



# M30

## 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 650 kg/s (10400 gpm), depending on media, permitted pressure drop and temperature program.

### Plate types

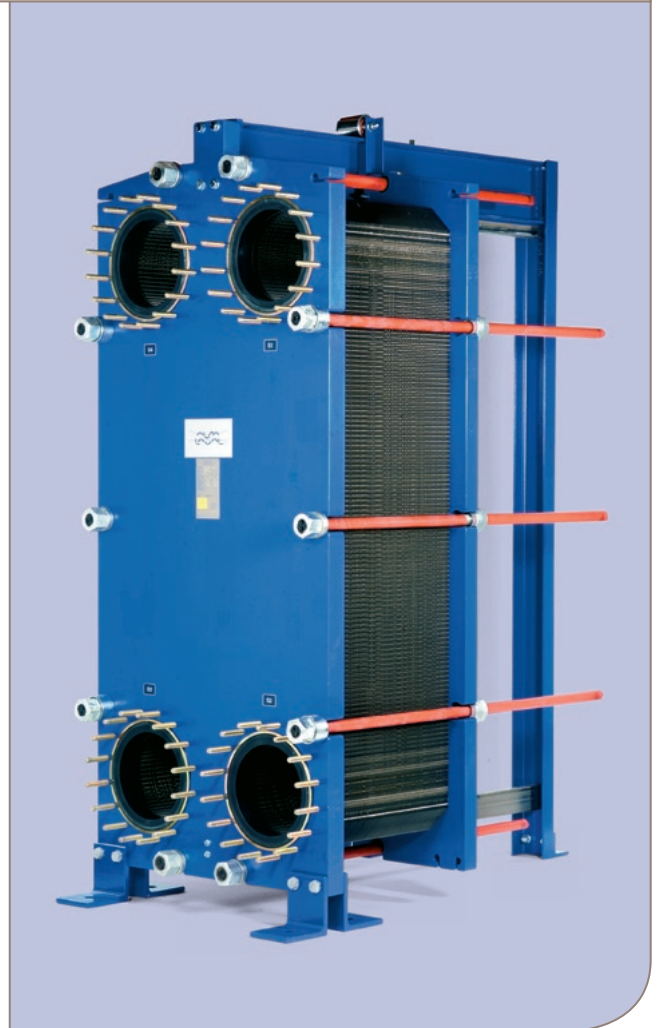
M30 and M30D plates

### Frame types

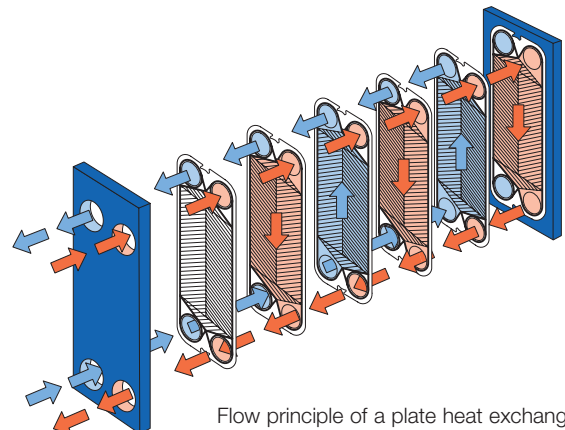
FM, FG and FD

### 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.



M30-FG



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 304, Alloy 316, Alloy C276,  
Alloy 254 SMO or Titanium

### Gaskets

Nitrile or EPDM

### Connections

|         |                 |  |
|---------|-----------------|--|
| FM ALS  | Size 300/350 mm | DIN PN10, GB PN10,<br>ASME Cl. 150, JIS 10K      |
| FM PED  | Size 300/350 mm | DIN PN10   |
| FM ASME | Size 12"/14"    | ASME Cl. 100                                     |
| FG ALS  | Size 300/350 mm | DIN PN16, GB PN 16,<br>ASME Cl. 150, JIS 16K     |
| FG PED  | Size 300/350 mm | DIN PN16   |
| FG ASME | Size 12"/14"    | ASME Cl. 150                                     |
| FD ALS  | Size 300/350 mm | DIN PN25, ASME Cl. 150,<br>ASME Cl. 300, JIS 20K |
| FD PED  | Size 300/350 mm | DIN PN25   |
| FD ASME | Size 12"/14"    | ASME Cl. 300                                     |

## TECHNICAL DATA

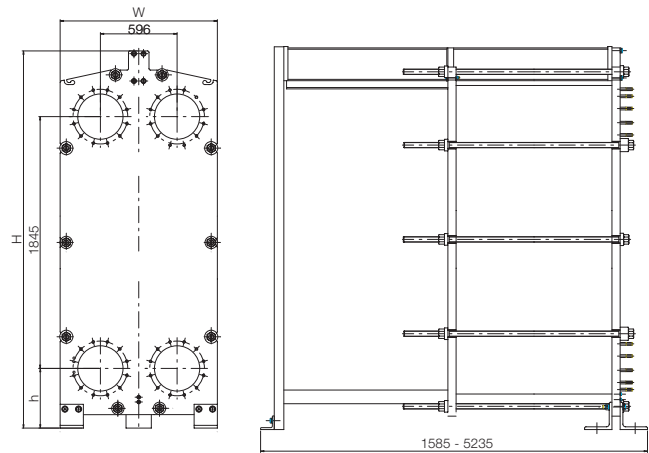
### Mechanical design pressure (g) / temperature

|         |                  |
|---------|------------------|
| FM ALS  | 1.0 MPa / 180°C  |
| FM PED  | 1.0 MPa / 190°C  |
| FM ASME | 100 psig / 320°F |
| FG ALS  | 1.6 MPa / 160°C  |
| FG PED  | 1.6 MPa / 180°C  |
| FG ASME | 150 psig / 320°F |
| FD ALS  | 2.5 MPa / 180°C  |
| FD PED  | 2.5 MPa / 190°C  |
| FD ASME | 300 psig / 320°F |

### Maximum heat transfer surface

1400 m<sup>2</sup> (14,980 sq. ft)

## Dimensions



### Measurements (mm)

| Type   | H*   | W    | h   |
|--------|------|------|-----|
| M30-FM | 2882 | 1150 | 470 |
| M30-FG | 2882 | 1170 | 470 |
| M30-FD | 2920 | 1190 | 506 |

\* +200 mm for carrying bars > 3600 mm

### 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

### How to contact Alfa Laval

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are continually updated on our website.  
Please visit [www.alfalaval.com](http://www.alfalaval.com) to  
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