POWERS
A WATTS INDUSTRIES CO.

INSTALLATION INSTRUCTIONS

No. 11 Regulator
Thermal System Replacement

TO REMOVE THERMAL SYSTEM

1. Stop flow of fluid through the valve and line.
2. Drain tank or receptacle until fluid is below the level of the bulb. If bulb is provided with separate well, the tank need not be drained.
3. Unscrew retaining nut and remove bulb, leaving tank fitting in position. **CAUTION:** *Do not remove housing while bulb is hot. Cool bulb at least 11°C [20°F] below lowest point on the range. If regulator's lowest range point is below 21°C [70°F], place bulb in ice water before proceeding. If lowest point is below 7°C [45°F], pack in ice.*
4. Note original position of temperature adjusting nut assembly so it can be reset after installing the new thermal system.
5. *Turn adjusting nut assembly from right to left,* releasing all the spring force. Remove housing bolts and position indicator and lift off thermal system.

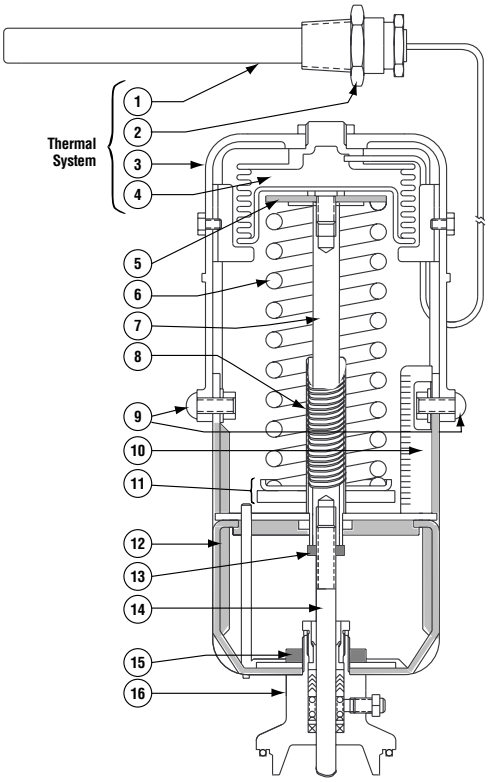
TO INSTALL THERMAL SYSTEM

1. Place housing in position and replace housing bolts. If system has range below 21° to 54°C [70° to 130°F], chill bulb as described above before placing system in position.
2. Reset temperature nut assembly to its original position.
3. Slip bulb into position and tighten retaining nut securely. (25mm x 229mm x 25mm x 508mm [1″ x 9″ x 1″ x 20″] bulbs installed horizontally must be installed with flat surface marked "TOP" facing forward.)

TO TEST THERMAL SYSTEM

1. a. **Heating regulators:** raise temperature to the point at which valve plug is seated.
   b. **Cooling regulators:** raise temperature until valve is just open.
2. Place a ruler on top of the packing gland assembly. Mark the position where the ruler touches the stem.
3. a. **Heating regulators:** cool the bulb 16°C [30°F] below control point so valve is fully open.
   b. **Cooling regulators:** cool the bulb to the control point so that valve is seated.
4. Place the ruler on packing gland assembly again, and measure the distance the stem has moved. This stem travel should be a minimum of 3.2mm for 13mm [1/8″ for 1/2″] regulators to a minimum of 14.3mm for 98mm [9/16″ for 4″] regulators. If there is no movement or only partial movement, the system is defective and the nearest Powers representative should be contacted.

For additional information on the No. 11 Regulator, refer to Technical Instruction Forms TI595CD, TI595ST, TI595WM, and TI595DB, or contact your nearest Powers representative.



OPERATING TOP PARTS LIST

Item	Part Name		Item	Part Name
1	Bulb	Not Separable	10	Temperature Adjusting Setting Scale
2	Retaining Nut		11	Temperature Adjusting Nut Assembly
3	Housing		12	Yoke and Bridge Assembly
4	Bellows		13	Stem Lock Nut
5	Piston Plate		14	Valve Stem
6	Spring		15	Yoke Lock Nut
7	Stem Extension		16	Valve Bonnet
8	Adjusting Screw			
9	Housing Screws			

CALIFORNIA PROPOSITION 65 WARNING

WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.
(Installer: California law requires that this warning be given to the consumer.)
For more information: www.wattsind.com/prop65

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USA office: Phone: 800.669.5430 • Fax: 847.824.0627
www.powerscontrols.com
Canadian office: Phone: 888.208.8927 • Fax: 888.882.1979