

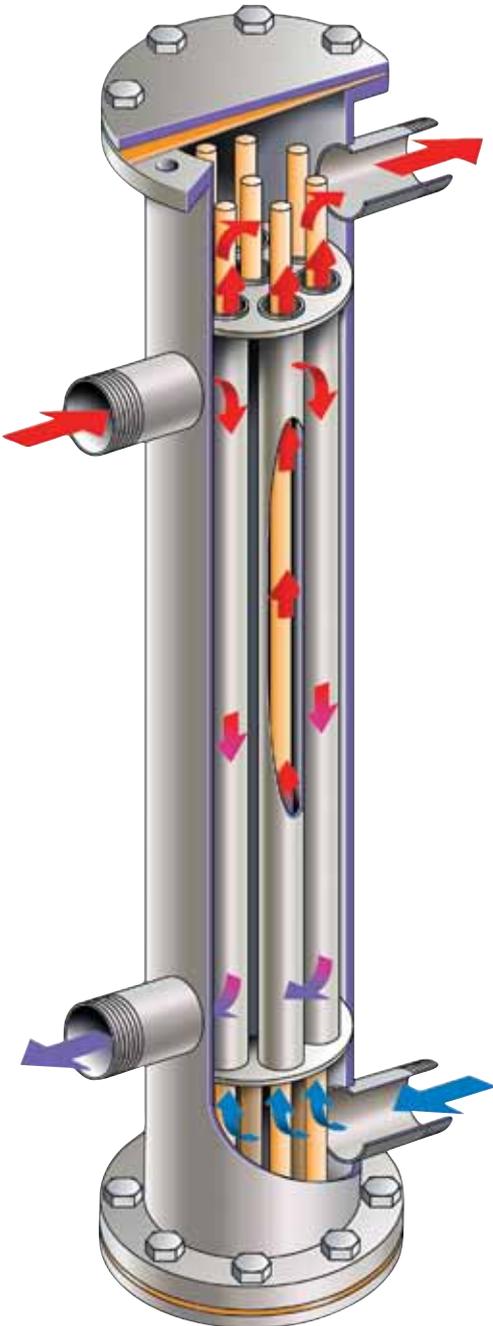


ECOTHERM

shell & tube heat exchangers

www.ecotherm.com

High performance shell & tube heat exchangers with free floating turbulator rods



ECOTHERM heat exchangers with their patented free floating turbulator rods are the most superior heat exchangers available. They incorporate all of the advantages and none of the disadvantages of other types of heat exchangers or heating coils.

High performance

Unlike conventional shell and tube heat exchangers, ECOTHERM's high capacity heat exchangers contain patented free floating turbulator rods. The rods significantly increase the performance and reduce the size of the heat exchanger. The domestic hot water flows through the heat exchanger at high speed in less than 1 second. The cold water is heated up from 12°C to 60°C in one pass.

Compact

ECOTHERM's high capacity water heaters are extremely compact compared to conventional water heaters. With a floor space saving potential of up to 95%, the ECOTHERM high capacity water heater is fully compliant with the current building trend for lower building costs through compacter heating systems.

The very small surface area of the heat exchanger minimizes radiation heat loss, thus enhancing the overall fuel efficiency of the water heater.

Anti-fouling

The high speed of water flow and the oscillating action of the free floating turbulator rods help to prevent fouling deposits from collecting in the heat exchanger. Maximum efficiency and optimum hygiene are maintained throughout the life of the water heater.

Lifelong corrosion free service

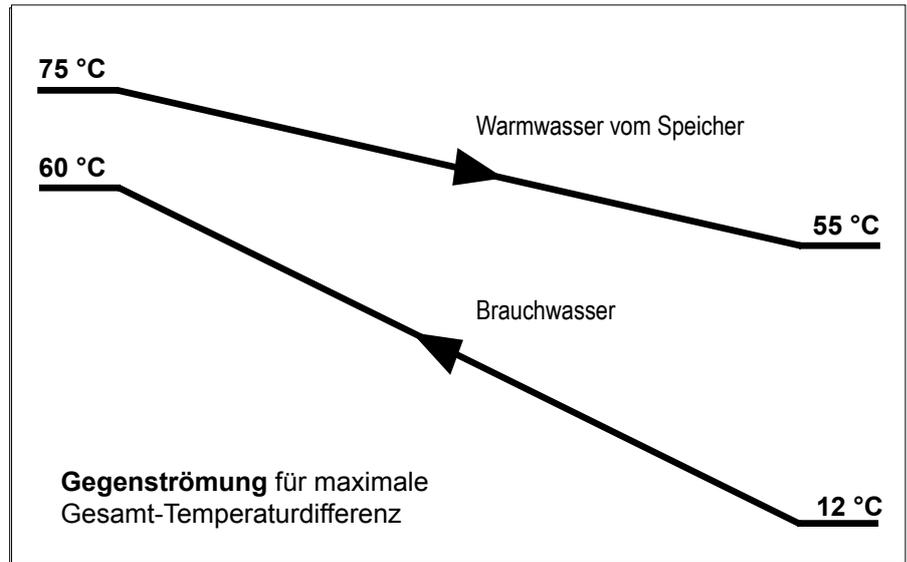
ECOTHERM Stainless Steel 1.4571 / duplex gives lifelong corrosion free service. ECOTHERM stainless steel is a valuable raw material for recycling.

Fast maintenance access with no down time

The external configuration makes it unnecessary to drain the water heater to access and clean the heat exchanger. For inspection and cleaning purposes, simply close the shut-off valves to the tank, open the end flange and pull out the free floating turbulator rods for inspection. Inspection and cleaning can be accomplished in a fraction of the overall time required for conventional water heaters. Thanks to the stored hot water in the tank, there is no interruption of service.

Turbulent flow, contraflow

ECOTHERM high capacity heat exchangers employ the principle of turbulent flow for optimum heat transfer. A thin film of domestic water flows with turbulent flow and at high speed through the secondary circuit. It flows in the opposite direction to the fluid in the primary circuit, resulting in the highest average temperature gradient across the tube walls over the whole length of the heat exchanger. The turbulent flow prevents lime scaling.



Patented free floating turbulator rods

The free floating turbulator rods are hard wearing and designed for extremely long life. They fulfill many important functions:

Efficient heat transfer

The free floating turbulator rods in the centre of the heat exchanger tubes force thin films of water to flow along the walls of the tubes. The high water surface exposure per volume makes efficient heat transfer possible. Thanks to the fast flow rate, ECOTHERM high capacity heat exchangers perform at around 3,500 to 5,000 W/m²K, which enables even low temperature output from the boiler perfectly satisfactory for efficient operation.

Turbulent flow

The free floating turbulator rods constantly oscillate from side to side. This lateral movement causes turbulent water flow in the tubes, which is beneficial for efficient heat transfer. (Poor mixing caused by laminar water flow would greatly reduce heat transfer efficiency).

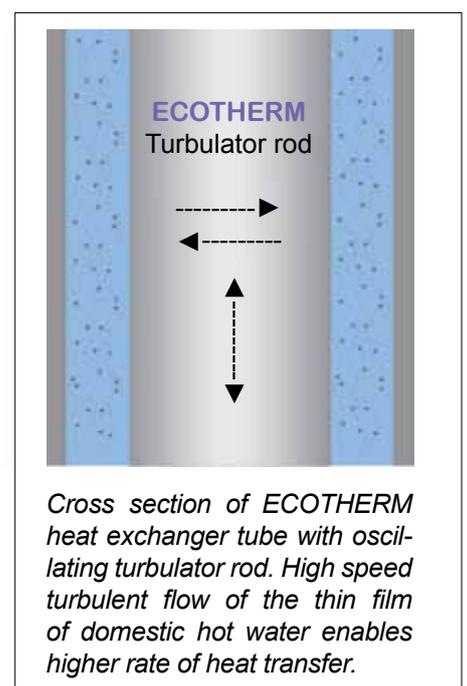
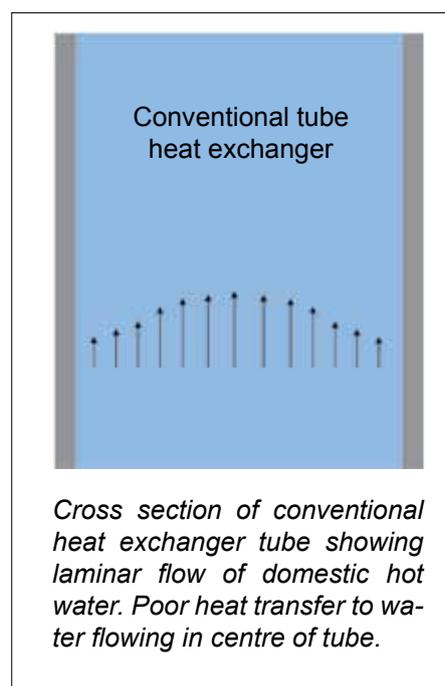
High flow speed

Thanks to the free floating turbulator

rods, domestic water passes through the heat exchanger at a speed of approximately 1.6 m/s. This high speed and turbulent flow helps prevent fouling. (Lime scale deposits would act as a heat insulator, greatly reducing the heat transfer capacity of the heat exchanger)

Self cleaning action

The constantly oscillating rods inhibit the formation of fouling on the walls of the tubes, thus further ensuring that maximum efficiency is maintained.





ECOTHERM Austria GmbH

ECOTHERM is the technology and innovation leader for turnkey solar, hot water and steam systems in the Middle East. Our plants are mainly used in hotels, hospitals and industry. We combine all available energy sources such as gas, oil, electricity and renewable energy sources. The result is perfectly hygienic water or steam available around the clock.

ECOTHERM can offer its customers systems of the highest quality and efficiency as a result of our unrivalled experience in over thousand installations in Europe, the Middle East, Asia, North Africa and in Central America. Each single unit is specifically aligned to the customer's individual requirements.

Our global commitment with branches in Dubai, Kuwait, Mexico, Hungary, China and partners in more than 20 countries is the basis for our renowned premium customer service covering all project development issues. We offer our customers the most extensive range of excellent services extending from advice and consulting, to planning, engineering, supervision and specialized training.

ECOTHERM develops, construct and produces quality stainless steel products in Austria for hot water and steam systems. We produce standard storage tanks from 200 to 8,000 litres, and special tanks even up to 30,000 litres. Our own manufacture providing the possibilities of automatic welding, robot welding and laser cutting is also very well suited for small series and prototypes. The environmentally friendly dip passivation facility with onward connected recirculation unit neutralizes all waste water.

We perform all the calculation, production and development work for the producing plant using a sophisticated heat exchanger design software which we developed ourselves. We make all the thermal and static calculations as required by the most stringent standards and make use of a fully implemented production planning system.

Distribution & Service:



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