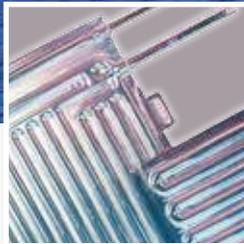


COST-EFFICIENT  
CARGO AND  
BUNKER FUEL  
PREHEATING

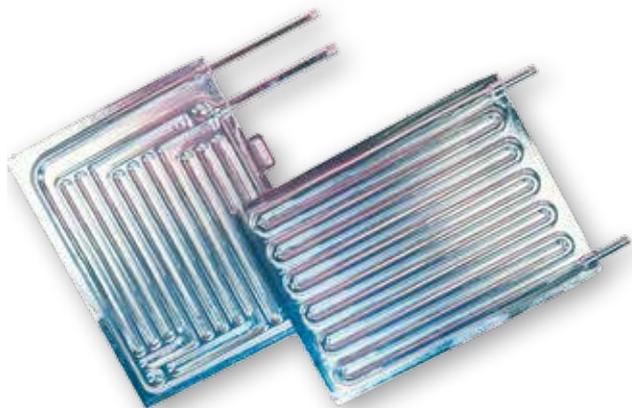


PLATECOIL®  
Prime Surface Plate Heat Exchanger



## PLATECOIL® Banks Reduce Installation Costs And Improve Energy Efficiency

Marine cargo and bunker fuel heating systems are known to be expensive to fabricate, energy inefficient and slow to respond. Factory engineered and fabricated PLATECOIL® heat exchanger banks surpass field-fabricated linear pipecoil in initial cost economy and thermal performance. These integral, one-piece banked assemblies comprise a rugged, high strength design. Yard installation involves only one inlet and one outlet connection. Available in carbon and stainless steel, titanium and higher alloys, these engineered packages conform to ASME, U.S. Coast Guard, DNV, ABS and Lloyds Register codes.



*Serpentine (top) and Multi-Zone PLATECOIL panels.*

## Cargo Hold Product Preheating

PLATECOIL® offers inherent design advantages when used to heat heavy, viscous products in preparation for efficient cargo unloading in cargo holds of tankers and barges. Initial cost economy is attractive, since these pre-assembled banks completely eliminate linear pipe heating components, reducing onsite shipyard pipefitting labor costs significantly. In a recent project Tranter PLATECOIL® banks eliminated the need for 5,180 m (17,000 linear feet) of 51 mm (2-in.)-diam. stainless steel pipe and U-bends in 3 million kg-cal/hr (12 million BTU/hr) duty.

Factory-manufactured packaged PLATECOIL® systems offer superior mechanical integrity and quality assurance, along with reduced weight. Minimized yard installation procedures virtually eliminate the possibility of damage to cargo hold coatings.

Performance advantages — PLATECOIL® banks reduce energy consumption through higher heat transfer efficiency and a chimney effect that induces more effective circulation. This effect promotes rapid, uniform heating through natural convection, reducing heating and cargo handling times significantly.

Operational and durability advantages — PLATECOIL® banks are not susceptible to flow-induced vibration, vibration-induced fatigue cracking, waterhammer and condensate blocking. Although they constitute a more compact design, they offer superior baffling performance in active seaways.



*Cargo heating bank fabricated from serpentine PLATECOIL® panels.*



Simple installation — PLATECOIL® banks are assembled into a rigid, integral unit comprising:

- Manifold connections
- All support and stiffening structures
- Integral feet for elevating the

PLATECOIL® bank off the deck.

Complete assembled units can pass through standard manways to the cargo hold, where they are easily lowered into position and connected to the heating source inlet and the return outlet. This simple installation helps prevent damage to special coatings.

## Bunker Oil Heating

PLATECOIL® banks offer distinct design advantages when incorporated into bunker oil suction heaters, as alternatives to electric or hot oil whole-tank heaters. They comprise a more compact design approach, employing the pump inlet as the heat source instead of the entire tank. This approach eliminates the tradeoff between extensive insulation and heat losses.

Performance advantages — Only the oil drawn through the suction section is heated, greatly reducing heat losses through tank walls. Additionally, the hot suction heater walls help preheat the viscous liquid before entering the pumping chamber for additional pumping efficiency improvements.

Suction heater construction — A small bank of PLATECOIL® panels comprises a box chamber with one open end. A heating medium is then pumped through the bank, and the pump suction is connected to the center fitting. Both horizontal and vertical configurations are available.

An alternate design uses PLATECOIL® fabricated into a cylinder, with the suction extended through the center.

## PLATECOIL® Panels — A Closer Look

Heating banks are an assembly of PLATECOIL® panels, made from one of several possible styles of die-formed channels pressed into flat sheets. The embossing configuration and number of panels are functions of capacity and pressure drop specified for the application.

Multi-Zone PLATECOIL® — This style provides highly uniform heating when using steam, characterized by very high flow rates with low pressure drop.

Serpentine PLATECOIL® — This style promotes maximum flow velocities and higher heat transfer capabilities at low-to-moderate flow rates.



*PLATECOIL®-based cargo heating system in articulated tug barges. The drawing is not to scale; banks and piping are enlarged for clarity.*

## Typical Cargo Heater Specifications

- Multi-Zone PLATECOIL® Style 70D
- Multiple gauge carbon or stainless steel or higher alloys
- Special perimeter seal weld available
- Various mounting lug options and multiple rated flanges available
- 200 psig and higher design and operating pressure



*Horizontal suction heater fabricated from Multi-Zone PLATECOIL® panels.*



At the forefront of heat exchanger  
technology for more than 80 years

Tranter top quality, high-performance, proprietary products are on the job in demanding industrial and commercial installations around the world. Backed by our comprehensive experience and worldwide presence, Tranter offers you exceptional system performance, applications assistance and local service. Tranter is close to its customers, with subsidiary companies, agents, distributors and representatives located worldwide. Contact us for a qualified discussion of your needs.



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