

Design Plate Heat Exchangers Online

Since we delivered our first domestically-produced device in 1953, HISAKA plate heat exchangers have been used in all kinds of industries as compact heat exchangers with maximum efficiency. In order to meet more diverse and more sophisticated needs, we have arranged a rich variety of models, from small models of 0.18 m²/unit to large models up to 3,400 m²/unit.

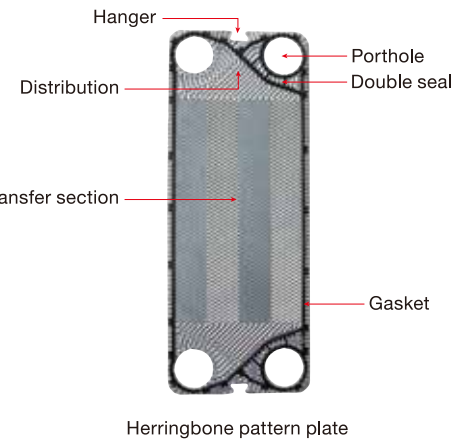
Basic Structure

Heat transfer plates are made by pressing thin sheets of corrosion-resistant metal such as stainless steel or titanium, then set them with seal gaskets and hang and pile them on the guide bar. Then, plates are tightened with bolts between the fixed frame and the movable frame. Here, there is a certain gap between the heat transfer plates that allows liquid to flow. The liquid inlets and outlets are in the fixed frame or the movable frame.

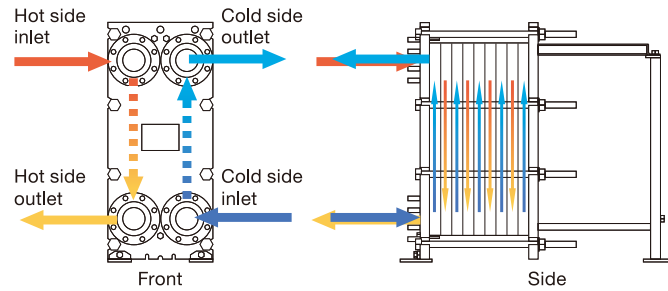


Heat Transfer Plate

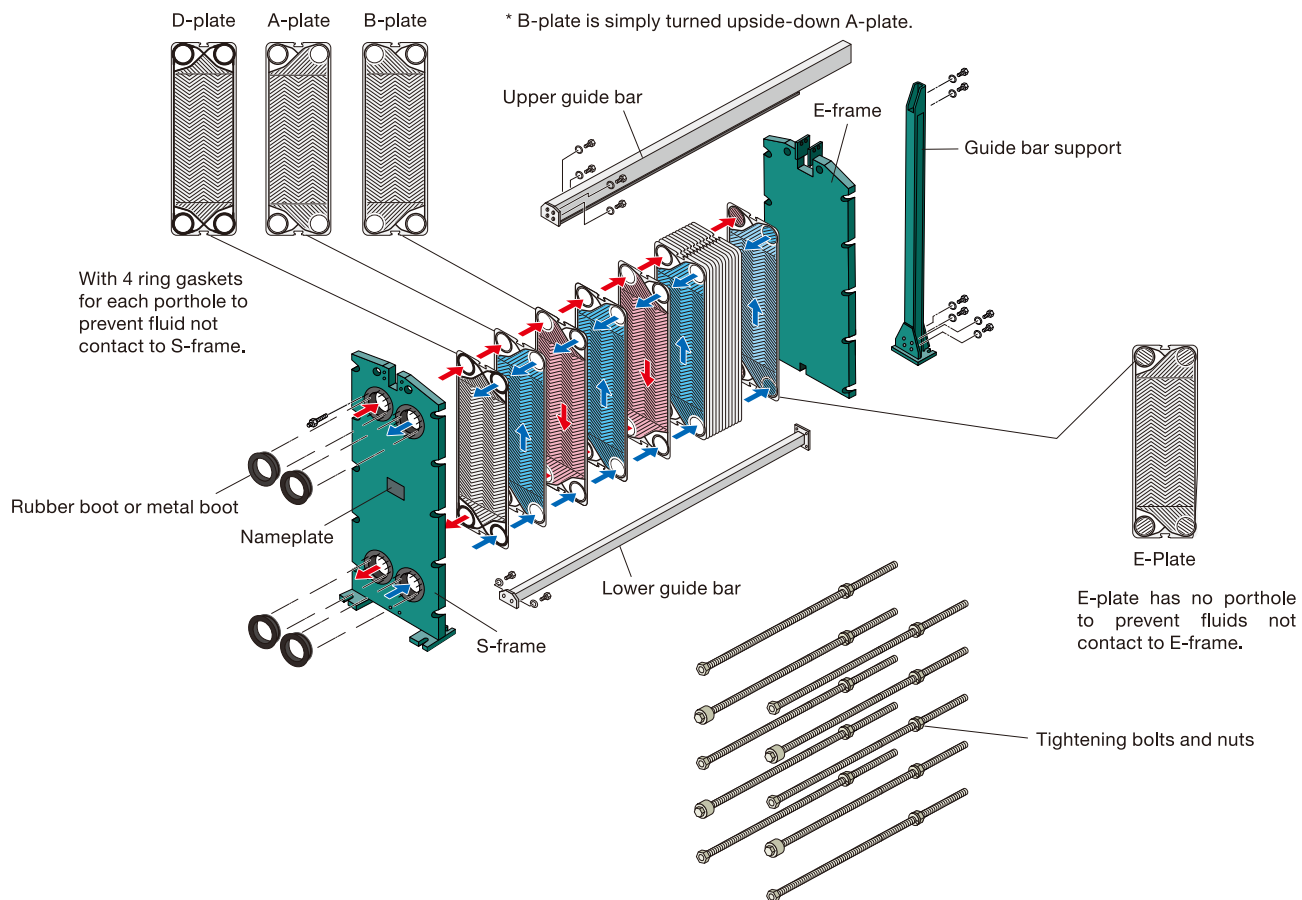
Each heat transfer plate is corrugated to various patterns to increase its strength and surface area. Furthermore, the corrugation makes high turbulence and thereby achieves high heat transfer coefficient. Portholes are formed in the plate's four corners. The gasket is set into the groove around the plate edge to seal in the fluid. (Refer to P7.)



Flow Channel of Fluid



Structure of a Plate Heat Exchanger (PHE)



Standard Operational Data

Processing capacity: 0.1 m³/h to 7,300 m³/h
 Working pressure: max. 4.0 MPaG
 Working temperature: max. 180°C
 Heat transfer area: 0.18 m²/unit to 3,400 m²/unit
 Plate material:

- Stainless steel: 304, 316, 315J1, 317, Etc.
- Titanium: TP270, TP270-Pd
- High nickel alloy: C-276, C-22, B, G
- Nickel: NNCP, NLCP
- Other: Domestic and international standard materials

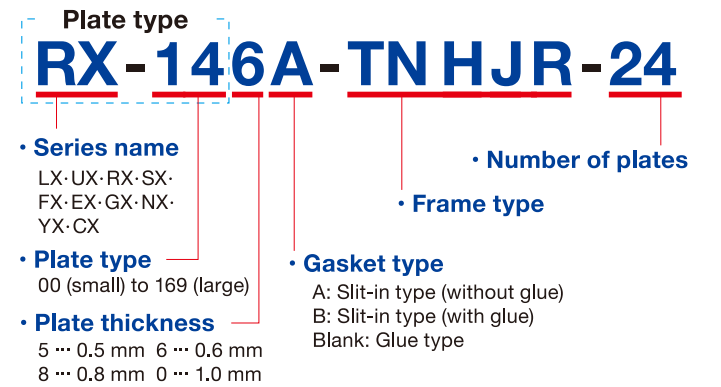
Gasket materials:

- NBR, IIR, EPDM, FPM, Silicon,
- TCG (PTFE cushion gasket)

* The above data varies depending on the model, material, plate thickness, and operating specifications.

PHE Model Numbers

The plate type, thickness, and number, and the frame type for HISAKA PHEs are indicated as below.



Pressure Vessel Code and Standard

Our company can design and manufacture plate heat exchangers subject to the following regulations and applications. As certain applications may not be possible depending on the model, material, plate thickness, and other factors, please be sure to inquire with us if regulations may apply.

Overseas Standards

ASME U STAMP

We can design and manufacture plate heat exchangers in compliance with ASME (American Society of Mechanical Engineers standard).
 ASME Boiler and Pressure Vessel Code, Section VIII, Division 1.

Note: As the design temperature may be subject to restrictions depending on the aforementioned plate material, plate thickness, and gasket materials, please be sure to inquire with us.

