



AQ4

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 50 kg/s (800 gpm), depending on media, permitted pressure drop and temperature program.

Plate types

AQ4, AQ4M, AQ4D - double wall plates

Frame types

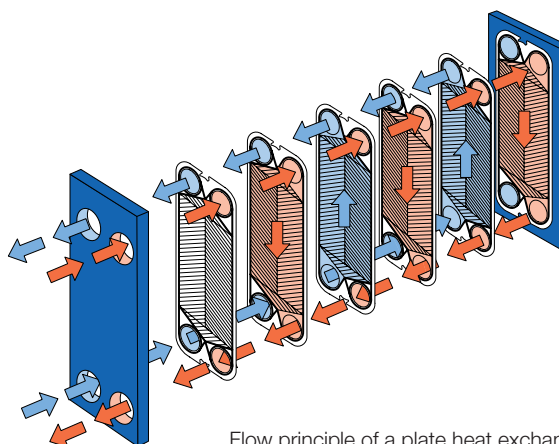
FM, FG and FD

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.



AQ4-FG



Flow principle of a plate heat exchanger

STANDARD MATERIALS

Frame plate

Mild steel, painted

Nozzles

Metal lined: Stainless steel, Titanium

Plates

Stainless steel Alloy 316/Alloy 304, Titanium

Gaskets (Clip-on, glued)

Nitrile, EPDM

TECHNICAL DATA

Pressure vessel codes, PED, ASME, pvcALS™

Mechanical design pressure (g) / temperature

FM pvcALS™	1.0 MPa / 180°C
FM PED	1.0 MPa / 180°C
FG pvcALS™	1.6 MPa / 180°C
FG PED	1.6 MPa / 180°C
FG ASME	150 psig / 356°F
FD PED	2.5 MPa / 180°C
FD ASME	389 psig / 482°F

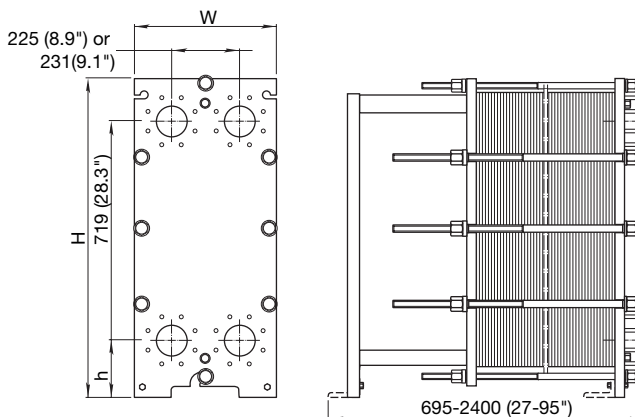
CONNECTIONS

FM pvcALS™	Size 100 mm	DIN/GB/GOST PN10, ASME Cl. 150, JIS 10K
FM PED	Size 100 mm	DIN PN10, ASME Cl. 150
FG pvcALS™	Size 100 mm	DIN/GB/GOST PN10, ASME Cl. 150, JIS 10K/16K
FG PED	Size 100 mm	DIN PN16, ASME Cl. 150
FG ASME	Size 4"	ASME Cl. 150
FD PED	Size 100 mm	DIN PN25/ASME Cl. 150/300
FD ASME	Size 4"	ASME Cl. 300

Maximum heat transfer surface

AQ4M 60 m² (650 sq. ft)

Dimensions



Measurements mm (inch)

Type	H	W	h
AQ4-FM	1084 (42 11/16")	470 (18 1/2")	215 (8 15/32")
AQ4-FG	1084 (42 11/16")	470 (18 1/2")	215 (8 15/32")
AQ4-FD	1084 (42 11/16")	470 (18 1/2")	215 (8 15/32")

The number of tightening 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



How to contact Alfa Laval

Up-to-date Alfa Laval contact details for all countries are always available on our website at www.alfalaval.com