

Modern types of heat exchanger

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A heat exchanger is a device used to transfer heat between two or more fluids. Nowadays, there is a huge number of heat exchangers. Traditionally, they can be divided into: shell and tube; sectional "pipe in pipe"; coil; spiral; lamellar; lamellar ribbed. Among all the designs of heat exchangers, there are two that represent the greatest scientific interest. They are microchannel heat exchangers and shell-and-tube heat exchangers with twisted tube.

Micro-channel heat exchangers have transverse dimensions of hundreds or tens of microns, and also have the whole range of advantages compared to traditional heat exchangers. They are highly compact with high heat transfer coefficient. Therefore, they are widely used in engineering and in industry.

Heat exchangers with twisted tube are manufactured using a special technology. The manufacture of devices is carried out by twisting the pipes on a special machine. This allows to create a rotating flow in the heat exchanger, as well attach the tubes to each other through every centimeter. Intricate vortex flow on surface causes maximum turbulence and improves heat transfer.