

PLATECOIL[®]

A Proven Heat Transfer
Line for Over 80 Years





Proven Engineering of PLATECOIL®

PLATECOIL® Prime Surface Heat Exchangers combine flexibility and functionality to deliver more efficient, economical and uniform heating and cooling to any application.

Backed by ISO 9001-certified and ASME Pressure Vessel Code designs and manufacturing processes, these highly versatile HEs adhere to the highest standards for design, manufacture and testing in the industry. And with success stories spanning 80-plus years, PLATECOIL versatility finds its way into new applications and industries each year.

Delta T Thermal Solutions is the prime surface engineering specialist for PLATECOIL. Our designers, engineers and tool & die specialists apply expertise to both one-off, special fabrications and high-volume engineered subsystems. No matter your market, application or process, if inefficient heat transfer is costing you time, money and energy, it's time to reshape your future with a PLATECOIL solution.

Better Thermal Control Than:

- Pipecoil
- Pillow style
- Half pipe
- Gridcoil



Anywhere you use pillow style plates & pipecoil, PLATECOIL® units will save space and energy costs.

PLATECOIL can be furnished as clamp-on jackets and pre-engineered baffles/mixer components for fabricating jacketed reactors or upgrading existing vessels quickly and easily.



The PLATECOIL Advantage



PLATECOIL is **two die-formed sheets welded together**. PLATECOIL panels comprise a series of passages through which a heating or cooling media flows. **Highly uniform heating or cooling enables PLATECOIL** panels and banks to improve efficiency and energy economy. Additionally, easy access to panels and robust cleaning surfaces **reduce maintenance burdens**.

Processors worldwide have used PLATECOIL to:

- Eliminate sparging for reduced water and steam consumption
- Capture waste energy from moist, wet flue gases at temperatures as low as 150°F (67°C)
- Recycle low-grade heat energy from drains
- Improve economic performance in existing tanks and vessels using clamp-on retrofits

Infinite PLATECOIL Applications

△T Banks — Agitated Vessels, Fluidized Bed, Freeze Dry Condenser, Waste Heat Recovery, & More

△T Jacketed — Cabinets, Cylinders for Vessel Components, Platens & Shelves, Tanks, Vessels Components for Jacketed Environmental Chambers, & More

△T Bayonet Heaters

△T Clamp-On For Tanks & Vessels

△T Cryogenic Shrouds

△T Drum Warmers

△T Evaporators For Concentrating Acids

△T Falling Film Evaporators

△T Gas Cylinder Heaters And Coolers

△T Glycol Dehydrators

△T Heated Hoods For Textile Dye Becks

△T Immersion Heaters And Coolers

△T Paint Solvent Coolers

△T Refrigeration Coolers

△T Refrigerated Liners For Medical Testing Machines

△T Screw Conveyor Troughs

△T Shelves

△T Shipboard Heaters & Coolers

△T Storage Tank Heaters

△T Suction Heaters

△T Water-Cooled Shields For Electric Furnaces, Water-

△T Cooled Chutes For Chemical Products, & Water

△T Chillers For Soft Drink Carbonators

△T Valve Warmers



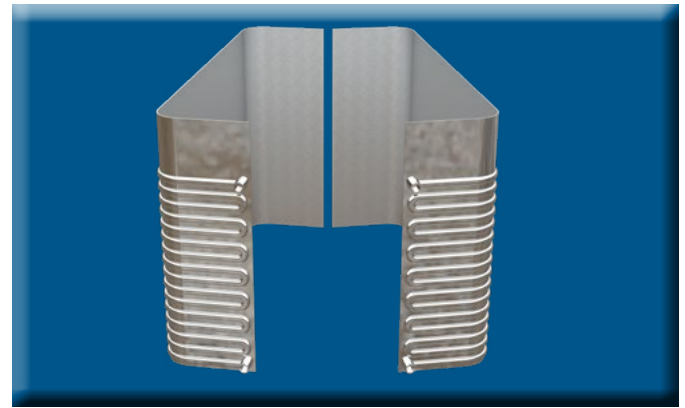
Tried and True Heat Exchanger

Consider all the factors—flow rate, flow balance, heat transfer coefficient, durability—PLATECOIL is engineered and crafted for faster start-ups, constant temperatures, better control and longer service life. Specify PLATECOIL, then sit back and relax, thanks to a high built-in safety factor of 5:1.

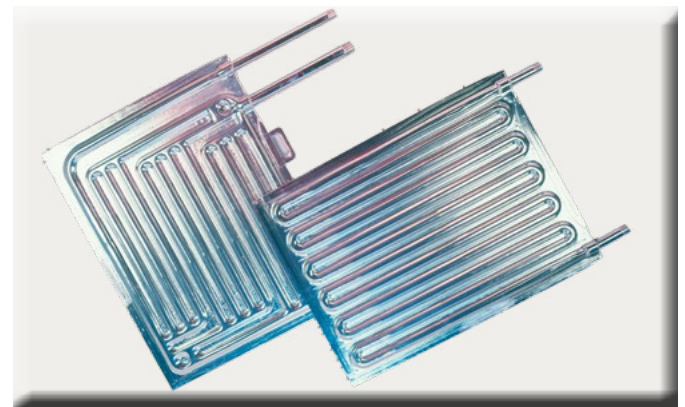
Configure PLATECOIL as banks...you'll benefit from lower engineering, fabricating and maintenance costs. In tanks, PLATECOIL banks give you twice the surface area in a given space, at half the weight as equivalent pipe coil. PLATECOIL banks' rigid design requires fewer supports, making replacement easier.

PLATECOIL panels' available Quick Change Hangers make them fast and easy to handle during installation and cleaning. There are no immersed threaded joints to seize. With available full annealing, you benefit from extra corrosion resistance. Cleaning is much simpler, because entire units are removable without dumping the solution.

Or, configure PLATECOIL as unit fabrications, and you'll enjoy what we call "IPF"—Infinite PLATECOIL Flexibility. Among our shapes are tangent bends, pancakes, dished heads, cones and bends around curves...all with precision and dimensional stability unequalled by dimple sheet or pipe fabrications.



Tangent bends in a single-embossed panel...try that with dimple sheet.



Two families of PLATECOIL circuitry: Multi-Zone and Serpentine.

Low-Maintenance Finishes

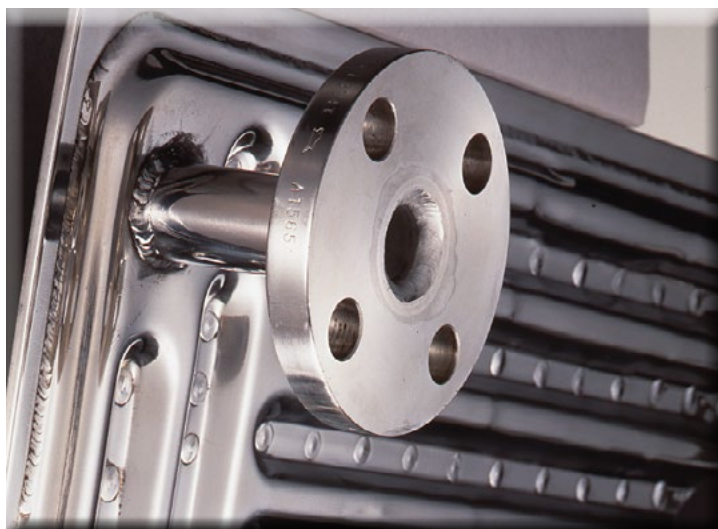
- 2B finish (except for weld marks)
- Electropolished
- Mechanical polished
- Passivated
- Paint
- Galvanized
- Zinc metallized

PLATECOIL® Performance Specifications

Max. Pressure Rating, Non-ASME, psig (barg) ^a	
Double-Embossed (12-Ga., all materials)	
Internal	400 (28)
External	1000 (69)
Single-Embossed Carbon Steel ^b	
Internal	265 (18.2)
Single-Embossed 304, 304L, 316, 316L, Monel ^b	
Internal	300 (20.6)
Heat Transfer Rates (Typical), Btu/hr • ft ² • °F, (W/m ² • °C)	
Steam to Water Solutions (Multi-Zone styles)	
Still	175 (993)
Agitated	215 (1220)
Hot Water to Watery Solutions (Serpentine styles)	
Still	85 (482)
Agitated	145 (823)
Max. Temperature Rating, °F (°C)	850 (454)

^a Ratings offered as a general guide only. Certain combinations of physical and fluid properties may affect individual product specifications. Contact the factory with your specific application data.

^b 12-Ga. embossed plate and 12-Ga. minimum companion plate.



Die-forming result in a welded panel that can stand up to difficult conditions.

The Right Circuitry for Your Application

Three styles of Multi-Zone and two styles of Serpentine flow configurations ensure that you get the right combination of flow rate and heat transfer rate. With more than 300 sizes, widths ranging from 12 in. to 43 in. (305 mm to 1090 mm) and lengths spanning 23 in. to 143 in. (585 mm to 3630 mm), no job is too big or too small for PLATECOIL to handle. Where there's a need for high internal flow rates, low pressure drop or rugged use, large-pass, heavy-gauge PLATECOIL units fill the bill.

Exclusive Multi-Zone Circuitry

Delta T specially designs Multi-Zone panels with zoned headers for outstanding performance with steam. Their FREE-FLO action avoids efficiency-robbing condensate "blocking"

PLATECOIL Vs. Pipecoil

- Weighs 50–70% less
- Twice the surface area in a given space
- Superior efficiency—a 22-in. x 143-in. or 36-in. x 95-in. Style 70D PLATECOIL panel equals 100 ft of 2-in. Sch 40 pipe
- Minimizes damage to tank coatings during installation
- Significantly less labor for installation

PLATECOIL Materials and Fluid Compatibilites

- Carbon Steel, SA-414
- SA-240, 304L, 316L
- Monel, Nickel, Inconel, Alloy 825, AL-6XN, 254SMO
- Alloy 20, Hastelloys B-2, C-276 and G, Titanium
- Other materials upon customer request
- Liquids, two-phase media, gases
- Ammonia, Freon, glycol, water, high- and low-pressure steam, hot oil, emulsions

commonly encountered in pipecoils or straight headered units. The flow pattern provides reserve capacity to compensate for intermittent overloads during start-ups, distributing steam virtually instantaneously to all levels of the plate. Under load swings, Multi-Zone PLATECOIL attains desired operating temperatures extremely rapidly, with minimum variation.

Fast-Responding Serpentine Circuitry

PLATECOIL Serpentine circuitry offers outstanding performance with liquid heating or cooling media. Serpentine panels promote high internal flow velocities for high heat transfer rates. These units are frequently specified for use with cold water, hot water, hot oil and refrigerants.

PLATECOIL® Connections And Gauges

Connections, NPT in.	3/4–2
Standard Gauge, in. (mm)*	
16	0.0625 (1.5)
14	0.0781 (2.0)
12	0.1094 (3.0)

* Thicker gauges are available. Contact the factory for details.

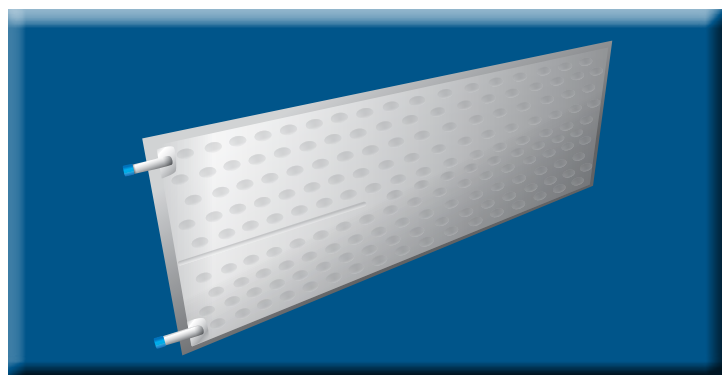
Typical ECONOCOIL® Applications

- Sulfate chrome plating solutions
- Chromic acid, 10% boiling
- Nickel plating solutions (except electroless nickel with fluorides)
- Inhibited sulfuric acid
- Inhibited hydrochloric acid
- Hypochlorites
- Seawater or salt brine
- Chlorinated hydrocarbons

ECONOCOIL® Panels for Special Needs

ECONOCOIL® hydraulically expanded panels are a special PLATECOIL variant available in an assortment of single-embossed or double-embossed styles and sizes in serpentine or parallel passes. Titanium construction provides long service life in liquid-to-liquid or steam-to-liquid heat transfer applications where highly corrosive environments exist. These panels resist attack by chlorine, chlorides and mineral acids.

High turbulence results in low scaling/fouling tendency on external and internal surfaces. Titanium ECONOCOIL panels maintain better heat transfer performance than units constructed from heavy-gauge, low-corrosion-resistance material. Their light-gauge construction allows maximum thermal conductivity.



ECONOCOIL panels made with titanium resist corrosive attack. Multi-pass circuitry is available.

ECONOCOIL® Specifications

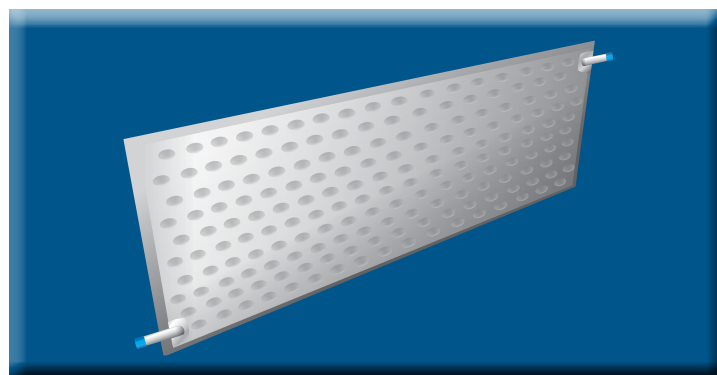
PERFORMANCE	
Working Pressure, Non-ASME, psig (barg)	70 (4.8)
Working Temperature, °F (°C)	350 (177)
Heat Transfer Rates (Typical), Btu/hr • ft ² • °F (W/m ² • °C)	
Steam to Water Solutions	
Still	175 (993)
Agitated ^a	200 (1135)
Hot Water to Watery Solutions	
Still	60 (340)
Agitated ^a	100 (567)
CONNECTIONS	
Standard Connections	Plain end titanium tubing. (other fittings available)
MATERIALS	
Standard Material	Titanium SB-265
Standard Gauge, in. (mm)	0.0236 (0.6)

^aSpecial bracing may be required.

Manufacturing for Quality, Testing for Integrity

With Delta T's strict, ISO 9001-certified quality standards, PLATECOIL structural integrity and durability are assured. Highly experienced personnel carry out all welding on modern equipment. Finished panels can be ASME Code-stamped. Stainless steel units can be annealed or stress relieved to extend service life.

Before shipping, all units receive an air-underwater leak test, which is more sensitive than hydrostatic testing at the same pressure. All ASME Code-stamped units receive a hydrostatic test, while panels manufactured for refrigeration applications receive a helium leak test. Panels for cryogenic service are subjected to a mass spectrometer test.

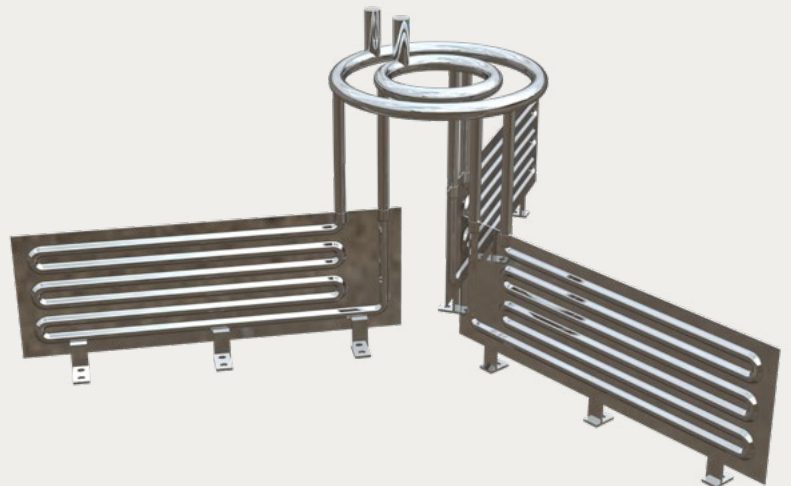
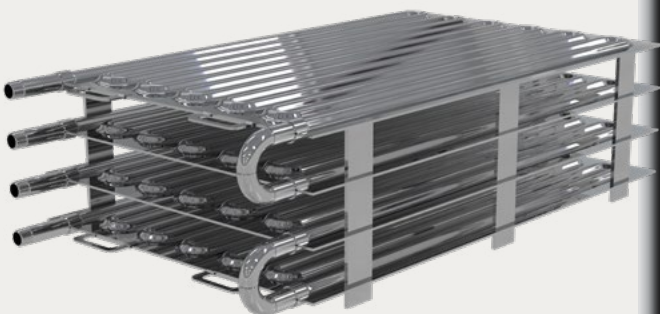
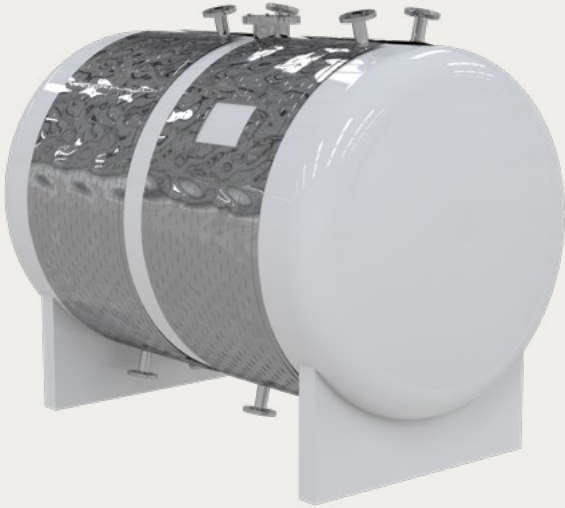


ECONOCOIL is widely used in the plating, metal finishing, chemical processing, pulp & paper, waste treatment, textiles, pharmaceutical and food & beverage industries.



Conceptual Sketchbook

There are countless ways ECONOCOIL® and PLATECOIL® can be used. **Allow your ideas to take form** by flipping through the next set of pages labeled “Conceptual Sketchbook.” Ultimately, **Delta T staff hopes to help you explore and visualize** how we might help you with your heat exchange needs.





Clamp-Ons for Domes

Without proper heat exchange, the contents of the tank can become too hot or too cold, which can lead to a variety of issues such as product degradation, loss of quality, or even safety hazards. With a PLATECOIL heat exchanger on top of the dome, the tank can maintain a consistent temperature, ensuring the contents remain stable and safe. Also, proper heat exchange can help reduce energy costs by minimizing the amount of energy needed to heat or cool the tank's contents.



Star Bank

A star heat exchange bank typically consists of a series of tubes or channels arranged in a star pattern, with one fluid flowing through the tubes and the other fluid flowing through the channels. The star pattern allows for a large surface area to be exposed to the fluids, which helps to maximize heat transfer efficiency. These heat exchange banks are commonly used in various industrial and commercial applications, such as HVAC systems, refrigeration units, and power generation plants.



Pipe Warmers

PLATECOIL pipe warmers are an excellent solution for those looking to maintain a consistent pipe temperature. Heat exchange pipe warmers with clamps are commonly used in industrial settings to prevent freezing and ensure the uniform temperature of fluids inside pipes. They are a wise investment for anyone looking to protect their pipes.



ECONOCOIL on Tanks

An ECONOCOIL heat exchanger is an economical choice for tanks. By using ECONOCOIL, you can save money on energy costs and reduce the overall cost of maintaining your tank. It's a smart investment that will pay off in the long run.



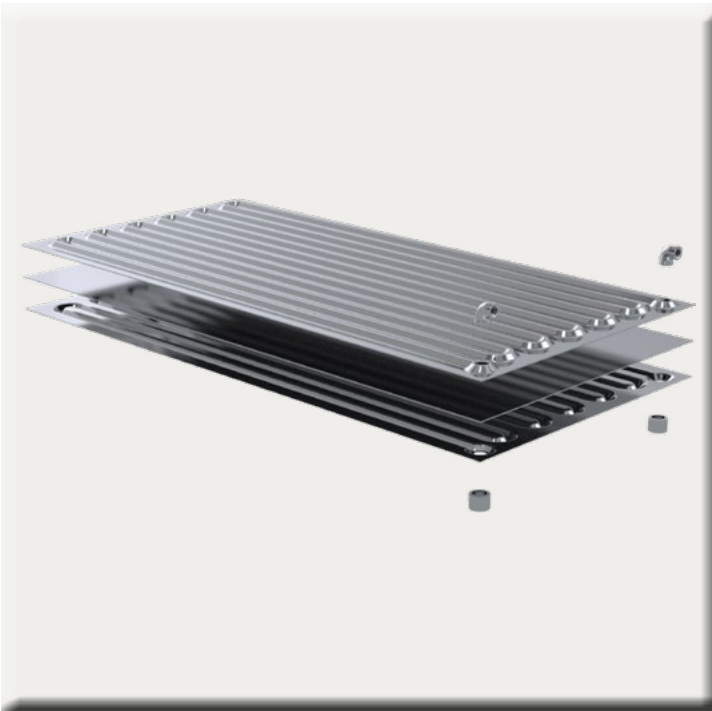
Immersion Heat Banks

The electropolished PLATECOIL® units with sealed edges are used in processes involving food where cleanability is critical. Several of these deep fryers allow for our PLATECOIL® Heat Exchanger banks to be raised out of the fryer for ease of cleaning and inspections. And with our PLATECOILS® placed vertically in our heat exchanger banks, debris from the food being fried won't settle in the heat exchanger.



Clamp-Ons Around Tanks and Over Domes

Cooling, drying or heating of solids is accomplished by PLATECOIL fluidized bed heat exchangers. Solid products such as molten confections are passed between PLATECOIL units in a vertically-installed bank, which employs water for cooling.



60N - Part of Quick Ship Program

Delta T Thermal Solutions stocks several sizes of the 60N for 48-hour delivery (ARO). Specify the one that works! The Original 60N PLATECOIL is manufactured by Delta T Thermal Solutions, with its Proven history of performance. The Original 60N PLATECOIL — Proven, Efficient, Available.



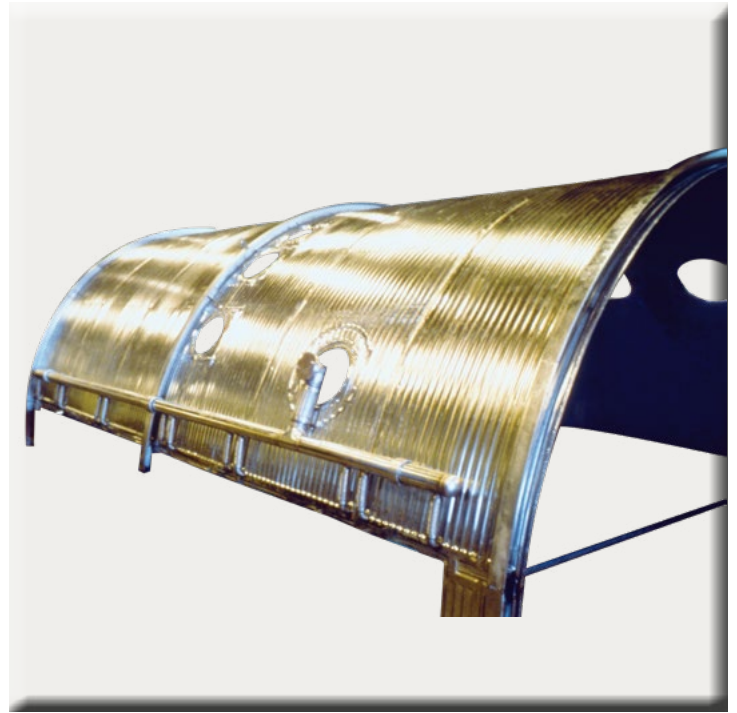
60N PLATECOIL

The 60N PLATECOILS' novel construction is the key to this efficiency. Carbon steel materials and die-formed fluid passages have a higher U value than stainless steel pillow-style competitors. This translates to more heat transfer per square foot (sq ft).



Bayonet Heaters

PLATECOIL bayonet heaters are an energy-efficient, water-saving alternative to steam sparging for heating process vessels. Available in a range of sizes, they provide a large amount of efficient primary heating surface in a single unit. They can also be used to maintain desired temperatures in bulk storage tanks.



Cryogenic Shrouds

PLATECOIL panels are often incorporated into large and small test chambers, surfaces for helium cryopumping and bell jar covers. Delta T's "cryogenic edge" uses a unique treatment for pressure containment and to facilitate sensitive, required mass spectrometer leak testing.



Rotary and Fluidized Bed Dryers

PLATECOIL panels can be fabricated as shells or banks for direct contact or convection drying of solid materials such as biomass, feedstuffs or food byproducts, confections and many other solid materials. Their outstanding heat transfer rates, combined with use of heated baffles and paddles, improve drying efficiency compared to other technologies.



Heavy Wall Vessels and Platens

Single-embossed units can be furnished highly flat on one side, with no weld marks or discolorations, as heavy vessel walls or direct-contact platens. They can be MIG spot-welded or continuously welded to ASME Code requirements. Embossings can be provided on heads or internal wall sections using MIG welding.



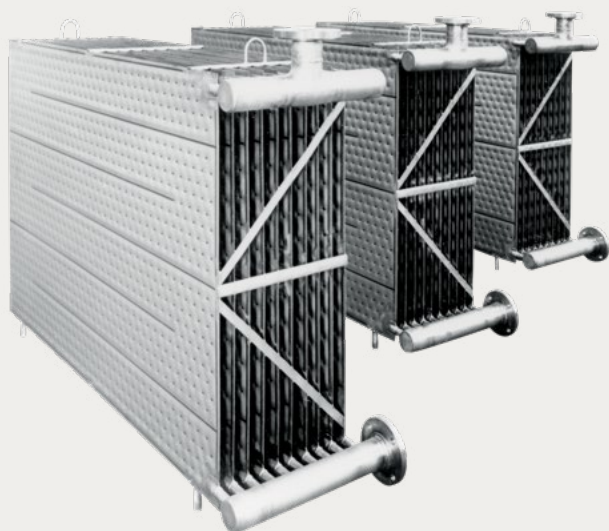
Immersion Banks

PLATECOIL banks make open tank heating and cooling of liquids more efficient than with pipe coil. Their planar shape induces a "chimney effect" for natural convection circulation and improved heating uniformity. Countercurrent flow circuits maximize heat transfer, while wide interspaces and open turns effectively pass solids or fibers. PLATECOIL panels can efficiently recover heat from dirty wastewater, reducing thermal pollution.



Vessels and Reactors

Though compact and light in weight, PLATECOIL panels can attain surprisingly high jacket operating pressure ratings. And because they deliver higher flow velocities than other technologies, heat transfer is improved, fouling reduced. Vessel sides can be easily designed with two or more zones to efficiently satisfy diverse process requirements. Also, panels can be configured as internal baffles or mixers with heat exchanger surfaces for reduced cycle time. Heavy gauge materials and special reinforcing features effectively withstand agitation forces.



Heat Recovery Banks

PLATECOIL heat recovery banks in wet gas and liquid streams cut industry fuel bills significantly. At the same time, they knock out troublesome vapor plumes and reduce thermal load on effluent plants. Wet flue gas streams as low as 66°C (150°F) are a candidate for big savings from PLATECOIL heating banks. Corrosive gases are not a problem, thanks to special ECONOCOIL hydraulically expanded titanium sheet construction.



Clamp-On Vessel Upgrades

Specially configured curved PLATECOIL panels are an economical means of converting existing unjacketed vessels to heated reactors, or of upgrading the thermal capacity of existing reactors. Processors modifying their lines often procure a low cost plain tank and add efficient PLATECOIL jacketing at the jobsite. Standard units are available in seven widths and twelve lengths, or in customized variations.



Water Bath Vaporizers, Lyophilizers and Freeze Dryers

PLATECOIL can be configured as heated shelves within vacuum chambers, cabinets or ovens. Or, they can be fabricated as refrigerated surfaces in vacuum chambers to promote sublimation. Their heat transfer rates are highly controllable for precision processing. Their die-formed construction provides long life and trouble-free operation.



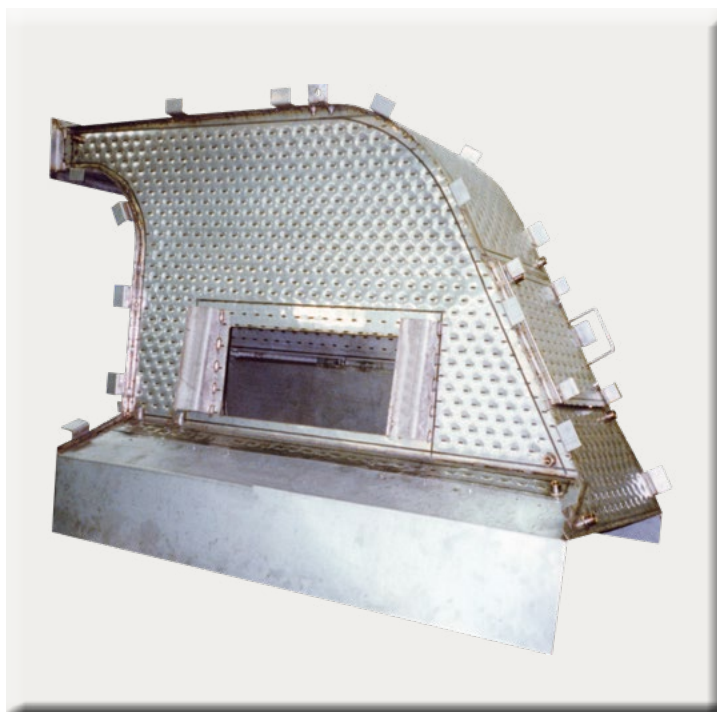
Fluidized Bed Coolers

Cooling, drying or heating of solids is accomplished by PLATECOIL fluidized bed heat exchangers. Solid products such as molten confections are passed between PLATECOIL units in a vertically-installed bank, which employs water for cooling.



Pipe Cooling or Pump Inlet Cooling

Pipe sections, chutes and inlet housings can be fabricated from or jacketed with PLATECOIL to cool liquids or gases. In this way, PLATECOIL can protect process equipment, rapidly halt reactions or stop flashing and phase changes.



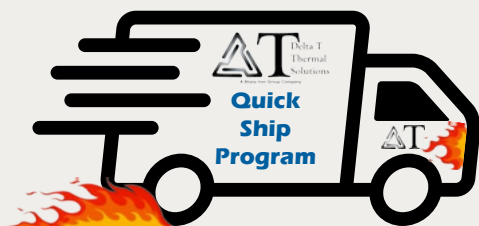
Sulfur Recovery

Flue sections, chutes and housings in gasification processes can be fabricated from or jacketed with steam-heated ECONOCOIL to prevent condensation and solidification of sulfur before quenching. In this way, ECONOCOIL reduces maintenance burdens and improves throughput.



PLATECOIL® & ECONOCOIL® Quick Ship Program

Are you urgently needing your current heat exchanger replaced? Let us help!



Delta T Thermal Solutions is thrilled to assist you with the ease of our PLATECOIL® and ECONOCOIL® Quick Ship Program! We offer high-quality, engineer-proven designs in a wide range of styles and materials; lending flexibility to your heat exchanger needs and providing a fast turnaround time to keep or get your processes back on track. Our fantastic team will customize the Quick Ship PLATECOIL or ECONOCOIL to your connection details and will place the handles where required, all within 48 hours of ARO.

PLATECOIL® Stock – Finished Goods Quick Ship Program

Model #	Embossed	Material	Size	Fittings	Matl. Gage	Handles
50D	Double	Carbon Steel	12" x 23"	Customer Option	16	Customer Option
50D	Double	316L Stainless Steel	12" x 23"	Customer Option	14	Customer Option
60N	Dbl/Companion	Carbon Steel	22" x 47"	Coupling & Elbow	14	Customer Option
90D	Double	Carbon Steel	18" x 35"	Customer Option	14	Customer Option
90D	Double	316L Stainless Steel	18" x 35"	Customer Option	16	Customer Option
90D	Double	Carbon Steel	24" x 48"	Customer Option	14	Customer Option

ECONOCOIL® Stock – Finished Goods Quick Ship Program

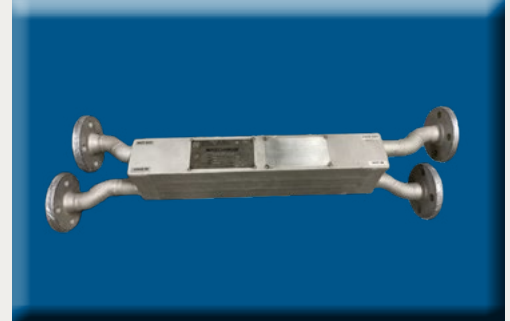
Model #	Embossed	Material	Size	Fittings	Matl. Gage	Handles	Swedged for A	Swedged for B	Pipe Length
50D	Double	Carbon Steel	12" x 23"	Customer Option	16	Yes	1"	3/4"	3 1/2"
50D	Double	316L Stainless Steel	12" x 23"	Customer Option	14	Yes	1"	3/4"	3 1/2"
60N	Dbl/Companion	Carbon Steel	22" x 47"	Coupling & Elbow	14	Yes	1"	3/4"	3 1/2"
90D	Double	Carbon Steel	18" x 35"	Customer Option	14	Yes	1"	3/4"	3 1/2"
90D	Double	316L Stainless Steel	18" x 35"	Customer Option	16	Yes	1"	3/4"	3 1/2"
90D	Double	Carbon Steel	24" x 48"	Customer Option	14	Yes	1"	3/4"	3 1/2"

Need Two-Channel or Indirect Heating with High Pressure/Temperature?

Delta T has you covered here, too. Look at our MAXCHANGER® Welded Plate Heat Exchanger.

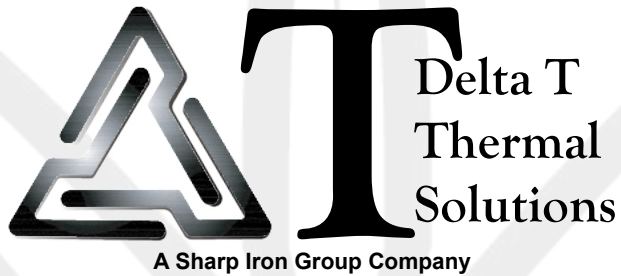
MAXCHANGER® — Small Footprint with MAXimum Performance!

- High Pressure/High Temperature Applications
- Compact, offering considerable reduction in size and weight
- Fittings in any number of configurations
- Ideal for applications requiring exotic metals



Contact Us About Your
PLATECOIL® & ECONOCOIL® NEEDS
www.DeltaTThermal.com





Delta T Thermal Solutions staff possess a wide range of heat exchange knowledge and experience. Our team welcomes your heat exchange questions.

Our company is the global manufacturer of the PLATECOIL®, MAXCHANGER®, and ECONOCOIL® heat exchanger product lines. These lines were purchased from Tranter, Inc. in 2022.

If you're new to Delta T Thermal Solutions, we'd love to speak with you about our capabilities and tell you about our organization. A quick overview is that we are part of the Sharp Iron Group company. Sharp Iron Group consists of three commonly owned companies, employing over 150 people. The group features complimentary manufacturing businesses, each with its own distinct core competencies, products, and customer base.

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