

Plate Coil Heat Exchangers



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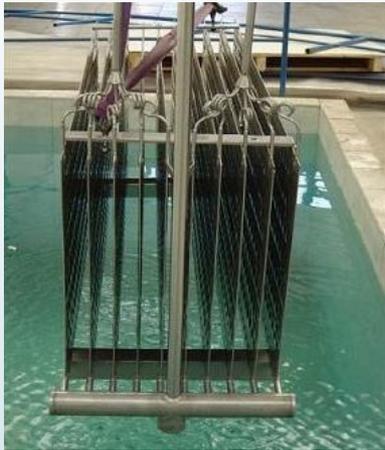
Web: www.uk-exchangers.com

Plate Coil Heat Exchangers

- ▶ Also known as Pillow Plates, Submersible Panels and Heat Transfer Panels
- ▶ Versatile and efficient heat exchangers
- ▶ Can be used for indirect heating or cooling by immersion into the fluid, or attached onto the sides of tanks, pipes or machinery



Dimensions



- ▶ Panels are available in a range of standard sizes (up to 1500 x 3000 mm), or can be customised to meet customer's individual requirements
- ▶ Supplied either as individual panels or arranged in banks, with dimensions to suit the application and physical size constraints
- ▶ This flexibility of construction allows the use of Plate Coils to be extended to a remarkable number of heating and cooling applications.



Typical Applications

- ▶ Tank Heating/ Cooling
- ▶ Water Source Heat Pumps
- ▶ Food Plants
- ▶ Paint Plants
- ▶ Anodic Oxidation Plants
- ▶ Petrochemicals
- ▶ Chemicals
- ▶ Pharmaceuticals
- ▶ Falling film coolers
- ▶ Fermenters
- ▶ Heat recovery
- ▶ Cooling in Autoclaves
- ▶ Sterilization Vacuum Systems
- ▶ Wine Production

Fluids

- ▶ Plate Coils can function with any type of fluid, provided it is compatible with the materials of construction
- ▶ Common fluids include water, propylene and ethylene glycol, steam, thermal oils, hydraulic oils, lubricants, nitrogen, ammonia and refrigerants



Materials

- ▶ Typically manufactured from Stainless Steel (AISI 304 or 316)
- ▶ Titanium and other materials may be available on request, depending on the feasibility of construction
- ▶ The plate thickness depends upon the working pressure, ranging from 0.8 to 3.0 mm



Production

- ▶ Produced in a simple and effective procedure that consists of welding two sheets together, then subsequently inflating with high pressure air in order to obtain internal channels for the heat transfer fluid to flow
- ▶ The use of thin metal sheets results in excellent heat transfer coefficients, low inertia, reduced costs and ultimately a high thermal efficiency, whilst maintaining considerable mechanical stability



Production Options



- ▶ Can be provided as single plates for mounting by the customer, or as a full bank with inlet and outlet manifolds and support and lifting systems
- ▶ Different connection types and sizes are available, depending upon the construction and application. Typically the connections are soldered, threaded (male or female) or flanged (DIN, SAE, ANSI etc.)
- ▶ Depending on the type of application, the Plate Coils can be produced with a variety of finishes: raw, pickled, polished or electropolished
- ▶ Can be curved ready for insertion into tanks

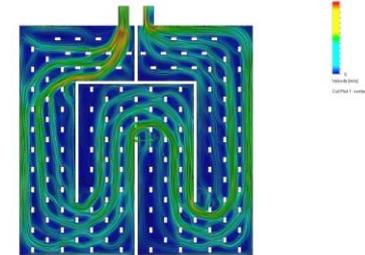
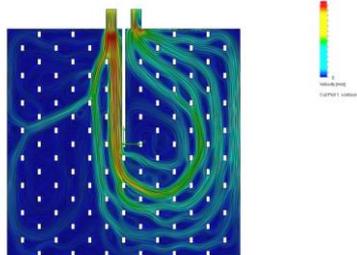
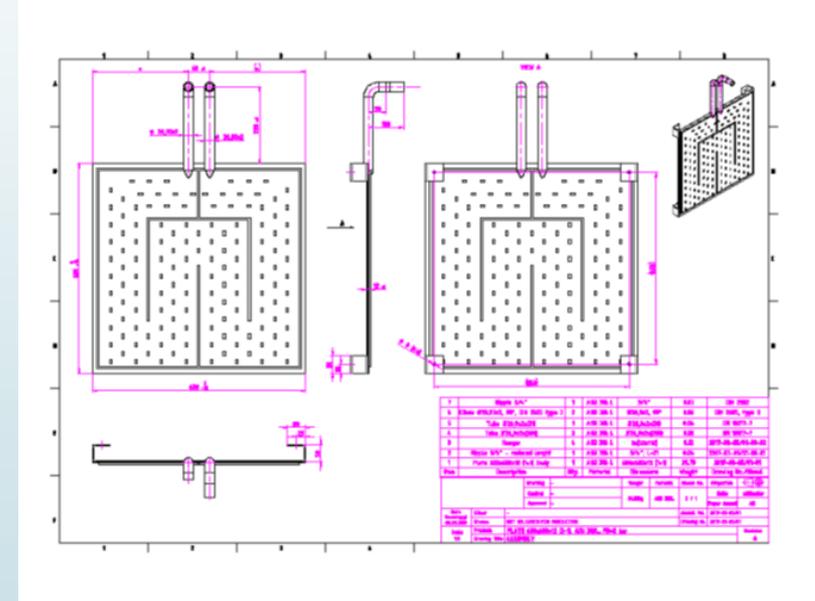
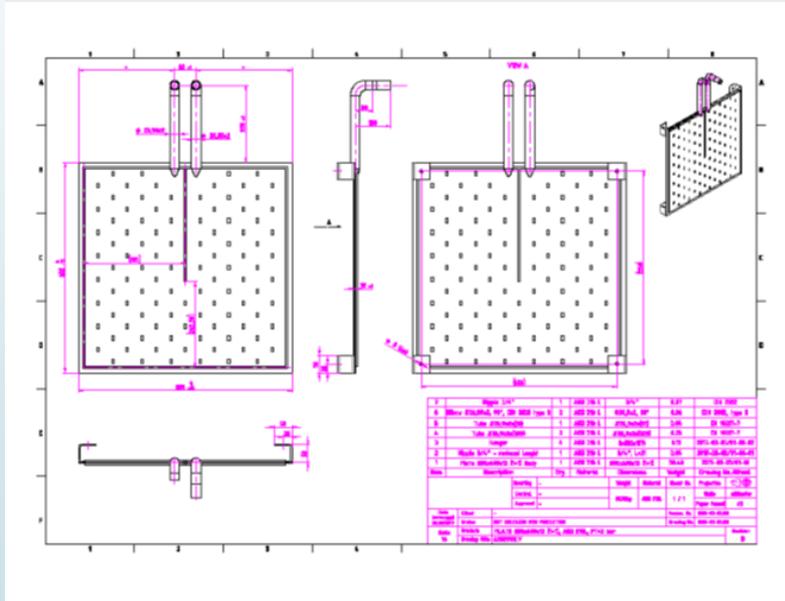
Design Criteria

- ▶ Minimum and maximum design temperatures for Plate Coils are - 46 °C and 300 °C respectively, subject to evaluation of the materials and mechanical stresses
- ▶ The maximum operating pressure can typically be up to 50 bar, but it may be possible to increase this further under certain circumstances
- ▶ All Plate Coils are produced in accordance with PED. Other design codes may be available upon request (ASME, GOST, etc.)



Channel Arrangements

- To suit application and customer's maximum pressure drop and connection location restrictions



Information Required to Quote

- ▶ Heat duty (kW) or process flowrate (if continuous process)
- ▶ Heat duty (kW) or tank volume and heating/cooling time (if batch)
- ▶ Heat transfer fluid identity and flow and return temperatures
- ▶ Process fluid identity and temperature(s)
- ▶ An indication of whether the process fluid is still, flowing or agitated
- ▶ Maximum allowable pressure drop for heat transfer fluid
- ▶ Tank size or any other physical size constraints
- ▶ Design pressure and temperature

Please contact us for a quotation or any further information:

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