



1-888-777-4085
Installation & Operation

Sterlco Temperature Control Valves



Tel (262) 641-3808 • Fax (262) 641-8653 • www.steamcontrolproducts.com • Bulletin: SP1-600 • Effective: August 23, 2005 • Supersedes: New

- **Handle Gently**

Temperature control valves are instruments, not pipefittings. A dent in the body or a sharp bend in the capillary may prevent them from operating. **DO NOT** use pipe wrenches! **DO NOT** subject controls to water-hammer conditions or excessive pressures.

- **Bulb Location**

This is perhaps the most important factor in a good installation. The entire bulb, not just part of it, must be exposed to the fluid of which the temperature is to be controlled. In a circulating system, the bulb must be directly in the line of flow. In a tank, it must be in a representative location, not in a corner, which may be warmer or cooler than the rest of the tank. The temperature at the bulb is the only one, which can be controlled.

- **Bulb Wells**

These should be used when needed to prevent corrosion or for removing the bulb without draining the tank or system. Bulb wells should be packed with heat conductive grease prior to installing the sensing bulb. This will insure accurate temperature sensing by reducing the possibility of an insulating air gap between the bulb well and the sensing bulb.

- **Valve Location
(Heating or Direct Acting Control)**

The supply line in must be close to the inlet. When heating with steam, always use a Sterlco float and thermostatic trap at the condensate outlet from the heating equipment. Don't install the control valve at the condensate outlet or water hammer; or poor control may result.

- **Valve Location
(Cooling or Reverse Acting Control)**

This valve must be located close to the cooling equipment. Where feasible, as in a heat exchanger, the valve should be in the cooling water outlet line rather than the supply line. This keeps the exchanger filled with water and prevents the control from being affected by extreme variations of cooling water temperature.

- **Valve Position**

Preferably with an adjusting screw at the top, but can usually be used in any other position. If possible, let the capillary run downward from the valve to the bulb. All valve bodies have arrows showing the direction of flow. If installed backward, they will be noisy or inoperative.

- **Capillary Location**

DO NOT mount next to a steam line or in a cold draft. If the capillary is exposed to extreme temperatures, it may be desirable to wrap it with insulating material.

- **Strainers**

A Sterlco 20-Y or 18-Y strainer should always be installed just ahead of each control valve to protect it from large particles of dirt. This system **MUST** be kept free of sediment, scale, etc.

- **Adjustment**

A temperature adjustment can be made within the range of the control, by simply turning an adjusting screw in the direction indicated on the valve body or nameplate. Turn the screw only a little at a time, then let the temperature reach equilibrium before adjusting further.

- **Operation**

Remember that this is a modulating control. It does not alternately open wide and shut tight like an electrical control device. It opens gradually wider and wider, in relation to the difference between the actual bulb temperature and the bulb temperature at which the valve is closed. In normal operation, the control valve remains in a constant, partially open position, which is automatically adjusted whenever conditions require it.

- **Maintenance**

The only servicing normally required is to keep the control clean. The valve can be inspected and cleaned by accessing it through the inlet and outlet, without disassembly. The bulb must not become coated with any substance that interferes with the transmission of heat.

- **Troubleshooting**

If the control does not appear to be holding temperatures steady, or if not enough heating or cooling is obtained, first check for external conditions which may prevent the control from operating correctly. Examples are: low or fluctuating steam or water supply pressure; damaged or obstructed valves, traps, strainers or other accessories; supply piping too small; dirty bulb or poor bulb location.

If the valve will not close, check for dirt or foreign matter between disc and seat. The valve can be inspected through the inlet and outlet openings without disassembly, and can usually be cleaned out with an air hose. If overheating results because a direct-acting (heating) valve stays open or a reverse-acting (cooling) valve stays closed regardless of the temperature at the bulb, the thermostat may have lost its fill and become inoperative. To check this, remove valve and bulb from the line, set the control at about the middle of the range, and insert the bulb in water hotter than the maximum of the range. If the direct-acting control does not close or the reverse-acting control does not open, factory repairs to the thermostat are required.

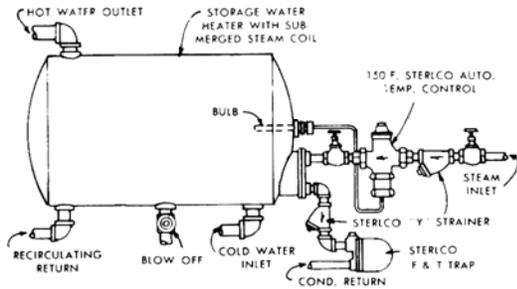
If there is a leak to the exterior of the body, some part may be loose or partially disassembled. Otherwise, a seal bellows may be damaged requiring factory replacement.

If the valve chatters, this usually means a loose or disassembled interior part. Chattering is sometimes caused by other devices near the control, and can sometimes be eliminated by changing piping arrangements, valve position, or supply pressure.

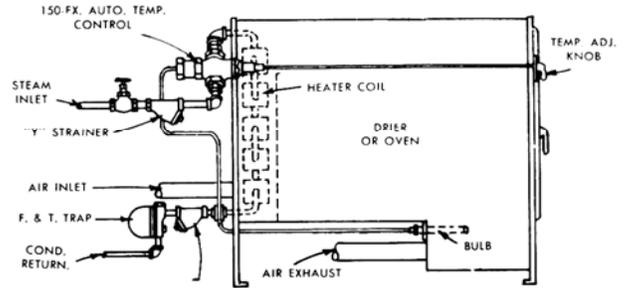


2900 S 160TH STREET NEW BERLIN, WI 53151

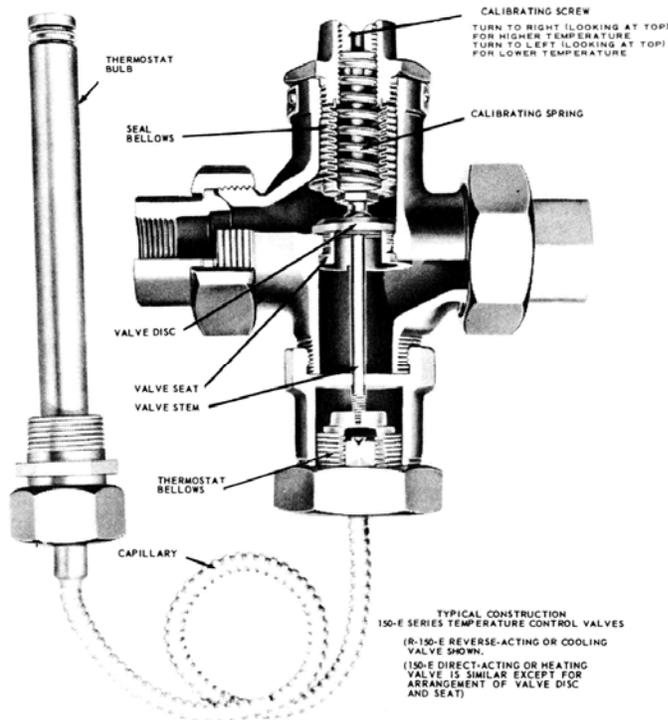
HEATING APPLICATIONS



STORAGE WATER HEATER



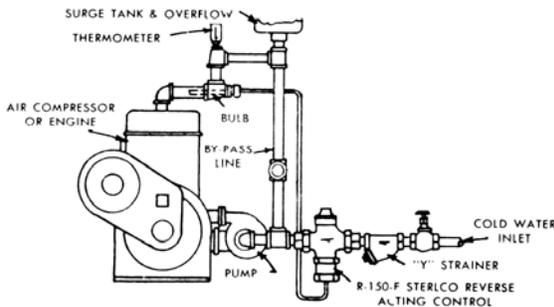
DRIER OR OVEN



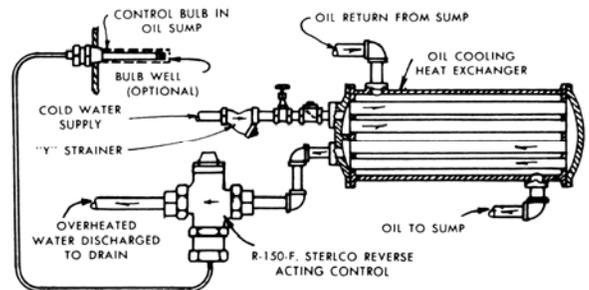
Shown above and below are only a few of the possible installations of Sterlco Temperature Control Valves.

We would be glad to give you our suggestions as to valve selection and installation at any time. Just send us a sketch of the equipment to be controlled, and specify pipe sizes, whether cooling or heating, pressure, temperature, kind of fluid surrounding bulb, and capacity required.

COOLING APPLICATIONS



COMPRESSOR OR ENGINE



HEAT EXCHANGER