Who We Are

At Unifin the cooling of Electric Machines is our only business. Every resource in the company has been directed towards research and development to acquire world leading heat transfer technology and manufacturing processes. Today, this investment has established Unifin as a global leader in the supply of:

• Transformer Oil Coolers
• Transformer Oil Pumps
• Generator Coolers
• TEWAC Motor Coolers

Our Brands

Unifin is a global company with worldwide recognized brands in transformer oil coolers, transformer oil pumps, generator coolers and TEWAC motor coolers.

• transformer oil coolers
• HeatSink™ portable transformer coolers
• sleeve bearings
• bearing wear monitoring system
• power cords
• RCP™ coolers

Global Presence

Headquartered in London, Ontario, Canada, Unifin is a global organization with locations in Canada, the United States and China.

Shell & Tube Type OFW (Forced Oil and Water Flow)

Unifin’s forced oil-water cooler is a shell & tube heat exchanger specifically designed for transformer cooling applications. This heat exchanger can be mounted in either vertical or horizontal positions. An optional design feature is the cooler’s unique Leak Detector design, which feature a “double walled” tube that terminates at double tube sheets, allowing for any leaking water carrying the inside tube to be captured and contained by the outside tube, preventing water from mixing with the oil, thereby protecting the transformer.

Features and Options

• Double concentric tubes with longitudinal grooves at tube interfaces which stop higher pressure water entering the oil through a split or holed tube. This design prevents oil entering the cooling water, thus protecting the transformer and the environment.
• Robust design with stiff double concentric tube which more readily withstands “flow induced vibration”.
• Compact design made possible by an integral forced copper outer tube on oil side.
• ease of access to the waterside without disturbing the water connections permits inspection and maintenance for fouling and corrosion.
• Long dependable life resulting from the right choice of waterside materials.
• Enhanced coastal paint systems for severe duty installations.

Type OFW Size Range

Sizes available range from 8” - 36” diameter. Lengths of 36” - 120” depending on diameter.

Nominal capacity ranges, 60 kW to 1,200 kW.

The Replacement Experts

For years Unifin has worked with End User’s and OEM’s to produce custom designed Type OFW cooling solutions. As the leader in Shell & Tube Type OFW coolers, Unifin can generate exact drop in replacement solutions, renovating or interesting oil side work while providing designs with greater cooling capacity.

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The Hottest Name in Cooling
ForZair™ Power Transformer Coolers

Forced Air, Forced Oil Transformer Coolers

What can we do for you!
- Standardized designs for OEMs
- Reduced top oil temperature
- Increased cooling capacity
- Eliminate oil leaks and environmental concerns
- Plug and play transformer oil pump replacements
- Reliable transformer shut-off valves
- Plug and play replacement transformer coolers for:
  - Westinghouse
  - General Electric
  - ABB
  - Asea
  - McGraw Edison
  - Mobile substations

ForZair™ Product Features:
- Rugged Design
  First of many features is the ForZair™ standardized cooler design, which means we can manufacture and ship quickly.
- Cleanliness
  Unifin uses an air-entrained flushing system to achieve ISO standards for cleanliness in the transformer industry.
- Hinged Fan Panels
  Maintenance is critical to optimizing the life of a transformer cooler, standard hinged panels make it easy to open the cooler and clean the fin surface.
- Fans and Motors
  Fans and motors for ForZair™ coolers are based on exacting specifications for efficiency, long life and noise reduction.

Cardinal Pumps and Valves...
Compliment ForZair™ transformer oil coolers with exacting specifications. They are perfect running mates.
- Centrifugal and axial flow
- Extreme temperature range performance
- Long life, low maintenance
- Precision bearings
- Optional Hallow® sleeve bearings
- Optional Tri-referber bearing wear monitoring system
- Thermosiphon flow impellers
- Continuous duty operation
- Oil immersed motors
- Heavy duty oil valves from 2” to 8”
- Performance run-in testing
- Certified performance curves
- Rebuilt Pumps for any manufacturer

Shell & Tube Type ONW
(Natural Convection Oil Flow)
The most efficient transformer oil cooler is the water cooled “Type ONW”. Two shell & tube heat exchangers use natural air circulation on the oil side and water through the tube. It is available with Unifin’s exclusive bare bottom design which dramatically reduces any local hot spots the water can hit. The water will not enter the apparatus.

Features and Options
- An internal water piping subject to thermal discontinuity, wear and corrosion is not needed.
- Lower location high in the tank and piping to the bottom of the tank increases natural convection and prevents mixing of hot and cold oil.
- Fan arrangement of tubes and increased oil flow gives higher velocity and improved heat transfer and efficiency.
- Double tube sheet construction eliminates the hazard of leaking tube pins.
- Straight tubes reduce the risks of corrosion; renders officials.
- Ease of access to the tube sides allows for inspection and cleaning.
- Coolers are water drainable to prevent damage during freezing weather situations.
- ONW’s design using double contacting liquid cooler allows for the most of a tube leak, a kinetic energy problem when water pressure exceeds oil pressure.

Type ONW Size Range

<table>
<thead>
<tr>
<th>Size</th>
<th>Length</th>
<th>KW*</th>
</tr>
</thead>
<tbody>
<tr>
<td>12”</td>
<td>3’ to 6’</td>
<td>32 to 66</td>
</tr>
<tr>
<td>14”</td>
<td>4’ to 6’</td>
<td>66 to 109</td>
</tr>
<tr>
<td>18”</td>
<td>5’ to 7’</td>
<td>132 to 185</td>
</tr>
<tr>
<td>24”</td>
<td>5’ to 8’</td>
<td>236 to 375</td>
</tr>
</tbody>
</table>

*Typical kW capacity for a Leak Detector Design with a 40ºC Average Oil Rise using sufficient flow of 25ºC water with a water temperature rise of 10ºC, with tube passes arranged to achieve at least 3 feet per second velocity.