

CLOSED CIRCUIT COOLERS

LSWE/LRWB

eco Coolers

UP TO
30%
ADDITIONAL
CAPACITY

environmentally
Conscious
Operation

Featuring **Water** & **Energy**
Conserving Technology



eco-LSWE



eco-LRWB



for LIFE

NOW
FEATURING

CROSSCOOL

INTERNALLY ENHANCED
COIL TECHNOLOGY





Get to Know EVAPCO

- The global innovator in heat transfer solutions
- Serving the commercial HVAC, Industrial Refrigeration, Power Generation, and Industrial Processing markets
- Founded in 1976
- Employee-owned
- 22 manufacturing facilities in 10 countries
- More than 170 sales offices worldwide

Learn More Now

Visit evapcoasia.com to download product catalogs, view complete product specifications, and more.

EVAPCO is more than a name.

It's a pledge to make everyday life easier, more comfortable, more reliable, and more sustainable for people everywhere. How do we fulfill that promise? It's simple.

We never stop innovating.

At EVAPCO, we don't just talk about innovation, it's ingrained in our workflow. Guided by our annually developed R&D plans, we set out to find groundbreaking solutions that transform the way the world works for the better. It's why we have more than 28 patents worldwide in the last 10 years alone.

We craft exceptionally built solutions.

As an employee-owned company, we take pride in our work. We are proud to be one of the most experienced teams of engineers and craftsmen in the industry. This translates into solutions that are always exceptionally built. EVAPCO has an unwavering commitment to provide "best in class" heat transfer solutions and services.

We guarantee performance.

Every EVAPCO solution is put through rigorous research and testing to ensure maximum efficiency and reliability. But we don't stop there. EVAPCO is an industry leader in independent, third-party performance certifications. These certifications guarantee our performance metrics—so that you can plan your projects with complete peace of mind.

We protect the environment.

Innovation and environmental sustainability go hand-in-hand at EVAPCO. EVAPCO's industrial heat transfer equipment not only conserves natural resources and helps reduce noise pollution, they also feature recycled steel content in their construction. Our stainless steel units are constructed of panels that contain up to 75% recycled content; over 80% in galvanized units construction. From sound reduction to water conservation to chemical elimination, we are constantly developing new technologies that deliver the ultimate operating advantages for our clients— and protect the planet for every generation that comes after us.



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eco-LSWE and eco-LRWB Principle of Operation

Low Sound and Low Rise Forced Draft Closed Circuit Coolers

Featuring EVAPCO's revolutionary **Ellipti-fin** coil with **CROSSCOOL** Internal Tube Enhancement, the eco-LSWE and eco-LRWB closed circuit coolers are the most energy and water efficient forced draft coolers available in the industry. This new and improved series of coolers is the ideal solution for indoor applications, confined layouts, low sound requirements and direct replacements to name a few. NOW, with EVAPCO's state-of-the-art spirally finned, internally enhanced coil technology, the eco-LSWE and eco-LRWB can replace existing forced draft equipment of the same boxsize and fan motor horsepower and provide up to an **ADDITIONAL 30%** in thermal capacity!!



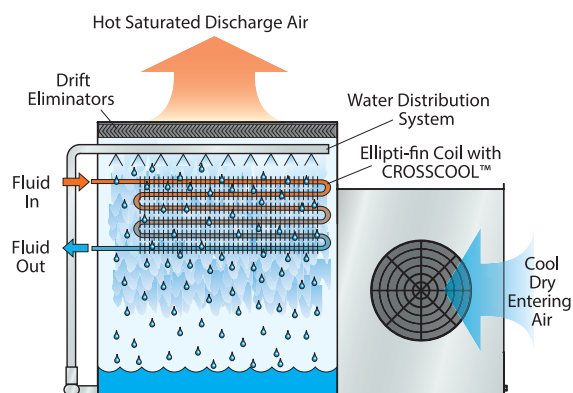
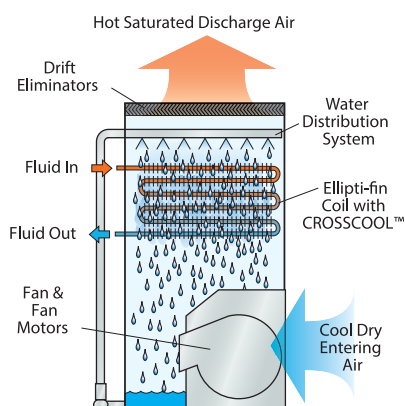
eco-LSWE

The standard for forced draft centrifugal fan designs,
Now more efficient than ever.



eco-LRWB

With the fan section located beside the heat transfer casing, this unit satisfies even the strictest of height requirements in a unitary, compact design.

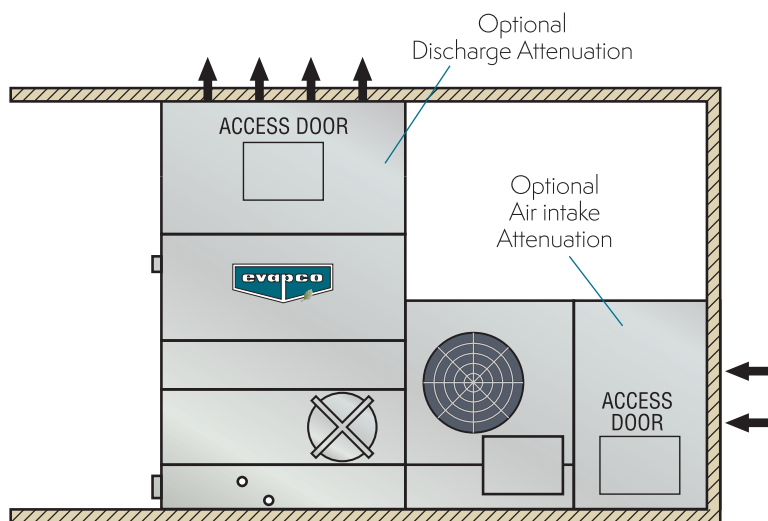


Principle of Operation

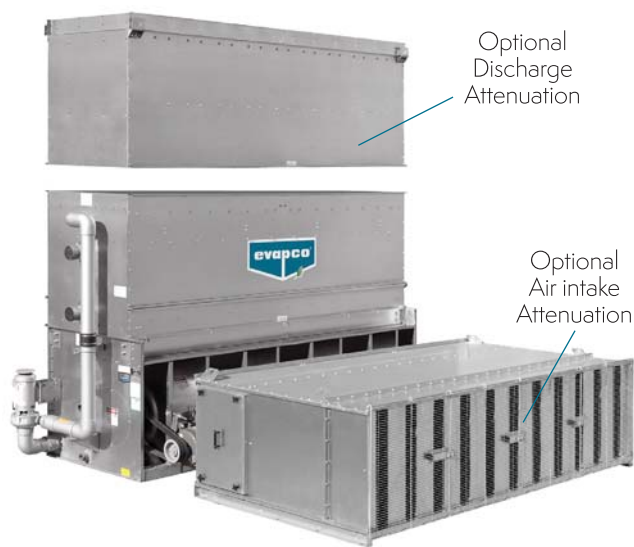
The process fluid is circulated through the coil of the closed circuit cooler. Heat from the process fluid is dissipated through the coil tubes to the water cascading downward over the tubes. Simultaneously air is blown through the unit by the fans and travels upward over the coil opposite the water flow. A small portion of the water is evaporated which removes the heat. The warm moist air is forced to the top of the closed circuit cooler by the fan and is discharged to the atmosphere. The remaining water falls to the sump at the bottom of the cooler where it is recirculated by the pump up through the water distribution system and back down over the coils.

Application Versatility

Centrifugal units are recommended for a wide range of installations. They are quiet, can easily be hidden, and are an excellent solution for installations where sound is sensitive, and when the unit must handle external static pressure.



eco-LRWB



eco-LSWE

Note: eco-LRWB Shown Ducted on Both Inlet and Discharge

Very Quiet Operation

Centrifugal fan units operate at low sound levels which make this design preferred for installations with external static pressure where noise is a concern. Additionally, since the sound from the fans is directional, single sided air entry models can be turned away from critical areas avoiding a sound problem. When even quieter operation is necessary, centrifugal fan models can be equipped with optional sound attenuation packages. See the Sound Reducing Options section of this catalog or consult the factory for details.

In addition, the eco-LRWB features a specially engineered fan enclosure and drive system that is designed to offer very quiet operation without the high cost of external attenuation packages. The eco-LRWB fan system was developed through hundreds of hours of laboratory tests resulting in the lowest standardized sound levels available in the industry. In fact, the sound level of the eco-LRWB on average is 2 dBA quieter than competitors' similar models.

Indoor Installation

All eco-LSWE and LRWB closed circuit coolers can be installed indoors where they normally require ductwork to and from the unit. The design of the ductwork should be symmetrical to provide even air distribution across both intake and discharge openings. Guidelines for ducted applications:

- 1) The static pressure loss imposed by the ductwork must not exceed 125 Pa. The fan motor size must be increased for ESP up to 125 Pa.
- 2) For ducted installations, the solid bottom panel option must be ordered. On the eco-LRWB, blank off plates will also be provided in lieu of the side air inlet screens with this option.
- 3) NOTE: Access doors must be located in the ductwork (by others) for service to the fan drive components and water distribution system.

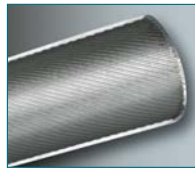
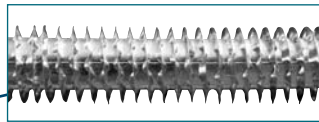
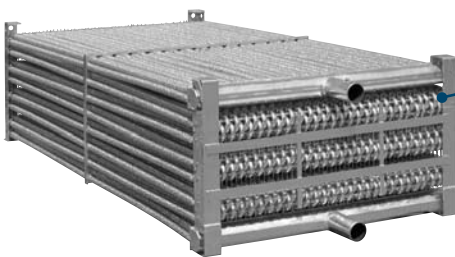
Drawings are available showing recommended ductwork connections. See EVAPCO's layout guidelines for additional information.

eco-LSWE Design & Construction Features

Ellipti-fin®

Galvanized Steel Elliptical Spiral Fin Coil featuring **CROSSCOOL™ Internal Tube Enhancement Technology**

- The most efficient closed circuit cooler coil in the HVAC industry!
- Up to **30% ADDITIONAL** evaporative capacity and HIGHER dry bulb switchover temperatures
- All coil rows feature patent-pending finned Thermal-Pak® elliptical tube design
- Elliptical tube design results in lower airflow resistance than typical finned round tubes



CROSSCOOL™
INTERNAL TUBE ENHANCEMENT



Optional Factory Mounted Chemical Water Treatment Systems

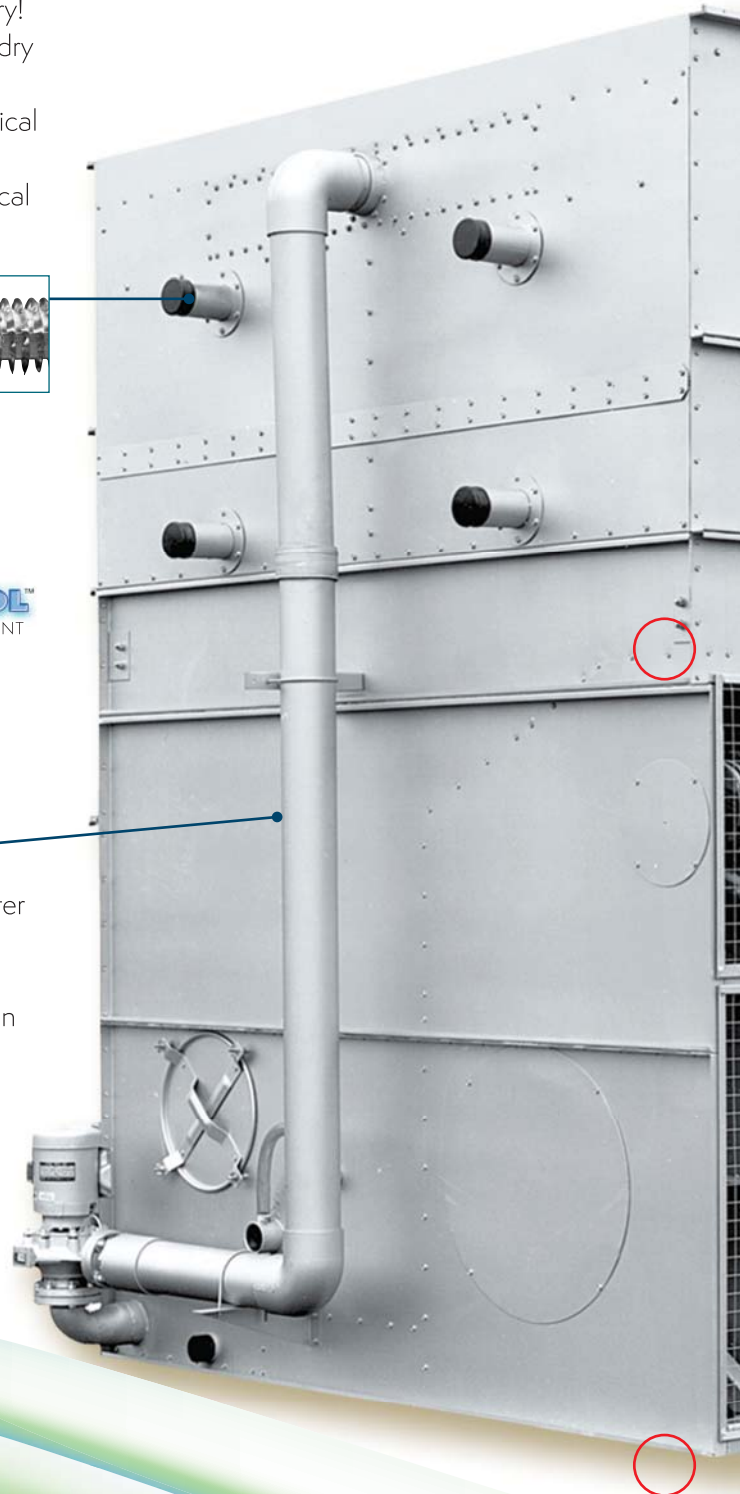
The eco-LSWE is available with Smart Shield® solid chemical water treatment system. The Smart Shield® is environmentally sensitive alternative for treating water in evaporative cooled equipment. The Smart Shield® system includes all components required for an effective water treatment system; **factory mounted and wired!**



The EVAPCO Performance Guarantee

Every eco-LSWE product is rigorously thermal performance tested by EVAPCO and then independently certified by the Cooling Technology Institute (CTI) so you know you're getting a solution that's guaranteed to get the job done.

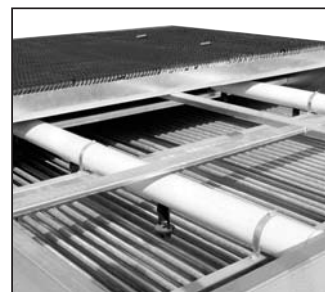
*Mark owned by the Cooling Technology Institute





Zero Maintenance PVC Spray Distribution Header with ZM®II Nozzles

- Fixed position nozzles require zero maintenance
- Large orifice nozzles prevent clogging



Easy Field Assembly

- Ensures easy assembly and fewer fasteners
- Incorporates self-guiding channels to guide the coil casing section into position improving the quality of the field seam



Clean Pan Design

- Sloped design allows water to drain completely from cold water basin
- Easier removal of dirt and debris



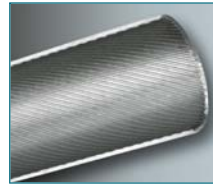
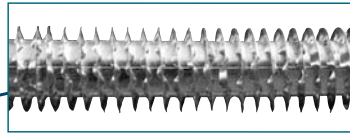
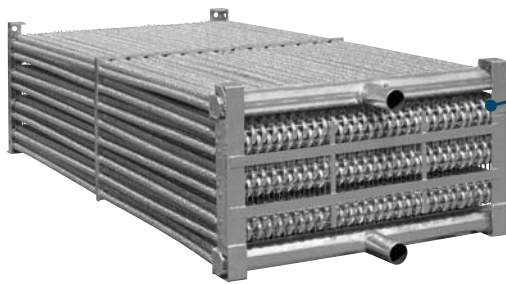
Totally Enclosed Fan Motors

- Assures long life
- All normal maintenance can be performed quickly from outside the unit
- If required, motor may be easily removed
- Motors are now located outboard on multi-motor units for even easier drive system access
- Inverter-ready motors are standard



**Exclusive 5 Year
Motor and Drive
Warranty**

eco-LRWB Design and Construction Features

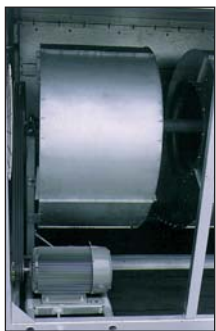


CROSSCOOL™
INTERNAL TUBE ENHANCEMENT

Ellipti-fin®

Galvanized Steel Elliptical Spiral Fin Coil featuring **CROSSCOOL™** Internal Tube Enhancement Technology

- The most efficient closed circuit cooler coil in the HVAC industry!
- Up to **30% ADDITIONAL** evaporative capacity and HIGHER dry bulb switchover temperatures
- All coil rows feature patent-pending finned Thermal-Pak® elliptical tube design
- Elliptical tube design results in lower airflow resistance than typical finned round tubes

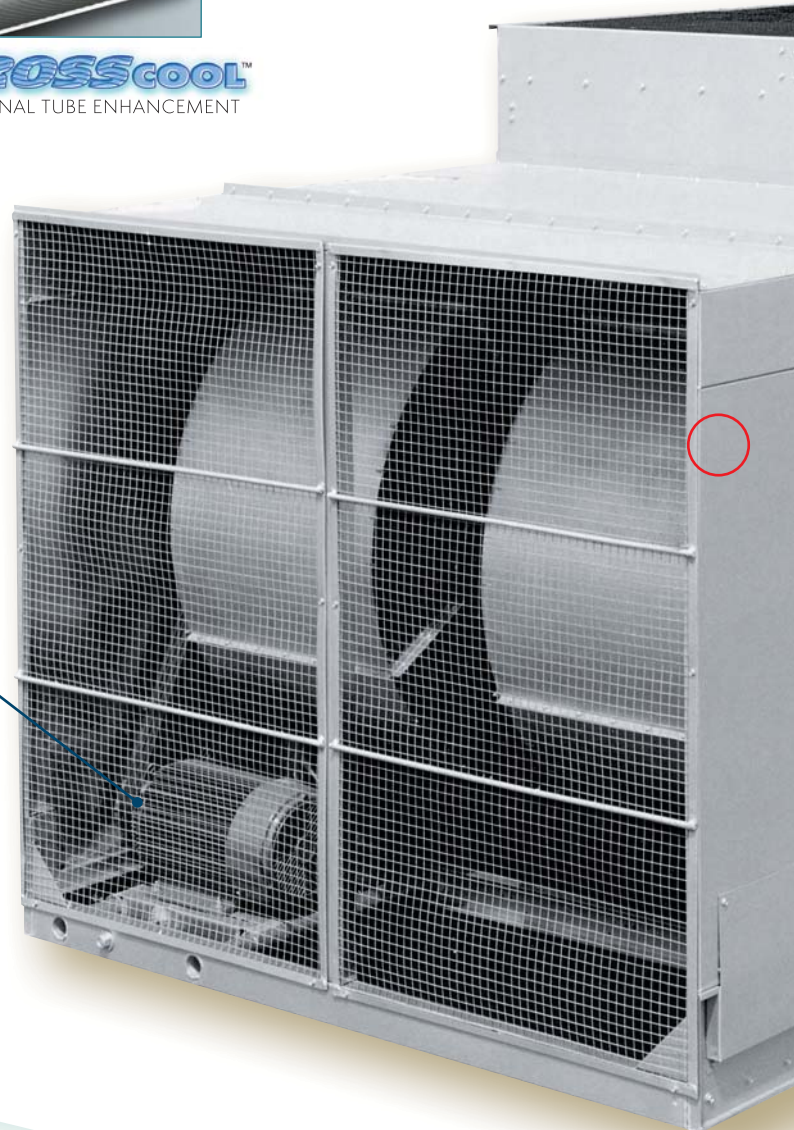


Easy to Service Motor & Drive System

- Belt tensioning and bearing lubrication can be performed from outside the unit
- Locking mechanism can also be used as a wrench to adjust the belts
- Motor is fully accessible by removing one inlet screen
- Split fan housings allow removal of all mechanical equipment through the end of the unit

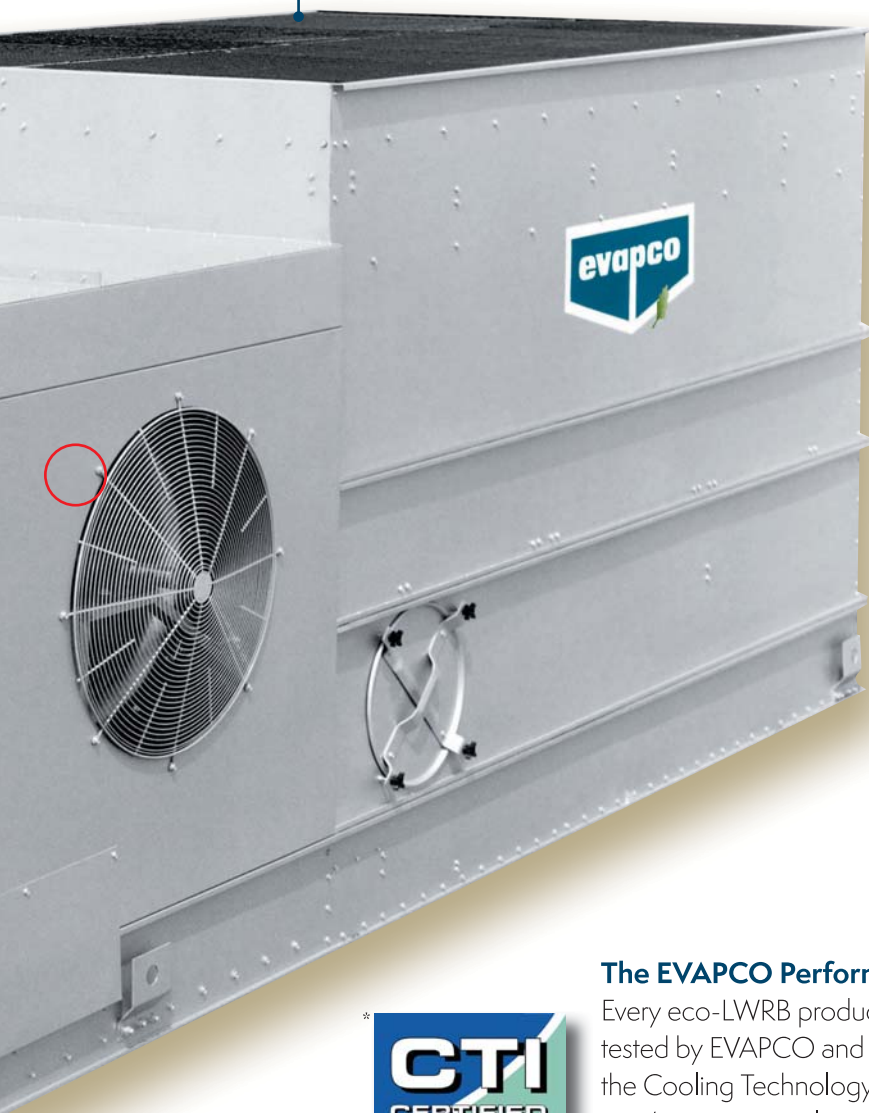
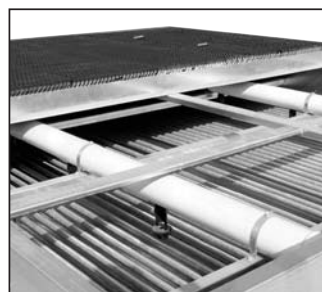


**Exclusive 5 Year
Motor and Drive
Warranty**



Zero Maintenance PVC Spray Distribution Header with ZM®II Nozzles

- Fixed position nozzles require zero maintenance
- Large orifice nozzles prevent clogging



Optional Factory Mounted Chemical Water Treatment Systems

The eco-LSWE is available with Smart Shield® solid chemical water treatment system. The Smart Shield® is environmentally sensitive alternative for treating water in evaporative cooled equipment. The Smart Shield® system includes all components required for an effective water treatment system; **factory mounted and wired!**

The EVAPCO Performance Guarantee

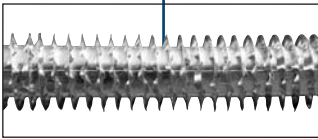
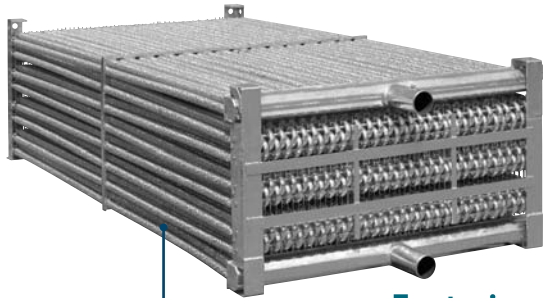


Every eco-LWRB product is rigorously thermal performance tested by EVAPCO and then independently certified by the Cooling Technology Institute (CTI) so you know you're getting a solution that's guaranteed to get the job done.

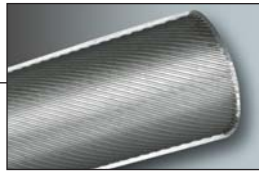
*Mark owned by the Cooling Technology Institute

Innovative Design Features

Ellipti-fin® Heat Transfer Coil



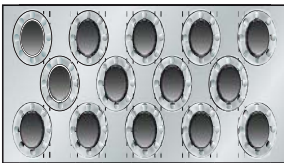
Featuring



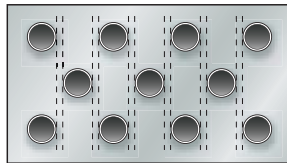
CROSSCOOL™
INTERNAL TUBE ENHANCEMENT

Galvanized steel elliptical Thermal-Pak® featuring **CROSSCOOL™** Internal Tube Enhancement Technology

- The most efficient closed circuit cooler coil in the HVAC Industry
- Up to **30% ADDITIONAL** evaporative capacity and HIGHER dry bulb switchover temperatures
- Internal Tube Enhancement Provides additional evaporative capacity
- All rows finned
- Elliptical tube design results in lower airflow resistance than typical finned round tube designs



EVAPCO's Ellipti-fin®
Finned Elliptical Tube



Competitors Round Tube
Coil

The eco-LSWE and eco-LRWB closed circuit coolers utilize EVAPCO's patented Ellipti-fin® coil design, featuring CROSSCOOL™ internal tube enhancement, which assures even greater operating efficiency. The elliptical tube design allows for closer tube spacing, resulting in greater surface area per plan area than round-tube coil designs.

In addition, the revolutionary Ellipti-fin® design uses elliptical spiral fin coil technology and has lower resistance to airflow than typical finned coil designs. This permits greater water loading and increases the evaporative and dry cooling capacity of the coil. EVAPCO's CROSSCOOL™ internal tube enhancement increases fluid turbulence through the coil, further increasing the evaporative capacity. The Ellipti-Fin® coil featuring CROSSCOOL™ internal tube enhancement is the most efficient design available in the industry, providing up to **30% ADDITIONAL** evaporative capacity in the same box!

The coils are manufactured from high quality steel tubing following the most stringent quality control procedures. Each circuit is inspected to ensure the material quality and then tested before being assembled into a coil. Finally, the assembled coil is pneumatically tested at 2.69 MPa under water to ensure it is leak free.

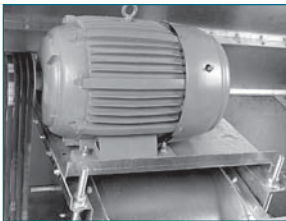
To protect the coil against corrosion, it is placed in a heavy steel frame and then the entire assembly is dipped in molten zinc (hot-dip galvanized) at a temperature of approximately 427°C.

Note: Closed circuit coolers should only be used on sealed, pressurized systems. Continual aeration of the water in an open system can cause corrosion inside the tubes of the coil leading to premature failure.

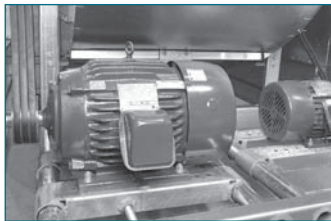
Innovative Design Features

Fan Motor Mount

TEFC fan motors are mounted in a convenient open area for ease of belt tensioning, motor lubrication and electrical connection. The motor base is designed for easy adjustment and is locked into position to maintain proper belt tension.



Example eco-LSWE Fan Motor Mount



eco-LRWB Fan Motor Mount
(shown with optional pony motor)

Fan Access-Split Housing

Another unique feature of the eco-LRWB closed circuit cooler is the split fan housing. The split fan housing on the eco-LRWB allows quick removal of the fans from the front end of the unit. This feature allows fan removal when units are placed side by side where space is minimal.

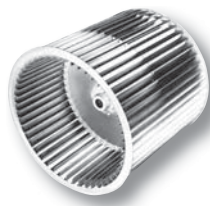


Mechanical Drive System Access

The eco-LSWE and eco-LRWB mechanical drive systems are easy to maintain. Bearing lubrication and belt adjustment can be performed from outside the unit. There is no need to remove fan screens to maintain important drive components. In addition, the locking mechanism used to maintain belt tension can also work as a wrench to adjust the belt.

Centrifugal Fan Assembly

Fans on eco-LSWE and eco-LRWB closed circuit coolers are of the forward curved centrifugal design with hot-dip galvanized steel construction. All fans are statically and dynamically balanced and are mounted in a hot-dip galvanized steel housing.



Maintenance Free ZM®II Spray Nozzle Water Distribution System

EVAPCO'S Zero Maintenance ZM®II spray nozzle remains clog-free while providing even and constant water distribution for reliable, scale-free evaporative cooling under all operating conditions.



ZM®II Nozzle

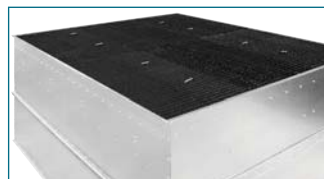
The heavy duty nylon ZM®II spray nozzles have a 33mm diameter opening and a 38mm splash plate clearance. Furthermore, the fixed position ZM®II nozzles are mounted in corrosion-free PVC water distribution pipes that have threaded end caps. Together, these elements combine to provide unequalled coil coverage and scale prevention, and make the industry's best performing non-corrosive, maintenance-free water distribution system.

Efficient Drift Eliminators

The eco-LSWE and eco-LRWB are provided with an efficient drift eliminator system that effectively reduces entrained water droplets from the air discharge to less than 0.001% of the spray water flow rate.

The eliminators are constructed of non-corrosive PVC with a multi-pass design for maximum drift reduction. They are assembled in modular sections for easy removal and access to the water distribution system.

In addition to reducing drift, the eliminators also function as effective debris screens which protect the spray system from sunlight and debris.



eco-LSWE and eco-LRWB Drift Eliminator



Drift Eliminators Removed for Coil Inspection

Sage[®] Water and Energy Conservation Control System



The eco-LSWE and eco-LRWB closed circuit cooler is optional with the EVAPCO Sage2[®] Control System. This system operates the unit in a manner which will maximize water or energy savings. Control is accomplished by operating each cell of the eco-LSWE and eco-LRWB in the Evaporative Mode or Dry Mode based on water or energy savings priority.

The Sage2[®] control system contains a Programmable Logic Controller (PLC) with adaptive logic, which allows the operator to select either a priority for maximizing water or energy efficiency. Real time load and weather data are measured and recorded by the PLC and sensors. This data is then analyzed and used to switch the unit between the various modes of operation in order to maximize water or energy savings. If the panel is set to operate in the water savings priority, the Sage Panel will vary the unit between the Dry and Evaporative modes of operation, limiting the time spent in the evaporative mode to maximize water savings. If the panel is set to operate in the energy savings priority, the Sage Panel will switch the unit between the Dry & Wet modes of operation, controlling the fan speed and pump operation in an effort to maximize energy savings.

Standard Control & Power Items

- MODBUS 485 Port
- Programmable Logic Control
- Variable Frequency Drive(s)
- Recirculating Pump Motor Starter(s)
- Fluid Inlet/Outlet Temperature Sensors with High and Low Alarm Set Points
- Basin Temperature Sensor(s)
- Ambient Dry Bulb Sensor
- Main Disconnect Circuit Breaker
- Main Hand/Off/Auto Switch (HOA)
- DC Power Supply for the PLC and Instruments
- Control Power Transformer
- Heater Contactor with Overload Protection and Temperature Set Points with Fusing
- 5-Probe Electronic Water Level Control Package
- High/Low Water Level Alarm Contacts
- Fan Motor: Space Heater Control(s)
- Relays for all PLC Digital Outputs
- Terminal Blocks for each PLC input/output
- Ethernet Connection between VFD(s), PLC and Operator Interface



Control Features

- Manual Operation of Pumps and Fans
- Ability to Enable or Disable Make-Up Valve
- Power Failure Recovery Timer
- Ability to Perform Bump Test
- Visual Status Display of All Unit Components and Accessories
- Contacts and Counter To Record Water Usage
- Contacts and Analog Signal for (Customer Supplied) Conductivity Meter
- Backup with User Settings and Factory Settings
- Pump Run Time Recorder
- Fan Motor Run Time Recorder

Sage® Water and Energy Conservation Control System

HMI Panel Display

All Sage2 Control Panels are provided with a 10" touch screen operator interface with a color display. This allows for easy viewing and control at the panel.



Easy-to-use Touch Screen Navigation

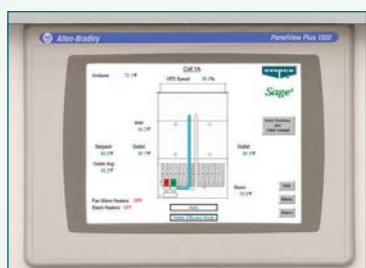
The panel boasts an easy to navigate menu which will allow the user to control each cell independently from other units and gather useful run time information at the unit.



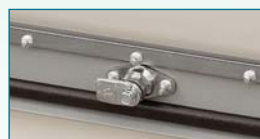
Alarm Setpoints Screen



Plan View Screen



End View Screen



Window Enclosure

The display screen is encased by a window enclosure. This enclosure protects the HMI display from the elements.

Electric Water Level Control Package

When a Sage Panel is provided, a 5-probe Electronic Water Level Controller is standard. In addition to controlling the make-up valve, this controller contains two probes that can be utilized as High/Low water alarms. This controller will also be used as a safety device, shutting off the pump and heaters if the water level becomes too low.

Temperature Sensors (Field Installed)

Four separate temperature data points are monitored with this package.

- Inlet Temperature Sensor: 0°C~100°C (32°F - 212°F) range
- Outlet Temperature Sensor: 0°C~100°C (32°F - 212°F) range
- Dry Bulb Temperature Sensor: -34.4°C~54.4°C (-30°F - 130°F) range
- Basin Temperature Sensor: 0°C~100°C (32°F - 212°F) range

Enclosure Temperature Control

The panel enclosure includes an intake and an exhaust ventilation fan or air conditioner dependant on project location. When the enclosure temperature rises to a pre-determined set point, the exhaust fans are activated. The enclosure also contains a heater. The heater eliminates the drastic temperature changes which could create condensation inside of the enclosure.



Fan



Heater

**Optional Communication Protocol May Be Available.
Please Contact Your Local Sales Representative.*



EVAPCO Water Systems

The eco-LSWE and eco-LRWB are available with EVAPCO's factory-mounted water treatment system, Smart Shield®. This system will help maintain your heat transfer efficiency and extend the life of the cooler.

Specifically designed for each closed circuit cooler, our systems provide owners a single source of responsibility for equipment, water treatment and service. Product is manufactured and warranted by EVAPCO. More about Smart Shield® can be found at right.

- **SAVE MONEY** by simplifying equipment commissioning:
 - Single power connection is the only field installation requirement.
- **Factory mounting** your water treatment system ensures that it is installed to factory specifications.
- **Patented self-draining piping** eliminates the need for line insulation and heat tracing above the overflow level.
- **A factory authorized service partner** provides the first year of water system service and monitoring, to ensure proper operation and ongoing success.
- **Conductivity control package** maximizes water efficiency and features:
 - Low maintenance non-fouling torodial probe
 - USB port for downloadable 60 day audit trail of system operation
 - Motorized blowdown valve that provides the most reliable bleed control with power open/spring return operation

Water Treatment Solutions

EVAPCO Water Systems



Watch a short product video at
evapco.com or evapcoasia.com.

Smart Shield® Solid Chemical Water Treatment System

Proven solid chemistry! A revolutionary feed system!
Together, these make Smart Shield®, the easiest and safest
chemical water treatment system available today, featuring:

- A patented, controlled-release scale and corrosion inhibitor that is fed whenever your spray water pump is operating.
- A solid chemistry design that eliminates liquid chemical hazards—including spills—and the need for expensive feed pumps.
- 'Bag in bag' no-touch chemical replenishments for easier, safer reloads and disposal.
- Reduced packaging, shipping, and handling for a lower carbon footprint than liquid chemical options.



Stainless Steel Material Options

All eco-LSWE and eco-LRWB Series units are constructed with galvanized steel panels as standard. The following pages illustrate the available stainless steel construction material options for this series. Stainless steel options are available in both 304 and 316L stainless steel. Selection of these options only changes the sheet steel; optional accessories such as attenuation, discharge hoods, platforms, etc. are available in stainless steel only by special order. Stainless steel discharge hoods/attenuation have galvanized dampers with a stainless steel linkage. Accessories, coils, and fan shafts **do not** change to stainless steel with these options and are upgraded separately. The strainer in the basin is always 304 stainless steel independent of basin construction.



Stainless Steel Basin up to Overflow Level Option

Includes Type 304 stainless steel basin panels up to the overflow level. All panels above the overflow, including the fan discharge cowls are G-235 galvanized steel. Centrifugal fan wheels are **not available** in stainless steel.

This is the first stage of stainless steel on the LS Series units 1.6m wide and larger. The "stainless steel basin up to overflow" option is not available on 1.2m wide units.



Stainless Steel Water Touch Basin

All panels in the pan section in contact with the cooling water including the fan discharge cowls are constructed of Type 304 stainless steel. Remainder of unit constructed of G-235 galvanized steel. All models with this option are furnished with epoxy coated fan wheels and shafts coated with a rust inhibitor. Centrifugal fan wheels are **not available** in stainless steel.



Stainless Steel Water Touch Unit

All panels in contact with the cooling water including the upper casing panels are constructed of Type 304 stainless steel. All models with this option are furnished with epoxy coated fan wheels and shafts coated with a rust inhibitor. Centrifugal fan wheels are **not available** in stainless steel.

This option designates the entire water section as stainless. Note that the fan housings and supports are still galvanized in this option.

Note: eco-LSWE models, with Ellipti-fin® and CROSSCOOL™, are only available with carbon steel coils which are hot dip galvanized after fabrication as standard.



All Stainless Steel Option (Excluding Fans/Coils)

All panels including the fan housings and supports are constructed of Type 304 stainless steel. All models with this option are furnished with epoxy coated fan wheels and shafts coated with a rust inhibitor. Centrifugal fan wheels are **not available** in stainless steel. With this option, all sheet metal is stainless including the fan housings and supports.

Note: eco-LSWE models, with Ellipti-fin® and CROSSCOOL™, are only available with carbon steel coils which are hot dip galvanized after fabrication as standard.



Stainless Steel Material Options



Stainless Steel Cold Water Basin

All EVAPCO eco-LRWB units come with a **Standard Stainless Steel Cold Water Basin**, which consists of the lowest section of the unit as highlighted in the photograph to the right. On all eco-LRWB units, fan screens are galvanized.



Stainless Steel Water Touch Basin

All panels in the pan section in contact with the cooling water including the fan discharge cowls are constructed of Type 304 stainless steel. Remainder of unit constructed of G-235 galvanized steel. All models with this option are furnished with epoxy coated fan wheels and shafts coated with a rust inhibitor. Centrifugal fan wheels are **not available** in stainless steel. Fan Screens are galvanized.

Note: eco-LRWB models have carbon steel coils, which are hot dip galvanized after fabrication as standard.



Stainless Steel Water Touch Unit

All panels in contact with the cooling water including the upper casing panels are constructed of Type 304 stainless steel. All models with this option are furnished with epoxy coated fan wheels and shafts coated with a rust inhibitor. Centrifugal fan wheels are **not available** in stainless steel. Fan Screens are galvanized. This option designates the entire water section as stainless.

Note: eco-LRWB models, with Ellipti-fin® and CROSSCOOL™, are only available with carbon steel coils which are hot dip galvanized after fabrication as standard.



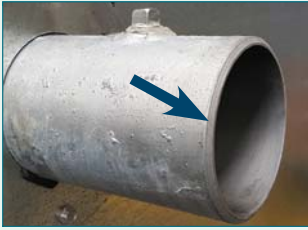
All Stainless Steel Option (Excluding Fans/Coils)

All panels including the fan housings and supports are constructed of Type 304 stainless steel. All models with this option are furnished with epoxy coated fan wheels and shafts coated with a rust inhibitor. Centrifugal fan wheels are **not available** in stainless steel. With this option, all sheet metal is stainless including the Fan Housings and Supports. Fan Screens are stainless steel.

Note: eco-LRWB models, with Ellipti-fin® and CROSSCOOL™, are only available with carbon steel coils which are hot dip galvanized after fabrication as standard.



Coil Connection Options



Beveled For Weld (BFW) Coil Connections

EVAPCO Closed Circuit Coolers are provided with Beveled For Weld (BFW) coil connections as standard. Beveled edges simplify field welding and allow welds to fully penetrate.



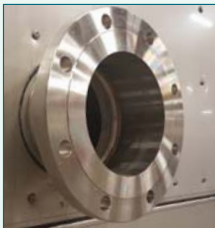
Optional Factory Mounted Crossover Piping

Some EVAPCO Closed Circuit Coolers are design for "series flow" coil operation where the coils inside of one cell are operated in series. These units are denoted by a "-Z" following the unit model number. These units require "crossover piping" from one coil to the other. As an option, this piping can be installed in the factory for simplified field installation.



Optional Grooved Coil Connections

Grooved connections can be provided as an optional coil connection. The groove allows for a mechanical coupling allowing for faster and easier field piping.



Optional Flanged Coil Connections

150# Raised Faced Flanged connections can be provided as an optional coil connection. The flanged coil connection allows for faster and easier field piping to a mating flanged connection. 300# flanged can be provided in some cases. Please see your local sales representative.



Optional Nitrogen Charged Coils

For projects requiring long term storage or ocean freight, coils can be nitrogen charged at the factory prevent corrosion inside of the coil circuits.



Optional Male Pipe Thread (MPT) Coil Connections

Male Pipe Thread connections can be provided as an optional connection for mating with Female Pipe Thread (FPT) piping.

Note: All coil connections are constructed from the same material as the coil.

Sound Reducing Options

Sound Attenuation Packages

The centrifugal fan design of the eco-LSWE and eco-LRWB models operate at lower sound levels which make these units preferable for installations where noise is a concern. For sound-sensitive applications, the eco-LSWE and eco-LRWB centrifugal fan models may be supplied with various stages of intake and/or discharge attenuation packages which further reduce sound levels.

Consult the factory for certified sound data for each sound attenuation option.

Note: Sound attenuation packages may require oversized fan motors.

Fan Side Inlet Attenuation (eco-LRWB Only)

Reduces sound radiated from the fan side air intakes and has an open side to allow for air entry. **This attenuation package ships loose to be mounted in the field on each side of the closed circuit cooler over the fan intakes.**

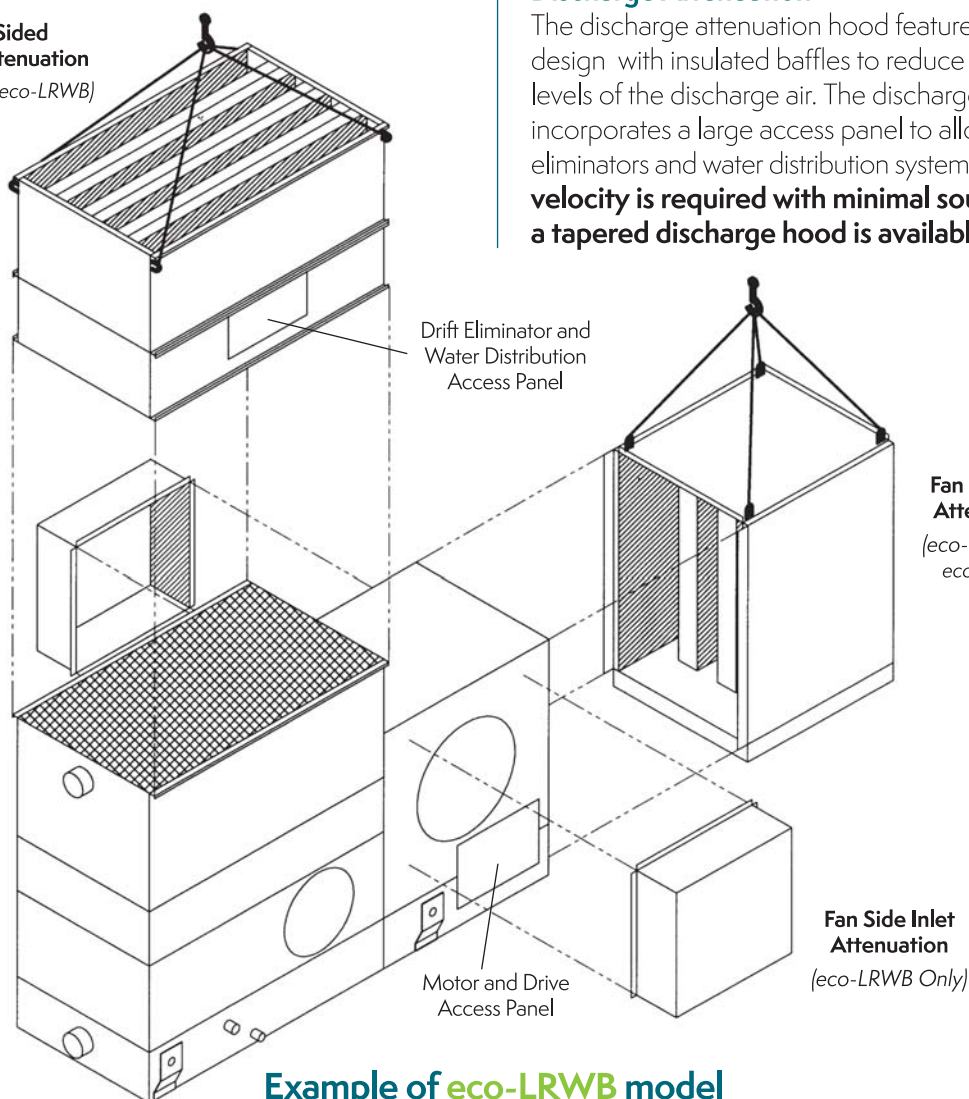
Fan End Inlet Attenuation

Reduces sound radiated through the end air intakes. It consists of baffled panels that change the path of the air entry and capture the radiated noise thus reducing the overall sound levels generated. In addition, the external belt adjustment mechanism is extended through the inlet attenuator to allow for easy adjustment without having to enter the unit. Solid bottom panels are included with this option to force the inlet air through the attenuator.

Discharge Attenuation

The discharge attenuation hood features a straight-sided design with insulated baffles to reduce the overall sound levels of the discharge air. The discharge attenuation incorporates a large access panel to allow entry to the drift eliminators and water distribution system. **If a higher discharge velocity is required with minimal sound attenuation, a tapered discharge hood is available.**

**Straight Sided
Discharge Attenuation**
(eco-LSWE and eco-LRWB)



Example of eco-LRWB model

eco-LSWE Discharge & Intake Attenuation

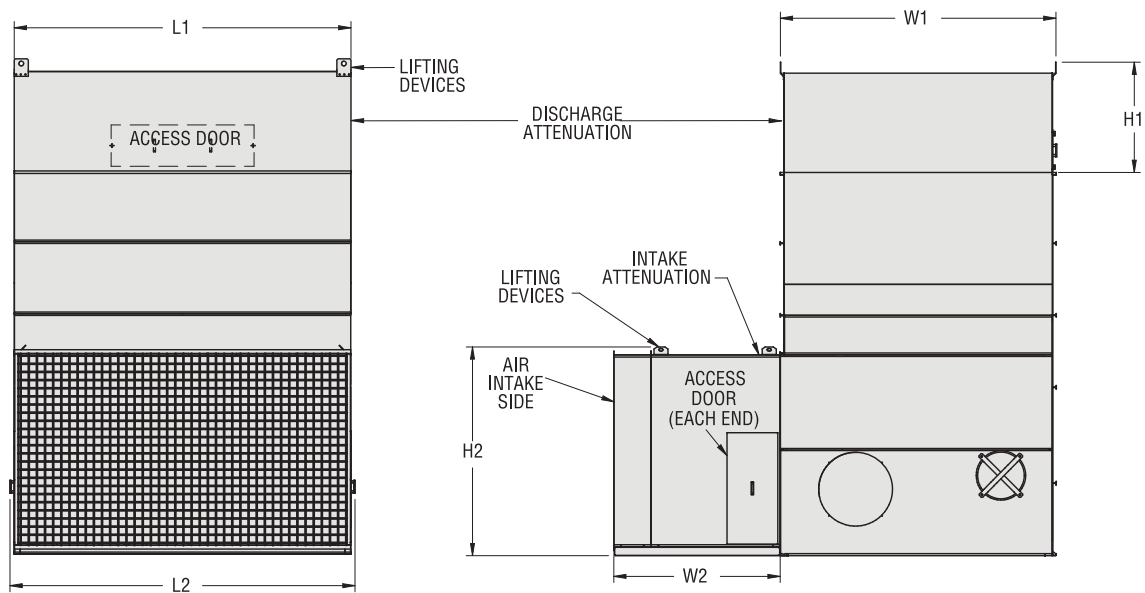
eco-LSWE Discharge Attenuation Dimensions^Δ

Model No.	H1 (mm)	L1 (mm)	W1 (mm)	Weight per Attenuator (kg)	Number of Attenuator
4-**6	1194	1823	1156	255	1
4-**9	1194	2724	1156	340	1
4-**12	1194	3645	1156	455	1
4-**18	1194	5486	1156	620	1
5-**12	1194	3645	1572	550	1
5-**18	1194	5486	1572	755	1
8P-**12	1813	3651	2343	1040	1
8P-**18	1813	5486	2343	1415	1
8P-**24	1813	3651	2343	1040	2
8P-**36	1813	5486	2343	1415	2
10-**12	1813	3645	3023	1230	1
10-**18	1813	5486	3023	1670	1
10-**24	1813	3645	3023	1230	2
10-**36	1813	5486	3023	1670	2

eco-LSWE Intake Attenuation Dimensions^Δ

Model No.	H2 (mm)	L2 (mm)	W2 (mm)	Weight per Attenuator (kg)	Number of Attenuator
4-**6	1010	1895	1816	390	1
4-**9	1010	2819	1816	545	1
4-**12	1010	3740	1816	695	1
4-**18	1010	5582	1816	1015	1
5-**12	1175	3740	1816	750	1
5-**18	1175	5582	1816	1090	1
8P-**12	2070	3743	1816	1015	1
8P-**18	2070	5582	1816	1455	1
8P-**24	2070	3693	1816	1015	2
8P-**36	2070	5534	1816	1455	2
10-**12	2261	3747	1816	1055	1
10-**18	2261	5588	1816	1540	1
10-**24	2261	3696	1816	1055	2
10-**36	2261	5540	1816	1540	2

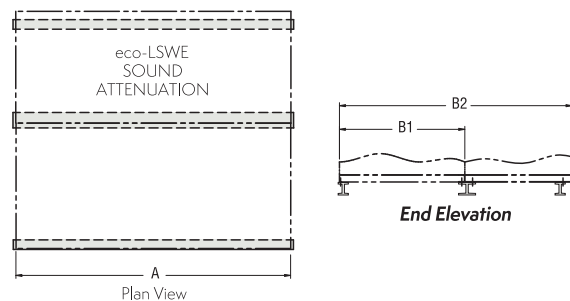
^Δ Attenuation dimensions may vary slightly from catalog. See factory certified prints for exact dimensions.



eco-LSWE Attenuation

Note: Intake sound attenuation must be fully supported. If the recommended steel support is being used a third "I" beam is required for the intake attenuation. Refer to page 24.

Note: Sound attenuation packages may require oversized fan motors.



eco-LRWB Discharge & Intake Attenuation

eco-LRWB Discharge Attenuation Dimensions^Δ

Model No.	H1 (mm)	L1 (mm)	W1 (mm)	Weight per Attenuator (kg)	Number of Attenuator
3-**6	1102	1822	1029	305	1
5-**6	1102	1822	1540	385	1
5-**9	1102	2724	1540	530	1
5-**12	1102	3648	1540	905	1
8-**9	1102	2724	2388	710	1
8-**12	1102	3648	2388	920	1

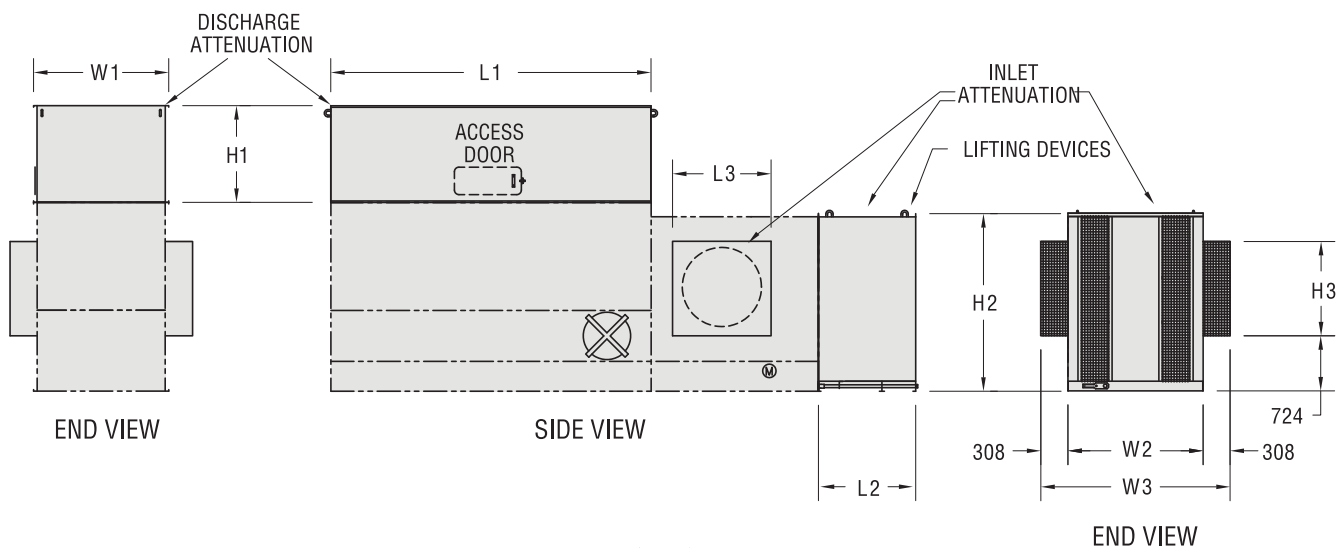
eco-LRWB Fan End Attenuation Dimensions^Δ

Model No.	H2 (mm)	L2 (mm)	W2 (mm)	Weight per Attenuator (kg)	Number of Attenuator
3-**6	1622	1029	1108	365	1
5-**6	2022	1540	1105	580	1
5-**9	2022	1540	1105	580	1
5-**12	2022	1540	1105	580	1
8-**9	2022	2394	1108	695	1
8-**12	2022	2394	1108	695	1

eco-LRWB Fan Side Attenuation Dimensions^Δ

Model No.	H2 (mm)	L2 (mm)	W2 (mm)	Weight per Attenuator (kg)	Number of Attenuator
3-**6	854	1645	883	27	2
5-**6	937	2156	1372	27	2
5-**9	937	2156	1372	27	2
5-**12	937	2156	1372	27	2
8-**9	1076	3010	1121	27	2
8-**12	1076	3010	1121	27	2

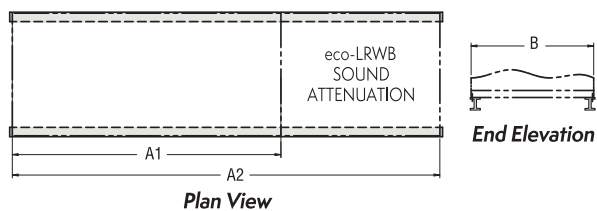
^Δ Attenuation dimensions may vary slightly from catalog. See factory certified prints for exact dimensions.



eco-LRWB Attenuation

Note: Intake sound attenuation must be fully supported. If the recommended steel support is being used, extended "I" beams are required for the intake attenuation. Refer to page 24.

Note: Sound attenuation packages may require oversized fan motors.



Freeze Protection and Heat Loss

Freeze Protection

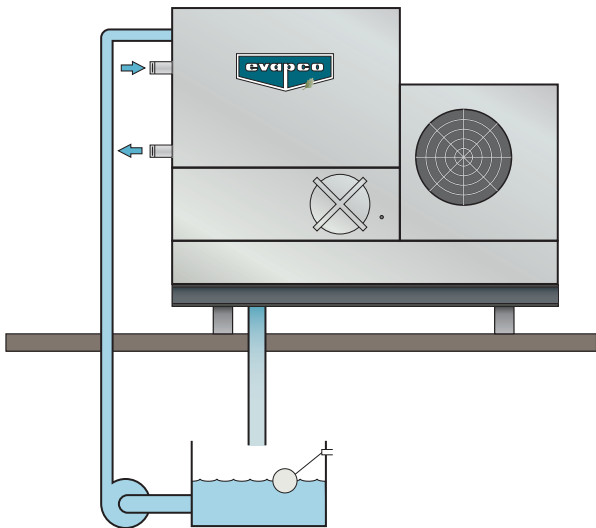
If the units are installed in a cold climate and operated year-round, freeze protection must be provided for the heat exchanger coil in the unit as well as for the recirculating water system.

Recirculating Water System Freeze Protection Options

Remote Sump Configuration

The surest way to protect the recirculating water system from freezing is with a remote sump. The remote sump should be located inside the building and below the unit.

When a remote sump arrangement is selected, the spray pump is provided by others and installed at the remote sump. All water in the closed circuit cooler basin should drain to the remote sump when the spray pump cycles off.



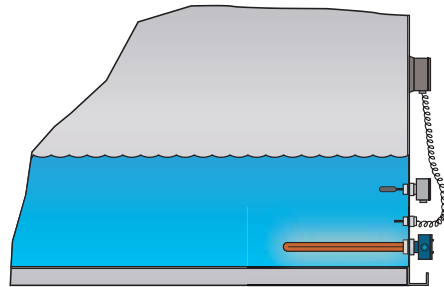
Steam/Hot Water Coils

Steam or hot water coils are available as an alternative to using electric basin heaters or a remote sump. Constructed of galvanized pipe, the coils are installed in the closed circuit cooler basin, and are ready for piping to an external hot water source. **Controls for steam/hot water coils are provided by others and should be interlocked with the water circulating pump to prevent their operation when the pump is energized.**

Basin Heater Package

If a remote sump configuration is not practical, electric basin heater packages are available to keep the pan water from freezing when the unit cycles off. Water lines to and from the unit, spray pump and related piping should be heat traced and insulated up to the overflow level to protect from freezing. **Basin heaters should be interlocked with the water circulating pump to prevent their operation when the pump is energized.**

This unit should not be operated dry (fans on, pump off) unless the basin is completely drained or the heaters have been oversized and the unit has been designed for dry operation. Consult the factory when dry operation is a requirement.



eco-LSWE Basin Heater Sizing

Model No.	kW (-18°C)	kW (-28°C)	kW (-40°C)
4-**6	(1) 2	(1) 3	(1) 4
4-**9	(1) 3	(1) 4	(1) 5
4-**12	(1) 3	(1) 5	(1) 7
4-**18	(1) 5	(1) 7	(1) 9
5-**12	(1) 4	(1) 6	(1) 8
5-**18	(2) 3	(2) 4	(1) 12
8P-**12	(1) 5	(1) 8	(1) 10
8P-**18	(2) 4	(2) 6	(2) 7
8P-**24	(2) 5	(2) 7	(2) 10
8P-**36	(2) 7	(2) 12	(2) 15
10-**12	(1) 7	(1) 10	(1) 15
10-**18	(2) 5	(2) 7	(2) 10
10-**24	(2) 7	(2) 10	(2) 15
10-**36	(2) 10	(4) 7	(4) 9

eco-LRWB Basin Heater Sizing

Model No.	kW (-18°C)	kW (-28°C)	kW (-40°C)
3-**6	(1) 2	(1) 3	(1) 4
5-**6	(1) 3	(1) 5	(1) 6
5-**9	(1) 4	(1) 6	(1) 8
5-**12	(1) 6	(1) 8	(1) 12
8-**9	(1) 7	(1) 9	(1) 12
8-**12	(1) 9	(1) 12	(1) 16

Freeze Protection and Heat Loss

Heat Exchanger Coil Freeze Protection Options

The simplest and most foolproof method of protecting the heat exchanger coil from freeze-up is to use a glycol solution. If this is not possible, an auxiliary heat load must be maintained on the coil at all times so that the water temperature does not drop below 10°C when the cooler is shut down and, a minimum recommended flow rate per unit as shown in the table below must be maintained. Refer to Heat Loss Data Table on page 23 for heat loss data.

eco-LSWE Minimum Flows for Freeze Protection

Model No.	Minimum Flow for Freeze Protection (l/s)	
	Standard Unit	Series Flow Unit (-Z)
4-**6	4.2	2.1
4-**9	4.2	2.1
4-**12	4.2	2.1
4-**18	4.2	2.1
5-**12	5.9	3.0
5-**18	5.9	3.0
8P-**12	9.3	4.7
8P-**18	9.3	4.7
8P-**24	18.7	9.3
8P-**36	18.7	9.3
10-**12	11.9	5.9
10-**18	11.9	5.9
10-**24	23.7	11.9
10-**36	23.7	11.9

eco-LRWB Minimum Flows for Freeze Protection

Model No.	Minimum Flow for Freeze Protection (l/s)	
	Standard Unit	Series Flow Unit (-Z)
3-**6	3.8	1.9
5-**6	5.9	3.0
5-**9	5.9	3.0
5-**12	5.9	3.0
8-**9	9.3	4.7
8-**12	9.3	4.7

If an anti-freeze solution is not used, the coil must be drained immediately whenever the pump is shut down or flow stops. Care must be taken to ensure that the piping is sized to allow the water to flow quickly from the coil. This method of freeze control should only be used in an emergency situation. Coils should not be drained for an extended period of time. Leaving the coil drained and open to the atmosphere can cause corrosion inside the tubes which may lead to premature coil failure.

The amount of glycol required for a system will depend upon the total volume of water in the closed loop and the winter ambient conditions for the installation. The engineering data tables presented on pages 27-44 provide the water volume contained inside the cooler coils to assist in this calculation.

Discharge Hoods with Positive Closure Dampers

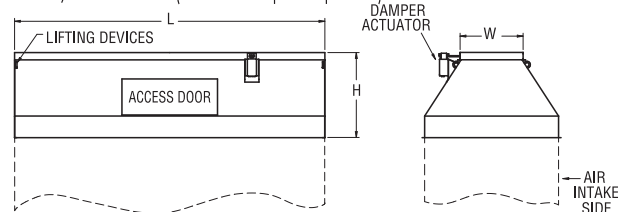
When a closed circuit cooler is used in a water-to-air heat pump system or in certain process cooling applications, a method of reducing the heat loss during idle periods of wintertime operation may be required. **For these cases, an optional discharge hood with positive closure dampers and damper actuator is available.**

The discharge hood with dampers is designed to minimize the heat loss from convective airflow through an idle cooler. Further reductions in heat loss may be obtained with the addition of insulation to the hood and casing, minimizing conductive heat losses. **Optional insulation may be factory-installed on the hood and casing or field-installed by an insulation contractor.**

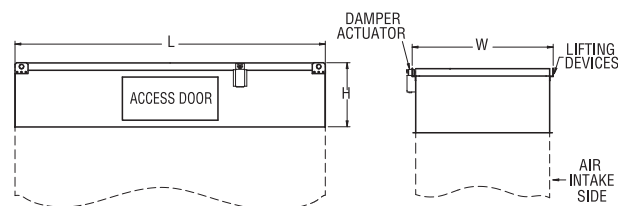
The discharge hood and dampers are constructed of hot-dip galvanized steel as standard. Hoods are equipped with access panels to facilitate maintenance on the eliminators and water distribution system. The dampers, damper actuator and linkage are all factory-assembled. **Actuator controls and wiring are field-supplied by others. Damper actuators require 120 volt power supply. Stainless steel discharge hoods with galvanized positive closure dampers are available as an optional accessory.**

The system control sequence should provide for dampers to be fully open before the fans are running and closed when the fans are off; the damper actuator must be interlocked with the temperature control system for this purpose. **When a tapered discharge hood is specified, the next larger size fan motor must be used to overcome the additional static pressure.**

Heat loss data is provided for standard units without hoods, with hoods and with hoods and insulation. Table ratings are based on 10°C water in the coil, -23°C ambient and 70 km/hr winds (fan and pump off).



Tapered Discharge Hood (See page 23 for dimensions)



Straight-Sided Discharge Hood (See page 23 for dimensions)

Heat Loss

eco-LSWE Heat Loss Data

eco-LSWE Model	Standard Unit (kW)	Unit with Hood (kW)	With Hood & Insulation (kW)
4-2x6	10.8	8.5	5.6
4-3x6	14.7	9.7	6.2
4-4x6	17.9	10.5	6.7
4-5x6	19.9	11.4	7.3
4-3x9	22.3	12.9	8.2
4-4x9	27.0	14.1	9.1
4-5x9	30.5	15.2	9.7
4-3x12	30.2	15.8	10.3
4-4x12	36.3	17.6	11.1
4-5x12	41.0	19.0	12.3
4-3x18	45.4	22.3	14.4
4-4x18	55.1	24.6	15.8
4-5x18	61.8	26.7	17.0
5-3x12	43.1	20.5	13.2
5-4x12	52.2	22.6	14.4
5-5x12	58.6	24.3	15.5
5-6x12	62.4	26.4	16.7
5-3x18	65.3	28.1	18.2
5-4x18	78.8	30.8	19.6
5-5x18	88.8	33.4	21.4
5-6x18	94.3	36.0	23.1
8-3x12	66.5	28.7	18.5
8-4x12	80.9	30.8	19.6
8-5x12	90.5	32.8	21.1
8-6x12	96.4	34.9	22.3
8-3x18	91.1	38.7	24.9
8-4x18	110.2	41.3	26.4
8-5x18	137.1	44.0	28.1
8-6x18	146.2	46.6	29.9

eco-LSWE Model	Standard Unit (kW)	Unit with Hood (kW)	With Hood & Insulation (kW)
8-3x24	133.0	57.4	36.9
8-4x24	161.7	61.5	39.3
8-5x24	181.1	65.6	42.2
8-6x24	192.8	69.7	44.5
8-3x36	201.6	77.4	49.8
8-4x36	244.4	82.6	52.7
8-5x36	274.2	87.9	56.3
8-6x36	292.4	93.2	59.8
10-3x12	86.1	31.9	20.2
10-4x12	104.3	34.3	22.0
10-5x12	117.2	36.6	23.4
10-6x12	124.8	39.3	25.2
10-3x18	130.4	41.9	26.7
10-4x18	157.9	44.8	28.7
10-5x18	177.3	48.1	30.8
10-6x18	188.7	51.3	32.8
10-3x24	172.3	63.6	40.7
10-4x24	208.6	68.6	44.0
10-5x24	234.1	73.5	46.9
10-6x24	249.3	78.2	50.1
10-3x36	254.9	83.5	53.3
10-4x36	315.9	90.0	57.4
10-5x36	354.5	96.1	61.5
10-6x36	377.7	102.3	65.3

eco-LRWB Heat Loss Data

eco-LRWB Model	Standard Unit (kW)	Unit with Hood (kW)	With Hood & Insulation (kW)
3-2x6	9.7	8.5	6.4
3-3x6	13.5	10.5	6.7
3-4x6	15.8	11.4	7.3
3-5x6	18.2	12.3	7.9
5-2x6	15.2	12.9	8.5
5-3x6	21.1	13.2	8.8
5-4x6	25.5	14.4	9.1
5-5x6	28.7	15.5	10.0
5-3x9	32.2	17.3	11.1
5-4x9	39.0	18.8	12.0
5-5x9	43.7	20.2	12.9
5-6x9	46.6	21.4	13.8
5-3x12	43.1	21.7	13.8
5-4x12	52.2	23.4	14.9
5-5x12	58.6	24.9	16.1
5-6x12	62.4	26.7	17.3
8-3x9	49.8	22.6	14.4
8-4x9	60.1	24.3	15.5
8-5x9	67.7	26.1	16.7
8-3x12	66.8	27.5	17.6
8-4x12	80.9	29.6	18.8
8-5x12	90.8	31.4	20.2
8-6x12	96.7	33.4	21.4

Discharge Hood Dimensions

eco-LSWE Tapered Discharge Hood Dimensions

Model No.	H (mm)	L (mm)	W (mm)	Weight per Hood (kg)	# of Hoods
4-**6	838	1826	537	95	1
4-**9	838	2724	537	125	1
4-**12	838	3645	537	160	1
4-**18	838	5486	537	220	1
5-**12	1003	3645	740	205	1
5-**18	1003	5486	740	280	1
8P-**12	1083	3651	1159	280	1
8P-**18	1083	5486	1159	380	1
8P-**24	1083	3651	1159	560	2
8P-**36	1083	5486	1159	755	2
10-**12	1280	3648	1476	350	1
10-**18	1280	5486	1476	480	1
10-**24	1280	3648	1476	705	2
10-**36	1280	5486	1476	955	2

eco-LRWB Tapered Discharge Hood Dimensions

Model No.	H (mm)	L (mm)	W (mm)	Weight per Hood (kg)	# of Hoods
3-**6	622	1826	483	105	1
5-**6	997	1826	737	175	1
5-**9	997	2724	737	235	1
5-**12	997	3648	737	310	1
8-**9	1080	2724	1080	355	1
8-**12	1080	3648	1080	440	1

eco-LSWE Straight-Sided Discharge Hood Dimensions

Model No.	H (mm)	L (mm)	W (mm)	Weight per Hood (kg)	# of Hoods
4-**6	762	1826	1156	80	1
4-**9	762	2724	1156	115	1
4-**12	762	3645	1156	135	1
4-**18	762	5486	1156	180	1
5-**12	762	3645	1575	150	1
5-**18	762	5486	1575	225	1
8P-**12	762	3651	2426	205	1
8P-**18	762	5486	2426	280	1
8P-**24	762	3651	2426	410	2
8P-**36	762	5486	2426	560	2
10-**12	762	3648	3026	285	1
10-**18	762	5493	3026	390	1
10-**24	762	3648	3026	565	2
10-**36	762	5493	3026	775	2

eco-LRWB Straight-Sided Discharge Hood Dimensions

Model No.	H (mm)	L (mm)	W (mm)	Weight per Hood (kg)	# of Hoods
3-**6	749	1826	1029	170	1
5-**6	749	1826	1540	215	1
5-**9	749	2724	1540	310	1
5-**12	749	3648	1540	390	1
8-**9	749	2724	2388	445	1
8-**12	749	3648	2388	565	1

Steel Support

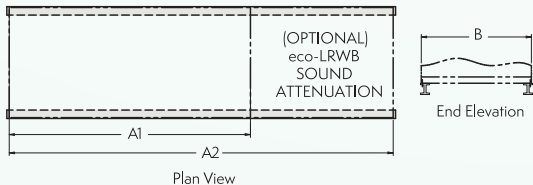
Steel Support

The recommended support for EVAPCO Closed Circuit Coolers is structural "I" beams located under the outer flanges and running the entire length of the unit. Mounting holes 19mm in diameter are located in the bottom channels of the pan section to provide for bolting to the structural steel. (Refer to certified drawings from the factory for bolt hole locations.)

Beams should be level to within 1/360 of unit length, not to exceed 13mm before setting the unit in place. Do not level the unit by shimming between it and the "I" beams as this will not provide proper longitudinal support.

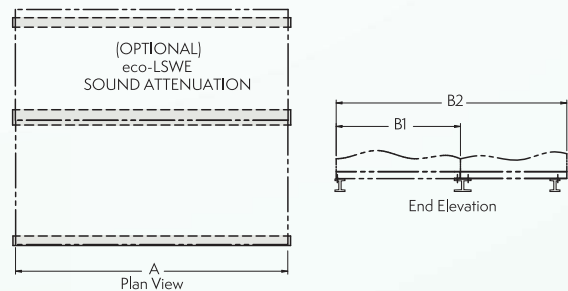
eco-LRWB Dimensions

Model No.	A1 (mm) (Unit Only)	A2 (mm) (Unit with Intake Atten.)	B (mm)
3-**6	3096	4207	1029
5-**6	3731	4842	1540
5-**9	4629	5740	1540
5-**12	5553	6664	1540
8-**9	4629	5740	2388
8-**12	5553	6664	2388



eco-LSWE Dimensions

Model No.	B1 (mm) (Unit Only)	B2 (mm) (Unit with Intake Atten.)	A (mm)
4-**6	1238	219	1826
4-**9	1238	219	2724
4-**12	1238	219	3651
4-**18	1238	219	5486
5-**12	1652	3467	3645
5-**18	1652	3467	5483
8P-**12	2388	4191	3651
8P-**18	2388	4191	5486
8P-**24	2388	4191	7341
8P-**36	2388	4191	11024
10-**12	2991	4794	3651
10-**18	2991	4794	5493
10-**24	2991	4794	7344
10-**36	2991	4794	11036



Optional Equipment

Electric Water Level Control

Closed Circuit Coolers may be ordered with an electric water level control in lieu of the standard mechanical float and make-up assembly. This package provides accurate control of water levels and does not require field adjustment.



Bottom Screens

Protective inlet screens are provided on the sides and/or end of the unit's air intake. Screens are not provided below the fan section since most units are mounted on the roof or at ground level. It is recommended that bottom screens be added to the unit when it will be elevated. These screens can be provided by the factory at an additional cost or added by the installing contractor.

Solid Bottom Panels for Ducted Installations

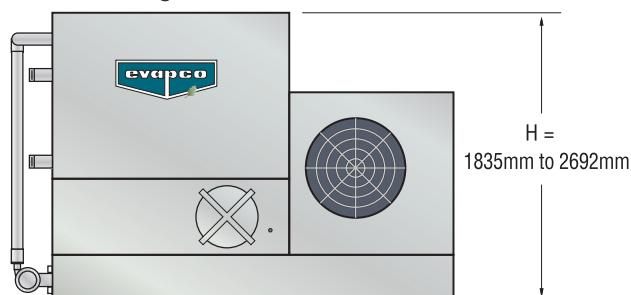
When centrifugal fan units are installed indoors and intake air is ducted to the unit, a solid bottom panel is required to completely enclose the fan section and prevent the unit from drawing air from the room into the fan intakes. When this option is ordered, air inlet screens are omitted and the next larger size fan motor must be used to overcome the additional static pressure.

Specific Design Features

eco-LRWB Reduced Height and Maintenance Accessibility

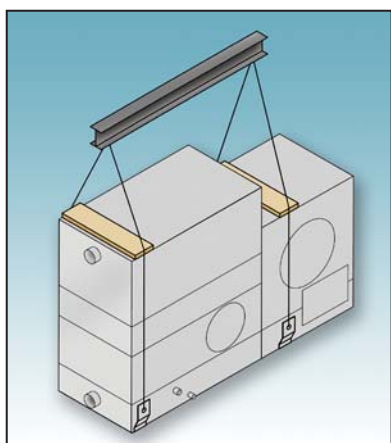
The eco-LRWB has been designed to satisfy installation requirements where height limits must be observed. The lower profile design of the eco-LRWB does not, however, sacrifice maintenance accessibility for reduced height. Its unique casing design allows the water distribution system, cold water basin, fan section and other unit components to be easily maintained.

Small, light-weight sections of the drift eliminators can be easily removed to access the water distribution system. A large circular access door is located on the side of the cold water basin to allow adjustment of the float assembly, removal of the stainless steel strainers and cleaning of the basin. The fan motor and drive system are located at one end of the unit and are completely accessible by removing the inlet screens. Routine bearing lubrication and belt tensioning can be performed from the exterior of the unit without removing the inlet screens.



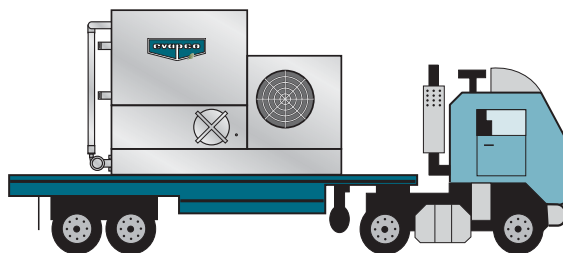
Low Installed Costs

The compact, unitary design of the eco-LRWB closed circuit cooler allows it to be shipped completely assembled. This results in lower transportation costs and no assembly requirements at the job site. **Note: Options such as sound attenuation and discharge hoods will require additional lifts and some minor assembly.**



Transport of a Pre-Assembled Unit

Since the eco-LRWB ships fully assembled, it is ideal for truck-mounted applications, for remote sites or temporary installations.



Stainless Steel Cold Water Basin—Standard

The eco-LRWB is standard with a stainless steel cold water basin. Optional upgrades to stainless steel water touch basins, stainless steel water touch units and all stainless steel construction are also available on the eco-LRWB. For more information on stainless steel construction options, see page 15 and 16 of this catalog.



Integral Fan Enclosure for Lower Sound

The eco-LRWB comes standard with an integral fan enclosure that reduces sound levels by 2 dB. This 3-sided enclosure also protects the fan and drive system for longer equipment life.



General Information

Design

EVAPCO closed circuit coolers are of heavy-duty construction and designed for long trouble-free operation. Proper equipment selection, installation and maintenance is, however, necessary to ensure full unit performance. Some of the major considerations in the application of a cooler are presented below. For additional information, contact the factory.

Air Circulation

It is important that proper air circulation be provided. The best location is on an unobstructed roof top or on ground level away from walls and other barriers. Those closed circuit coolers located in wells, enclosures or adjacent to high walls must be properly located to avoid the problems associated with recirculation.

Recirculation raises the wet bulb temperature of the entering air causing the water temperature to rise above the design. For these cases, the discharge of the unit should be located at a height even with the adjacent wall, thereby reducing the chance of recirculation. For additional information, see the EVAPCO equipment layout manual.

Good engineering practice dictates that the closed circuit cooler discharge air not be directed or located close to or in the vicinity of building air intakes.

Piping

Cooler piping should be designed and installed in accordance with generally accepted engineering practices. The piping layout should be symmetrical on multiple unit systems, and sized for a reasonably low water velocity and pressure drop.

The standard closed circuit cooler is recommended only on a closed, pressurized system. The piping system should include an expansion tank to allow for fluid expansion and purging air from the system.

Note: closed circuit coolers should never be used on an open type system. An open type system with a cooler may result in premature coil failure.

The piping system should be designed to permit complete drainage of the heat exchanger coil. This will require a vacuum breaker or air vent to be installed at the high point and a drain valve installed at the low point of the piping system. Both must be adequately sized.

All piping should be securely anchored by properly designed hangers and supports. No external loads should be placed upon the cooler connections, nor should any of the pipe supports be anchored to the cooler framework.

Recirculating Water Quality

Proper water treatment is an essential part of the maintenance required for evaporative cooling equipment. A well designed and consistently implemented water treatment program will help to ensure efficient system operation while maximizing the equipment's service life. **If EVAPCO factory mounted water systems are not utilized**, a qualified water treatment company should design a site specific water treatment protocol based on equipment (including all metallurgies in the cooling system), location, makeup water quality, and usage.

Bleed off

Evaporative cooling equipment requires a bleed or blowdown line, located on the discharge side of the recirculating pump, to remove concentrated (cycled up) water from the system. EVAPCO recommends an automated conductivity controller to maximize the water efficiency of your system. **If EVAPCO factory mounted water systems are not utilized**, based on recommendations from your water treatment company, the conductivity controller should open and close a motorized ball or solenoid valve to maintain the conductivity of the recirculating water. If a manual valve is used to control the rate of bleed, it should be set to maintain the conductivity of the recirculating water during periods of peak load at the maximum level recommended by your water treatment company.

Water Treatment

The water treatment program prescribed for the given conditions must be compatible with the unit's materials of construction, including any galvanized components. The initial commissioning and passivation period is a critical time for maximizing the service life of galvanized equipment. EVAPCO recommends that the site specific water treatment protocol includes a passivation procedure which details water chemistry, any necessary chemical addition, and visual inspections during the first six (6) to twelve (12) weeks of operation. During this passivation period, recirculating water pH should be maintained above 7.0 and below 8.0 at all times. Batch feeding of chemicals is not recommended.

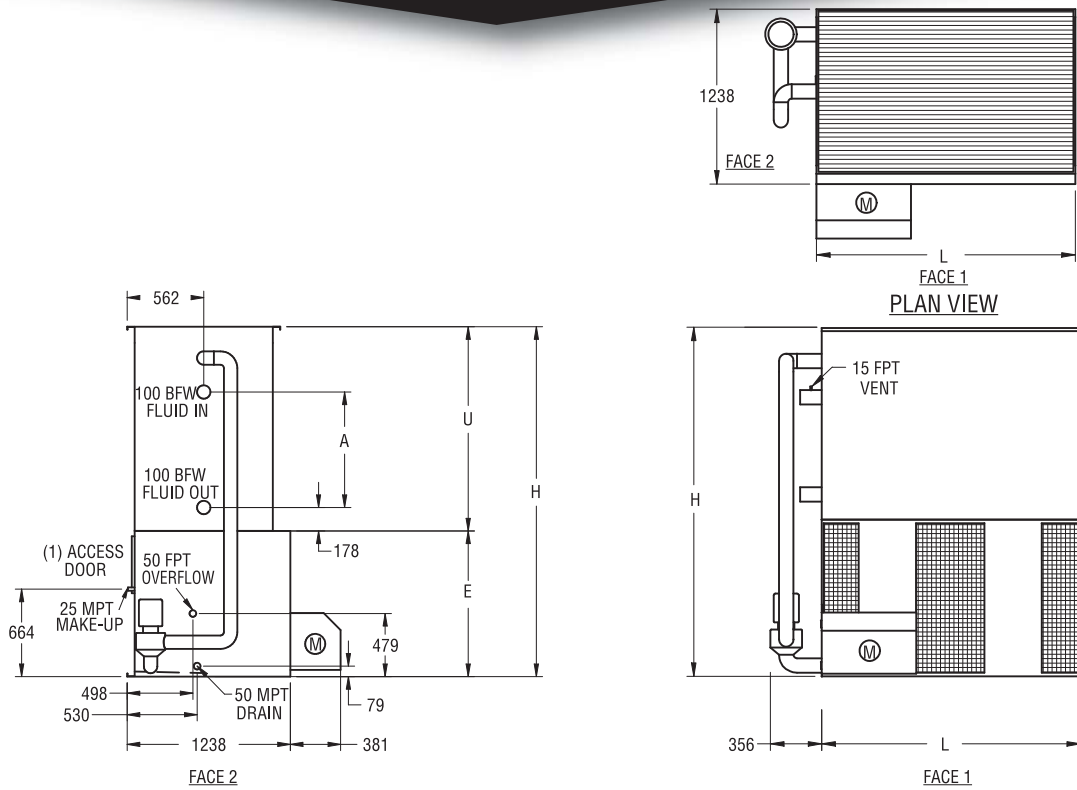
Control of Biological Contaminants

Evaporative cooling equipment should be inspected regularly to ensure good microbiological control. Inspections should include both monitoring of microbial populations via culturing techniques and visual inspections for evidence of biofouling.

Poor microbiological control can result in loss of heat transfer efficiency, increase corrosion potential, and increase the risk of pathogens such as those that cause Legionnaires' disease. Your site specific water treatment protocol should include procedures for routine operation, startup after a shut-down period, and system lay-up, if applicable. If excessive microbiological contamination is detected, a more aggressive mechanical cleaning and/or water treatment program should be undertaken.

Models: eco-LSWE 4-2F6 to 4-5J9

Closed Circuit Coolers



Note: The number of coil connections may increase based on design flow rate.

Model No. †	WEIGHTS (kg)			FANS		SPRAY PUMP		Coil Volume (Liters)	REMOTE SUMP Δ			DIMENSIONS (mm) ▲				
	Shipping	Heaviest Section*	Operating	kW	m³/s	kW	l/s		Liters Req'd**	Conn. Size (mm)	Operating Weight (kg)	Height H	Length L	Lower E	Upper U	Coil A
eco-LSWE 4-2F6	1,195	680	1,615	2.2	4.8	0.55	7.6	126	303	100	1,425	2083	1826	1105	978	305
eco-LSWE 4-2G6	1,195	680	1,620	4	5.7	0.55	7.6	126	303	100	1,430	2083	1826	1105	978	305
eco-LSWE 4-2H6	1,220	680	1,640	5.5	6.6	0.55	7.6	126	303	100	1,450	2083	1826	1105	978	305
eco-LSWE 4-3F6	1,415	905	1,890	2.2	4.7	0.55	7.6	177	303	100	1,695	2273	1826	1105	1168	495
eco-LSWE 4-3G6	1,420	905	1,895	4	5.6	0.55	7.6	177	303	100	1,700	2273	1826	1105	1168	495
eco-LSWE 4-3H6	1,440	905	1,920	5.5	6.4	0.55	7.6	177	303	100	1,725	2273	1826	1105	1168	495
eco-LSWE 4-3I6	1,450	905	1,930	7.5	7.1	0.55	7.6	177	303	100	1,735	2273	1826	1105	1168	495
eco-LSWE 4-4F6	1,630	1,115	2,155	2.2	4.6	0.55	7.6	229	303	100	1,960	2464	1826	1105	1359	686
eco-LSWE 4-4G6	1,635	1,115	2,160	4	5.5	0.55	7.6	229	303	100	1,965	2464	1826	1105	1359	686
eco-LSWE 4-4H6	1,655	1,115	2,180	5.5	6.3	0.55	7.6	229	303	100	1,985	2464	1826	1105	1359	686
eco-LSWE 4-4I6	1,665	1,115	2,190	7.5	6.9	0.55	7.6	229	303	100	1,995	2464	1826	1105	1359	686
eco-LSWE 4-5G6	1,850	1,335	2,425	4	5.4	0.55	7.6	280	303	100	2,235	2654	1826	1105	1549	876
eco-LSWE 4-5H6	1,875	1,335	2,450	5.5	6.2	0.55	7.6	280	303	100	2,260	2654	1826	1105	1549	876
eco-LSWE 4-5I6	1,880	1,335	2,460	7.5	6.8	0.55	7.6	280	303	100	2,270	2654	1826	1105	1549	876
eco-LSWE 4-3G9	1,970	1,295	2,685	4	7.3	0.75	11.4	258	454	150	2,435	2273	2724	1105	1168	495
eco-LSWE 4-3H9	1,990	1,295	2,710	5.5	8.4	0.75	11.4	258	454	150	2,460	2273	2724	1105	1168	495
eco-LSWE 4-3I9	2,000	1,295	2,715	7.5	9.3	0.75	11.4	258	454	150	2,470	2273	2724	1105	1168	495
eco-LSWE 4-3J9	2,055	1,295	2,770	11	10.6	0.75	11.4	258	454	150	2,520	2273	2724	1105	1168	495
eco-LSWE 4-4H9	2,305	1,605	3,100	5.5	8.2	0.75	11.4	336	454	150	2,850	2464	2724	1105	1359	686
eco-LSWE 4-4I9	2,315	1,605	3,105	7.5	9.1	0.75	11.4	336	454	150	2,860	2464	2724	1105	1359	686
eco-LSWE 4-4J9	2,370	1,605	3,160	11	10.4	0.75	11.4	336	454	150	2,910	2464	2724	1105	1359	686
eco-LSWE 4-5H9	2,635	1,935	3,510	5.5	8.1	0.75	11.4	414	454	150	3,255	2654	2724	1105	1549	876
eco-LSWE 4-5I9	2,645	1,935	3,520	7.5	8.9	0.75	11.4	414	454	150	3,265	2654	2724	1105	1549	876
eco-LSWE 4-5J9	2,700	1,935	3,575	11	10.2	0.75	11.4	414	454	150	3,320	2654	2724	1105	1549	876

† Model Number will end in "-Z" for units with Series Flow piping configuration. Series Flow units may require additional coil connections and will require crossover piping. Model numbers will include "I" for units with Intake Attenuation, "D" for units with Discharge Attenuation, "F" for units with Full Sound Attenuation, "T" for units with a Tapered Discharge Hood, and "S" for units with an option that negates CTI Certification.

* Heaviest section is the coil section.

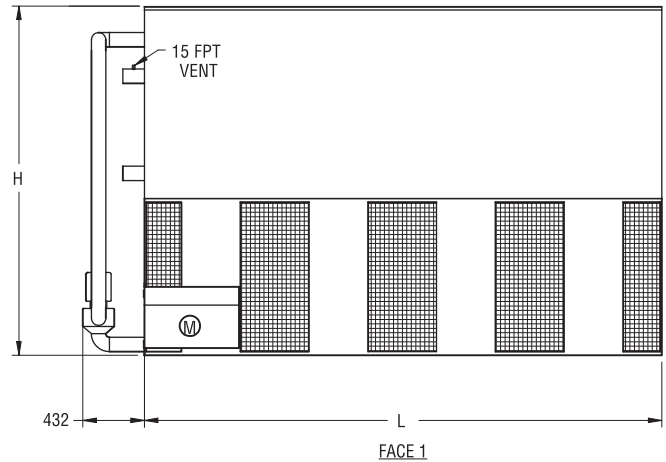
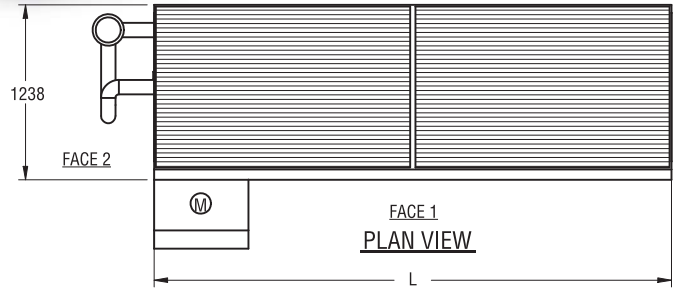
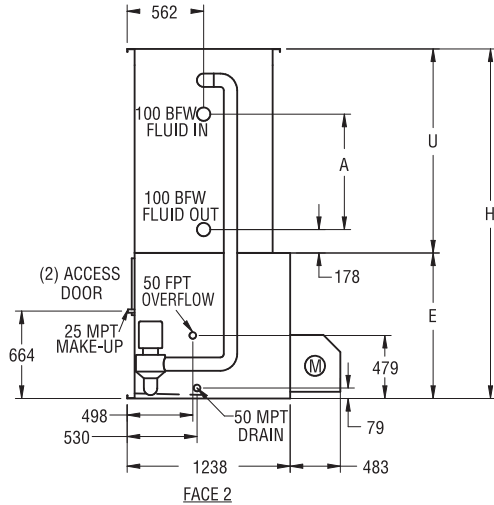
** Liters shown is water in suspension in unit and piping. Allow for additional water in bottom of remote sump to cover pump suction and strainer during operation (300mm would normally be sufficient).

Δ When a remote sump arrangement is selected, the spray pump, suction strainer and associated piping are omitted; the unit is provided with an oversized outlet to facilitate drainage to the remote sump.

▲ Unit dimensions and coil connections may vary slightly from catalog. See factory certified prints for dimensions, quantity of coil connections, and piping configuration. Coil connections are 100mm bevel for weld (BFW). Other connection types such as grooved for mechanical coupling or flanged are also available as options.

Models: eco-LSWE 4-3H12 to 4-5M18

Closed Circuit Coolers



Note: The number of coil connections may increase based on design flow rate.

Model No. †	WEIGHTS (kg)			FANS		SPRAY PUMP		Coil Volume (Liters)	REMOTE SUMP Δ			DIMENSIONS (mm) ▲				
	Shipping	Heaviest Section*	Operating	kW	m³/s	kW	l/s		Liters Req'd**	Conn. Size (mm)	Operating Weight (kg)	Height H	Length L	Lower E	Upper U	Coil A
eco-LSWE 4-3H12	2,610	1,715	3,525	5.5	10.2	1.1	15.5	338	644	150	3,250	2273	3651	1105	1168	495
eco-LSWE 4-3I12	2,615	1,715	3,535	7.5	11.2	1.1	15.5	338	644	150	3,255	2273	3651	1105	1168	495
eco-LSWE 4-3J12	2,670	1,715	3,590	11	12.9	1.1	15.5	338	644	150	3,310	2273	3651	1105	1168	495
eco-LSWE 4-3K12	2,700	1,715	3,615	15	14.2	1.1	15.5	338	644	150	3,340	2273	3651	1105	1168	495
eco-LSWE 4-4I12	3,045	2,140	4,065	7.5	11.0	1.1	15.5	443	644	150	3,785	2464	3651	1105	1359	686
eco-LSWE 4-4J12	3,100	2,140	4,120	11	12.6	1.1	15.5	443	644	150	3,840	2464	3651	1105	1359	686
eco-LSWE 4-4K12	3,125	2,140	4,145	15	13.9	1.1	15.5	443	644	150	3,870	2464	3651	1105	1359	686
eco-LSWE 4-5I12	3,450	2,550	4,575	7.5	10.8	1.1	15.5	548	644	150	4,315	2654	3651	1105	1549	876
eco-LSWE 4-5J12	3,505	2,550	4,630	11	12.4	1.1	15.5	548	644	150	4,370	2654	3651	1105	1549	876
eco-LSWE 4-5K12	3,535	2,550	4,660	15	13.6	1.1	15.5	548	644	150	4,395	2654	3651	1105	1549	876
eco-LSWE 4-3I18	3,780	2,525	5,095	7.5	14.8	1.5	23.0	499	946	200	4,555	2273	5486	1105	1168	495
eco-LSWE 4-3J18	3,835	2,525	5,150	11	16.9	1.5	23.0	499	946	200	4,610	2273	5486	1105	1168	495
eco-LSWE 4-3K18	3,860	2,525	5,175	15	18.6	1.5	23.0	499	946	200	4,635	2273	5486	1105	1168	495
eco-LSWE 4-3L18	3,875	2,525	5,190	18.5	20.0	1.5	23.0	499	946	200	4,650	2273	5486	1105	1168	495
eco-LSWE 4-4J18	4,460	3,150	5,935	11	16.6	1.5	23.0	657	946	200	5,400	2464	5486	1105	1359	686
eco-LSWE 4-4K18	4,485	3,150	5,960	15	18.2	1.5	23.0	657	946	200	5,425	2464	5486	1105	1359	686
eco-LSWE 4-4L18	4,500	3,150	5,975	18.5	19.6	1.5	23.0	657	946	200	5,440	2464	5486	1105	1359	686
eco-LSWE 4-5J18	5,075	3,770	6,710	11	16.2	1.5	23.0	816	946	200	6,175	2654	5486	1105	1549	876
eco-LSWE 4-5K18	5,105	3,770	6,735	15	17.9	1.5	23.0	816	946	200	6,200	2654	5486	1105	1549	876
eco-LSWE 4-5L18	5,115	3,770	6,750	18.5	19.2	1.5	23.0	816	946	200	6,215	2654	5486	1105	1549	876
eco-LSWE 4-5M18	5,140	3,770	6,770	22	20.4	1.5	23.0	816	946	200	6,235	2654	5486	1105	1549	876

† Model Number will end in "-Z" for units with Series Flow piping configuration. Series Flow units may require additional coil connections and will require crossover piping. Model numbers will include "I" for units with Intake Attenuation, "D" for units with Discharge Attenuation, "F" for units with Full Sound Attenuation, "T" for units with a Tapered Discharge Hood, and "S" for units with an option that negates CTI Certification.

* Heaviest section is the coil section.

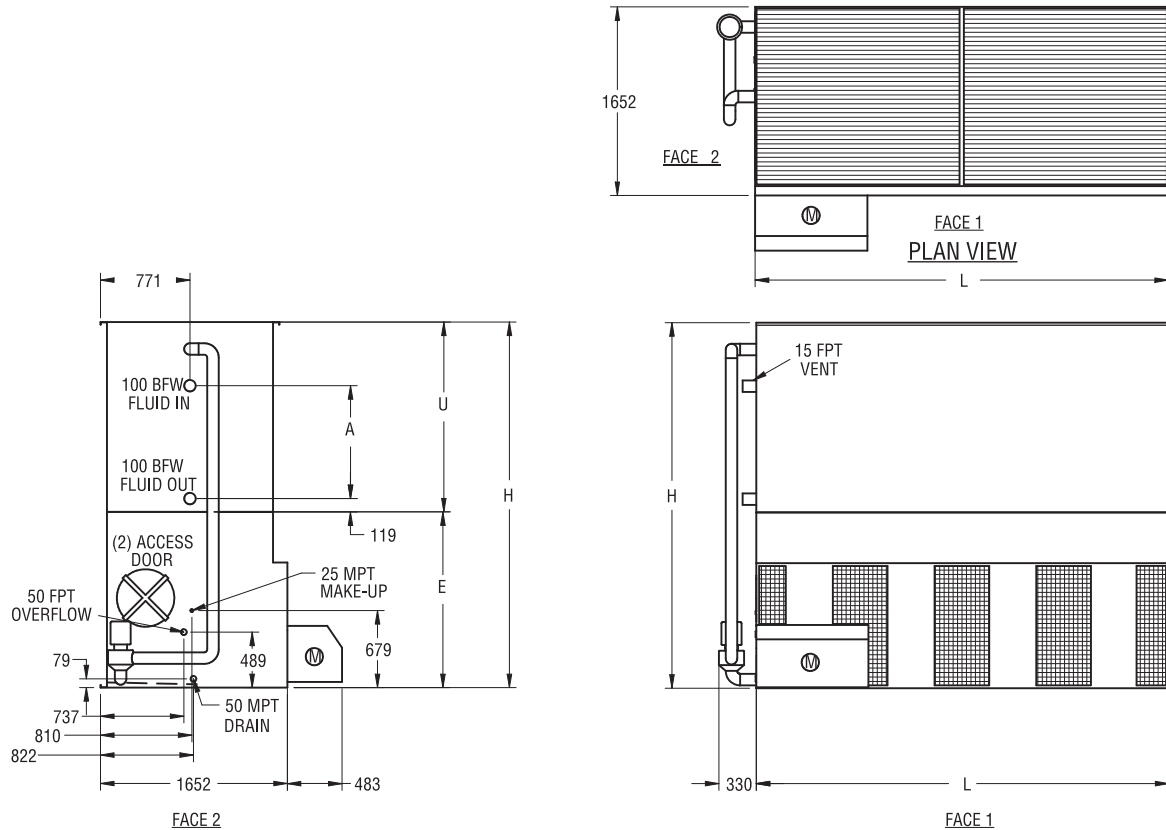
** Liters shown is water in suspension in unit and piping. Allow for additional water in bottom of remote sump to cover pump suction and strainer during operation (300mm would normally be sufficient).

Δ When a remote sump arrangement is selected, the spray pump, suction strainer and associated piping are omitted; the unit is provided with an oversized outlet to facilitate drainage to the remote sump.

▲ Unit dimensions and coil connections may vary slightly from catalog. See factory certified prints for dimensions, quantity of coil connections, and piping configuration. Coil connections are 100mm bevel for weld (BFW). Other connection types such as grooved for mechanical coupling or flanged are also available as options.

Models: eco-LSWE 5-3I12 to 5-6M12

Closed Circuit Coolers



Note: The number of coil connections may increase based on design flow rate.

Model No. †	WEIGHTS (kg)			FANS		SPRAY PUMP		Coil Volume (Liters)	REMOTE SUMP Δ			DIMENSIONS (mm) ▲				
	Shipping	Heaviest Section*	Operating	kW	m³/s	kW	l/s		Liters Req'd**	Conn. Size (mm)	Operating Weight (kg)	Height H	Length L	Lower E	Upper U	Coil A
eco-LSWE 5-3I12	3,465	2,300	5,045	7.5	14.1	1.5	21.8	479	871	150	4,265	2797	3645	1553	1245	565
eco-LSWE 5-3J12	3,520	2,300	5,100	11	16.2	1.5	21.8	479	871	150	4,320	2797	3645	1553	1245	565
eco-LSWE 5-3K12	3,545	2,300	5,125	15	17.8	1.5	21.8	479	871	150	4,345	2797	3645	1553	1245	565
eco-LSWE 5-3L12	3,560	2,300	5,140	18.5	19.2	1.5	21.8	479	871	150	4,360	2797	3645	1553	1245	565
eco-LSWE 5-4I12	4,065	2,900	5,790	7.5	13.8	1.5	21.8	629	871	150	5,025	3013	3645	1553	1461	781
eco-LSWE 5-4J12	4,120	2,900	5,845	11	15.8	1.5	21.8	629	871	150	5,080	3013	3645	1553	1461	781
eco-LSWE 5-4K12	4,145	2,900	5,875	15	17.4	1.5	21.8	629	871	150	5,105	3013	3645	1553	1461	781
eco-LSWE 5-4L12	4,160	2,900	5,890	18.5	18.8	1.5	21.8	629	871	150	5,120	3013	3645	1553	1461	781
eco-LSWE 5-5J12	4,730	3,510	6,610	11	15.5	1.5	21.8	778	871	150	5,845	3229	3645	1553	1676	997
eco-LSWE 5-5K12	4,760	3,510	6,635	15	17.1	1.5	21.8	778	871	150	5,875	3229	3645	1553	1676	997
eco-LSWE 5-5L12	4,770	3,510	6,650	18.5	18.4	1.5	21.8	778	871	150	5,890	3229	3645	1553	1676	997
eco-LSWE 5-6J12	5,335	4,115	7,360	11	15.2	1.5	21.8	928	871	150	6,605	3445	3645	1553	1892	1213
eco-LSWE 5-6K12	5,360	4,115	7,390	15	16.7	1.5	21.8	928	871	150	6,630	3445	3645	1553	1892	1213
eco-LSWE 5-6L12	5,375	4,115	7,405	18.5	18.0	1.5	21.8	928	871	150	6,645	3445	3645	1553	1892	1213
eco-LSWE 5-6M12	5,400	4,115	7,425	22	19.2	1.5	21.8	928	871	150	6,670	3445	3645	1553	1892	1213

† Model Number will end in "-Z" for units with Series Flow piping configuration. Series Flow units may require additional coil connections and will require crossover piping. Model numbers will include "I" for units with Intake Attenuation, "D" for units with Discharge Attenuation, "F" for units with Full Sound Attenuation, "T" for units with a Tapered Discharge Hood, and "S" for units with an option that negates CTI Certification.

* Heaviest section is the coil section.

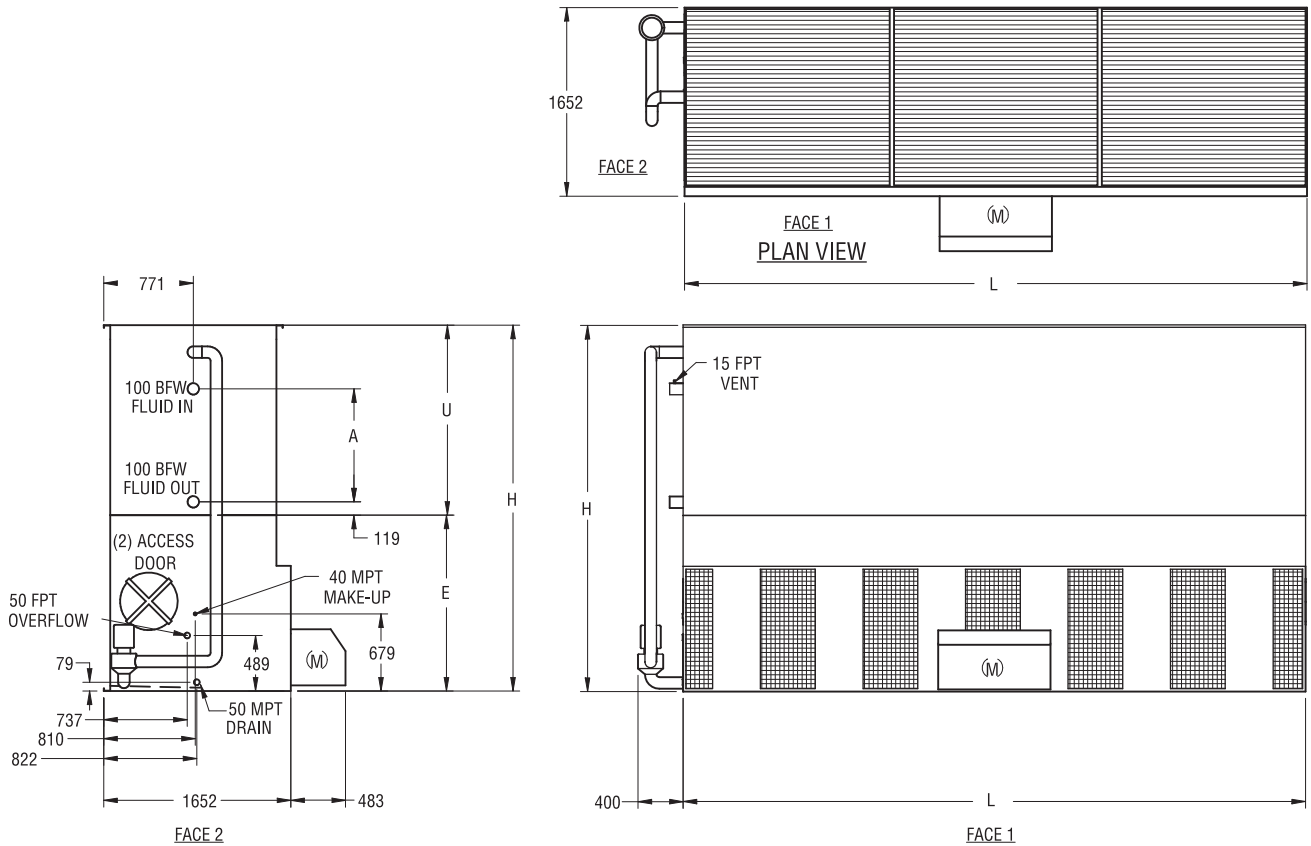
** Liters shown is water in suspension in unit and piping. Allow for additional water in bottom of remote sump to cover pump suction and strainer during operation (300mm would normally be sufficient).

Δ When a remote sump arrangement is selected, the spray pump, suction strainer and associated piping are omitted; the unit is provided with an oversized outlet to facilitate drainage to the remote sump.

▲ Unit dimensions and coil connections may vary slightly from catalog. See factory certified prints for dimensions, quantity of coil connections, and piping configuration. Coil connections are 100mm bevel for weld (BFW). Other connection types such as grooved for mechanical coupling or flanged are also available as options.

Models: eco-LSWE 5-3J18 to 5-6N18

Closed Circuit Coolers



Note: The number of coil connections may increase based on design flow rate.

Model No. †	WEIGHTS (kg)			FANS		SPRAY PUMP		Coil Volume (Liters)	REMOTE SUMP Δ			DIMENSIONS (mm) ▲				
	Shipping	Heaviest Section*	Operating	kW	m³/s	kW	l/s		Liters Req'd**	Conn. Size (mm)	Operating Weight (kg)	Height H	Length L	Lower E	Upper U	Coil A
eco-LSWE 5-3J18	5,205	3,445	7,465	11	21.2	2.2	32.5	708	1287	200	6,115	2797	5483	1553	1245	565
eco-LSWE 5-3K18	5,230	3,445	7,495	15	23.4	2.2	32.5	708	1287	200	6,140	2797	5483	1553	1245	565
eco-LSWE 5-3L18	5,245	3,445	7,505	18.5	25.2	2.2	32.5	708	1287	200	6,155	2797	5483	1553	1245	565
eco-LSWE 5-3M18	5,265	3,445	7,530	22	26.7	2.2	32.5	708	1287	200	6,180	2797	5483	1553	1245	565
eco-LSWE 5-4K18	6,130	4,340	8,615	15	22.9	2.2	32.5	934	1287	200	7,260	3013	5483	1553	1461	781
eco-LSWE 5-4L18	6,140	4,340	8,625	18.5	24.7	2.2	32.5	934	1287	200	7,275	3013	5483	1553	1461	781
eco-LSWE 5-4M18	6,165	4,340	8,650	22	26.2	2.2	32.5	934	1287	200	7,300	3013	5483	1553	1461	781
eco-LSWE 5-4N18	6,235	4,340	8,725	30	28.8	2.2	32.5	934	1287	200	7,370	3013	5483	1553	1461	781
eco-LSWE 5-5K18	7,060	5,270	9,770	15	22.4	2.2	32.5	1160	1287	200	8,430	3229	5483	1553	1676	997
eco-LSWE 5-5L18	7,070	5,270	9,785	18.5	24.2	2.2	32.5	1160	1287	200	8,440	3229	5483	1553	1676	997
eco-LSWE 5-5M18	7,095	5,270	9,805	22	25.7	2.2	32.5	1160	1287	200	8,465	3229	5483	1553	1676	997
eco-LSWE 5-5N18	7,165	5,270	9,880	30	28.3	2.2	32.5	1160	1287	200	8,535	3229	5483	1553	1676	997
eco-LSWE 5-6L18	7,980	6,180	10,920	18.5	23.7	2.2	32.5	1386	1287	200	9,590	3445	5483	1553	1892	1213
eco-LSWE 5-6M18	8,000	6,180	10,940	22	25.2	2.2	32.5	1386	1287	200	9,610	3445	5483	1553	1892	1213
eco-LSWE 5-6N18	8,075	6,180	11,015	30	27.7	2.2	32.5	1386	1287	200	9,685	3445	5483	1553	1892	1213

† Model Number will end in "-Z" for units with Series Flow piping configuration. Series Flow units may require additional coil connections and will require crossover piping. Model numbers will include "I" for units with Intake Attenuation, "D" for units with Discharge Attenuation, "F" for units with Full Sound Attenuation, "T" for units with a Tapered Discharge Hood, and "S" for units with an option that negates CTI Certification.

* Heaviest section is the coil section.

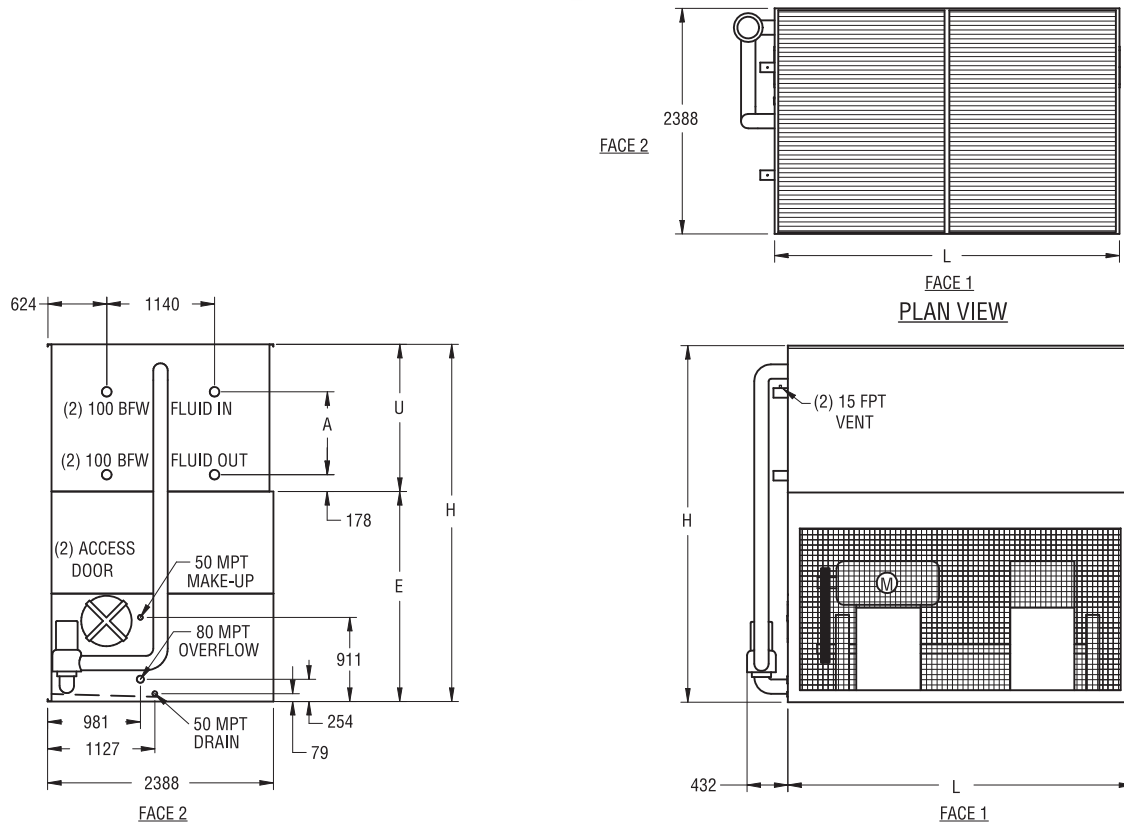
** Liters shown is water in suspension in unit and piping. Allow for additional water in bottom of remote sump to cover pump suction and strainer during operation (300mm would normally be sufficient).

Δ When a remote sump arrangement is selected, the spray pump, suction strainer and associated piping are omitted; the unit is provided with an oversized outlet to facilitate drainage to the remote sump.

▲ Unit dimensions and coil connections may vary slightly from catalog. See factory certified prints for dimensions, quantity of coil connections, and piping configuration. Coil connections are 100mm bevel for weld (BFW). Other connection types such as grooved for mechanical coupling or flanged are also available as options.

Models: eco-LSWE 8P-3K12 to 8P-6O12

Closed Circuit Coolers



Note: The number of coil connections may increase based on design flow rate.

Model No. †	WEIGHTS (kg)			FANS		SPRAY PUMP		Coil Volume (Liters)	REMOTE SUMP Δ			DIMENSIONS (mm) ▲				
	Shipping	Heaviest Section*	Operating	kW	m³/s	kW	l/s		Liters Req'd**	Conn. Size (mm)	Operating Weight (kg)	Height H	Length L	Lower E	Upper U	Coil A
eco-LSWE 8P-3K12	5,170	3,450	7,455	15	22.9	4	36.0	756	1363	250	6,565	3394	3651	2219	1175	495
eco-LSWE 8P-3L12	5,185	3,450	7,470	18.5	24.7	4	36.0	756	1363	250	6,575	3394	3651	2219	1175	495
eco-LSWE 8P-3M12	5,205	3,450	7,495	22	26.3	4	36.0	756	1363	250	6,600	3394	3651	2219	1175	495
eco-LSWE 8P-3N12	5,280	3,450	7,565	30	28.9	4	36.0	756	1363	250	6,670	3394	3651	2219	1175	495
eco-LSWE 8P-4L12	6,100	4,370	8,625	18.5	24.2	4	36.0	991	1363	250	7,780	3585	3651	2219	1365	686
eco-LSWE 8P-4M12	6,125	4,370	8,645	22	25.8	4	36.0	991	1363	250	7,800	3585	3651	2219	1365	686
eco-LSWE 8P-4N12	6,195	4,370	8,720	30	28.3	4	36.0	991	1363	250	7,875	3585	3651	2219	1365	686
eco-LSWE 8P-4O12	6,200	4,370	8,725	37	30.5	4	36.0	991	1363	250	7,880	3585	3651	2219	1365	686
eco-LSWE 8P-5M12	7,015	5,255	9,770	22	25.2	4	36.0	1227	1363	250	8,975	3775	3651	2219	1556	876
eco-LSWE 8P-5N12	7,085	5,255	9,845	30	27.8	4	36.0	1227	1363	250	9,050	3775	3651	2219	1556	876
eco-LSWE 8P-5O12	7,090	5,255	9,845	37	29.9	4	36.0	1227	1363	250	9,055	3775	3651	2219	1556	876
eco-LSWE 8P-6M12	7,925	6,170	10,920	22	24.7	4	36.0	1462	1363	250	10,180	3966	3651	2219	1746	1067
eco-LSWE 8P-6N12	7,995	6,170	10,990	30	27.2	4	36.0	1462	1363	250	10,250	3966	3651	2219	1746	1067
eco-LSWE 8P-6O12	8,000	6,170	10,995	37	29.3	4	36.0	1462	1363	250	10,255	3966	3651	2219	1746	1067

† Model Number will end in "-Z" for units with Series Flow piping configuration. Series Flow units may require additional coil connections and will require crossover piping. Model numbers will include "I" for units with Intake Attenuation, "D" for units with Discharge Attenuation, "F" for units with Full Sound Attenuation, "T" for units with a Tapered Discharge Hood, and "S" for units with an option that negates CTI Certification.

* Heaviest section is the coil section.

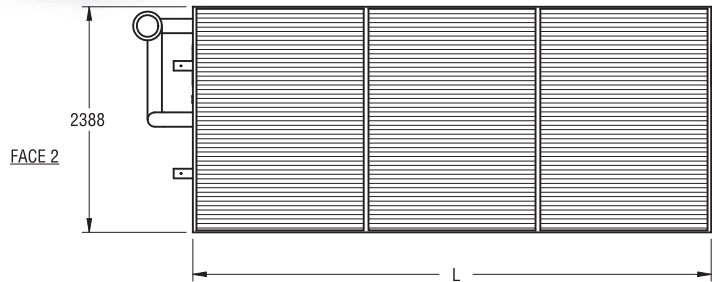
** Liters shown is water in suspension in unit and piping. Allow for additional water in bottom of remote sump to cover pump suction and strainer during operation (300mm would normally be sufficient).

Δ When a remote sump arrangement is selected, the spray pump, suction strainer and associated piping are omitted; the unit is provided with an oversized outlet to facilitate drainage to the remote sump.

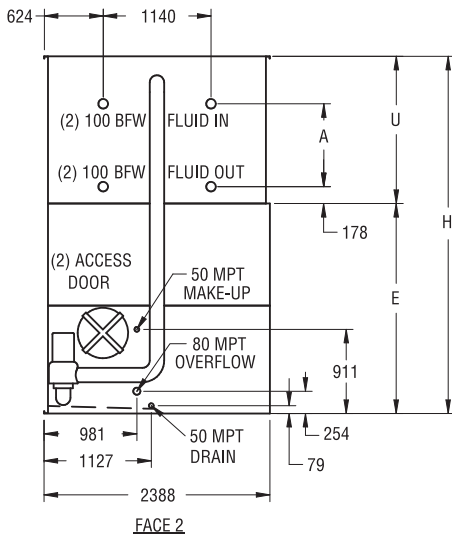
▲ Unit dimensions and coil connections may vary slightly from catalog. See factory certified prints for dimensions, quantity of coil connections, and piping configuration. Coil connections are 100mm bevel for weld (BFW). Other connection types such as grooved for mechanical coupling or flanged are also available as options.

Models: eco-LSWE 8P-3M18 to 8P-6P18

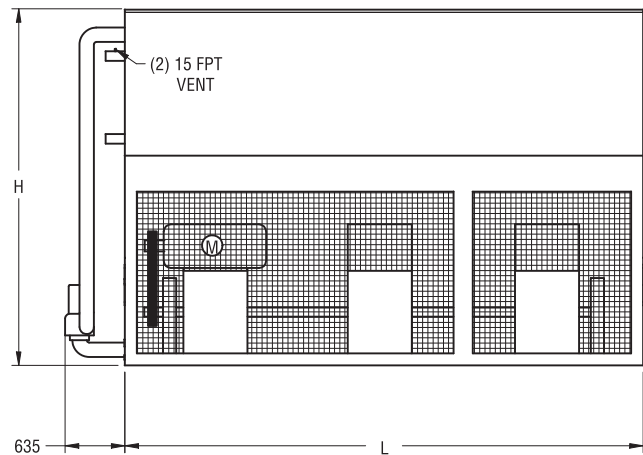
Closed Circuit Coolers



FACE 1
PLAN VIEW



FACE 2



FACE 1

Note: The number of coil connections may increase based on design flow rate.

Model No. †	WEIGHTS (kg)			FANS		SPRAY PUMP		Coil Volume (Liters)	REMOTE SUMP Δ			DIMENSIONS (mm) ▲				
	Shipping	Heaviest Section*	Operating	kW	m³/s	kW	l/s		Liters Req'd**	Conn. Size (mm)	Operating Weight (kg)	Height H	Length L	Lower E	Upper U	Coil A
eco-LSWE 8P-3M18	7,495	5,115	10,940	22	34.3	5.5	53.0	1117	2006	300	9,625	3394	5486	2219	1175	495
eco-LSWE 8P-3N18	7,565	5,115	11,015	30	37.8	5.5	53.0	1117	2006	300	9,700	3394	5486	2219	1175	495
eco-LSWE 8P-3O18	7,570	5,115	11,020	37	40.7	5.5	53.0	1117	2006	300	9,700	3394	5486	2219	1175	495
eco-LSWE 8P-3P18	7,660	5,115	11,110	45	43.3	5.5	53.0	1117	2006	300	9,795	3394	5486	2219	1175	495
eco-LSWE 8P-4M18	8,870	6,490	12,670	22	33.7	5.5	53.0	1472	2006	300	11,435	3585	5486	2219	1365	686
eco-LSWE 8P-4N18	8,940	6,490	12,740	30	37.1	5.5	53.0	1472	2006	300	11,510	3585	5486	2219	1365	686
eco-LSWE 8P-4O18	8,945	6,490	12,745	37	39.9	5.5	53.0	1472	2006	300	11,510	3585	5486	2219	1365	686
eco-LSWE 8P-4P18	9,035	6,490	12,835	45	42.4	5.5	53.0	1472	2006	300	11,605	3585	5486	2219	1365	686
eco-LSWE 8P-5N18	10,265	7,815	14,420	30	36.3	5.5	53.0	1827	2006	300	13,265	3775	5486	2219	1556	876
eco-LSWE 8P-5O18	10,270	7,815	14,425	37	39.1	5.5	53.0	1827	2006	300	13,270	3775	5486	2219	1556	876
eco-LSWE 8P-5P18	10,360	7,815	14,515	45	41.6	5.5	53.0	1827	2006	300	13,360	3775	5486	2219	1556	876
eco-LSWE 8P-6N18	11,655	9,210	16,170	30	35.6	5.5	53.0	2183	2006	300	15,085	3966	5486	2219	1746	1067
eco-LSWE 8P-6O18	11,660	9,210	16,175	37	38.3	5.5	53.0	2183	2006	300	15,090	3966	5486	2219	1746	1067
eco-LSWE 8P-6P18	11,755	9,210	16,265	45	40.7	5.5	53.0	2183	2006	300	15,180	3966	5486	2219	1746	1067

† Model Number will end in "-Z" for units with Series Flow piping configuration. Series Flow units may require additional coil connections and will require crossover piping. Model numbers will include "I" for units with Intake Attenuation, "D" for units with Discharge Attenuation, "F" for units with Full Sound Attenuation, "T" for units with a Tapered Discharge Hood, and "S" for units with an option that negates CTI Certification.

* Heaviest section is the coil section.

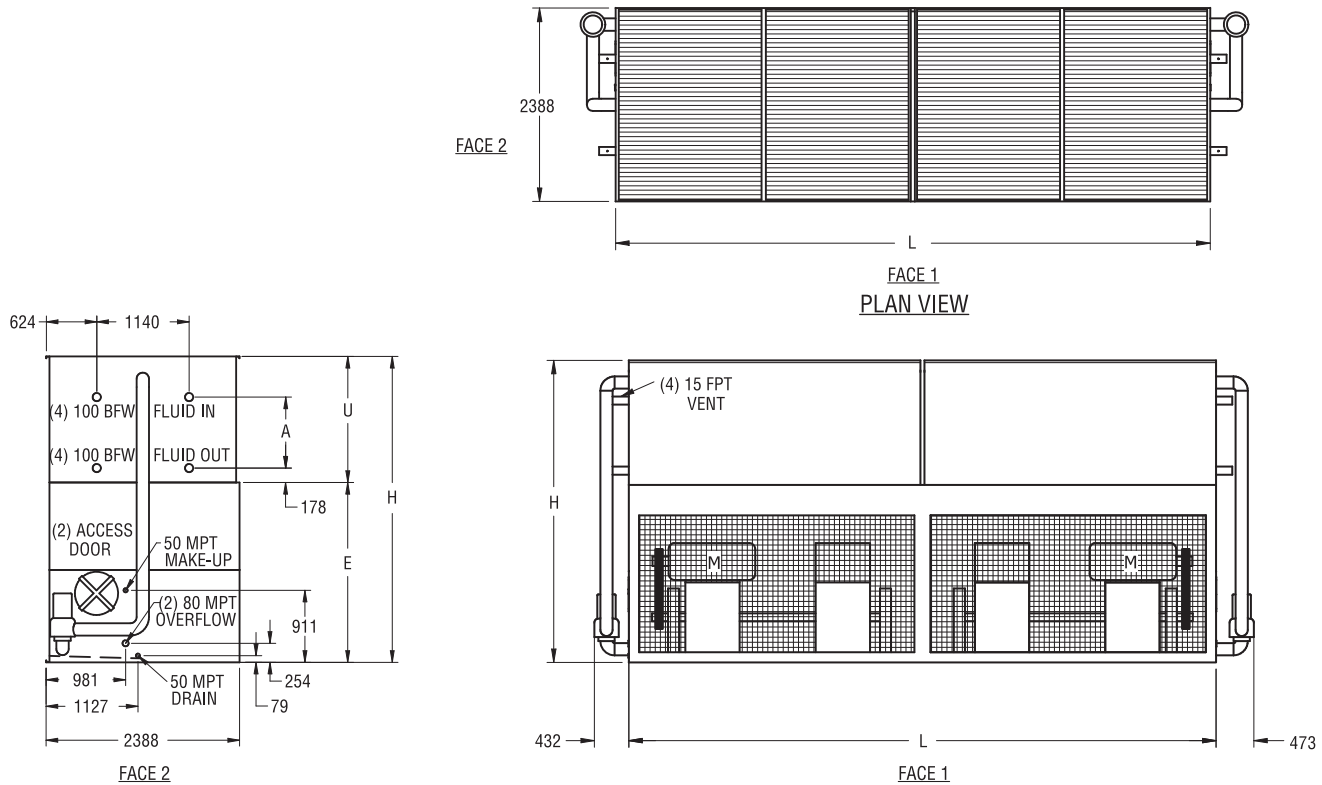
** Liters shown is water in suspension in unit and piping. Allow for additional water in bottom of remote sump to cover pump suction and strainer during operation (300mm would normally be sufficient).

Δ When a remote sump arrangement is selected, the spray pump, suction strainer and associated piping are omitted; the unit is provided with an oversized outlet to facilitate drainage to the remote sump.

▲ Unit dimensions and coil connections may vary slightly from catalog. See factory certified prints for dimensions, quantity of coil connections, and piping configuration. Coil connections are 100mm bevel for weld (BFW). Other connection types such as grooved for mechanical coupling or flanged are also available as options.

Models: eco-LSWE 8P-3K24 to 8P-6O24

Closed Circuit Coolers



Note: The number of coil connections may increase based on design flow rate.

Model No. †	WEIGHTS (kg)			FANS		SPRAY PUMP		Coil Volume (Liters)	REMOTE SUMP Δ			DIMENSIONS (mm) ▲				
	Shipping	Heaviest Section*	Operating	kW	m³/s	kW	l/s		Liters Req'd**	Conn. Size (mm)	Operating Weight (kg)	Height H	Length L	Lower E	Upper U	Coil A
eco-LSWE 8P-3K24	10,035	3,450	14,635	(2) 15	45.9	(2) 4	71.9	1512	2725	(2) 250	13,215	3394	7341	2219	1175	495
eco-LSWE 8P-3L24	10,060	3,450	14,665	(2) 18.5	49.4	(2) 4	71.9	1512	2725	(2) 250	13,270	3394	7341	2219	1175	495
eco-LSWE 8P-3M24	10,105	3,450	14,710	(2) 22	52.5	(2) 4	71.9	1512	2725	(2) 250	13,360	3394	7341	2219	1175	495
eco-LSWE 8P-3N24	10,250	3,450	14,855	(2) 30	57.8	(2) 4	71.9	1512	2725	(2) 250	13,650	3394	7341	2219	1175	495
eco-LSWE 8P-4L24	11,885	4,365	16,960	(2) 18.5	48.5	(2) 4	71.9	1983	2725	(2) 250	15,680	3585	7341	2219	1365	686
eco-LSWE 8P-4M24	11,930	4,365	17,005	(2) 22	51.5	(2) 4	71.9	1983	2725	(2) 250	15,770	3585	7341	2219	1365	686
eco-LSWE 8P-4N24	12,075	4,365	17,150	(2) 30	56.7	(2) 4	71.9	1983	2725	(2) 250	16,060	3585	7341	2219	1365	686
eco-LSWE 8P-4O24	12,085	4,365	17,160	(2) 37	61.1	(2) 4	71.9	1983	2725	(2) 250	16,080	3585	7341	2219	1365	686
eco-LSWE 8P-5M24	13,715	5,255	19,265	(2) 22	50.5	(2) 4	71.9	2453	2725	(2) 250	18,125	3775	7341	2219	1556	876
eco-LSWE 8P-5N24	13,860	5,255	19,410	(2) 30	55.6	(2) 4	71.9	2453	2725	(2) 250	18,415	3775	7341	2219	1556	876
eco-LSWE 8P-5O24	13,870	5,255	19,420	(2) 37	59.8	(2) 4	71.9	2453	2725	(2) 250	18,435	3775	7341	2219	1556	876
eco-LSWE 8P-6M24	15,540	6,170	21,560	(2) 22	49.4	(2) 4	71.9	2924	2725	(2) 250	20,535	3966	7341	2219	1746	1067
eco-LSWE 8P-6N24	15,685	6,170	21,705	(2) 30	54.4	(2) 4	71.9	2924	2725	(2) 250	20,825	3966	7341	2219	1746	1067
eco-LSWE 8P-6O24	15,695	6,170	21,715	(2) 37	58.6	(2) 4	71.9	2924	2725	(2) 250	20,840	3966	7341	2219	1746	1067

† Model Number will end in "-Z" for units with Series Flow piping configuration. Series Flow units may require additional coil connections and will require crossover piping. Model numbers will include "I" for units with Intake Attenuation, "D" for units with Discharge Attenuation, "F" for units with Full Sound Attenuation, "T" for units with a Tapered Discharge Hood, and "S" for units with an option that negates CTI Certification.

* Heaviest section is the coil section.

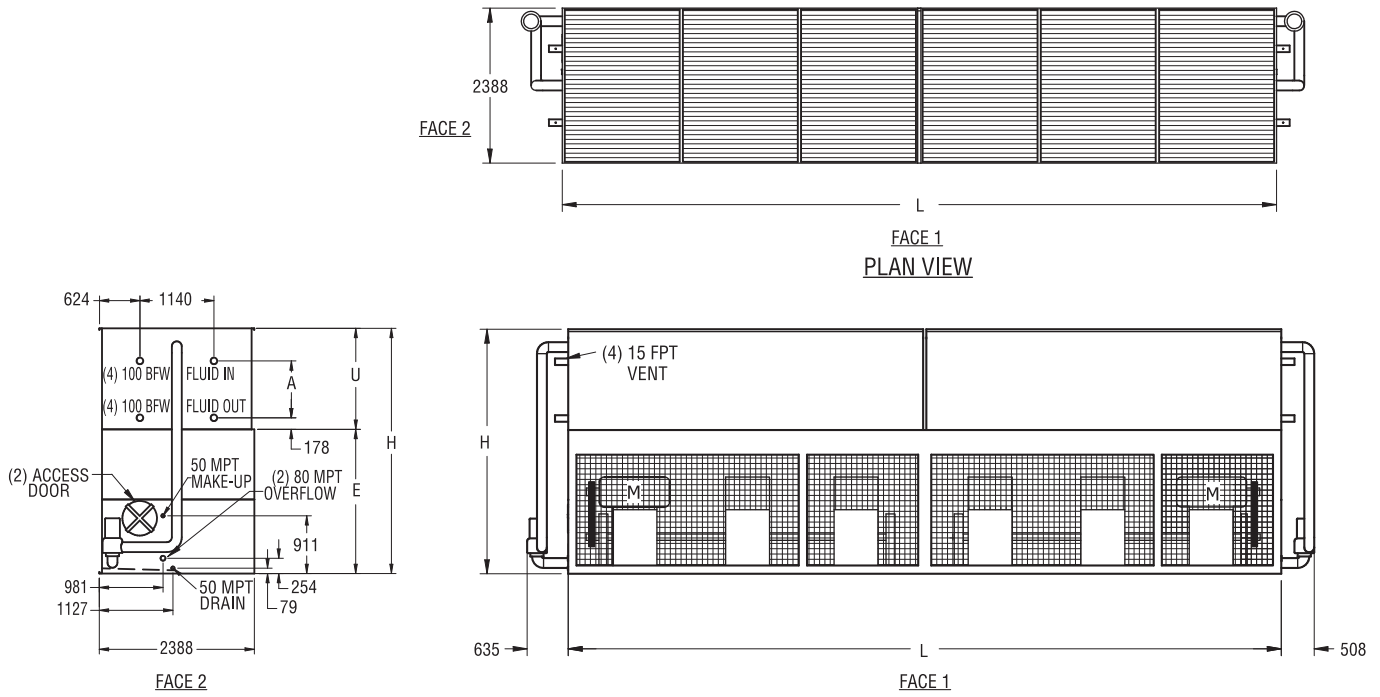
** Liters shown is water in suspension in unit and piping. Allow for additional water in bottom of remote sump to cover pump suction and strainer during operation (300mm would normally be sufficient).

Δ When a remote sump arrangement is selected, the spray pump, suction strainer and associated piping are omitted; the unit is provided with an oversized outlet to facilitate drainage to the remote sump.

▲ Unit dimensions and coil connections may vary slightly from catalog. See factory certified prints for dimensions, quantity of coil connections, and piping configuration. Coil connections are 100mm bevel for weld (BFW). Other connection types such as grooved for mechanical coupling or flanged are also available as options.

Models: eco-LSWE 8P-3M36 to 8P-6P36

Closed Circuit Coolers



Note: The number of coil connections may increase based on design flow rate.

Model No. †	WEIGHTS (kg)			FANS		SPRAY PUMP		Coil Volume (Liters)	REMOTE SUMP Δ			DIMENSIONS (mm) ▲				
	Shipping	Heaviest Section*	Operating	kW	m³/s	kW	l/s		Liters Req'd**	Conn. Size (mm)	Operating Weight (kg)	Height H	Length L	Lower E	Upper U	Coil A
eco-LSWE 8P-3M36	14,645	5,115	21,585	(2) 22	68.7	(2) 5.5	106.0	2233	4013	(2) 300	19,415	3394	11024	2219	1175	495
eco-LSWE 8P-3N36	14,790	5,115	21,730	(2) 30	75.6	(2) 5.5	106.0	2233	4013	(2) 300	19,705	3394	11024	2219	1175	495
eco-LSWE 8P-3O36	14,800	5,115	21,740	(2) 37	81.4	(2) 5.5	106.0	2233	4013	(2) 300	19,720	3394	11024	2219	1175	495
eco-LSWE 8P-3P36	14,980	5,115	21,920	(2) 45	86.5	(2) 5.5	106.0	2233	4013	(2) 300	20,085	3394	11024	2219	1175	495
eco-LSWE 8P-4M36	17,405	6,495	25,050	(2) 22	67.3	(2) 5.5	106.0	2944	4013	(2) 300	23,035	3585	11024	2219	1365	686
eco-LSWE 8P-4N36	17,550	6,495	25,195	(2) 30	74.1	(2) 5.5	106.0	2944	4013	(2) 300	23,325	3585	11024	2219	1365	686
eco-LSWE 8P-4O36	17,560	6,495	25,205	(2) 37	79.8	(2) 5.5	106.0	2944	4013	(2) 300	23,340	3585	11024	2219	1365	686
eco-LSWE 8P-4P36	17,740	6,495	25,385	(2) 45	84.8	(2) 5.5	106.0	2944	4013	(2) 300	23,705	3585	11024	2219	1365	686
eco-LSWE 8P-5N36	20,205	7,825	28,565	(2) 30	72.6	(2) 5.5	106.0	3655	4013	(2) 300	26,855	3775	11024	2219	1556	876
eco-LSWE 8P-5O36	20,215	7,825	28,570	(2) 37	78.2	(2) 5.5	106.0	3655	4013	(2) 300	26,875	3775	11024	2219	1556	876
eco-LSWE 8P-5P36	20,400	7,825	28,755	(2) 45	83.2	(2) 5.5	106.0	3655	4013	(2) 300	27,240	3775	11024	2219	1556	876
eco-LSWE 8P-6N36	22,975	9,210	32,045	(2) 30	71.2	(2) 5.5	106.0	4366	4013	(2) 300	30,485	3966	11024	2219	1746	1067
eco-LSWE 8P-6O36	22,985	9,210	32,055	(2) 37	76.7	(2) 5.5	106.0	4366	4013	(2) 300	30,505	3966	11024	2219	1746	1067
eco-LSWE 8P-6P36	23,165	9,210	32,235	(2) 45	81.5	(2) 5.5	106.0	4366	4013	(2) 300	30,865	3966	11024	2219	1746	1067

† Model Number will end in "Z" for units with Series Flow piping configuration. Series Flow units may require additional coil connections and will require crossover piping. Model numbers will include "I" for units with Intake Attenuation, "D" for units with Discharge Attenuation, "F" for units with Full Sound Attenuation, "T" for units with a Tapered Discharge Hood, and "S" for units with an option that negates CTI Certification.

* Heaviest section is the coil section.

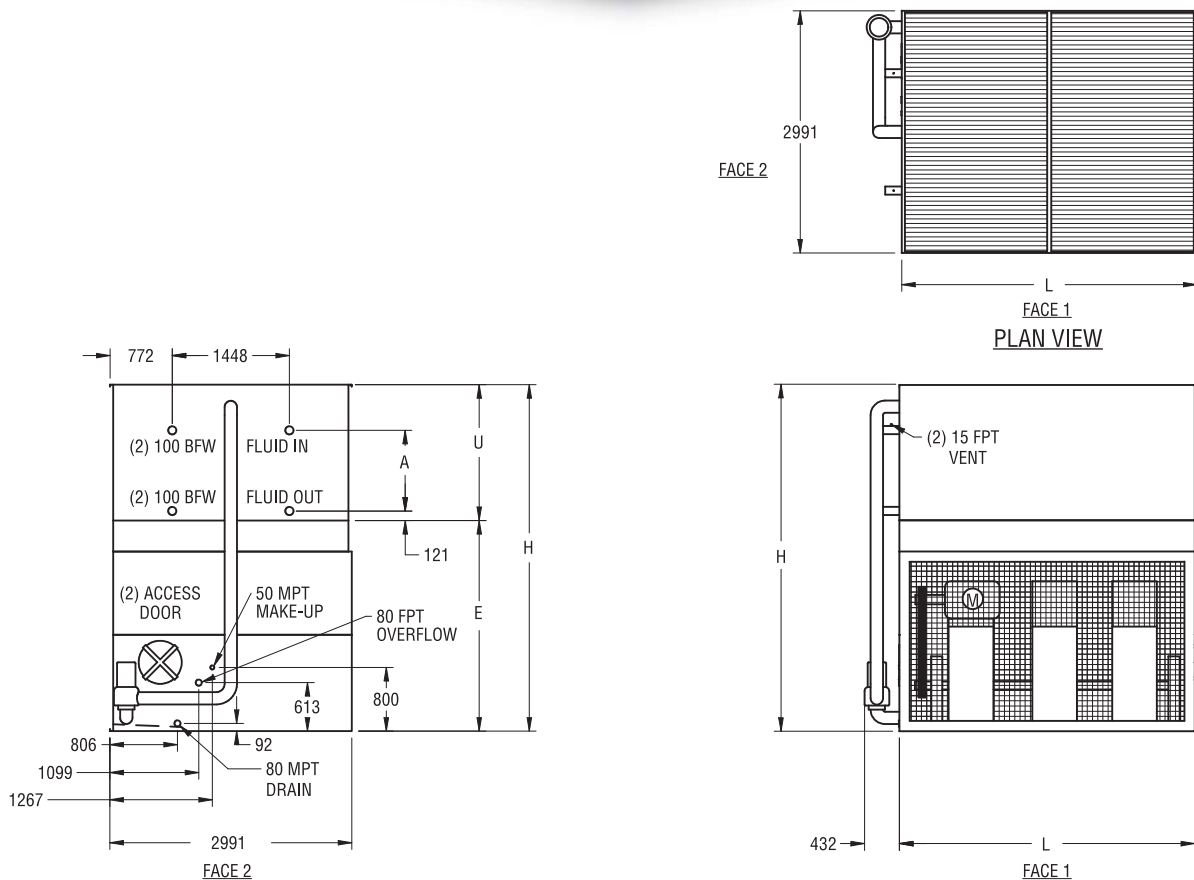
** Liters shown is water in suspension in unit and piping. Allow for additional water in bottom of remote sump to cover pump suction and strainer during operation (300mm would normally be sufficient).

Δ When a remote sump arrangement is selected, the spray pump, suction strainer and associated piping are omitted; the unit is provided with an oversized outlet to facilitate drainage to the remote sump.

▲ Unit dimensions and coil connections may vary slightly from catalog. See factory certified prints for dimensions, quantity of coil connections, and piping configuration. Coil connections are 100mm bevel for weld (BFW). Other connection types such as grooved for mechanical coupling or flanged are also available as options.

Models: eco-LSWE Models 10-3M12 to 10-6P12

Closed Circuit Coolers



Note: The number of coil connections may increase based on design flow rate.

Model No. †	WEIGHTS (kg)			FANS		SPRAY PUMP		Coil Volume (Liters)	REMOTE SUMP Δ			DIMENSIONS (mm) ▲				
	Shipping	Heaviest Section*	Operating	kW	m³/s	kW	l/s		Liters Req'd**	Conn. Size (mm)	Operating Weight (kg)	Height H	Length L	Lower E	Upper U	Coil A
eco-LSWE 10-3M12	6,790	4,570	9,725	22	32.3	4	43.2	959	1552	250	8,705	3851	3651	2604	1248	565
eco-LSWE 10-3N12	6,865	4,570	9,800	30	35.5	4	43.2	959	1552	250	8,775	3851	3651	2604	1248	565
eco-LSWE 10-3O12	6,865	4,570	9,800	37	38.3	4	43.2	959	1552	250	8,780	3851	3651	2604	1248	565
eco-LSWE 10-4M12	7,985	5,765	11,215	22	31.6	4	43.2	1258	1552	250	10,280	4067	3651	2604	1464	781
eco-LSWE 10-4N12	8,055	5,765	11,290	30	34.8	4	43.2	1258	1552	250	10,350	4067	3651	2604	1464	781
eco-LSWE 10-4O12	8,060	5,765	11,295	37	37.5	4	43.2	1258	1552	250	10,355	4067	3651	2604	1464	781
eco-LSWE 10-5M12	9,120	6,905	12,655	22	31.0	4	43.2	1557	1552	250	11,795	4283	3651	2604	1680	997
eco-LSWE 10-5N12	9,195	6,905	12,730	30	34.1	4	43.2	1557	1552	250	11,865	4283	3651	2604	1680	997
eco-LSWE 10-5O12	9,200	6,905	12,730	37	36.8	4	43.2	1557	1552	250	11,870	4283	3651	2604	1680	997
eco-LSWE 10-6M12	10,305	8,090	14,135	22	30.4	4	43.2	1855	1552	250	13,355	4499	3651	2604	1895	1213
eco-LSWE 10-6N12	10,380	8,090	14,205	30	33.4	4	43.2	1855	1552	250	13,425	4499	3651	2604	1895	1213
eco-LSWE 10-6O12	10,385	8,090	14,210	37	36.0	4	43.2	1855	1552	250	13,430	4499	3651	2604	1895	1213
eco-LSWE 10-6P12	10,475	8,090	14,300	45	38.3	4	43.2	1855	1552	250	13,520	4499	3651	2604	1895	1213

† Model Number will end in "-Z" for units with Series Flow piping configuration. Series Flow units may require additional coil connections and will require crossover piping. Model numbers will include "I" for units with Intake Attenuation, "D" for units with Discharge Attenuation, "F" for units with Full Sound Attenuation, "T" for units with a Tapered Discharge Hood, and "S" for units with an option that negates CTI Certification.

* Heaviest section is the coil section.

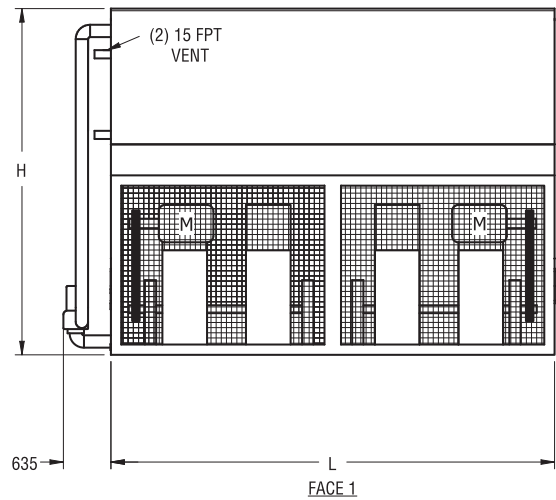
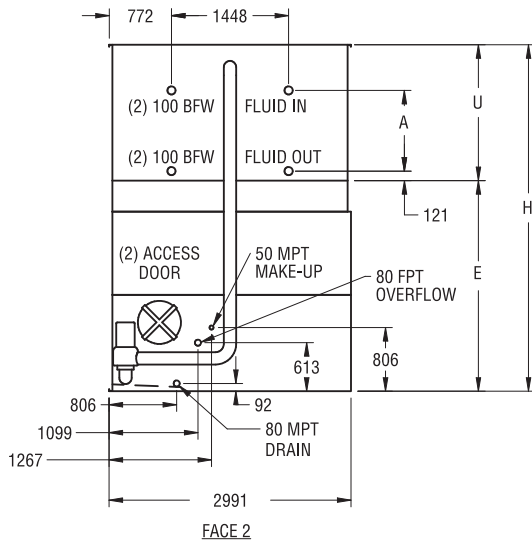
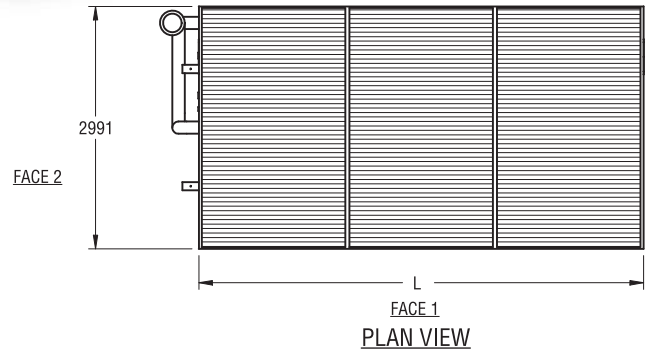
** Liters shown is water in suspension in unit and piping. Allow for additional water in bottom of remote sump to cover pump suction and strainer during operation (300mm would normally be sufficient).

Δ When a remote sump arrangement is selected, the spray pump, suction strainer and associated piping are omitted; the unit is provided with an oversized outlet to facilitate drainage to the remote sump.

▲ Unit dimensions and coil connections may vary slightly from catalog. See factory certified prints for dimensions, quantity of coil connections, and piping configuration. Coil connections are 100mm bevel for weld (BFW). Other connection types such as grooved for mechanical coupling or flanged are also available as options.

Models: eco-LSWE 10-3K18 to 10-6N18

Closed Circuit Coolers



Note: The number of coil connections may increase based on design flow rate.

Model No. †	WEIGHTS (kg)			FANS		SPRAY PUMP		Coil Volume (Liters)	REMOTE SUMP Δ			DIMENSIONS (mm) ▲				
	Shipping	Heaviest Section*	Operating	kW	m³/s	kW	l/s		Liters Req'd**	Conn. Size (mm)	Operating Weight (kg)	Height H	Length L	Lower E	Upper U	Coil A
eco-LSWE 10-3K18	9,955	6,720	14,380	(2) 15	46.6	5.5	65.0	1417	2271	300	12,785	3851	5493	2604	1248	565
eco-LSWE 10-3L18	9,985	6,720	14,405	(2) 18.5	50.2	5.5	65.0	1417	2271	300	12,815	3851	5493	2604	1248	565
eco-LSWE 10-3M18	10,030	6,720	14,450	(2) 22	53.4	5.5	65.0	1417	2271	300	12,860	3851	5493	2604	1248	565
eco-LSWE 10-3N18	10,175	6,720	14,595	(2) 30	58.8	5.5	65.0	1417	2271	300	13,005	3851	5493	2604	1248	565
eco-LSWE 10-4L18	11,750	8,485	16,620	(2) 18.5	49.2	5.5	65.0	1868	2271	300	15,125	4067	5493	2604	1464	781
eco-LSWE 10-4M18	11,795	8,485	16,665	(2) 22	52.3	5.5	65.0	1868	2271	300	15,175	4067	5493	2604	1464	781
eco-LSWE 10-4N18	11,940	8,485	16,810	(2) 30	57.6	5.5	65.0	1868	2271	300	15,320	4067	5493	2604	1464	781
eco-LSWE 10-5L18	13,460	10,195	18,785	(2) 18.5	48.3	5.5	65.0	2320	2271	300	17,410	4283	5493	2604	1680	997
eco-LSWE 10-5M18	13,505	10,195	18,830	(2) 22	51.3	5.5	65.0	2320	2271	300	17,455	4283	5493	2604	1680	997
eco-LSWE 10-5N18	13,650	10,195	18,975	(2) 30	56.4	5.5	65.0	2320	2271	300	17,600	4283	5493	2604	1680	997
eco-LSWE 10-6L18	15,220	11,960	20,995	(2) 18.5	47.3	5.5	65.0	2771	2271	300	19,735	4499	5493	2604	1895	1213
eco-LSWE 10-6M18	15,270	11,960	21,040	(2) 22	50.2	5.5	65.0	2771	2271	300	19,780	4499	5493	2604	1895	1213
eco-LSWE 10-6N18	15,415	11,960	21,185	(2) 30	55.3	5.5	65.0	2771	2271	300	19,925	4499	5493	2604	1895	1213

† Model Number will end in "-Z" for units with Series Flow piping configuration. Series Flow units may require additional coil connections and will require crossover piping. Model numbers will include "I" for units with Intake Attenuation, "D" for units with Discharge Attenuation, "F" for units with Full Sound Attenuation, "T" for units with a Tapered Discharge Hood, and "S" for units with an option that negates CTI Certification.

* Heaviest section is the coil section.

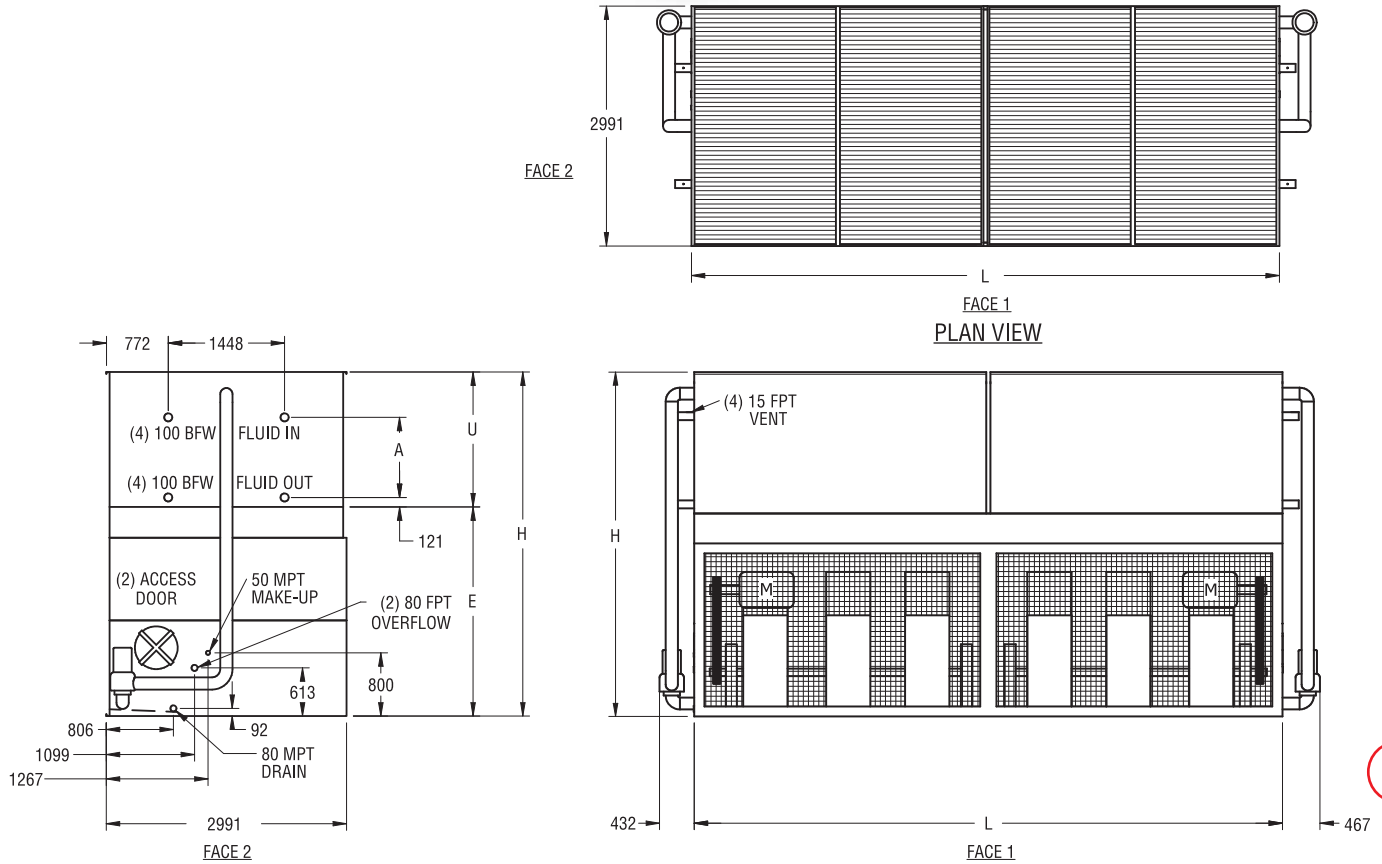
** Liters shown is water in suspension in unit and piping. Allow for additional water in bottom of remote sump to cover pump suction and strainer during operation (300mm would normally be sufficient).

Δ When a remote sump arrangement is selected, the spray pump, suction strainer and associated piping are omitted; the unit is provided with an oversized outlet to facilitate drainage to the remote sump.

▲ Unit dimensions and coil connections may vary slightly from catalog. See factory certified prints for dimensions, quantity of coil connections, and piping configuration. Coil connections are 100mm bevel for weld (BFW). Other connection types such as grooved for mechanical coupling or flanged are also available as options.

Models: eco-LSWE 10-3M24 to 10-6P24

Closed Circuit Coolers



Note: The number of coil connections may increase based on design flow rate.

Model No. †	WEIGHTS (kg)			FANS		SPRAY PUMP		Coil Volume (Liters)	REMOTE SUMP Δ			DIMENSIONS (mm) ▲				
	Shipping	Heaviest Section*	Operating	kW	m³/s	kW	l/s		Liters Req'd**	Conn. Size (mm)	Operating Weight (kg)	Height H	Length L	Lower E	Upper U	Coil A
eco-LSWE 10-3M24	13,315	4,570	19,260	[2] 22	64.5	[2] 4	86.4	1918	3104	[2] 250	17,475	3851	7344	2604	1248	565
eco-LSWE 10-3N24	13,465	4,570	19,405	[2] 30	71.0	[2] 4	86.4	1918	3104	[2] 250	17,765	3851	7344	2604	1248	565
eco-LSWE 10-3O24	13,470	4,570	19,415	[2] 37	76.5	[2] 4	86.4	1918	3104	[2] 250	17,785	3851	7344	2604	1248	565
eco-LSWE 10-4M24	15,695	5,760	22,235	[2] 22	63.3	[2] 4	86.4	2515	3104	[2] 250	20,600	4067	7344	2604	1464	781
eco-LSWE 10-4N24	15,840	5,760	22,380	[2] 30	69.6	[2] 4	86.4	2515	3104	[2] 250	20,890	4067	7344	2604	1464	781
eco-LSWE 10-4O24	15,850	5,760	22,390	[2] 37	75.0	[2] 4	86.4	2515	3104	[2] 250	20,910	4067	7344	2604	1464	781
eco-LSWE 10-5M24	17,980	6,905	25,120	[2] 22	62.0	[2] 4	86.4	3113	3104	[2] 250	23,630	4283	7344	2604	1680	997
eco-LSWE 10-5N24	18,125	6,905	25,265	[2] 30	68.2	[2] 4	86.4	3113	3104	[2] 250	23,920	4283	7344	2604	1680	997
eco-LSWE 10-5O24	18,135	6,905	25,275	[2] 37	73.5	[2] 4	86.4	3113	3104	[2] 250	23,940	4283	7344	2604	1680	997
eco-LSWE 10-6M24	20,350	8,090	28,075	[2] 22	60.7	[2] 4	86.4	3711	3104	[2] 250	26,740	4499	7344	2604	1895	1213
eco-LSWE 10-6N24	20,495	8,090	28,220	[2] 30	66.8	[2] 4	86.4	3711	3104	[2] 250	27,030	4499	7344	2604	1895	1213
eco-LSWE 10-6O24	20,500	8,090	28,230	[2] 37	72.0	[2] 4	86.4	3711	3104	[2] 250	27,050	4499	7344	2604	1895	1213
eco-LSWE 10-6P24	20,685	8,090	28,415	[2] 45	76.5	[2] 4	86.4	3711	3104	[2] 250	27,410	4499	7344	2604	1895	1213

† Model Number will end in "-Z" for units with Series Flow piping configuration. Series Flow units may require additional coil connections and will require crossover piping. Model numbers will include "I" for units with Intake Attenuation, "D" for units with Discharge Attenuation, "F" for units with Full Sound Attenuation, "T" for units with a Tapered Discharge Hood, and "S" for units with an option that negates CTI Certification.

* Heaviest section is the coil section.

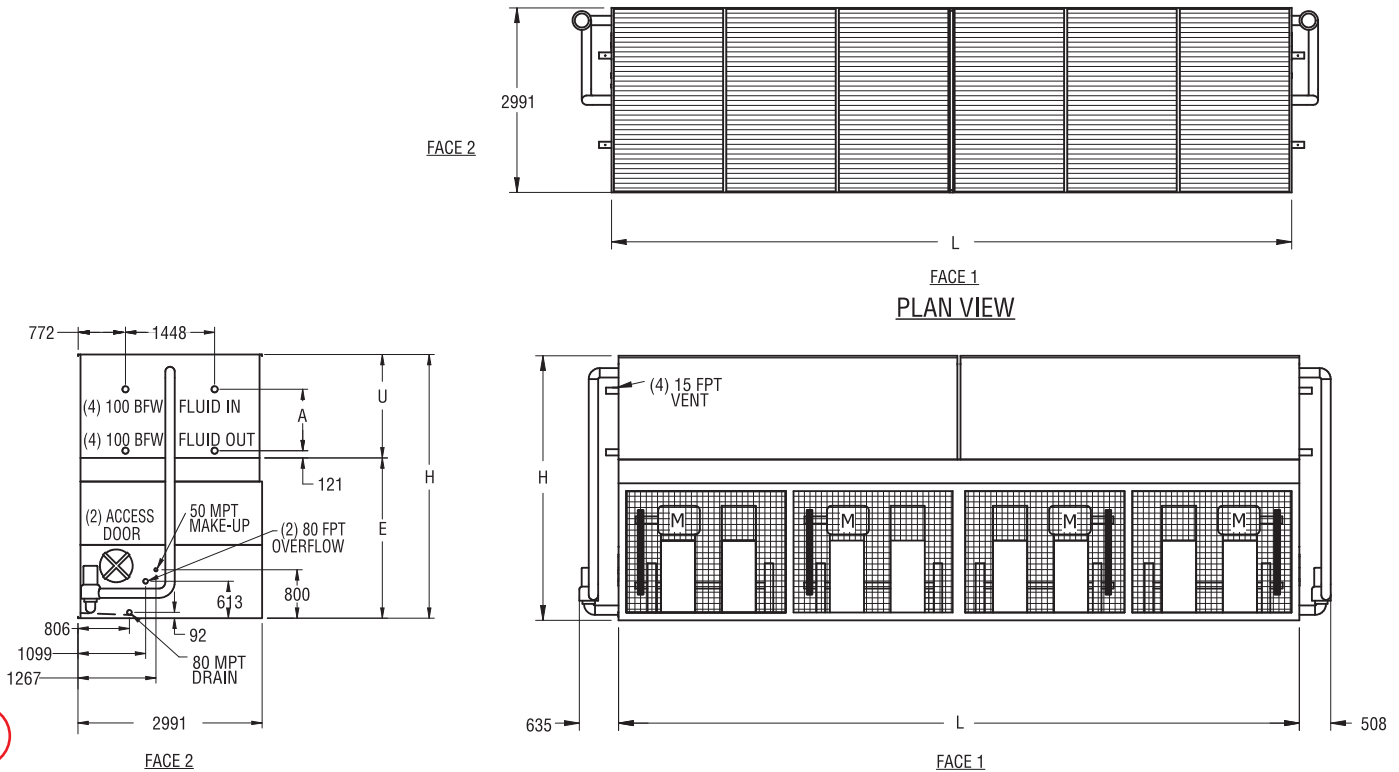
** Liters shown is water in suspension in unit and piping. Allow for additional water in bottom of remote sump to cover pump suction and strainer during operation (300mm would normally be sufficient).

Δ When a remote sump arrangement is selected, the spray pump, suction strainer and associated piping are omitted; the unit is provided with an oversized outlet to facilitate drainage to the remote sump.

▲ Unit dimensions and coil connections may vary slightly from catalog. See factory certified prints for dimensions, quantity of coil connections, and piping configuration. Coil connections are 100mm bevel for weld (BFW). Other connection types such as grooved for mechanical coupling or flanged are also available as options.

Models: eco-LSWE 10-3K36 to 10-6N36

Closed Circuit Coolers



Note: The number of coil connections may increase based on design flow rate.

Model No. †	WEIGHTS (kg)			FANS		SPRAY PUMP		Coil Volume (Liters)	REMOTE SUMP Δ			DIMENSIONS (mm) ▲				
	Shipping	Heaviest Section*	Operating	kW	m³/s	kW	l/s		Liters Req'd**	Conn. Size (mm)	Operating Weight (kg)	Height H	Length L	Lower E	Upper U	Coil A
eco-LSWE 10-3K36	19,885	6,720	28,735	[4] 15	93.3	[2] 5.5	130.0	2833	5678	[2] 300	26,260	3851	11036	2604	1248	565
eco-LSWE 10-3L36	19,940	6,720	28,790	[4] 18.5	100.5	[2] 5.5	130.0	2833	5678	[2] 300	26,365	3851	11036	2604	1248	565
eco-LSWE 10-3M36	20,030	6,720	28,880	[4] 22	106.8	[2] 5.5	130.0	2833	5678	[2] 300	26,550	3851	11036	2604	1248	565
eco-LSWE 10-3N36	20,320	6,875	29,170	[4] 30	117.5	[2] 5.5	130.0	2833	5678	[2] 300	27,130	3851	11036	2604	1248	565
eco-LSWE 10-4L36	23,470	8,485	33,215	[4] 18.5	98.5	[2] 5.5	130.0	3736	5678	[2] 300	30,990	4067	11036	2604	1464	781
eco-LSWE 10-4M36	23,560	8,485	33,305	[4] 22	104.7	[2] 5.5	130.0	3736	5678	[2] 300	31,170	4067	11036	2604	1464	781
eco-LSWE 10-4N36	23,850	8,485	33,595	[4] 30	115.2	[2] 5.5	130.0	3736	5678	[2] 300	31,750	4067	11036	2604	1464	781
eco-LSWE 10-5L36	26,890	10,195	37,545	[4] 18.5	96.5	[2] 5.5	130.0	4639	5678	[2] 300	35,550	4283	11036	2604	1680	997
eco-LSWE 10-5M36	26,980	10,195	37,635	[4] 22	102.6	[2] 5.5	130.0	4639	5678	[2] 300	35,735	4283	11036	2604	1680	997
eco-LSWE 10-5N36	27,270	10,195	37,925	[4] 30	112.9	[2] 5.5	130.0	4639	5678	[2] 300	36,315	4283	11036	2604	1680	997
eco-LSWE 10-6L36	30,410	11,955	41,960	[4] 18.5	94.6	[2] 5.5	130.0	5542	5678	[2] 300	40,205	4499	11036	2604	1895	1213
eco-LSWE 10-6M36	30,500	11,955	42,050	[4] 22	100.5	[2] 5.5	130.0	5542	5678	[2] 300	40,390	4499	11036	2604	1895	1213
eco-LSWE 10-6N36	30,790	11,955	42,345	[4] 30	110.6	[2] 5.5	130.0	5542	5678	[2] 300	40,970	4499	11036	2604	1895	1213

† Model Number will end in "-Z" for units with Series Flow piping configuration. Series Flow units may require additional coil connections and will require crossover piping. Model numbers will include "I" for units with Intake Attenuation, "D" for units with Discharge Attenuation, "F" for units with Full Sound Attenuation, "T" for units with a Tapered Discharge Hood, and "S" for units with an option that negates CTI Certification.

* Heaviest section is the coil section.

** Liters shown is water in suspension in unit and piping. Allow for additional water in bottom of remote sump to cover pump suction and strainer during operation (300mm would normally be sufficient).

Δ When a remote sump arrangement is selected, the spray pump, suction strainer and associated piping are omitted; the unit is provided with an oversized outlet to facilitate drainage to the remote sump.

▲ Unit dimensions and coil connections may vary slightly from catalog. See factory certified prints for dimensions, quantity of coil connections, and piping configuration. Coil connections are 100mm bevel for weld (BFW). Other connection types such as grooved for mechanical coupling or flanged are also available as options.

Closed Circuit Coolers



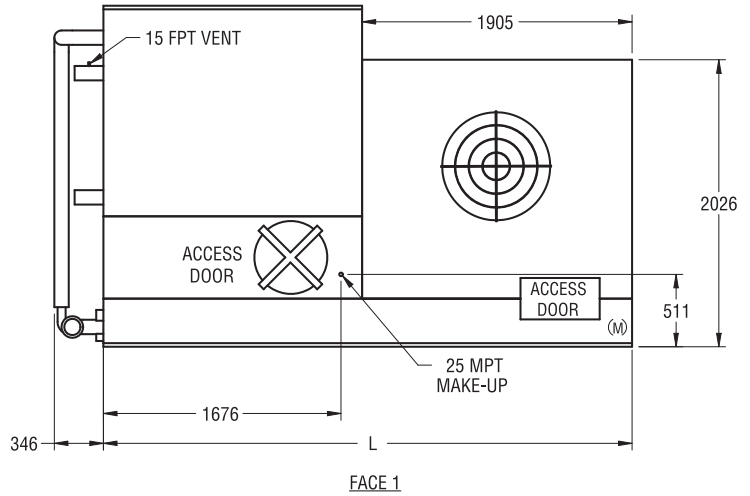
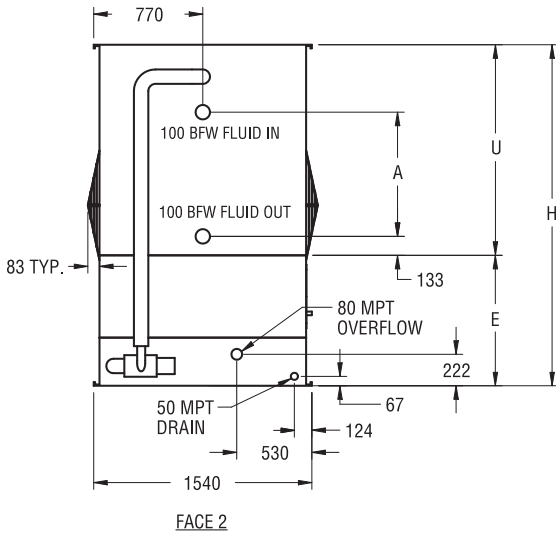
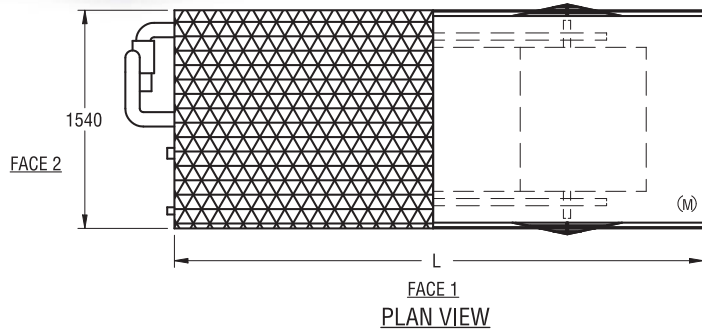
† Model Number will end in "-Z" for units with Series Flow piping configuration. Series Flow units may require additional coil connections and will require crossover piping. Model numbers will include "I" for units with Intake Attenuation, "D" for units with Discharge Attenuation, "F" for units with Full Sound Attenuation, "T" for units with a Tapered Discharge Hood, and "S" for units with an option that negates CTI Certification.

Δ When a remote sump arrangement is selected, the spray pump, suction strainer and associated piping are omitted; the unit is provided with an oversized outlet to facilitate drainage to the remote sump.

▲ Unit dimensions and coil connections may vary slightly from catalog. See factory certified prints for dimensions, quantity of coil connections, and piping configuration. Coil connections are 100mm bevel for weld (BFW). Other connection types such as grooved for mechanical coupling or flanged are also available as options.

Models: eco-LRWB 5-2F6 to 5-5I6

Closed Circuit Coolers



Note: The number of coil connections may increase based on design flow rate.

Model No. †	WEIGHTS (kg)		FANS		SPRAY PUMP		Coil Volume (Liters)	REMOTE SUMP Δ			DIMENSIONS (mm) ▲				
	Shipping	Operating	kW	m³/s	kW	l/s		Liters Req'd**	Conn. Size (mm)	Operating Weight (kg)	Height H	Length L	Lower E	Upper U	Coil A
eco-LRWB 5-2F6	1,660	2,620	2.2	6.5	0.75	10.1	177	454	150	1,930	1835	3731	921	914	305
eco-LRWB 5-2G6	1,665	2,625	4	7.7	0.75	10.1	177	454	150	1,935	1835	3731	921	914	305
eco-LRWB 5-2H6	1,685	2,650	5.5	8.8	0.75	10.1	177	454	150	1,960	1835	3731	921	914	305
eco-LRWB 5-2I6	1,695	2,660	7.5	9.7	0.75	10.1	177	454	150	1,970	1835	3731	921	914	305
eco-LRWB 5-3F6	1,945	2,980	2.2	6.4	0.75	10.1	251	454	150	2,290	2026	3731	921	1105	495
eco-LRWB 5-3G6	1,950	2,985	4	7.6	0.75	10.1	251	454	150	2,295	2026	3731	921	1105	495
eco-LRWB 5-3H6	1,975	3,005	5.5	8.7	0.75	10.1	251	454	150	2,320	2026	3731	921	1105	495
eco-LRWB 5-3I6	1,980	3,015	7.5	9.5	0.75	10.1	251	454	150	2,325	2026	3731	921	1105	495
eco-LRWB 5-4G6	2,245	3,350	4	7.4	0.75	10.1	324	454	150	2,660	2216	3731	921	1295	686
eco-LRWB 5-4H6	2,270	3,375	5.5	8.5	0.75	10.1	324	454	150	2,680	2216	3731	921	1295	686
eco-LRWB 5-4I6	2,275	3,385	7.5	9.4	0.75	10.1	324	454	150	2,690	2216	3731	921	1295	686
eco-LRWB 5-5G6	2,565	3,740	4	7.3	0.75	10.1	397	454	150	3,050	2407	3731	921	1486	876
eco-LRWB 5-5H6	2,585	3,765	5.5	8.3	0.75	10.1	397	454	150	3,070	2407	3731	921	1486	876
eco-LRWB 5-5I6	2,595	3,775	7.5	9.2	0.75	10.1	397	454	150	3,080	2407	3731	921	1486	876

† Model Number will end in "-Z" for units with Series Flow piping configuration. Series Flow units may require additional coil connections and will require crossover piping. Model numbers will include "I" for units with Intake Attenuation, "D" for units with Discharge Attenuation, "F" for units with Full Sound Attenuation, "T" for units with a Tapered Discharge Hood, and "S" for units with an option that negates CTI Certification.

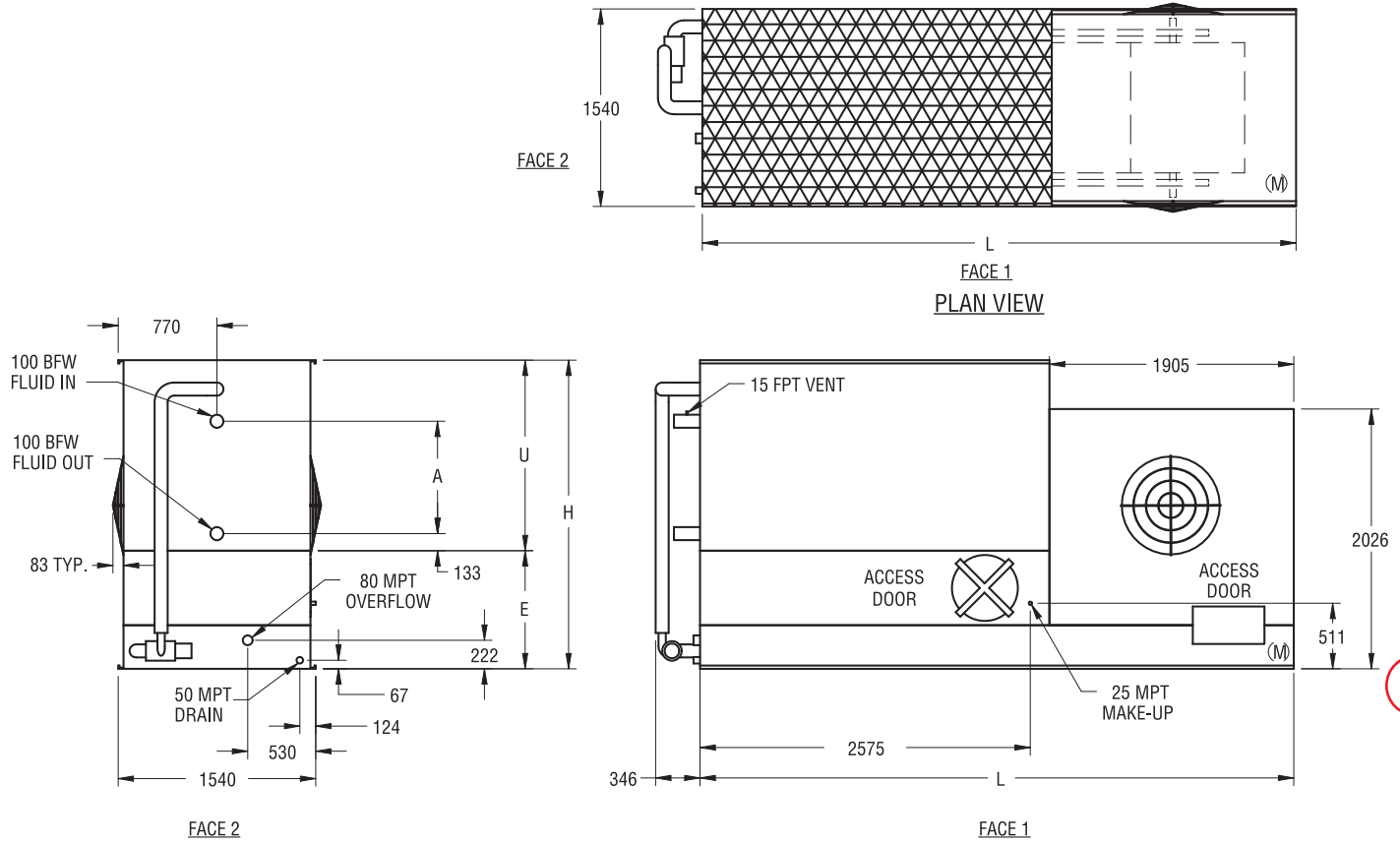
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Δ When a remote sump arrangement is selected, the spray pump, suction strainer and associated piping are omitted; the unit is provided with an oversized outlet to facilitate drainage to the remote sump.

▲ Unit dimensions and coil connections may vary slightly from catalog. See factory certified prints for dimensions, quantity of coil connections, and piping configuration. Coil connections are 100mm bevel for weld (BFW). Other connection types such as grooved for mechanical coupling or flanged are also available as options.

Models: eco-LRWB 5-3H9 to 5-6K9

Closed Circuit Coolers



Note: The number of coil connections may increase based on design flow rate.

Model No. †	WEIGHTS (kg)		FANS		SPRAY SUMP		Coil Volume (Liters)	REMOTE SUMP Δ			DIMENSIONS (mm) ▲				
	Shipping	Operating	kW	m³/s	kW	l/s		Liters Req'd**	Conn. Size (mm)	Operating Weight (kg)	Height H	Length L	Lower E	Upper U	Coil A
eco-LRWB 5-3H9	2,580	4,120	5.5	10.6	1.1	16.1	365	644	150	3,120	2026	4629	921	1105	495
eco-LRWB 5-3I9	2,590	4,130	7.5	11.7	1.1	16.1	365	644	150	3,130	2026	4629	921	1105	495
eco-LRWB 5-3J9	2,645	4,180	11	13.4	1.1	16.1	365	644	150	3,185	2026	4629	921	1105	495
eco-LRWB 5-3K9	2,670	4,210	15	14.7	1.1	16.1	365	644	150	3,210	2026	4629	921	1105	495
eco-LRWB 5-4I9	3,040	4,685	7.5	11.4	1.1	16.1	476	644	150	3,690	2216	4629	921	1295	686
eco-LRWB 5-4J9	3,095	4,740	11	13.1	1.1	16.1	476	644	150	3,740	2216	4629	921	1295	686
eco-LRWB 5-4K9	3,120	4,765	15	14.4	1.1	16.1	476	644	150	3,770	2216	4629	921	1295	686
eco-LRWB 5-5I9	3,500	5,260	7.5	11.2	1.1	16.1	588	644	150	4,265	2407	4629	921	1486	876
eco-LRWB 5-5J9	3,555	5,315	11	12.8	1.1	16.1	588	644	150	4,320	2407	4629	921	1486	876
eco-LRWB 5-5K9	3,585	5,345	15	14.1	1.1	16.1	588	644	150	4,345	2407	4629	921	1486	876
eco-LRWB 5-6I9	3,910	5,780	7.5	11.0	1.1	16.1	699	644	150	4,780	2597	4629	921	1676	1067
eco-LRWB 5-6J9	3,965	5,835	11	12.6	1.1	16.1	699	644	150	4,835	2597	4629	921	1676	1067
eco-LRWB 5-6K9	3,990	5,860	15	13.8	1.1	16.1	699	644	150	4,860	2597	4629	921	1676	1067

† Model Number will end in "-Z" for units with Series Flow piping configuration. Series Flow units may require additional coil connections and will require crossover piping. Model numbers will include "I" for units with Intake Attenuation, "D" for units with Discharge Attenuation, "F" for units with Full Sound Attenuation, "T" for units with a Tapered Discharge Hood, and "S" for units with an option that negates CTI Certification.

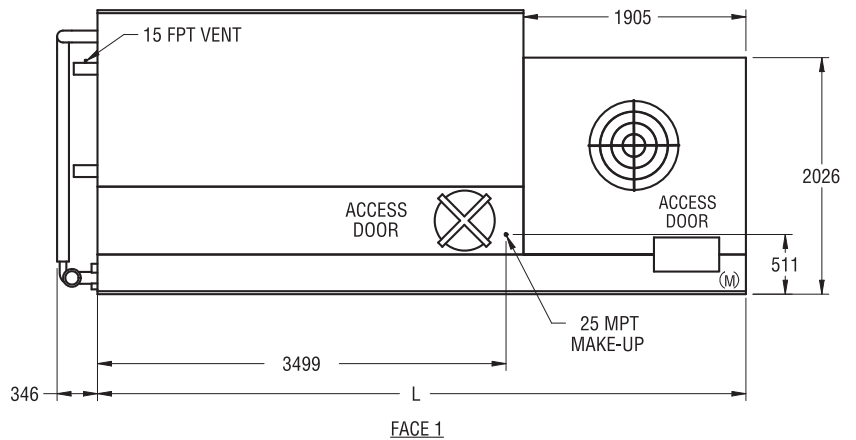
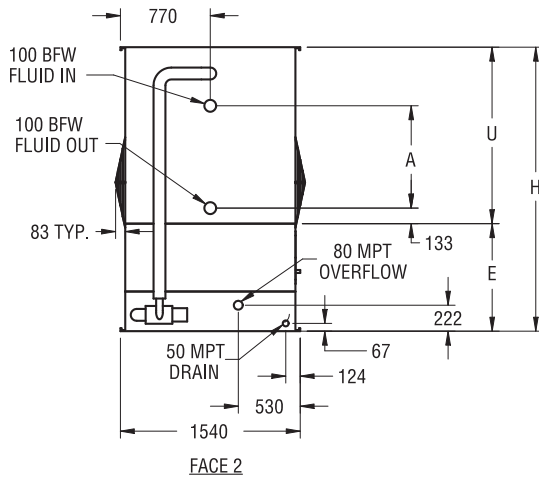
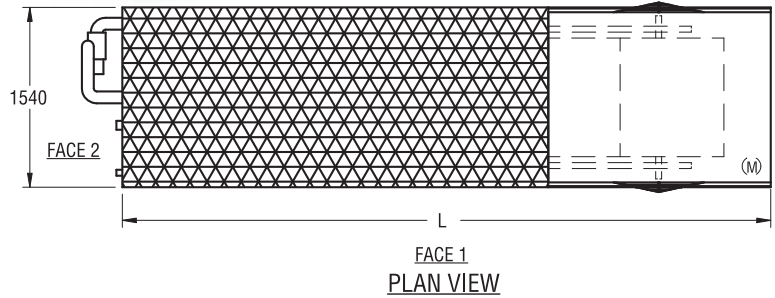
** Liters shown is water in suspension in unit and piping. Allow for additional water in bottom of remote sump to cover pump suction and strainer during operation (300mm would normally be sufficient).

Δ When a remote sump arrangement is selected, the spray pump, suction strainer and associated piping are omitted; the unit is provided with an oversized outlet to facilitate drainage to the remote sump.

▲ Unit dimensions and coil connections may vary slightly from catalog. See factory certified prints for dimensions, quantity of coil connections, and piping configuration. Coil connections are 100mm bevel for weld (BFW). Other connection types such as grooved for mechanical coupling or flanged are also available as options.

Models: eco-LRWB 5-3J12 to 5-6N12

Closed Circuit Coolers



Note: The number of coil connections may increase based on design flow rate.

Model No. †	WEIGHTS (kg)		FANS		SPRAY PUMP		Coil Volume (Liters)	REMOTE SUMP Δ			DIMENSIONS (mm) ▲			
	Shipping	Operating	kW	m³/s	kW	l/s		Liters Req'd**	Conn. Size (mm)	Operating Weight (kg)	Height H	Length L	Lower E	Upper U
eco-LRWB 5-3J12	3,215	5,290	11	15.0	1.5	21.8	479	908	200	3,975	2051	5553	921	1130
eco-LRWB 5-3K12	3,245	5,315	15	16.5	1.5	21.8	479	908	200	4,000	2051	5553	921	1130
eco-LRWB 5-3L12	3,255	5,330	18.5	17.7	1.5	21.8	479	908	200	4,015	2051	5553	921	1130
eco-LRWB 5-3M12	3,280	5,350	22	18.9	1.5	21.8	479	908	200	4,035	2051	5553	921	1130
eco-LRWB 5-4J12	3,820	6,040	11	14.7	1.5	21.8	629	908	200	4,725	2242	5553	921	1321
eco-LRWB 5-4K12	3,845	6,070	15	16.1	1.5	21.8	629	908	200	4,755	2242	5553	921	1321
eco-LRWB 5-4L12	3,860	6,085	18.5	17.4	1.5	21.8	629	908	200	4,765	2242	5553	921	1321
eco-LRWB 5-4M12	3,885	6,105	22	18.5	1.5	21.8	629	908	200	4,790	2242	5553	921	1321
eco-LRWB 5-5K12	4,435	6,810	15	15.8	1.5	21.8	778	908	200	5,495	2432	5553	921	1511
eco-LRWB 5-5L12	4,450	6,820	18.5	17.0	1.5	21.8	778	908	200	5,505	2432	5553	921	1511
eco-LRWB 5-5M12	4,470	6,845	22	18.1	1.5	21.8	778	908	200	5,530	2432	5553	921	1511
eco-LRWB 5-5N12	4,545	6,915	30	19.9	1.5	21.8	778	908	200	5,600	2432	5553	921	1511
eco-LRWB 5-6L12	5,010	7,530	18.5	16.7	1.5	21.8	928	908	200	6,215	2623	5553	921	1702
eco-LRWB 5-6M12	5,030	7,550	22	17.7	1.5	21.8	928	908	200	6,235	2623	5553	921	1702
eco-LRWB 5-6N12	5,105	7,625	30	19.5	1.5	21.8	928	908	200	6,310	2623	5553	921	1702

† Model Number will end in "-Z" for units with Series Flow piping configuration. Series Flow units may require additional coil connections and will require crossover piping. Model numbers will include "I" for units with Intake Attenuation, "D" for units with Discharge Attenuation, "F" for units with Full Sound Attenuation, "T" for units with a Tapered Discharge Hood, and "S" for units with an option that negates CTI Certification.

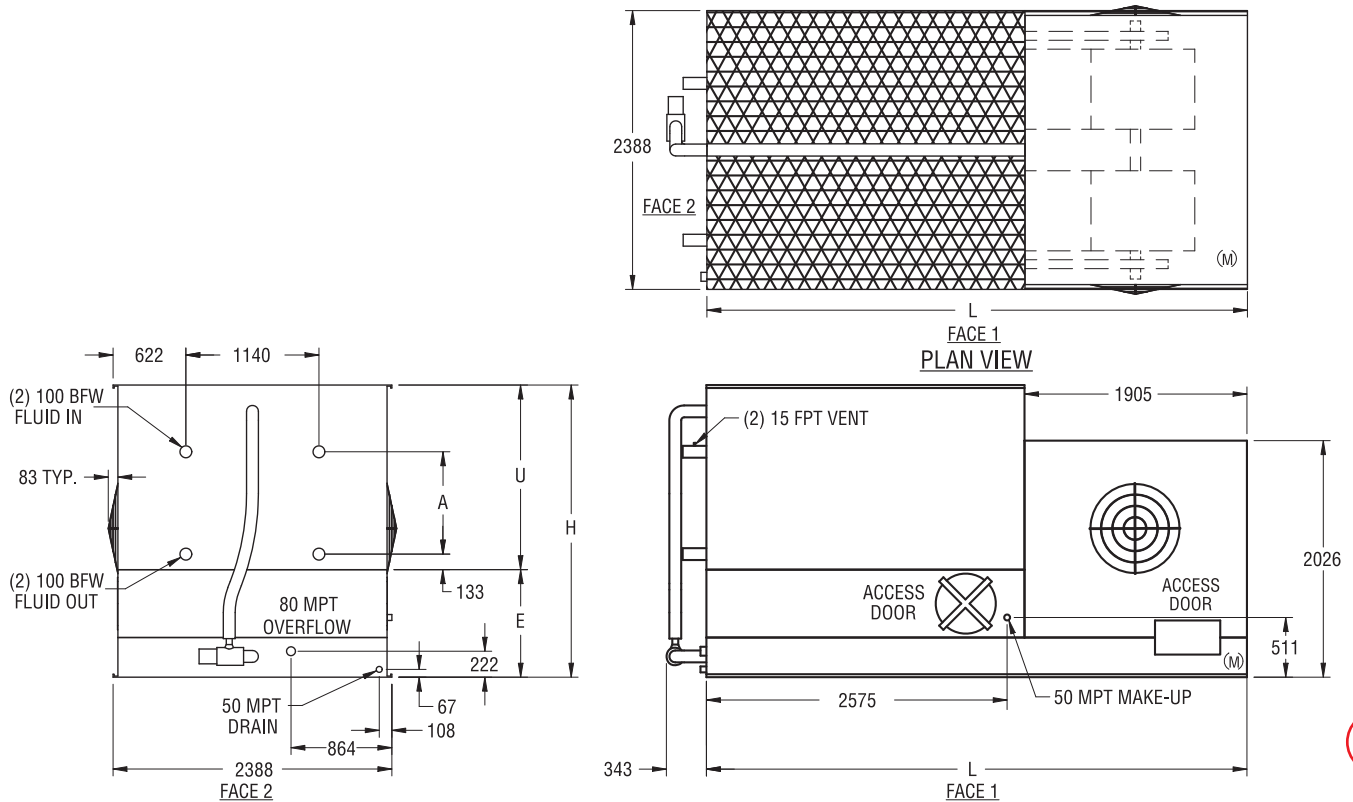
** Liters shown is water in suspension in unit and piping. Allow for additional water in bottom of remote sump to cover pump suction and strainer during operation (300mm would normally be sufficient).

Δ When a remote sump arrangement is selected, the spray pump, suction strainer and associated piping are omitted; the unit is provided with an oversized outlet to facilitate drainage to the remote sump.

▲ Unit dimensions and coil connections may vary slightly from catalog. See factory certified prints for dimensions, quantity of coil connections, and piping configuration. Coil connections are 100mm bevel for weld (BFW). Other connection types such as grooved for mechanical coupling or flanged are also available as options.

Models: eco-LRWB 8-3J9 to 8-5M9

Closed Circuit Coolers



Note: The number of coil connections may increase based on design flow rate.

Model No. †	WEIGHTS (kg)		FANS		SPRAY PUMP		Coil Volume (Liters)	REMOTE SUMP Δ			DIMENSIONS (mm) ▲				
	Shipping	Operating	kW	m³/s	kW	l/s		Liters Req'd**	Conn. Size (mm)	Operating Weight (kg)	Height H	Length L	Lower E	Upper U	Coil A
eco-LRWB 8-3J9	3,970	6,085	11	17.9	1.5	25.6	576	946	200	4,620	2121	4629	921	1200	495
eco-LRWB 8-3K9	3,995	6,110	15	19.7	1.5	25.6	576	946	200	4,650	2121	4629	921	1200	495
eco-LRWB 8-3L9	4,010	6,125	18.5	21.3	1.5	25.6	576	946	200	4,665	2121	4629	921	1200	495
eco-LRWB 8-3M9	4,030	6,145	22	22.6	1.5	25.6	576	946	200	4,685	2121	4629	921	1200	495
eco-LRWB 8-4J9	4,645	6,935	11	17.6	1.5	25.6	751	946	200	5,475	2311	4629	921	1391	686
eco-LRWB 8-4K9	4,670	6,965	15	19.4	1.5	25.6	751	946	200	5,500	2311	4629	921	1391	686
eco-LRWB 8-4L9	4,685	6,975	18.5	20.8	1.5	25.6	751	946	200	5,515	2311	4629	921	1391	686
eco-LRWB 8-4M9	4,710	7,000	22	22.2	1.5	25.6	751	946	200	5,540	2311	4629	921	1391	686
eco-LRWB 8-5K9	5,480	7,945	15	19.0	1.5	25.6	926	946	200	6,485	2502	4629	921	1581	876
eco-LRWB 8-5L9	5,495	7,960	18.5	20.4	1.5	25.6	926	946	200	6,500	2502	4629	921	1581	876
eco-LRWB 8-5M9	5,515	7,985	22	21.7	1.5	25.6	926	946	200	6,525	2502	4629	921	1581	876

† Model Number will end in "-Z" for units with Series Flow piping configuration. Series Flow units may require additional coil connections and will require crossover piping. Model numbers will include "I" for units with Intake Attenuation, "D" for units with Discharge Attenuation, "F" for units with Full Sound Attenuation, "T" for units with a Tapered Discharge Hood, and "S" for units with an option that negates CTI Certification.

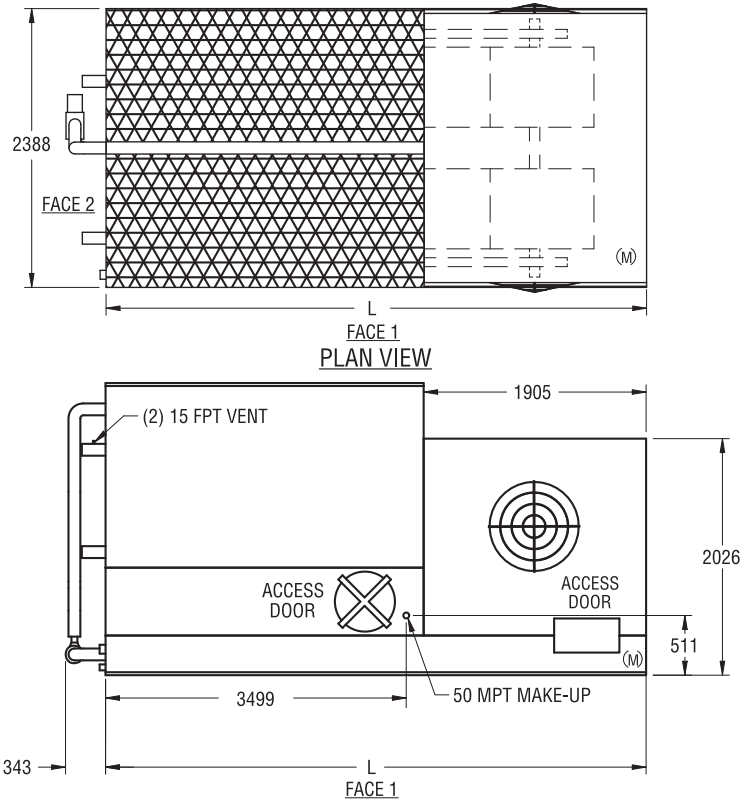
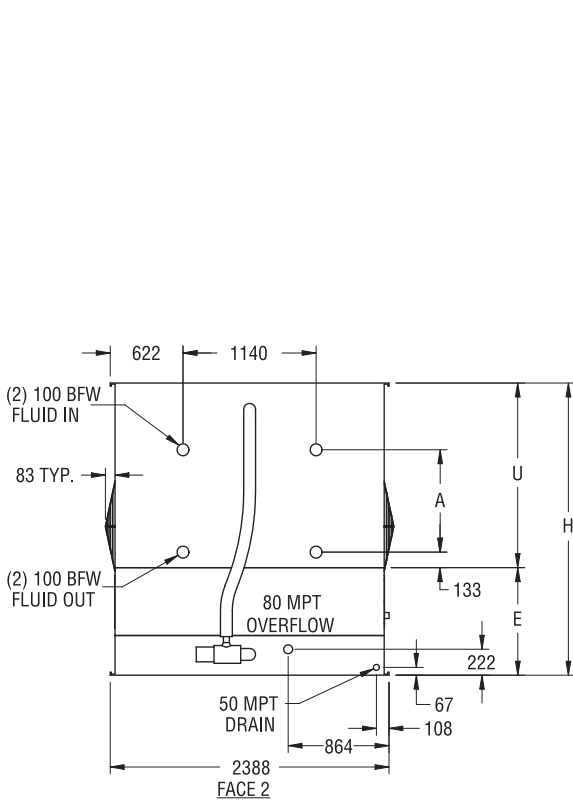
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Models: eco-LRWB 8-4K12 to 8-6O12

Closed Circuit Coolers



Note: The number of coil connections may increase based on design flow rate.

Model No. †	WEIGHTS (kg)		FANS		SPRAY PUMP		Coil Volume (Liters)	REMOTE SUMP Δ			DIMENSIONS (mm) ▲				
	Shipping	Operating	kW	m³/s	kW	l/s		Liters Req'd**	Conn. Size (mm)	Operating Weight (kg)	Height H	Length L	Lower E	Upper U	Coil A
eco-LRWB 8-4K12	5,695	8,815	15	22.6	2.2	34.4	991	1363	250	6,850	2311	5553	921	1391	686
eco-LRWB 8-4L12	5,710	8,825	18.5	24.3	2.2	34.4	991	1363	250	6,865	2311	5553	921	1391	686
eco-LRWB 8-4M12	5,735	8,850	22	25.9	2.2	34.4	991	1363	250	6,885	2311	5553	921	1391	686
eco-LRWB 8-4N12	5,805	8,920	30	28.5	2.2	34.4	991	1363	250	6,960	2311	5553	921	1391	686
eco-LRWB 8-4O12	5,810	8,925	37	30.7	2.2	34.4	991	1363	250	6,965	2311	5553	921	1391	686
eco-LRWB 8-5L12	6,620	9,975	18.5	23.9	2.2	34.4	1227	1363	250	8,010	2502	5553	921	1581	876
eco-LRWB 8-5M12	6,645	9,995	22	25.3	2.2	34.4	1227	1363	250	8,035	2502	5553	921	1581	876
eco-LRWB 8-5N12	6,720	10,070	30	27.9	2.2	34.4	1227	1363	250	8,105	2502	5553	921	1581	876
eco-LRWB 8-5O12	6,720	10,075	37	30.1	2.2	34.4	1227	1363	250	8,110	2502	5553	921	1581	876
eco-LRWB 8-6M12	7,520	11,110	22	24.8	2.2	34.4	1462	1363	250	9,145	2692	5553	921	1772	1067
eco-LRWB 8-6N12	7,595	11,180	30	27.3	2.2	34.4	1462	1363	250	9,215	2692	5553	921	1772	1067
eco-LRWB 8-6O12	7,600	11,185	37	29.4	2.2	34.4	1462	1363	250	9,220	2692	5553	921	1772	1067

† Model Number will end in "-Z" for units with Series Flow piping configuration. Series Flow units may require additional coil connections and will require crossover piping. Model numbers will include "I" for units with Intake Attenuation, "D" for units with Discharge Attenuation, "F" for units with Full Sound Attenuation, "T" for units with a Tapered Discharge Hood, and "S" for units with an option that negates CTI Certification.

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Notes



Notes









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