Plate Heat Exchanger

TS 6

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 frame plate and a pressure plate and compressed by tightening bolts. The plates are fitted with a gasket which seals the 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 plates and the pressure plate are suspended from an upper carrying bar and located by a lower guiding bar, both of which are fixed to support columns.

Connections are located in the frame cover or, if either or both fluids make more than a single pass within the unit, in the frame and pressure plates.

Plates can be obtained in all pressable materials. Gaskets are available in a wide range of elastomers.

Flow rate
(Depends on media, permitted pressure drop and temperature program).

Up to 50 kg/s

Plate types
M10B and M10M plates.

Frame types
FM, FG and FD.

Working principle
Channels are formed between the plates and corner ports are arranged so that the two media flow through alternate channels. The heat is transferred through the thin plate between the channels, and complete counter current flow is created for highest possible efficiency. No intermixing of the media or leakage to the surroundings will take place as gaskets around the edges of the plates seal the unit. The corrugation of the plates provides a suitable passage between the plates, support of each plate against the adjacent one and a strong turbulence resulting in maximum heat transfer efficiency.
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Standard materials

Frame plate
Mild steel, epoxy painted.

Nozzles
Carbon steel
Metal lined: Stainless steel, Titanium

Plates
Stainless steel AISI 316
Titanium

Gaskets
Nitrile
EPDM
HeatSeal F™

Connections
MFM - Size 65 mm DIN 2501 PN10
MFG - Size 65 mm DIN 2501 PN16
MFG ASME - Size 3” ANSI 150
MFD - Size 65 mm DIN 2501 PN25

Technical data
Max. working pressure
FM - 1.0 MPa over pressure
FG - 1.6 MPa over pressure
FG - (ASME) 150 Psig
FD - 2.5 MPa over pressure
FD - (ASME) 300 Psig

Max. heat transfer surface
12.9 m² (140 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