



ISO 9001
Certificate No. A 0858
ISO 14001
Certificate No. B 0110
OHSAS 18001
Certificate No. C 0082

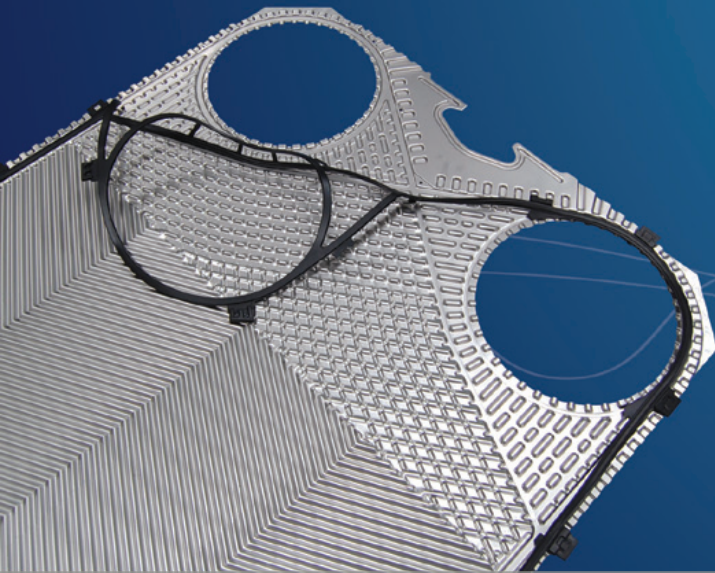


www.dh.co.kr



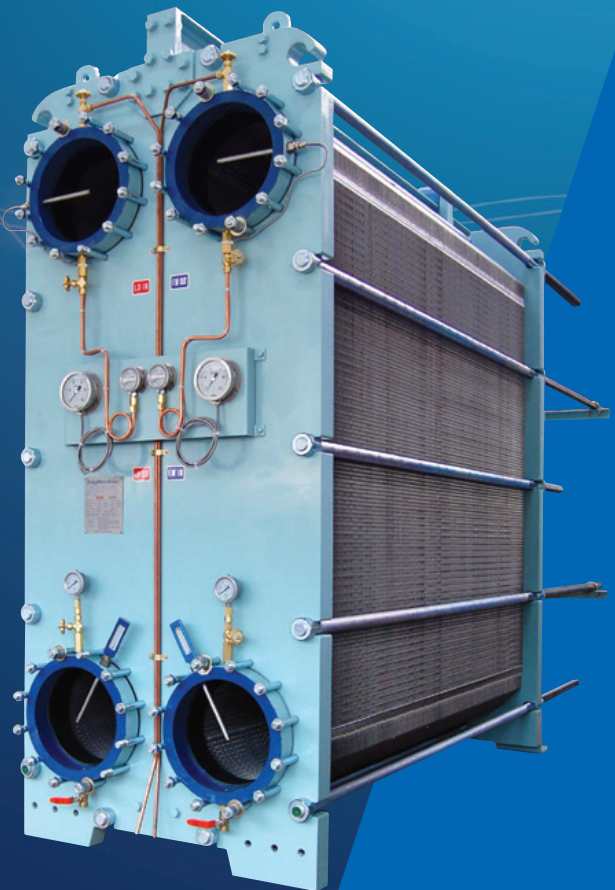
▶ Cryogenic Heat Exchanger and System Engineering **Global Leader**

Plate Heat Exchangers



DongHwa Plate Heat Exchangers are used in the industrial, marine, food and dairy sectors. DongHwa works at high quality level, based on an experienced staff, with regards to both production and calculation of Plate Heat Exchangers. DongHwa can, with the help of specially developed computer programs, quickly calculate an optimal solution to any plate heat exchanger application, based on the customer's demands.

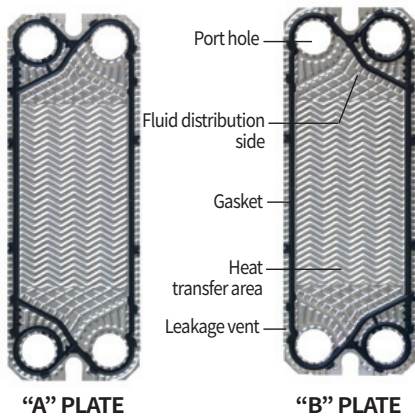
The calculated Plate Heat Exchanger is documented for the customer on a well-arranged and easily read data list.



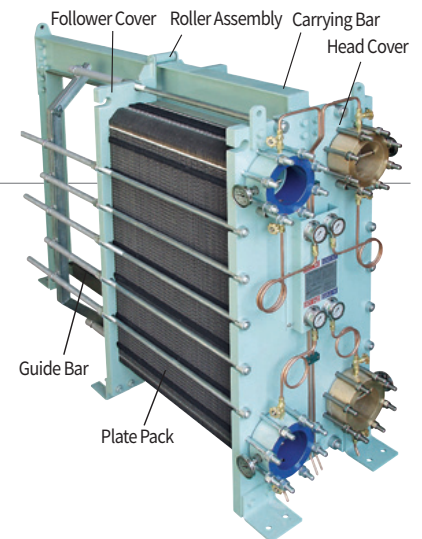
DongHwa Entec

Plate Heat Exchangers

● Working Principle



Gasket is attached to the heat plate which forms flow channel and acts seal up the fluid not to leak to the outside. The number of the heat plate is determined according to the amount of fluid, physical properties of fluid, the pressure drop and thermal condition. The covers prevent the plates bended from the difference of pressure. In the assembly of plate, the surface with gasket is directed to the fixed cover and each plate is hanged in opposite direction alternately. And two fluids cannot be mixed and separated by a thin plate. One fluid always flows in "A" channel and the other fluid always flow in "B" channel.



● The Design and Function of DongHwa Plate Heat Exchanger

The plate heat exchanger consists of a frame, which in turn consists of a Head cover, a Follower cover, a support pillar, a carrying bar, a guiding bar and a number of tightening bolts. In between the head and the follower cover a varying number of pressed plates are clamped together. Each plate is supplied with a gasket, so that the plates form a closed system of parallel flow channels. through which the medias flow alternately at every second interval.

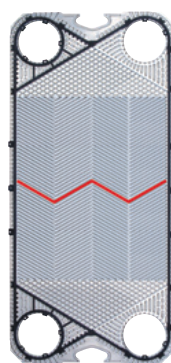
● Type of Heat Plate

■ HIGH -THETA PLATE

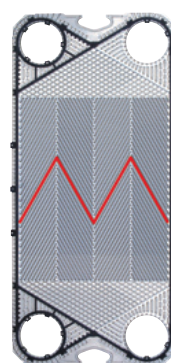
- High turbulent flow
- High heat transfer coefficient
- Perfect temperature approach
- High pressure drop

■ LOW -THETA PLATE

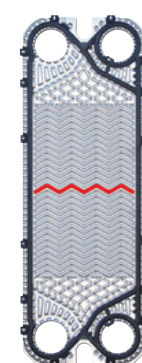
- Low turbulent flow
- Low heat transfer coefficient
- High temperature approach
- Low pressure drop



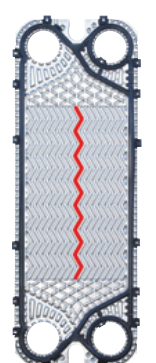
High-theta Plate



Low-theta Plate



High-theta Plate



Low-theta Plate

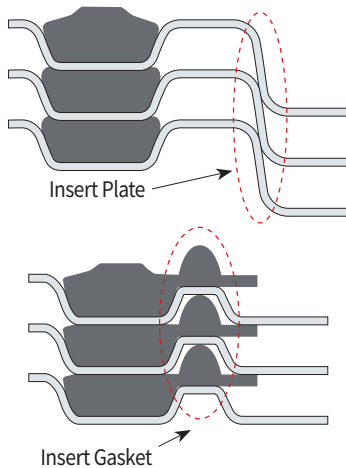
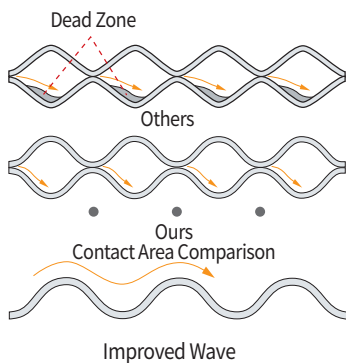
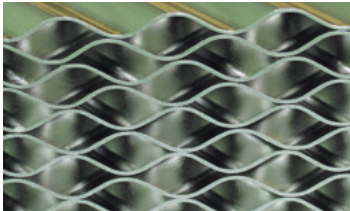
● Plate Design

The construction of the inlet part makes a perfect distribution of the liquids across the heating surface.

The inlet part is increased and supplied with grooves preventing "dead spots" which may cause the growth of bacteria or seaweeds in the plate heat exchanger. The inlet with grooves secures a strong inlet part with a minimum of contact points. The inlet parts are constructed with a leakage drained zone fulfilling the 3A specifications.

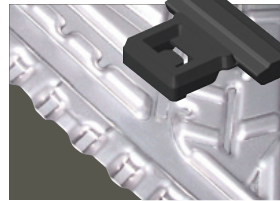
The plate pattern is constructed to obtain a high thermal efficiency. The pattern is available in two designs with different angle sizes giving high respectively low turbulent flow. Combining these in a plate pack and optimal plate composition can be calculated. The angle and fishbone pattern has appeared to make the best heat transmission by a given pressure drop.

● Characteristics



Wide contact area

The strength of the plate is excellent, compared with other companies' products with the point contact type, as the metal contact point has the surface contact feature when the plates are assembled. And the durability and corrosion resistance are greatly improved by minimizing deformation and stress concentration. Besides, the section of the gasket is designed and manufactured to have a pressure-resistant structure that enables the minimum contact area with the fluid, and thus to withstand a high pressure.



Clip Gasket

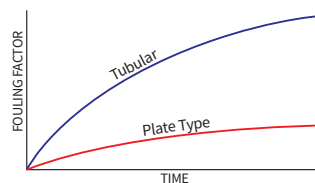
The gasket can be fixed tightly and quickly on the heat plate in the optimum condition with the dual fixing device (snap on type), and is designed and manufactured to have the glue type and non-glue type so that it can be selected according to the usage.

Anti Vibration Design

Designed to prevent loosening the tightening bolts and nuts during continuing operation which secure to prolong the equipment's operation lifetime and prevent leakages.

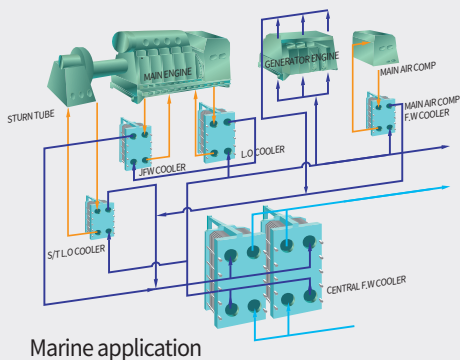
Easy disassembly and assembly

Even the biggest model also can be assembled or disassembled by 1 or 2 persons. As it is designed to have a dual fixing method of the insert-typed plate and insert-typed gasket, there is no sliding on the plates. It prevents sliding and an assembling failure even when a non-skilled novice disassemble or assemble the device. (Excellent maintenance against materials with high viscosity such as oils for LO cooler or oil heater)



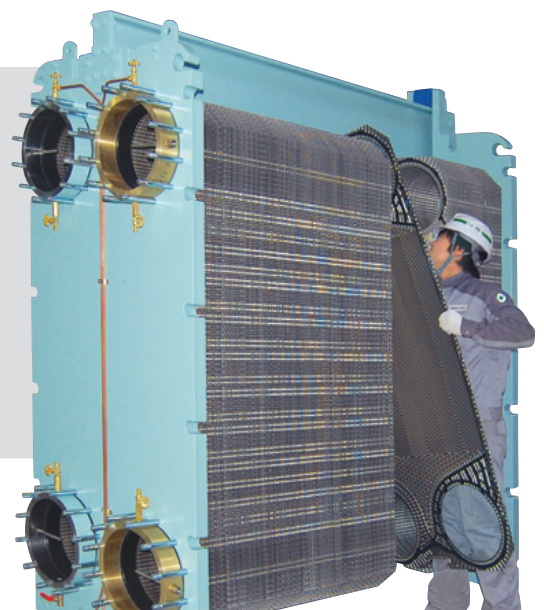
Temperature Approach

The turbulent flow, promoted by the wave pattern of the heat plates, enables a very high heat transfer coefficient. Proximity Limit: 1°C



Application

Marine Application and Engines,
Architecture Industry,
Automobiles Industry,
Textile Industry,
Pulp and Paper Industry,
Chemical Industry, Steel Industry,
Mechanical Industry,
Food Industry, HVAC,
Power Stations, Surface Treatment





Head Office and Factory (Land Area: 15,574 m² / Building Area: 13,845 m²)



Hwajeon Office and Factory (Land Area: 20,127 m² / Building Area: 20,087 m²)



Energy, Environmental Tec. Lab. (Land Area: 4,465 m² / Building Area: 3,365 m²)



DongHwa Entec (Shanghai) Co., Ltd. (Land Area: 33,350 m² / Building Area: 18,457 m²)

DongHwa Entec

Donghwa Entec Co.,Ltd

Noksan Office and Factory

7, Noksansandan 261-ro, Gangseo-gu, Busan, Korea
T. +82-51-970-1000 F. +82-51-970-1001

Hwajeon Office and Factory

20, Hwajeonsandan 1-ro 63beon-gil, Gangseo-gu, Busan, Korea
T. +82-51-970-1100 F. +82-51-970-0710

Energy·Environmental Technology Laboratory

7, Gwahaksandan-ro 305beon-gil, Gangseo-gu, Busan, Korea
T. +82-51-970-0711 F. +82-51-970-0730

DongHwa Entec (Shanghai) Co., Ltd.

No.2508 Jiangshan Road Lingang New City Shanghai China 201308
TEL : +86 (0)21-5197-5001 FAX : +86 (0)21-5197-5005