



T45

Plate heat exchanger

Applications

General heating and cooling duties.

Standard design

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

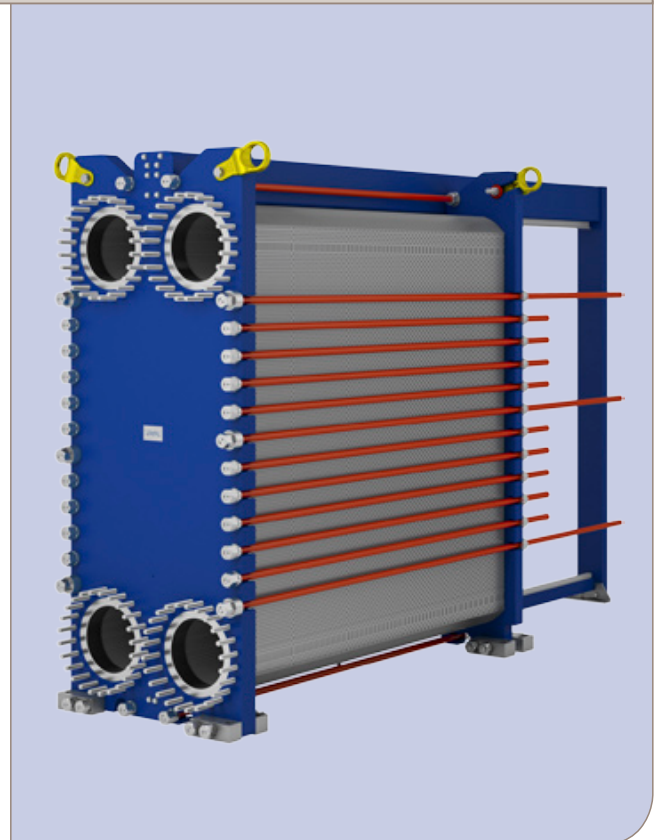
The plate pack is assembled between a fixed frame plate and a movable pressure plate and compressed by tightening bolts. The plates are fitted with gaskets, which seal the interplate channels and direct the fluid into alternate channels. The number of plates is determined by the flow rate, physical properties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

The frame 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.

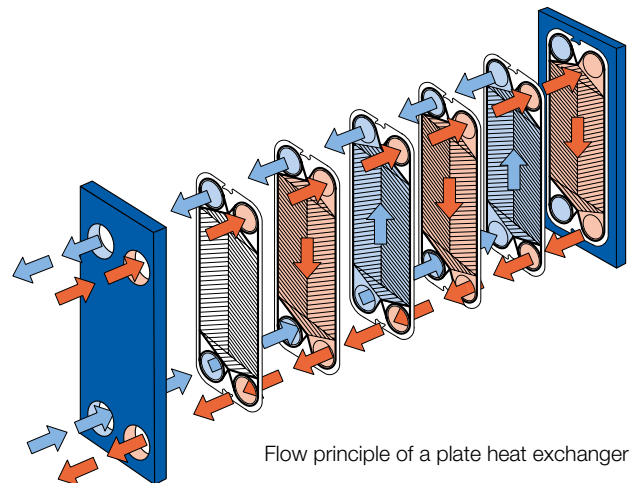
Connections are located in the frame plate or, if either or both fluids make more than a single pass within the unit, in the frame and pressure plate.

Working principle

Channels are formed between the plates and the corner ports are arranged so that the two fluids 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.



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Flow principle of a plate heat exchanger

STANDARD MATERIALS

Frame/pressure plate

Mild steel, coated with water-based epoxy paint

Nozzles/Connections

Carbon steel

Metal lined: Stainless steel Alloy 316, Alloy 254, Titanium

Plates

Stainless steel Alloy 316, Alloy 254, Titanium

Other materials may be available on request.

Gaskets

Nitrile, EPDM

Other materials may be available on request.

TECHNICAL DATA

Design pressure (g)

FG	PED	1.6 MPa
FG	pvcALS™	1.6 MPa
FG	ASME	150 psig
FD	ASME	250 psig

Higher pressures may be available on request.

Design temperature

Determined by gasket material.

Maximum liquid flow rate

Up to 1000 kg/s (16000 gpm)

Maximum standard heat transfer surface

2360 m² (25400 sq. ft)

Larger non-standard design available on request.

Plate types

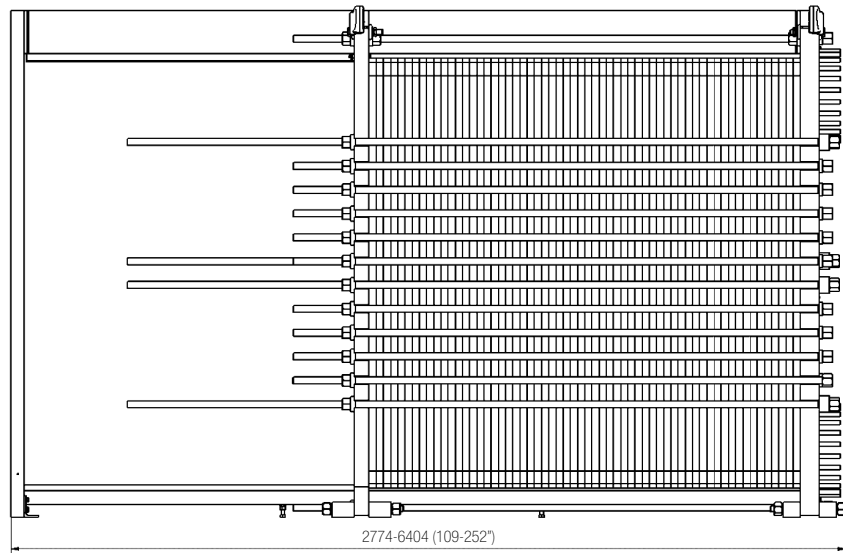
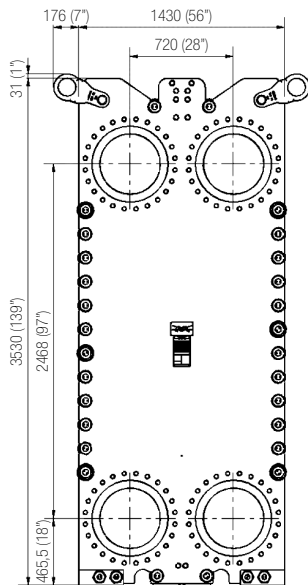
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CONNECTIONS

FG	PED	DN 450 mm, DIN PN 16, ASME Cl. 150
FG	pvcALS™	DN 450 mm, DIN PN 16, GB DN16
		ASME Cl. 150, JIS 16K
FG	ASME	18", ASME Cl. 150
FD	ASME	18", ASME Cl. 300

Particulars required for quotation

- Flow rates or heat load
- Temperature program
- Physical properties of fluids in question
- Desired working pressure and temperature
- Allowable pressure drops



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

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How to contact Alfa Laval

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