CPE SYSTEMS INC.

HEAT EXCHANGERS / WORT CHILLERS

PLATE HEAT EXCHANGERS FOR CRAFT INDUSTRIES

Plate heat exchange is the most efficient and sanitary form of wort chilling. Our line of plate heat exchangers are specifically designed as wort chillers for the craft brewing industry, but can be configured for other applications such as pasteurization and general cooling/heating of dairy, fruit juices and similar food products.

These heat exchangers are top quality, compact, and easy to install even in places where space is limited. This line has clip-on gaskets for easy servicing, making it perfect for applications where routine service is regularly required - like in a busy brewery!

DESIGN

A plate heat exchanger consists of a number of corrugated plates clamped together in a frame and sealed at the edges by gaskets.

The plates have ports at the corners and the gaskets are arranged so that two media (wort and city water) can travel through alternate passages between the plates (see Fig. 3.1) in counter current flow. The two media are kept separate by the plates and therefor cannot mix. Heat is transferred through the plates, from the hot medium to the cold.

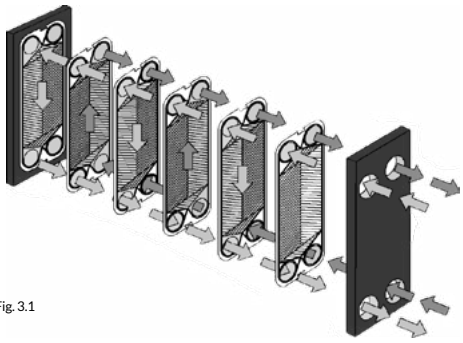


Fig. 3.1

Recommended free space around the units is one meter at sides and sufficient space at the frame head end to pull out the bolts.

FEATURES

- Fixed frame plate
- Moveable pressure plate
- Upper carrying bar
- Lower guiding bar
- Support column
- Tightening bolts with nuts and washers
- Adjustable feet

OPTIONS

- Thermometer pocket and nib with ventilation
- Protection sheet
- Commissioning kit, gaskets
- 3A finish
- Authorized inspection company tested
- Test and material certificates

MATERIALS

Plates	Stainless steel AISI 316, titanium or SMO
Frame	Front and back frame of carbon steel in or stainless steel. Connection plates of steel, clad with stainless steel with polished finish.
Nuts	Chromium plated brass.
Gaskets	Nitrile-FDA, EPDM or EPDM-FDA

*All other parts of stainless steel.

PLATES

Corrugation of your heat exchangers plates provides passage between the plates, supports each plate against the adjacent one and enhances the turbulence, resulting in efficient heat transfer. Plates are made from Stainless steel AISI 316, titanium or SMO. A chevron pattern is used for maximum strength at high working pressures. Different chevron designs are available, in order to obtain optimal high heat transfer and low pressure drop for your application.

The plates are reversible and have parallel flow, which means only one type of plate is needed. A unique distribution area provides an even flow over the plate surface.

Overall length of the heat exchangers varies depending on number of plates and connection plates, in Fig. 3.3 the blue frame on the right is fixed, when the left slides along the guding bars to make room for more plates.

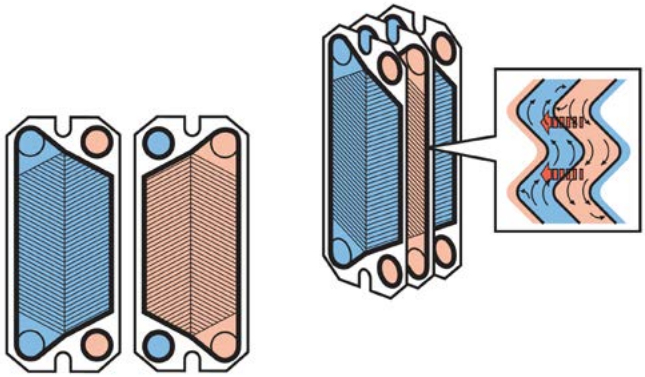


Fig. 3.2

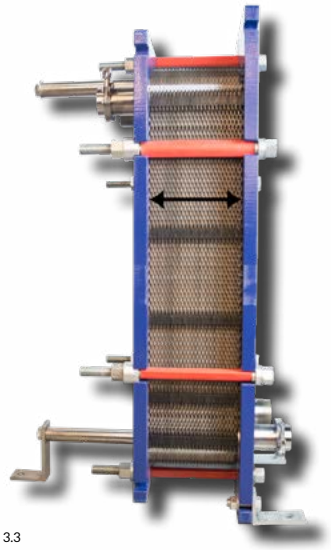


Fig. 3.3

GASKETS

The plates are supplied with glue-free clip-on gaskets, which are easy to replace.

It's important that your heat exchangers gaskets are well formed and trimmed with a strong triangular shape peaking the the middle to support the space between the plates for your medium. Poor quality gaskets will have a flatter shape which will result in leakage sooner.

Leak detection grooves are also important in your gasket so if plates or gaskets become damaged your 2 liquids will not mix.

NO TOOLS ARE NEEDED TO REPLACE THE GASKETS

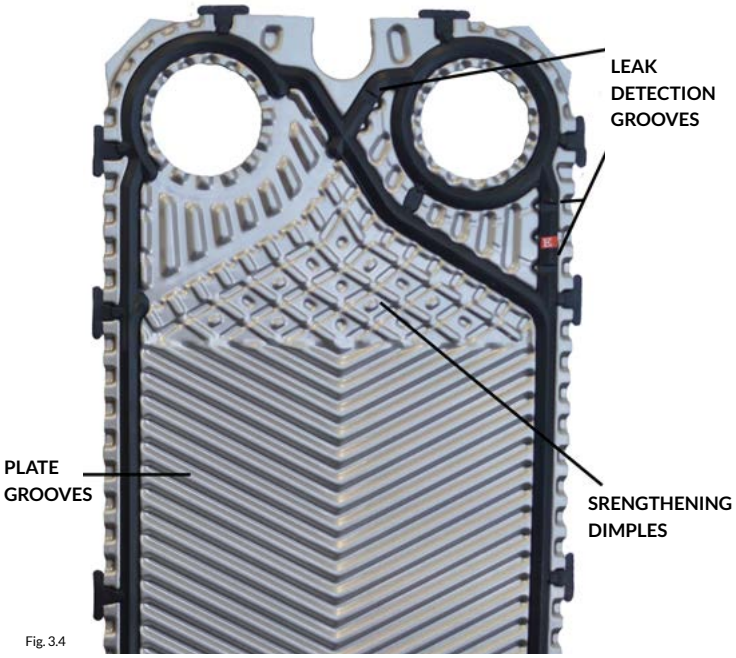


Fig. 3.4

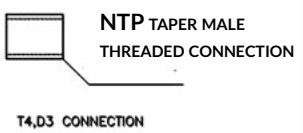
CAPACITY

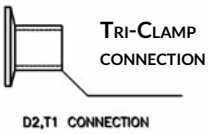
Pasteurization 26,400 lb/h

Heating/cooling 33,000 lb/h

Water 66,000 lb/h

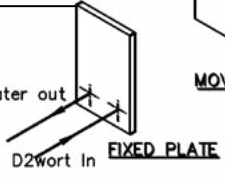
CONNECTIONS

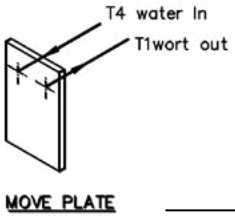




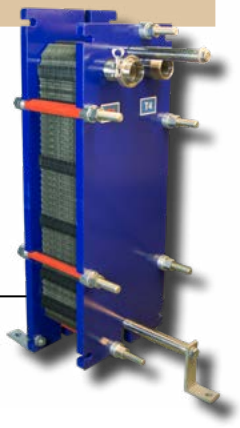
Frame and pressure plate	2" or 1.5"
Connection plates	2"

*** SMS, DIN male parts, or other union standards on request.**





WORT OUTLET
at the
TOP
for
EASIER ACCESS



- Frame FMC, with 4 bolts 145 psi / 302°F
- Frame FHC, with 8 bolts 260 psi / 302°F

HEAT EXCHANGERS / WORT CHILLERS

	CPE30H-XXD Plate Heat Exchanger	CPE30H-XXD Stainless Steel Plate Heat Exchanger	CPE60H-XXD Plate Heat Exchanger
Cooling	Cools wort from 200° F to 70° F with city water around 50° F	Cools wort from 200° F to 70° F with city water around 50° F	Cools wort from 200° F to 70° F with city water around 50° F
Capacity	1 BBL – 5 BBL	1 BBL – 5 BBL	10 BBL – 40 BBL
Frame Material	Carbon Steel	Stainless Steel	Carbon Steel
Plates	0.5mm 316ss	0.5mm 316ss	0.5mm 316ss
Gaskets	NBR clip on gaskets	NBR clip on gaskets	NBR clip on gaskets
Design	Dual pass flow	Dual pass flow	Three pass flow
Connections	1.5” Water connections X 1.5” Tri-Clamp Wort connections	1.5” Water connections X 1.5” Tri-Clamp Wort connections	2” Water connections X 2” Tri-Clamp Wort connections
Surface area per plate	0.344 ft_2 per plate	0.344 ft_2 per plate	1.51 ft_2 per plate
Frame	12L Frame length	12L Frame length	18L Frame Length
Cooling time	30 Minutes	30 Minutes	30 Minutes

	CPE60H-XXD Stainless Steel Plate Heat Exchanger	CPE60H-XXD-2S Plate Heat Exchanger (2 stage)	CPE60H-XXD-2S Plate Heat Exchanger (2 stage)
Cooling	Cools wort from 200° F to 70° F with city water around 50° F	Cools wort from 200° F to 70° F with city water around 50° F	Cools wort from 200° F to 70° F with city water around 50° F
Capacity	10 BBL – 40 BBL	5 BBL – 60 BBL	5 BBL – 60 BBL
Frame Material	Stainless Steel	Carbon Steel	Carbon Steel
Plates	0.5mm 316ss	0.5mm 316ss	0.5mm 316ss
Gaskets	NBR clip on gaskets	NBR clip on gaskets	NBR clip on gaskets
Design	Three pass flow	Dual pass flow	Dual pass flow
Connections	2” Water connections X 2” Tri-Clamp Wort connections	2” Water connections X 2” Tri-Clamp Wort connections x 2” Glycol Connection	2” Water connections X 2” Tri-Clamp Wort connections x 2” Glycol Connection
Surface area per plate	1.51 ft_2 per plate	1.51 ft_2 per plate	1.51 ft_2 per plate
Frame	18L Frame length	18L Frame length	24L Frame Length
Cooling time	30 Minutes	30 Minutes	30 Minutes

Our most common sizes are listed but we can custom build a heat exchanger for your specific application.