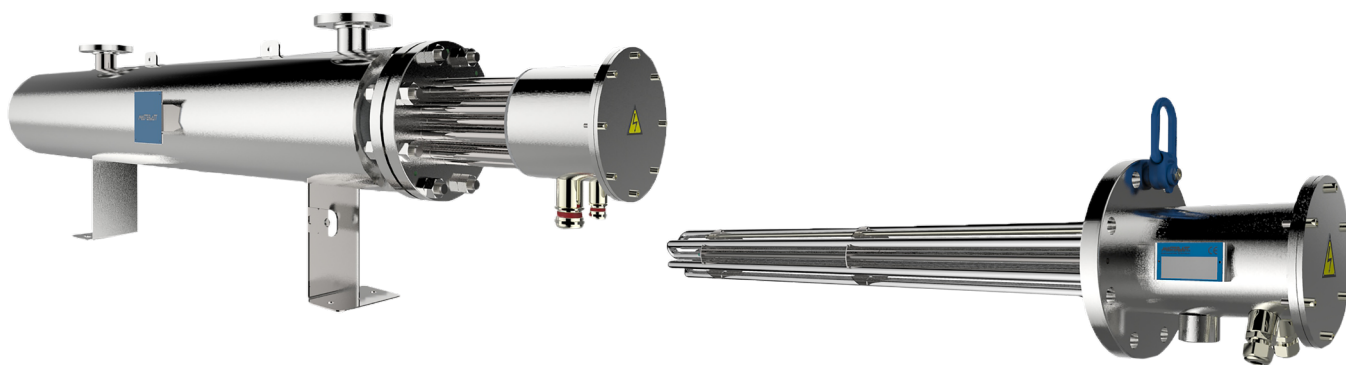




Flange heaters and circulation heaters



Application

Flange heaters and circulation heaters are used in industrial processes to heat up a product or keep it at a higher temperature. The purpose of this form of heating is to separate certain substances, create a hot water supply, prevent product residue build-up or product clumping, or to avoid frost.

Flange heaters are often mounted in a tank or in a circulation system. Heating Group International supplies circulation heaters for the latter application. Among other applications, the process heaters are used to heat:

- (dirty) water
- seawater
- various oils
- various gases
- air
- fats and greases
- fuel

Flange and circulation heaters are used in various markets, such as:

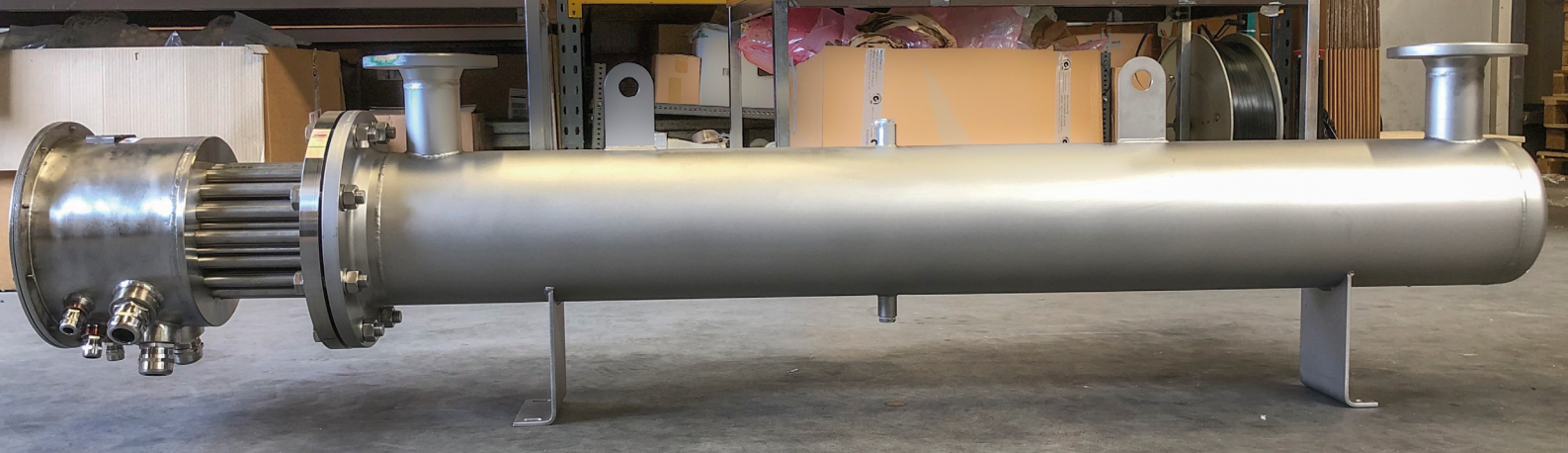
- water treatment
- the chemical and petrochemical industry
- offshore
- the food industry
- the pharmaceutical industry

Flange heater design

A flange heater comprises closed tube elements mounted in a flange. The length of the heater depends on the power rating and load performance of the elements. The elements are inserted through the flange connection into a tank. It is important to ensure that the elements are covered by the medium at all times so that they can release their heat effectively. A length of tube without heating can be supplied if required for the application. The types of material used depend on the application; Heating Group's engineers advise on this. A connection housing for the electrical supply is provided on the flange. Thermostats can optionally be installed here to prevent damage to the heater.

Circulation heater design

Circulation heaters are based on a flange heater. In this design, the heater is mounted in a vessel which is attached to a circulation pipe. The product is pumped through the vessel, over the heater. The product is heated to the desired temperature during the time needed for it to pass through the vessel. Heating Group International supplies complete circulation heaters (pre-assembled, pressure-tested and electrically tested).



Technical information

Element diameter	8.5 to 22mm
Element material	Stainless steel (304, 321, 316), Incoloy (600, 800, 825), SMO254, Titanium
Flange size	Max. DN500
Power	Max. 5MW
Pressure	Max. 200 bar(g)
Voltage	Up to 3x690V
Vessel material	Stainless steel (304, 316), galvanised steel

Heater controls

Flange heaters and circulation heaters are controlled via an external panel. Heating Group International builds the control panels in its own electrical department. Based on the project specifications and those of the heater(s), our electrical engineers produce a design for the control box which is then assembled by operatives in the panel building section. The control box design is customer-specific. Heating Group International supplies electric heaters in compliance with various quality labels and certification standards. The flange and circulation heaters are custom-made so the ability to comply with specific quality labels may vary from project to project.

Technical description

Most heaters comply with the following quality labels and certification standards:

- CE
- UL
- CSA
- KGS
- EAC
- ATEX
- IECex

In addition, Heating Group International produces in compliance with various manufacturing standards:

- ASME
- PED
- NEN

