

## T-8000 Proportional and Two-Position Remote Element Controllers

The T-8000 Remote Element Thermostat is designed for applications which require the sensing element to be located where extreme conditions do not permit controller mounting, or where operational adjustments to the controller would be inconvenient. This high volume (output) instrument is ideally suited for installations that require the controller to be mounted on a local control panel.

The thermostat can be made to function as a direct or reverse acting instrument by changing position of the patented sliding control port. Repositioning the control port will also change sensitivity on proportional models and differential on two-position models.

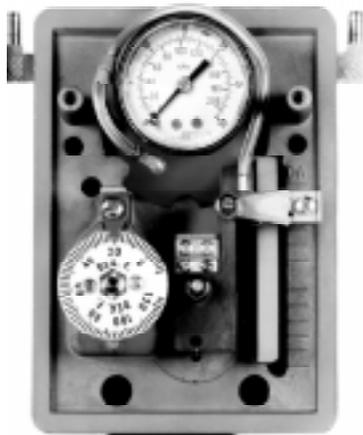
### Operation

As the temperature at the measuring element increases or decreases, the liquid in the element expands or contracts at a linear rate. This will cause the system of flexure levers to open

or close the control port. For a direct acting instrument, the sliding control port should be positioned above the mid-point on the slider rail. For a reverse acting instrument, the slider control port should be positioned below the mid-point on the slider rail. The rail is marked DA (Direct Acting) at the top and RA (Reverse Acting) at the bottom. Moving the slider upward from the mid-point on the rail increases sensitivity and decreases differential for direct acting applications. Moving the slider downward from the mid-point on the rail increases the



**T-8000 Remote Element Controller  
(Element Not Shown)**



**T-8000 with Cover Removed**

### Models

Action	Element Type	Capillary Length (Non-Compensated)	Net Weight	Code No.
Proportional	Bulb	4 ft	3.1 lbs	T-8000-1
		15 ft	3.3 lbs	T-8000-3
	Averaging	8 ft	3.3 lbs	T-8000-4
		15 ft	3.5 lbs	T-8000-6
Two-Position	Bulb	15 ft	3.3 lbs	T-8000-70

### Specifications

<b>Action</b>	DIR or REV (Furnished DIR, Field Reversible)
<b>Supply Pressure</b>	20 PSIG (140 kPa) Nominal; 25 PSIG (175 kPa) Max.
<b>Output Pressure</b>	0 to 20 PSIG (0 to 140 kPa)
<b>Air Consumption</b>	45 SCIM (12 mL/s)
<b>Output Flow Capacity</b>	1500 SCIM (410 mL/s)
<b>Sensitivity (Proportional Models)</b>	Factory Set @ 1 PSI/F° (12 kPa/C°); Adjustable From 0.2 to 3.0 PSI/F° (2.5 to 38 kPa/C°)
<b>Differential (Two-Position Model)</b>	Factory Set @ 4F° (2C°) Adjustable From 2.5 to 50F° (1 to 28C°)
<b>Dial Range</b>	Side 1: -10 to 124F; Side 2: 110 to 244F. Factory Set at 70F. 2F° Graduations
<b>Instrument Ambient Temperature Limits</b>	-20 to 150F (-29 to 65°C)
<b>Element Operating Limits</b>	-30 to 300F (-34 to 149°C)
<b>Air Connections</b>	Barbed Fittings for 1/4 in. O.D. Poly tubing
<b>Materials</b>	<b>Body</b> Die Cast Aluminum, Iridite Finish
	<b>Cover</b> Die Cast Zinc, Sprayed Beige Finish
	<b>Element &amp; Capillary</b> Copper

*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.*

sensitivity and decreases differential for reverse acting applications.

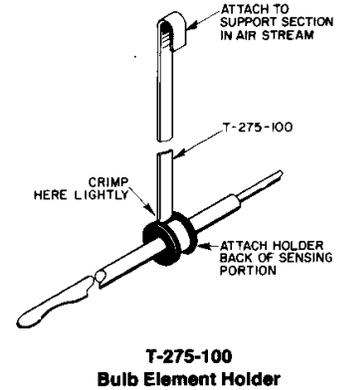
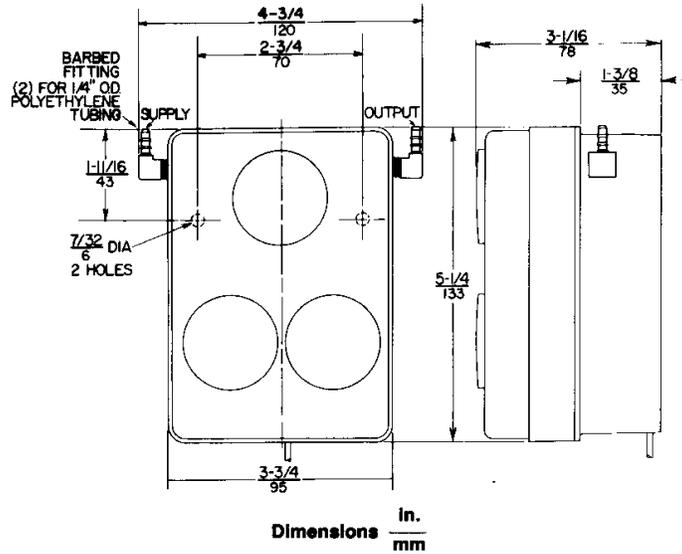
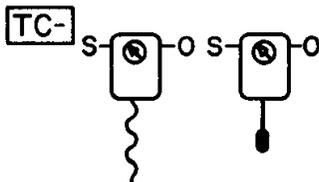
### Mounting

The T-8000 is designed for surface mounting with barbed fittings provided for air connections. Position of the measuring element will not affect operation of the instrument. Avoid kinking the capillary when mounting.

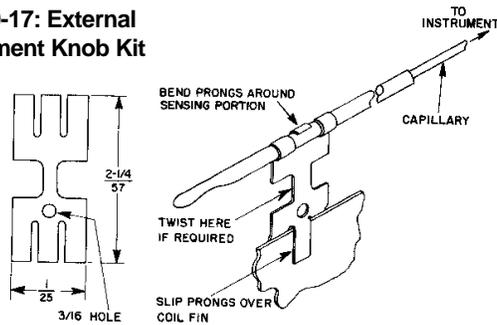
### Accessories (Order Separately)

Code No.	Description
T-8000-16	External Pilot Orifice Kit
T-8000-17	External Adjustment Knob Kit
T-8000-101	Metric Dial (Two-Sided) -20 to 55°C and 45 to 120°C
T-275-100	Bulb Holder
T-275-101	Averaging Element Holder
T-800-1603	Single Flange for Bulb Element
T-800-1604	Double Flange for Bulb Element
T-800-1605	Brass Well; 6-1/2 in.
T-800-1606	Stainless Steel Well; 6-1/2 in.
T-800-1610	Bulb Element Adapter Nut; 1/2 in. NPT
T-800-1624	Two Bulb Element Brass Well
SHL10A-603	Bulb Element Weather Shield

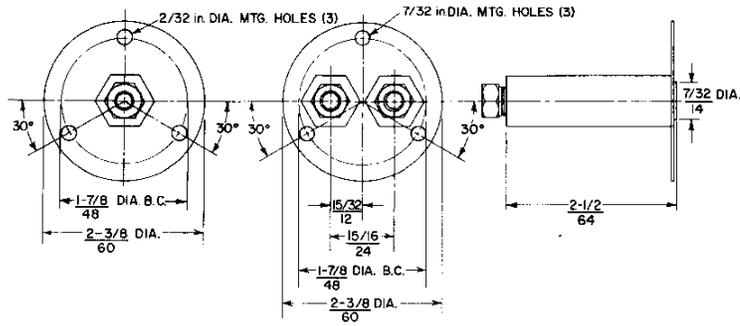
### Application and Drawing Identification



### T-8000-17: External Adjustment Knob Kit



T-275-101: Averaging Element Holder



**T-800-1603**  
Single Flange for  
Bulb Element

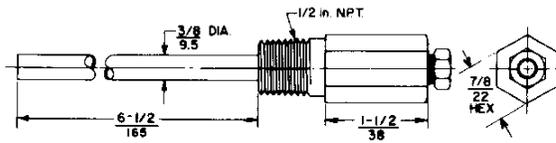
**T-800-1604**  
Double Flange for  
Bulb Element



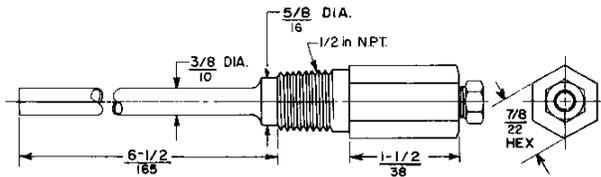
**Bulb Element**



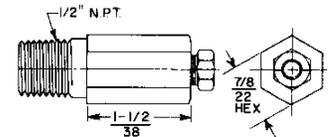
**Averaging Element**



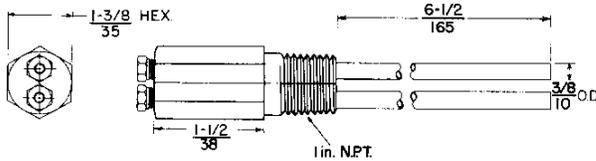
**T-800-1605**  
Brass Well



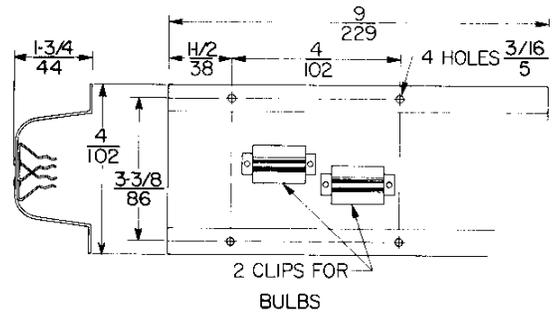
**T-800-1606**  
Stainless Steel Well



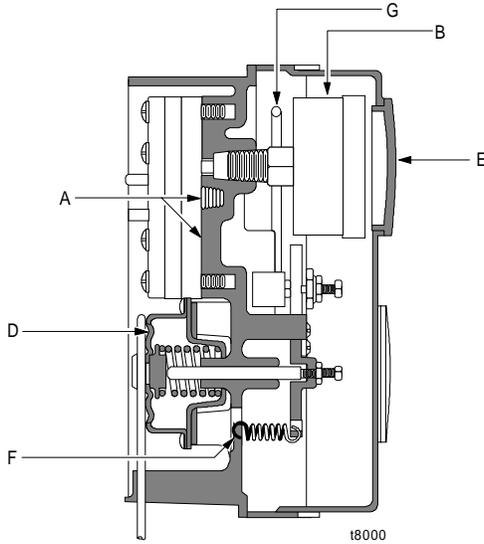
**T-800-1610 Bulb Element Adapter  
Nut; 1/2 in. NPT**



**T-800-1624**  
Two Bulb Element Brass Well



**SHL10A-603 Bulb Weather Shield**



### Repair Parts

Item	Description	Code No.
B	Output Gage, 0 to 30 PSIG, 1-1/2 in.	G-2010-4

	Capillary		Element		
	Type	Length	Type	Material	
D	—	—	Insertion	Copper	T-800-1000
	Copper	2'	Immersion	Copper	T-800-1001
	Non-Compensated (Copper)	4'	Bulb	Copper	T-800-1003
			8 Ft Avg.	Copper	T-800-1004
		15'	Bulb	Copper	T-800-1010
			8 Ft Avg.	Copper	T-800-1011
			Bulb	S.S.	T-800-1012
			8 Ft Avg.	Copper	T-800-1013
	Compensated (Stainless Steel)	15'	16 Ft Avg.	Copper	T-800-1014
			Bulb	S.S.	T-800-1017
		25'	8 Ft Avg.	Copper	T-800-1018
			16 Ft Avg.	Copper	T-800-1019

G	1/8 in. O.D. Polyurethane Tubing (Order in Multiples of 50 Ft)	F-1000-355
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**JOHNSON  
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