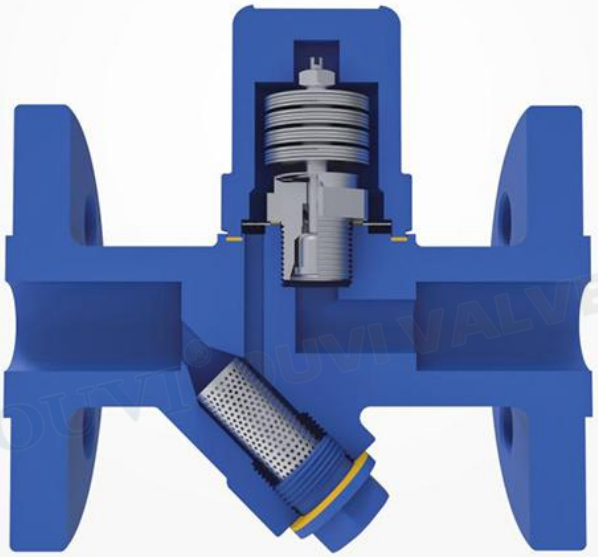
Thermostatic Steam Trap

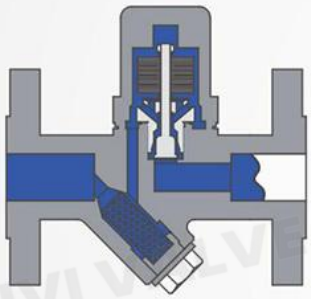
Thermostatic Bimetallic Type

This steam trap utilizes the temperature difference between steam and condensate, where the condensate is discharged at a set temperature through an internal temperature-sensitive element (bimetallic strip or bellows).
The main component of the thermostatic trap is a bimetallic strip (or a bellows filled with a liquid that has a vaporization temperature lower than water's saturation temperature), which acts as a temperature-sensitive element. As the steam temperature rises or falls, this element deforms due to thermal expansion differences, thus controlling the opening and closing of the valves.
Thermostatic traps have a wide range of applications, suitable for superheated steam lines, steam tracing lines, equipment insulation, domestic heating, outdoor low-temperature environments, and heating equipment that allows for the presence of high-temperature condensate.

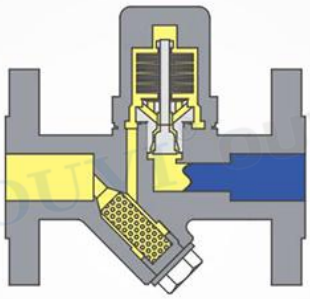


Operating Principle

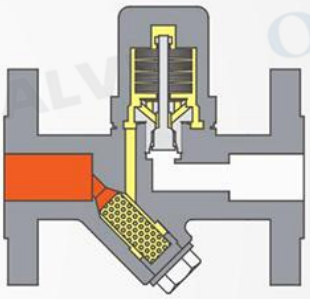
Air | Low temperature condensate | Hot condensate | Steam



1. When starting, the bimetallic element is relaxed, the valve is open, and cold condensate and air are rapidly discharged.



2. As hot condensate flows through the trap, the heat deforms the bimetallic element, pulling the valve stem towards the valve seat.



3. When the temperature of the hot condensate approaches steam's saturation temperature, the bimetallic element closes the valve.