

## Reduce your CAPEX with K-PEX

Introducing

# K-PEX

Plate Heat Exchanger

Want to lower your  
initial investment?

Are you looking for a compact  
heat exchanger?

Looking to increase  
heat transfer efficiency?



# What are PHE'S ?

A Plate Heat Exchanger is a type of Heat Exchanger that uses metal plates to transfer heat between two fluids.

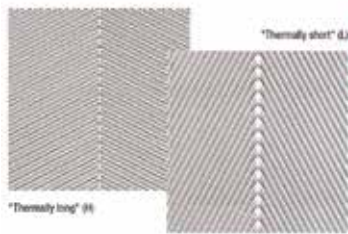
## WORKING PRINCIPLE

The Plate Heat Exchanger facilitates the transfer of heat between two fluids, one cold and the other hot, by directing them through separate channels on different plates, sealed by gaskets to prevent any mixing between the two.

## TYPES OF PHE

- Gasketed
- Semi - Welded
- Fully - Welded

## TYPES OF PLATES:



### Thermally long plates

- High pressure loss
- High heat transfer value
- High turbulence output
- Larger chevron angle

### Thermally short plates

- Low pressure loss
- Low heat transfer value
- Low turbulence output
- Low chevron angle

The optimum plate type is selected on the basis of the temperature profile to be satisfied under maximum permissible pressure drop.

## Range of Manufacturing

Item	Range
Plate Thickness	0.4-1 mm
Volume Flow	5-4500 m <sup>3</sup> /hr
Port Size	DN 25 to DN 500
Design Pressure	Upto 40 Bar
Design Temperature	-50 to 250°C

## Materials of Construction

### GASKET:

- NBR
- EPDM
- Viton (FKM)

### PLATE:

- SS 304 / 316
- SMO
- Hastelloy
- Titanium



Right Plate

Carrying Bar Slot

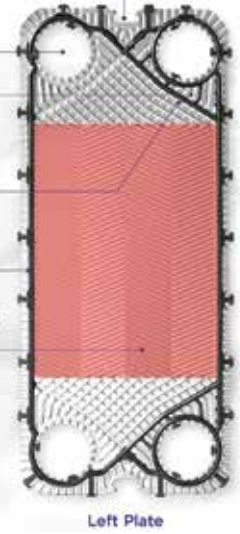
Port Hole

Drain Zone

Distribution Area

Gasket

Heat Transfer Area



Left Plate

# Applications



## Edible Oil Industry

- Heating and Cooling of Vegetable
- Oil Cooling Fatty Acids
- Bio- Diesel Applications



## Food And Beverages

- Ultra High Temperatures
- Sterilisations
- Pasteurisation
- Juices and pulp processing



## Marine

- Central Cooling
- LT and HT Circuit Cooling
- Pre-heating of HFO and MDO
- Auxiliary System Cooling



## Chemical and Pharmaceutical Industry

- Cooling various types of Acids/Solvents
- Closed Loop Cooling
- Cooling / Heating of Brine
- Wet Chlorine gas drying
- Product Cooler



## Textile Industry

- Heat Recovery From Textile Washing Agents
- Heating Wool Washing Liquids
- Heating Dyeing Liquors
- Cooling Of Waste Water



## Paper And Pulp

- Cooling of waste paper
- Cooling of spray water
- Waste heat recovery



## Fertilizer And Steel Industry

- Closed Loop Cooling Of Blast Furnace
- Heating/Cooling Of Acids



## Sugar Industry/ Breweries/ Distillery



- Heating Of Raw Juice
- Heating Of Press Water
- Heating Of Limed Juice
- Heating Of Carbonated Juice
- Heating Of Thin Juice
- Heating Of Syrups
- Heating/ Cooling Of Molasses



## Power

- Cooling Of Co-Generation Plants
- Heat Recovery From Diesel Plants
- Cooling Transmission Oil
- Circulating Water Cooling
- Condensate Heater
- Generator Bearing Cooler

# Comparison between STHE and PHE

	Shell & Tube Heat Exchanger	Plate Heat Exchanger
		
Economical	No -	Yes +
Heat Transfer Coefficient	Low -	High +
Size	Huge -	Compact +
Temperature Distribution	Non Uniform -	Uniform +
Fouling	High -	Low +
High Pressure Application	Yes +	No -
High Temperature Application	Yes +	No -
Maintenance Cost	Low +	High -

## OTHER PRODUCTS BY KINAM:



### Shell & Tube Heat Exchanger:

The most conventional type of heat exchanger suitable for high temperature and high pressure conditions



### KICC Corrugated Tube Heat Exchanger:

Enhanced corrugated tube heat exchanger offering higher heat transfer coefficient resulting in a compact and economical heat exchanger.



### K-SPEX Spiral Heat Exchanger:

Kinam's next generation compact heat exchanger with counter – current flow & higher heat recovery than conventional heat exchangers.

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