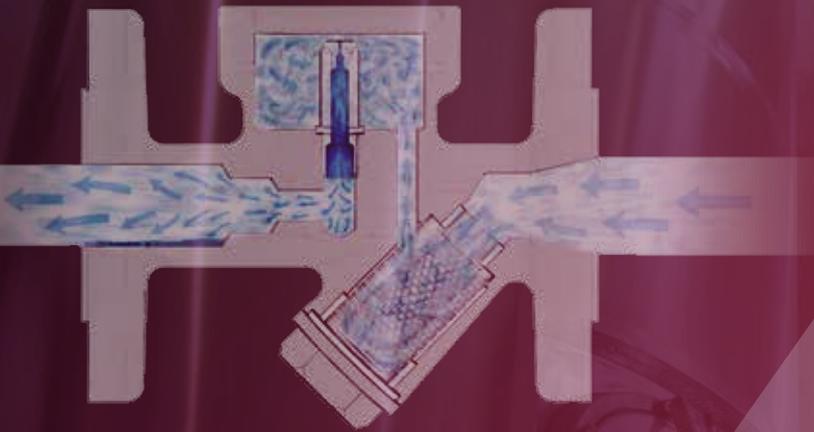


ECOFLOW

A UNIQUE CONCEPT IN
VENTURI ORIFICE STEAM TRAPS



....DESIGNED TO MEET THE RIGOROUS REQUIREMENTS
DEMANDED BY TODAY'S INDUSTRIAL STEAM PLANT USERS

ECOFLOW A UNIQUE CONCEPT IN VENTURI ORIFICE STEAM TRAPS

Steam is used by commerce and industry for a wide range of processes and is a crucial component in factories and commercial buildings. As a heating source it is used within a spectrum of processes including fluid heat exchangers, reboilers, reactors and heat transfer equipment.

Why are Steam Traps installed?

A steam trap is a self actuating valve that is used to discharge condensate while retaining live steam in a system. Its purpose is to pass condensate, air and non-condensable gases from the steam system into the condensate system whilst preventing live steam from leaking.

Problems facing Steam Trap users

Steam users are faced with a number of problems:

- Increasing production targets
- Increasing fuel costs
- More stringent emission targets
- Increasing maintenance costs
- Steam trap reliability leading to plant shutdown

ECOFLOW

The solution to these problems is a new type of Venturi orifice steam trap from EBE Engineering called **ECOFLOW**. Unlike mechanical, thermodynamic and thermostatic steam traps, the ECOFLOW Venturi orifice trap has no moving parts to fail open or shut. Resulting in minimum downtime and no more failed traps. This enhances the efficiency and reliability of the heat transfer system and provides between a 10% and 30% reduction in steam costs. Both the EFK-F and EFG-F versions of the ECOFLOW market-leading steam trap incorporate the flange into the main housing of the trap, which is cast entirely from high grade Stainless Steel.

How EBE Engineering can help

EBE Engineering strives to deliver real customer value by providing technical solutions to steam system problems. Based on developing partnerships with our customers, we evaluate, analyse and implement process saving solutions to improve efficiency for the whole of your steam system.

Our ECOFLOW Venturi orifice steam trap range is designed to meet the rigorous requirements demanded by today's industrial plant users. Developed on a modular concept, the trap encompasses a wide range of capacities. These include minimal condensate flow requirements on line drainage and trace heating systems, through to the high flow volumes and variable loads of process heating applications. The trap's unique innovative design allows for both these conditions to be serviced within the same flanged body.



ECOFLOW The Advantages

- Permanent energy savings on steam production (Fuel usage for trapped steam consumption decreases typically by 10-25%)
- Improved production efficiency without failed trap downtime
- Reduction in maintenance - with a full ten year performance guarantee on all ECOFLOW Venturi orifice steam traps
- In line constructions allows for removal and cleaning of filters and nozzles
- Product temperatures are hotter and much more consistent
- Steam trap repair and replacement are eliminated, allowing reassignment of personnel.
- Air emissions and greenhouse gases are permanently reduced



HOW IT WORKS

It is important to note that a Venturi orifice steam trap is NOT an orifice plate steam trap. Both have an orifice and drain condensate away from steam operating equipment but the orifice plate trap has a point of operation however the Venturi orifice has a range. This range enables the Venturi orifice steam trap to operate from 25% - 100% of the maximum orifice capacity with no steam loss.

Start up

In the first phase or start-up, air and non-condensable gases are vented through the Venturi orifice trap nozzle. When hot steam enters pipework or heat exchanging equipment the difference in temperature between the hot steam and the cold walls of the pipework or heat exchanger cause the steam to lose heat energy. This reduces the energy content of the steam (its enthalpy) and it starts to become more saturated (wet).

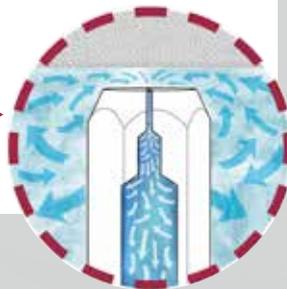
As the steam approaches the nozzle it becomes more and more saturated and on all exposed cooler surfaces condensate forms. Normally a steam trap is situated at the lowest point in the steam system. This allows the condensate to drain towards this point.

Once the condensate reaches the nozzle it begins to be ejected through the orifice by the steam. This is the point where the energy system (the steam) meets the waste system (the condensate). The enormous difference in condensate density (1000 times denser than steam) means the steam phase is effectively 'blocked' from entering the orifice.



▲ The ECOFLOW innovative single piece casting

▶ The removable Venturi orifice nozzle



Continuous Operation

Unlike conventional mechanical steamtraps, Venturi orifice steam traps have a constant condensate discharge. In continuous operation the trap switches between streaming condensate drainage (similar to water from a tap) to 'flash steam'. Flash steam reduces the velocity of the discharging condensate and effectively 'blocks' the condensate from discharging. This process is auto regulating and modulates based upon the main steam pressure.

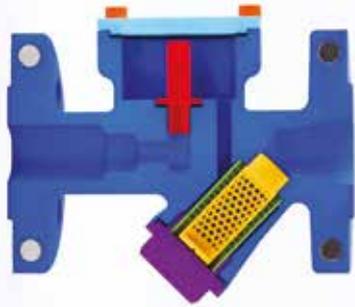
APPLICATIONS



A more comprehensive explanation is available on our website www.ebe-eng.com or by contacting us at eurosales@ebe-eng.com

The Unique ECOFLOW

For more than a decade, EBE Engineering has striven to improve the performance of steam operating plant, working with a wide range of major corporates and independents to build-up an unprecedented knowledge of the workings of the Venturi design. Based on this extensive experience and customer feedback EBE Engineering launched the ECOFLOW Venturi steam trap - a truly unique solution that delivers exceptional performance to our customers.



ECOFLOW's body comprises of a modular design to incorporate low and high flow in the same housing. Due to a clever and innovative Venturi concept, the design extends the trap's performance over variable condensate loads. Welding has been eliminated, resulting in a totally homogenous design that makes the trap physically stronger and safer. It also simplifies certification; thereby speeding up production and ensuring consistently high quality. The streamlined manufacturing process enables EBE Engineering to pass on the benefits of economies of scale to its customers.



ECOFLOW differs from other Venturi orifice steam traps by incorporating the flanges into the main casting. ECOFLOWS EFK-F and EFG-F versions are both cast in one piece, in high grade Stainless Steel, which provide the traps with consistent strength, resilience and dimensional accuracy.

EBE Engineering supplies ECOFLOW to a spectrum of industries ranging from Petrochemical Refineries to Confectionary Manufacturers and from Laundries to Hospitals. ECOFLOW Venturi orifice steam traps can be used on all steam applications in every type of industry. We can carry out a performance survey of your steam system and provide a detailed analysis which we guarantee will pay for itself every time.

EBE Engineering recommend ECOFLOW ISOjag removable insulation jackets. They are designed to fit the ECOFLOW Venturi orifice steam trap sizes ranging from DN15 to DN50. Cutting heat losses by up to 90% they are extremely easy to fit, enabling steam trap installation and insulation to be carried out simultaneously, saving time and money.

CONTACT EBE ENGINEERING TODAY
TO SEE HOW ECOFLOW CAN HELP YOU
REDUCE ENERGY AND MAINTENANCE COSTS
IMPROVING YOUR PLANT'S PRODUCTION

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1460 EBE Engineering June 2021©