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Lever Ball Float Steam Trap

Operation Manual



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Lever Ball Float Steam Trap

1. Product Overview

Lever ball float steam trap is a kind of mechanical steam trap, which relies on the density difference between steam and condensate water.

2. Structure and Performance

- 2.1 Cast steel body.
- 2.2 Special flow channel design, water seal works better, so that the fluid into the valve body does not have water hammer phenomenon.
- 2.3 The inner parts are all stainless steel finishing, and the sealing parts are made of martensitic stainless steel and treated by heat treatment and aging, with high strength, no deformation and wear resistance.
- 2.4 Patented design with flexible closing system, no steam leakage.
- 2.5 Equipped with automatic air vent device, effectively prevent air blocking.
- 2.6 Built in filter makes the trap working environment cleaner.
- 2.7 Equipped with manual drainage device, used to open the screw plug after the steam stop to remove condensate, to prevent the trap due to frost damage.

Tips: When condensation is reduced to very little, and the water seal is lost, the double seat lever ball float steam trap will leak steam.

3. Working Principle

When steam enters, the automatic air vent valve is open. The air and low temperature water in the pipeline enter the trap, the air is quickly discharged through the air vent valve, the float ball floats up to open the valve, and the condensate is discharged from the trap. As the temperature of the condensate gradually rises, the automatic air vent valve closes when its temperature approaches the saturation temperature. Then the high temperature condensate water enters, so that the float remains in the rising position, and continues to maintain the open valve state. If the condensate stops flowing in, the float drops and the valve is closed.

4. Application

Mainly used in industrial steam heating systems such as petrochemicals, rubber, papermaking, printing and dyeing, pharmaceuticals, metallurgy, and power plants. The scope of use of the product should strictly follow the technical parameters on the product nameplate, and overpressure and over temperature use are strictly prohibited.

Our company shall not be liable for any consequences caused by overpressure or overtemperature.

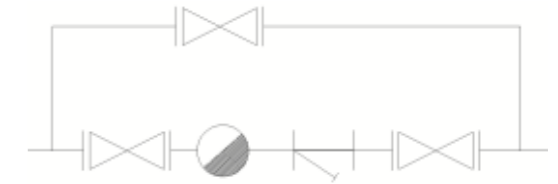
5. Product Standards

Our company's trap design, manufacture, inspection, Implement GB/T 22654-2008 "Steam Trap Technical Conditions".

6. Installation and Piping

Lever ball float steam traps must be mounted horizontally and marked forward on the body. Piping is shown on the right.

Standard configuration of trap: the inlet valve, outlet valve, bypass valve and filter.



Medium flow: from right to left

- 6.1 Before installing the steam trap, please check the nameplate carefully and refer to the user manual. Under the premise that the pressure, temperature, diameter, standard port, connection length, etc. are met, close the front and rear valves of the steam trap, check the flow direction of the medium and the installation direction of the product, and ensure that the arrow shown on the valve body is consistent with the flow direction of the medium.
- 6.2 During pipe welding, welding slag must be prevented from entering the trap channel and any impurities must be prevented from entering the trap.
- 6.3 The trap should be installed in the steam system or equipment outlet pipe at a lower position, so that condensed water can naturally flow into the valve body.

7. Maintenance

- 7.1 When repairing or cleaning the internal filter of the product on-site, the bypass valve must be opened first, then the front and rear valves of the steam trap must be cut off, and the inspection valve must be opened for pressure relief. After there is no pressure inside the steam trap and the surface temperature of the steam trap body drops to room temperature, cleaning can be carried out to prevent personnel from getting burned.
- 7.2 If the product is used for new pipelines, the filter screen needs to be cleaned when running for one or two weeks. Afterwards, depending on the first cleaning situation and pipeline medium. In generally, it is necessary to clean again after a maximum of six months of operation.

8. Faults and Solutions

The faults of steam trap in use is summarized into three appearances:

- 8.1 Blockage: Steam trap cannot operate, steam and condensate cannot be drained at all.
- 8.2 Spray: The valve core cannot be closed, resulting in an accident state where steam and condensate are continuously discharged smoothly.
- 8.3 Leakage: Steam leaking from inside the steam trap to the outside.

No matter what kind of failure, it must be carefully analyzed, and the steam trap only can be repaired when it is determined to be the fault of the steam trap itself.

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The possible faults and solutions for lever ball float steam trap are listed in the following table.

Faults	Analysis	Solution
Spray	There is debris between valve seat and valve core	Cleaning
	Sand holes near the valve body or cover outlet holes	Repair welding or replacement
	Float ball falling off	Reset the float
	The vent valve failed	Repair the vent valve
Steam leakage	The core is not well sealed with the seat	Grinding or replacement
	The valve core thread is loose	Fastening
	Lost water seal	Restoring water seal
No opening action	The water outlet is blocked	Cleaning
	The floating ball is broken and water is in the ball	Replace the float ball
	The filter is blocked	Clean the filter
	Steam locking	Adjust and repair pipes
	Air blocking	Repair the automatic air vent valve
	Pressure exceeds allowable scope	Replace with a high pressure trap

9.Warranty

Warranty period: 18 months after delivery;

During the warranty period, if the user uses, installs, operates, and maintains the product correctly, and the product does not work properly, our company will provide free repair or replacement of the product.

The following situations are not covered by the warranty:

- 1) Faults caused by exceeding the technical parameters specified on the product nameplate;
- 2) Faults caused by incorrect installation, operation, disassembly, and maintenance;
- 3) Faults caused by impurities or severe corrosion;
- 4) Faults caused by natural disasters;