



# Product Range

## Counterflow Closed Circuit Coolers

Induced Draft with Axial Fans  
Forced Draft with Centrifugal Fans


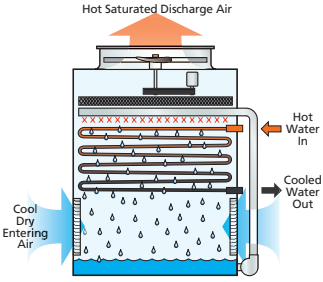


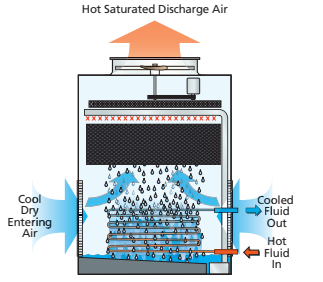


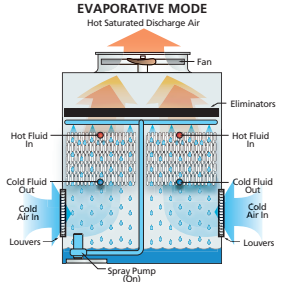


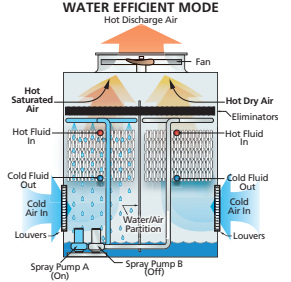


Better Choices • Easy Solutions • Advanced Technology • Certified EN ISO 9001


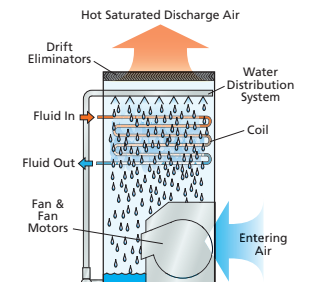

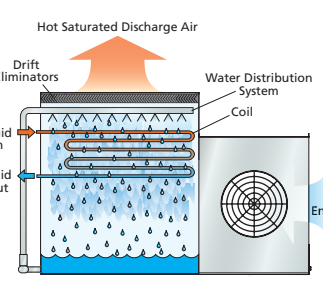
**Specialists in Heat Transfer Products and Services**  
*Delivering Quality... Focused on Perfection*

## Counterflow Closed Circuit Cooler Designs

### Induced Draft with Axial Fans

|   |   |   |  |
|---|---|---|--|
| <p><b>ATW / c-ATW</b></p>  | <p>ATW 9-2C-2 to ATW 866-60<br/>25 to 13660 kW<br/>377 Models<br/><b>Thermal-Pak®</b></p>                       | <ul style="list-style-type: none"> <li>• Low energy</li> <li>• Low risk for recirculation</li> <li>• Best choice to avoid Legionella</li> <li>• Dry operation possible</li> <li>• Easy maintenance</li> <li>• IBC Compliant</li> <li>• c-ATW: containerized units</li> </ul>  |                                       |
| <p><b>ESWA</b></p>         | <p>ESWA 72-23H<br/>ESWA 216-46S<br/>264 to 5420 kW<br/>179 Models<br/><b>Sensi-Coil™</b><br/><b>EVAPAK®</b></p> | <ul style="list-style-type: none"> <li>• Optimized technology for increased energy efficiency</li> <li>• Low risk for recirculation</li> <li>• Best choice to avoid Legionella</li> <li>• Easy maintenance</li> <li>• CTI Certified </li> <li>• IBC Compliant</li> </ul> |                                       |
| <p><b>eco-ATW</b></p>     | <p>eco-ATW 3-2C3-Z<br/>eco-ATW 24-6P40<br/>42 to 10810 kW<br/>704 Models<br/><b>Ellipti-fin™</b></p>            | <ul style="list-style-type: none"> <li>• Extended surface coil</li> <li>• Reduced horsepower</li> <li>• Reduced footprint</li> <li>• WET or DRY operation</li> <li>• CTI Certified </li> <li>• IBC Compliant</li> </ul>  | <p><b>EVAPORATIVE MODE</b></p>       |
| <p><b>eco-ATWE</b></p>   | <p>eco-ATWE 8-3G9<br/>eco-ATWE 12-6P20<br/>377 to 2630 kW<br/>228 Models<br/><b>Ellipti-fin™</b></p>            | <ul style="list-style-type: none"> <li>• Extended surface coil</li> <li>• Reduced horsepower</li> <li>• Reduced water consumption</li> <li>• Reduced footprint</li> <li>• WET, DRY or HYBRID operation</li> <li>• CTI Certified </li> <li>• IBC Compliant</li> </ul>   | <p><b>WATER EFFICIENT MODE</b></p>  |

### Forced Draft with Centrifugal Fans

|  |   |  |   |
|--|---|--|---|
| <p><b>LSWA</b></p>  | <p>LSWA 20AA to LSWA 348D<br/>73 to 2673 kW<br/>50 Models<br/><b>Thermal-Pak®</b></p> | <ul style="list-style-type: none"> <li>• Small footprint</li> <li>• Low sound</li> <li>• Indoor installation possible</li> <li>• Plume abatement as an option</li> <li>• Dry operation possible</li> </ul>   |  |
| <p><b>LRW</b></p>   | <p>LRW 18-2E to LRW 96-6N<br/>43 to 580 kW<br/>38 Models<br/><b>Thermal-Pak®</b></p>  | <ul style="list-style-type: none"> <li>• Low height</li> <li>• Low sound</li> <li>• Indoor installation possible</li> <li>• TOP-TOP execution possible: Vertical air inlet and outlet</li> <li>• Plume abatement as an option</li> <li>• Dry operation possible</li> </ul> |  |

## Design Features

### Coil Technologies

Evapco's coils are manufactured within the most stringent of quality control procedures. Each circuit consists of high quality steel tubing formed into a continuous serpentine circuit. Each circuit is then inspected and tested prior to being welded into a framed coil assembly. The coil assembly is then pneumatically tested at 15 bar under water to ensure its integrity in accordance with the European Pressure Equipment Directive (PED) 97/23/EC. The entire coil assembly is then hot-dip galvanized for industrial strength corrosion protection.

**Thermal-Pak®:** Evapco's patented Thermal-Pak® Cooling Coil design assures greater operating efficiency. The elliptical tube allows for closer tube spacing, resulting in greater surface area per plan area than round-tube coil designs. In addition, it's staggered design has lower resistance to airflow and also permits greater water loading, making the Thermal-Pak® coil the most effective design available.



Thermal-Pak® Coil by EVAPCO



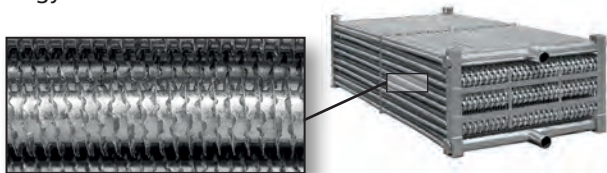
Round Tube Coil by Others

**Sensi-Coil™:** Also patented, an exclusive on the ESWA coolers, Sensi-Coil™ features the maximum amount of elliptical tubes packed closely together in a coil arrangement designed with over 20% additional coil surface area.



Sensi-Coil™

**Ellipti-fin™:** Now Evapco has developed the most efficient closed circuit cooling coil in the HVAC industry! All coil rows feature patent pending finned Thermal-Pak® elliptical tubes. The *Ellipti-fin™* lowers airflow resistance more than typical finned round tubes. This design increases evaporative and dry cooling capacity thereby saving both energy and water



### Pressurized Water Distribution System

The water distribution system is made of PVC piping which is easily removable for cleaning. The spray branches have threaded end caps for debris removal. Closed circuit coolers are equipped with **ZM®II** nozzles: these ABS plastic water diffusers are threaded into the PVC header pipe at proper orientation and have a large orifice to prevent clogging.



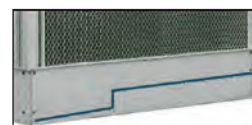
ZM®II Nozzle

### Maintenance Friendly Basin Design

**Easy Access:** The cold water basin section on induced draft units is easily accessible from ground level from all four sides of the unit. This open basin design enables the unit to be easily cleaned.



**Clean Pan:** EVAPCO units feature a completely sloped design from the upper to the lower pan section. This "Clean Pan" design allows the water to be completely drained from the basin.



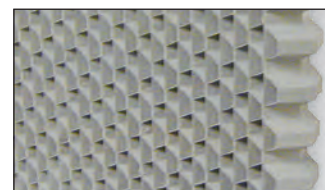
### Reliable Drive System

All Evapco closed circuit coolers come standard with IE2 motors that can be used with variable frequency drive (VFD) systems for precise capacity control. The mechanical drive systems are easy to access and easy to maintain. Bearing lubrication and belt adjustment can be performed from outside the unit. All units with fan motors located outside of the unit are protected with a removable motor cover or fan screen. Motors located inside the fan casing are mounted on a swing-out motor mount on an adjustable base for easy removal.



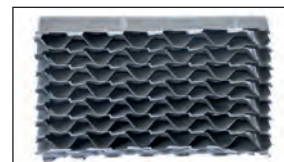
### WST Air Inlet Louver

Evapco's water and sight tight (WST) louvers keep water in and sunlight out of induced draft products. The unique non-planar design is made from light-weight framed PVC sections which have no loose hardware, enabling easy unit access. The louver's air channels are optimized to block all line-of-sight paths into the basin eliminating splash-out. Additionally, algae growth is minimized by blocking all sunlight. (Patent pending)



### Patented Efficient Drift Eliminators

An extremely efficient PVC drift eliminator system is standard on all Evapco units. The system removes water droplets from the air stream to limit the drift rate to less than 0.001% of the recirculating water rate. Evapco's drift eliminators are EUROVENT Certified.

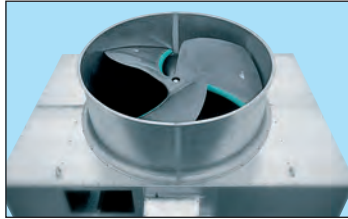


## Low Sound Solutions

### Induced Draft Options

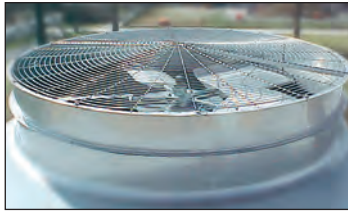
#### Super Low Sound Fan

Capable of reducing the unit sound pressure levels 9 to 15 dB(A).



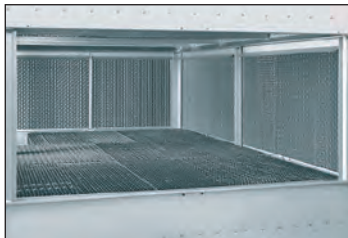
#### Low Sound Fan

Capable of reducing the unit sound pressure levels 4 to 7 dB(A).



#### Water Silencer

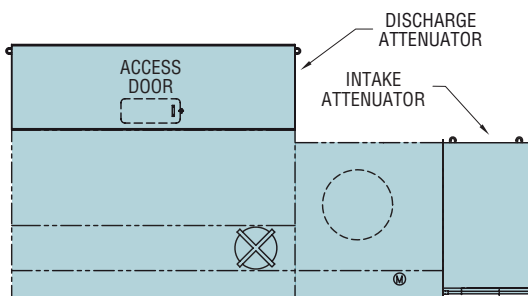
Reduces the high frequency noise associated with the falling water and is capable of reducing overall sound levels 4 to 7 dB(A) measured at 1.5 m from the side or end of the unit.



### Forced Draft Centrifugal Fan Options

The centrifugal fan design of Evapco's forced draft closed circuit coolers operates at lower sound levels which make these units preferable for installations where noise is a concern.

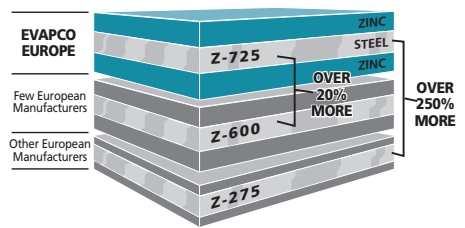
For extremely noise sensitive applications, these centrifugal fan models may be supplied with various optional stages of intake and/or discharge attenuation packages, which greatly reduce sound levels even further.



## Corrosion Protection

### EVAPCOAT:

The Z-725 Mill Hot-Dip Galvanized Steel Construction is the heaviest level of galvanizing available for manufacturing closed circuit coolers and has more zinc protection than competitive designs using Z-275 and Z-600 steel. EVAPCO was the first to standardize on Z-725 galvanized steel which means a minimum of 725 g zinc/m<sup>2</sup>. Today Evapco remains the only European closed circuit cooler manufacturer using this heavy grade galvanized steel.

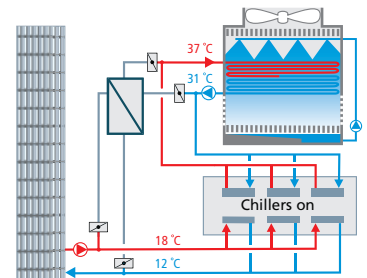


**Stainless Steel Options:** A variety of stainless steel construction upgrade options are available in both 304L and 316L stainless steel, including stainless steel cold water basins and complete stainless steel units.

## Application - Circulation Scheme

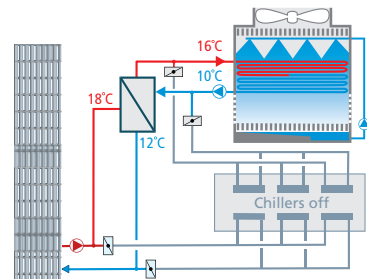
### Standard Operation:

Heat rejection is transferred via fluid in the closed circuit of the evaporative cooler to the atmosphere. Inlet / Outlet: 37/31°C. The chillers supply the building with cold water which warms up from 12 to 18°C.



### Free Cooling:

In the cold season the demand for cooling is falling. Chillers are off and shut valves are closed. The fluid circulates only between the cooler and the building. From approximately 5°C wet bulb down economically produced cold water is available for air conditioning in the building.



## CTI Certified - Standard 201

Evapco has closed circuit coolers independently certified by the Cooling Technology Institute (CTI). This certification guarantees that the unit will meet the rated capacities, eliminating the need for costly field performance tests. [www.cti.org](http://www.cti.org)



[www.evapco.com](http://www.evapco.com)

### EVAPCO Inc.

World Headquarters & Research / Development Center  
Westminster, MD 21158, USA

Phone: +1 410-756-2600  
Fax: +1 410-756-6450  
[marketing@evapco.com](mailto:marketing@evapco.com)

[www.evapco.eu](http://www.evapco.eu)

### EVAPCO Europe NV

European Headquarters  
Industrieterrein Oost 4010  
3700 Tongeren, Belgium

Phone: +32 12-395029  
Fax: +32 12-238527  
[evapco.europe@evapco.be](mailto:evapco.europe@evapco.be)

### EVAPCO Europe Srl

Via Ciro Menotti 10  
20017 Passirana di Rho  
Milano, Italy

Phone: +39 02-939-9041  
Fax: +39 02-935-00840  
[evapcoeuropa@evapco.it](mailto:evapcoeuropa@evapco.it)

### EVAPCO Europe GmbH

Meerbuscher Strasse 64-78  
D-40670 Meerbusch  
Germany

Phone: +49 2159-6956 0  
Fax: +49 2159-6956 11  
[info@evapco.de](mailto:info@evapco.de)