

## What is the function of a steam trap?

- Remove steam condensate, air and other incondensable gases from steam system
- Prevent steam loss to condensate system.

## Improper selection of steam trap can result in failure of steam trap

- Failure to discharge condensate and incondensable gases may lead to water hammering and loss of heat transfer efficiency.
- On the other hand, steam loss to condensate system is a waste of energy.

## Types of Steam trap

There are 3 common types of steam traps, namely thermostatic, mechanical and thermodynamic.

- Thermostatic steam trap uses the thermal expansion and contraction of its operating parts to open or close the steam trap.
- Mechanical steam trap uses the buoyancy of steam condensate to float its operating parts to open or close the steam trap.
- Thermodynamic steam trap is actuated by fluid dynamics. For example, a disc thermodynamic steam trap uses the steam's own pressure to close the steam trap. When the steam trap loses enough heat to the ambient and the steam inside the steam trap condenses, the steam trap opens.

## When selecting steam traps, the following are some factors to consider:

- Does the operating steam pressure and temperature vary drastically?
- Is the steam trap installed vertically or horizontally?
- Is the discharge of steam condensate required to be on-demand and continuous?
- Is there significant amount of dirt in steam piping? Is a strainer required?
- Do you need the steam trap to remove incondensable gases automatically and quickly?
- Is the noise generated by the steam trap a nuisance?

*For more information: ISO 6704:1982 Automatic steam traps — Classification*

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