



District heating

Sustainable and reliable comfort heating



District heating is an environmentally friendly and reliable method of delivering comfort heating. Heat generated in a central boiler plant is transferred to several buildings through pipes. A very wide range of sources, including geothermal sources, can provide the heat.

District heating is a flexible and energy-efficient choice, thanks to the possibilities of using recovered waste heat from industry, surplus heat from waste incineration, industrial processes and

sewage, or purpose-built heating or co-generational plants. You can optimize costs as prices change and maximize environmental protection.

For the consumer, district heating means a trouble-free way of getting energy. The central boiler of a district heating system is more convenient and more efficient than small, individual house heating systems. Combustion techniques and exhaust cleaning decrease the negative impact on the environment.

Energy efficiency is standard

Heat exchangers play a major role in enabling energy efficiency in the heat transfer between two systems in order to deliver heated tap water and heating to end users. Alfa Laval gasketed plate-and-frame heat exchangers represent the preferred heat exchanger solution in district heating systems throughout the world today.

Alfa Laval currently offers different types of heat exchangers in district heating applications and will work with you to make sure your district heating system performs.

Small footprint, big impact

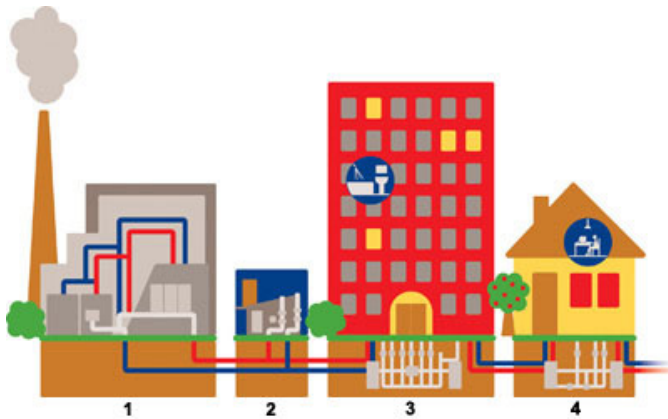
The traditional gasketed plate-and-frame heat exchanger is used when mechanical cleaning of the unit is required. Brazed plate heat exchangers are used when a cost-effective and very compact module is preferred. These two types of heat exchangers are mainly used in district heating substations as tap water heaters and in space heating loops. All-welded plate-and-frame heat exchangers, on the other hand, are used in high-temperature and high-pressure systems.

District heating for every need

To supply heat and hot tap water to a tall building, dozens of heating units are combined in several large heat exchanger substations and connected to a district heating system network. This is crucial in maintaining pressure in heating networks and maintaining pressure in pipe works.

A small substation can provide the heat for a single family house, and a municipal district heating system network can be linked to dozens of power plants to service multiple commercial, residential, governmental, industrial and private buildings. The heat is produced in a heating plant and then transported through pipes to individual buildings as steam or hot water.

Alfa Laval compact module plate heat exchangers used in heating substations are key components in a district heating network. Alfa Laval's gasketed plate-and-frame heat exchangers surpass inefficient shell-and-tube heat exchangers previously used in district heating systems in terms of lower upkeep costs. These units also reduce cleaning needs for district heating or tap water networks, are energy efficient and avoid environmentally harmful outflow.



1. Hot water is obtained from a heat-generating plant, or in the surplus heat from a power station. Heat is transferred from the hot water to the district heating network via heat exchangers.

2. Water circulates in the district heating network at high pressure and at temperatures ranging from 100 to 150°C (212 to 302°F). This water delivers heat to buildings and dwellings connected to the system (red channel).

3. On arrival, the heat from the district heating network is transferred to the internal heating system, which operates at a lower pressure and temperature. This is accomplished using a heat exchanger that is correctly dimensioned for the available space, and for the required heat load. The main applications are hot water from the tap and space heating. Floor heating is also a common application.

4. The returning water (blue channel) normally has a temperature ranging from 40 to 70°C (104 to 158°F).

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.