Intelligent Online Diagnostics

Forbes Marshall trap monitoring system

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Forbes Marshall Trap Monitoring System (FMTMS)

We cannot prevent losses unless we monitor them.

The Forbes Marshall Trap Monitoring System (FMTMS) is an innovative solution to automatically detect and indicate health of steam traps.

The system monitors the operation of steam traps at regular intervals. It can diagnose failed open steam traps that leak live steam, as well as fail closed traps that result in waterlogging. It also correctly determines when the process is not in operation.

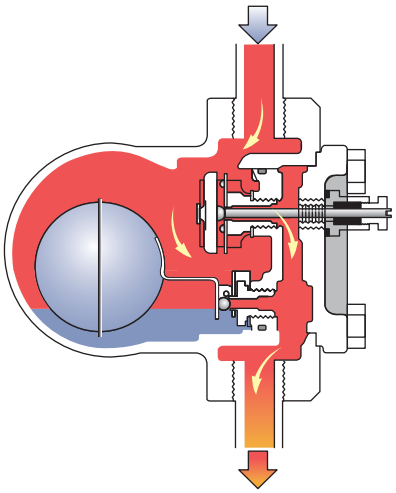
The diagnosed status is indicated through a multi colour LED which indicates if the trap is working fine.

The steam trap is an essential part of any steam system. It is the most important link between an energy efficient steam system and effective condensate management. The prime function of a process trap is to trap steam within the process for maximum utilisation of heat, while evacuating condensate and incondensable gases effectively.

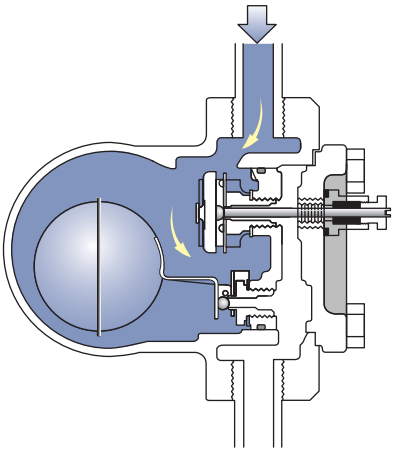
Generally, it is assumed that process traps once fitted should work satisfactorily without any checking, but that's not the reality. Steam traps do fail.

A steam trap can fail in two conditions as illustrated below.

Failed in open condition



Failed in closed condition



Impact of Trap Failed Open

Inability to maintain required process temperature which thereby impacts product quality

Live steam loss

Build-up of pressure in the common condensate return line

Adverse impact on the condensate recovery factor (CRF)

Impact of Trap Failed Closed

Reduced productivity, increased batchtime

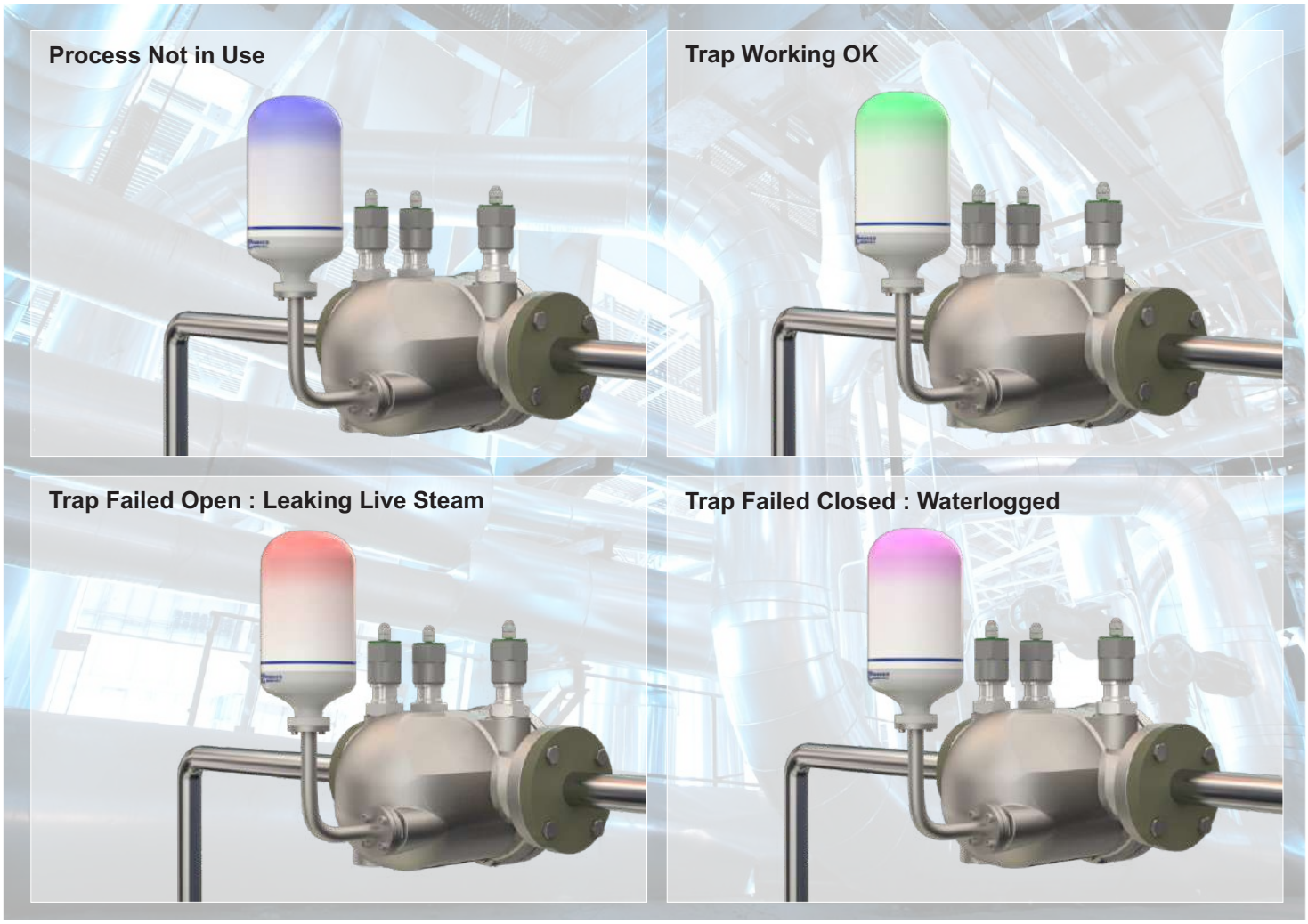
Bypass valve needs to be operated resulting in steam loss and thereby increased fuel bills

Product or batch rejection

Water hammering, erosion, gasket / heat exchanger leakages

Improper temperature control

Inadequate heat transfer



Working Principle

This device is battery-operated and measures the conductivity of the fluid medium inside the steam trap, as well as its temperature. The electronics unit interprets the value inputs of conductivity and temperature and generates an alert through a multi-color light.

The different colours of the light correspond to the health status of the steam trap as indicated in the figures above.

Features

- State-of-the-art design
- Robust and compact construction
- Engineered for optimum performance
- Ease of installation
- IP 66 housing
- Visual indication of trap status through LED

Benefits

- Equipment level monitoring of steam trap
- Automatically detects and indicates health of steam traps online
- Reliable indication for delivering uptime of steam traps
- Ease of online maintenance
- Battery powered – no external utility required

World Class Technology from World Class Facilities

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