



Steam heating

A modern, flexible and versatile heating solution



Hospitals and different industries use a lot of steam in their processes. Surplus steam may be used for space heating and tap water heating locally, or sold for use in district heating systems. Alfa Laval has developed a range of steam plate heat exchangers for heating water with industrial steam.



Why steam?

Steam has been used as a carrier of heat since the industrial revolution and continues to be a modern, flexible and versatile tool wherever heating is needed. It is produced by the evaporation of water – a relatively inexpensive and plentiful commodity which is environmentally friendly. Steam temperature can be adjusted very accurately by controlling the pressure, and steam carries a large amount of energy in a small mass.

Built for steam heating

Brazed heat exchanger units work well in steam heating if the system design provides for good condensate drainage. Applications where the unit is exposed to heavy thermal cycling, such as in instantaneous tap water heating, should be avoided. The EPDM material in today's Alfa Laval gasketed plate-and-frame heat exchangers enables good thermal designs as well as reasonable gasket lifetime. A good system layout helps avoid oversizing and subsequent temperature control problems.

Optimized plate design

Alfa Laval has developed a new series of gasketed plate-and-frame heat exchangers specially designed for heating water using industrial steam – the TS-M Series.

Two main problems occur when conventional gasketed plate-and-frame heat exchangers are used as steam heaters. The first is that when water is heated over a relatively wide temperature difference, for example from 10 to 70 °C (50 to 158 °F), the high steam velocity causes erosion and noise problems. The second is that when high water flow rates are used when heating water only a few degrees, the gasketed plate-and-frame heat exchanger has to be oversized to keep the secondary side (water) pressure drop within reasonable limits.

The new TS-M Series of gasketed plate-and-frame heat exchangers eliminates both of these drawbacks thanks to a unique plate geometry that allows problem-free heating over narrow and wide temperature ranges.

Alfa Laval reserves the right to change specifications without prior notification.

How to contact Alfa Laval

Up-to-date Alfa Laval contact details for all countries are always available on our website at www.alfalaval.com.