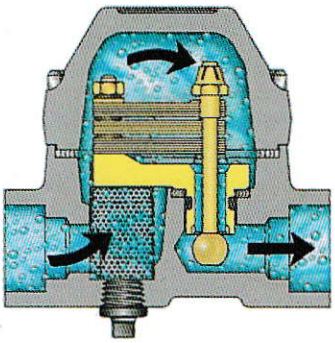
HOW IT WORKS

The four purpose valve and its function in the Velan universal bimetallic steam trap

FAST WARM UP

The discharge valve is open, allowing air and cold water to be discharged rapidly. The period of waiting to start a process is reduced to minutes—there is no air binding, water-logging, or steam locking to delay equipment warm up.



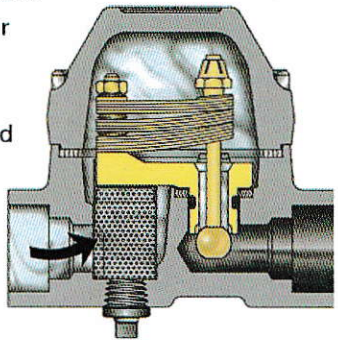
Actual tests show that up to 2½ hours may be saved on each "warm-up" because Velan steam traps have a much greater venting capacity than other traps, due to it's large orifice.

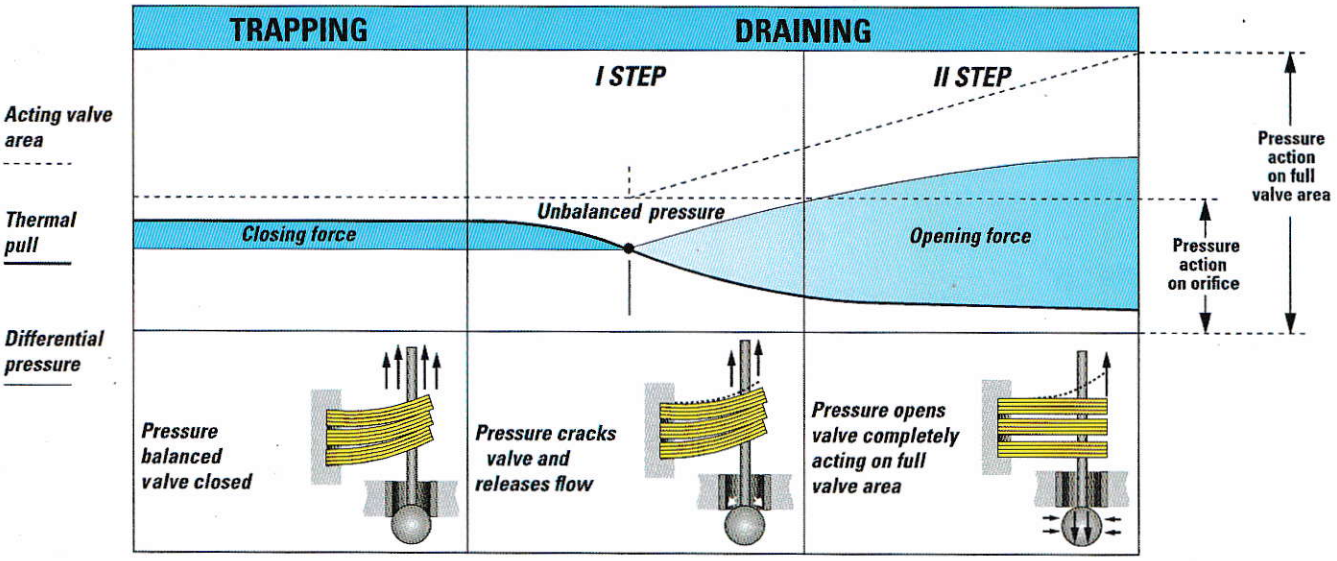
POSITIVE TRAPPING

Incoming steam causes the bimetal to deflect. This thermal pull of the bimetal element acts on the valve stem, overcoming the steam pressure closing the valve. The ball valve is pulled tightly on to its seat, preventing weeping and loss of live steam.

The thermal pull increases or decreases as a function of temperature, in the same relation as the temperature and pressure of the saturated steam.

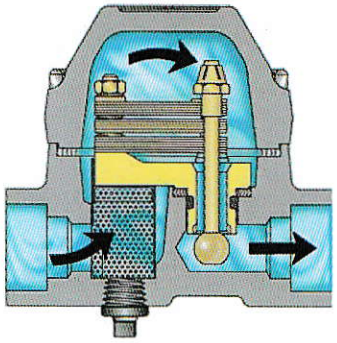
The same element can be used for varying steam pressures within wide pressure ranges.





TWO-STEP DRAINAGE

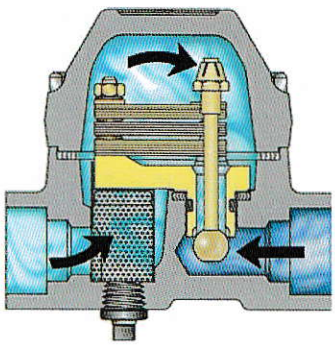
When steam condenses into water, the thermal pull of the bimetal is gradually reduced until the line pressure on the valve releases it from the valve seat and allows conden-sate to be discharged.



This is the first step in the smooth and quick opening of the valve, without noise or violent action. When the flow is released, the unbalanced pressure acts on the full valve area. The force to overcome the thermal pull increases and opens the orifice to full capacity.

CHECK VALVE ACTION

Back pressure in the discharge pipe, a sudden drop or rapid fluctuation in steam pressure, or discharging to overhead lines causes back flow of condensate. To prevent this possible back flow of condensate entering the equipment when it's not in service, separate check valves have to be installed as near to the trap as possible. In Velan steam traps, the discharge valve in the trap acts as a check valve, thereby providing full back flow control.



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