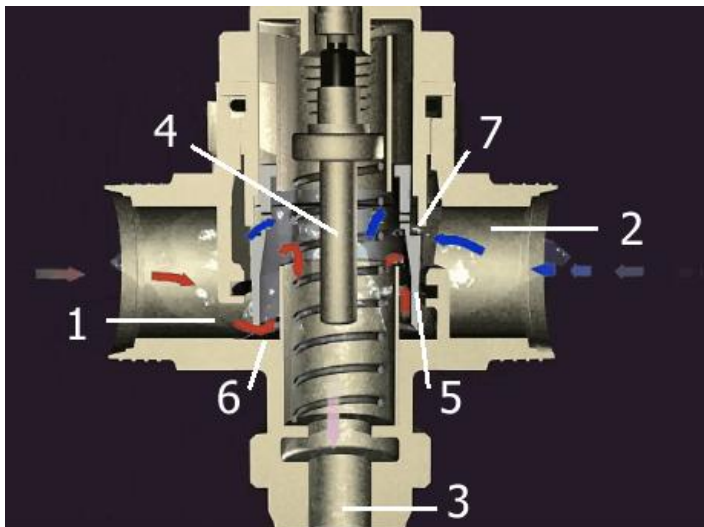


HOW DOES A THERMOSTATIC MIXING VALVE WORK?

The animation shown at <https://www.horne.co.uk/products/water-products/mixing-valves/> illustrates how a mixing valve proportions hot and cold water to give mixed water at a pre-set temperature. Further explanation is given below.

Identify the main components of the mixing valve from the diagram:



1. Hot water inlet port
2. Cold water inlet port
3. Mixed water outlet
4. Thermostat element
5. Slide valve
6. Hot valve seat
7. Cold valve seat

The active part of the mixing valve, the element (4), expands and contracts in response to changes in the temperatures and relative pressures of the incoming hot and cold water supplies (1, 2).

As the element expands and contracts, it moves the slide valve (5) to correctly proportion the amount of cold and hot water entering the valve. If the cold water supply were to fail slowly over a long period of time, the valve would increasingly throttle the hot supply to maintain a safe temperature at the outlet (3).

On total failure of the cold water supply, the thermostat element would expand fully and move the slide valve (5) to close on the hot valve seat (6) which shuts down the hot supply and prevents scalding water from reaching the outlet (3).

Horne thermostatic showers and the Optitherm thermostatic tap work on the same principles.

www.horne.co.uk/products/water-products/surface-mounted-shower-panels/

www.horne.co.uk/products/water-products/optitherm-thermostatic-tap/