

High Efficiency Heat Exchangers

In designing high efficiency heat exchangers one must balance several conflicting parameters to achieve the desired result.

One measure of efficiency is size. Occupying a small space is obviously an advantage in many situations.

Another measure of efficiency is temperature loss through the heat exchanger. If heat is to be transferred from one fluid to another, say from hot water to cool air, the temperature difference between the water and the air ought to be driven to as small a value as possible for best cooling of the hot water.

The ability to transfer a large quantity of heat is an obvious advantage in a heat exchanger.

The ability to transfer heat that is concentrated in a small source region, and send it out and diffuse it into the cooler surroundings is essential in some applications.

These factors, and many more, together define what makes a highly efficient heat exchanger. One must balance the factors carefully in a given design, as one cannot have the best of each factor, all at the same time. Not only are shape and size and layout important, but one must also choose the best materials for the task at hand. Sometimes specialized engineering materials might have to be employed, while in other cases, certain materials have to be avoided.

We have experience and knowledge in this area which we can apply to your specific problems. It is very likely that we can craft an exchanger that will meet your needs in an optimal way.