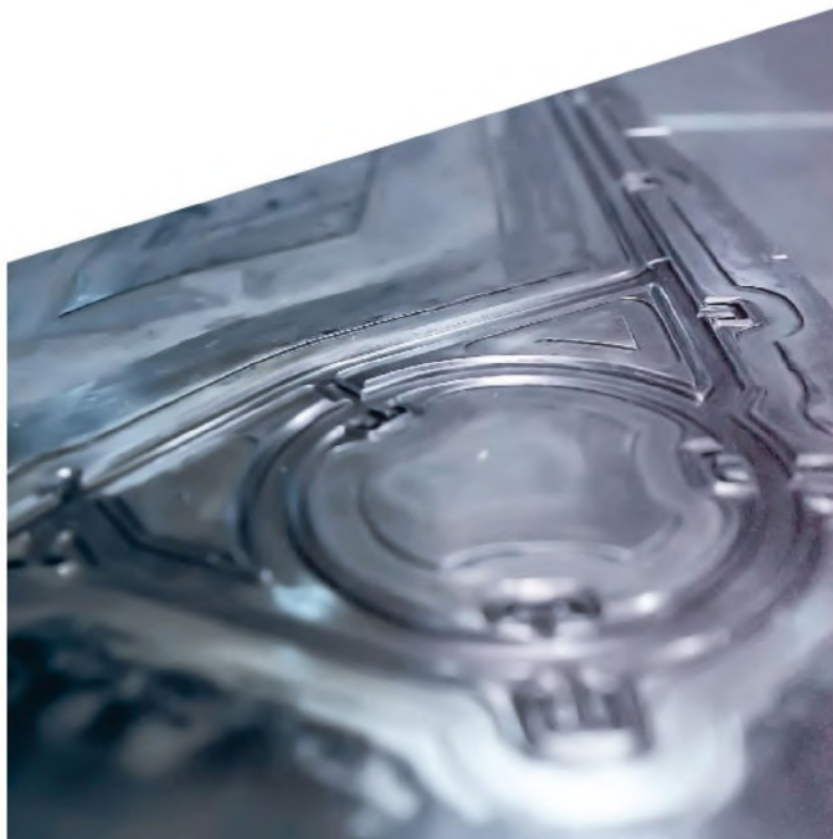
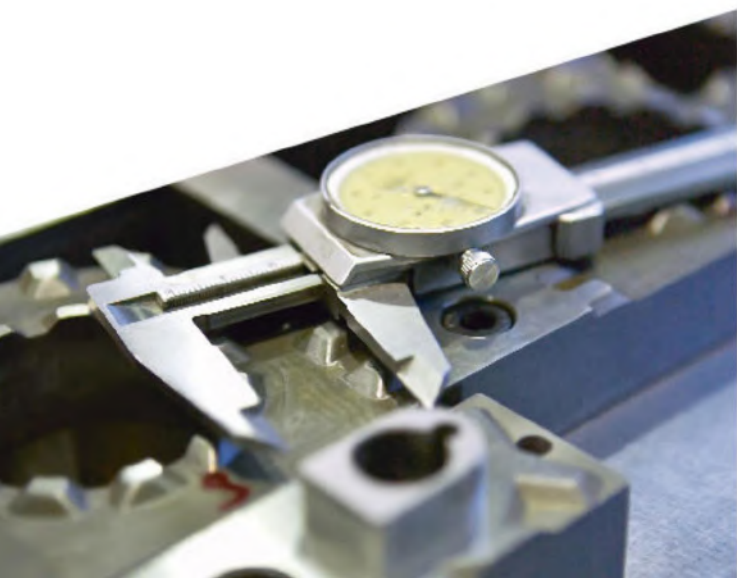


Heating and cooling solutions from

CHINA PLATE HEAT EXCHANGE CO LTD

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### Vegetable oils industry

Our equipment and systems produce tons of extra virgin olive oil every day.



### Marine industry

Many of world's ships are equipped with our products and solutions.



### Beverage industry

We manage the vital balance between flavour, food safety and manufacturing efficiency. Our equipment handles millions of litres of wine and beer every year.



### Wastewater

CHINA PHE has unique knowledge in the increasingly critical areas of effluent treatment and recycling.



### Energy

China PHE is involved throughout the long process from the extraction of raw materials to the production and use of energy.



### The process industries

Our equipment and solutions are critical for performing and optimizing many industrial processes.



### Starch industry

Many starch produced in the world every year comes from our products and processes.



### Pharmaceutical and biotech industry

We offer a wide range of products to satisfy the industry's exceptional demands for precision, safety and cleanliness.



### Comfort/HVAC and refrigeration

CHINA PHE is a leader in climate control, providing an optimized balance of heating and cooling.



### Food industry

Our equipment helps the food industry to turn quality raw materials into equally high-quality products.

# CHINA PHE product range

Gasketed Plate Heat Exchangers



All Welded Heat Exchangers



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Plate Heat Exchangers Plates

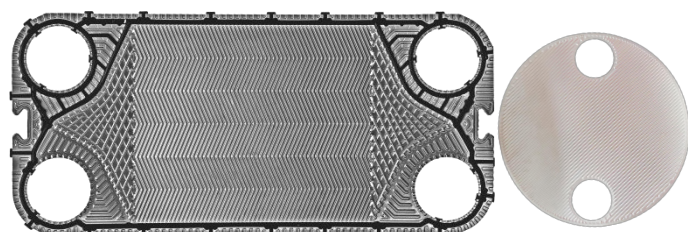
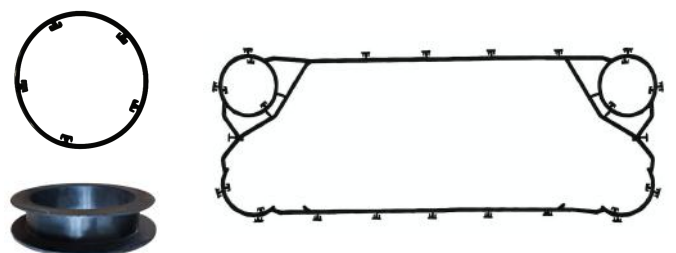


Plate Heat Exchangers Gaskets



# Heating and cooling solutions from CHINA PHE

The CHINA PHE Business Unit Comfort/HVAC applies heat-transfer technology to heating and cooling systems, helping you to be more efficient in obtaining the ideal temperature in any area.

Customers in more than 60 countries have made us the world market leader in heat exchangers and thermal solutions. Over 20 years of dedicated research and development in the field of heat-exchanger solutions, together with field experience from some 10,000 heating installations around the world, are your assurance that we have the solutions you are looking for.



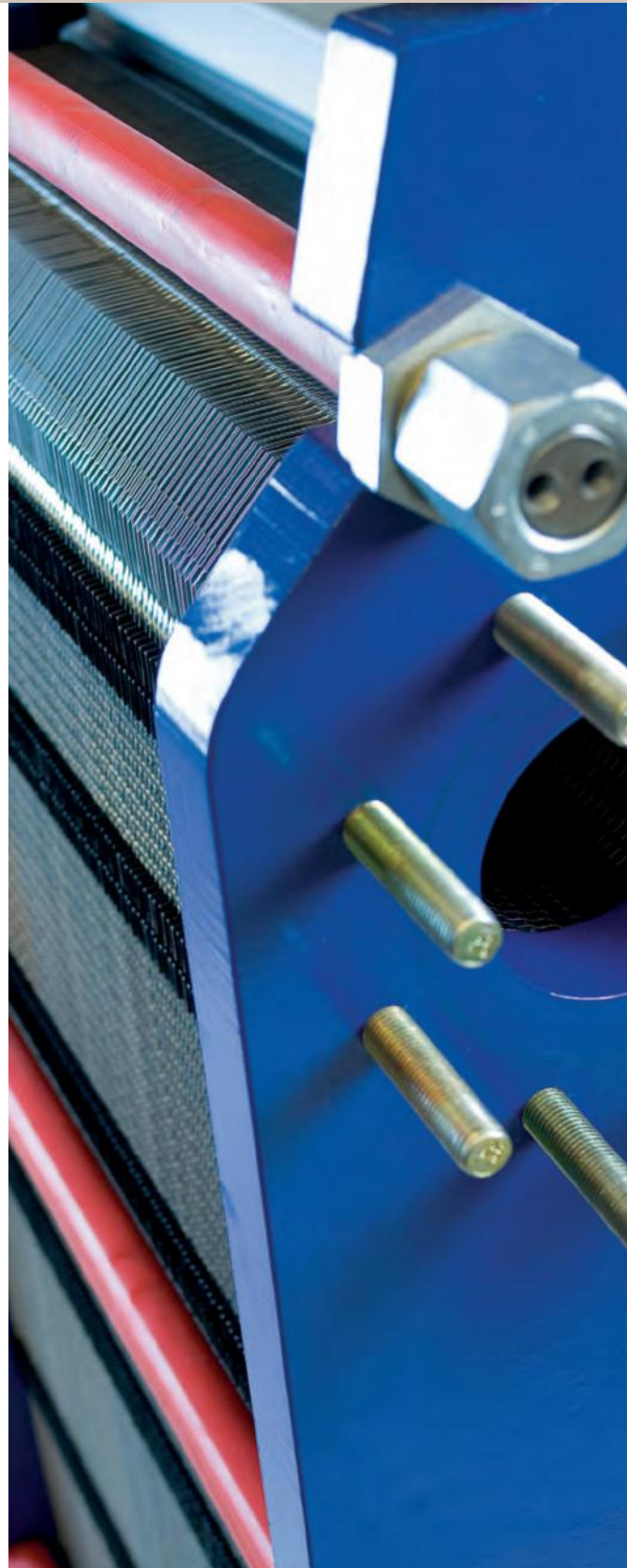
# Gasketed plate heat exchangers

CHINA PHE gasketed plate heat exchangers are the most cost-effective solution available for heating and cooling applications.

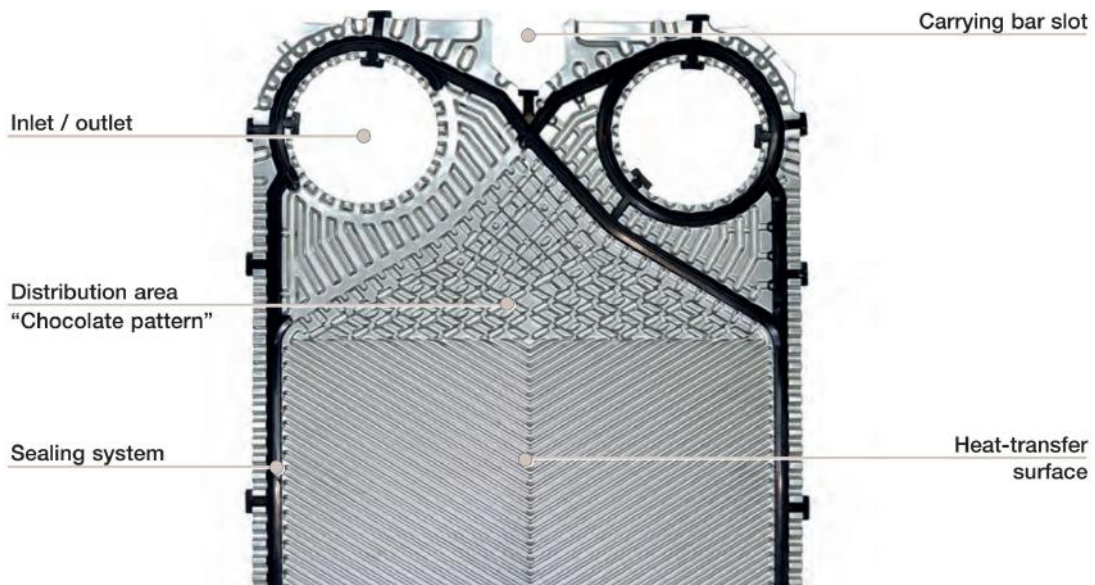
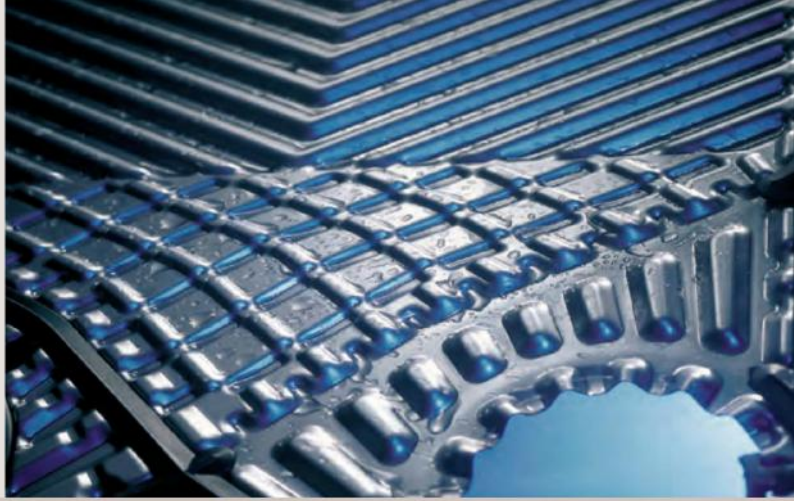
Our gasketed plate heat exchanger range is the result of decades of experience, research and development in heat transfer technology. By combining innovative design with high quality we guarantee maximum performance with minimum operating costs.

Gaskets and frames in detail the superiority of our gasketed plate heat exchangers becomes obvious. Attention to detail is what gives us the winning edge.

Our products and our sales and service organization make us the ideal business Partner.



# Plates



## The heat-transfer surface

CHINA PHE's heat exchanger plates are pressed in a so-called herringbone corrugation pattern. When two plates are super imposed with opposing herringbone patterns, this type of corrugation generates a helix-like flow with very high turbulence, thus producing the essential condition for achieving high transfer coefficients and effective heat exchanger self-cleaning. By changing the plate corrugation pattern, the heat exchanger can be used in different processes, even those with very dirty media.

Dead spots, that are the main cause of corrosion and fouling, are eliminated. Customers will benefit from reduced maintenance cost and increased uptime.

Pairs of identical plates are laser-welded around the ports. The gasket is installed in the conventional manner and the welded plate pairs are assembled in a plate pack in the same way as ordinary single plates. In the unlikely event of leakage through a plate because of a puncture or crack, the leaking fluid will never come into contact with the fluid in the other circuit, as it will be stopped by the double plate and flow outside the heat exchanger.

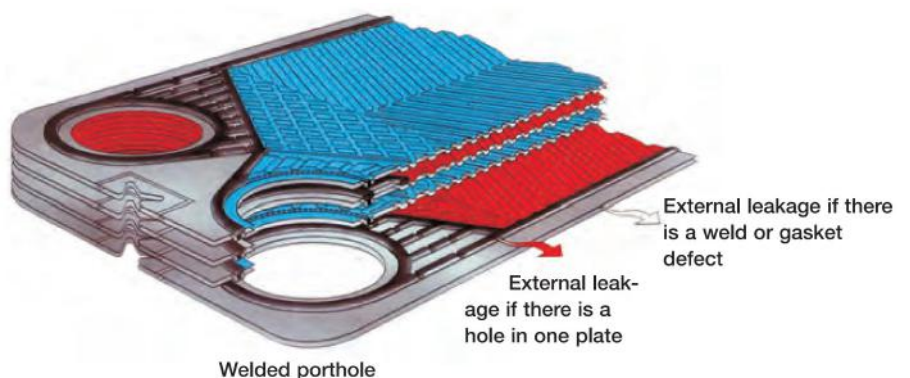
## Special plates

### Double-wall plates

Double-wall gasketed plate heat exchangers are ideal for use with fluids that must not be allowed to mix.

## The distribution area

The plate distribution is pressed in a so called chocolate pattern. This type of corrugation has numerous advantages. Among the most important are it optimises flow distribution over the entire transfer surface, ensuring highest energy efficiency.

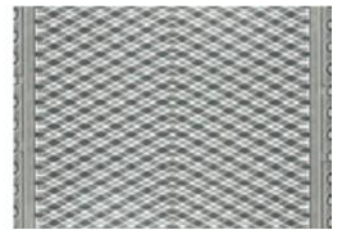


# CHINA PHE

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# Gaskets



The gaskets in CHINA PHE gasketed plate heat exchangers are parts of an advanced hydraulic sealing system designed for high performance and long operating life.

Our gasket profiles produce a highly efficient seal, minimizing the risk of leakage.

The performance of a heat exchanger is influenced by different components and places very high demands on the gasket system. To obtain highest performance, it is important that the plate and gasket are designed together.

A correctly designed gasket has a high enough sealing force to prevent leakage, but not too high in order to prevent gasket and gasket groove damages. China PHE offers gaskets which are based on the roof top gasket profile, as this has proven to be most effective.

The rib top gasket family is the next generation gasket developed by China PHE. It is a further development of the traditional roof top gasket profile.

The roof on this next generation gasket is less edgy and there is a rib on top of it. The rib top profile with less rubber mass gives an outstanding sealing performance, reducing the risk of gasket and plate damages and leakages due to plate misalignment.

All gaskets are made from a single uniform rubber by the best suppliers. In addition, they are moulded in one piece, guaranteeing exact gasket geometry with no weak links from vulcanisation. Gaskets are available in a wide range of elastomers, the most common being Nitrile rubber and EPDM.

China PHE was the heat-exchanger manufacturer to develop and use the glue-free clip-on system that makes it easier to replace gaskets during maintenance, thus saving time. Recently China PHE introduced a new glue-free system called China PHE ClipGrip which improves the gasket fastening and sealing reliability even further.

Gasket groove design ensures minimum contact between the gasket and the media, helping extend the heat exchanger's operating life. The groove on the plate and the gasket match perfectly, ensuring that the gasket is fully supported.



Examples of China PHE roof top gasket family

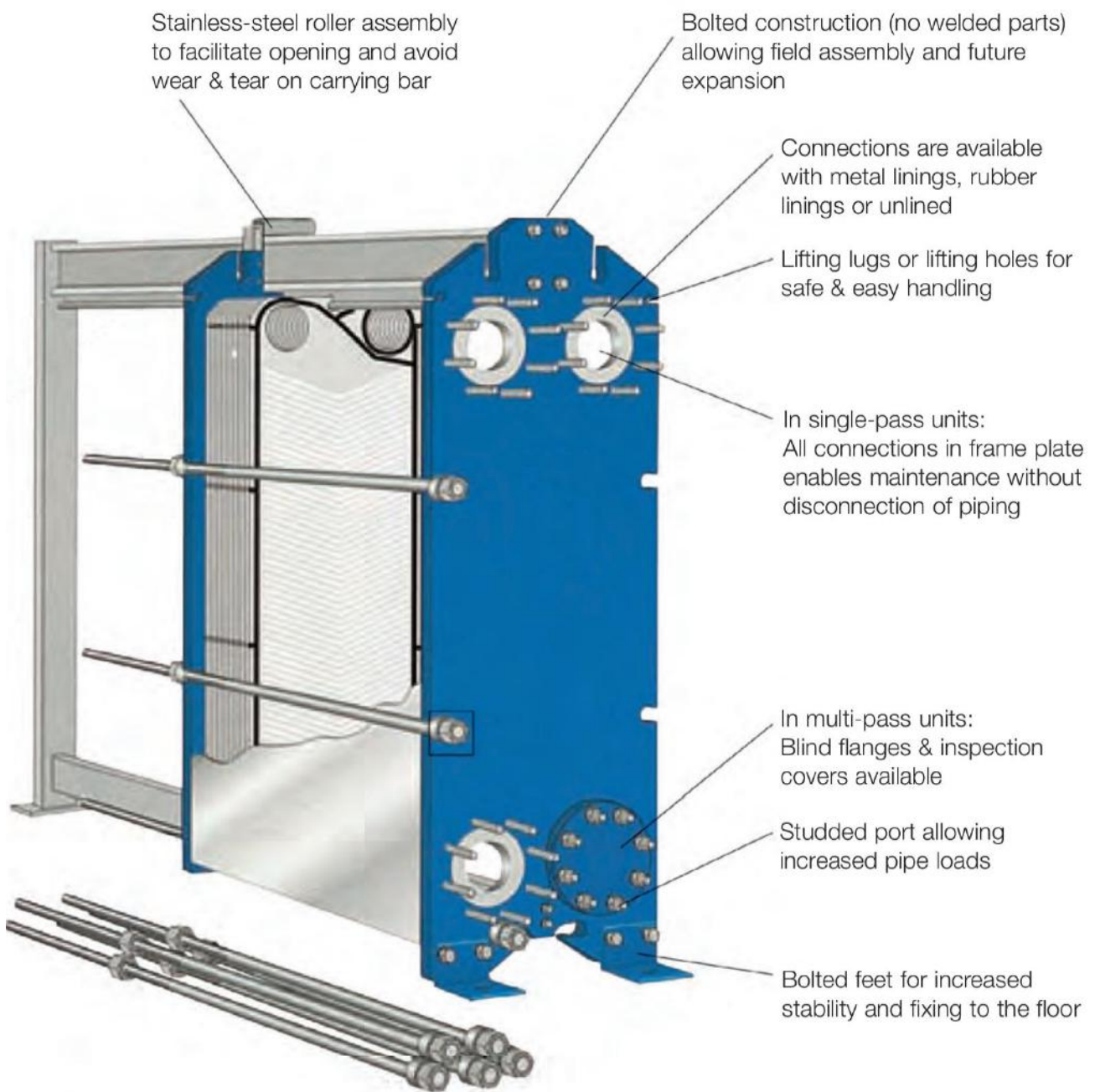


Glue-free ClipGrip system



Glue-free Clip-on system





# Frame



## Designed with lowest cost of ownership

The frame features will ensure:

- Reduced maintenance cost
- Reduced spare part costs
- Staff safety
- Time savings

China PHE gasketed plate heat exchangers of all sizes can be opened quickly and easily for inspection and gasket replacement by one man using standard tools. Precise positioning of the plates horizontally and vertically ensures efficient sealing throughout the plate pack.

A roller on the pressure plate, and bearing boxes on the four tightening bolts, make opening and closing an easy task. Simpler in design, our smaller gasketed plate heat exchangers are equally service-friendly, while keeping costs to a minimum.

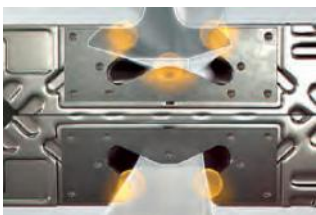
During reassembly, alignment of the plate pack is achieved using the round carrying and guide bar. Corner guides lock the plates in position and ensure perfect final alignment.



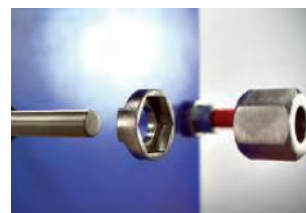
**Bearing box** – makes opening and closing the heat exchanger easier – will reduce maintenance time and increase staff safety.



**Key hole bolt opening** reduce risk of tightening bolts falling out and allows bolt to be removed sideways – will reduce installation and maintenance cost and ensure staff safety.



**5-point alignment system and perpendicular corner guidance.** Perfect plate alignment avoiding plate pack leakages and additional necessary openings & closings of the plate heat exchanger – will reduce maintenance time and spare part cost.



**Lock washer** requires one man instead of two to loosen the tightening bolts and reduce the risk of bolts falling out – will reduce maintenance cost and increase staff safety.



**Elongated nuts** reduce nuts seizing on tightening bolt – will reduce cost for maintenance and spare parts.



# Brazed plate heat exchangers (BHE)

China PHE's first brazed plate heat exchanger was introduced to the dairy industry in 2000.

As a development from the traditional gasketed plate heat exchanger, China PHE introduced brazed plate heat exchanger in 2000.

Since then, continuous developments have been made to optimize its performance and reliability.

Brazed plate heat exchangers offer multiple benefits.

The brazing technology eliminates the need for seals and thick frame plates and the design offers excellent resistance to pressure and thermal fatigue in a wide range of heating and cooling applications.

Brazed plate heat exchangers from China PHE are frequently a natural first alternative all over the world.





## Five reasons to buy your BHEs from the market leader

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# All-welded heat exchangers

When the duty gets tougher and you still need a compact solution, you should consider an all-welded heat exchanger from China PHE. They come in different shapes and forms to satisfy even the most demanding pressure and temperature requirements.

We provide the exceptional thermal efficiency and compactness of a plate-and-frame unit under conditions that would normally require a bulky, traditional shell-and-tube unit.

Our fully-welded PHE has all the benefits of a plate heat exchangers including a compact and flexible design excellent heat-transfer abilities and very limited need of maintenance.

Our fully-welded PHE is a breakthrough plate heat exchanger design that combines a whole range of technological advantages in one compact unit. The all-welded plate pack between plates, and makes it possible to operate with a wide range of media and at high temperatures and pressures.



# Reasons to choose us

CHINA PHE's gasketed plate heat exchangers are designed to meet the highest expectations when it comes to energy efficiency, compactness and reliable performance.

## **High energy efficiency**

With innovative plate design, we provide superior flow distribution across the entire plate surface. This results in excellent heat transfer and high energy efficiency thanks to the elimination of stagnant zones and reduced risk of fouling.

## **Compact size**

The compact design of our gasketed plate heat exchangers makes it easy to fit compact spaces. They come equipped with all features needed for easy installation and quick start-up.

## **Reliable performance over time**

Depending on fluid types, pressures and temperatures, Our gasketed plate heat exchangers are tailored to meet highest expectations on performance and lifetime.

## **Easy and safe maintenance**

Our gaskets and plate pack alignment design provides easy and cost effective maintenance. The frame is equipped with features that support the unit and secure safe opening and closing during service.



### **CHINA PHE in brief**

CHINA PHE is a leading manufacturer of specialized products and engineered solutions.

Our plate heat exchangers are dedicated to helping customers to optimise the performance of their processes.

Time and time again.

We help our customers to heat, cool, separate and transport products such as oil, water, chemicals, beverages, foodstuffs, starch and pharmaceuticals.

Our organization works closely with customers in almost 100 countries to help them stay ahead.

**CHINA PHE**

**[www.plateheatexchange.com](http://www.plateheatexchange.com)**

