HOW IT WORKS

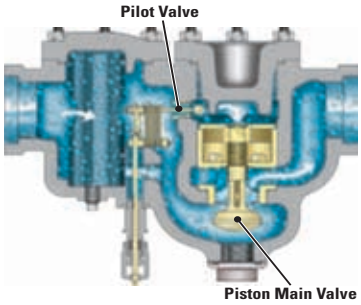
THE 4 PURPOSE VALVE AND ITS FUNCTION IN THE VELAN PISTON OPERATED & THE MONOVALVE FLOAT BIMETALLIC STEAM TRAP

PISTON OPERATED

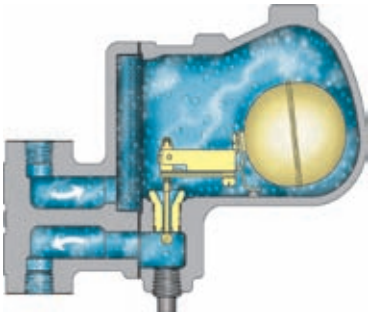
MONOVALVE FLOAT BIMETALLIC

FAST WARM UP

Cool air and condensate from the system is discharged through the large main valve orifice actuated by the piston, which is held open by it's own weight when cold. As line pressure builds up pressure above the piston keeps the valve open at maximum discharge until the system is completely purged of air and condensate.

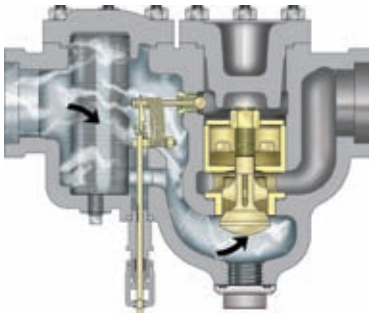


Clearing air and moisture from a cold system rapidly reduces warm-up time and increases production. Other float traps must have a separate air venting facility while the Velan MFT utilizes the large main orifice for the fastest warm-up time of any comparable sized float trap.

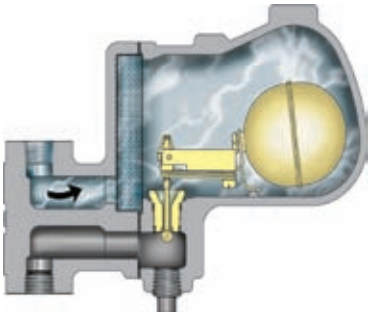


POSITIVE TRAPPING

Incoming steam contacting the bimetal element closes the pilot valve, thereby reducing the pressure acting on the piston. Line pressure below the main valve closes it tightly but smoothly, due to the partial pressure remaining in the piston chamber.

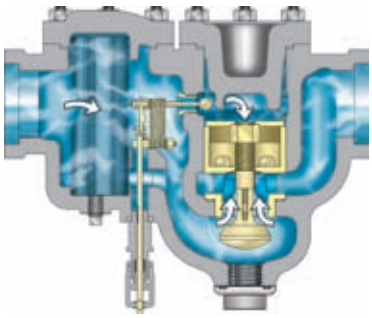


When condensate is discharged, the float mechanism rests on the trap body. The bimetal element alone, closes the valve with thermal power developed by incoming steam. The bimetal element is a function of the saturated steam curve, therefore operates efficiently at any pressure within it's range.

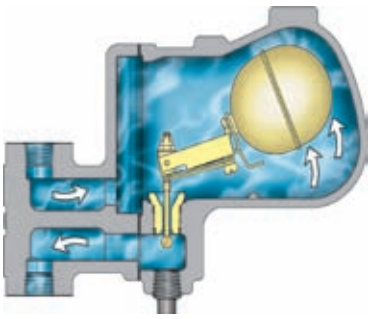


CONDENSATE DISCHARGE

When condensate and air collect in the trap body, the bimetal force is reduced, line pressure opens the pilot valve, pressurizing the piston chamber and forcing the main valve open against line pressure by virtue of the greater piston area.

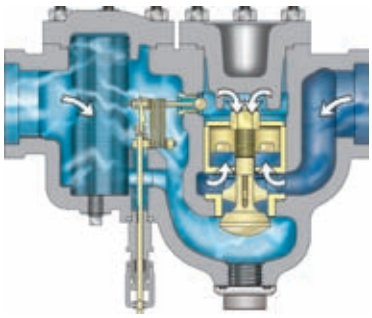


If condensate builds up in the trap body, the float becomes buoyant, and opens the valve to unrestricted flow. Condensate even at steam temperature is discharged at the same rate as it reaches the trap. No air binding or water logging irrespective of adverse conditions. The trap drains by gravity and **will not freeze**.



CHECK VALVE ACTION

Excess back pressure, a drop in line pressure, or discharging to overhead return lines, can cause a reverse flow of condensate through the trap. Normally separate check valves are required to prevent this occurrence. The Velan type SP main discharge valve also works as a temporary piston check valve and prevents back flow.



When pressure is off, equipment discharging to a common return, or where condensate is returned to overhead lines, a check valve is required to prevent reverse flow through the trap. The free-floating MFT mechanism shuts immediately the reverse flow and no additional device is required.