TL10

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

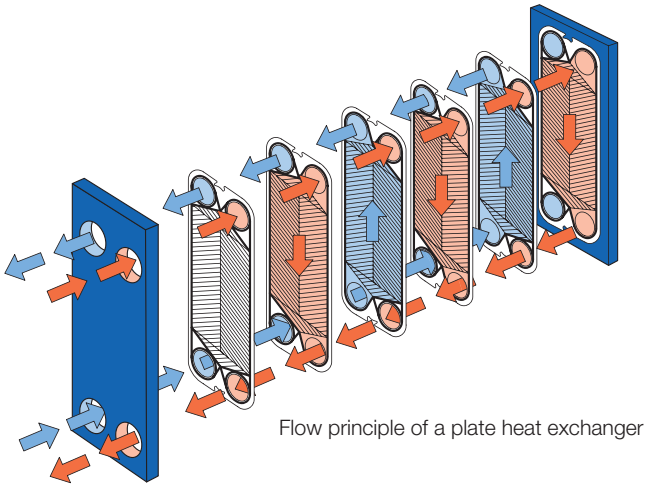
Liquid flow rate
Up to 50 kg/s (800 gpm), depending on media, permitted pressure drop and temperature program.

Plate types
TL10B

Frame types
FM, FG and FS

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.

TL10-BFG



Flow principle of a plate heat exchanger

STANDARD MATERIALS

Frame plate
Mild steel, Epoxy painted

Nozzles
Carbon steel
Metal lined: Stainless steel, Titanium
Rubber lined: Nitrile, EPDM

Plates
Stainless steel: AISI 304, AISI 316
Titanium

Gaskets
Nitrile, EPDM

TECHNICAL DATA

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

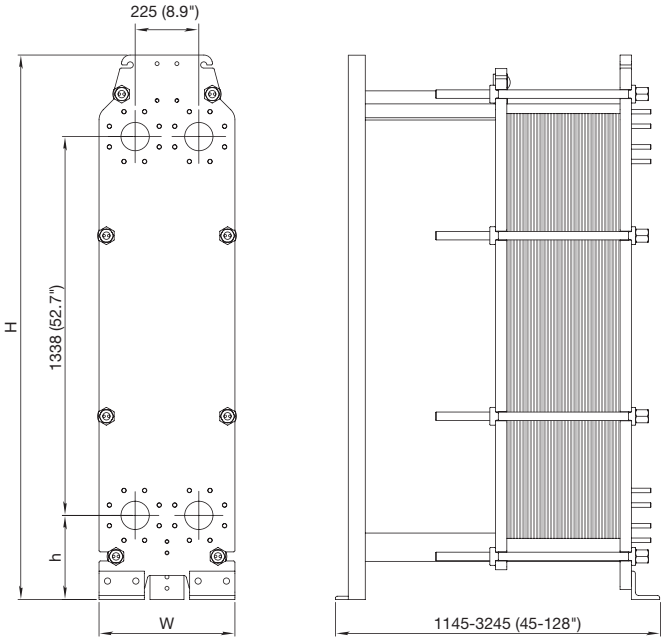
FM	pvcALS™	1.0 MPa / 160°C
FG	PED, pvcALS™	1.6 MPa / 160°C
FG	ASME	150 psig / 320°F
FD	PED	2.5 MPa / 160°C
FS	ASME	400 psig / 320°F

CONNECTIONS

FM	pvcALS™	Size 100 mm	EN 1092, GB, GOST, PN10, ASME Cl. 150, JIS 10K
FG	PED	Size 100 mm	EN 1092, PN16, ASME Cl. 150
FG	pvcALS™	Size 100 mm	EN 1092, GB, GOST, PN16, ASME Cl. 150, JIS 10K
FG	ASME	Size 4"	ASME Cl. 150
FD	PED	Size 100 mm	EN 1092, PN25, Special square flange
FS	ASME	Size 4"	Special square flange

Maximum heat transfer surface
250 m^2 (2700 sq. ft)

Dimensions



Measurements mm (inch)

Type	H	W	h
TL10-FM	1885 (74 3/16")	480 (19")	255 (10")
TL10-FG	1981 (78")	480 (19")	297 (11 5/8")
TL10-FD	1981 (78")	480 (19")	297 (11 5/8")
TL10-FS	1981 (78")	510 (20")	297 (11 5/8")

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

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

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