



HYDROCOOL

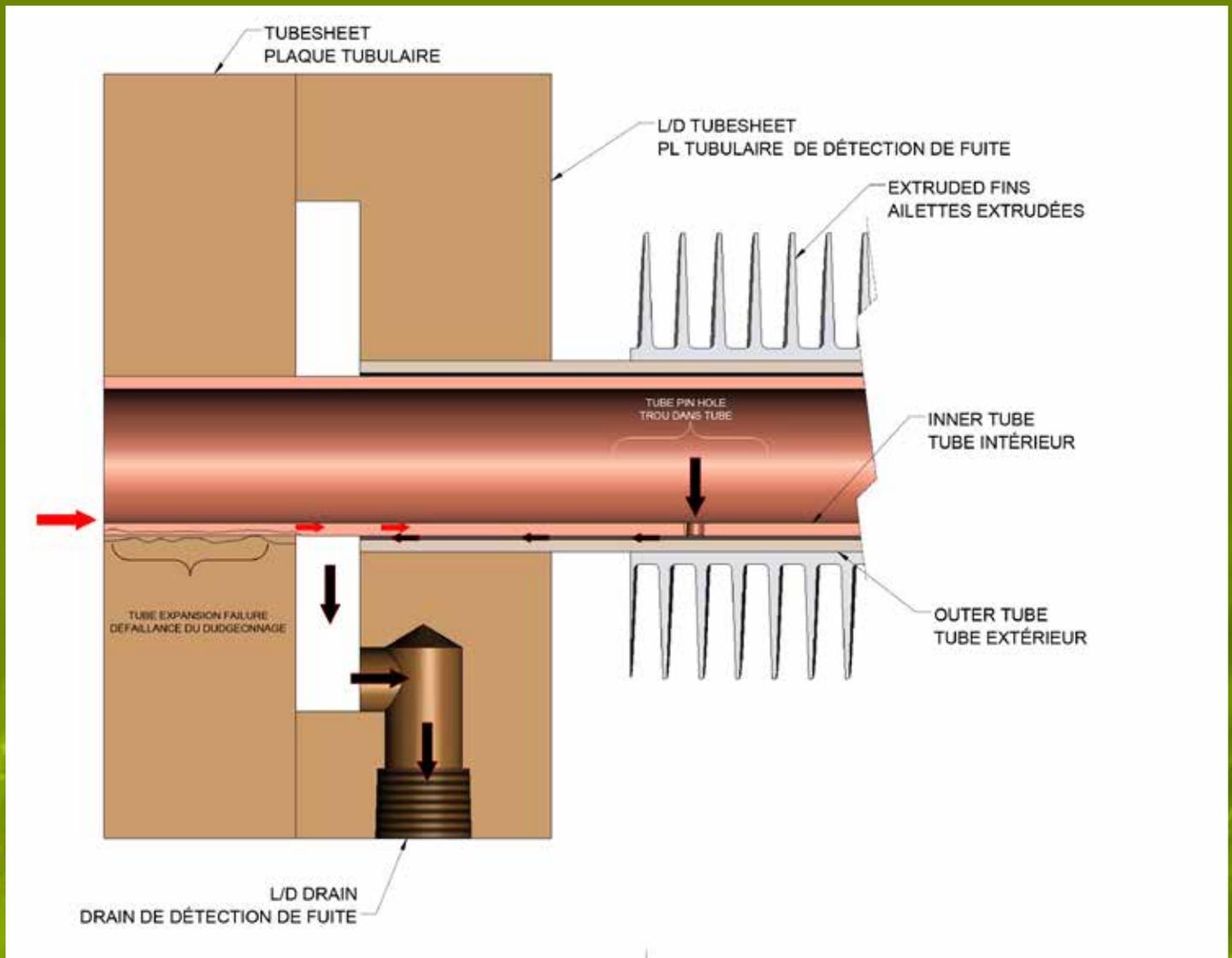
→ **Guide and thrust bearing coolers**

An efficient cooling solution



Double tube design for **Leak Detection**

For maximum safety, Thermofin also offers its guide and thrust bearing oil coolers with a double wall configuration to eliminate the risk of cross contamination between water and oil in the event of a leak. This configuration consists of inserting the cooling fluid tube into a larger diameter tube. In the case of leakage of the inner tube, grooves situated between the two tubes make it possible to direct the liquid to a detection chamber where it is quickly detected, thus avoiding cross contamination and possible environmental issues.



Safety



HYDROCOOL

Guide & thrust bearing oil coolers

The bearing oil coolers sit within the bearing housing and removes the heat generated in the lubricating oil used in the guide and thrust bearings of the turbine and generator. Water is typically used as the cooling fluid for bearing oil coolers. Common bearing cooler applications are in large motors, hydro electric generators (thrust or guide bearings), compressors and any other high-speed rotating equipment. The shape of the oil sump depends on the machine orientation and operating parameters. As a result, the geometry of the cooler varies widely from one application to the next. Cooling of a bearing on a vertical shaft may require a circular array of tubes to sit around the outside of the bearing while other arrangements may need a set of small cooling clusters in the bottom of the housing. Bearing coolers vary in type and can take on many forms and are seldom "standard designs".

The design of Hydrocool heat exchangers requires knowledge, experience, and flexibility to ensure a drop in design. Through years of hands-on experience and the development with its partners requiring unique solutions, Thermofin has established itself as a market leader in the design and manufacture of bearing coolers. Thermofin holds a profound understanding of the heat transfer mechanisms to ensure adequate sizing and efficient cooling. The Thermofin team can also design your bearing oil cooler for easy maintenance by changing the configuration (number of sections) or increase the performance by using finned tubing.

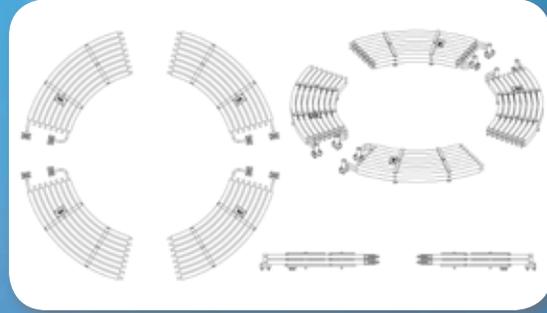
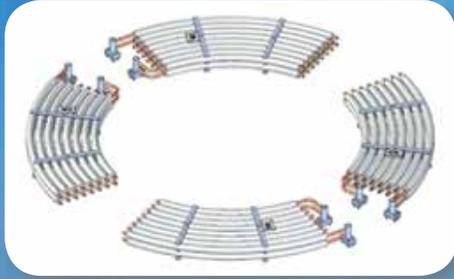
The thermal requirement generally assumes free convection on the oil side, as oil velocities are often difficult to accurately quantify. Our guide and thrust bearing oil coolers can be designed with or without fins and multiple sections, depending on the space requirements.



Flexibility

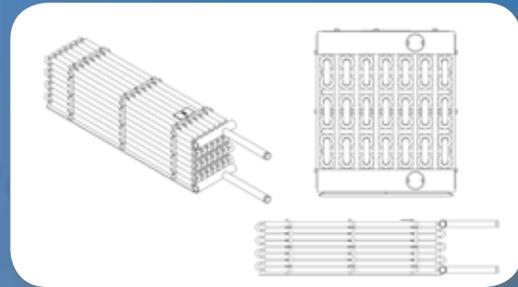
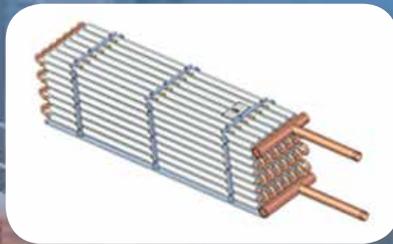
CIRCULAR IN FOUR 90° SECTIONS

This configuration makes it possible to reduce the size of the access hatches to the cooler on the tank and thus facilitates their maintenance.



IN STRAIGHT SECTION

Depending on the type of tank, the bearing coolers can be designed in straight section and slide laterally into the tanks.



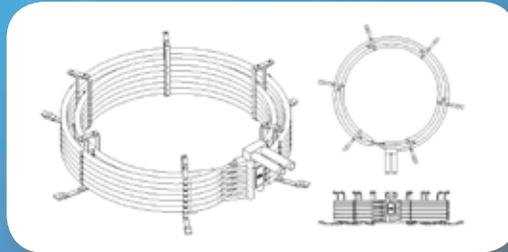
Features and options to satisfy all requirements:

- Reverse engineering
- Finned or Bare Tube
- Pipe Headers or Box Header design
- Roller Expanded or Soldered Tube Joints
- Flexibility in Designs
- Minimum water flow
- Leak detection system

Adaptability

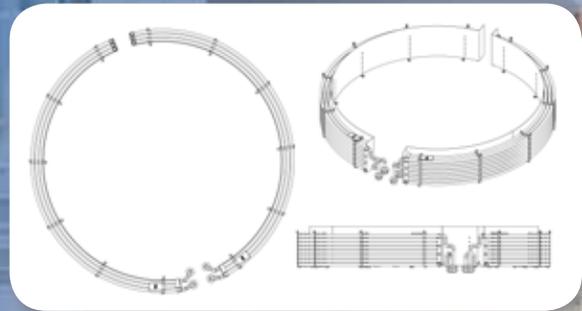
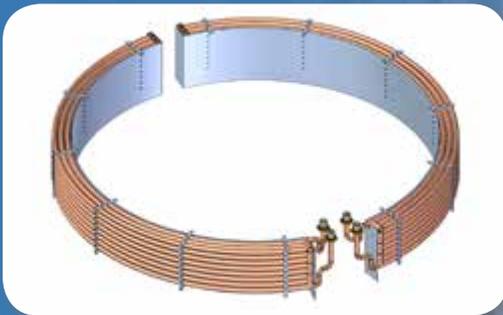
CIRCULAR IN A 360° SINGLE PIECE

This configuration offers fewer connections and therefore less risk of leaks however maintenance of the bearing cooler can be more complex, since the cover of the tank must be completely disassembled in order to access the cooler.



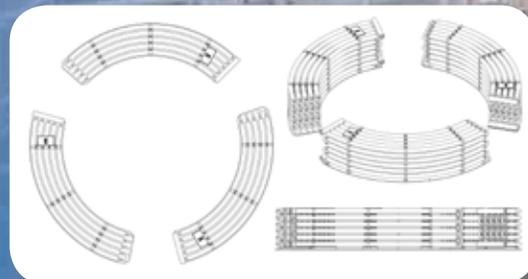
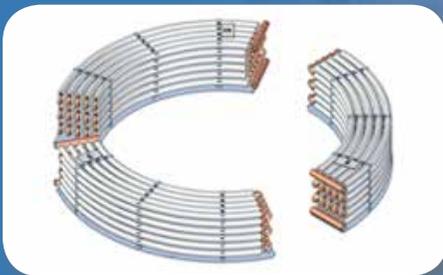
CIRCULAR IN TWO 180° SECTIONS

This configuration greatly facilitates the installation and removal of the bearing oil cooler however requires more connections.



CIRCULAR IN THREE 120° SECTIONS

This configuration further reduces the weight and size of the cooler, but increases the number of fittings.





The heat exchange specialist

Thermofin



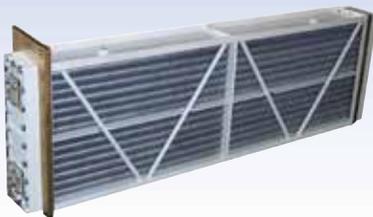
Since 1993, Thermofin has designed, manufactured and marketed a large range of high quality exchangers for industrial processes. Over the years, Thermofin has become one of North America's leading name in thermal exchange. Through its expertise and its dedicated workforce, Thermofin will always offer you the right exchanger: the one for sustainable exchanges ...



→ ITEX:
Gasketed plate heat exchangers



→ T-REX:
OFAF Transformer oil cooler



→ ELECTRA :
Industrial heat exchanger



→ T-REX:
OFWF Transformer oil cooler

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