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 in this cooler is Unifin’s unique Leak Detector design, which features “double walled” tubes that terminate at double tube sheets, allowing for any leaking water carried by 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 readily withstands “flow induced vibration”.
- Compact design made possible by an integral forced copper water 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 Oil Users 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, minimizing or eliminating site work while providing designs with greater cooling capacity.

Transformer Cooling Products

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The Hottest Name in Cooling

A Wabtec company
ForZair™ Power Transformer Coolers

Forced Air, Forced Oil Transformer Coolers

Highlighted:
- Hot Dip galvanized finish
- Optimum efficient fan blades
- NEMA high temperature fan motors
- Extruded tube or Plate-Fin heat transfer surfaces
- Stainless steel hardware
- Hinged cabinets
- Accessible terminal box

What we can 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 shutoff valves
- Plug and play replacement transformer coolers for:  
  - Westinghouse
  - General Electric
  - ABB
  - Asea
  - McGraw Edison
  - Mobile substations

Cardinal Pumps and Valves... 

Compliment ForZair™ transformer oil coolers with exactly specifications. They are perfect running mates.
- Centrifugal and axial flow
- Extreme temperature range performance
- Long life, low maintenance
- Precise bearings
- Optional HOLLOW sleeve bearings
- Optional TRIFLEX bearing wear monitoring system
- Thermosiphon flow impellers
- Continuous duty operation
- Oil immersed motors
- Heavy duty oil 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 insert a shell through the oil pan and water through the tubes. It is available with Tube in railinker tubeINTERs which typicallly flows any fluid before water can get into the oil and endanger the apparatus.

Features and Options:
- Internal water piping subjected to hazardous peaks, wear of bends and corrosion in the tank.
- Greater location high in the tank and piping to the bottom of the tank increases natural convection and promotes mixing of hot and cold oil.
- Water arrangement of tubes and increased oil flow gives higher velocity and improved heat transfer and efficiency.
- Double tube sheet construction eliminates the hazard of causing tube pins.
- Straight tubes reduce the risks of corrosion, remove elbows.
- Ease of access to the tube sides allows for inspection and cleaning.
- Coils are water resistant to prevent damage during freezing weather situations.
- ONW's design using double concentric leak detector tubes minimize the risk of a tube leak; a unique assembly prevents 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>10&quot;</td>
<td>3’ to 6’</td>
<td>32 to 66</td>
</tr>
<tr>
<td>14&quot;</td>
<td>4’ to 6’</td>
<td>66 to 109</td>
</tr>
<tr>
<td>18&quot;</td>
<td>5’ to 7’</td>
<td>132 to 185</td>
</tr>
<tr>
<td>24&quot;</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, 12ºC, with tube passes arranged to achieve at least 3 feet per second velocity

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-suspended 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...

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- Certified performance curves
- Rebuilt Pumps for any manufacturer

Avoid future forced outages by replacing the valves during your next transformer outage. Replacement valves have the following features:
- Viton elastomers
- Back-to-back lip seal packing design
- Strengthened valve stem
- Inversion maintenance ability
- Field retrofit kits available for Westinghouse and McGraw Edison valves.