610-1003  
Dimensions in./mm

hole provided by the manufacturer. Fasten the flat washer when necessary and conduit locknut on the discharge air plenum side of the panel. Access to the plenum can be obtained by removing the top or front panel of the unit ventilator.

For duct applications, the T-3610-1001 with 8 ft. (244 cm) averaging element is furnished with a steel support bracket. Mount the thermostat on the top or side of the duct with the element extending into the duct. Insert the averaging element through a hole in the duct and serpentine the element across the entire coil. Averaging element holders are furnished to attach the element to the coil fin if necessary. The T-3610-1003 with 18 in. (46 cm) rigid stem element is available with a steel support bracket for duct mounting. A foam rubber gasket is provided on the controller to seal off the hole in the duct.

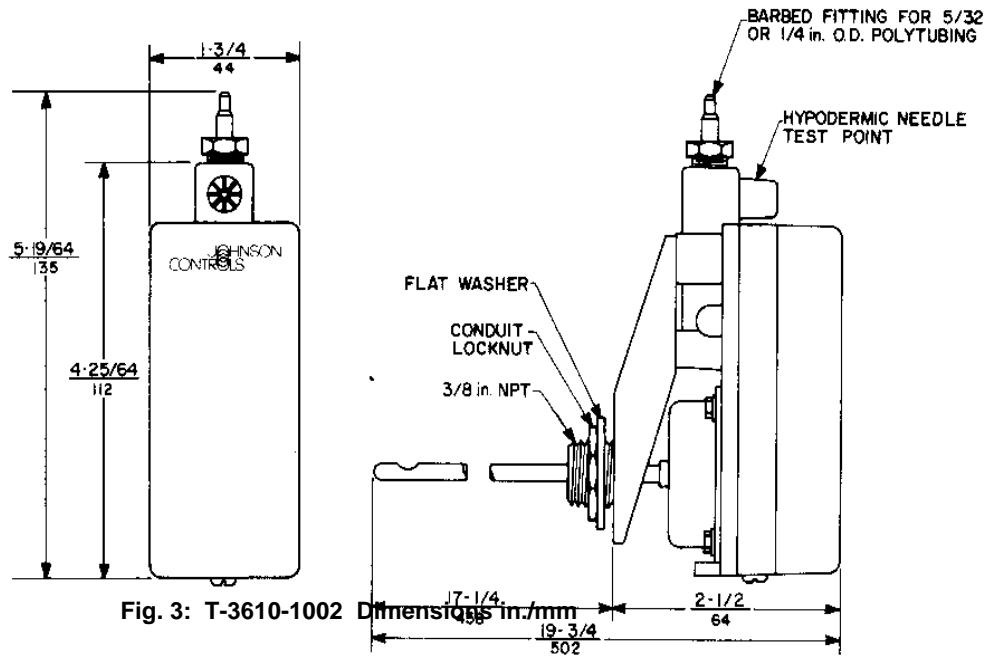
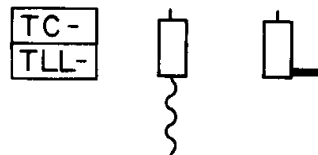


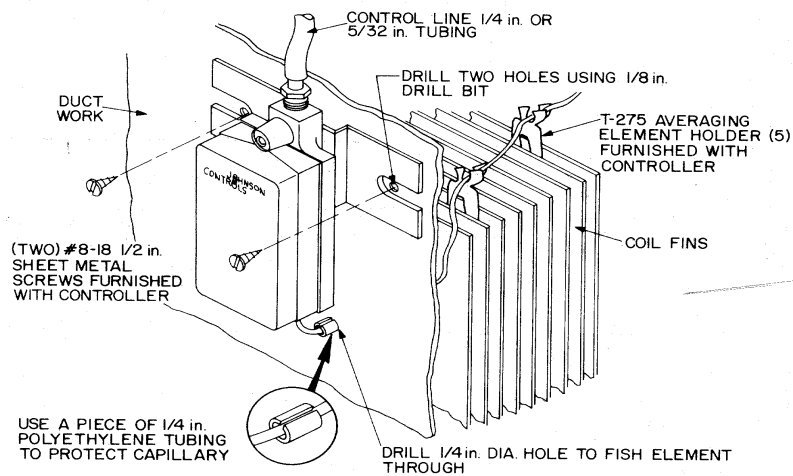
Fig. 3: T-3610-1002 Dimensions in./mm

## Repair Information

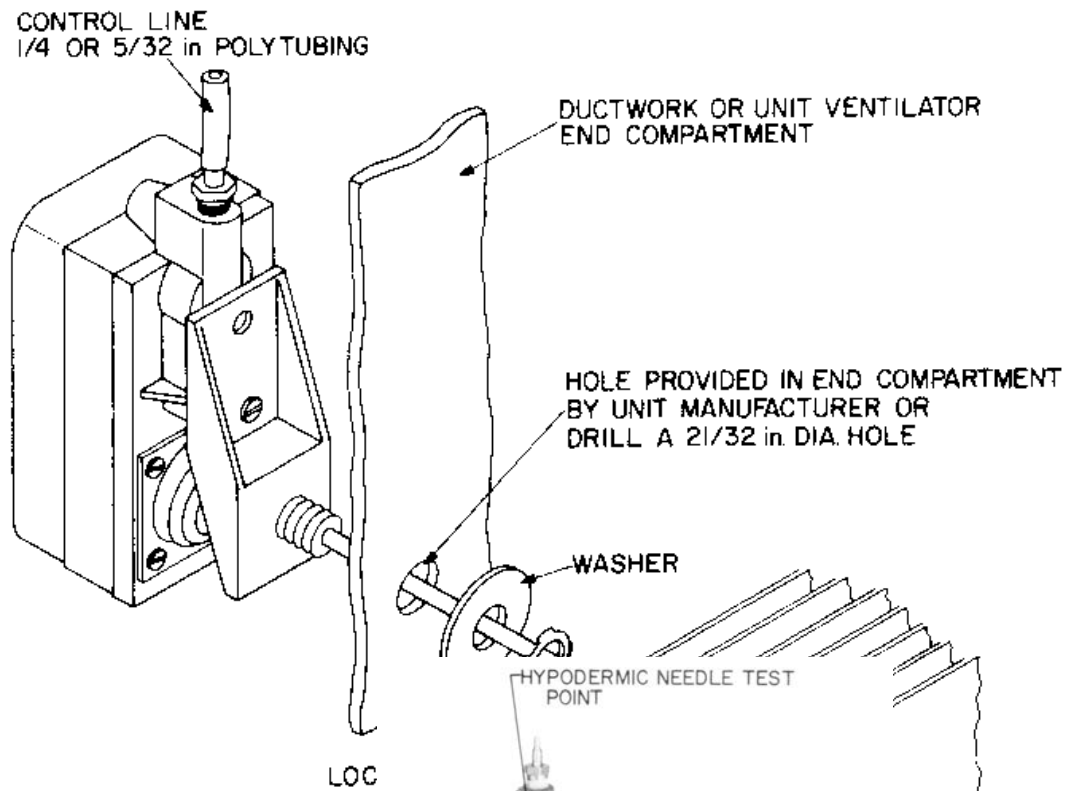
Field repairs must not be made. For a replacement T-3610, contact the nearest Johnson Controls branch office. Replacement covers are available, order T-5210-602.

## Application and Drawing Identification





**Fig. 4: Typical Mounting of T-3610-1001**



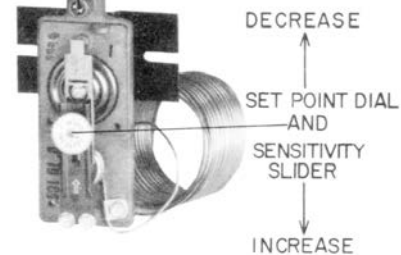
**Fig. 5: Typ**

### Operational Checkout

The T-3610 is factory calibrated for 57°F (14°C) at 8 psig (56 kPa). If the instrument is out of adjustment, proceed as follows:

1. Note the temperature at the sensing element.
2. Turn the set point dial until the output pressure is at the mid spring range of the controlled device.

3. Turn the set point dial to the desired set point. Each graduation



**Fig. 6: T-3610 with Cover Removed**

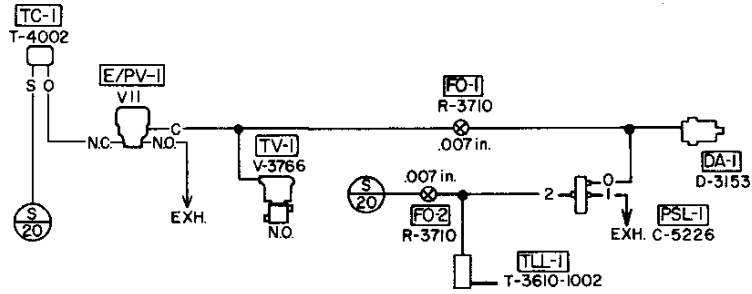


Fig. 7: Typical Unit Ventilator Application using T-3610-1002

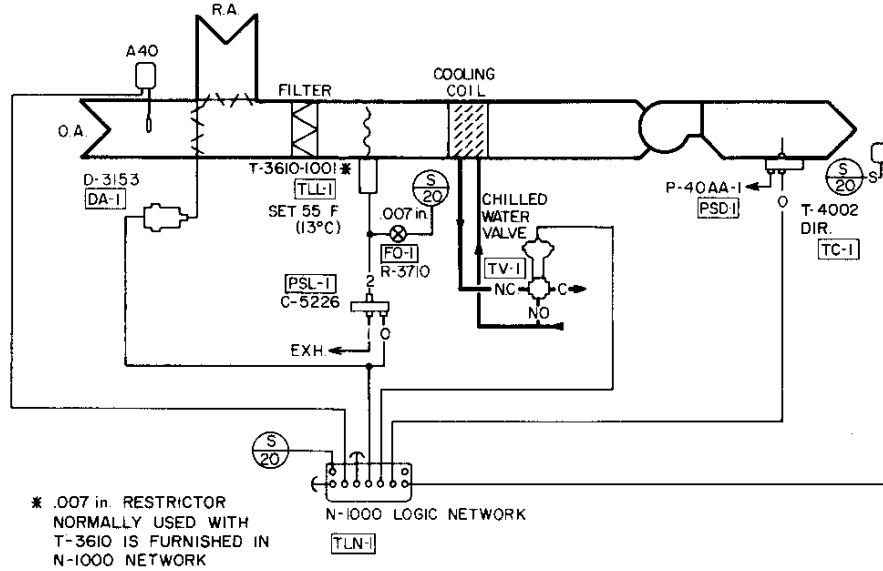


Fig. 8: Typical Application using T-3610-1001

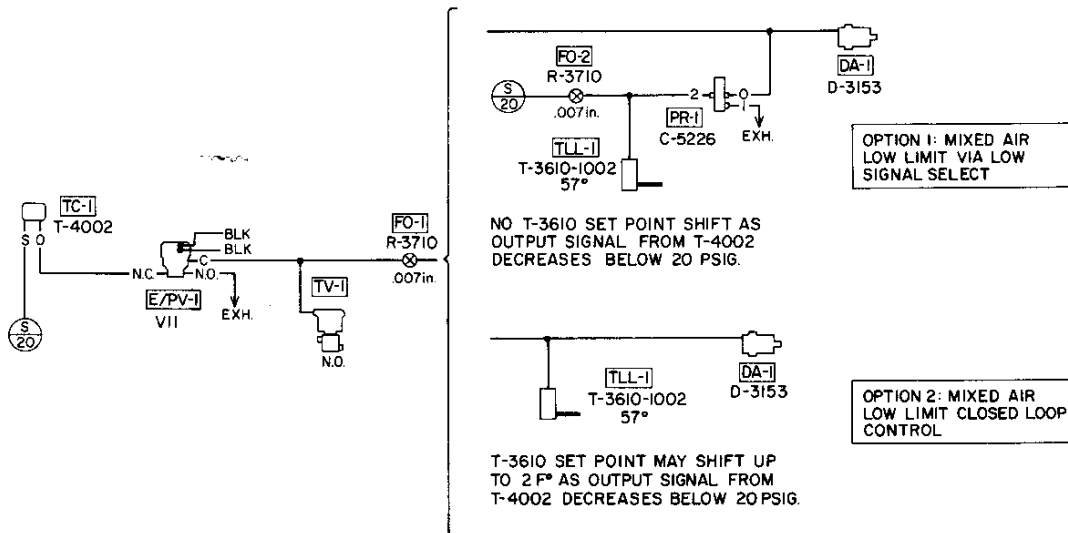


Fig. 9: Low Limit Options

represents 2 F°.

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