



# T50

## Plate heat exchanger

### Applications

General heating and cooling duties.

### Standard design

The plate heat exchanger consists of a pack of corrugated metal plates with portholes for the passage of the two fluids between which heat transfer will take place.

The plate pack is assembled between a fix frame plate and a movable pressure plate and compressed by tightening bolts. The plates are fitted with a gasket which seals the interplate channel and directs the fluids into alternate channels. The number of plates is determined by the flow rate, physical properties of the fluids, pressure drop and temperature program. The plate corrugations promote fluid turbulence and support the plates against differential pressure.

The plate and the pressure plate are suspended from an upper carrying bar and located by a lower guiding bar, both of which are fixed to a support column.

Connections are located in the frame plate or, if either or both fluids make more than a single pass within the unit, in the frame and pressure plates.

### Typical capacities

#### Liquid flow rate

Up to 975 kg/s (15500 gpm), depending on media, permitted pressure drop and temperature program.

#### Plate types

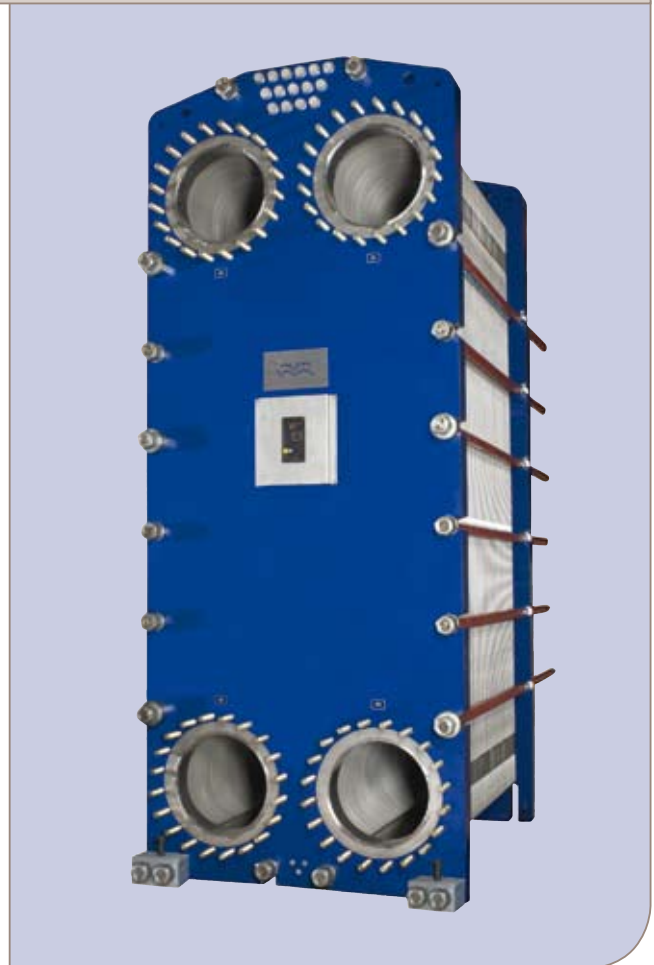
T50-M

#### Frame types

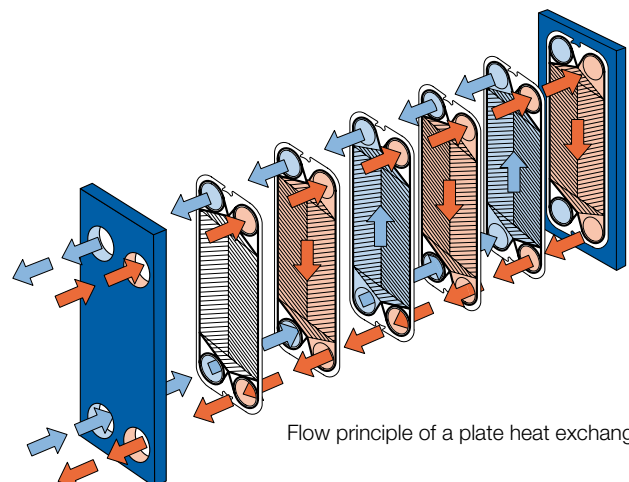
FG and FD

### Working principle

Channels are formed between the plates and the corner ports are arranged so that the two media flow through alternate channels. The heat is transferred through the plate between the channels, and complete counter-current flow is created for highest possible efficiency. The corrugation of the plates provides the passage between the plates, supports each plate against the adjacent one and enhances the turbulence, resulting in efficient heat transfer.



T50-M



Flow principle of a plate heat exchanger

## STANDARD MATERIALS

### Frame plate

Mild steel, Epoxy painted

### Nozzles

Carbon steel

Metal lined: Stainless steel, Titanium

### Plates

Stainless steel: Alloy 316, Alloy 254 or Titanium

### Gaskets

Nitrile or EPDM

## TECHNICAL DATA

### Mechanical design pressure (g) / temperature

FG	PED	1.6 MPa / 180°C
FG	ASME	150 psig / 350°F
FD	PED	2.5 MPa / 180°C
FD	ASME	300 psig / 350°F

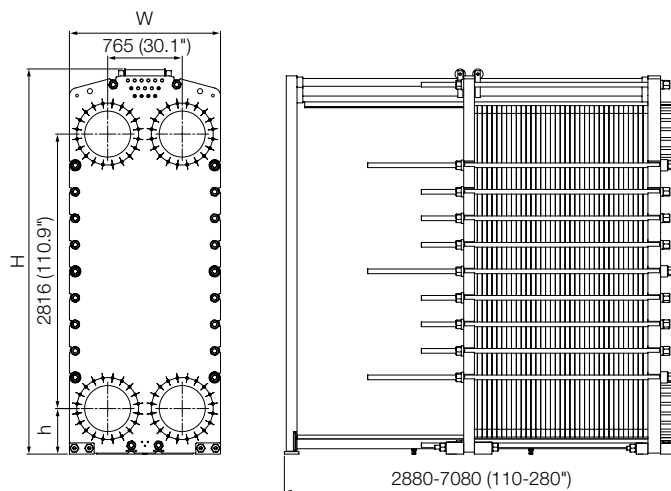
## CONNECTIONS

FG	PED	Size 500 mm	DIN PN16
FG	ASME	Size 20"	ASME Cl. 150
FD	PED	Size 500 mm	DIN PN25
FS	ASME	Size 20"	ASME Cl. 300

### Maximum heat transfer surface

2880 m<sup>2</sup> (31018 sq. ft)

## Dimensions



### Measurements mm (inch)

Type	H	W	h
T50-MFG	3951 (155 9/16")	1550 (61")	467 (18 3/8")
T50-MFD	3951 (155 9/16")	1550 (61")	467 (18 3/8")

The number of tightening bolts may vary depending on pressure rating.

### Particulars required for quotation

- Flow rates or heat load
- Temperature program
- Physical properties of liquids in question (if not water)
- Desired working pressure
- Maximum permitted pressure drop
- Available steam pressure

PCT00040EN 0606

All rights reserved for changes in 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](http://www.alfalaval.com)