



## 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 perforations 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

# Alfa Laval Plate Heat Exchanger Maintenance Manual

**KJ Lindholm-Leary**



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