AQ1

AlfaQ™ AHRI-certified plate heat exchanger

Applications
General heating and cooling duties. Heating by means of steam.

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.

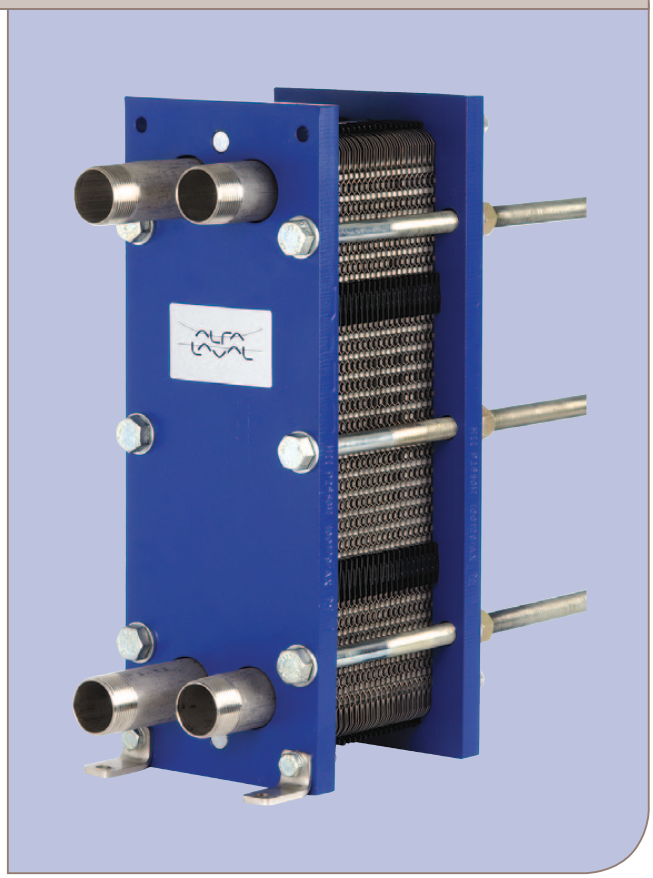
Typical capacities

Liquid flow rate
Up to 4 kg/s (60 gpm), depending on media, permitted pressure drop and temperature program.

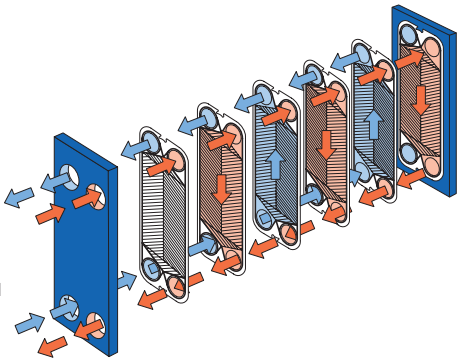
Plate types
AQ1, AQ1D - double wall plates

Frame types
FG

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.



AQ1-FG



Flow principle of an AQ1 plate heat exchanger

STANDARD MATERIALS

Frame plate
Mild steel, painted

Nozzles
Pipe: Stainless steel, Titanium

Plates
Stainless steel: AISI 316 or Titanium

Gaskets
Nitrile, EPDM

TECHNICAL DATA

Pressure vessel codes, PED, ASME, pvcALS™
Mechanical design pressure (g) / temperature

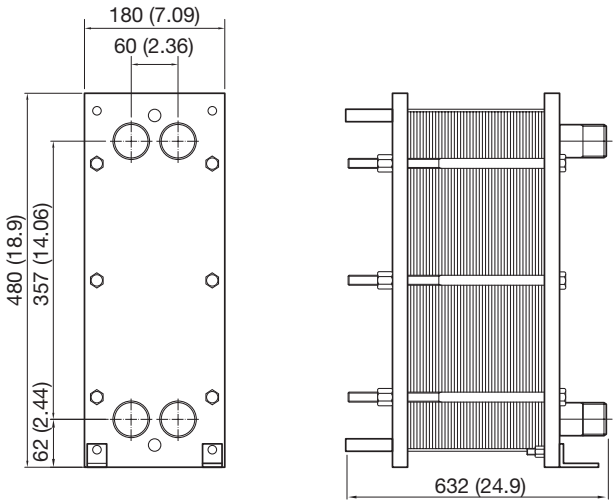
FG	PED, pvcALS™	1.6 MPa / 180°C
FG	ASME	150 psig / 350°F

CONNECTIONS

FG	PED	Size 1¼"	Pipe, thread ISO-R 1¼"
FG	pvcALS™	Size 1¼"	Pipe, thread ISO-R1¼"
FG	ASME	Size 1¼"	Pipe, thread NPT 1¼"

Maximum heat transfer surface
3.9 m^2 (40 sq. ft)

Dimensions



Measurements mm (inch)
The number of bolts may vary depending on pressure rating.

Particulars required for quotation
– Flow rates or heat load
– Temperature program
– Desired working pressure
– Maximum permitted pressure drop

AHRI CERTIFIED™
www.ahridirectory.org
Liquid to Liquid Heat Exchangers
AHRI Standard 400

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