Plate Heat Exchangers for Marine Applications
There are times when the reliability of your equipment is crucial!

When conditions are tough, crew and equipment are really put to the test. The main engine oil cooler and central freshwater cooler simply have to work. There is no room for compromise when the sea is rough and the harbour far away.

That’s why Tranter offers you the very best. Reliable, compact, and efficient plate heat exchangers that are easy to service and maintain. So, it’s no wonder they can be found on board countless vessels all around the world – from luxury yachts to huge container vessels, supertankers and offshore rigs.

Tranter offers an extensive range of gasketed plate heat exchangers specially designed for marine applications. This, combined with our extensive experience and solid technical expertise within marine and industrial applications, makes us a world leader.

For many decades our plate heat exchangers have proved to be the perfect solution for various closed-circuit cooling systems at sea. They are also frequently found in other applications on board, such as tap-water production systems and HVAC systems.
No unnecessary ballast

Why fill up your engine room with heavy, bulky equipment, when efficiency and economy are vital factors?

A plate heat exchanger from Tranter is only about 1/3 the size and 1/6 of the weight of a shell-and-tube exchanger of comparable performance. Even if it seems more reasonable to invest in a tube exchanger, this would have a much higher life cycle cost than a plate heat exchanger.

One reason is that the heat transfer properties of a plate heat exchanger are 3 to 5 times higher. Another is the close temperature approach which is as low as 1K.

Efficiency pays off!

A plate heat exchanger offers many advantages compared with conventional shell-and-tube exchangers

- Up to 50% more efficient
- Up to 90% more compact
- 3-5 times higher k-values
- Unique turbulent flow design
- Closer temperature approach – as low as 1K
- Far less material – less use of exotic alloys or titanium
Keep cool for smooth and reliable operation
Central cooling systems

A central cooling system consists of central coolers that use sea water to cool a secondary circuit with fresh water. This circuit passes through a battery of other coolers, such as lubrication oil cooler, jacket water cooler, turbo-charging air cooler etc.

Using fresh water in the secondary circuit, minimizes corrosion, scaling and redundancy in machines and equipment and ensures smooth operation. At the same time the cost for repair and replacement will be kept to a minimum.
Our experts will guide you to the right solution

Tranter is a world leader in plate heat exchangers. We have extensive experience of heat transfer solutions for marine, off-shore, HVAC and industrial applications around the world. Our mission is to help you achieve the optimum solution with regard to performance efficiency, payback and energy conservation.

Our marine programme encompasses plate heat exchangers that fulfil any capacity requirement. Our patented Ultraflex design means that we can closely match precise heat exchanger requirements with just a few plate designs. Plates are available in stainless steel, and titanium as standard, but are also available in other materials. We can also offer frames constructed from aluminium etc. when it is important to keep the weight low.

Quality all the way

At Tranter we enlist cutting-edge technology in our manufacturing processes. Raw materials are subject to rigorous quality specifications. Exact measurements and metallurgical analyses are performed in accordance with our Total Quality Management System. Fully-automated plate presses ensure consistent high quality and plate uniformity time after time. After assembly each plate heat exchanger is tested, and the results are incorporated into a data bank. Before packing and shipping, we carry out a final check. Nothing is left to chance.
Service and maintenance made easy

A Tranter plate heat exchanger consists of very few parts and is very compact. The plates have a unique plate design, called Ultraflex, which enables exact matching for any application. Performance adjustments are easily made by adding or removing plates. It is also possible to achieve both symmetrical and asymmetrical flow and full turbulence in each, thus maximizing the heat transfer efficiency and minimizing fouling.

When it comes to service, you will discover how quick and easy it is to dismantle the exchangers for inspection, cleaning and maintenance.

A global service network

Our service network of representatives and engineers in Europe, Asia, Australia, Middle East and North America will back you up with support and services. They can also train your staff in handling day-to-day maintenance themselves. You will meet experts who can answer any questions that may arise.

Contact us for more information
Marine Plate Heat Exchangers

GL-13/GC-16
Connection size Ø50 mm

GX-26/GC-26
Connection size Ø100 mm

GX-51/GC-51
Connection size Ø150 mm

GX-60/GC-60
Connection size Ø200 mm

GX-6/GC-6
Connection size Ø150 mm

GX-91

GX-6
GL-6
Connection size Ø100 mm

GX-15
GL-15
Connection size Ø150 mm

GX-5
GL-5
Connection size Ø300 mm

GLP-30, 330, 330
Connection size Ø400/450/500 mm

GX-140

GX-60
GC-60

GX-100

GLP-30, 330, 330

**Frame type N/P**

### Max. working pressure
- **N**: 10 bar
- **P**: 16 bar
- **S**: 25 bar

### Max. working temp.
- **Nitril**: 140°C
- **EPDM**: 160°C
- **FPM**: 180°C

### Approvals
- SAQ, TTK, TÜV, ABS, GL, LRS, NK, BV, DNV, RINA, KR, China-Class, USSR

### Channel plate materials
- AISI 304
- AISI 316
- Titanium

### Gaskets
- Nitril
- EPDM
- FPM
- Viton®

### Type Connection B H D E F
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Conventional Plates (GC)
The corrugated plates have a gasket along the periphery. There are also gaskets around two of the four ports, which means that only one of the two fluids has access to the heating surface. The next plate has gaskets around the other two ports. Thus a channel system is created where two fluids pass through every other channel respectively. Leakage between the two fluids is not possible thanks to double gaskets around the ports. The pressure drop and heat transfer are dependent on factors such as the arrow angle of the plate pattern. An obtuse arrow angle (high-theta plate) means high resistance and a high thermal driving force. An acute angle (low-theta plate) means a low pressure drop but a lower thermal driving force.

Ultraflex Plates (GX)
Our unique, patented Ultraflex plate design features two angles for each plate size. The plates are available with a herringbone pattern with either an acute or obtuse angle, making it possible to achieve six combinations of channels. An obtuse angle (high-theta plate) gives high resistance an acute angle (low-theta plate) and a low pressure drop. This allows our heat exchangers to be optimized for the characteristics of each individual application. If you have different flow rates in the primary and secondary circuits, your plate heat exchangers can be designed with asymmetrical channels for maximum heat transfer efficiency and economy.

Our unique Ultraflex design allows the two plates to be turned and rotated, giving six combinations of high- and low-theta plate pairs, matching the performance parameters of your application.

Ultraflex allows asymmetrical design, with each circuit individually optimized for heat transfer.
Plate heat exchanger accessories

- Instrument flanges
- Liners
- Hydraulic tightening tool
- Back flush
- Strainer port
- Strainer
- CIP—Cleaning-in-Place
Tranter is a global company, represented in all continents. We are close to our customers via our own companies, agents and distributors. We have been supplying top quality and performance heat exchangers since we started 65 years ago. Thanks to our long experience and local presence, we can always offer our customers local service.

Tranter has production facilities in Sweden, India and the USA, all certified to ISO9001

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