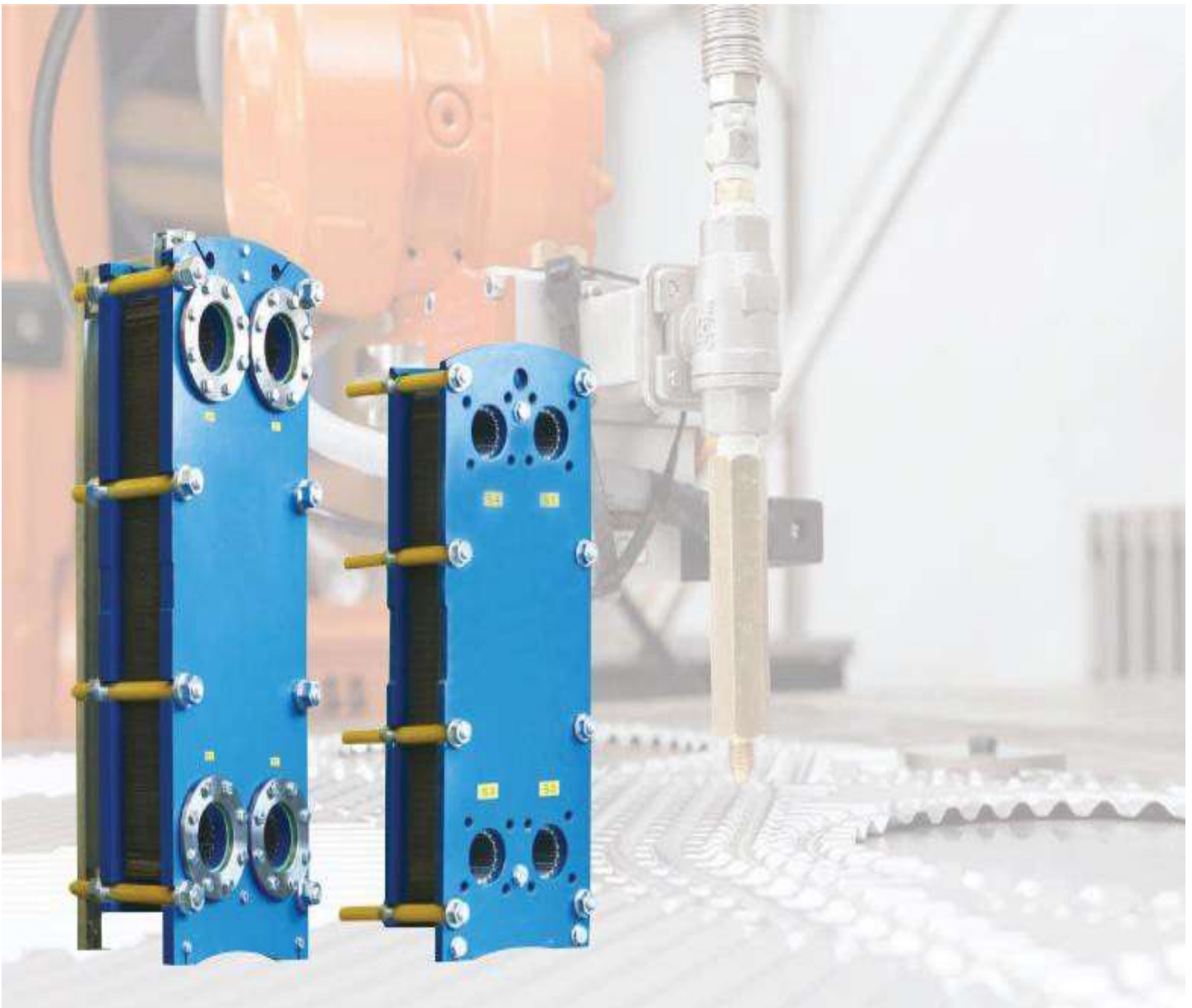
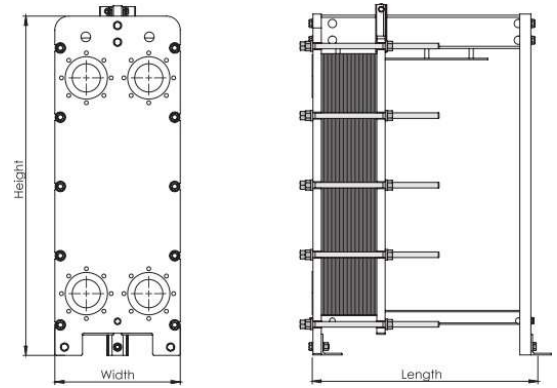




SHIVA ENTERPRISES

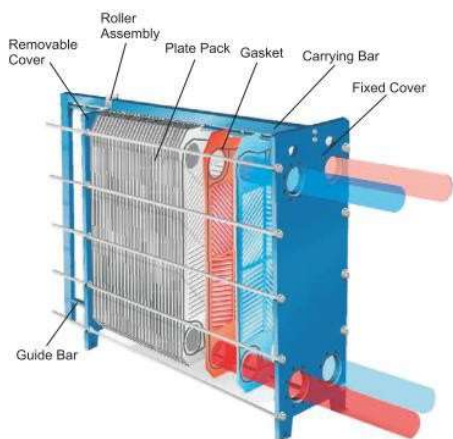
# PLATE HEAT EXCHANGERS



# Engineered to Excel

Plate Heat Exchangers are versatile heat transfer devices and preferred choice for wide range of applications.

Our superior heat exchanging solutions for many processes and applications has benefited numerous organizations spanning several industries.

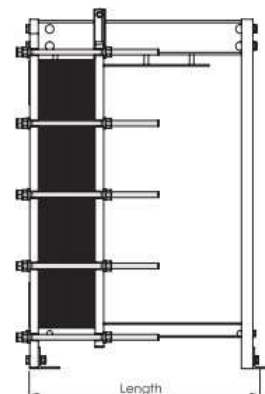
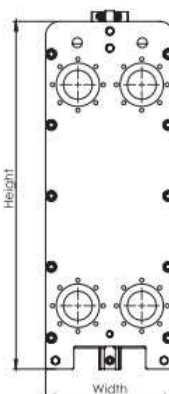


The superior PHEs are made in our state of the art facilities deploying robotic arms, in-house laser welding etc. The PHEs we make provide excellent heat exchange attribute and excellent build quality for high performance and long durability.



## PHE Advantages

- Compact
- Lower fouling
- Easy maintenance
- Flexibility
- Lower approach temperatures
- Efficient operations



## Materials of Construction

Heat Transfer Plates: AISI 304, AISI 316L, Titanium, C-276, Nickel 201, Monel, SMO 254 etc.

Gaskets: Nitrile, EPDM, Hydrogenated NBR, FKM, PTFE, CR, special gasket

## Backed by Global Leaders

We are backed by SRP Heat Exchangers Inc. having facilities in Germany and Taiwan.

SRP is a world leader in Gasketed PHEs, Gas/Liquid PHEs, Welded PHEs, Semi Welded PHEs, Skid Mounted PHEs etc.

## Heat Transfer Plates

Our heat plate transfers are high quality and highly efficient plates.

Available in Conventional or V-Flex Type.

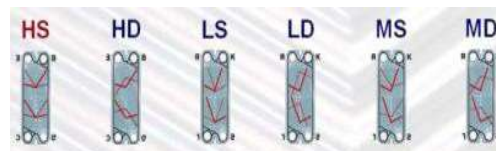
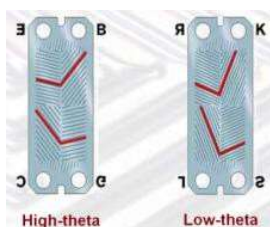
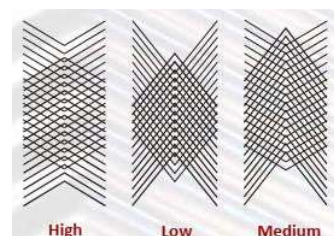
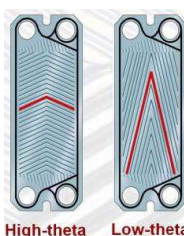
Conventional plate are most popular plate.

Low theta or high theta configurations makes high, low or medium type channels.

V-Flex type plates are asymmetric in configuration.

Proper utilization of pressure drops.

Higher U value results in lower heat transfer area.



# Stainless Steel Hygienic Plate Heat Exchangers

Our experience and knowledge of processes in food, dairy, and beverage industries help us to manufacture high efficiency and maintenance friendly plate heat exchangers.

Milk Chillers

Double Section Milk Chillers

Ice Cream Mix Chillers

Syrup coolers

Pasteurizer Plate Pack

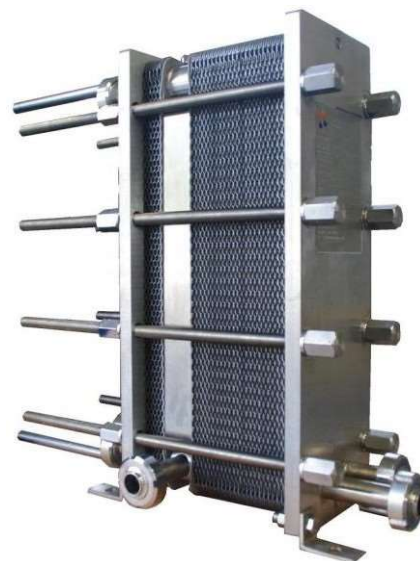
Milk Heater

Hot Water Generators

Juice Plate Pack

Ammonia Condensers & Chillers

Curd Heating System



## Features

The frames are designed for easy maintenance and cleaning,

Designed for gentle handling of the food products like milk, ice cream, beer, wine etc. for superior product output quality.

Clip-on food grade gaskets ensure complete sealing and prevents any cross leakage between product and service liquids.

Self supporting designed sturdy built supporting frames imparts higher durability and longer life span.

Available in all stainless steel to ensure highest hygiene quotient.

Our sanitary plate heat exchangers are also available as Multi-Stage PHEs which are multiple PHEs combined in one. It saves valuable cost and space.



## Applications

Milk Chilling

Juice and juice based beverages

Pharmaceuticals

Beer, wine or alcoholic beverages

Ammonia condensers and chillers

All pasteurizer plate packs

Syrup coolers

Ice cream chillers

Double section milk chiller

Milk heater

Curd heating system

Process fluid chilling system

Hot water generators

Process fluid heating system

Food processing

Beverages industries

Bottling plants

## Material of construction

Plates – (Gasketed / Semi-welded) AISI304, AISI 316L, Titanium, Hastelloy etc.

Gasket – NBR, EPDM, Viton, Neoprene (CR)

Frame – Solid SS304/SS316, SS 304 clad, MS (IS2062 Gr. E250)

Connection standard – SMS union, triclover made up of SS304 or SS316/316L

Connection size – 25 mm to 100 mm

# Equivalent Plates and Gaskets of Contemporary Reputed Brands

We offer equivalent plates and gaskets of some of the most reputed contemporary brands. Plate material options of SS316 and gaskets of NBR, EPDM are available.

## Features

One to one replacement - no change any sort in plate configurations, connections, channel or end gaskets or supporting frames.

High quality plates and gaskets designed for perfect fitment gives better performance than the replaced plate.

We maintain ready stock availability of popular models ensuring delivery in time when you need even in crucial times

Quality of plates and their efficient heat transfer characteristic are better than the replaced plates.

Plates and gaskets for Alfa Laval, Tranter, Sondex, Kelvion etc.



**Alfa Laval** - M3, M6, M6M, M10B, M10M, M15B, M15M, AK20

**Tranter** - GC8, GC30, GX12, GL13, GC16, GC26, GX26, GX42, GX51, GC51

# Gasketed Plate Heat Exchangers

One of the most versatile types, the gasketed plate heat exchangers are used in many industries for heat transfer applications. Our PHEs are proven to deliver designed performance in applications involving liquids, gases, steam and two-phase fluids.

## Features

Our gasketed PHEs can easily be dismantled for inspection, cleaning, and maintenance.

These PHEs can be easily expanded or adapted to changed process conditions, by adding/reducing plates or sometimes replacing plates with different heat transfer characteristics.

Compact in size and dimensions but extremely sturdy built frames withstand time and turbulence, working pressure upto 25 bar.

High quality plates and gaskets deliver superior performance for long time. The gaskets are designed to perfectly fit the plates.

Our unique superlative plate corrugation pattern allows even flow distribution across the entire plate surface. It maximizing heat transfer while minimizing fouling rates, plate count and also the cost.

High performance for a low pressure drop eliminates unnecessary burdens on your system and optimizes overall system performance.

Highly versatile with number of plate styles, patterns and draw depths to precisely match your application requirements.

Use of variety of material of construction of plates, gaskets, connections or frames gives maximum fluid compatibility.

Plates – (Gasketed / Semi-welded) AISI304, AISI 316L, Titanium, Hastelloy etc. Gasket – NBR, EPDM, Viton, Neoprene (CR)



## Applications

- Chemical industries
- Paint shops
- Milk and beverages cooling
- Induction furnace cooling
- High frequency welders
- Hydraulic oil cooling
- Hydraulic presses
- Solvent condensers
- Condensate heat recovery systems
- Closed circuit cooling water systems
- Chlor alkali plants
- Liquor heating and cooling
- Distilleries
- Ethanol plants
- Vegetable oil plants
- Gear box oil cooling
- HVAC
- Sugar and refineries
- Pulp and paper

# Semi Welded Plate Heat Exchangers / Laser Welded Plate Heat Exchangers

These are as flexible as gasketed heat exchangers while enhancing the application range for PHEs for use with aggressive liquids and gases, such as ammonia or aggressive process chemicals where suitable elastomers are not available to act as a sealant between the plates.

## Features

These semi welded plate heat exchangers combine the benefit of gasketed and welded plate heat exchangers.

Suitable for aggressive media. Effective heat transfer coefficient much higher than shell and tube heat exchangers.

Easy to open, inspect and clean or change the gasket. Compact designed, takes up much less space than the shell and tube types.

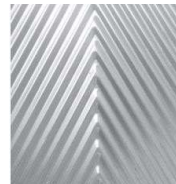
Corrugated plate and narrower fluid passages create high turbulence giving a self cleaning effect and reduced fouling.

These PHEs are designed to work well with small temperature differences between the two media.

Highly efficient, many times higher heat transfer coefficient than shell and tube type, thus lower heat transfer area and lower cost as well.

Modules can be added or removed or changed to increase or decrease the heat transfer or pressure drop.

High depth plates



Low depth plates



## Applications

- Ammonia Evaporators - Gravitation, DX or Flooded
- Ammonia Condensers
- Cascade Heat Exchangers (NH<sub>3</sub>, CO<sub>2</sub>)
- Ammonia De-superheaters, Economizers
- Oil Coolers
- Sulphuric Acid Coolers
- Condensers
- Evaporators
- De-superheaters
- Cascade coolers

# Welded Plate Heat Exchangers

These are all metal construction with plates welded to each other by laser welding. These heat exchangers can be used to transfer heat from Gas to Gas or from Gas to Liquid.

## Features

Very Effective for heat recovery - gas to liquid or gas to gas.

Can work with high temperatures, designed to handle max design temperature upto 900 °C

Ultra low pressure drops

Gas Flow Rates <50,000 m3/hr

These plate heat exchangers ensure zero leakage and intermixing of process and service media.

All metal plate heat exchangers.

Material of construction – SS304, SS316L, SS310, C276, SMo254, Ni201, Ti



## Applications

Gas condensation  
Process water heating  
Styrene recovery  
Flash steam condensation  
Heat recovery from exhaust gas  
Boiler feed water heating by exhaust gas

# Air Coolers / Air Cooled Heat Exchangers

The air oil coolers are constructed using bar and plate technology and are specially designed for oil cooling in industries and mobile vehicles.

## Features

Rugged and robust, our heat exchangers are able to deliver under the most demanding operating environments.

Cooling elements, made from high-grade aluminum alloys.

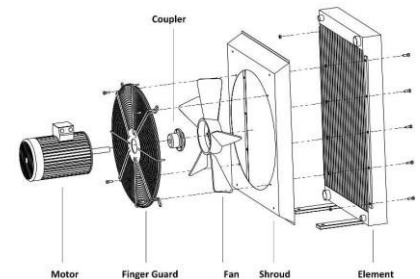
Designed for use with a variety of hydraulic, transmission, lubricating and engine oils and water-glycol mixtures.

Can be fitted with AC motors, DC Motors, Hydraulic motors.

Low Noise versions are available for most models.

Floating brazing junctions allow coolers to withstand pulsating oil flows

High Working Pressure – 20 bar working pressure and 35 bar test pressure



## Applications

Oil cooling in industries and mobile vehicles

# Spare Plates and Gaskets and After Sales Support

Our specialists are available for servicing your plate heat exchangers, on-site and off-site. Our prime motive is to keep your process and equipment up and running always.

We undertake annual maintenance contracts / AMC for mid or large scale portfolio or assemble of PHEs to keep all your plate heat exchangers up and running always irrespective of the make of PHEs.

Our services

Installation

On site servicing

Off-site refurbishment

Spare plates and gaskets of all makes



## Advantages

Avoid costly breakdowns  
Avoid loss of production  
Cost effective  
One point solution for all make PHEs  
Availability of Spare plates and gaskets of all renowned make

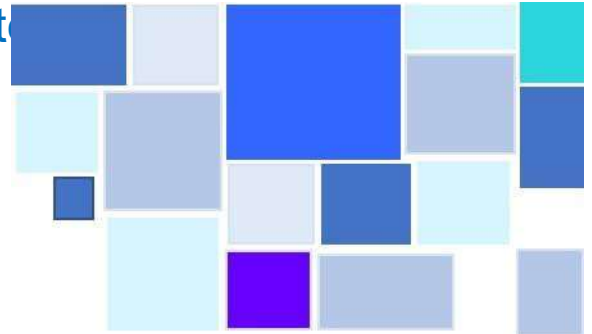


SHIVA ENTERPRISES

## At SHIVA ENTERPRISES, we live true to “We Help You Do Better”.

SHIVA ENTERPRISES Corporation is one of the fastest growing organizations which offers various holistic solutions to several industries across the globe.

Our excellent, meticulous and pocket-friendly solutions help organizations to do better and increase their productivity. We are unequivocally committed to help our esteemed customers in accomplishing their growth, achievement, success and sustainability.



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