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SERIES WSIB, WSIBH

STAINLESS STEEL INVERTED BUCKET STEAM TRAP INSTALLATION INSTRUCTIONS

INSTRUCTION PART NO. 2251900

REVISION 1

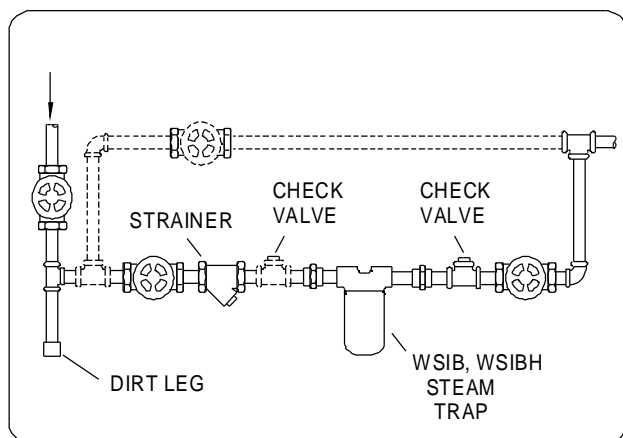
INSTALLATION

Before installing the Watson McDaniel Inverted Bucket Steam Trap, blow down the piping that leads to the trap's inlet. Use full line pressure to remove all scale, chips, debris, etc. Be sure the trap differential pressure rating is adequate for the installation.

Install the trap in a horizontal pipeline with the inlet below the liquid level of the equipment being drained and in a location easily accessible for inspection and maintenance. A sketch of a recommended hookup arrangement is shown below. Use pipe dope or teflon tape on pipe joints. Make inlet piping as short as possible with a minimum of elbows and other restrictions. Install a dirt leg in the line ahead of the trap. To allow for maintenance, install a valve on each side of the trap and a strainer ahead of the trap inlet. All valves should be of the full ported type to avoid restricted flow.

If the discharge piping is to be elevated, be sure that the differential pressure is adequate to overcome this lift. Install a check valve (optional) in the discharge piping near trap to prevent backflow when the system is not operational.

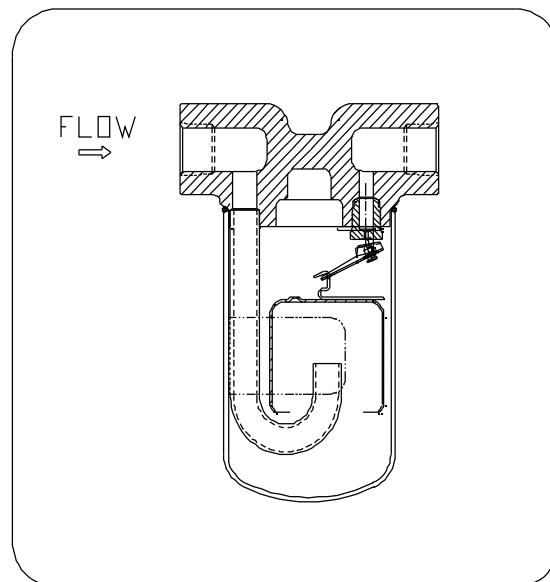
NOTE: Trap must be primed (filled with water) before start up. Without priming trap will not operate. This style trap is not recommended for superheated steam service, as the prime may be lost to the excessive heat. (See superheat note.)



RECOMMENDED INSTALLATION

PMO	450 PSIG*	PMA	720 PSIG @ 100°F
TMO	750°F	TMA	750°F @ 400 PSIG

*750°F @ operating pressures below 400 PSIG.



HOW IT WORKS

Having only two moving parts, the valve lever assembly and bucket, these traps will not stick, bind, or clog, since they do not have fixed pivots or complicated linkages. They operate on the difference in density between steam and water. During start-up, the trap is open, air and gases vent slowly out the top of the bucket through the vent hole. Condensate entering through the feed tube forms a water seal on the bottom of the bucket, turning it into a float. When all the condensate has been discharged, the steam enters to fill the bucket, which then snaps up closing the trap. The bucket would normally stay in this position, however when the steam condenses, more condensate enters the trap pushing the gases out through the vent hole causing the bucket to be completely submerged in condensate. Losing its buoyancy, the bucket (its weight being greater than the weight of the water) falls, opening the trap.

PRIMING THE TRAP

There are two basic ways of priming an Inverted Bucket Trap. The simplest way is fill the trap with water before installation.

The other way to prime a trap is after the trap has been installed in line, close the isolation valve upstream from the trap for a few minutes so that the steam would condense during the dead head, and then slowly open the isolation valve so that the condensate would fill up the trap.

Without priming, the Inverted Bucket trap will not operate.

IF SUPERHEAT IS PRESENT

To maintain prime in trap, install a check valve at the trap inlet, and/or install a bypass above trap.

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