MK15-BW

Semi-welded plate heat exchanger

MK15-BWFG

Applications

Heating and cooling of aggressive media. Duties in refrigeration installations.

Standard design

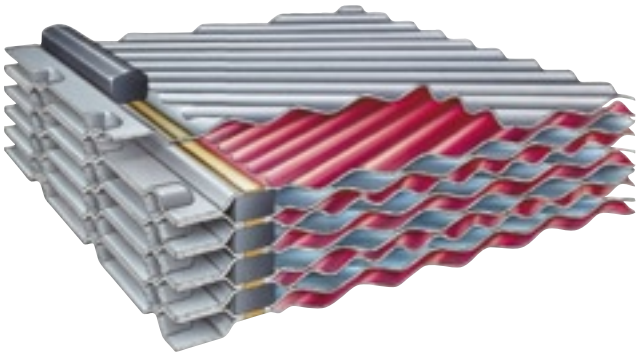
The plate heat exchanger consists of a pack of corrugated metal plates with portholes for the passage of the two fluids between which heat transfer will take place.

The plate pack is assembled between a fix frame plate and a movable pressure plate and compressed by tightening bolts. The semi-welded plates combine the flexibility and service-ability of the gasketed heat exchangers with the assurance against leakage of the welded heat exchangers. In the plate arrangement, every other channel is welded, and every other channel is gasketed. 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 semi-welded plate heat exchanger is provided with gaskets specifically designed to resist aggressive media.
The non-aggressive media flows in the gasketed channels. This construction means that it can easily be dismantled, for example for exchanging gaskets or for inspection and cleaning of the gasketed channels.

Corrosion-resistant plate materials, the absence of pressure retaining welds, double gasket seals, and a flexible yet vibration resistant design - to assure long life and trouble free operation.

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 plates.



Cross section of a semi-welded plate heat exchanger

Typical capacities

Liquid flow rate

Up to 80 kg/s, depending on media, permitted pressue drop and temperature program.

Refrigeration

100-450 RT/350-1575 kW

Plate types

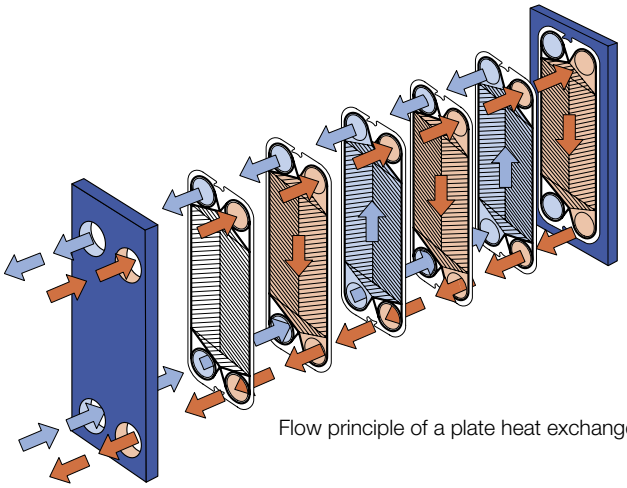
MK15-BW

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.



Flow principle of a plate heat exchanger

Standard materials

Frame plate
Mild steel, Epoxy painted

Nozzles
Carbon steel
Metal lined; Stainless steel, Alloy 20/18/6 or Titanium

Plates
Stainless steel AISI 316, Alloy 20/18/6 or Titanium

Gaskets

Field gaskets	Nitrile, EPDM
Ring gaskets	Chloroprene, EPDM and Nitrile

Connections

FG	PED	Size 150 mm	DIN PN16
FG	ASME	Size 6"	ANSI 150
FD	PED	Size 150 mm	DIN PN25
FD	ASME	Size 6"	ANSI 300

Technical data

Mechanical design pressure (g) / temperature

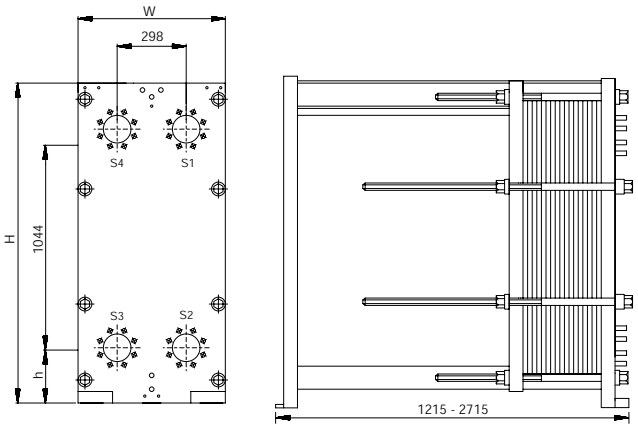
FG	PED	1.6 MPa / -50 to 180°C
FG	ASME	150 psig / -40 to 350°F
FD	PED	2.5 MPa / -50 to 180°C
FD	ASME	300 psig / -40 to 350°F

Maximum heat transfer surface
165 m² (1780 sq. ft)

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

Dimensions



Measurements (mm)

Type	H	W	h
MK15-FG	1486	650	221
MK15-FD	1486	650	221

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

How to contact Alfa Laval
Contact details for all countries
are continually updated on our website.
Please visit www.alfalaval.com to
access the information directly.