

evapco

# The NEW Family of Closed Circuit Coolers

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Ellipti (in coil

COOL

ROKS



Environmentally Conscious Operation Featuring Water & Energy Conserving Technology

Environmental Solutions... Creating a Better World!

CERTIFIED EN ISO 9001







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# CO-ATMB

for **LIFE** 

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ince its founding in 1976, EVAPCO, Inc. has become a worldwide leader in supplying quality cooling equipment for thousands of customers in both the commercial and industrial markets.

EVAPCO's success has been the result of a continual commitment to product improvement, quality workmanship and a dedication to providing unparalleled service.



Our emphasis on research and development has led to many product innovations – a hallmark of EVAPCO through the years.

The ongoing R & D Program enables EVAPCO to provide the most advanced products in the industry – technology for the future, available today.

EVAPCO products are manufactured on five continents around the world and distributed through hundreds of factory authorized sales representatives.

# **Design and Construction Features**

The New eco-ATWB line of Closed Circuit Coolers has been specifically designed to dramatically increase both the evaporative (latent) and dry (sensible) modes of cooling. With this new revolutionary design, the EVAPCO eco-ATWB will also save water and energy by increasing the unit's efficiency in both the evaporative and dry cooling modes of operation. The eco-ATWB utilizes the EVAPCO Ellipti-*fin* coil which features elliptical spiral fin technology to maximize the surface area available for heat transfer. The eco-ATWB is the ideal solution for: Reducing Water Consumption, Lower Energy Costs, Higher Dry Bulb Switchover, Super Low Sound Levels. **This new product is designed with IBC Compliant construction** and the surface area available for heat transfer. The eco-ATWB is the ideal solution for: Reducing Water Consumption, Lower Energy Costs, Higher Dry Bulb Switchover, Super Low Sound Levels.

### Easy to Service Motor Mount Design

• All normal maintenance can be performed quickly from outside the unit



- Water Saver Drift Eliminators
- New patented design reduces drift rate to < 0.001%</li>
- Saves water and reduces water treatment cost
- Greater structural integrity vs. old style blade-type
- Recessed into casing for greater protection
- Drift rate certifications with Eurovent OM-14-2009





Designed for easy belt

Extended lube lines for

easy bearing lubrication

If required, motor may

swing to outside for easy

adjustment

removal

### PVC Spray Distribution Header with ZM II™ Nozzles

- Large orifice nozzles prevent clogging (no moving parts)
- Nozzles are threaded into header at proper orientation
- Fixed position nozzles require zero maintenance
- Guaranteed for life

### Totally Enclosed / Pump Motors • Help assure long, trouble-

 Help assure long, troublefree operation

### Stainless Steel Strainers

Resists corrosion better than other materials



### Water and Energy Conservation Control System

The best way to properly control and operate the eco-ATWB Closed Circuit Cooler is with the optional  $Sage^2$  Water and Energy Conservation Control System. The  $Sage^2$  is designed to optimally control the fan motor(s) and the pump motor(s) of the unit. The  $Sage^2$  will efficiently reject the building load using the minimal amount of water and energy.

**Advanced Design Smooth** 

Totally Enclosed Fan Motors assures long life

Flow Fans



Ellipti-fin Coil

Featuring Elliptical Spiral Fin Coil Technology

Introducing the Most Efficient Closed Circuit Cooler



DESIGN

### Coil in th HVAC industry! The Ellipti-fin provides: Power-Band Belts for Better Lateral Rigidity All coil rows feature patent pending finned Advanced Design Aluminum Fan Blades Thermal-Pak elliptical tube design Non-corroding Cast Aluminum Sheaves Lower airflow resistance than typical Heavy-Duty Fan Shaft Bearings with L-10 life finned round tubes of 75,000 - 135,000 hrs Increased Evaporative and Dry Cooling efficiency All Other Components Corrosion Resistant Features EVAPCO's exclusive CROSScooL<sup>™</sup> tube Materials enhancement for greater internal heat transfer. EUROVENT CERTIFIED PERFORMANCE Super Low Sound Fan CERTIFIED (optional) Extremely wide sloped fan **Eurovent-CTI Certified** blades for sound sensitive Refer to page 23 applications One piece molded heavy duty construction • 9-15 dB(A) sound reduction **IBC Compliant Design** Refer to page 21 \*\*\*\*\* evapco Certificate of Compliance AT, USS, UAT, UT Cooling W/WE, ATW(B) and ESWA Cb eco-ATC, ATC-E Evaporative ed Circuit evaluen < Louver Access Door Hinged access panel with quick release mechanism Allows easy access to perform routine maintenance and inspection of the makeup assembly, strainer screen and basin • Available on larger models Easy Field Assembly • A new field assembly seam design which ensures easier assembly and reduced potential for field seam leaks Self-guided channels guide the fan casing section into position improving the quality of the field seam Eliminates up to 66% of fasteners (Patent Pending) "Clean Pan" Basin Design

Low Sound

**Options available** 

Refer to page 15

- Access from all four sides
- Large open area simplifies
- maintenance Basin may be inspected with
- pumps running
- Sloped basin design prevents sediment buildup, biological film and standing water

### WST Air Inlet Louvers (Water and Sight Tight)

- Easily removable for access Improved design to keep sunlight out-preventing biological growth
- Keeps water in while keeping dirt and debris out (U.S. Patent No. 7927196)





† Mark owned by the Cooling Technology Institute





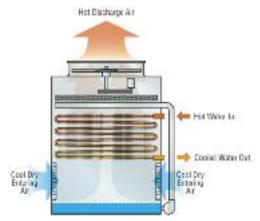


## **Principle of Operation**

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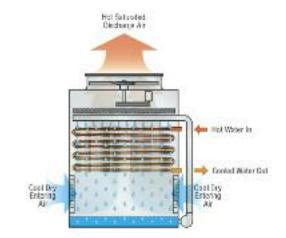
### Dry Mode (Sensible Heat Transfer)

In the dry mode, the recirculating spray pump is turned off (Fan on, Pump off). The process fluid enters the eco-ATWB cooler through the top coil connection and circulates through the coil with the Fan On. Heat from the process fluid is dissipated to the atmosphere by sensible heat transfer through the tube wall and fins to the air passing over the coils. The coils are finned to promote optimal airflow over the coil and to maximize heat transfer area. Air is drawn over the finned coil by the fan drive system. The process fluid is then returned to the heat source via the bottom coil connection. This mode of operation eliminates water consumption when the dry bulb temperature is favorable.



### Evaporative Mode (Latent Heat Transfer)

In the evaporative mode, the process fluid enters the cooler through the top coil connection and circulates through the finned coils. With the pump turned on, the heat from the process fluid is transferred through the tube wall and fins to the water cascading downward over the coils while simultaneously air is drawn upward over the coil opposite the water flow using the fan drive system (Fan on, Pump on). A small portion of the water is evaporated to dissipate the heat to the atmosphere in a latent heat transfer. This mode of operation provides fan energy savings and lower leaving water temperatures by utilizing evaporative cooling.



## **Design Features**

### eco-ATWB Operating Benefits

The eco-ATWB features the new EVAPCO Ellipti-*fin* coil, which utilizes elliptical spiral fin coil technology. This technology allows for a significant increase in thermal performance with up to a 40% lower operating horsepower (kW) than a typical evaporative cooler. This will result in very high energy savings throughout the year.

If minimizing the footprint of the unit is of greater concern, the increased thermal capacity of the Ellipti-fin technology will allow a selection that yields up to a 40% smaller plan area.

Additionally, the Ellipti-fin coil technology enables the eco-ATWB to be operated in a 100% Dry Mode, whereby the switchover temperature is significantly higher than that of a typical bare tube coil. This leads to a significant increase in dry operating hours, thus increasing your water savings. This combination of features allows the eco-ATWB to be operated with both energy and water efficiency in mind, making it the ideal choice for many installations.

# eco-ATWB Operational Savings example:

Consider an industrial application in Munich (Germany), where the unit is required to reject a constant heat load of 750 kW with 30 l/s of water entering at a temperature of 32°C and a leaving temperature of 26°C. The process operates 24 hours a day 7 days a week. The eco-ATWB is compared to:

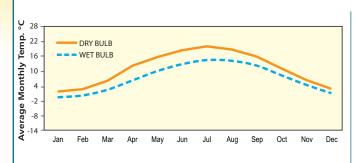
- ESWA 96-33J-2 an evaporative cooler without dry cooling capability
- ATW 120-3L-2 an induced draft counter-flow cooler capable of some dry operation

	eco-ATWB 10-4J12-Z	ATW 120-3L-2	ESWA 96-33J-2
Fan Motor (kW)	11	15	11
Pump Motor (kW)	4	4	5,5
Box size (m x m)	3.0 x 3.6	3.0 x 3.6	2.4 x 3.6
Weight (kg)	11560	8990	6665

### **Model Attribute Comparison**

Generally the eco-coolers eco-ATWB require lower total installed kW than ATW and ESWA with consequent energy savings.

# **DESIGN FEATURES**

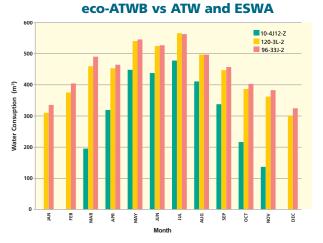


With the increased dry cooling efficiency of the eco-ATWB and the use of the  $Sage2^{\circ}$  Water and Energy Conservation Control System, the eco-ATWB is able to operate dry for more than 30% of the year:

### **Dry Mode of Operation Comparison**

	eco-ATWB 10-4J12-Z	ATW 120-3L-2	ESWA 96-33J-2
% dry operation hours	32	4	0
% wet hours	68	96	100

Due to the Dry Operation capabilities of the eco-ATWB, the water consumption is extremely lower than ATW and ESWA coolers as illustrated below:



with reduced costs associated with water usage. In this case, for example, during winter eco-ATWB doesn't request any water consuption.

# CCO-ATTMB

### Annual Water Cost Comparison

	eco-ATWB 10-4J12-Z	ATW 120-3L-2	ESWA 96-33J-2
Total Annual Water Usage (m³) *	2981	5225	5400
Annual m <sup>3</sup> Water Savings eco-ATWB vs. ATW / ESWA (%)	-	42,9%	44,8%
Annual Water Savings eco-ATWB vs. ATW / ESWA (€) **	-	7854 €	8470 €

\* Based on 3 cycles of concentration

\*\* 3.5 € / m<sup>3</sup> (water-treatment-sewer)



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# SAGE SYSTEM

# EVAPCO's Sage ... Water and Energy



The EVAPCO eco-ATWB closed circuit coolers utilize the optional  $Sage^{2 \intercal M}$  water and energy conservation control system which controls Dry & Evaporative modes of operation. The control system operates by measuring and analyzing water inlet and outlet temperature simultaneous with ambient dry bulb monitoring in order to minimize the evaporative cooling mode of operation and to save system water. The Sage can also be programmed to operate with a water savings or energy savings priority.

The Sage Controller features a IP65 enclosure with CE approval. The panel also includes a 10" touch screen operator interface with color display and a Modbus 485\* data port for communication with the building automation system. The data points are: Inlet Temperature, Outlet Temperature, Dry Bulb Temperature, Basin Water Temperature Sensor, Fan Run Time, Pump Run Time, VFD Speed, Fan Motor Status – On/Off, Fan RPM, Pump Status – On/Off.

### **Standard Control Items**

- A MODBUS 485\* Port for the Building Automation System
- Programmable Logic Control
- Fluid Inlet Temperature Sensor(s)
- Fluid Outlet Temperature Sensor(s)
- Basin Temperature Sensor(s)
- Ambient Dry Bulb Sensor(s)
- Variable frequency drive(s) For Fan Motor(s)
- Recirculating Pump Motor Starter(s).
- Main Disconnect
- Manual Bypass
- DC power supply for the PLC and instrumentation.
- Heater Package Controls w/ Contactor with Overload Protection
- Control Power Transformer
- 3-Probe Electronic Water Level Control Package
- High Water Level Alarm Contact(s)
- Low Water Level Alarm Contact(s)
- Fan Motor: Space Heater Control(s)

### **Control for Optional Accessories**

- Discharge Hood Damper Controls
- Vibration Switch Controls



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# SAGE SYSTEM



# **Conservation Control System**

### **HMI Panel Display**

Sage2 Control Panel is 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 3-probe Electronic Water Level Controller is standard. In addition to controlling the make-up valve, this controller contains one probe that can be utilized as low water cut off for the spray pump and also be used as a safety device, shutting off the pump if the water level becomes too low. High/Low water level alarm probes are std, too.

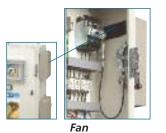
### **Temperature Sensors**

Four separate temperature data points are monitored with this package.

- Inlet Water Temperature Sensor
- Outlet Water Temperature Sensor
- Dry Bulb External Air Temperature Sensor
- Water Basin Temperature Sensor

### **Enclosure Temperature Control**

The panel enclosure includes an intake and an exhaust ventilation fan. When the enclosure temperature rises to a predetermined 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.





Heater

\*Optional Data Ports May Be Available. Please Contact Your Local Sales Representative.



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## **Design Features**

## **EVAPCOAT Corrosion Protection System**

EVAPCO, long known for using premium materials of construction, has developed the ultimate system for corrosion protection in galvanized steel construction – the EVAPCOAT Corrosion Protection System. Marrying corrosion free materials with heavy gauge mill hot-dip galvanized steel construction to provide the longest life product with the best value.

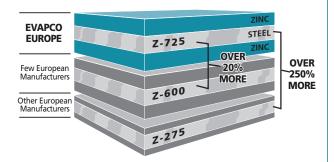
### The Evapcoat Corrosion Protection System consist of:

### • Z-725 Mill Hot-Dip Galvanized Steel Construction

Mill hot-dip galvanized steel has been successfully used for over 25 years for the protection of evaporative coolers against corrosion. There are various grades of mill galvanized steel each with differing amounts of zinc protection. EVAPCO has been a leader in the industry in developing heavier galvanizing, and was the first to standardize on Z-600 mill hot-dip galvanized steel. Now, EVAPCO is, once again, increasing the level of corrosion protection by being the first and only manufacturer in Europe to use Z-725 mill hot-dip galvanized steel.

Z-725 designation means there is a minimum of 725 g of zinc per m<sup>2</sup> of surface area present on the steel. Z-725 is the heaviest level of galvanizing available for manufacturing evaporative coolers and has over 2.5 times more zinc protection than competitive designs using Z-275 steel. With Z-725 mill hot-dip galvanized steel construction, EVAPCO provides galvanized steel panels with corrosion protection that approaches the level of the hot-dip galvanized heat exchanger coils.

During fabrication, all panel edges are coated with a 95% pure zinc-rich compound for extended corrosion resistance.



### Type 304 Stainless Steel Strainers

Subjected to excessive wear and corrosion, the sump strainer is critical to the successful operation of the cooler. EVAPCO uses only stainless steel for this very important component.

### PVC Air Inlet Louvers

The innovative design uses corrosion free materials while effectively eliminating splash out and reducing the potential for algae formation inside the cooler.

### • PVC Drift Eliminators

The final elements in the upper part of the cooler are moisture eliminators which strip the entrained water droplets from the leaving air stream.

EVAPCO eliminators are constructed entirely of inert, corrosion-free PVC. This PVC material has been specially treated to resist damaging ultraviolet light. The eliminators are assembled in easily handled sections to facilitate removal thereby exposing the upper portion of the unit and water distribution system for periodic inspection.

### PVC Water Distribution System, ZM Spray Nozzle

The fixed position ZM Spray Nozzles are mounted in corrosion-free PVC water distribution pipes. Together, these elements combine to provide unequaled coil coverage, scale prevention and make the industries best performing non-corrosive, maintenance-free water distribution system.

### Totally Enclosed Motors

EVAPCO uses totally enclosed motors for all fan and pump motors as standard. These superior motors help to assure longer equipment life without motor failures, which result in costly downtime.

### • Alternate Materials of Construction

EVAPCO induced draft coolers have a modular design which allows for specific areas to be enhanced for increased corrosion protection. For particularly corrosive environments, EVAPCO coolers are available with Stainless Steel construction for the basin, casing and/or coil.

#### Stainless Steel Welded Basin

The basin area of a cooler is often subjected to high concentrations of impurities and silt. In addition to the EVAPCOAT Corrosion Protection System, EVAPCO offers optional stainless steel construction for superior corrosion resistance. This option provides Type 304 or Type 316 stainless steel for the entire basin section - including the support columns and air inlet louver frames.

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 cooler leading to premature failure.



# DESIGN FEATURES



### Axial Fan Drive System Belt Drive Units - 0.9 & 1.2 m Wide Models

### eco-ATWB 3-2C3 to eco-ATWB 4-5G12

The T.E.F.C. motors are located on the outside of the unit and are protected by a hinged, swing away cover.



External Motor Mount (with swing away cover)

### Belt Drive Units - 2.3 m, 2.4 m and 4.9 m Wide Models

### eco-ATWB 9-3G8 to eco-ATWB 16-6M14

The fan motor and drive assembly on these units are designed to allow easy servicing of the motor and adjustment of the belt tension from the exterior of the unit. The T.E.F.C. fan motor is mounted on the outsid of these models.



External Motor Mount (with optional ladder)

A large hinged access door with a "quick release" latch provide access to the fan section for maintenance.

NOTE: the sloped access ladder is available on all eco-ATWB models. Please check conformity with local legislation before application.

### Belt Drive Units - 3 m, 3.6 m, 6 m & 7.2 m Wide Models

### eco-ATWB 10-3I-12 to eco-ATWB 24-6P-40

Designed as the ideal replacement cooler, these models provide both cost effective and energy efficient alternatives to obsolete centrifugal fan designs. The 3 m wide plan areas are also well suited for new installations and provide more layout flexibility. The unique belt drive design features are detailed below.



Motor Base Assembly

The fan motor and drive assembly is designed to allow easy servicing of the motor and adjustment of the belt tension from the exterior of the unit. The T.E.A.O. fan motor is located inside the fan casing on a rugged heavy duty motor base. The innovative motor base also features a unique locking mechanism for a positive adjustment.

The motor base is designed to swing out through a very large 1.3 m<sup>2</sup> access opening. This allows for easy servicing of the motor.



Motor Access

**Power- Band Drive Belt:** The Power-Band is a solid-back, multigroove belt system that has high lateral rigidity. The belt is constructed of neoprene with polyester cords. The drive belt is designed for 150 percent of the motor nameplate kW for long life and durability.

Fan Shaft Bearings: The fan shaft bearings in ATW units are specially selected for long, trouble-free life. They are rated for an L-10 life of 75.000 to 135.000 hours and are the heaviest pillow block bearings available.

**Aluminum Alloy Pulleys:** Fan pulleys are constructed of corrosion free aluminum for long life. The aluminum also helps belts last longer.



### Water Management High Efficient Water Saver Drift Eliminators

An extremely efficient drift eliminator system is standard on EVAPCO coolers. The patented system removes entrained water droplets from the air stream to limit the drift rate to less than 0.001% of the recirculating water rate. With a low drift rate, EVAPCO coolers save valuable water and water treatment chemicals. The drift eliminators are constructed of an inert polyvinyl

chloride (PVC) plastic material which effectively eliminates corrosion of these vital components. They are assembled in sections to facilitate easy removal for inspection of the water distribution system.

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### Superior WST Air Inlet Louver and Screen Design

EVAPCO's patented WST Inlet Louvers keep water in and sunlight out of the basins of induced draft products. The unique non-planar design is made from light-weight PVC sections which easily



Inlet Louver Material

fit together and have no loose hardware, enabling easy basin access.

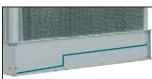
Developed with computational fluid dynamics (CFD) software, the louver's air channels are optimized to maintain fluid dynamic and thermodynamic efficiency and block all line-of-sight paths into the basin eliminating splash-out; even when the fans are off. Additionally, algae growth is minimized by blocking all sunlight.

The combination of easy basin access, no splash-out and minimized algae growth saves the end user money on maintenance hours, water consumption and water treatment costs.

### "Clean Pan" Basin Design

EVAPCO coolers features a completely sloped basin from the upper to lower pan section. This "Clean Pan" design allows the water to be completely drained from the basin. The cooler water will drain from the upper section to the depressed lower basin section where the dirt and

debris can be easily flushed out through the drain. This design helps prevent buildup of sedimentary deposits, biological films and minimizes standing water.



Sloped Basin

## **Design Features**

# Maintenance Free ZMII<sup>®</sup> Spray Nozzle Water Distribution System

EVAPCO'S Zero Maintenance ZMII<sup>®</sup> Spray Nozzle remains clog-free while providing even and constant water distribution for reliable, scale-free evaporative cooling under all operating conditions.

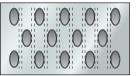
The heavy duty nylon ZMII<sup>®</sup> Spray nozzles have a 33 mm diameter opening and a 38 mm splash plate clearance. Furthermore, the fixed position ZMII<sup>®</sup> nozzles are mounted in corrosion-free PVC water distribution pipes. Together, these elements combine to provide

unequaled coil coverage and scale prevention, and make the industry's best performing non-corrosive, maintenancefree water distribution system.



### **Cooling Coil**

The new eco-ATWB Closed Circuit Cooler utilizes Evapco's patent pending Ellipti-fin coil design 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 utilizes elliptical spiral fin coil technology and has lower resistance to airflow than typical finned coil designs. This permits greater water loading, making the new Ellipti-fin coil the most effective design available.





Thermal-Pak<sup>®</sup> Coil by EVAPCO

Round Tube Coil by Others





The coils are manufactured from high quality internally enhanced **CROSScooL™**carbonsteel 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 and encased in a steel framework. Finally, the assembled coil is pneumatically tested in accordance with the "Pressure Equipment Directive" - PED 97/23 EC.

After fabrication, to protect the coil against corrosion, the entire assembly is hot-dip galvanized.



# **OPTIONAL EQUIPMENT**

### **Two Speed Motors**

Two speed fan motors can provide an excellent means of capacity control. In periods of lightened loads or reduced wet bulb temperatures, the fans can operate at low speed, which will provide about 60% of full speed capacity, yet consume only about 15% of the power compared with high speed. In addition to the energy savings, the sound levels of the units will be greatly reduced at low speed.

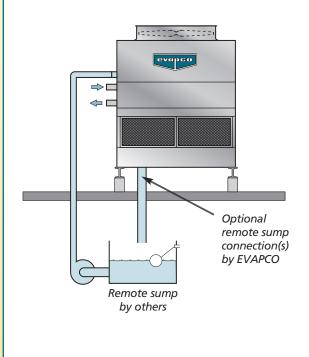
### **Inverter Duty Motors**

Inverter Duty motors are available for cooler applications which utilize variable frequency drive systems for capacity control. Inverter Duty motors offer totally enclosed premium efficiency construction which is designed for variable frequency drive applications.

Note: Other special motor configurations are available to meet specific proper requirements. Contact your local EVAPCO sales representative for application assistance and motor availability.

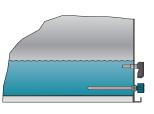
### **Remote Sump Configuration**

For units operating in areas where temperatures may be very low, or where low temperatures may occur during periods when the unit is not operating, a sump located inside the building is the preferred means of ensuring that the basin water will not freeze. For these applications, the cooler will be supplied without the spray pump, suction strainers and all associated piping, but with an oversize bottom outlet.



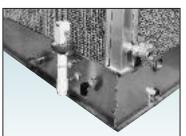
### **Basin Heater Package**

If a remote sump configuration is not practical, electric basin heater packages are available to help prevent freeze-up of the basin water. The packages include electric heater elements and a combination with thermostat and low water cutoff. (Consult EVAPCO for heater size and application)



### **Electric Water Level Control**

Evaporative 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.



### **Multiple Circuit Coils**

Coolers may be supplied with multiple circuit coils to match various system requirements such as split systems.

### Self Supporting Service Platforms

Coolers are available with self-supporting service platforms that include access ladders which are designed for easy field installation. This option offers significant savings in comparison to field constructed, externally supported catwalks. The EVAPCO service platform option will be installed in front of the fan access doors.

### **Motor Davit**

In the event that a fan and/or fan motor should need to be replaced, a motor davit is available from which a chain fall can be mounted to easily lower the motor/fan to the ground.



eco-ATWB Cooler with Optional Service Platform and Motor Davit



## APPLICATION

### Design

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Evapco units 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, please 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 fan 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 system. Continual aeration of the water in an open system can cause corrosion inside the tubes of the cooler leading to premature 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 System**

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. Refer to page 11 for concept illustration.

Other freeze protection methods are available when a remote sump is not feasible. Electric pan heaters, steam

or hot water coils can be used 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 in order to protect from freezing.

### **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.

eco-A	TWB	std coil(s)	series flow coil(s)
Width (mm)	# cell(s)	l/s	l/s
927	1	-	1,64
1232 *	1	-	2,34
1232	1	4,7	2,34
2283	1	10,1	5,1
2388	1	10,1	5,1
2388	2	20,2	10,1
4906	2	20,2	10,1
2991	1	11,9	6,0
2991	2	23,8	11,9
6112	2	23,8	11,9
6112	4	47,6	23,8
3607	1	14,7	7,4
3607	2	29,4	14,7
7344	2	29,3	14,7
7344	4	58,6	29,3

\* only models 4-2E4 to 4-5F4

### **Heat Exchanger Coil**

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. Also, a minimum recommended flow rate must be maintained.

# Maintaining the Recirculated Water System

The heat rejection in a condenser is accomplished by the evaporation of a portion of the recirculated spray water. As this water evaporates, it leaves behind all of its mineral content and impurities. Therefore, it is important to bleed-off an amount of water equal to that which is evaporated to prevent the build-up of these impurities. If this is not done, the mineral or the acidic nature of the water will continue to increase. This will ultimately result in heavy scaling or a corrosive condition.

### **Bleed-off**

Each unit supplied with a pump mounted on the side is furnished with a clear bleed line for visual inspection and a valve which, when fully open, will bleed-off the proper amount of water. If the make-up water supplying to the unit is relatively free of impurities, it may be possible to cut back the bleed, but the unit must be checked frequently to make sure scale is not forming. Make-up water pressure should be maintained between 140 and 340 kPa.



# APPLICATION



### Water Treatment

In some cases the make-up water will be so high in mineral content that a normal bleed-off will not prevent scaling. In this case, water treatment will be required and a reputable water treatment company familiar with the local water conditions should be consulted. Units constructed of galvanized steel operating with circulating water having a pH of 8,3 or higher will require periodic passivation of the galvanized steel to prevent the formation of "white rust".

Any chemical water treatment used must be compatible with the galvanized construction of the unit. If acid is used for treatment, it should be accurately metered and the concentration properly controlled. The pH of the water should be maintained between 7 and 8,8. Batch chemical feeding is not recommended because it does not afford the proper degree of control. If acid cleaning is required, extreme caution must be exercised and only inhibited acids recommended for use with galvanized construction should be used.

### **Control of Biological Contamination**

Water quality should be checked regularly for biological contamination. If biological contamination is detected, a more aggressive water treatment and mechanical cleaning program is required. The water treatment program should be performed in accordance with local legislation and in conjunction with a gualified water treatment company. It is important that all internal surfaces be kept clean of accumulated dirt or sludge. In addition, the drift eliminators should be kept in good operating condition to minimize water from exiting the evaporative cooling unit in the discharge air. To minimize the risk of biological contamination, at initial start up or after an extended shut down, it is recommended that the cooler be properly treated. Clean all debris such as leaves and dirt from the unit. Completely fill the basin to the overflow level with fresh water. Initiate a biocide water treatment or shock treatment program prior to operating the unit. It is preferable that all such procedures be conducted or supervised by a water treatment specialist.

### **Technical Support Services**

# EVAPCO's evap*Select*<sup>™</sup> Equipment Selection Program

**Evap***Select*<sup>™</sup> is a Web based computer selection program which allows the design engineer to choose EVAPCO models and optimize unit selections. The program allows the engineer to evaluate the equipment's thermal performance, space, energy requirements and water consumption. Once the model is selected and optional equipment features are inserted, the engineer may output a complete specification **AND** a unit drawing from this program.

The software is designed to provide the user with maximum flexibility in analyzing the various selection parameters while in a friendly and familiar Windows format.

The **Evap**Select<sup>TM</sup> software is available to all consulting engineering offices and design-build contractors. The programs are distributed through the local EVAPCO sales representative or the EVAPCO offices.

### **FM Approval**



### FM (Factory Mutual) Global is a mutual insurance company, which evaluates hazards and recommends improvements to property to reduce risks if a disaster like fire occurs.

EVAPCO's eco-ATWB closed circuit cooler can be executed to meet the FM approval standard.

To be in compliance with this standard the closed circuit coolers are improved with the following modifications:

- Water distribution system constructed of galvanized or stainless steel instead of PVC. Nozzles remain ABS plastic.
- Special full scale tested and approved PVC louver and eliminator material.
- Internal partition walls between cells and louver screens to avoid fire propagation.
- Air inlet louvers are provided with 1" x 1" hot dipped galvanized or stainless steel screens in front of the PVC air inlet material.
- Units with louvers more than 4' tall are provided with galvanized or stainless steel fire-walls which extend out from the unit 12" and are attached to the vertical supports between adjoining cells.
- Increased thickness of steel construction panels to improve fire resistance.
- Aluminum axial fans on single cell units, SLSF only on multi cell units for redundancy.

### **EVAPCO's Website**

Log on to EVAPCO's new and improved website http://www.evapco.eu for expanded product information. Product literature, Rigging and Maintenance Instructions are all accessible online from your computer.

The **Evap***Select*<sup>™</sup> Equipment Selection Software program may be accessed using Microsoft Internet Explorer after contacting your local EVAPCO sales representative. Users may make Requests for Quotation through the website or by e-mailing EVAPCO at this address:

### evapco.europe@evapco.eu

With the EvapSelect<sup>TM</sup> program, equipment selections, written specifications, unit drawing files and EVAPCO online information are readily available from the comfort of your own office! Environmental Solutions ... Creating a Better World!

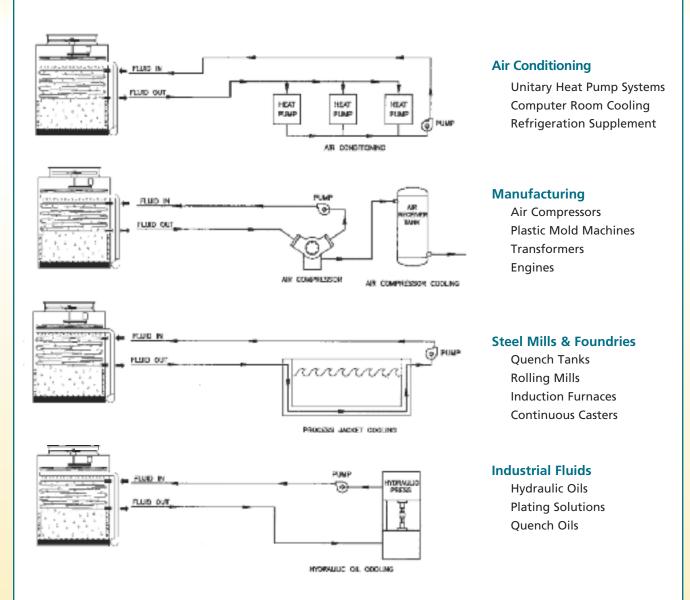
# COO-ATTMB

## **A**PPLICATION

# Some application ...

for **LIFE** 

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**Ultra Quiet** 

**Closed Circuit** 

Coolers

evapco

for **LIFE** 



# The New EVAPCO eco-Coolers eco-ATWB are now available with four

now available with four (4) equipment options to reduce the overall sound generated from the side or top.

Each option provides various levels of sound reduction and can be used in combination to provide the lowest sound level.

Ultra Quiet operation for induced draft counterflow Closed Circuit Coolers



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## Advanced Technology Low Sound Solutions

## **Super Low Sound Solution for Sound Sensitive Applications**



Family of Super Low Sound Fans

### The Super Low Sound Fan Reduced Sound Levels versus Model eco-ATWB Standard Fan

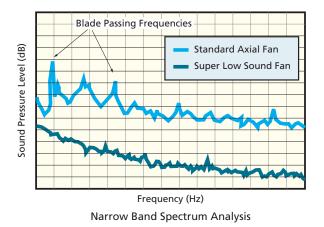
EVAPCO's Super Low Sound Fan on the **eco-ATWB** Closed Circuit Coolers utilizes an extremely wide chord blade design applied for sound sensitive applications where the lowest sound levels are desired. The fan is one piece molded heavy duty FRP construction utilizing a forward swept blade design. The Super Low Sound Fan reduces sound levels 9 to 15 dB(A) compared to the Model ATW standard fan.

### Improved Sound Quality versus Model eco-ATWB Standard Fan

The SUPER Low Sound Fan on the **eco-ATWB** Closed Circuit Cooler reduces sound levels 9-15 dB(A) <u>and</u> eliminates audible blade passing frequencies indicative of straight bladed axial type fans.

Refer to the Narrow Band Spectrum graph which shows how straight bladed axial fans produce blade passing frequencies – the same phenomena that produce the signature pulsating helicopter noise.

The blade passing frequencies are <u>audible</u> spikes in sound pressure levels, but are not apparent in the octave band sound spectrum.



The Super Low Sound Fan on the eco-ATWB Closed Circuit Cooler reduces sound levels and betters the sound quality!

NOTE: These low sound options may impact the overall installed dimensions of the eco-ATWB Closed Circuit Cooler selected.



# Advanced Technology Low Sound Solutions



# **Additional Solutions for Sound Sensitive Applications**







### Low Sound Fan 4 – 7 dB(A) Reduction!

The Low Sound Fan offered by EVAPCO is a wide chord blade design for sound sensitive applications where low sound levels are desired. The Low Sound Fan shall utilize a unique soft-connect blade-to-hub design that is compatible with Variable Speed Drives.

The Low Sound Fan is capable of reducing the unit sound pressure levels 4 dB(A) to 7 dB(A), depending upon specific unit selection and measurement location. The fans are high efficiency axial propeller type and are available on 2.4 m wide and larger eco-ATWB Closed Circuit Coolers.

### Water Silencer

Reduces Water Noise in the Cold Water Basin up to 7 dB(A)!

The water silencer option is available for all induced draft models and is located in the falling water area of the cold water basin. The water silencer will reduce the high frequency noise associated with the falling water and is capable of reducing overall sound levels **4 dB(A)** to **7 dB(A)** measured at 1.5 m from the side or end of the unit. The water silencers reduce overall sound levels **9 dB(A) to 12 dB(A)** (depending on water loading and louver height) measured 1.5 m from the side or end of the unit when water is circulated with fans off.

The water silencers are constructed of lightweight PVC sections and can be easily removed for access to the basin area. The water silencer will have no impact on unit thermal performance.

The Water Silencer is available on ALL eco-ATWB Closed Circuit Coolers.

### **Offset Sound Attenuation Walls**

Offset Sound Attenuation Walls are EVAPCO's newest attenuation option for even greater levels of sound reduction when used in combination with the Super Low Sound Fan and Water Silencer options.

The addition of Offset Sound Attenuation Walls will reduce the 15 m free field sound level by an additional **3 db(A)**. The walls are constructed of Z-725 galvanized steel (stainless steel construction also available) lined with acoustical padding on the inside of the walls.

This option requires external support by others.

Consult **Evap***Select*<sup>™</sup> software for unit sound levels. If a detailed analysis or full octave band data sheet is required for your application, please consult your EVAPCO Sales Representative.



# SOUND BASIC

### **Background in Sound Basics**

### Sound

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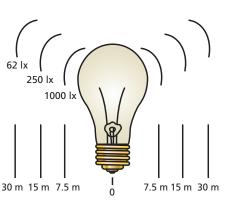
Sound is the alteration in pressure, stress, particle displacement and particle velocity, which is propagated in an elastic material. Audible sound is the sensation produced at the ear by very small pressure fluctuations in the air.

### **Sound Pressure**

Sound pressure is the *intensity* of sound. Sound pressure,  $L_P$  in decibels is the ratio of measured pressure, P in the air to a reference sound pressure,  $P_0 = 2 \times 10^{-5}$  Pascal following the following formula:

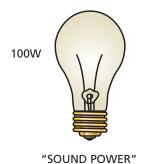
 $L_{P}$  (dB) = 10 log<sub>10</sub> ( $\triangle P^{2} / \triangle Po^{2}$ )

The most important point to understand about sound pressure level is that **sound pressure level is what is actually being measured when sound data is recorded.** Microphones that measure sound are pressure sensitive devices that are calibrated to convert the sound pressure waves into decibels.

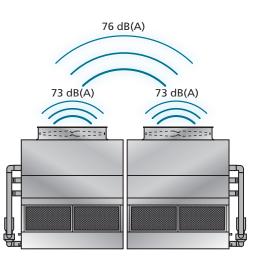


### "SOUND PRESSURE"

Similar to the intensity coming from a light bulb which gets dimmer as one gets further and further away, sound pressure decreases in decibels as your ear gets further from the sound source.



Similar to the wattage of a light bulb that does not change the farther one is away from the light bulb, sound power does not vary with distance.



### Sound Power

Sound Power is the <u>energy</u> of sound. Sound power,  $L_w$  in decibels is the ratio of the calculated sound power, W to a reference power,  $W_o=1$  picowatt, according to the following formula:

 $L_w$  (dB) = 10 log<sub>10</sub> (W/W<sub>o</sub>)

The most important point to remember about sound power level is that sound power level is not a measured value, but is calculated based on the measured sound pressure.

### **Adding Multiple Sound Sources**

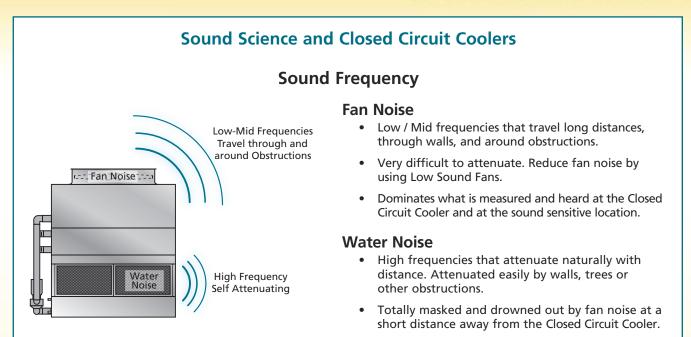
Since the decibel is a logarithmic function, the numbers are not added linearly. Therefore, two 73 dB sound sources added together <u>do not</u> equal 146 dB. The resultant sound would actually be 76 dB. The following table shows how to add decibels from two sound sources.

<u>Difference in</u> dB Level	Add to the higher dB Level
0 to 1	3
2 to 3	2
4 to 8	1
9 or greater	0



# SOUND BASIC

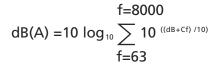




## Sound Pressure – The A-Weighted Scale

The A-weighted scale, dB(A) is a means to translate what a sound meter microphone measures to how the human ear perceives the sound.

### dB(A) Formula and Conversions:



where:  $C_r$  = correction factor per band dB = measured sound pressure let:  $Z_r$  = (dB + Cf)/10

Band	Center Freq. (Hz)	Frequency Range (Hz)	Sample Data (dB)	<u>Cf</u> (dB)	Zf
1	63	44-88	68	-26.2	4.18
2	125	89-175	76	-16.1	5.99
3	250	176-350	77	-8.6	6.84
4	500	351-700	73	-3.2	6.98
5	1000	701-1400	70	0	7.00
6	2000	1401-2800	68	+1.2	6.92
7	4000	2801-5600	71	+1.0	7.20
8	8000	5601-11200	73	-1.1	7.19

# Typical Sound Pressure Levels of Well Known Noises:

Jet Airplane, 45 meters away	140 dB(A)
Painful	130 dB(A)
Very Uncomfortable	120 dB(A)
Circular Saw	110 dB(A)
Nightclub	100 dB(A)
Semi Truck	90 dB(A)
Sidewalk of a Busy Road	80 dB(A)
Household Vacuum, 1 meter away	70 dB(A)
Normal Conversation	60 dB(A)
Inside Average Home	50 dB(A)
Quiet Library	40 dB(A)
Bedroom at Night	30 dB(A)

Notable Facts about Sound:

- +/- 1 dB(A) is inaudible to the human ear
- Decreasing a noise source by 10 dB(A) sounds half as loud to the human ear

Example calculation of the dB(A) formula using the Sample Data above.

 $dB(A) = 10 \log_{10} \sum 10^{(21)} + 10^{(22)} + 10^{(23)} + 10^{(24)} + 10^{(25)} + 10^{(26)} + 10^{(27)} + 10^{(28)}$ = 10 log<sub>10</sub> (67114245.2) = 78.3 dB(A)



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# SPECIFYING SOUND

## **Sound Verifications**

# Specify sound pressure in dB(A) measured 1,5 m above the fan discharge during full speed operation.

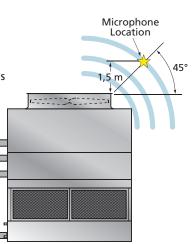
- All manufacturers can meet a performance specification with Low Sound Options
- Fan noise is <u>what</u> matters. 1,5 m above the fan is <u>where</u> it matters.

### **Measurement Location**

Per Cooling Technology Institute Standard ATC-128

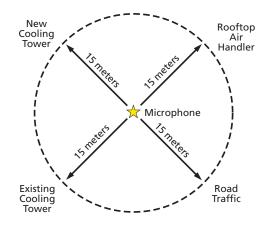
Sound Microphone location 1,5 m above the closed circuit cooler fan cowl edge at a 45° angle.

This position assures accurate sound measurements by eliminating a source of uncertainty by taking the microphone out of the high velocity fan discharge air.



### **Easy Verification**

At 1,5 m from the Closed Circuit Cooler, a sound meter records only closed circuit cooler noise. Interested parties can easily verify the actual noise coming from the closed circuit cooler against the specified sound data with good certainty.



If sound were specified at 15 meters or some greater distance from the sound sensitive location, there is increased uncertainty in the measured data due to other possible sound sources within the 15 meters radius of the sound microphone.

### **Sound Quality**

Sound coming from the top of the closed circuit cooler is comprised of low- and mid-frequency fan noise. Low- and mid-frequency fan "rumble" is very difficult to attenuate. Fan rumble travels through everything and around everything and what is audible at any sound sensitive location.

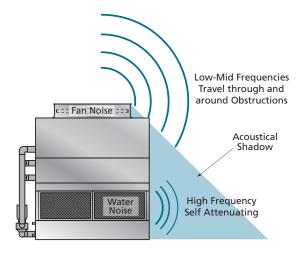
Sound coming from the sides of the Closed Circuit Cooler is comprised of high frequency water noise, is much less objectionable than fan noise and attenuates naturally with distance.

### Acoustical Shadow\*

"Subjective reactions to the overall noise generated by Closed Circuit Coolers indicate that as one walks away from a tower intake, a point is reached where the water noise is masked by the fan noise. The point coincides with the point at which one emerges from the acoustical shadow of the Closed Circuit Cooler structure, which shields intake water noise from discharge fan noise."

\*Seelbach & Oran, "What To Do About Cooling Tower Noise", Industrial Acoustics Company.

Sound measured at the side of a Closed Circuit Cooler is inside the acoustical shadow of the noise emitted from the top. Outside the acoustical shadow, the low- and mid-frequency fan noise completely masks the high frequency water noise.



Specify fan noise because it matters! Specify fan noise where it matters!



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for **LIFE** 



# We Stand Tall Through it All!

The International Building Code (IBC) is a comprehensive set of regulations addressing the structural design and installation requirements for building systems – including HVAC and industrial refrigeration equipment.

With the advent of the IBC, EVAPCO is proud to introduce the new and improved line of eco-ATWB Closed Circuit Coolers with IBC 2012 compliance standard.

# Wind, Rain, Earthquake and Hurricane

EVAPCO Closed Circuit Coolers... designed to withstand seismic or wind load forces.

# **IBC COMPLIANCE**

In its continuing commitment to be the leaders in evaporative cooling equipment design and services, EVAPCO eco-ATWB Closed Circuit Coolers are now *Independently Certified* to withstand Seismic and Wind Loads in accordance with IBC 2012.

### What is IBC?

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### **International Building Code**

The International Building Code (IBC) is a comprehensive set of regulations addressing both the structural design and the installation requirements for building systems – including HVAC and industrial refrigeration equipment. Compared to previous building codes that considered only the building structure and component anchorage, the requirements contained within the IBC address anchorage, structural integrity, and the operational capability of a component following either a seismic or wind load event. Simply stated, the IBC code provisions require that evaporative cooling equipment, and all other components permanently installed on a structure, must be designed to meet the same seismic or wind load forces as the building to which they are attached.

# How Does IBC 2012 Apply to Closed Circuit Coolers?

Based on site design factors, calculations are made to determine the equivalent seismic "g force" and wind load (kilo-Newton per square meter, kN/m<sup>2</sup>) on the unit. The closed circuit cooler must be designed to withstand the greater of either the seismic or wind load.

The New eco-ATWB is offered with a choice of TWO structural design packages:

- Standard Structural Design For projects with  $\leq 1.0$  g seismic or 6,94 kN/m<sup>2</sup> wind loads
- Upgraded Structural Design Required for projects with >1.0 g seismic or 6,94 kN/m<sup>2</sup> wind loads

All locations with design criteria resulting in a seismic design force of up to 1.0g or a wind load of 6,94 kN/m<sup>2</sup> or below will be provided with the standard eco-ATWB structural design. An upgraded structural design is available for installations with design criteria resulting in "g forces" greater than 1.0g. The highest "g force" location in North America is 5.12g. The highest wind load shown on the maps is 273 km/h, which is approximately equal to 6,94 kN/m<sup>2</sup> velocity pressure. Therefore, the upgraded structural design package option for the New eco-ATWB is designed for 5.12 g and 6,94 kN/m<sup>2</sup> making it applicable to most building locations worldwide.

### **Design Implementation**

EVAPCO applies the seismic design and wind load information provided for the project to determine the equipment design necessary to meet IBC requirements. This process ensures that the mechanical equipment and its components are compliant per the provisions of the IBC as given in the plans and specifications for the project.

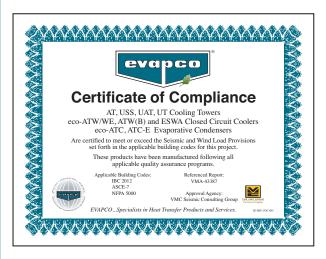
### **Independent Certification**

ENVIRONMENTAL SOLUTIONS ... CREATING A BETTER WORLD!

Although the IBC references and is based on the structural building code ASCE 7, many chapters and paragraphs of ASCE 7 are superceded by the IBC, independent certification and methods of analysis are such paragraphs. Per the most recent edition of the code, the EVAPCO compliance process included an exhaustive analysis by an independent approval agency. As required by the International Building Code, EVAPCO supplies a certificate of compliance as part of its submittal documents. The certificate of compliance demonstrates that the equipment has been independently tested and analyzed in accordance with the IBC seismic and wind load requirements. Evapco has worked closely with the independent approval agency, The VMC Group, to complete the independent equipment testing and analysis.

If the seismic "g force" or wind load psf requirements for the project site are known, EVAPCO's online equipment selection software, **EvapSelect**<sup>TM</sup>, will allow you to choose the required structural design package – either standard construction or upgraded construction.

For further questions regarding IBC compliance, please contact your local EVAPCO Representative.



D! evapco for LIFE

# CCO-ATMB



# eco-ATWB Closed Circuit Coolers

CYCERC

# Eurovent-CTI Certification Purpose

This standard sets forth a program whereby the **Cooling Technology Institute** will certify that all models of a line of evaporative heat rejection equipment offered for sale by a specific manufacturer will perform thermally in accordance with the manufacturer's published ratings...

Technology for the Future, Available Today!



# **CTI** CERTIFICATION

In its continuing commitment to be the leaders in evaporative cooling equipment design and services, EVAPCO eco-ATWB Closed Circuit Coolers are now *Independently Certified* by *CTI*, to perform thermally in accordance with the published data.

## What is CTI?

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### **Cooling Technology Institute**

The Cooling Technology Institute is an organization headquartered in the United States with over 400 member companies from around the globe. CTI membership is composed of manufacturers, suppliers, owner operators, and test agencies from over 40 countries. In 2008 CTI certified more than 5000 Evaporative Heat Transfer Systems (EHTS) from 49 product line of 24 participants.

### **CTI's Mission and Objectives**

This can be best explained by the CTI's published Mission statement and Objectives revised in December 2003 and published on their website **www.cti.org**.

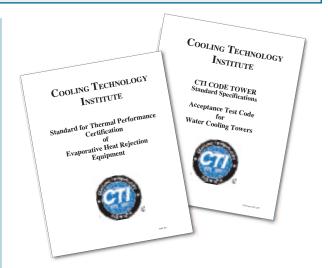
### **CTI Mission Statement**

To advocate and promote the use of environmentally responsible Evaporative Heat Transfer Systems (EHTS) for the benefit of the public by encouraging:

- Education
- Research
- Standards Development and Verification
- Government Relations
- Technical Information Exchange

### **CTI Objectives**

- Maintain and expand a broad base membership of individuals and organizations interested in Evaporative Heat Transfer Systems (EHTS).
- Identify and address emerging and evolving issues concerning EHTS.
- Encourage and support educational programs in various formats to enhance the capabilities and competence of the industry to realize the maximum benefit of EHTS.
- Encourage and support cooperative research to improve EHTS technology and efficiency for the long-term benefit of the environment.
- Assure acceptable minimum quality levels and performance of EHTS and their components by establishing standard specifications, guidelines, and certification programs.
- Establish standard testing and performance analysis systems and procedures for EHTS.
- Communicate with and influence governmental entities regarding the environmentally responsible technologies, benefits, and issues associated with EHTS.
- Encourage and support forums and methods for exchanging technical information on EHTS.



### Benefits to the End User

CTI defines an independent testing certification program that is specifiable, enforceable and available to all equipment manufacturer's. End users that purchase CTI certified products are assured that those products will perform thermally as specified.

Additionally CTI certification is the first step for the Green Building Concept in Europe:

- LEED Leadership in Energy and Environmental
   Design
- Best Available Practice
- Green Building Rating System

### **Thermal Performance Guarantee**

In addition to the CTI Certification, Evapco unequivocally guarantees the Thermal Performance of ALL Evapco Equipment. Every unit order is confirmed with a submittal package that includes an Evapco Thermal Performance Guarantee Certificate.





# CTI CERTIFICATION



## **CTI Certification Program**

### **CTI Certification Process**

- Submit Application for Certification
- CTI completes a technical review of the product line submitted
- CTI performs an initial qualification test in a laboratory on a specified model number
- CTI issues an Approval Letter with Validation Number if test is passed. Letter is also distributed to all members of CTI to inform everyone that a successfull certification has been completed. The Certification Validation Number assigned should be fixed to each tower sold and displayed in all catalogs and other literature
- Product Line must undergo an Annual Reverification Test - Different model number is selected every year
- More details can be found on the CTI website www.cti.org

### **CTI Certification Test Parameters**

- Entering Wet Bulb temperature 12.8°C to 32.2°C
- Cooling Range Minimum of 2.2°C
- Cooling Approach Minimum of 2.8°C
- Process Fluid Temperature Maximum of 51.7°C
- Barometric Pressure 91.4 to 105 kPa
- More details can be found on the CTI website www.cti.org

### **CTI Certification Limitations**

- Specific manufacturer's product line name and model numbers
- Applicable only to product lines and model numbers submitted
- Multiple cell model numbers are allowed if the airflow is not affected or the configuration impact is included in the unit rating
- Optional accessories are allowed if the aiflow is not affected or the accessory impact is accounted for in the rating
- More details can be found on the CTI website www.cti.org

### Evapco Europe CTI Certified eco-ATWB Product Line

### eco-ATWB lines of CTI Certified Closed Circuit Coolers

- Includes the use of side, end or bottom water inlet configuration
- Includes optional Super Low Sound Fan (SLSF)
- Includes optional pan Water Silencers (WS)
- Includes optional external service platform and ladders for access
- EvapSelect<sup>™</sup> Technical data sheet will state "CTI Certified Selection" if the selection falls within the CTI Certification Test Parameters
- Unit will receive a CTI Certified Shield located near the nameplate

### Note

All CTI Certified Product Lines of all manufacturers with CTI certified products can be found on the website: http://www.cti.org/certification.shtml



† Mark owned by the Cooling Technology Institute



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# **EUROVENT-CTI** CERTIFICATION

In 2007 Evapco launched the initiative to create the "European Chapter" of CTI. At the start of this initiative, Eurovent and CTI established a "Memorandum of Understanding". Since then the "Operational Manual for Certification of Closed Circuit Coolers" and the "Eurovent Rating Standard for Closed Circuit Coolers" were written.

Both documents are strongly tied to the CTI documents STD 201 and ATC 105. A common **"EUROVENT-CTI"** Certification program has become the European Standard for independent thermal performance rating of Closed Circuit Coolers. All Evapco CTI Certified Coolers will be **Eurovent-CTI certified as from February 2012**.

## **EUROVENT – CTI cooperation**

### **EUROVENT Association**

Initially founded in 1958 EUROVENT Association represents the European refrigeration, air conditioning, air



handling, heating and ventilation industry and trade associations from European and non-European countries. Over 1000 companies in 13 European countries, employing 150000 employees who jointly generate more than  $\in$  25 to 30 billion of annual output are member of this organization.

### **EUROVENT** mission

EUROVENT represents, promotes and defends the industry to relevant national and international bodies and cooperates with other European umbrella associations. Over the years EUROVENT has become a wellknown and respected stakeholder in all industry related matters and, in particular, in climate change and energy efficiency.

EUROVENT develops product certification programs for the entire industry through the EUROVENT Certification Company.

### **EUROVENT** Certification



The main objective of the EUROVENT Certification Company (ECC) is to certify cooling equipment (and/or

components) independently from EUROVENT Association. With a common set of well-defined procedures and criteria for the rating of products, comparison of product performance ensures a healthy and solid competition on a market open to all manufacturers. When a manufacturer participates in a certification program, he has to present its list of models or model ranges together with their performance data. The files are evaluated by the ECC Certification and a predefined number of units are selected for testing by independent laboratories. If the results comply with the relevant standards, the submitted models or ranges will be listed in the EUROVENT Certification Online Directory. Models are subject to regular random testing to verify compliance with catalogue data.

### Benefits

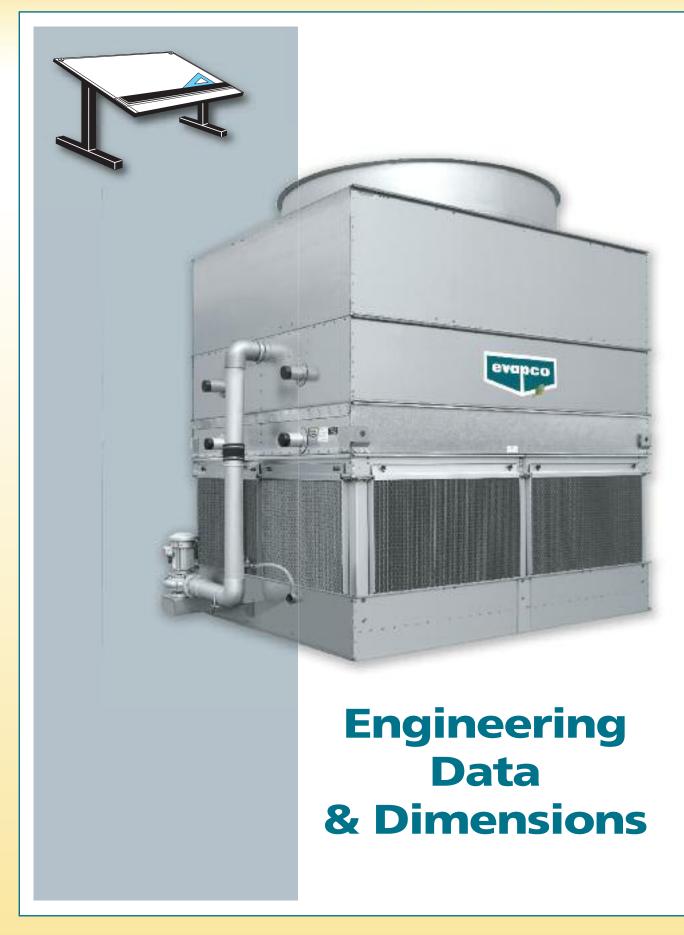
The Certification Mark guarantees specifying engineers, installers and end users that the products marketed by a participant have been submitted to independent testing and that they have been accurately rated.

Through specification of **certified products**, the engineer's tasks become easier, since there is no need to carry out detailed comparison and performance testing.





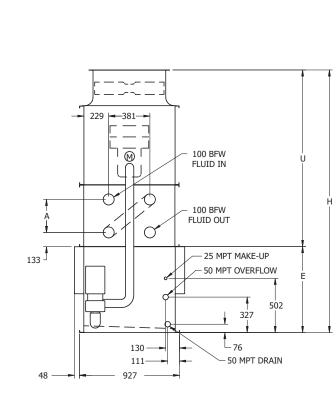


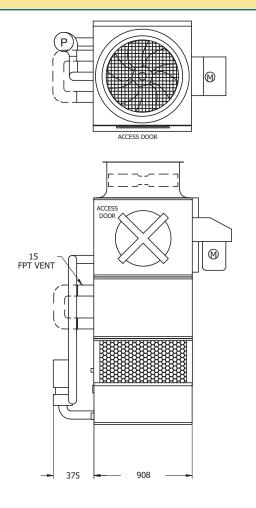




eco-ATWB Models 3-2C3 to 3-5D3

# **ENGINEERING DATA & DIMENSIONS**





Note: The number of coil connections doubles when the flow rate exceeds 28 l/s on 3x3 models. This required option is referred to as the High Flow coil configuration.

eco-ATWB	Weights (kg)		ı)	Fans		Spray	Coil	R	lemote Sur	mp∆	Dimensions (mm) 🔺				
Model Number†	Shipping	Heaviest Section††	Operating	kW	m³/s	Pump kW	Volume (liters)	Liters Req'd*	Conn. Size (mm)	Operating Weight (kg)	Height H	Lower E	Upper U	Coil A	
eco-ATWB 3-2C3-Z	570	440	810	0,75	2,2	0,55	59	380	150	700	2429	797	1632	305	
eco-ATWB 3-3C3-Z	670	540	930	0,75	2,1	0,55	78	380	150	820	2645	797	1848	521	
eco-ATWB 3-4C3-Z	750	630	1030	0,75	2,0	0,55	97	380	150	930	2861	797	2064	737	
eco-ATWB 3-4D3-Z	760	630	1040	1,1	2,3	0,55	97	380	150	930	2861	797	2064	737	
eco-ATWB 3-5D3-Z	840	720	1140	1,1	2,0	0,55	117	380	150	1030	3077	797	2280	953	

Model Numbers end in "-Z" for units with Series Flow piping configuration. 3x3 eco-ATWB units are only available in Series Flow and will require crossover piping which can either be supplied by the factory or by others. Model numbers will include "R" for units with Low Sound Fan(s) and "S" † for units with an option that negates CTI certification.

Heaviest section is the coil/fan 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 (300 mm would normally be sufficient).

When a remote sump arrangement is selected, the spray pump, suction strainer and associated piping are omitted; the unit is provided with an  $\triangle$ 

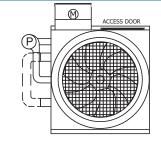
oversized outlet to facilitate drainage to the remote sump. Unit dimensions and coil connections may vary slightly from catalog. See factory certified prints for dimensions, quantity of coil connections, and piping configuration. Coil connections are 4" bevel for weld (BFW). Other connection types such as grooved for mechanical coupling or flanged are also available as options.

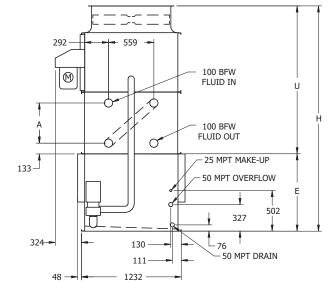


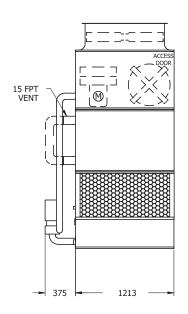
## **ENGINEERING DATA & DIMENSIONS**



# eco-ATWB Models 4-2E4 to 4-5F4







Note: The number of coil connections doubles when the flow rate exceeds 28 l/s on 4x4 models. This required option is referred to as the High Flow coil configuration.

eco-ATWB	WB Weights (kg)		J)	Fans		Spray	Coil	F	Remote Sur	mp∆	Dimensions (mm) 🔺				
Model Number†	Shipping	Heaviest Section††	Operating	kW	m³/s	Pump kW	Volume (liters)	Liters Req'd*	Conn. Size (mm)	Operating Weight (kg)	Height H	Lower E	Upper U	Coil A	
eco-ATWB 4-2E4-Z	870	690	1300	1,5	4,1	0,55	100	380	150	1140	2588	956	1632	305	
eco-ATWB 4-3E4-Z	1040	860	1510	1,5	3,9	0,55	138	380	150	1350	2779	956	1823	495	
eco-ATWB 4-4E4-Z	1190	1020	1700	1,5	3,8	0,55	175	380	150	1540	2969	956	2013	686	
eco-ATWB 4-4F4-Z	1210	1030	1710	2,2	4,3	0,55	175	380	150	1550	2969	956	2013	686	
eco-ATWB 4-5E4-Z	1360	1180	1900	1,5	3,7	0,55	213	380	150	1740	3160	956	2204	876	
eco-ATWB 4-5F4-Z	1370	1200	1910	2,2	4,2	0,55	213	380	150	1760	3160	956	2204	876	

† Model Numbers end in "-Z" for units with Series Flow piping configuration. 4x4 eco-ATWB units are only available in Series Flow and will require crossover piping which can either be supplied by the factory or by others. Model numbers will include "R" for units with Low Sound Fan(s) and "S" for units with an option that negates CTI certification.

†† Heaviest section is the coil/fan 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 (300 mm would normally be sufficient).

△ 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.



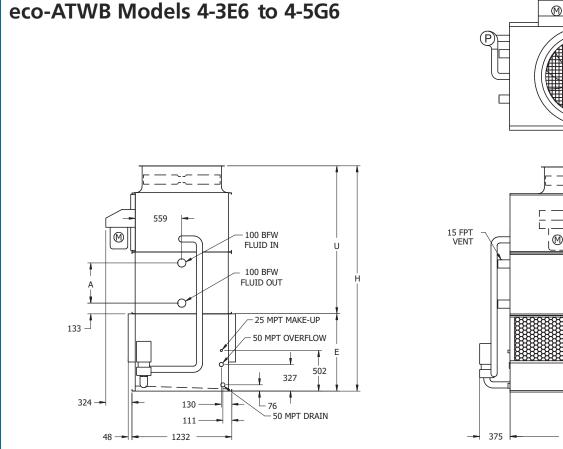
# **ENGINEERING DATA & DIMENSIONS**

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Note: The number of coil connections doubles when the flow rate exceeds 28 l/s on 4x6 models. This required option is referred to as the High Flow coil configuration.

eco-ATWB		Weights (kg	J)	F	ans	Spray	Coil	F	Remote Sur	np∆		Dimensio	ons (mm) 🔺	
Model Number†	Shipping	Heaviest Section <sup>††</sup>	Operating	kW	m³/s	Pump kW	Volume (liters)	Liters Req'd*	Conn. Size (mm)	Operating Weight (kg)	Height H	Lower E	Upper U	Coil A
eco-ATWB 4-3E6	1450	1220	2140	1,5	5,2	0,55	198	455	150	1930	2779	956	1823	495
eco-ATWB 4-3F6	1460	1230	2150	2,2	5,9	0,55	198	455	150	1940	2779	956	1823	495
eco-ATWB 4-3G6	1470	1230	2150	4	6,9	0,55	198	455	150	1950	2779	956	1823	495
eco-ATWB 4-4E6	1680	1450	2430	1,5	5,0	0,55	255	455	150	2220	2969	956	2013	686
eco-ATWB 4-4F6	1690	1460	2440	2,2	5,7	0,55	255	455	150	2230	2969	956	2013	686
eco-ATWB 4-4G6	1700	1470	2440	4	6,7	0,55	255	455	150	2240	2969	956	2013	686
eco-ATWB 4-5E6	1930	1700	2730	1,5	4,9	0,55	313	455	150	2520	3160	956	2204	876
eco-ATWB 4-5F6	1940	1710	2740	2,2	5,6	0,55	313	455	150	2540	3160	956	2204	876
eco-ATWB 4-5G6	1950	1710	2750	4	6,5	0,55	313	455	150	2540	3160	956	2204	876

Model Numbers 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 "R" for units with Low Sound Fan(s) and "S" for units with an option that negates CTI certification.

Heaviest section is the coil/fan section. ††

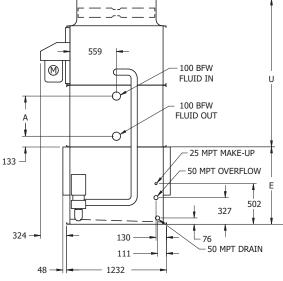
Liters shown is water in suspension in unit and piping. Allow for additional water in bottom of remote sump to cover pump suction and strainer during operation (300 mm would normally be sufficient).

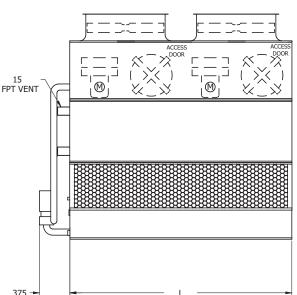
When a remote sump arrangement is selected, the spray pump, suction strainer and associated piping are omitted; the unit is provided with an Δ oversized outlet to facilitate drainage to the remote sump.



Selections for eco-ATWB Closed Circuit Coolers are available from EVAPCO's evapSelect<sup>™</sup> Equipment Selection Program.

Please contact your local sales representative for more information on the evapSelect<sup>\*\*</sup> program.





**Note:** The number of coil connections doubles when the flow rate exceeds 28 l/s on eco-ATWB 4x9 and 4x12 models. This required option is referred to as the High Flow coil configuration.

eco-ATWB		Weights (kg	ı)	F	ans	Spray	Coil	R	lemote Sur	np △		Dime	nsions (mn	n) 🔺	
Model Number†	Shipping	Heaviest Section††	Operating	kW	m³/s	Pump kW	Volume (liters)	Liters Req'd*	Conn. Size (mm)	Operating Weight (kg)	Height H	Lenght L	Lower E	Upper U	Coil A
eco-ATWB 4-3E9	2140	1830	3130	(2) 1.5	8,5	0,75	288	680	150	2850	2775	2737	956	1823	495
eco-ATWB 4-3F9	2160	1860	3160	(2) 2.2	9,6	0,75	288	680	150	2880	2775	2737	956	1823	495
eco-ATWB 4-4E9	2480	2170	3560	(2) 1.5	8,3	0,75	376	680	150	3280	2965	2737	956	2013	686
eco-ATWB 4-4F9	2500	2200	3590	(2) 2.2	9,4	0,75	376	680	150	3310	2965	2737	956	2013	686
eco-ATWB 4-5E9	2840	2540	4020	(2) 1.5	8,0	0,75	463	680	150	3740	3156	2737	956	2204	876
eco-ATWB 4-5F9	2870	2570	4050	(2) 2.2	9,1	0,75	463	680	150	3760	3156	2737	956	2204	876
eco-ATWB 4-3E12	2610	2240	3930	(2) 1.5	10,3	1,1	378	870	200	3570	2775	3651	956	1819	495
eco-ATWB 4-3F12	2640	2270	3960	(2) 2.2	11,8	1,1	378	870	200	3600	2775	3651	956	1819	495
eco-ATWB 4-3G12	2650	2280	3960	(2) 4	13,7	1,1	378	870	200	3610	2775	3651	956	1819	495
eco-ATWB 4-4E12	3080	2700	4510	(2) 1.5	10,0	1,1	496	870	200	4150	2965	3651	956	2010	686
eco-ATWB 4-4F12	3100	2730	4540	(2) 2.2	11,5	1,1	496	870	200	4180	2965	3651	956	2010	686
eco-ATWB 4-4G12	3110	2740	4540	(2) 4	13,3	1,1	496	870	200	4190	2965	3651	956	2010	686
eco-ATWB 4-5E12	3570	3190	5120	(2) 1.5	9,7	1,1	613	870	200	4760	3156	3651	956	2200	876
eco-ATWB 4-5F12	3590	3220	5140	(2) 2.2	11,1	1,1	613	870	200	4790	3156	3651	956	2200	876
eco-ATWB 4-5G12	3600	3230	5150	(2) 4	12,9	1,1	613	870	200	4800	3156	3651	956	2200	876

† Model Numbers 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 "R" for units with Low Sound Fan(s) and "S" for units with an option that negates CTI certification.

†† Heaviest section is the coil/fan 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 (300 mm would normally be sufficient).

△ 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 4" bevel for weld (BFW). Other connection types such as grooved for mechanical coupling or flanged are also available as options.

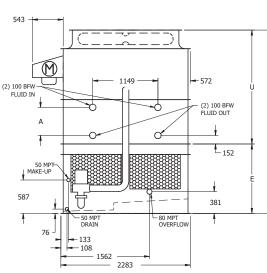
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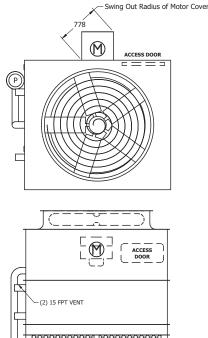
evapco

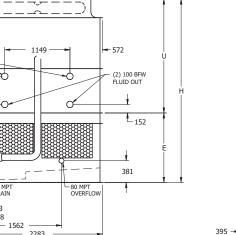


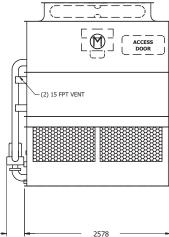
eco-ATWB Models 9-3G8 to 9-6J8

# **ENGINEERING DATA & DIMENSIONS**









Note: The number of coil connections doubles when the flow rate exceeds 56 l/s on eco-ATWB 9x8 models. This required option is referred to as the High Flow coil configuration.

eco-ATWB		Weights (kg	1)	F	ans	Spray	Coil	F	Remote Sur	np∆		Dimensio	ons (mm) 🔺	
Model Number†	Shipping	Heaviest Section <sup>††</sup>	Operating	kW	m³/s	Pump kW	Volume (liters)	Liters Req'd*	Conn. Size (mm)	Operating Weight (kg)	Height H	Lower E	Upper U	Coil A
eco-ATWB 9-3G8	3760	3100	5310	4	13,7	1,5	542	835	200	4780	3232	1226	2007	495
eco-ATWB 9-3H8	3780	3120	5330	5,5	15,7	1,5	542	835	200	4800	3232	1226	2007	495
eco-ATWB 9-318	3780	3120	5330	7,5	17,2	1,5	542	835	200	4800	3232	1226	2007	495
eco-ATWB 9-3J8	3840	3180	5390	11	19,3	1,5	542	835	200	4860	3232	1226	2007	495
eco-ATWB 9-4G8	4380	3720	6090	4	13,3	1,5	707	835	200	5560	3423	1226	2197	686
eco-ATWB 9-4H8	4400	3740	6110	5,5	15,2	1,5	707	835	200	5580	3423	1226	2197	686
eco-ATWB 9-4I8	4400	3740	6120	7,5	16,7	1,5	707	835	200	5590	3423	1226	2197	686
eco-ATWB 9-4J8	4460	3800	6180	11	18,7	1,5	707	835	200	5650	3423	1226	2197	686
eco-ATWB 9-5H8	5060	4400	6940	5,5	14,8	1,5	872	835	200	6410	3613	1226	2388	876
eco-ATWB 9-518	5060	4410	6950	7,5	16,2	1,5	872	835	200	6420	3613	1226	2388	876
eco-ATWB 9-5J8	5120	4460	7010	11	18,1	1,5	872	835	200	6480	3613	1226	2388	876
eco-ATWB 9-6H8	5710	5050	7760	5,5	14,3	1,5	1038	835	200	7230	3804	1226	2578	1067
eco-ATWB 9-618	5720	5060	7760	7,5	15,7	1,5	1038	835	200	7230	3804	1226	2578	1067
eco-ATWB 9-6J8	5780	5120	7820	11	17,6	1,5	1038	835	200	7290	3804	1226	2578	1067

Model Numbers 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 "R" for units with Low Sound Fan(s) and "S" for units with an option that negates CTI † certification.

†† Heaviest section is the coil/fan section.

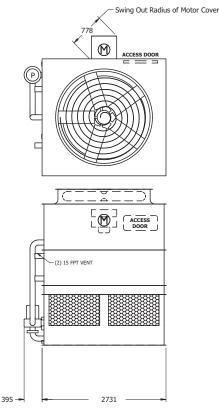
Liters shown is water in suspension in unit and piping. Allow for additional water in bottom of remote sump to cover pump suction and strainer during operation (300 mm would normally be sufficient).

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

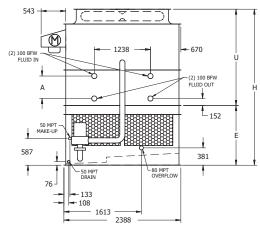
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# ENGINEERING DATA & DIMENSIONS

# eco-ATWB Models 8-3G9 to 8-6K9



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eco-ATWB	Weights (kg)			Fans		Spray	Coil	Remote Sump +			Dimensions (mm) 🔺				
Model Number†	Shipping	Heaviest Section††	Operating	kW	m³/s	Pump kW	Volume (liters)	Liters Req'd*	Conn. Size (mm)	Operating Weight (kg)	Height H	Lower E	Upper U	Coil A	
eco-ATWB 8-3G9	4060	3420	5740	4	14,7	1,5	576	910	200	5180	3439	1318	2121	495	
eco-ATWB 8-3H9	4080	3450	5770	5,5	16,8	1,5	576	910	200	5210	3439	1318	2121	495	
eco-ATWB 8-319	4090	3450	5770	7,5	18,5	1,5	576	910	200	5210	3439	1318	2121	495	
eco-ATWB 8-3J9	4150	3510	5830	11	20,7	1,5	576	910	200	5270	3439	1318	2121	495	
eco-ATWB 8-4G9	4740	4100	6600	4	14,2	1,5	751	910	200	6040	3629	1318	2311	686	
eco-ATWB 8-4H9	4760	4120	6620	5,5	16,3	1,5	751	910	200	6060	3629	1318	2311	686	
eco-ATWB 8-4I9	4760	4130	6620	7,5	17,9	1,5	751	910	200	6060	3629	1318	2311	686	
eco-ATWB 8-4J9	4820	4190	6680	11	20,1	1,5	751	910	200	6120	3629	1318	2311	686	
eco-ATWB 8-4K9	4850	4210	6710	15	21,8	1,5	751	910	200	6150	3629	1318	2311	686	
eco-ATWB 8-5G9	5460	4820	7490	4	13,8	1,5	926	910	200	6940	3820	1318	2502	876	
eco-ATWB 8-5H9	5480	4840	7520	5,5	15,8	1,5	926	910	200	6960	3820	1318	2502	876	
eco-ATWB 8-519	5480	4850	7520	7,5	17,4	1,5	926	910	200	6960	3820	1318	2502	876	
eco-ATWB 8-5J9	5540	4910	7580	11	19,5	1,5	926	910	200	7020	3820	1318	2502	876	
eco-ATWB 8-5K9	5570	4940	7610	15	21,1	1,5	926	910	200	7050	3820	1318	2502	876	
eco-ATWB 8-6G9	6170	5530	8380	4	13,4	1,5	1102	910	200	7820	4010	1318	2692	1067	
eco-ATWB 8-6H9	6190	5560	8400	5,5	15,3	1,5	1102	910	200	7840	4010	1318	2692	1067	
eco-ATWB 8-619	6200	5560	8410	7,5	16,9	1,5	1102	910	200	7850	4010	1318	2692	1067	
eco-ATWB 8-6J9	6260	5620	8460	11	18,9	1,5	1102	910	200	7910	4010	1318	2692	1067	
eco-ATWB 8-6K9	6280	5650	8490	15	20,5	1,5	1102	910	200	7930	4010	1318	2692	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.

†† Heaviest section is the coil/fan 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 (300 mm would normally be sufficient).

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.





eco-ATWB Models 8-3H11 to 8-6K11

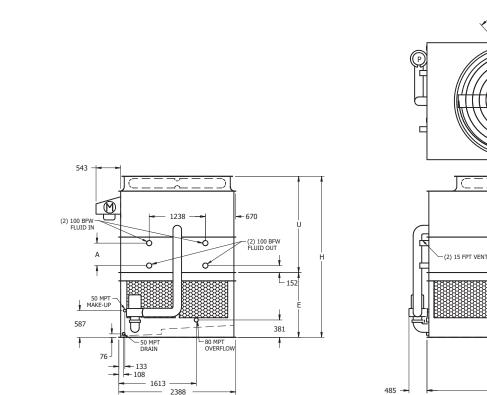
# **ENGINEERING DATA & DIMENSIONS**

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eco-ATWB	Weights (kg)			Fans		Spray	Coil	Remote Sump *			Dimensions (mm) 🔺			
Model Number†	Shipping	Heaviest Section††	Operating	kW	m³/s	Pump kW	Volume (liters)	Liters Req'd*	Conn. Size (mm)	Operating Weight (kg)	Height H	Lower E	Upper U	Coil A
eco-ATWB 8-3H11	4710	3980	6690	5,5	18,6	2,2	666	1060	250	6030	3439	1318	2121	495
eco-ATWB 8-3I11	4720	3990	6700	7,5	20,5	2,2	666	1060	250	6040	3439	1318	2121	495
eco-ATWB 8-3J11	4770	4050	6750	11	23,1	2,2	666	1060	250	6090	3439	1318	2121	495
eco-ATWB 8-3K11	4800	4070	6780	15	25,1	2,2	666	1060	250	6120	3439	1318	2121	495
eco-ATWB 8-4H11	5490	4770	7680	5,5	18,1	2,2	871	1060	250	7020	3629	1318	2311	686
eco-ATWB 8-4I11	5500	4780	7690	7,5	19,9	2,2	871	1060	250	7030	3629	1318	2311	686
eco-ATWB 8-4J11	5560	4830	7740	11	22,5	2,2	871	1060	250	7090	3629	1318	2311	686
eco-ATWB 8-4K11	5580	4860	7770	15	24,3	2,2	871	1060	250	7110	3629	1318	2311	686
eco-ATWB 8-5H11	6340	5620	8730	5,5	17,5	2,2	1077	1060	250	8070	3820	1318	2502	876
eco-ATWB 8-5I11	6350	5620	8740	7,5	19,3	2,2	1077	1060	250	8080	3820	1318	2502	876
eco-ATWB 8-5J11	6400	5680	8800	11	21,8	2,2	1077	1060	250	8140	3820	1318	2502	876
eco-ATWB 8-5K11	6430	5710	8820	15	23,6	2,2	1077	1060	250	8160	3820	1318	2502	876
eco-ATWB 8-6H11	7170	6440	9760	5,5	17,0	2,2	1282	1060	250	9100	4010	1318	2692	1067
eco-ATWB 8-6I11	7180	6450	9770	7,5	18,7	2,2	1282	1060	250	9110	4010	1318	2692	1067
eco-ATWB 8-6J11	7230	6500	9820	11	21,1	2,2	1282	1060	250	9170	4010	1318	2692	1067
eco-ATWB 8-6K11	7260	6530	9850	15	22,9	2,2	1282	1060	250	9190	4010	1318	2692	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.

†† Heaviest section is the coil/fan section.

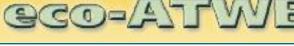
\* Liters shown is water in suspension in unit and piping. Allow for additional water in bottom of remote sump to cover pump suction and strainer during operation (300 mm would normally be sufficient).

+ 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.

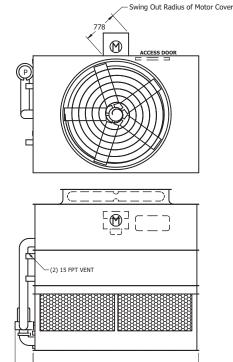
evapco for LIFE

# ENGINEERING DATA & DIMENSIONS

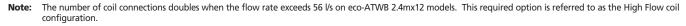
eco-ATWB Models 8-3H12 to 8-6L12



#### 543 1238 670 (2) 100 BFW FLUID IN (2) 100 BFW FLUID OUT -Ò A o 7 L<sub>152</sub> 50 MPT MAKE-UI 587 381 1 50 MP OVERFLOW 76 133 - 108 1613 2388



3651



485

eco-ATWB	Weights (kg)			Fans		Spray	Coil	Remote Sump 🕈			Dimensions (mm) 🔺			
Model Number†	Shipping	Heaviest Section††	Operating	kW	m³/s	Pump kW	Volume (liters)	Liters Req'd*	Conn. Size (mm)	Operating Weight (kg)	Height H	Lower E	Upper U	Coil A
eco-ATWB 8-3H12	5120	4310	7410	5,5	20,4	2,2	756	1210	250	6670	3439	1318	2121	495
eco-ATWB 8-3I12	5130	4320	7420	7,5	22,4	2,2	756	1210	250	6680	3439	1318	2121	495
eco-ATWB 8-3J12	5180	4380	7480	11	25,5	2,2	756	1210	250	6740	3439	1318	2121	495
eco-ATWB 8-3K12	5210	4400	7500	15	27,7	2,2	756	1210	250	6760	3439	1318	2121	495
eco-ATWB 8-4H12	6040	5230	8570	5,5	19,8	2,2	991	1210	250	7830	3629	1318	2311	686
eco-ATWB 8-4I12	6050	5240	8580	7,5	21,8	2,2	991	1210	250	7840	3629	1318	2311	686
eco-ATWB 8-4J12	6100	5300	8630	11	24,8	2,2	991	1210	250	7890	3629	1318	2311	686
eco-ATWB 8-4K12	6130	5330	8660	15	26,9	2,2	991	1210	250	7920	3629	1318	2311	686
eco-ATWB 8-4L12	6140	5340	8670	18,5	28,6	2,2	991	1210	250	7930	3629	1318	2311	686
eco-ATWB 8-5H12	6950	6150	9720	5,5	19,2	2,2	1227	1210	250	8980	3820	1318	2502	876
eco-ATWB 8-5I12	6960	6160	9730	7,5	21,1	2,2	1227	1210	250	8990	3820	1318	2502	876
eco-ATWB 8-5J12	7020	6210	9780	11	24,0	2,2	1227	1210	250	9040	3820	1318	2502	876
eco-ATWB 8-5K12	7040	6240	9810	15	26,0	2,2	1227	1210	250	9070	3820	1318	2502	876
eco-ATWB 8-5L12	7060	6260	9820	18,5	27,7	2,2	1227	1210	250	9090	3820	1318	2502	876
eco-ATWB 8-6H12	7910	7100	10910	5,5	18,6	2,2	1462	1210	250	10170	4010	1318	2692	1067
eco-ATWB 8-6I12	7920	7110	10920	7,5	20,5	2,2	1462	1210	250	10180	4010	1318	2692	1067
eco-ATWB 8-6J12	7970	7170	10970	11	23,3	2,2	1462	1210	250	10230	4010	1318	2692	1067
eco-ATWB 8-6K12	8000	7190	11000	15	25,2	2,2	1462	1210	250	10260	4010	1318	2692	1067
eco-ATWB 8-6L12	8010	7210	11010	18,5	26,9	2,2	1462	1210	250	10270	4010	1318	2692	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.

†† Heaviest section is the coil/fan 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 (300 mm would normally be sufficient).

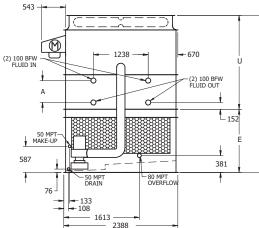
When a remote sump arrangement is selected, the spray pump, suction strainer and associated piping are omitted; the unit is provided with an
oversized outlet to facilitate drainage to the remote sump.

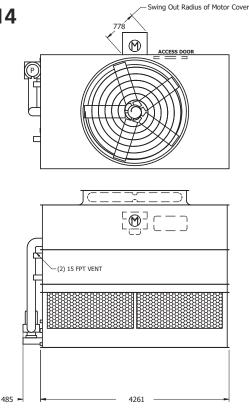




# **ENGINEERING DATA & DIMENSIONS**







Note: The number of coil connections doubles when the flow rate exceeds 56 l/s on eco-ATWB 2.4mx14 models. This required option is referred to as the High Flow coil configuration.

eco-ATWB	Weights (kg)			Fans		Spray	Coil	Remote Sump +			Dimensions (mm) 🔺			
Model Number†	Shipping	Heaviest Section <sup>††</sup>	Operating	kW	m³/s	Pump kW	Volume (liters)	Liters Req'd*	Conn. Size (mm)	Operating Weight (kg)	Height H	Lower E	Upper U	Coil A
eco-ATWB 8-3I14	5840	4920	8510	7,5	24,9	4	876	1365	250	7630	3550	1429	2121	495
eco-ATWB 8-3J14	5900	4970	8570	11	28,5	4	876	1365	250	7690	3550	1429	2121	495
eco-ATWB 8-3K14	5920	5000	8600	15	30,9	4	876	1365	250	7720	3550	1429	2121	495
eco-ATWB 8-3L14	5940	5010	8610	18,5	32,9	4	876	1365	250	7730	3550	1429	2121	495
eco-ATWB 8-4I14	6910	5980	9850	7,5	24,1	4	1152	1365	250	8970	3740	1429	2311	686
eco-ATWB 8-4J14	6960	6040	9910	11	27,6	4	1152	1365	250	9030	3740	1429	2311	686
eco-ATWB 8-4K14	6990	6060	9930	15	30,0	4	1152	1365	250	9050	3740	1429	2311	686
eco-ATWB 8-4L14	7000	6080	9950	18,5	31,9	4	1152	1365	250	9070	3740	1429	2311	686
eco-ATWB 8-4M14	7030	6100	9970	22	33,6	4	1152	1365	250	9090	3740	1429	2311	686
eco-ATWB 8-5I14	7970	7040	11190	7,5	23,4	4	1427	1365	250	10310	3931	1429	2502	876
eco-ATWB 8-5J14	8020	7100	11240	11	26,8	4	1427	1365	250	10360	3931	1429	2502	876
eco-ATWB 8-5K14	8050	7130	11270	15	29,1	4	1427	1365	250	10390	3931	1429	2502	876
eco-ATWB 8-5L14	8060	7140	11290	18,5	31,0	4	1427	1365	250	10410	3931	1429	2502	876
eco-ATWB 8-5M14	8090	7160	11310	22	32,6	4	1427	1365	250	10430	3931	1429	2502	876
eco-ATWB 8-6I14	9080	8150	12570	7,5	22,7	4	1702	1365	250	11690	4121	1429	2692	1067
eco-ATWB 8-6J14	9130	8210	12630	11	26,0	4	1702	1365	250	11750	4121	1429	2692	1067
eco-ATWB 8-6K14	9160	8230	12660	15	28,2	4	1702	1365	250	11780	4121	1429	2692	1067
eco-ATWB 8-6L14	9170	8250	12670	18,5	30,0	4	1702	1365	250	11790	4121	1429	2692	1067
eco-ATWB 8-6M14	9190	8270	12690	22	31,6	4	1702	1365	250	11810	4121	1429	2692	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.

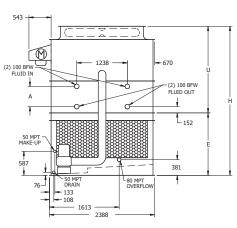
†† Heaviest section is the coil/fan section.

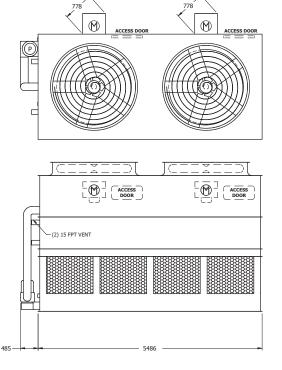
\* Liters shown is water in suspension in unit and piping. Allow for additional water in bottom of remote sump to cover pump suction and strainer during operation (300 mm would normally be sufficient).

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.



### eco-ATWB Models 8-3G18 to 8-6K18





Swing Out Radius of Motor Cove

Note: The number of coil connections doubles when the flow rate exceeds 56 l/s on eco-ATWB 2.4mx18 models. This required option is referred to as the High Flow coi configuration.

eco-ATWB		Weights (kg	ı)	Fa	ans	Spray	Coil	F	lemote Sui	np +		Dimensi	ons (mm) 🔺	
Model Number†	Shipping	Heaviest Section††	Operating	kW	m³/s	Pump kW	Volume (liters)	Liters Req'd*	Conn. Size (mm)	Operating Weight (kg)	Height H	Lower E	Upper U	Coil A
eco-ATWB 8-3G18	7740	6500	11190	(2) 4	29,3	4	1117	1815	300	10090	3651	1530	2121	495
eco-ATWB 8-3H18	7780	6550	11240	(2) 5.5	33,6	4	1117	1815	300	10130	3651	1530	2121	495
eco-ATWB 8-3I18	7800	6560	11250	(2) 7.5	37,0	4	1117	1815	300	10150	3651	1530	2121	495
eco-ATWB 8-3J18	7910	6670	11360	(2) 11	41,4	4	1117	1815	300	10260	3651	1530	2121	495
eco-ATWB 8-4G18	9130	7890	12930	(2) 4	28,5	4	1472	1815	300	11830	3842	1530	2311	686
eco-ATWB 8-4H18	9170	7930	12980	(2) 5.5	32,6	4	1472	1815	300	11880	3842	1530	2311	686
eco-ATWB 8-4I18	9190	7950	12990	(2) 7.5	35,9	4	1472	1815	300	11890	3842	1530	2311	686
eco-ATWB 8-4J18	9300	8060	13100	(2) 11	40,2	4	1472	1815	300	12000	3842	1530	2311	686
eco-ATWB 8-4K18	9350	8110	13160	(2) 15	43,6	4	1472	1815	300	12060	3842	1530	2311	686
eco-ATWB 8-5G18	10490	9250	14650	(2) 4	27,6	4	1827	1815	300	13540	4032	1530	2502	876
eco-ATWB 8-5H18	10530	9290	14690	(2) 5.5	31,6	4	1827	1815	300	13590	4032	1530	2502	876
eco-ATWB 8-5I18	10550	9310	14710	(2) 7.5	34,8	4	1827	1815	300	13600	4032	1530	2502	876
eco-ATWB 8-5J18	10660	9420	14820	(2) 11	39,0	4	1827	1815	300	13720	4032	1530	2502	876
eco-ATWB 8-5K18	10710	9480	14870	(2) 15	42,3	4	1827	1815	300	13770	4032	1530	2502	876
eco-ATWB 8-6G18	11920	10690	16440	(2) 4	26,8	4	2183	1815	300	15340	4223	1530	2692	1067
eco-ATWB 8-6H18	11970	10730	16490	(2) 5.5	30,6	4	2183	1815	300	15390	4223	1530	2692	1067
eco-ATWB 8-6I18	11980	10750	16500	(2) 7.5	33,7	4	2183	1815	300	15400	4223	1530	2692	1067
eco-ATWB 8-6J18	12100	10860	16620	(2) 11	37,8	4	2183	1815	300	15510	4223	1530	2692	1067
eco-ATWB 8-6K18	12150	10910	16670	(2) 15	40,9	4	2183	1815	300	15570	4223	1530	2692	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.

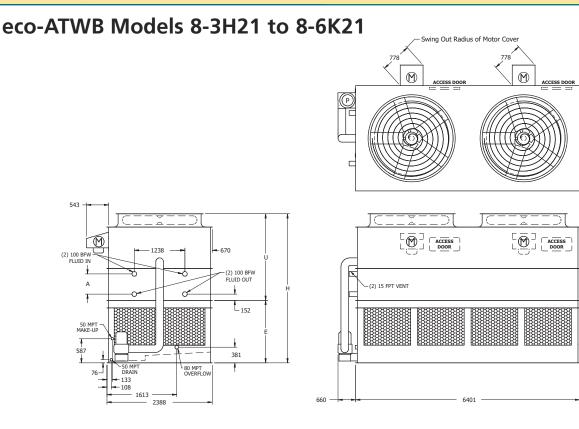
†† Heaviest section is the coil/fan section.

\* 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 (300 mm would normally be sufficient).

- 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 4" bevel for weld (BFW). also available as options. Other connection types such as grooved for mechanical coupling or flanged are also available as options.







### Note: The number of coil connections doubles when the flow rate exceeds 56 l/s on eco-ATWB 2.4mx21 models. This required option is referred to as the High Flow coil configuration.

eco-ATWB		Weights (kg	)	Fa	ans	Spray	Coil	F	Remote Sur	np 🕈		Dimensio	ons (mm) 🔺	
Model Number†	Shipping	Heaviest Section <sup>††</sup>	Operating	kW	m³/s	Pump kW	Volume (liters)	Liters Req'd*	Conn. Size (mm)	Operating Weight (kg)	Height H	Lower E	Upper U	Coil A
eco-ATWB 8-3H21	8850	7490	12910	(2) 5.5	37,3	5,5	1297	2120	300	11630	3651	1530	2121	495
eco-ATWB 8-3I21	8860	7500	12930	(2) 7.5	41,1	5,5	1297	2120	300	11640	3651	1530	2121	495
eco-ATWB 8-3J21	8980	7620	13040	(2) 11	46,4	5,5	1297	2120	300	11750	3651	1530	2121	495
eco-ATWB 8-3K21	9030	7670	13100	(2) 15	50,3	5,5	1297	2120	300	11810	3651	1530	2121	495
eco-ATWB 8-4H21	10460	9100	14950	(2) 5.5	36,2	5,5	1712	2120	300	13660	3842	1530	2311	686
eco-ATWB 8-4I21	10480	9120	14960	(2) 7.5	39,9	5,5	1712	2120	300	13670	3842	1530	2311	686
eco-ATWB 8-4J21	10590	9230	15070	(2) 11	45,1	5,5	1712	2120	300	13780	3842	1530	2311	686
eco-ATWB 8-4K21	10650	9290	15130	(2) 15	48,9	5,5	1712	2120	300	13840	3842	1530	2311	686
eco-ATWB 8-5H21	12050	10690	16940	(2) 5.5	35,2	5,5	2128	2120	300	15650	4032	1530	2502	876
eco-ATWB 8-5I21	12060	10700	16960	(2) 7.5	38,7	5,5	2128	2120	300	15670	4032	1530	2502	876
eco-ATWB 8-5J21	12170	10810	17070	(2) 11	43,7	5,5	2128	2120	300	15780	4032	1530	2502	876
eco-ATWB 8-5K21	12230	10870	17120	(2) 15	47,4	5,5	2128	2120	300	15830	4032	1530	2502	876
eco-ATWB 8-6H21	13700	12340	19010	(2) 5.5	34,1	5,5	2543	2120	300	17720	4223	1530	2692	1067
eco-ATWB 8-6I21	13710	12350	19020	(2) 7.5	37,5	5,5	2543	2120	300	17740	4223	1530	2692	1067
eco-ATWB 8-6J21	13830	12460	19140	(2) 11	42,4	5,5	2543	2120	300	17850	4223	1530	2692	1067
eco-ATWB 8-6K21	13880	12520	19190	(2) 15	45,9	5,5	2543	2120	300	17900	4223	1530	2692	1067

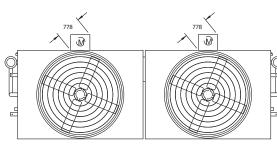
† Model Number will end in "-Z" for units with Series Flow piping configuration. Series Flow units may require additional coil connections and will require crossover piping.

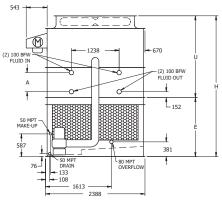
†† Heaviest section is the coil/fan section.

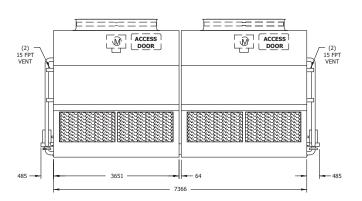
- \* Liters shown is water in suspension in unit and piping. Allow for additional water in bottom of remote sump to cover pump suction and strainer during operation (300 mm would normally be sufficient).
- + When a remote sump arrangement is selected, the spray pump, suction strainer and associated piping 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 4" bevel for weld (BFW). also available as options. Other connection types such as grooved for mechanical coupling or flanged are also available as options.



### eco-ATWB Models 8-3H24 to 8-6L24







### **Note:** The number of coil connections doubles when the flow rate exceeds 112 l/s on eco-ATWB 2.4 m x 24 models. This required option is referred to as the High Flow coil configuration.

eco-ATWB		Weights (kg	I)	Fa	ans	Spray	Coil	F	Remote Sur	np 🕈		Dimensi	ons (mm) 🔺	
Model Number†	Shipping	Heaviest Section††	Operating	kW	m³/s	Pump kW	Volume (liters)	Liters Req'd*	Conn. Size (mm)	Operating Weight (kg)	Height H	Lower E	Upper U	Coil A
eco-ATWB 8-3H24	10230	4310	14820	(2) 5.5	40,8	(2) 2,2	1512	2425	(2) 250	13340	3651	1530	2121	495
eco-ATWB 8-3I24	10250	4320	14840	(2) 7.5	44,9	(2) 2,2	1512	2425	(2) 250	13360	3651	1530	2121	495
eco-ATWB 8-3J24	10360	4380	14950	(2) 11	51,0	(2) 2,2	1512	2425	(2) 250	13470	3651	1530	2121	495
eco-ATWB 8-3K24	10410	4400	15000	(2) 15	55,3	(2) 2,2	1512	2425	(2) 250	13530	3651	1530	2121	495
eco-ATWB 8-4H24	12070	5230	17140	(2) 5.5	39,6	(2) 2,2	1983	2425	(2) 250	15660	3842	1530	2311	686
eco-ATWB 8-4I24	12090	5240	17150	(2) 7.5	43,5	(2) 2,2	1983	2425	(2) 250	15680	3842	1530	2311	686
eco-ATWB 8-4J24	12200	5300	17260	(2) 11	49,5	(2) 2,2	1983	2425	(2) 250	15790	3842	1530	2311	686
eco-ATWB 8-4K24	12260	5330	17320	(2) 15	53,7	(2) 2,2	1983	2425	(2) 250	15840	3842	1530	2311	686
eco-ATWB 8-4L24	12280	5340	17350	(2) 18.5	57,2	(2) 2,2	1983	2425	(2) 250	15870	3842	1530	2311	686
eco-ATWB 8-5H24	13910	6150	19440	(2) 5.5	38,4	(2) 2,2	2453	2425	(2) 250	17960	4032	1530	2502	876
eco-ATWB 8-5I24	13930	6160	19460	(2) 7.5	42,2	(2) 2,2	2453	2425	(2) 250	17980	4032	1530	2502	876
eco-ATWB 8-5J24	14030	6210	19570	(2) 11	48,1	(2) 2,2	2453	2425	(2) 250	18090	4032	1530	2502	876
eco-ATWB 8-5K24	14090	6240	19620	(2) 15	52,1	(2) 2,2	2453	2425	(2) 250	18140	4032	1530	2502	876
eco-ATWB 8-5L24	14120	6260	19650	(2) 18.5	55,5	(2) 2,2	2453	2425	(2) 250	18170	4032	1530	2502	876
eco-ATWB 8-6H24	15810	7100	21820	(2) 5.5	37,2	(2) 2,2	2924	2425	(2) 250	20340	4223	1530	2692	1067
eco-ATWB 8-6I24	15830	7110	21840	(2) 7.5	40,9	(2) 2,2	2924	2425	(2) 250	20360	4223	1530	2692	1067
eco-ATWB 8-6J24	15940	7170	21940	(2) 11	46,6	(2) 2,2	2924	2425	(2) 250	20470	4223	1530	2692	1067
eco-ATWB 8-6K24	15990	7190	22000	(2) 15	50,5	(2) 2,2	2924	2425	(2) 250	20520	4223	1530	2692	1067
eco-ATWB 8-6L24	16020	7210	22030	(2) 18.5	53,7	(2) 2,2	2924	2425	(2) 250	20550	4223	1530	2692	1067

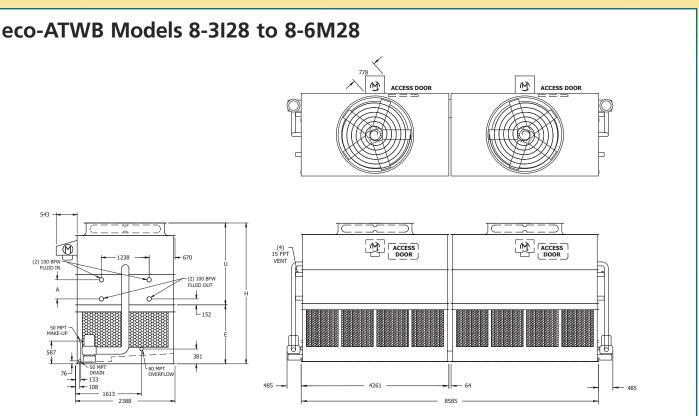
† Model Number will end in "-Z" for units with Series Flow piping configuration. Series Flow units may require additional coil connections and will require crossover piping.

†† Heaviest section is the coil/fan 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 (300 mm would normally be sufficient).

- 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 4" bevel for weld (BFW). also available as options. Other connection types such as grooved for mechanical coupling or flanged are also available as options.





Note: The number of coil connections doubles when the flow rate exceeds 112 l/s on eco-ATWB 2.4 m x28 models. This required option is referred to as the High Flow coil configuration.

eco-ATWB		Weights (kg	I)	Fa	ans	Spray	Coil	F	Remote Sur	np 🕈		Dimensio	ons (mm) 🔺	
Model Number†	Shipping	Heaviest Section††	Operating	kW	m³/s	Pump kW	Volume (liters)	Liters Req'd*	Conn. Size (mm)	Operating Weight (kg)	Height H	Lower E	Upper U	Coil A
eco-ATWB 8-3I28	11680	4920	17030	(2) 7.5	49,7	(2) 4	1753	2725	(2) 250	15270	3804	1683	2121	495
eco-ATWB 8-3J28	11790	4970	17140	(2) 11	56,9	(2) 4	1753	2725	(2) 250	15380	3804	1683	2121	495
eco-ATWB 8-3K28	11850	5000	17190	(2) 15	61,8	(2) 4	1753	2725	(2) 250	15430	3804	1683	2121	495
eco-ATWB 8-3L28	11880	5010	17220	(2) 18.5	65,8	(2) 4	1753	2725	(2) 250	15460	3804	1683	2121	495
eco-ATWB 8-4I28	13820	5980	19700	(2) 7.5	48,3	(2) 4	2303	2725	(2) 250	17940	3994	1683	2311	686
eco-ATWB 8-4J28	13930	6040	19810	(2) 11	55,3	(2) 4	2303	2725	(2) 250	18050	3994	1683	2311	686
eco-ATWB 8-4K28	13980	6060	19870	(2) 15	60,0	(2) 4	2303	2725	(2) 250	18110	3994	1683	2311	686
eco-ATWB 8-4L28	14010	6080	19890	(2) 18.5	63,9	(2) 4	2303	2725	(2) 250	18130	3994	1683	2311	686
eco-ATWB 8-4M28	14050	6100	19940	(2) 22	67,2	(2) 4	2303	2725	(2) 250	18180	3994	1683	2311	686
eco-ATWB 8-5I28	15940	7040	22380	(2) 7.5	46,8	(2) 4	2854	2725	(2) 250	20620	4185	1683	2502	876
eco-ATWB 8-5J28	16050	7100	22490	(2) 11	53,6	(2) 4	2854	2725	(2) 250	20730	4185	1683	2502	876
eco-ATWB 8-5K28	16100	7130	22540	(2) 15	58,2	(2) 4	2854	2725	(2) 250	20780	4185	1683	2502	876
eco-ATWB 8-5L28	16130	7140	22570	(2) 18.5	62,0	(2) 4	2854	2725	(2) 250	20810	4185	1683	2502	876
eco-ATWB 8-5M28	16180	7160	22620	(2) 22	65,2	(2) 4	2854	2725	(2) 250	20860	4185	1683	2502	876
eco-ATWB 8-6I28	18150	8150	25150	(2) 7.5	45,4	(2) 4	3405	2725	(2) 250	23390	4375	1683	2692	1067
eco-ATWB 8-6J28	18260	8210	25260	(2) 11	51,9	(2) 4	3405	2725	(2) 250	23500	4375	1683	2692	1067
eco-ATWB 8-6K28	18320	8230	25310	(2) 15	56,4	(2) 4	3405	2725	(2) 250	23550	4375	1683	2692	1067
eco-ATWB 8-6L28	18340	8250	25340	(2) 18.5	60,1	(2) 4	3405	2725	(2) 250	23580	4375	1683	2692	1067
eco-ATWB 8-6M28	18390	8270	25380	(2) 22	63,2	(2) 4	3405	2725	(2) 250	23620	4375	1683	2692	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.

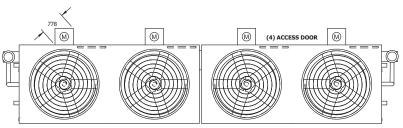
†† Heaviest section is the coil/fan section.

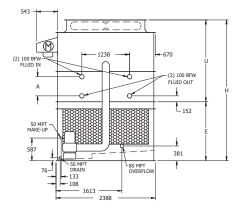
\* Liters shown is water in suspension in unit and piping. Allow for additional water in bottom of remote sump to cover pump suction and strainer during operation (300 mm would normally be sufficient).

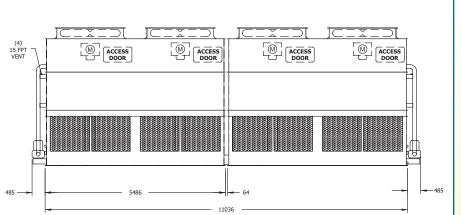
When a remote sump arrangement is selected, the spray pump, suction strainer and associated piping are omitted; the unit is provided with an
oversized outlet to facilitate drainage to the remote sump.



### eco-ATWB Models 8-3H36 to 8-6K36







Note: The number of coil connections doubles when the flow rate exceeds 112 l/s on eco-ATWB 2.4 m x36 models. This required option is referred to as the High Flow coil configuration.

eco-ATWB		Weights (kg	I)	Fa	ans	Spray	Coil	ŀ	Remote Sur	np 🕈		Dimensi	ons (mm) 🔺	
Model Number†	Shipping	Heaviest Section††	Operating	kW	m³/s	Pump kW	Volume (liters)	Liters Req'd*	Conn. Size (mm)	Operating Weight (kg)	Height H	Lower E	Upper U	Coil A
eco-ATWB 8-3H36	15570	6550	22470	(4) 5.5	67,1	(2) 4	2233	3635	(2) 300	20270	3804	1683	2121	495
eco-ATWB 8-3I36	15590	6560	22500	(4) 7.5	73,9	(2) 4	2233	3635	(2) 300	20290	3804	1683	2121	495
eco-ATWB 8-3J36	15820	6670	22720	(4) 11	82,8	(2) 4	2233	3635	(2) 300	20520	3804	1683	2121	495
eco-ATWB 8-4H36	18340	7930	25950	(4) 5.5	65,2	(2) 4	2944	3635	(2) 300	23750	3994	1683	2311	686
eco-ATWB 8-4I36	18370	7950	25980	(4) 7.5	71,7	(2) 4	2944	3635	(2) 300	23780	3994	1683	2311	686
eco-ATWB 8-4J36	18600	8060	26210	(4) 11	80,4	(2) 4	2944	3635	(2) 300	24000	3994	1683	2311	686
eco-ATWB 8-4K36	18710	8110	26320	(4) 15	87,1	(2) 4	2944	3635	(2) 300	24110	3994	1683	2311	686
eco-ATWB 8-5H36	21060	9290	29380	(4) 5.5	63,2	(2) 4	3655	3635	(2) 300	27180	4185	1683	2502	876
eco-ATWB 8-5I36	21090	9310	29410	(4) 7.5	69,6	(2) 4	3655	3635	(2) 300	27210	4185	1683	2502	876
eco-ATWB 8-5J36	21320	9420	29640	(4) 11	78,0	(2) 4	3655	3635	(2) 300	27430	4185	1683	2502	876
eco-ATWB 8-5K36	21430	9480	29750	(4) 15	84,5	(2) 4	3655	3635	(2) 300	27540	4185	1683	2502	876
eco-ATWB 8-6H36	23940	10730	32980	(4) 5.5	61,3	(2) 4	4366	3635	(2) 300	30770	4375	1683	2692	1067
eco-ATWB 8-6I36	23970	10750	33000	(4) 7.5	67,4	(2) 4	4366	3635	(2) 300	30800	4375	1683	2692	1067
eco-ATWB 8-6J36	24190	10860	33230	(4) 11	75,6	(2) 4	4366	3635	(2) 300	31030	4375	1683	2692	1067
eco-ATWB 8-6K36	24300	10910	33340	(4) 15	81,9	(2) 4	4366	3635	(2) 300	31130	4375	1683	2692	1067

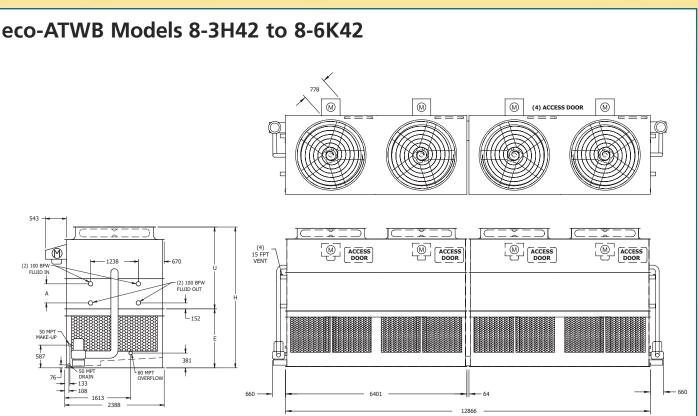
† Model Number will end in "-Z" for units with Series Flow piping configuration. Series Flow units may require additional coil connections and will require crossover piping.

†† Heaviest section is the coil/fan 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 (300 mm would normally be sufficient).

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.





Note: The number of coil connections doubles when the flow rate exceeds 112 l/s on eco-ATWB 2.4 m x42 models. This required option is referred to as the High Flow coil configuration.

eco-ATWB		Weights (kg	I)	Fa	ans	Spray	Coil	F	Remote Sur	np 🕈		Dimensio	ons (mm) 🔺	
Model Number†	Shipping	Heaviest Section††	Operating	kW	m³/s	Pump kW	Volume (liters)	Liters Req'd*	Conn. Size (mm)	Operating Weight (kg)	Height H	Lower E	Upper U	Coil A
eco-ATWB 8-3H42	17700	7490	25830	(4) 5.5	74,7	(2) 5,5	2594	4240	(2) 300	23250	3804	1683	2121	495
eco-ATWB 8-3I42	17730	7500	25850	(4) 7.5	82,2	(2) 5,5	2594	4240	(2) 300	23280	3804	1683	2121	495
eco-ATWB 8-3J42	17950	7620	26080	(4) 11	92,9	(2) 5,5	2594	4240	(2) 300	23510	3804	1683	2121	495
eco-ATWB 8-3K42	18060	7670	26190	(4) 15	100,6	(2) 5,5	2594	4240	(2) 300	23610	3804	1683	2121	495
eco-ATWB 8-4H42	20930	9100	29890	(4) 5.5	72,5	(2) 5,5	3425	4240	(2) 300	27320	3994	1683	2311	686
eco-ATWB 8-4I42	20960	9120	29920	(4) 7.5	79,8	(2) 5,5	3425	4240	(2) 300	27340	3994	1683	2311	686
eco-ATWB 8-4J42	21180	9230	30150	(4) 11	90,2	(2) 5,5	3425	4240	(2) 300	27570	3994	1683	2311	686
eco-ATWB 8-4K42	21290	9290	30250	(4) 15	97,7	(2) 5,5	3425	4240	(2) 300	27680	3994	1683	2311	686
eco-ATWB 8-5H42	24090	10690	33880	(4) 5.5	70,3	(2) 5,5	4256	4240	(2) 300	31310	4185	1683	2502	876
eco-ATWB 8-5I42	24120	10700	33910	(4) 7.5	77,4	(2) 5,5	4256	4240	(2) 300	31330	4185	1683	2502	876
eco-ATWB 8-5J42	24350	10810	34140	(4) 11	87,4	(2) 5,5	4256	4240	(2) 300	31560	4185	1683	2502	876
eco-ATWB 8-5K42	24460	10870	34250	(4) 15	94,8	(2) 5,5	4256	4240	(2) 300	31670	4185	1683	2502	876
eco-ATWB 8-6H42	27400	12340	38020	(4) 5.5	68,1	(2) 5,5	5086	4240	(2) 300	35440	4375	1683	2692	1067
eco-ATWB 8-6I42	27420	12350	38050	(4) 7.5	75,0	(2) 5,5	5086	4240	(2) 300	35470	4375	1683	2692	1067
eco-ATWB 8-6J42	27650	12460	38270	(4) 11	84,7	(2) 5,5	5086	4240	(2) 300	35700	4375	1683	2692	1067
eco-ATWB 8-6K42	27760	12520	38380	(4) 15	91,8	(2) 5,5	5086	4240	(2) 300	35810	4375	1683	2692	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.

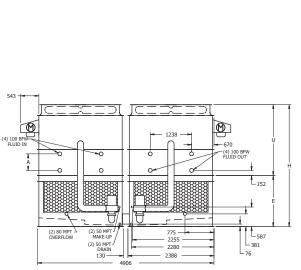
†† Heaviest section is the coil/fan section.

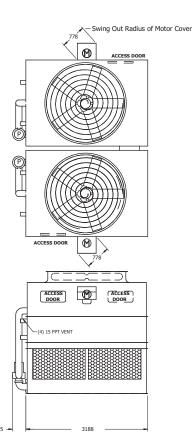
\* Liters shown is water in suspension in unit and piping. Allow for additional water in bottom of remote sump to cover pump suction and strainer during operation (300 mm would normally be sufficient).

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.



## eco-ATWB Models 16-3H11 to 16-6K11





eco-ATWB		Weights (kg	ı)	Fa	ans	Spray	Coil	F	Remote Sur	np 🕈		Dimensi	ons (mm) 🔺	
Model Number†	Shipping	Heaviest Section††	Operating	kW	m³/s	Pump kW	Volume (liters)	Liters Req'd*	Conn. Size (mm)	Operating Weight (kg)	Height H	Lower E	Upper U	Coil A
eco-ATWB 16-3H11	9420	3980	13370	(2) 5.5	37,2	(2) 2,2	1332	2120	(2) 250	12060	3651	1530	2121	495
eco-ATWB 16-3I11	9430	3990	13390	(2) 7.5	41,0	(2) 2,2	1332	2120	(2) 250	12070	3651	1530	2121	495
eco-ATWB 16-3J11	9540	4050	13500	(2) 11	46,3	(2) 2,2	1332	2120	(2) 250	12180	3651	1530	2121	495
eco-ATWB 16-3K11	9600	4070	13550	(2) 15	50,2	(2) 2,2	1332	2120	(2) 250	12240	3651	1530	2121	495
eco-ATWB 16-4H11	10990	4770	15360	(2) 5.5	36,1	(2) 2,2	1743	2120	(2) 250	14040	3841	1530	2311	686
eco-ATWB 16-4I11	11000	4780	15380	(2) 7.5	39,8	(2) 2,2	1743	2120	(2) 250	14060	3841	1530	2311	686
eco-ATWB 16-4J11	11110	4830	15490	(2) 11	44,9	(2) 2,2	1743	2120	(2) 250	14170	3841	1530	2311	686
eco-ATWB 16-4K11	11170	4860	15540	(2) 15	48,7	(2) 2,2	1743	2120	(2) 250	14220	3841	1530	2311	686
eco-ATWB 16-5H11	12680	5620	17460	(2) 5.5	35,1	(2) 2,2	2153	2120	(2) 250	16150	4032	1530	2502	876
eco-ATWB 16-5I11	12700	5620	17480	(2) 7.5	38,6	(2) 2,2	2153	2120	(2) 250	16170	4032	1530	2502	876
eco-ATWB 16-5J11	12810	5680	17590	(2) 11	43,6	(2) 2,2	2153	2120	(2) 250	16270	4032	1530	2502	876
eco-ATWB 16-5K11	12860	5710	17640	(2) 15	47,2	(2) 2,2	2153	2120	(2) 250	16330	4032	1530	2502	876
eco-ATWB 16-6H11	14330	6440	19520	(2) 5.5	34,0	(2) 2,2	2564	2120	(2) 250	18210	4222	1530	2692	1067
eco-ATWB 16-6I11	14350	6450	19540	(2) 7.5	37,4	(2) 2,2	2564	2120	(2) 250	18230	4222	1530	2692	1067
eco-ATWB 16-6J11	14460	6500	19650	(2) 11	42,2	(2) 2,2	2564	2120	(2) 250	18330	4222	1530	2692	1067
eco-ATWB 16-6K11	14510	6530	19700	(2) 15	45,8	(2) 2,2	2564	2120	(2) 250	18390	4222	1530	2692	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.

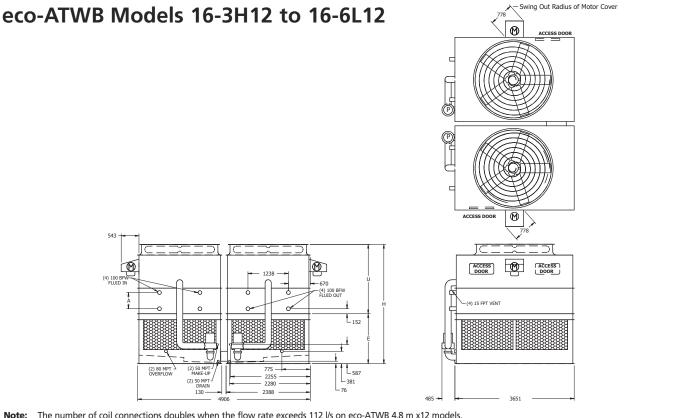
†† Heaviest section is the coil/fan section.

\* 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 (300 mm would normally be sufficient).

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.







#### Note: The number of coil connections doubles when the flow rate exceeds 112 l/s on eco-ATWB 4.8 m x12 models. This required option is referred to as the High Flow coil configuration.

eco-ATWB		Weights (kg	1)	Fa	ns	Spray	Coil	F	Remote Sur	np 🕈		Dimensio	ns (mm) 🔺	
Model Number†	Shipping	Heaviest Section††	Operating	kW	m³/s	Pump kW	Volume (liters)	Liters Req'd*	Conn. Size (mm)	Operating Weight (kg)	Height H	Lower E	Upper U	Coil A
eco-ATWB 16-3H12	10230	4310	14820	(2) 5.5	40,8	(2) 2,2	1512	2425	(2) 250	13340	3651	1530	2121	495
eco-ATWB 16-3I12	10250	4320	14840	(2) 7.5	44,9	(2) 2,2	1512	2425	(2) 250	13360	3651	1530	2121	495
eco-ATWB 16-3J12	10360	4380	14950	(2) 11	51,0	(2) 2,2	1512	2425	(2) 250	13470	3651	1530	2121	495
eco-ATWB 16-3K12	10410	4400	15000	(2) 15	55,3	(2) 2,2	1512	2425	(2) 250	13530	3651	1530	2121	495
eco-ATWB 16-4H12	12070	5230	17140	(2) 5.5	39,6	(2) 2,2	1983	2425	(2) 250	15660	3841	1530	2311	686
eco-ATWB 16-4I12	12090	5240	17150	(2) 7.5	43,5	(2) 2,2	1983	2425	(2) 250	15680	3841	1530	2311	686
eco-ATWB 16-4J12	12200	5300	17260	(2) 11	49,5	(2) 2,2	1983	2425	(2) 250	15790	3841	1530	2311	686
eco-ATWB 16-4K12	12260	5330	17320	(2) 15	53,7	(2) 2,2	1983	2425	(2) 250	15840	3841	1530	2311	686
eco-ATWB 16-4L12	12280	5340	17350	(2) 18.5	57,2	(2) 2,2	1983	2425	(2) 250	15870	3841	1530	2311	686
eco-ATWB 16-5H12	13910	6150	19440	(2) 5.5	38,4	(2) 2,2	2453	2425	(2) 250	17960	4032	1530	2502	876
eco-ATWB 16-5I12	13930	6160	19460	(2) 7.5	42,2	(2) 2,2	2453	2425	(2) 250	17980	4032	1530	2502	876
eco-ATWB 16-5J12	14030	6210	19570	(2) 11	48,1	(2) 2,2	2453	2425	(2) 250	18090	4032	1530	2502	876
eco-ATWB 16-5K12	14090	6240	19620	(2) 15	52,1	(2) 2,2	2453	2425	(2) 250	18140	4032	1530	2502	876
eco-ATWB 16-5L12	14120	6260	19650	(2) 18.5	55,5	(2) 2,2	2453	2425	(2) 250	18170	4032	1530	2502	876
eco-ATWB 16-6H12	15810	7100	21820	(2) 5.5	37,2	(2) 2,2	2924	2425	(2) 250	20340	4222	1530	2692	1067
eco-ATWB 16-6I12	15830	7110	21840	(2) 7.5	40,9	(2) 2,2	2924	2425	(2) 250	20360	4222	1530	2692	1067
eco-ATWB 16-6J12	15940	7170	21940	(2) 11	46,6	(2) 2,2	2924	2425	(2) 250	20470	4222	1530	2692	1067
eco-ATWB 16-6K12	15990	7190	22000	(2) 15	50,5	(2) 2,2	2924	2425	(2) 250	20520	4222	1530	2692	1067
eco-ATWB 16-6L12	16020	7210	22030	(2) 18.5	53,7	(2) 2,2	2924	2425	(2) 250	20550	4222	1530	2692	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.

†† Heaviest section is the coil/fan 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 (300 mm would normally be sufficient).

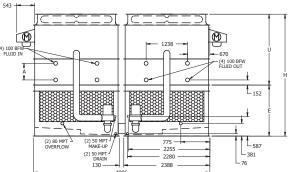
When a remote sump arrangement is selected, the spray pump, suction strainer and associated piping are omitted; the unit is provided with an
oversized outlet to facilitate drainage to the remote sump.

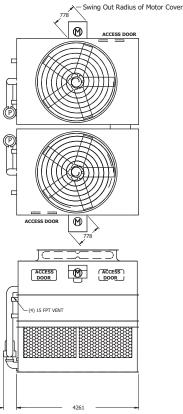
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### ENGINEERING DATA & DIMENSIONS

eco-ATWB Models 16-3I14 to 16-6M14







Note: The number of coil connections doubles when the flow rate exceeds 112 l/s on eco-ATWB 4.8 m x14 models. This required option is referred to as the High Flow coil configuration.

eco-ATWB		Weights (kg	)	Fa	ans	Spray	Coil	F	lemote Sur	np 🕈		Dimensio	ons (mm) 🔺	
Model Number†	Shipping	Heaviest Section††	Operating	kW	m³/s	Pump kW	Volume (liters)	Liters Req'd*	Conn. Size (mm)	Operating Weight (kg)	Height H	Lower E	Upper U	Coil A
eco-ATWB 16-3I14	11680	4920	17030	(2) 7.5	49,7	(2) 4	1753	2725	(2) 250	15270	3804	1683	2121	495
eco-ATWB 16-3J14	11790	4970	17140	(2) 11	56,9	(2) 4	1753	2725	(2) 250	15380	3804	1683	2121	495
eco-ATWB 16-3K14	11850	5000	17190	(2) 15	61,8	(2) 4	1753	2725	(2) 250	15430	3804	1683	2121	495
eco-ATWB 16-3L14	11880	5010	17220	(2) 18.5	65,8	(2) 4	1753	2725	(2) 250	15460	3804	1683	2121	495
eco-ATWB 16-4I14	13820	5980	19700	(2) 7.5	48,3	(2) 4	2303	2725	(2) 250	17940	3994	1683	2311	686
eco-ATWB 16-4J14	13930	6040	19810	(2) 11	55,3	(2) 4	2303	2725	(2) 250	18050	3994	1683	2311	686
eco-ATWB 16-4K14	13980	6060	19870	(2) 15	60,0	(2) 4	2303	2725	(2) 250	18110	3994	1683	2311	686
eco-ATWB 16-4L14	14010	6080	19890	(2) 18.5	63,9	(2) 4	2303	2725	(2) 250	18130	3994	1683	2311	686
eco-ATWB 16-4M14	14050	6100	19940	(2) 22	67,2	(2) 4	2303	2725	(2) 250	18180	3994	1683	2311	686
eco-ATWB 16-5I14	15940	7040	22380	(2) 7.5	46,8	(2) 4	2854	2725	(2) 250	20620	4185	1683	2502	876
eco-ATWB 16-5J14	16050	7100	22490	(2) 11	53,6	(2) 4	2854	2725	(2) 250	20730	4185	1683	2502	876
eco-ATWB 16-5K14	16100	7130	22540	(2) 15	58,2	(2) 4	2854	2725	(2) 250	20780	4185	1683	2502	876
eco-ATWB 16-5L14	16130	7140	22570	(2) 18.5	62,0	(2) 4	2854	2725	(2) 250	20810	4185	1683	2502	876
eco-ATWB 16-5M14	16180	7160	22620	(2) 22	65,2	(2) 4	2854	2725	(2) 250	20860	4185	1683	2502	876
eco-ATWB 16-6I14	18150	8150	25150	(2) 7.5	45,4	(2) 4	3405	2725	(2) 250	23390	4375	1683	2692	1067
eco-ATWB 16-6J14	18260	8210	25260	(2) 11	51,9	(2) 4	3405	2725	(2) 250	23500	4375	1683	2692	1067
eco-ATWB 16-6K14	18320	8230	25310	(2) 15	56,4	(2) 4	3405	2725	(2) 250	23550	4375	1683	2692	1067
eco-ATWB 16-6L14	18340	8250	25340	(2) 18.5	60,1	(2) 4	3405	2725	(2) 250	23580	4375	1683	2692	1067
eco-ATWB 16-6M14	18390	8270	25380	(2) 22	63,2	(2) 4	3405	2725	(2) 250	23620	4375	1683	2692	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.

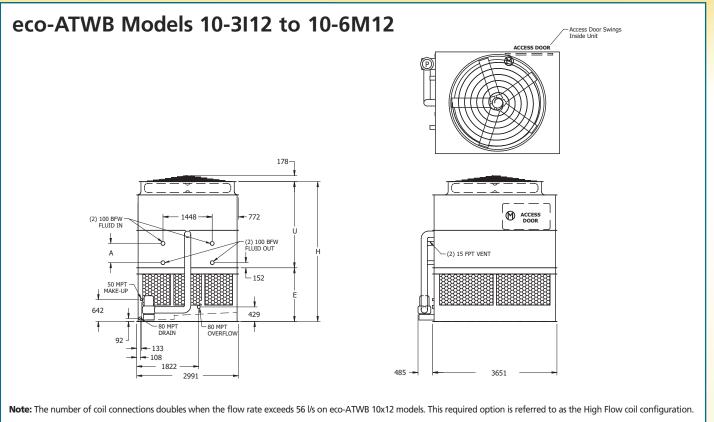
†† Heaviest section is the coil/fan section.

\* 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 (300 mm would normally be sufficient).

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.







eco-ATWB		Weights (kg	1)	F	ans	Spray	Coil	R	emote Sur	np∆		Dimensio	ns (mm) 🔺	
Model Number†	Shipping	Heaviest Section <sup>††</sup>	Operating	kW	m³/s	Pump kW	Volume (liters)	Liters Req'd*	Conn. Size (mm)	Operating Weight (kg)	Height H	Lower E	Upper U	Coil A
eco-ATWB 10-3I12	6620	5460	10020	7,5	26,2	4	959	1590	300	8410	4111	1581	2530	565
eco-ATWB 10-3J12	6680	5520	10080	11	30,0	4	959	1590	300	8460	4111	1581	2530	565
eco-ATWB 10-3K12	6700	5550	10110	15	32,7	4	959	1590	300	8490	4111	1581	2530	565
eco-ATWB 10-3L12	6720	5560	10120	18,5	34,8	4	959	1590	300	8500	4111	1581	2530	565
eco-ATWB 10-3M12	6740	5580	10150	22	36,6	4	959	1590	300	8530	4111	1581	2530	565
eco-ATWB 10-4I12	7790	6640	11500	7,5	25,4	4	1258	1590	300	9880	4327	1581	2746	781
eco-ATWB 10-4J12	7850	6700	11560	11	29,1	4	1258	1590	300	9940	4327	1581	2746	781
eco-ATWB 10-4K12	7880	6720	11580	15	31,7	4	1258	1590	300	9970	4327	1581	2746	781
eco-ATWB 10-4L12	7890	6740	11600	18,5	33,8	4	1258	1590	300	9980	4327	1581	2746	781
eco-ATWB 10-4M12	7920	6760	11620	22	35,5	4	1258	1590	300	10000	4327	1581	2746	781
eco-ATWB 10-5I12	8920	7760	12920	7,5	24,6	4	1557	1590	300	11300	4543	1581	2962	997
eco-ATWB 10-5J12	8980	7820	12980	11	28,2	4	1557	1590	300	11360	4543	1581	2962	997
eco-ATWB 10-5K12	9000	7850	13010	15	30,8	4	1557	1590	300	11390	4543	1581	2962	997
eco-ATWB 10-5L12	9020	7860	13020	18,5	32,8	4	1557	1590	300	11400	4543	1581	2962	997
eco-ATWB 10-5M12	9040	7880	13050	22	34,5	4	1557	1590	300	11430	4543	1581	2962	997
eco-ATWB 10-6I12	10110	8950	14410	7,5	23,9	4	1855	1590	300	12790	4759	1581	3178	1213
eco-ATWB 10-6J12	10170	9010	14470	11	27,3	4	1855	1590	300	12850	4759	1581	3178	1213
eco-ATWB 10-6K12	10200	9040	14500	15	29,8	4	1855	1590	300	12880	4759	1581	3178	1213
eco-ATWB 10-6L12	10210	9050	14510	18,5	31,7	4	1855	1590	300	12890	4759	1581	3178	1213
eco-ATWB 10-6M12	10230	9080	14530	22	33,4	4	1855	1590	300	12910	4759	1581	3178	1213

† Model Numbers 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 "R" for units with Low Sound Fan(s) and "S" for units with an option that negates CTI certification.

†† Heaviest section is the coil/fan 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 (300 mm would normally be sufficient).

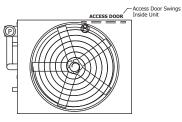
△ When a remote sump arrangement is selected, the spray pump, suction strainer and associated piping are omitted; the unit is provided with an oversized outlet to facilitate drainage to the remote sump.

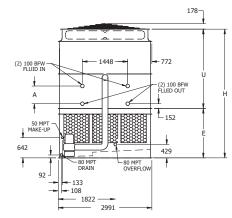
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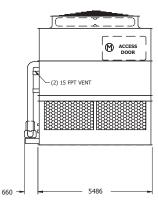
### **ENGINEERING DATA & DIMENSIONS**



### eco-ATWB Models 10-3I18 to 10-6N18







Note: The number of coil connections doubles when the flow rate exceeds 56 l/s on eco-ATWB 10x18 models. This required option is referred to as the High Flow coil configuration.

eco-ATWB		Weights (kg	1)	F	ans	Spray	Coil	R	emote Sur	np△		Dimensio	ns (mm) 🔺	
Model Number†	Shipping	Heaviest Section††	Operating	kW	m³/s	Pump kW	Volume (liters)	Liters Req'd*	Conn. Size (mm)	Operating Weight (kg)	Height H	Lower E	Upper U	Coil A
eco-ATWB 10-3I18	9490	7830	14610	7,5	34,4	5,5	1417	2385	300	12220	4111	1581	2530	565
eco-ATWB 10-3J18	9550	7890	14660	11	39,3	5,5	1417	2385	300	12280	4111	1581	2530	565
eco-ATWB 10-3K18	9580	7920	14690	15	43,3	5,5	1417	2385	300	12310	4111	1581	2530	565
eco-ATWB 10-3L18	9590	7930	14710	18,5	46,6	5,5	1417	2385	300	12320	4111	1581	2530	565
eco-ATWB 10-3M18	9610	7960	14730	22	49,1	5,5	1417	2385	300	12350	4111	1581	2530	565
eco-ATWB 10-3N18	9680	8030	14800	30	53,2	5,5	1417	2385	300	12420	4111	1581	2530	565
eco-ATWB 10-4I18	11240	9590	16810	7,5	33,4	5,5	1868	2385	300	14430	4327	1581	2746	781
eco-ATWB 10-4J18	11300	9650	16870	11	38,2	5,5	1868	2385	300	14490	4327	1581	2746	781
eco-ATWB 10-4K18	11330	9680	16900	15	42,0	5,5	1868	2385	300	14510	4327	1581	2746	781
eco-ATWB 10-4L18	11340	9690	16910	18,5	45,3	5,5	1868	2385	300	14530	4327	1581	2746	781
eco-ATWB 10-4M18	11370	9710	16930	22	47,7	5,5	1868	2385	300	14550	4327	1581	2746	781
eco-ATWB 10-4N18	11440	9780	17010	30	51,7	5,5	1868	2385	300	14620	4327	1581	2746	781
eco-ATWB 10-5I18	12950	11300	18970	7,5	32,4	5,5	2320	2385	300	16590	4543	1581	2962	997
eco-ATWB 10-5J18	13010	11360	19030	11	37,1	5,5	2320	2385	300	16650	4543	1581	2962	997
eco-ATWB 10-5K18	13040	11390	19060	15	40,8	5,5	2320	2385	300	16680	4543	1581	2962	997
eco-ATWB 10-5L18	13050	11400	19070	18,5	43,9	5,5	2320	2385	300	16690	4543	1581	2962	997
eco-ATWB 10-5M18	13080	11420	19100	22	46,3	5,5	2320	2385	300	16710	4543	1581	2962	997
eco-ATWB 10-5N18	13150	11490	19170	30	50,1	5,5	2320	2385	300	16790	4543	1581	2962	997
eco-ATWB 10-6I18	14740	13080	21210	7,5	31,4	5,5	2771	2385	300	18820	4759	1581	3178	1213
eco-ATWB 10-6J18	14800	13140	21260	11	35,9	5,5	2771	2385	300	18880	4759	1581	3178	1213
eco-ATWB 10-6K18	14820	13170	21290	15	39,5	5,5	2771	2385	300	18910	4759	1581	3178	1213
eco-ATWB 10-6L18	14840	13180	21310	18,5	42,6	5,5	2771	2385	300	18920	4759	1581	3178	1213
eco-ATWB 10-6M18	14860	13200	21330	22	44,8	5,5	2771	2385	300	18950	4759	1581	3178	1213
eco-ATWB 10-6N18	14930	13280	21400	30	48,6	5,5	2771	2385	300	19020	4759	1581	3178	1213

Model Numbers 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 "R" for units with Low Sound Fan(s) and "S" for units with an option that negates CTI † certification.

Heaviest section is the coil/fan 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 (300 mm would normally be sufficient).

When a remote sump arrangement is selected, the spray pump, suction strainer and associated piping are omitted; the unit is provided with an  $\triangle$ 



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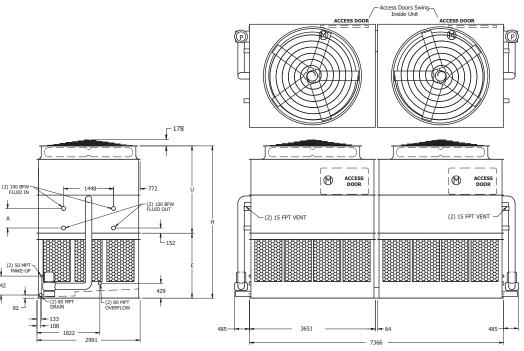
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### **ENGINEERING DATA & DIMENSIONS**

### eco-ATWB Models 10-3I24 to 10-6M24



Note: The number of coil connections doubles when the flow rate exceeds 112 l/s on eco-ATWB 10x24 models. This required option is referred to as the High Flow coil configuration.

eco-ATWB		Weights (kg	)	Fa	ins	Spray	Coil	R	emote Sur	np∆		Dimensio	ns (mm) 🔺	
Model Number†	Shipping	Heaviest Section††	Operating	kW	m³/s	Pump kW	Volume (liters)	Liters Req'd*	Conn. Size (mm)	Operating Weight (kg)	Height H	Lower E	Upper U	Coil A
eco-ATWB 10-3I24	13350	5460	20170	(2) 7.5	52,3	(2) 4	1918	3180	(2) 300	16930	4416	1886	2530	565
eco-ATWB 10-3J24	13470	5520	20280	(2) 11	59,9	(2) 4	1918	3180	(2) 300	17050	4416	1886	2530	565
eco-ATWB 10-3K24	13530	5550	20340	(2) 15	65,3	(2) 4	1918	3180	(2) 300	17100	4416	1886	2530	565
eco-ATWB 10-3L24	13550	5560	20370	(2) 18.5	69,6	(2) 4	1918	3180	(2) 300	17130	4416	1886	2530	565
eco-ATWB 10-3M24	13600	5580	20410	(2) 22	73,2	(2) 4	1918	3180	(2) 300	17170	4416	1886	2530	565
eco-ATWB 10-4I24	15700	6640	23120	(2) 7.5	50,8	(2) 4	2515	3180	(2) 300	19880	4632	1886	2746	781
eco-ATWB 10-4J24	15820	6700	23230	(2) 11	58,2	(2) 4	2515	3180	(2) 300	19990	4632	1886	2746	781
eco-ATWB 10-4K24	15880	6720	23290	(2) 15	63,4	(2) 4	2515	3180	(2) 300	20050	4632	1886	2746	781
eco-ATWB 10-4L24	15900	6740	23310	(2) 18.5	67,5	(2) 4	2515	3180	(2) 300	20080	4632	1886	2746	781
eco-ATWB 10-4M24	15950	6760	23360	(2) 22	71,1	(2) 4	2515	3180	(2) 300	20120	4632	1886	2746	781
eco-ATWB 10-5I24	17950	7760	25960	(2) 7.5	49,3	(2) 4	3113	3180	(2) 300	22720	4848	1886	2962	997
eco-ATWB 10-5J24	18070	7820	26080	(2) 11	56,4	(2) 4	3113	3180	(2) 300	22840	4848	1886	2962	997
eco-ATWB 10-5K24	18130	7850	26140	(2) 15	61,5	(2) 4	3113	3180	(2) 300	22900	4848	1886	2962	997
eco-ATWB 10-5L24	18150	7860	26160	(2) 18.5	65,5	(2) 4	3113	3180	(2) 300	22920	4848	1886	2962	997
eco-ATWB 10-5M24	18200	7880	26210	(2) 22	68,9	(2) 4	3113	3180	(2) 300	22970	4848	1886	2962	997
eco-ATWB 10-6I24	20340	8950	28940	(2) 7.5	47,8	(2) 4	3711	3180	(2) 300	25700	5064	1886	3178	1213
eco-ATWB 10-6J24	20460	9010	29060	(2) 11	54,7	(2) 4	3711	3180	(2) 300	25820	5064	1886	3178	1213
eco-ATWB 10-6K24	20510	9040	29110	(2) 15	59,6	(2) 4	3711	3180	(2) 300	25870	5064	1886	3178	1213
eco-ATWB 10-6L24	20540	9050	29140	(2) 18.5	63,5	(2) 4	3711	3180	(2) 300	25900	5064	1886	3178	1213
eco-ATWB 10-6M24	20580	9080	29180	(2) 22	66,8	(2) 4	3711	3180	(2) 300	25950	5064	1886	3178	1213

Model Numbers 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 "R" for units with Low Sound Fan(s) and "S" for units with an option that negates CTI certification.

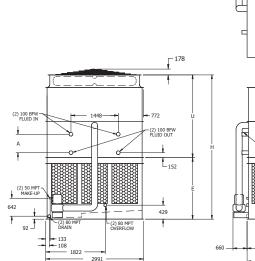
Heaviest section is the coil/fan section. ††

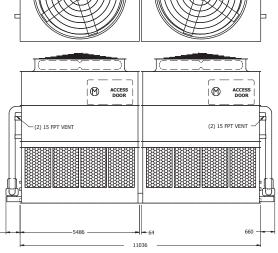
Liters shown is water in suspension in unit and piping. Allow for additional water in bottom of remote sump to cover pump suction and strainer during operation (300 mm would normally be sufficient).

 $\triangle$ 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.



### eco-ATWB Models 10-3I36 to 10-6N36





Note: The number of coil connections doubles when the flow rate exceeds 112 l/s on eco-ATWB 10x36 models. This required option is referred to as the High Flow coil configuration.

eco-ATWB		Weights (kg	)	Fa	ans	Spray	Coil	F	Remote Sun	np 🛆		Dimensio	ons (mm) 🔺	
Model Number†	Shipping	Heaviest Section††	Operating	kW	m³/s	Pump kW	Volume (liters)	Liters Req'd*	Conn. Size (mm)	Operating Weight (kg)	Height H	Lower E	Upper U	Coil A
eco-ATWB 10-3I36	18980	7830	29210	(2) 7.5	68,7	(2) 5.5	2833	4770	(2) 300	24450	4416	1886	2530	565
eco-ATWB 10-3J36	19100	7890	29330	(2) 11	78,7	(2) 5.5	2833	4770	(2) 300	24570	4416	1886	2530	565
eco-ATWB 10-3K36	19150	7920	29380	(2) 15	86,6	(2) 5.5	2833	4770	(2) 300	24620	4416	1886	2530	565
eco-ATWB 10-3L36	19180	7930	29410	(2) 18.5	93,3	(2) 5.5	2833	4770	(2) 300	24650	4416	1886	2530	565
eco-ATWB 10-3M36	19220	7960	29460	(2) 22	98,3	(2) 5.5	2833	4770	(2) 300	24690	4416	1886	2530	565
eco-ATWB 10-3N36	19370	8030	29600	(2) 30	106,5	(2) 5.5	2833	4770	(2) 300	24840	4416	1886	2530	565
eco-ATWB 10-4I36	22490	9590	33620	(2) 7.5	66,7	(2) 5.5	3736	4770	(2) 300	28860	4632	1886	2746	781
eco-ATWB 10-4J36	22610	9650	33740	(2) 11	76,4	(2) 5.5	3736	4770	(2) 300	28980	4632	1886	2746	781
eco-ATWB 10-4K36	22660	9680	33790	(2) 15	84,1	(2) 5.5	3736	4770	(2) 300	29030	4632	1886	2746	781
eco-ATWB 10-4L36	22690	9690	33820	(2) 18.5	90,6	(2) 5.5	3736	4770	(2) 300	29060	4632	1886	2746	781
eco-ATWB 10-4M36	22730	9710	33870	(2) 22	95,4	(2) 5.5	3736	4770	(2) 300	29100	4632	1886	2746	781
eco-ATWB 10-4N36	22880	9780	34010	(2) 30	103,4	(2) 5.5	3736	4770	(2) 300	29250	4632	1886	2746	781
eco-ATWB 10-5I36	25910	11300	37950	(2) 7.5	64,7	(2) 5.5	4639	4770	(2) 300	33180	4848	1886	2962	997
eco-ATWB 10-5J36	26030	11360	38070	(2) 11	74,1	(2) 5.5	4639	4770	(2) 300	33300	4848	1886	2962	997
eco-ATWB 10-5K36	26080	11390	38120	(2) 15	81,6	(2) 5.5	4639	4770	(2) 300	33360	4848	1886	2962	997
eco-ATWB 10-5L36	26110	11400	38150	(2) 18.5	87,9	(2) 5.5	4639	4770	(2) 300	33380	4848	1886	2962	997
eco-ATWB 10-5M36	26150	11420	38190	(2) 22	92,5	(2) 5.5	4639	4770	(2) 300	33430	4848	1886	2962	997
eco-ATWB 10-5N36	26300	11490	38340	(2) 30	100,3	(2) 5.5	4639	4770	(2) 300	33570	4848	1886	2962	997
eco-ATWB 10-6I36	29470	13080	42410	(2) 7.5	62,7	(2) 5.5	5542	4770	(2) 300	37650	5064	1886	3178	1213
eco-ATWB 10-6J36	29590	13140	42530	(2) 11	71,8	(2) 5.5	5542	4770	(2) 300	37770	5064	1886	3178	1213
eco-ATWB 10-6K36	29650	13170	42580	(2) 15	79,0	(2) 5.5	5542	4770	(2) 300	37820	5064	1886	3178	1213
eco-ATWB 10-6L36	29670	13180	42610	(2) 18.5	85,1	(2) 5.5	5542	4770	(2) 300	37850	5064	1886	3178	1213
eco-ATWB 10-6M36	29720	13200	42660	(2) 22	89,7	(2) 5.5	5542	4770	(2) 300	37890	5064	1886	3178	1213
eco-ATWB 10-6N36	29860	13280	42800	(2) 30	97,2	(2) 5.5	5542	4770	(2) 300	38040	5064	1886	3178	1213

† Model Numbers 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 "R" for units with Low Sound Fan(s) and "S" for units with an option that negates CTI certification.

†† Heaviest section is the coil/fan section.

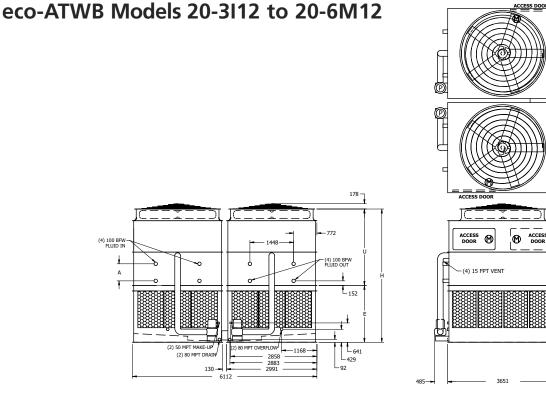
\* Liters shown is water in suspension in unit and piping. Allow for additional water in bottom of remote sump to cover pump suction and strainer during operation (300 mm would normally be sufficient).

△ 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.





Access Doors Swing Inside Unit



Note: The number of coil connections doubles when the flow rate exceeds 112 l/s on eco-ATWB 20x12 models. This required option is referred to as the High Flow coil configuration.

eco-ATWB		Weights (kg	)	Fa	ans	Spray	Coil	R	lemote Sur	np△		Dimensio	ons (mm) 🔺	
Model Number†	Shipping	Heaviest Section <sup>††</sup>	Operating	kW	m³/s	Pump kW	Volume (liters)	Liters Req'd*	Conn. Size (mm)	Operating Weight (kg)	Height H	Lower E	Upper U	Coil A
eco-ATWB 20-3I12	13240	5460	20060	(2) 7.5	52,3	(2) 4	1918	3180	(2) 300	16820	4416	1886	2530	565
eco-ATWB 20-3J12	13360	5520	20180	(2) 11	59,9	(2) 4	1918	3180	(2) 300	16940	4416	1886	2530	565
eco-ATWB 20-3K12	13420	5550	20230	(2) 15	65,3	(2) 4	1918	3180	(2) 300	16990	4416	1886	2530	565
eco-ATWB 20-3L12	13440	5560	20260	(2) 18.5	69,6	(2) 4	1918	3180	(2) 300	17020	4416	1886	2530	565
eco-ATWB 20-3M12	13490	5580	20300	(2) 22	73,2	(2) 4	1918	3180	(2) 300	17060	4416	1886	2530	565
eco-ATWB 20-4I12	15590	6640	23010	(2) 7.5	50,8	(2) 4	2515	3180	(2) 300	19770	4632	1886	2746	781
eco-ATWB 20-4J12	15710	6700	23120	(2) 11	58,2	(2) 4	2515	3180	(2) 300	19890	4632	1886	2746	781
eco-ATWB 20-4K12	15770	6720	23180	(2) 15	63,4	(2) 4	2515	3180	(2) 300	19940	4632	1886	2746	781
eco-ATWB 20-4L12	15790	6740	23210	(2) 18.5	67,5	(2) 4	2515	3180	(2) 300	19970	4632	1886	2746	781
eco-ATWB 20-4M12	15840	6760	23250	(2) 22	71,1	(2) 4	2515	3180	(2) 300	20010	4632	1886	2746	781
eco-ATWB 20-5I12	17840	7760	25850	(2) 7.5	49,3	(2) 4	3113	3180	(2) 300	22620	4848	1886	2962	997
eco-ATWB 20-5J12	17960	7820	25970	(2) 11	56,4	(2) 4	3113	3180	(2) 300	22730	4848	1886	2962	997
eco-ATWB 20-5K12	18020	7850	26030	(2) 15	61,5	(2) 4	3113	3180	(2) 300	22790	4848	1886	2962	997
eco-ATWB 20-5L12	18040	7860	26050	(2) 18.5	65,5	(2) 4	3113	3180	(2) 300	22820	4848	1886	2962	997
eco-ATWB 20-5M12	18090	7880	26100	(2) 22	68,9	(2) 4	3113	3180	(2) 300	22860	4848	1886	2962	997
eco-ATWB 20-6I12	20230	8950	28830	(2) 7.5	47,8	(2) 4	3711	3180	(2) 300	25590	5064	1886	3178	1213
eco-ATWB 20-6J12	20350	9010	28950	(2) 11	54,7	(2) 4	3711	3180	(2) 300	25710	5064	1886	3178	1213
eco-ATWB 20-6K12	20400	9040	29000	(2) 15	59,6	(2) 4	3711	3180	(2) 300	25760	5064	1886	3178	1213
eco-ATWB 20-6L12	20430	9050	29030	(2) 18.5	63,5	(2) 4	3711	3180	(2) 300	25790	5064	1886	3178	1213
eco-ATWB 20-6M12	20480	9080	29080	(2) 22	66,8	(2) 4	3711	3180	(2) 300	25840	5064	1886	3178	1213

Model Numbers 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 "R" for units with Low Sound Fan(s) and "S" for units with an option that negates CTI certification.

Heaviest section is the coil/fan section. ++

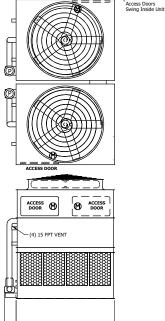
Liters shown is water in suspension in unit and piping. Allow for additional water in bottom of remote sump to cover pump suction and strainer during operation (300 mm would normally be sufficient).

When a remote sump arrangement is selected, the spray pump, suction strainer and associated piping are omitted; the unit is provided with an  $\triangle$ 

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### ENGINEERING DATA & DIMENSIONS





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eco-ATWB		Weights (kg	)	Fa	ans	Spray	Coil	R	emote Sun	np 🛆		Dimensio	ons (mm) 🔺	
Model Number†	Shipping	Heaviest Section††	Operating	kW	m³/s	Pump kW	Volume (liters)	Liters Req'd*	Conn. Size (mm)	Operating Weight (kg)	Height H	Lower E	Upper U	Coil A
eco-ATWB 20-3I18	19000	7830	29230	(2) 7.5	68,7	(2) 5.5	2833	4770	(2) 300	24470	4721	2191	2530	565
eco-ATWB 20-3J18	19110	7890	29350	(2) 11	78,7	(2) 5.5	2833	4770	(2) 300	24580	4721	2191	2530	565
eco-ATWB 20-3K18	19170	7920	29400	(2) 15	86,6	(2) 5.5	2833	4770	(2) 300	24640	4721	2191	2530	565
eco-ATWB 20-3L18	19200	7930	29430	(2) 18.5	93,3	(2) 5.5	2833	4770	(2) 300	24670	4721	2191	2530	565
eco-ATWB 20-3M18	19240	7960	29470	(2) 22	98,3	(2) 5.5	2833	4770	(2) 300	24710	4721	2191	2530	565
eco-ATWB 20-3N18	19390	8030	29620	(2) 30	106,5	(2) 5.5	2833	4770	(2) 300	24860	4721	2191	2530	565
eco-ATWB 20-4I18	22510	9590	33640	(2) 7.5	66,7	(2) 5.5	3736	4770	(2) 300	28880	4937	2191	2746	781
eco-ATWB 20-4J18	22630	9650	33760	(2) 11	76,4	(2) 5.5	3736	4770	(2) 300	28990	4937	2191	2746	781
eco-ATWB 20-4K18	22680	9680	33810	(2) 15	84,1	(2) 5.5	3736	4770	(2) 300	29050	4937	2191	2746	781
eco-ATWB 20-4L18	22710	9690	33840	(2) 18.5	90,6	(2) 5.5	3736	4770	(2) 300	29080	4937	2191	2746	781
eco-ATWB 20-4M18	22750	9710	33880	(2) 22	95,4	(2) 5.5	3736	4770	(2) 300	29120	4937	2191	2746	781
eco-ATWB 20-4N18	22900	9780	34030	(2) 30	103,4	(2) 5.5	3736	4770	(2) 300	29270	4937	2191	2746	781
eco-ATWB 20-5118	25930	11300	37970	(2) 7.5	64,7	(2) 5.5	4639	4770	(2) 300	33200	5153	2191	2962	997
eco-ATWB 20-5J18	26050	11360	38080	(2) 11	74,1	(2) 5.5	4639	4770	(2) 300	33320	5153	2191	2962	997
eco-ATWB 20-5K18	26100	11390	38140	(2) 15	81,6	(2) 5.5	4639	4770	(2) 300	33380	5153	2191	2962	997
eco-ATWB 20-5L18	26130	11400	38170	(2) 18.5	87,9	(2) 5.5	4639	4770	(2) 300	33400	5153	2191	2962	997
eco-ATWB 20-5M18	26170	11420	38210	(2) 22	92,5	(2) 5.5	4639	4770	(2) 300	33450	5153	2191	2962	997
eco-ATWB 20-5N18	26320	11490	38360	(2) 30	100,3	(2) 5.5	4639	4770	(2) 300	33590	5153	2191	2962	997
eco-ATWB 20-6I18	29490	13080	42430	(2) 7.5	62,7	(2) 5.5	5542	4770	(2) 300	37670	5369	2191	3178	1213
eco-ATWB 20-6J18	29610	13140	42550	(2) 11	71,8	(2) 5.5	5542	4770	(2) 300	37780	5369	2191	3178	1213
eco-ATWB 20-6K18	29660	13170	42600	(2) 15	79,0	(2) 5.5	5542	4770	(2) 300	37840	5369	2191	3178	1213
eco-ATWB 20-6L18	29690	13180	42630	(2) 18.5	85,1	(2) 5.5	5542	4770	(2) 300	37870	5369	2191	3178	1213
eco-ATWB 20-6M18	29740	13200	42670	(2) 22	89,7	(2) 5.5	5542	4770	(2) 300	37910	5369	2191	3178	1213
eco-ATWB 20-6N18	29880	13280	42820	(2) 30	97,2	(2) 5.5	5542	4770	(2) 300	38060	5369	2191	3178	1213

† Model Numbers 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 "R" for units with Low Sound Fan(s) and "S" for units with an option that negates CTI certification.

†† Heaviest section is the coil/fan section.

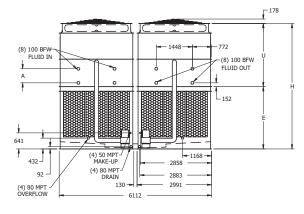
\* Liters shown is water in suspension in unit and piping. Allow for additional water in bottom of remote sump to cover pump suction and strainer during operation (300 mm would normally be sufficient).

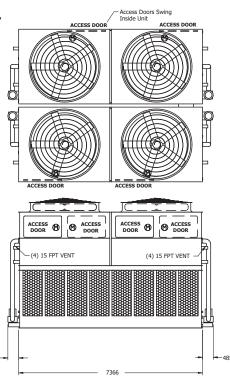
△ When a remote sump arrangement is selected, the spray pump, suction strainer and associated piping are omitted; the unit is provided with an oversized outlet to facilitate drainage to the remote sump.





### eco-ATWB Models 20-3I24 to 20-6M24





Note: The number of coil connections doubles when the flow rate exceeds 224 l/s on eco-ATWB 20x24 models. This required option is referred to as the High Flow coil configuration.

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eco-ATWB		Weights (kg	)	Fa	ins	Spray	Coil	R	emote Sur	np△		Dimensio	ns (mm) 🔺	
Model Number†	Shipping	Heaviest Section <sup>††</sup>	Operating	kW	m³/s	Pump kW	Volume (liters)	Liters Req'd*	Conn. Size (mm)	Operating Weight (kg)	Height H	Lower E	Upper U	Coil A
eco-ATWB 20-3I24	26750	5460	40370	(4) 7.5	104,7	(4) 4	3835	6360	(4) 300	33890	5026	2496	2530	565
eco-ATWB 20-3J24	26990	5520	40610	(4) 11	119,8	(4) 4	3835	6360	(4) 300	34130	5026	2496	2530	565
eco-ATWB 20-3K24	27100	5550	40710	(4) 15	130,7	(4) 4	3835	6360	(4) 300	34240	5026	2496	2530	565
eco-ATWB 20-3L24	27150	5560	40770	(4) 18.5	139,1	(4) 4	3835	6360	(4) 300	34290	5026	2496	2530	565
eco-ATWB 20-3M24	27240	5580	40860	(4) 22	146,4	(4) 4	3835	6360	(4) 300	34380	5026	2496	2530	565
eco-ATWB 20-4I24	31450	6640	46270	(4) 7.5	101,6	(4) 4	5031	6360	(4) 300	39790	5242	2496	2746	781
eco-ATWB 20-4J24	31690	6700	46500	(4) 11	116,3	(4) 4	5031	6360	(4) 300	40020	5242	2496	2746	781
eco-ATWB 20-4K24	31800	6720	46610	(4) 15	126,9	(4) 4	5031	6360	(4) 300	40130	5242	2496	2746	781
eco-ATWB 20-4L24	31850	6740	46670	(4) 18.5	135,1	(4) 4	5031	6360	(4) 300	40190	5242	2496	2746	781
eco-ATWB 20-4M24	31940	6760	46760	(4) 22	142,1	(4) 4	5031	6360	(4) 300	40280	5242	2496	2746	781
eco-ATWB 20-5124	35950	7760	51960	(4) 7.5	98,6	(4) 4	6226	6360	(4) 300	45490	5458	2496	2962	997
eco-ATWB 20-5J24	36190	7820	52200	(4) 11	112,8	(4) 4	6226	6360	(4) 300	45720	5458	2496	2962	997
eco-ATWB 20-5K24	36300	7850	52310	(4) 15	123,1	(4) 4	6226	6360	(4) 300	45830	5458	2496	2962	997
eco-ATWB 20-5L24	36350	7860	52360	(4) 18.5	131,0	(4) 4	6226	6360	(4) 300	45890	5458	2496	2962	997
eco-ATWB 20-5M24	36440	7880	52450	(4) 22	137,9	(4) 4	6226	6360	(4) 300	45980	5458	2496	2962	997
eco-ATWB 20-6124	40720	8950	57910	(4) 7.5	95,5	(4) 4	7422	6360	(4) 300	51440	5674	2496	3178	1213
eco-ATWB 20-6J24	40960	9010	58150	(4) 11	109,4	(4) 4	7422	6360	(4) 300	51670	5674	2496	3178	1213
eco-ATWB 20-6K24	41070	9040	58260	(4) 15	119,3	(4) 4	7422	6360	(4) 300	51780	5674	2496	3178	1213
eco-ATWB 20-6L24	41120	9050	58310	(4) 18.5	127,0	(4) 4	7422	6360	(4) 300	51840	5674	2496	3178	1213
eco-ATWB 20-6M24	41210	9080	58400	(4) 22	133,6	(4) 4	7422	6360	(4) 300	51930	5674	2496	3178	1213

† Model Numbers 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 "R" for units with Low Sound Fan(s) and "S" for units with an option that negates CTI certification.

†† Heaviest section is the coil/fan section.

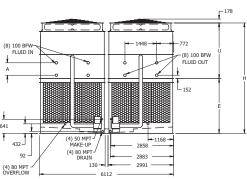
\* Liters shown is water in suspension in unit and piping. Allow for additional water in bottom of remote sump to cover pump suction and strainer during operation (300 mm would normally be sufficient).

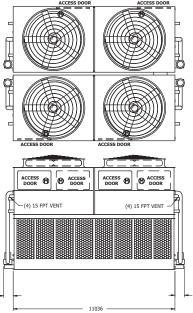
△ When a remote sump arrangement is selected, the spray pump, suction strainer and associated piping are omitted; the unit is provided with an oversized outlet to facilitate drainage to the remote sump.





### eco-ATWB Models 20-3I36 to 20-6N36





Note: The number of coil connections doubles when the flow rate exceeds 224 l/s on eco-ATWB 20x36 models. This required option is referred to as the High Flow coil configuration.

eco-ATWB		Weights (kg	1)	E	ans	Spray	Coil	F	lemote Sun	np∆		Dimensio	ons (mm) 🔺	
Model Number†	Shipping	Heaviest Section††	Operating	kW	m³/s	Pump kW	Volume (liters)	Liters Req'd*	Conn. Size (mm)	Operating Weight (kg)	Height H	Lower E	Upper U	Coil A
eco-ATWB 20-3136	38270	7830	58880	(4) 7.5	137,5	(4) 5.5	5667	9540	(4) 300	49360	5026	2496	2530	565
eco-ATWB 20-3J36	38500	7890	59110	(4) 11	157,4	(4) 5.5	5667	9540	(4) 300	49600	5026	2496	2530	565
eco-ATWB 20-3K36	38610	7920	59220	(4) 15	173,2	(4) 5.5	5667	9540	(4) 300	49700	5026	2496	2530	565
eco-ATWB 20-3L36	38660	7930	59280	(4) 18.5	186,6	(4) 5.5	5667	9540	(4) 300	49760	5026	2496	2530	565
eco-ATWB 20-3M36	38750	7960	59370	(4) 22	196,5	(4) 5.5	5667	9540	(4) 300	49850	5026	2496	2530	565
eco-ATWB 20-3N36	39050	8030	59660	(4) 30	213,0	(4) 5.5	5667	9540	(4) 300	50140	5026	2496	2530	565
eco-ATWB 20-4I36	45290	9590	67690	(4) 7.5	133,5	(4) 5.5	7472	9540	(4) 300	58180	5242	2496	2746	781
eco-ATWB 20-4J36	45520	9650	67930	(4) 11	152,8	(4) 5.5	7472	9540	(4) 300	58410	5242	2496	2746	781
eco-ATWB 20-4K36	45630	9680	68040	(4) 15	168,2	(4) 5.5	7472	9540	(4) 300	58520	5242	2496	2746	781
eco-ATWB 20-4L36	45690	9690	68090	(4) 18.5	181,2	(4) 5.5	7472	9540	(4) 300	58580	5242	2496	2746	781
eco-ATWB 20-4M36	45780	9710	68180	(4) 22	190,8	(4) 5.5	7472	9540	(4) 300	58670	5242	2496	2746	781
eco-ATWB 20-4N36	46070	9780	68470	(4) 30	206,8	(4) 5.5	7472	9540	(4) 300	58960	5242	2496	2746	781
eco-ATWB 20-5I36	52130	11300	76350	(4) 7.5	129,5	(4) 5.5	9278	9540	(4) 300	66830	5458	2496	2962	997
eco-ATWB 20-5J36	52360	11360	76580	(4) 11	148,2	(4) 5.5	9278	9540	(4) 300	67070	5458	2496	2962	997
eco-ATWB 20-5K36	52470	11390	76690	(4) 15	163,1	(4) 5.5	9278	9540	(4) 300	67180	5458	2496	2962	997
eco-ATWB 20-5L36	52530	11400	76750	(4) 18.5	175,7	(4) 5.5	9278	9540	(4) 300	67230	5458	2496	2962	997
eco-ATWB 20-5M36	52620	11420	76840	(4) 22	185,1	(4) 5.5	9278	9540	(4) 300	67320	5458	2496	2962	997
eco-ATWB 20-5N36	52910	11490	77130	(4) 30	200,6	(4) 5.5	9278	9540	(4) 300	67610	5458	2496	2962	997
eco-ATWB 20-6I36	59260	13080	85280	(4) 7.5	125,5	(4) 5.5	11084	9540	(4) 300	75760	5674	2496	3178	1213
eco-ATWB 20-6J36	59490	13140	85510	(4) 11	143,6	(4) 5.5	11084	9540	(4) 300	75990	5674	2496	3178	1213
eco-ATWB 20-6K36	59600	13170	85620	(4) 15	158,1	(4) 5.5	11084	9540	(4) 300	76100	5674	2496	3178	1213
eco-ATWB 20-6L36	59660	13180	85670	(4) 18.5	170,3	(4) 5.5	11084	9540	(4) 300	76160	5674	2496	3178	1213
eco-ATWB 20-6M36	59750	13200	85770	(4) 22	179,3	(4) 5.5	11084	9540	(4) 300	76250	5674	2496	3178	1213
eco-ATWB 20-6N36	60040	13280	86060	(4) 30	194,4	(4) 5.5	11084	9540	(4) 300	76540	5674	2496	3178	1213

† Model Numbers 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 "R" for units with Low Sound Fan(s) and "S" for units with an option that negates CTI certification.

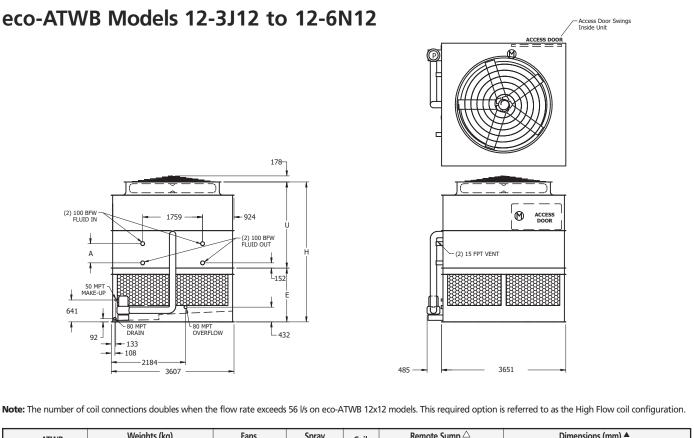
†† Heaviest section is the coil/fan section.

\* 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 (300 mm would normally be sufficient).

△ 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.







eco-ATWB		Weights (kg	ı)	Fa	ans	Spray	Coil	R	emote Sur	np∆		Dimensio	ns (mm) 🔺	
Model Number†	Shipping	Heaviest Section††	Operating	kW	m³/s	Pump kW	Volume (liters)	Liters Req'd*	Conn. Size (mm)	Operating Weight (kg)	Height H	Lower E	Upper U	Coil A
eco-ATWB 12-3J12	7690	6460	11600	11	34,1	4	1179	1855	300	9810	4111	1581	2530	565
eco-ATWB 12-3K12	7720	6490	11630	15	37,5	4	1179	1855	300	9830	4111	1581	2530	565
eco-ATWB 12-3L12	7730	6500	11640	18,5	40,0	4	1179	1855	300	9850	4111	1581	2530	565
eco-ATWB 12-3M12	7750	6520	11660	22	42,1	4	1179	1855	300	9870	4111	1581	2530	565
eco-ATWB 12-4J12	9140	7910	13420	11	33,1	4	1548	1855	300	11630	4327	1581	2746	781
eco-ATWB 12-4K12	9160	7930	13440	15	36,4	4	1548	1855	300	11650	4327	1581	2746	781
eco-ATWB 12-4L12	9180	7950	13460	18,5	38,8	4	1548	1855	300	11670	4327	1581	2746	781
eco-ATWB 12-4M12	9200	7970	13480	22	40,8	4	1548	1855	300	11690	4327	1581	2746	781
eco-ATWB 12-4N12	9270	8040	13550	30	44,3	4	1548	1855	300	11760	4327	1581	2746	781
eco-ATWB 12-5K12	10540	9310	15190	15	35,3	4	1917	1855	300	13390	4543	1581	2962	997
eco-ATWB 12-5L12	10550	9320	15200	18,5	37,6	4	1917	1855	300	13410	4543	1581	2962	997
eco-ATWB 12-5M12	10570	9340	15220	22	39,6	4	1917	1855	300	13430	4543	1581	2962	997
eco-ATWB 12-5N12	10650	9420	15300	30	42,9	4	1917	1855	300	13500	4543	1581	2962	997
eco-ATWB 12-6L12	12010	10780	17020	18,5	36,5	4	2286	1855	300	15230	4759	1581	3178	1213
eco-ATWB 12-6M12	12030	10800	17050	22	38,4	4	2286	1855	300	15250	4759	1581	3178	1213
eco-ATWB 12-6N12	12100	10870	17120	30	41,6	4	2286	1855	300	15330	4759	1581	3178	1213

† Model Numbers 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 "R" for units with Low Sound Fan(s) and "S" for units with an option that negates CTI certification.

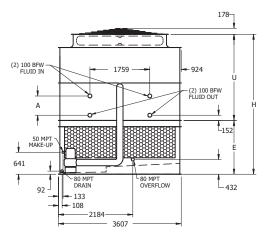
†† Heaviest section is the coil/fan section.

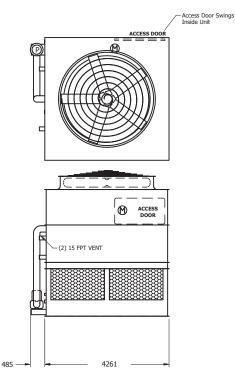
\* Liters shown is water in suspension in unit and piping. Allow for additional water in bottom of remote sump to cover pump suction and strainer during operation (300 mm would normally be sufficient).

△ 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.



### eco-ATWB Models 12-3K14 to 12-6N14





Note: The number of coil connections doubles when the flow rate exceeds 56 l/s on eco-ATWB 12x14 models. This required option is referred to as the High Flow coil configuration.

eco-ATWB		Weights (kg	I)	E	ans	Spray	Coil	F	Remote Sur	np∆		Dimensio	ons (mm) 🔺	
Model Number†	Shipping	Heaviest Section <sup>††</sup>	Operating	kW	m³/s	Pump kW	Volume (liters)	Liters Req'd*	Conn. Size (mm)	Operating Weight (kg)	Height H	Lower E	Upper U	Coil A
eco-ATWB 12-3K14	8760	7380	13350	15	41,6	4	1368	2160	300	11280	4264	1734	2530	565
eco-ATWB 12-3L14	8780	7390	13370	18,5	44,7	4	1368	2160	300	11290	4264	1734	2530	565
eco-ATWB 12-3M14	8800	7410	13390	22	47	4	1368	2160	300	11320	4264	1734	2530	565
eco-ATWB 12-3N14	8870	7480	13460	30	51	4	1368	2160	300	11390	4264	1734	2530	565
eco-ATWB 12-4K14	10450	9060	15470	15	40,4	4	1799	2160	300	13400	4480	1734	2746	781
eco-ATWB 12-4L14	10460	9080	15490	18,5	43,4	4	1799	2160	300	13410	4480	1734	2746	781
eco-ATWB 12-4M14	10490	9100	15510	22	45,6	4	1799	2160	300	13440	4480	1734	2746	781
eco-ATWB 12-4N14	10560	9170	15580	30	49,5	4	1799	2160	300	13510	4480	1734	2746	781
eco-ATWB 12-5L14	12050	10660	17500	18,5	42,1	4	2231	2160	300	15430	4696	1734	2962	997
eco-ATWB 12-5M14	12070	10680	17520	22	44,3	4	2231	2160	300	15450	4696	1734	2962	997
eco-ATWB 12-5N14	12140	10750	17590	30	48	4	2231	2160	300	15520	4696	1734	2962	997
eco-ATWB 12-6L14	13880	12490	19760	18,5	40,8	4	2662	2160	300	17690	4912	1734	3178	1213
eco-ATWB 12-6M14	13900	12510	19790	22	42,9	4	2662	2160	300	17710	4912	1734	3178	1213
eco-ATWB 12-6N14	13980	12590	19860	30	46,5	4	2662	2160	300	17790	4912	1734	3178	1213

† Model Numbers 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 "R" for units with Low Sound Fan(s) and "S" for units with an option that negates CTI certification.

†† Heaviest section is the coil/fan section.

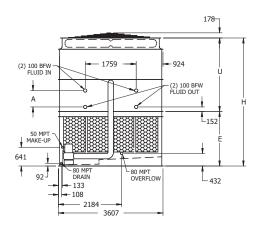
\* Liters shown is water in suspension in unit and piping. Allow for additional water in bottom of remote sump to cover pump suction and strainer during operation (300 mm would normally be sufficient).

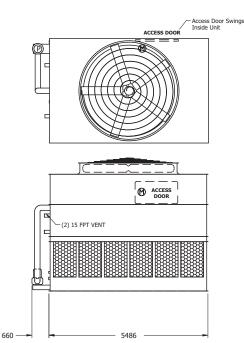
△ When a remote sump arrangement is selected, the spray pump, suction strainer and associated piping are omitted; the unit is provided with an oversized outlet to facilitate drainage to the remote sump.





### eco-ATWB Models 12-3K18 to 12-6P18





Note: The number of coil connections doubles when the flow rate exceeds 56 l/s on eco-ATWB 12x18 models. This required option is referred to as the High Flow coil configuration.

eco-ATWB		Weights (kg	1)	Fa	ans	Spray	Coil	R	emote Sur	np△		Dimensio	ns (mm) 🔺	
Model Number†	Shipping	Heaviest Section††	Operating	kW	m³/s	Pump kW	Volume (liters)	Liters Req'd*	Conn. Size (mm)	Operating Weight (kg)	Height H	Lower E	Upper U	Coil A
eco-ATWB 12-3K18	11020	9240	16890	15	50,8	5,5	1744	2725	300	14230	4416	1886	2530	565
eco-ATWB 12-3L18	11040	9260	16910	18,5	54,7	5,5	1744	2725	300	14240	4416	1886	2530	565
eco-ATWB 12-3M18	11060	9280	16930	22	58,1	5,5	1744	2725	300	14270	4416	1886	2530	565
eco-ATWB 12-3N18	11130	9350	17000	30	63,1	5,5	1744	2725	300	14340	4416	1886	2530	565
eco-ATWB 12-4K18	13180	11400	19610	15	49,3	5,5	2302	2725	300	16950	4632	1886	2746	781
eco-ATWB 12-4L18	13200	11420	19620	18,5	53,1	5,5	2302	2725	300	16960	4632	1886	2746	781
eco-ATWB 12-4M18	13220	11440	19650	22	56,4	5,5	2302	2725	300	16980	4632	1886	2746	781
eco-ATWB 12-4N18	13290	11510	19720	30	61,2	5,5	2302	2725	300	17060	4632	1886	2746	781
eco-ATWB 12-4018	13290	11520	19720	37	65,2	5,5	2302	2725	300	17060	4632	1886	2746	781
eco-ATWB 12-5L18	15280	13500	22260	18,5	51,5	5,5	2859	2725	300	19600	4848	1886	2962	997
eco-ATWB 12-5M18	15300	13530	22280	22	54,7	5,5	2859	2725	300	19620	4848	1886	2962	997
eco-ATWB 12-5N18	15380	13600	22360	30	59,4	5,5	2859	2725	300	19690	4848	1886	2962	997
eco-ATWB 12-5018	15380	13600	22360	37	63,2	5,5	2859	2725	300	19700	4848	1886	2962	997
eco-ATWB 12-6M18	17410	15640	24950	22	53,0	5,5	3416	2725	300	22290	5064	1886	3178	1213
eco-ATWB 12-6N18	17490	15710	25020	30	57,6	5,5	3416	2725	300	22360	5064	1886	3178	1213
eco-ATWB 12-6O18	17490	15710	25030	37	61,3	5,5	3416	2725	300	22370	5064	1886	3178	1213
eco-ATWB 12-6P18	17580	15800	25120	45	64,5	5,5	3416	2725	300	22460	5064	1886	3178	1213

Model Numbers 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 "R" for units with Low Sound Fan(s) and "S" for units with an option that negates CTI + certification.

Heaviest section is the coil/fan section. ++

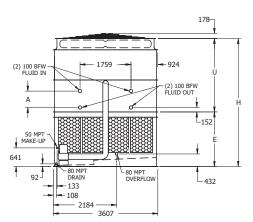
Liters shown is water in suspension in unit and piping. Allow for additional water in bottom of remote sump to cover pump suction and strainer during operation (300 mm would normally be sufficient).

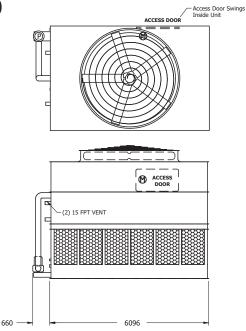
When a remote sump arrangement is selected, the spray pump, suction strainer and associated piping are omitted; the unit is provided with an  $\triangle$ 





### eco-ATWB Models 12-3L20 to 12-6P20





Note: The number of coil connections doubles when the flow rate exceeds 56 l/s on eco-ATWB 12x20 models. This required option is referred to as the High Flow coil configuration.

eco-ATWB		Weights (kg	)	F	ans	Spray	Coil	F	lemote Sur	np 🛆		Dimensio	ons (mm) 🔺	
Model Number†	Shipping	Heaviest Section††	Operating	kW	m³/s	Pump kW	Volume (liters)	Liters Req'd*	Conn. Size (mm)	Operating Weight (kg)	Height H	Lower E	Upper U	Coil A
eco-ATWB 12-3L20	12190	10140	18750	18,5	58,7	7,5	1933	3030	350	15710	4416	1886	2530	565
eco-ATWB 12-3M20	12210	10170	18770	22	62,4	7,5	1933	3030	350	15740	4416	1886	2530	565
eco-ATWB 12-3N20	12280	10240	18850	30	68,1	7,5	1933	3030	350	15810	4416	1886	2530	565
eco-ATWB 12-3O20	12290	10240	18850	37	72,4	7,5	1933	3030	350	15810	4416	1886	2530	565
eco-ATWB 12-4L20	14560	12520	21750	18,5	57,0	7,5	2553	3030	350	18710	4632	1886	2746	781
eco-ATWB 12-4M20	14590	12540	21770	22	60,5	7,5	2553	3030	350	18730	4632	1886	2746	781
eco-ATWB 12-4N20	14660	12610	21850	30	66,1	7,5	2553	3030	350	18810	4632	1886	2746	781
eco-ATWB 12-4O20	14660	12620	21850	37	70,3	7,5	2553	3030	350	18810	4632	1886	2746	781
eco-ATWB 12-5M20	16910	14860	24720	22	58,7	7,5	3173	3030	350	21680	4848	1886	2962	997
eco-ATWB 12-5N20	16980	14940	24790	30	64,1	7,5	3173	3030	350	21750	4848	1886	2962	997
eco-ATWB 12-5O20	16990	14940	24790	37	68,2	7,5	3173	3030	350	21750	4848	1886	2962	997
eco-ATWB 12-5P20	17080	15030	24880	45	71,8	7,5	3173	3030	350	21850	4848	1886	2962	997
eco-ATWB 12-6N20	19550	17500	27970	30	62,1	7,5	3792	3030	350	24930	5064	1886	3178	1213
eco-ATWB 12-6O20	19550	17500	27970	37	66,1	7,5	3792	3030	350	24930	5064	1886	3178	1213
eco-ATWB 12-6P20	19640	17590	28060	45	69,6	7,5	3792	3030	350	25020	5064	1886	3178	1213

Model Numbers 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 "R" for units with Low Sound Fan(s) and "S" for units with an option that negates CTI † certification.

Heaviest section is the coil/fan section. ++

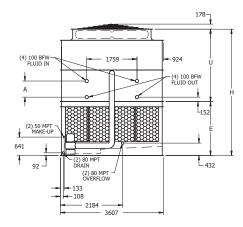
Liters shown is water in suspension in unit and piping. Allow for additional water in bottom of remote sump to cover pump suction and strainer during operation (300 mm would normally be sufficient).

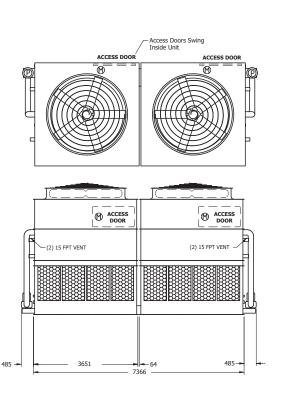
When a remote sump arrangement is selected, the spray pump, suction strainer and associated piping are omitted; the unit is provided with an  $\triangle$ 





### eco-ATWB Models 12-3J24 to 12-6N24





Note: The number of coil connections doubles when the flow rate exceeds 112 l/s on eco-ATWB 12x24 models. This required option is referred to as the High Flow coil configuration.

eco-ATWB		Weights (kg	1)	Fa	ans	Spray	Coil	R	emote Sur	np∆		Dimensio	ns (mm) 🔺	
Model Number†	Shipping	Heaviest Section††	Operating	kW	m³/s	Pump kW	Volume (liters)	Liters Req'd*	Conn. Size (mm)	Operating Weight (kg)	Height H	Lower E	Upper U	Coil A
eco-ATWB 12-3J24	15380	6460	23200	(2) 11	68,1	(2) 4	2359	3710	(2) 300	19610	4416	1886	2530	565
eco-ATWB 12-3K24	15430	6490	23250	(2) 15	75,0	(2) 4	2359	3710	(2) 300	19670	4416	1886	2530	565
eco-ATWB 12-3L24	15460	6500	23280	(2) 18.5	79,9	(2) 4	2359	3710	(2) 300	19690	4416	1886	2530	565
eco-ATWB 12-3M24	15500	6520	23320	(2) 22	84,1	(2) 4	2359	3710	(2) 300	19740	4416	1886	2530	565
eco-ATWB 12-4K24	18330	7930	26890	(2) 15	72,8	(2) 4	3096	3710	(2) 300	23310	4632	1886	2746	781
eco-ATWB 12-4L24	18350	7950	26920	(2) 18.5	77,6	(2) 4	3096	3710	(2) 300	23330	4632	1886	2746	781
eco-ATWB 12-4M24	18400	7970	26960	(2) 22	81,7	(2) 4	3096	3710	(2) 300	23380	4632	1886	2746	781
eco-ATWB 12-4N24	18540	8040	27110	(2) 30	88,5	(2) 4	3096	3710	(2) 300	23520	4632	1886	2746	781
eco-ATWB 12-5K24	21070	9310	30370	(2) 15	70,6	(2) 4	3834	3710	(2) 300	26790	4848	1886	2962	997
eco-ATWB 12-5L24	21100	9320	30400	(2) 18.5	75,3	(2) 4	3834	3710	(2) 300	26820	4848	1886	2962	997
eco-ATWB 12-5M24	21150	9340	30450	(2) 22	79,2	(2) 4	3834	3710	(2) 300	26860	4848	1886	2962	997
eco-ATWB 12-5N24	21290	9420	30590	(2) 30	85,9	(2) 4	3834	3710	(2) 300	27010	4848	1886	2962	997
eco-ATWB 12-6L24	24010	10780	34050	(2) 18.5	73,0	(2) 4	4572	3710	(2) 300	30460	5064	1886	3178	1213
eco-ATWB 12-6M24	24060	10800	34090	(2) 22	76,8	(2) 4	4572	3710	(2) 300	30510	5064	1886	3178	1213
eco-ATWB 12-6N24	24200	10870	34240	(2) 30	83,2	(2) 4	4572	3710	(2) 300	30650	5064	1886	3178	1213

Model Numbers 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 "R" for units with Low Sound Fan(s) and "S" for units with an option that negates CTI + certification.

Heaviest section is the coil/fan 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 (300 mm would normally be sufficient).

When a remote sump arrangement is selected, the spray pump, suction strainer and associated piping are omitted; the unit is provided with an  $\wedge$ 

ACCESS DOOR

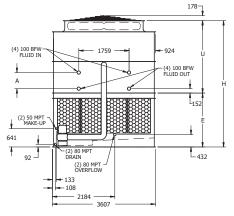
### **ENGINEERING DATA & DIMENSIONS**

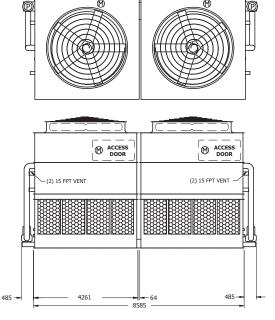


Access Doors Swing Inside Unit

### eco-ATWB Models 12-3K28 to 12-6N28

Please contact your local sales representative for more information on the evapSelect<sup>\*\*</sup> program.





ACCESS DOOI

Note: The number of coil connections doubles when the flow rate exceeds 112 l/s on eco-ATWB 12x28 models. This required option is referred to as the High Flow coil configuration.

eco-ATWB		Weights (kg	)	Fa	ans	Spray	Coil	R	emote Sur	np $\triangle$		Dimensio	ons (mm) 🔺	
Model Number†	Shipping	Heaviest Section††	Operating	kW	m³/s	Pump kW	Volume (liters)	Liters Req'd*	Conn. Size (mm)	Operating Weight (kg)	Height H	Lower E	Upper U	Coil A
eco-ATWB 12-3K28	17530	7380	26710	(2) 15	83,1	(2) 4	2736	4315	(2) 300	22560	4721	2191	2530	565
eco-ATWB 12-3L28	17550	7390	26730	(2) 18.5	89,3	(2) 4	2736	4315	(2) 300	22590	4721	2191	2530	565
eco-ATWB 12-3M28	17600	7410	26780	(2) 22	94,0	(2) 4	2736	4315	(2) 300	22630	4721	2191	2530	565
eco-ATWB 12-3N28	17740	7480	26930	(2) 30	101,9	(2) 4	2736	4315	(2) 300	22780	4721	2191	2530	565
eco-ATWB 12-4K28	20900	9060	30940	(2) 15	80,7	(2) 4	3599	4315	(2) 300	26800	4937	2191	2746	781
eco-ATWB 12-4L28	20930	9080	30970	(2) 18.5	86,7	(2) 4	3599	4315	(2) 300	26830	4937	2191	2746	781
eco-ATWB 12-4M28	20970	9100	31020	(2) 22	91,3	(2) 4	3599	4315	(2) 300	26870	4937	2191	2746	781
eco-ATWB 12-4N28	21120	9170	31160	(2) 30	98,9	(2) 4	3599	4315	(2) 300	27020	4937	2191	2746	781
eco-ATWB 12-5L28	24090	10660	35000	(2) 18.5	84,1	(2) 4	4462	4315	(2) 300	30850	5153	2191	2962	997
eco-ATWB 12-5M28	24140	10680	35040	(2) 22	88,5	(2) 4	4462	4315	(2) 300	30900	5153	2191	2962	997
eco-ATWB 12-5N28	24290	10750	35190	(2) 30	96,0	(2) 4	4462	4315	(2) 300	31040	5153	2191	2962	997
eco-ATWB 12-6L28	27760	12490	39530	(2) 18.5	81,5	(2) 4	5325	4315	(2) 300	35380	5369	2191	3178	1213
eco-ATWB 12-6M28	27810	12510	39570	(2) 22	85,8	(2) 4	5325	4315	(2) 300	35430	5369	2191	3178	1213
eco-ATWB 12-6N28	27950	12590	39720	(2) 30	93,0	(2) 4	5325	4315	(2) 300	35570	5369	2191	3178	1213

Model Numbers 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 "R" for units with Low Sound Fan(s) and "S" for units with an option that negates CTI † certification.

Heaviest section is the coil/fan 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 (300 mm would normally be sufficient).

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





#### eco-ATWB Models 12-3K36 to 12-6P36 ccess Doors Swing Inside Unit ACCESS DOOF ACCESS DOO 178 (2) 100 BFW FLUID IN (2) 1/2 FPT VENT (2) 1/2 FPT VEN L <sub>152</sub> (2) 50 MAKE 641 1 L<sub>432</sub> 92 (2) 80 OVER 133 - 108 660 660 5486 2184 64 3607 11036

Note: The number of coil connections doubles when the flow rate exceeds 112 l/s on eco-ATWB 12x36 models. This required option is referred to as the High Flow coil configuration.

eco-ATWB		Weights (kg	1)	Fa	ans	Spray	Coil	R	emote Sur	np 🛆		Dimensio	ns (mm) 🔺	
Model Number†	Shipping	Heaviest Section††	Operating	kW	m³/s	Pump kW	Volume (liters)	Liters Req'd*	Conn. Size (mm)	Operating Weight (kg)	Height H	Lower E	Upper U	Coil A
eco-ATWB 12-3K36	22040	9240	33780	(2) 15	101,6	(2) 5.5	3489	5450	(2) 300	28460	4721	2191	2530	565
eco-ATWB 12-3L36	22070	9260	33810	(2) 18.5	109,4	(2) 5.5	3489	5450	(2) 300	28490	4721	2191	2530	565
eco-ATWB 12-3M36	22120	9280	33860	(2) 22	116,3	(2) 5.5	3489	5450	(2) 300	28530	4721	2191	2530	565
eco-ATWB 12-3N36	22260	9350	34000	(2) 30	126,2	(2) 5.5	3489	5450	(2) 300	28680	4721	2191	2530	565
eco-ATWB 12-4K36	26360	11400	39220	(2) 15	98,6	(2) 5.5	4603	5450	(2) 300	33890	4937	2191	2746	781
eco-ATWB 12-4L36	26390	11420	39240	(2) 18.5	106,2	(2) 5.5	4603	5450	(2) 300	33920	4937	2191	2746	781
eco-ATWB 12-4M36	26440	11440	39290	(2) 22	112,9	(2) 5.5	4603	5450	(2) 300	33960	4937	2191	2746	781
eco-ATWB 12-4N36	26580	11510	39440	(2) 30	122,5	(2) 5.5	4603	5450	(2) 300	34110	4937	2191	2746	781
eco-ATWB 12-4O36	26590	11520	39440	(2) 37	130,4	(2) 5.5	4603	5450	(2) 300	34120	4937	2191	2746	781
eco-ATWB 12-5L36	30560	13500	44520	(2) 18.5	103,0	(2) 5.5	5717	5450	(2) 300	39200	5153	2191	2962	997
eco-ATWB 12-5M36	30610	13530	44570	(2) 22	109,5	(2) 5.5	5717	5450	(2) 300	39240	5153	2191	2962	997
eco-ATWB 12-5N36	30750	13600	44720	(2) 30	118,8	(2) 5.5	5717	5450	(2) 300	39390	5153	2191	2962	997
eco-ATWB 12-5O36	30760	13600	44720	(2) 37	126,5	(2) 5.5	5717	5450	(2) 300	39400	5153	2191	2962	997
eco-ATWB 12-6M36	34830	15640	49900	(2) 22	106,1	(2) 5.5	6832	5450	(2) 300	44580	5369	2191	3178	1213
eco-ATWB 12-6N36	34970	15710	50050	(2) 30	115,1	(2) 5.5	6832	5450	(2) 300	44720	5369	2191	3178	1213
eco-ATWB 12-6O36	34980	15710	50060	(2) 37	122,6	(2) 5.5	6832	5450	(2) 300	44730	5369	2191	3178	1213
eco-ATWB 12-6P36	35160	15800	50240	(2) 45	129,0	(2) 5.5	6832	5450	(2) 300	44910	5369	2191	3178	1213

† Model Numbers 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 "R" for units with Low Sound Fan(s) and "S" for units with an option that negates CTI certification.

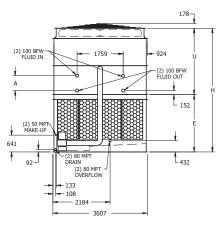
†† Heaviest section is the coil/fan section.

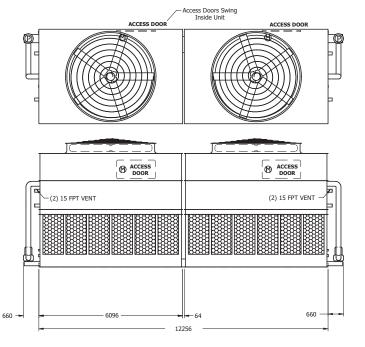
\* Liters shown is water in suspension in unit and piping. Allow for additional water in bottom of remote sump to cover pump suction and strainer during operation (300 mm would normally be sufficient).

△ 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.



### eco-ATWB Models 12-3L40 to 12-6P40





Note: The number of coil connections doubles when the flow rate exceeds 112 l/s on eco-ATWB 12x40 models. This required option is referred to as the High Flow coil configuration.

eco-ATWB		Weights (kg	)	Fa	ans	Spray	Coil	R	emote Sur	np $ riangle$		Dimensio	ons (mm) 🔺	
Model Number†	Shipping	Heaviest Section††	Operating	kW	m³/s	Pump kW	Volume (liters)	Liters Req'd*	Conn. Size (mm)	Operating Weight (kg)	Height H	Lower E	Upper U	Coil A
eco-ATWB 12-3L40	24380	10140	37500	(2) 18.5	117,4	(2) 7.5	3865	6055	(2) 350	31420	4721	2191	2530	565
eco-ATWB 12-3M40	24420	10170	37550	(2) 22	124,7	(2) 7.5	3865	6055	(2) 350	31470	4721	2191	2530	565
eco-ATWB 12-3N40	24570	10240	37690	(2) 30	136,1	(2) 7.5	3865	6055	(2) 350	31620	4721	2191	2530	565
eco-ATWB 12-3O40	24580	10240	37700	(2) 37	144,9	(2) 7.5	3865	6055	(2) 350	31620	4721	2191	2530	565
eco-ATWB 12-4L40	29130	12520	43500	(2) 18.5	114,0	(2) 7.5	5105	6055	(2) 350	37420	4937	2191	2746	781
eco-ATWB 12-4M40	29180	12540	43540	(2) 22	121,1	(2) 7.5	5105	6055	(2) 350	37470	4937	2191	2746	781
eco-ATWB 12-4N40	29320	12610	43690	(2) 30	132,2	(2) 7.5	5105	6055	(2) 350	37610	4937	2191	2746	781
eco-ATWB 12-4O40	29330	12620	43700	(2) 37	140,7	(2) 7.5	5105	6055	(2) 350	37620	4937	2191	2746	781
eco-ATWB 12-5M40	33820	14860	49430	(2) 22	117,5	(2) 7.5	6345	6055	(2) 350	43350	5153	2191	2962	997
eco-ATWB 12-5N40	33960	14940	49580	(2) 30	128,2	(2) 7.5	6345	6055	(2) 350	43500	5153	2191	2962	997
eco-ATWB 12-5O40	33970	14940	49590	(2) 37	136,5	(2) 7.5	6345	6055	(2) 350	43510	5153	2191	2962	997
eco-ATWB 12-5P40	34160	15030	49770	(2) 45	143,6	(2) 7.5	6345	6055	(2) 350	43690	5153	2191	2962	997
eco-ATWB 12-6N40	39090	17500	55940	(2) 30	124,2	(2) 7.5	7585	6055	(2) 350	49860	5369	2191	3178	1213
eco-ATWB 12-6O40	39100	17500	55950	(2) 37	132,2	(2) 7.5	7585	6055	(2) 350	49870	5369	2191	3178	1213
eco-ATWB 12-6P40	39280	17590	56130	(2) 45	139,2	(2) 7.5	7585	6055	(2) 350	50050	5369	2191	3178	1213

† Model Numbers 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 "R" for units with Low Sound Fan(s) and "S" for units with an option that negates CTI certification.

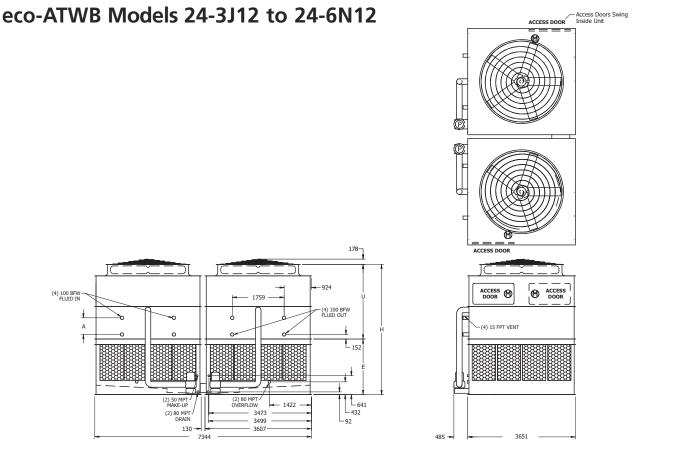
†† Heaviest section is the coil/fan section.

\* 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 (300 mm would normally be sufficient).

△ 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.







Note: The number of coil connections doubles when the flow rate exceeds 112 l/s on eco-ATWB 24x12 models. This required option is referred to as the High Flow coil configuration.

eco-ATWB		Weights (kg	1)	Fa	ans	Spray	Coil	R	emote Sur	np∆		Dimensio	ns (mm) 🔺	
Model Number†	Shipping	Heaviest Section <sup>††</sup>	Operating	kW	m³/s	Pump kW	Volume (liters)	Liters Req'd*	Conn. Size (mm)	Operating Weight (kg)	Height H	Lower E	Upper U	Coil A
eco-ATWB 24-3J12	15380	6460	23200	(2) 11	68,1	(2) 4	2359	3710	(2) 300	19610	4416	1886	2530	565
eco-ATWB 24-3K12	15430	6490	23250	(2) 15	75,0	(2) 4	2359	3710	(2) 300	19670	4416	1886	2530	565
eco-ATWB 24-3L12	15460	6500	23280	(2) 18.5	79,9	(2) 4	2359	3710	(2) 300	19690	4416	1886	2530	565
eco-ATWB 24-3M12	15500	6520	23320	(2) 22	84,1	(2) 4	2359	3710	(2) 300	19740	4416	1886	2530	565
eco-ATWB 24-4K12	18330	7930	26890	(2) 15	72,8	(2) 4	3096	3710	(2) 300	23310	4632	1886	2746	781
eco-ATWB 24-4L12	18350	7950	26920	(2) 18.5	77,6	(2) 4	3096	3710	(2) 300	23330	4632	1886	2746	781
eco-ATWB 24-4M12	18400	7970	26960	(2) 22	81,7	(2) 4	3096	3710	(2) 300	23380	4632	1886	2746	781
eco-ATWB 24-4N12	18540	8040	27110	(2) 30	88,5	(2) 4	3096	3710	(2) 300	23520	4632	1886	2746	781
eco-ATWB 24-5K12	21070	9310	30370	(2) 15	70,6	(2) 4	3834	3710	(2) 300	26790	4848	1886	2962	997
eco-ATWB 24-5L12	21100	9320	30400	(2) 18.5	75,3	(2) 4	3834	3710	(2) 300	26820	4848	1886	2962	997
eco-ATWB 24-5M12	21150	9340	30450	(2) 22	79,2	(2) 4	3834	3710	(2) 300	26860	4848	1886	2962	997
eco-ATWB 24-5N12	21290	9420	30590	(2) 30	85,9	(2) 4	3834	3710	(2) 300	27010	4848	1886	2962	997
eco-ATWB 24-6L12	24010	10780	34050	(2) 18.5	73,0	(2) 4	4572	3710	(2) 300	30460	5064	1886	3178	1213
eco-ATWB 24-6M12	24060	10800	34090	(2) 22	76,8	(2) 4	4572	3710	(2) 300	30510	5064	1886	3178	1213
eco-ATWB 24-6N12	24200	10870	34240	(2) 30	83,2	(2) 4	4572	3710	(2) 300	30650	5064	1886	3178	1213

Model Numbers 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 "R" for units with Low Sound Fan(s) and "S" for units with an option that negates CTI † certification.

Heaviest section is the coil/fan section. ††

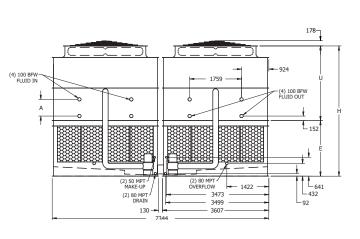
Liters shown is water in suspension in unit and piping. Allow for additional water in bottom of remote sump to cover pump suction and strainer during operation (300 mm would normally be sufficient).

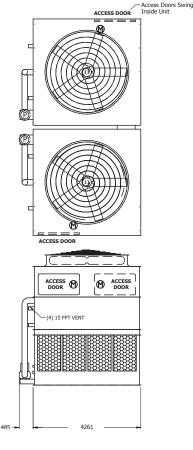
When a remote sump arrangement is selected, the spray pump, suction strainer and associated piping are omitted; the unit is provided with an Δ



eco-ATWB Models 24-3K14 to 24-6N14







Note: The number of coil connections doubles when the flow rate exceeds 112 l/s on eco-ATWB 24x14 models. This required option is referred to as the High Flow coil configuration.

eco-ATWB		Weights (kg	I)	F	ans	Spray	Coil	R	lemote Sur	np∆		Dimensio	ons (mm) 🔺	
Model Number†	Shipping	Heaviest Section <sup>††</sup>	Operating	kW	m³/s	Pump kW	Volume (liters)	Liters Req'd*	Conn. Size (mm)	Operating Weight (kg)	Height H	Lower E	Upper U	Coil A
eco-ATWB 24-3K14	17530	7380	26710	(2) 15	83,1	(2) 4	2736	4315	(2) 300	22560	4721	2191	2530	565
eco-ATWB 24-3L14	17550	7390	26730	(2) 18.5	89,3	(2) 4	2736	4315	(2) 300	22590	4721	2191	2530	565
eco-ATWB 24-3M14	17600	7410	26780	(2) 22	94,0	(2) 4	2736	4315	(2) 300	22630	4721	2191	2530	565
eco-ATWB 24-3N14	17740	7480	26930	(2) 30	101,9	(2) 4	2736	4315	(2) 300	22780	4721	2191	2530	565
eco-ATWB 24-4K14	20900	9060	30940	(2) 15	80,7	(2) 4	3599	4315	(2) 300	26800	4937	2191	2746	781
eco-ATWB 24-4L14	20930	9080	30970	(2) 18.5	86,7	(2) 4	3599	4315	(2) 300	26830	4937	2191	2746	781
eco-ATWB 24-4M14	20970	9100	31020	(2) 22	91,3	(2) 4	3599	4315	(2) 300	26870	4937	2191	2746	781
eco-ATWB 24-4N14	21120	9170	31160	(2) 30	98,9	(2) 4	3599	4315	(2) 300	27020	4937	2191	2746	781
eco-ATWB 24-5L14	24090	10660	35000	(2) 18.5	84,1	(2) 4	4462	4315	(2) 300	30850	5153	2191	2962	997
eco-ATWB 24-5M14	24140	10680	35040	(2) 22	88,5	(2) 4	4462	4315	(2) 300	30900	5153	2191	2962	997
eco-ATWB 24-5N14	24290	10750	35190	(2) 30	96,0	(2) 4	4462	4315	(2) 300	31040	5153	2191	2962	997
eco-ATWB 24-6L14	27760	12490	39530	(2) 18.5	81,5	(2) 4	5325	4315	(2) 300	35380	5369	2191	3178	1213
eco-ATWB 24-6M14	27810	12510	39570	(2) 22	85,8	(2) 4	5325	4315	(2) 300	35430	5369	2191	3178	1213
eco-ATWB 24-6N14	27950	12590	39720	(2) 30	93,0	(2) 4	5325	4315	(2) 300	35570	5369	2191	3178	1213

† Model Numbers 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 "R" for units with Low Sound Fan(s) and "S" for units with an option that negates CTI certification.

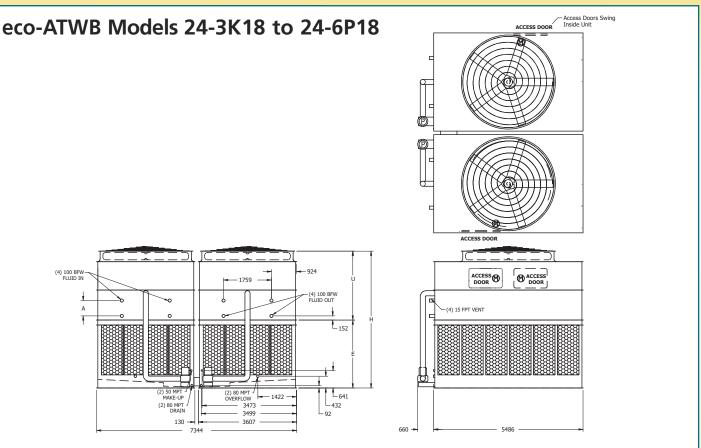
†† Heaviest section is the coil/fan section.

\* 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 (300 mm would normally be sufficient).

△ 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.







Note: The number of coil connections doubles when the flow rate exceeds 112 l/s on eco-ATWB 24x18 models. This required option is referred to as the High Flow coil configuration.

eco-ATWB		Weights (kg	)	Fa	ans	Spray	Coil	R	emote Sur	np 🛆		Dimensio	ns (mm) 🔺	
Model Number†	Shipping	Heaviest Section <sup>††</sup>	Operating	kW	m³/s	Pump kW	Volume (liters)	Liters Req'd*	Conn. Size (mm)	Operating Weight (kg)	Height H	Lower E	Upper U	Coil A
eco-ATWB 24-3K18	22040	9240	33780	(2) 15	101,6	(2) 5.5	3489	5450	(2) 300	28460	5026	2496	2530	565
eco-ATWB 24-3L18	22070	9260	33810	(2) 18.5	109,4	(2) 5.5	3489	5450	(2) 300	28490	5026	2496	2530	565
eco-ATWB 24-3M18	22120	9280	33860	(2) 22	116,3	(2) 5.5	3489	5450	(2) 300	28530	5026	2496	2530	565
eco-ATWB 24-3N18	22260	9350	34000	(2) 30	126,2	(2) 5.5	3489	5450	(2) 300	28680	5026	2496	2530	565
eco-ATWB 24-4K18	26360	11400	39220	(2) 15	98,6	(2) 5.5	4603	5450	(2) 300	33890	5242	2496	2746	781
eco-ATWB 24-4L18	26390	11420	39240	(2) 18.5	106,2	(2) 5.5	4603	5450	(2) 300	33920	5242	2496	2746	781
eco-ATWB 24-4M18	26440	11440	39290	(2) 22	112,9	(2) 5.5	4603	5450	(2) 300	33960	5242	2496	2746	781
eco-ATWB 24-4N18	26580	11510	39440	(2) 30	122,5	(2) 5.5	4603	5450	(2) 300	34110	5242	2496	2746	781
eco-ATWB 24-4018	26590	11520	39440	(2) 37	130,4	(2) 5.5	4603	5450	(2) 300	34120	5242	2496	2746	781
eco-ATWB 24-5L18	30560	13500	44520	(2) 18.5	103,0	(2) 5.5	5717	5450	(2) 300	39200	5458	2496	2962	997
eco-ATWB 24-5M18	30610	13530	44570	(2) 22	109,5	(2) 5.5	5717	5450	(2) 300	39240	5458	2496	2962	997
eco-ATWB 24-5N18	30750	13600	44720	(2) 30	118,8	(2) 5.5	5717	5450	(2) 300	39390	5458	2496	2962	997
eco-ATWB 24-5018	30760	13600	44720	(2) 37	126,5	(2) 5.5	5717	5450	(2) 300	39400	5458	2496	2962	997
eco-ATWB 24-6M18	34830	15640	49900	(2) 22	106,1	(2) 5.5	6832	5450	(2) 300	44580	5674	2496	3178	1213
eco-ATWB 24-6N18	34970	15710	50050	(2) 30	115,1	(2) 5.5	6832	5450	(2) 300	44720	5674	2496	3178	1213
eco-ATWB 24-6O18	34980	15710	50060	(2) 37	122,6	(2) 5.5	6832	5450	(2) 300	44730	5674	2496	3178	1213
eco-ATWB 24-6P18	35160	15800	50240	(2) 45	129,0	(2) 5.5	6832	5450	(2) 300	44910	5674	2496	3178	1213

† Model Numbers 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 "R" for units with Low Sound Fan(s) and "S" for units with an option that negates CTI certification.

 $\dagger\dagger$  Heaviest section is the coil/fan 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 (300 mm would normally be sufficient).

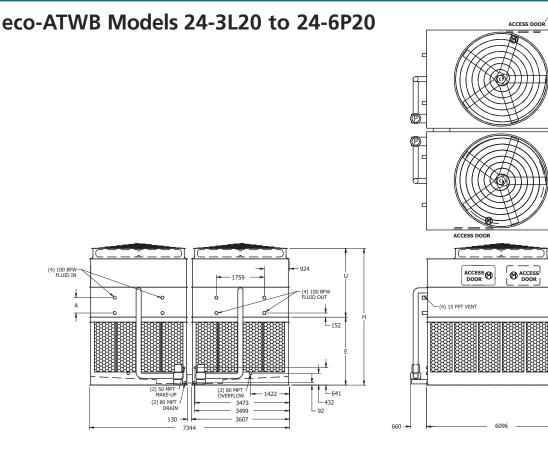
When a remote sump arrangement is selected, the spray pump, suction strainer and associated piping are omitted; the unit is provided with an oversized outlet to facilitate drainage to the remote sump.
 Unit dimensions and coil connections may year slightly from catalog. See factory cortified prints for dimensions, quantity of coil connections and coil connections.

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### ENGINEERING DATA & DIMENSIONS



- Access Doors Swing Inside Unit



Note: The number of coil connections doubles when the flow rate exceeds 112 l/s on eco-ATWB 24x20 models. This required option is referred to as the High Flow coil configuration.

eco-ATWB		Weights (kg	)	Fa	ans	Spray	Coil	R	emote Sun	np∆		Dimensio	ons (mm) 🔺	
Model Number†	Shipping	Heaviest Section <sup>††</sup>	Operating	kW	m³/s	Pump kW	Volume (liters)	Liters Req'd*	Conn. Size (mm)	Operating Weight (kg)	Height H	Lower E	Upper U	Coil A
eco-ATWB 24-3L20	24380	10140	37500	(2) 18.5	117,4	(2) 7.5	3865	6055	(2) 350	31420	5026	2496	2530	565
eco-ATWB 24-3M20	24420	10170	37550	(2) 22	124,7	(2) 7.5	3865	6055	(2) 350	31470	5026	2496	2530	565
eco-ATWB 24-3N20	24570	10240	37690	(2) 30	136,1	(2) 7.5	3865	6055	(2) 350	31620	5026	2496	2530	565
eco-ATWB 24-3O20	24580	10240	37700	(2) 37	144,9	(2) 7.5	3865	6055	(2) 350	31620	5026	2496	2530	565
eco-ATWB 24-4L20	29130	12520	43500	(2) 18.5	114,0	(2) 7.5	5105	6055	(2) 350	37420	5242	2496	2746	781
eco-ATWB 24-4M20	29180	12540	43540	(2) 22	121,1	(2) 7.5	5105	6055	(2) 350	37470	5242	2496	2746	781
eco-ATWB 24-4N20	29320	12610	43690	(2) 30	132,2	(2) 7.5	5105	6055	(2) 350	37610	5242	2496	2746	781
eco-ATWB 24-4O20	29330	12620	43700	(2) 37	140,7	(2) 7.5	5105	6055	(2) 350	37620	5242	2496	2746	781
eco-ATWB 24-5M20	33820	14860	49430	(2) 22	117,5	(2) 7.5	6345	6055	(2) 350	43350	5458	2496	2962	997
eco-ATWB 24-5N20	33960	14940	49580	(2) 30	128,2	(2) 7.5	6345	6055	(2) 350	43500	5458	2496	2962	997
eco-ATWB 24-5O20	33970	14940	49590	(2) 37	136,5	(2) 7.5	6345	6055	(2) 350	43510	5458	2496	2962	997
eco-ATWB 24-5P20	34160	15030	49770	(2) 45	143,6	(2) 7.5	6345	6055	(2) 350	43690	5458	2496	2962	997
eco-ATWB 24-6N20	39090	17500	55940	(2) 30	124,2	(2) 7.5	7585	6055	(2) 350	49860	5674	2496	3178	1213
eco-ATWB 24-6O20	39100	17500	55950	(2) 37	132,2	(2) 7.5	7585	6055	(2) 350	49870	5674	2496	3178	1213
eco-ATWB 24-6P20	39280	17590	56130	(2) 45	139,2	(2) 7.5	7585	6055	(2) 350	50050	5674	2496	3178	1213

† Model Numbers 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 "R" for units with Low Sound Fan(s) and "S" for units with an option that negates CTI certification.

†† Heaviest section is the coil/fan section.

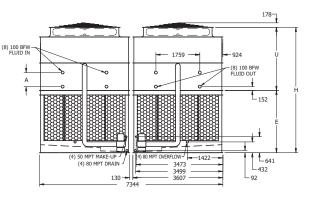
\* Liters shown is water in suspension in unit and piping. Allow for additional water in bottom of remote sump to cover pump suction and strainer during operation (300 mm would normally be sufficient).

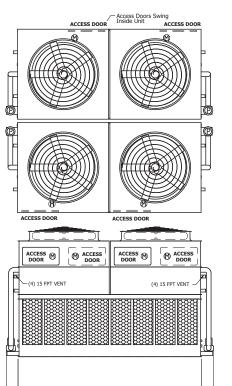
△ When a remote sump arrangement is selected, the spray pump, suction strainer and associated piping are omitted; the unit is provided with an oversized outlet to facilitate drainage to the remote sump.





### eco-ATWB Models 24-3J24 to 24-6N24





Note: The number of coil connections doubles when the flow rate exceeds 224 l/s on eco-ATWB 24x24 models. This required option is referred to as the High Flow coil configuration.

eco-ATWB		Weights (kg	)	Fa	ans	Spray	Coil	R	emote Sur	np∆		Dimensio	ns (mm) 🔺	
Model Number†	Shipping	Heaviest Section <sup>††</sup>	Operating	kW	m³/s	Pump kW	Volume (liters)	Liters Req'd*	Conn. Size (mm)	Operating Weight (kg)	Height H	Lower E	Upper U	Coil A
eco-ATWB 24-3J24	30910	6460	46560	(4) 11	136,3	(4) 4	4718	7420	(4) 300	39270	5026	2496	2530	565
eco-ATWB 24-3K24	31020	6490	46670	(4) 15	150,0	(4) 4	4718	7420	(4) 300	39380	5026	2496	2530	565
eco-ATWB 24-3L24	31070	6500	46720	(4) 18.5	159,9	(4) 4	4718	7420	(4) 300	39440	5026	2496	2530	565
eco-ATWB 24-3M24	31160	6520	46810	(4) 22	168,2	(4) 4	4718	7420	(4) 300	39530	5026	2496	2530	565
eco-ATWB 24-4J24	36700	7910	53830	(4) 11	132,3	(4) 4	6193	7420	(4) 300	46550	5242	2496	2746	781
eco-ATWB 24-4K24	36800	7930	53940	(4) 15	145,6	(4) 4	6193	7420	(4) 300	46660	5242	2496	2746	781
eco-ATWB 24-4L24	36860	7950	54000	(4) 18.5	155,2	(4) 4	6193	7420	(4) 300	46710	5242	2496	2746	781
eco-ATWB 24-4M24	36950	7970	54090	(4) 22	163,3	(4) 4	6193	7420	(4) 300	46800	5242	2496	2746	781
eco-ATWB 24-4N24	37240	8040	54380	(4) 30	177,1	(4) 4	6193	7420	(4) 300	47090	5242	2496	2746	781
eco-ATWB 24-5K24	42300	9310	60910	(4) 15	141,3	(4) 4	7668	7420	(4) 300	53620	5458	2496	2962	997
eco-ATWB 24-5L24	42360	9320	60960	(4) 18.5	150,6	(4) 4	7668	7420	(4) 300	53680	5458	2496	2962	997
eco-ATWB 24-5M24	42450	9340	61050	(4) 22	158,4	(4) 4	7668	7420	(4) 300	53770	5458	2496	2962	997
eco-ATWB 24-5N24	42740	9420	61340	(4) 30	171,7	(4) 4	7668	7420	(4) 300	54060	5458	2496	2962	997
eco-ATWB 24-6L24	48180	10780	68260	(4) 18.5	145,9	(4) 4	9143	7420	(4) 300	60970	5674	2496	3178	1213
eco-ATWB 24-6M24	48270	10800	68350	(4) 22	153,5	(4) 4	9143	7420	(4) 300	61060	5674	2496	3178	1213
eco-ATWB 24-6N24	48560	10870	68640	(4) 30	166,4	(4) 4	9143	7420	(4) 300	61350	5674	2496	3178	1213

† Model Numbers 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 "R" for units with Low Sound Fan(s) and "S" for units with an option that negates CTI certification.

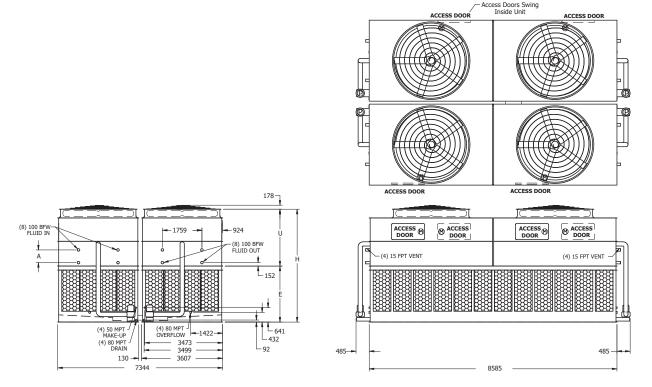
†† Heaviest section is the coil/fan section.

\* 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 (300 mm would normally be sufficient).

△ 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.



### eco-ATWB Models 24-3K28 to 24-6N28



Note: The number of coil connections doubles when the flow rate exceeds 224 l/s on eco-ATWB 24x28 models. This required option is referred to as the High Flow coil configuration.

eco-ATWB		Weights (kg	)	Fa	ans	Spray	Coil	F	lemote Sur	np 🛆		Dimensi	ons (mm) 🔺	
Model Number†	Shipping	Heaviest Section††	Operating	kW	m³/s	Pump kW	Volume (liters)	Liters Req'd*	Conn. Size (mm)	Operating Weight (kg)	Height H	Lower E	Upper U	Coil A
eco-ATWB 24-3K28	35140	7380	53570	(4) 15	166,3	(4) 4	5471	8630	(4) 300	45150	5026	2496	2530	565
eco-ATWB 24-3L28	35200	7390	53620	(4) 18.5	178,7	(4) 4	5471	8630	(4) 300	45210	5026	2496	2530	565
eco-ATWB 24-3M28	35290	7410	53710	(4) 22	188,0	(4) 4	5471	8630	(4) 300	45300	5026	2496	2530	565
eco-ATWB 24-3N28	35580	7480	54000	(4) 30	203,8	(4) 4	5471	8630	(4) 300	45590	5026	2496	2530	565
eco-ATWB 24-4K28	41890	9060	62040	(4) 15	161,4	(4) 4	7197	8630	(4) 300	53620	5242	2496	2746	781
eco-ATWB 24-4L28	41950	9080	62100	(4) 18.5	173,5	(4) 4	7197	8630	(4) 300	53680	5242	2496	2746	781
eco-ATWB 24-4M28	42040	9100	62190	(4) 22	182,6	(4) 4	7197	8630	(4) 300	53770	5242	2496	2746	781
eco-ATWB 24-4N28	42330	9170	62480	(4) 30	197,9	(4) 4	7197	8630	(4) 300	54060	5242	2496	2746	781
eco-ATWB 24-5L28	48280	10660	70150	(4) 18.5	168,3	(4) 4	8924	8630	(4) 300	61730	5458	2496	2962	997
eco-ATWB 24-5M28	48370	10680	70240	(4) 22	177,1	(4) 4	8924	8630	(4) 300	61820	5458	2496	2962	997
eco-ATWB 24-5N28	48660	10750	70530	(4) 30	191,9	(4) 4	8924	8630	(4) 300	62110	5458	2496	2962	997
eco-ATWB 24-6L28	55610	12490	79210	(4) 18.5	163,1	(4) 4	10650	8630	(4) 300	70790	5674	2496	3178	1213
eco-ATWB 24-6M28	55700	12510	79300	(4) 22	171,6	(4) 4	10650	8630	(4) 300	70880	5674	2496	3178	1213
eco-ATWB 24-6N28	55990	12590	79590	(4) 30	186,0	(4) 4	10650	8630	(4) 300	71170	5674	2496	3178	1213

† Model Numbers 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 "R" for units with Low Sound Fan(s) and "S" for units with an option that negates CTI certification.

†† Heaviest section is the coil/fan section.

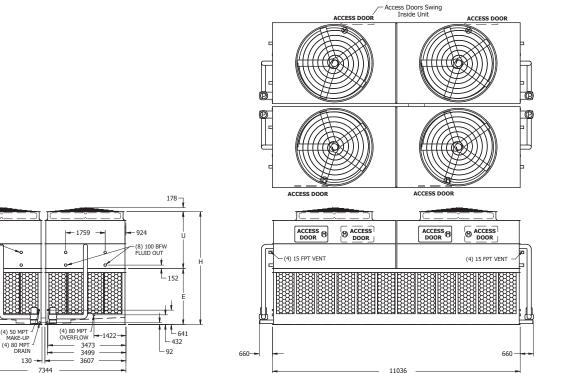
\* Liters shown is water in suspension in unit and piping. Allow for additional water in bottom of remote sump to cover pump suction and strainer during operation (300 mm would normally be sufficient).

△ 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.





### eco-ATWB Models 24-3K36 to 24-6P36



Note: The number of coil connections doubles when the flow rate exceeds 224 l/s on eco-ATWB 24x36 models. This required option is referred to as the High Flow coil configuration.

eco-ATWB		Weights (kg	1)	Fa	ans	Spray	Coil	F	Remote Sur	mp∆		Dimensio	ons (mm) 🔺	
Model Number†	Shipping	Heaviest Section <sup>††</sup>	Operating	kW	m³/s	Pump kW	Volume (liters)	Liters Req'd*	Conn. Size (mm)	Operating Weight (kg)	Height H	Lower E	Upper U	Coil A
eco-ATWB 24-3K36	44360	9240	67930	(4) 15	196,8	(4) 5.5	6978	10900	(4) 300	57140	5026	2496	2530	565
eco-ATWB 24-3L36	44420	9260	67980	(4) 18.5	212,0	(4) 5.5	6978	10900	(4) 300	57200	5026	2496	2530	565
eco-ATWB 24-3M36	44510	9280	68080	(4) 22	225,3	(4) 5.5	6978	10900	(4) 300	57290	5026	2496	2530	565
eco-ATWB 24-3N36	44800	9350	68370	(4) 30	244,5	(4) 5.5	6978	10900	(4) 300	57580	5026	2496	2530	565
eco-ATWB 24-4K36	53000	11400	78800	(4) 15	191,1	(4) 5.5	9206	10900	(4) 300	68010	5242	2496	2746	781
eco-ATWB 24-4L36	53050	11420	78850	(4) 18.5	205,9	(4) 5.5	9206	10900	(4) 300	68070	5242	2496	2746	781
eco-ATWB 24-4M36	53140	11440	78940	(4) 22	218,8	(4) 5.5	9206	10900	(4) 300	68160	5242	2496	2746	781
eco-ATWB 24-4N36	53430	11510	79230	(4) 30	237,4	(4) 5.5	9206	10900	(4) 300	68450	5242	2496	2746	781
eco-ATWB 24-5L36	61400	13500	89410	(4) 18.5	199,7	(4) 5.5	11435	10900	(4) 300	78630	5458	2496	2962	997
eco-ATWB 24-5M36	61490	13530	89500	(4) 22	212,2	(4) 5.5	11435	10900	(4) 300	78720	5458	2496	2962	997
eco-ATWB 24-5N36	61780	13600	89790	(4) 30	230,3	(4) 5.5	11435	10900	(4) 300	79010	5458	2496	2962	997
eco-ATWB 24-5O36	61800	13600	89810	(4) 37	245,1	(4) 5.5	11435	10900	(4) 300	79020	5458	2496	2962	997
eco-ATWB 24-6M36	69930	15640	100170	(4) 22	205,6	(4) 5.5	13663	10900	(4) 300	89380	5674	2496	3178	1213
eco-ATWB 24-6N36	70220	15710	100460	(4) 30	223,2	(4) 5.5	13663	10900	(4) 300	89680	5674	2496	3178	1213
eco-ATWB24-6O36	70230	15710	100480	(4) 37	237,6	(4) 5.5	13663	10900	(4) 300	89690	5674	2496	3178	1213
eco-ATWB 24-6P36	70600	15800	100840	(4) 45	250,0	(4) 5.5	13663	10900	(4) 300	90060	5674	2496	3178	1213

Model Numbers 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 "R" for units with Low Sound Fan(s) and "S" for units with an option that negates CTI certification.

Heaviest section is the coil/fan 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 (300 mm would normally be sufficient).

When a remote sump arrangement is selected, the spray pump, suction strainer and associated piping are omitted; the unit is provided with an  $\triangle$ 

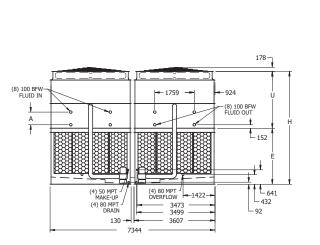
oversized outlet to facilitate drainage to the remote sump. Unit dimensions and coil connections may vary slightly from catalog. See factory certified prints for dimensions, quantity of coil connections, and piping configuration. Coil connections are 4" bevel for weld (BFW). Other connection types such as grooved for mechanical coupling or flanged are also available as options.

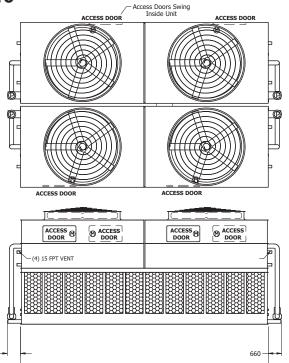
(8) 100 BFW FLUID IN

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### eco-ATWB Models 24-3L40 to 24-6P40





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Note: The number of coil connections doubles when the flow rate exceeds 224 l/s on eco-ATWB 24x40 models. This required option is referred to as the High Flow coil configuration.

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eco-ATWB		Weights (kg	ı)	Fa	ans	Spray	Coil	R	emote Sun	np $ riangle$		Dimensio	ons (mm) 🔺	
Model Number†	Shipping	Heaviest Section††	Operating	kW	m³/s	Pump kW	Volume (liters)	Liters Req'd*	Conn. Size (mm)	Operating Weight (kg)	Height H	Lower E	Upper U	Coil A
eco-ATWB 24-3L40	48800	10140	75130	(4) 18.5	234,7	(4) 7.5	7731	12115	(4) 350	62840	5026	2496	2530	565
eco-ATWB 24-3M40	48890	10170	75220	(4) 22	249,4	(4) 7.5	7731	12115	(4) 350	62930	5026	2496	2530	565
eco-ATWB 24-3N40	49180	10240	75510	(4) 30	272,2	(4) 7.5	7731	12115	(4) 350	63220	5026	2496	2530	565
eco-ATWB 24-3O40	49200	10240	75530	(4) 37	289,8	(4) 7.5	7731	12115	(4) 350	63240	5026	2496	2530	565
eco-ATWB 24-4L40	58300	12520	87130	(4) 18.5	227,9	(4) 7.5	10210	12115	(4) 350	74830	5242	2496	2746	781
eco-ATWB 24-4M40	58400	12540	87220	(4) 22	242,2	(4) 7.5	10210	12115	(4) 350	74920	5242	2496	2746	781
eco-ATWB 24-4N40	58690	12610	87510	(4) 30	264,3	(4) 7.5	10210	12115	(4) 350	75210	5242	2496	2746	781
eco-ATWB 24-4O40	58700	12620	87530	(4) 37	281,4	(4) 7.5	10210	12115	(4) 350	75230	5242	2496	2746	781
eco-ATWB 24-5M40	67690	14860	98990	(4) 22	234,9	(4) 7.5	12690	12115	(4) 350	86700	5458	2496	2962	997
eco-ATWB 24-5N40	67980	14940	99280	(4) 30	256,4	(4) 7.5	12690	12115	(4) 350	86990	5458	2496	2962	997
eco-ATWB 24-5O40	67990	14940	99300	(4) 37	272,9	(4) 7.5	12690	12115	(4) 350	87010	5458	2496	2962	997
eco-ATWB 24-5P40	68360	15030	99660	(4) 45	287,2	(4) 7.5	12690	12115	(4) 350	87370	5458	2496	2962	997
eco-ATWB 24-6N40	78230	17500	112000	(4) 30	248,5	(4) 7.5	15170	12115	(4) 350	99710	5674	2496	3178	1213
eco-ATWB 24-6O40	78240	17500	112020	(4) 37	264,5	(4) 7.5	15170	12115	(4) 350	99730	5674	2496	3178	1213
eco-ATWB 24-6P40	78610	17590	112380	(4) 45	278,3	(4) 7.5	15170	12115	(4) 350	100090	5674	2496	3178	1213

Model Numbers 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 "R" for units with Low Sound Fan(s) and "S" for units with an option that negates CTI certification.

Heaviest section is the coil/fan 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 (300 mm would normally be sufficient).

When a remote sump arrangement is selected, the spray pump, suction strainer and associated piping are omitted; the unit is provided with an  $\triangle$ 



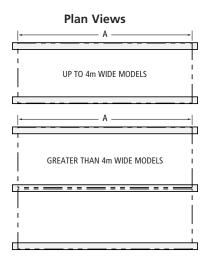
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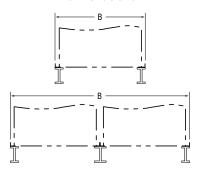
ENGINEERING

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. The unit should be elevated to allow access underneath the unit and to the roof below. Mounting holes 19 mm in diameter are located in the bottom flanges 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 before setting the unit in place. Do not level the unit by shimming between the unit and the structural steel. Dimensions weights and data are subject to change without notice. Refer to the factory certified drawings for exact dimensions.



End Elevations



### RECOMMENDED STEEL SUPPORT

SUPPORTIN	IG STEEL DIMENS	IONS
eco-ATWB	A	В
3-2C3 to 3-5D3	908	927
4-2E4 to 4-5F4	1213	1232
4-3E6 to 4-5G6	1822	1232
4-3E9 to 4-5F9	2731	1232
4-3E12 to 4-5G12	3651	1232
	A	В
9-3G8 to 9-6J8	2578	2283
8-3G9 to 8-6K9	2731	2388
8-3H11 to 8-6K11	3188	2388
8-3H12 to 8-6L12	3651	2388
8-3114 to 8-6M14	4261	2388
8-3G18 to 8-6K18	5486	2388
8-3H21 to 8-6K21	6401	2388
8-3H24 to 8-6L24	7366	2388
8-3128 to 8-6M28	8586	2388
8-3H36 to 8-6K36	11036	2388
8-3H42 to 8-6K42	12866	2388
0-31142 10 0-0142	A	B
16-3H11 to 16-6K11	3188	4906
16-3H12 to 16-6L12 16-3I14 to 16-6M14	3651	4906
10-3114 10 10-01/114	4261	4906
10 2112 to 10 CM12	A	B
10-3112 to 10-6M12	3651	2991
10-3118 to 10-6N18	5486	2991
10-3I24 to 10-6M24	7366	2991
10-3I36 to 10-6N36	11036	2991
20.242 / 20.6142	A	B
20-3I12 to 20-6M12	3651	6112
20-3I18 to 20-6N18	5486	6112
20-3I24 to 20-6M24	7366	6112
20-3I36 to 20-6N36	11036	6112
	A	В
12-3J12 to 12-6N12	3651	3607
12-3K14 to 12-6N14	4261	3607
12-3K18 to 12-6P18	5486	3607
12-3L20 to 12-6P20	6096	3607
12-3J24 to 12-6N24	7366	3607
12-3K28 to 12-6N28	8585	3607
12-3K36 to 12-6P36	11036	3607
12-3L40 to 12-6P40	12256	3607
	A	В
24-3J12 to 24-6N12	3651	7344
24-3K14 to 24-6N14	4261	7344
24-3K18 to 24-6P18	5486	7344
24-3L20 to 24-6P20	6096	7344
24-3J24 to 24-6N24	7366	7344
24-3K28 to 24-6N28	8585	7344
	1	i i i i i i i i i i i i i i i i i i i
24-3K36 to 24-6P36	11036	7344

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### **S**PECIFICATIONS

### FACTORY FABRICATED INDUCED DRAFT eco-ATWB CLOSED CIRCUIT COOLER

#### General

Furnish and install factory assembled closed circuit cooler of induced draft counterflow design with a horizontal multiple side air entry and a vertical air discharge.

The unit shall be completely factory assembled and conform to the specifications and schedules.

The closed circuit cooler shall be CTI certified and have the capacity to cool \_\_\_\_\_ l/s water / glycol from \_\_\_\_\_ °C to \_\_\_\_\_ °C with a \_\_\_\_\_ °C entering wet bulb temperature and a dry bulb switchover temperature of \_\_\_\_\_\_ °C.

**Optional:** (If dry operating conditions are different than the wet operating conditions)

Each unit shall also cool \_\_\_\_\_l/s of\_\_\_\_\_ from \_\_\_\_\_ °C to \_\_\_\_\_ °C with a \_\_\_\_\_ °C entering dry bulb temperature.

The total fan power should not exceed  $\_\__kW$ . The total pump power should not exceed  $\_\__kW$ .

The total overall unit dimensions should not exceed the following:

Length: \_\_\_\_\_ mm Width: \_\_\_\_\_ mm Height: \_\_\_\_\_ mm

The maximum operating weight should not exceed \_\_\_\_\_ kg.

The unit will be delivered in two parts: the bottom basin louver section and the heat transfer - fan section. The unit (top and bottom section) shall be joined together with elastic sealer and bolted together with corrosion resistant fasteners.

Approved manufacturer Evapco – model eco-ATWB \_\_\_\_

#### Thermal Performance – Performance Warranty

The cooler shall be capable of performing the thermal duties as shown in the schedule and on the drawings, and its design thermal rating shall be certified by the Cooling Technology Institute (C.T.I.) and the Eurovent Certification Company (ECC). Only models with performance certified by CTI and ECC will be approved.

Manufacturers' performance guarantee without ECC-CTI certification for the proposed model or an independent field performance test shall not be accepted.

#### Applicable Standards

- a) CTI ATC 128 Test Code for Measurement of Sound from Water Cooling Towers
- b) CTI STD 201 Standard for Thermal Performance
- Certification of Evaporative Heat Rejection Equipment. c) Eurovent Rating Standard for Cooling Towers

#### Submittals

- a) Shop drawings: submit shop drawings indicating
- dimensions, weight loadings and required clearances.
  b) Product data: submit manufacturers technical product data, original selection printouts and clearance requirements.
- c) Complete noise data sheet for the selected closed circuit cooler(s).
- d) Maintenance data for the closed circuit cooler(s) and
- e) The manufacturer shall provide factory test run certificates of the fans and fan motor.

#### Product Delivery – Storage and Handling

- a) The contractor shall make the provisions for proper storage at site before installation and handle the product per the instructions of the manufacturer.
- b) Once installed provide the necessary measures to keep units clean and protected from any dust and mechanical damage.

#### **Quality Assurance**

- a) The manufacturer shall have a quality assurance system in place which is certified by an accredited registrar and complying with the requirements of ISO 9001. This is to guarantee a consistant level of product and service guality.
- b) Manufacturers without ISO 9001 certification are not acceptable.

#### Warranty

 a) The products will be warranted for a period of minimum two years from the date of shipment.

#### PRODUCT Construction – Corrosion Resistance

- a) The structure and all steel elements of the pan and casing shall be constructed of Z 725 hot dip galvanized steel for long life and durability. Alternatives with lower zinc layer thickness and external paint or coating are not
- zinc layer thickness and external paint or coating are not accepted as equal. b) The strainer shall be made of stainless steel type 304.
- c) During fabrication all panel edges shall be coated with a 95% pure zinc compound.
- d) Casing materials shall be of non flammable construction only.

#### **OPTIONAL EXECUTION – BASIN IN AISI 304**

- Construction Corrosion Resistance
   a) The structure and all steel elements of the Basin and Louver section up to the water level shall be made of stainless steel AISI 304.
- b) Alternatives with hot dip galvanized steel and epoxy coatings in lieu of the stainless steel AISI 304 are not considered to be equal and are not accepted.
- c) All other steel components of the casing shall be constructed of Z 725 hot dip galvanized steel for long life and durability. Alternatives with lower zinc layer thickness and external paint or coating or FRP materials are not accepted as equal.
- d) The strainer shall be made of stainless steel AISI 304.
- e) During fabrication all galvanized steel panel edges shall be coated with a 95% pure zinc compound.
- f) Casing materials shall be of non flammable construction only.

### **OPTIONAL EXECUTION – COMPLETE UNIT IN**

STAINLESS STEEL AISI 304 (except heat exchange coil(s)) Construction – Corrosion Resistance

- a) The structure and all steel elements shall be made of
- Alsi 304.
- b) Alternatives with hot dip galvanized steel and epoxy coatings in lieu of the AISI 304 are not considered to be equal and are not accepted.
- c) The strainer shall be made of stainless steel AISI 304.
- d) Casing materials shall be of non flammable construction only

#### **Closed Circuit Cooler Basin**

- a) Standard basin accessories include: overflow, drain, strainer and brass make up valve with plastic float ball.
- b) The strainer shall be made of AISI 304.
- c) The entire pan area shall incorporate a sloped and stepped basin design to prevent sediment built up, biological film and standing water.
- d) Upper and lower basin bottoms shall be sloped to provide drainage of the complete basin section.
- e) The basin can be inspected while the unit is in operation with the fan(s) and pump(s) running.

#### **Air Inlet Louvers**

- a) The air inlet louvers shall be constructed of UV inhibited polyvinyl chloride (PVC), mounted in easily removable frames for easy access to the basin.
- b) The louvers shall be at four sides to provide easy access to the basin interior.
- c) The louvers shall have a minimum of two changes in air direction to prevent splash out and block direct sunlight from entering the basin.

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d) The louvers will have a 19 mm opening to prevent debris from entering the basin.

#### Casing Section

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#### Heat Transfer Coil

- a) The closed circuit cooler shall use internally enhanced heat exchange coils of an elliptical tube design to obtain lower air flow resistance and allow higher water loadings around the tubes. Each row of the heat exchanger coil shall be provided with elliptical spiral fins to increase the
- evaporative and dry thermal performance of the unit. b) The heat transfer coil(s) shall be made of all prime surface, encased in a steel framework and hot dip galvanized after fabrication as a complete assembly.
- c) The tubes shall be arranged in a self spacing, staggered pattern in the direction of air flow for maximum heat transfer efficiency and minimum pressure drop.
- d) The heat exchange coils shall be air pressure tested under water.
- e) The design and manufacturing process shall be approved and in accordance with the "Pressure Equipment Directive " – PED 97 / 23 EC.
- The manufacturer shall be responsible for the f) manufacturing and performance testing of the entire heat transfer coil. This is to assure single source responsibility
- g) The casing shall totally encase the complete coil section to protect the complete coil from direct atmospheric contact.
- h) The pressure drop of the process fluid through the coil shall not exceed \_\_\_\_\_kPa.

#### Water Distribution

- a) The water distribution system shall be completely enclosed and protected from sunlight exposure, environmental elements and debris. Water distribution systems with direct exposure to the environment are not allowed.
- b) The spray header and branches shall be constructed of Schedule 40, Polyvinyl Chloride (PVC) pipe for corrosion resistance.
- c) The water shall be distributed over the coil by precision molded ZM spray nozzles with large minimum orifice
- openings and integral sludge ring to eliminate clogging. d) The nozzles shall be threaded into the water distribution piping to assure positive positioning and easy removal for maintenance. Snap in or strapped on nozzles are not accepted.

#### Water Circulation Pump

- a) The pump(s) shall be a close coupled , centrifugal type with mechanical seal , installed vertically at the factory A \_\_\_\_\_ kW totally enclosed motor(s) suitable for outdoor
- **b)** A service shall be furnished.
- The motor shall be suitable for the following power **c**) \_volts, \_\_\_\_hertz and \_\_\_\_ phase and \_ kW. supply:

#### **Drift Eliminators**

- a) The drift eliminators shall be constructed of entirely inert polyvinyl (PVC) that has been specially treated to resist ultra violet light.
- b) Assembled in easily handled sections, the eliminator blades shall be spaced on 25 mm centers and shall incorporate three changes in air direction to assure efficient removal of entrained moisture from the discharge air stream.
- The maximum drift rate shall not exceed 0,001 % of the circulating water rate.

#### Access Door

a) A large hinged access door shall provide access to the fan section for maintenance.

#### **Mechanical Equipment**

#### Axial Propeller Fan(s) (Standard)

 a) Fan shall be heavy duty wide chord axial propeller type, statically balanced and constructed of extruded aluminum alloy blades.

### **SPECIFICATIONS**

- b) Fans shall be installed in a closely fitted cowl with
- venturi air inlet for maximum fan efficiency. The fans shall utilize a soft connect blade to hub design, c) compatible with variable speed drives, to avoid transmission of vertical forces to the unit structure.
- Each fan blade shall be individually adjustable. d)
- e) The fan cowl shall be covered with a heavy gauge hot
- dip galvanized steel wire fan guard. The fan drive system (fan drive motor) shall be factory mounted, adjusted and undergo a trial run in the f) factory before shipment.

#### Axial Propeller Fan(s) - Low Sound Fan (Alternative)

- a) Fan shall be heavy duty wide chord axial propeller type, statically balanced and constructed of extruded aluminum alloy blades.
- b) Fans shall be installed in a closely fitted cowl with venturi air inlet for maximum fan efficiency.
- c) The fans shall utilize a soft connect blade to hub design, compatible with variable speed drives, to avoid transmission of vertical forces to the unit structure.
- d) Each fan blade shall be individually adjustable.
- The fan cowl shall be covered with a heavy gauge hot e) dip galvanized steel wire fan guard.
- The fan drive system (fan drive motor) shall be factory mounted, adjusted and undergo a trial run in the f) factory before shipment.

## Axial Propoller Fan(s) - Super Low Sound Fan (Alternative) a) Fan shall be extremely wide chord axial, one piece heavy

- duty propeller type, statically balanced and made of FRP.
- b) Fans will be installed in a closely fitted cowl with venturi air inlet for maximum fan efficiency.
- The fan cowl shall be covered with a heavy gauge hot c) dip galvanized steel wire fan guard. The fan – drive system (fan – drive – motor) shall be
- d) factory mounted, adjusted and undergo a trial run in the factory before shipment.
- The fans are high efficiency and operate with no loss of e) thermal performance

#### **Bearings and Drive**

- a) The fan shaft (s) shall be supported by heavy duty, self aligning ball type bearings with cast iron housings. The bearings shall be rated for an L-10 life of 75000
- hours.
- The fan drive sheaves shall be aluminum alloy.
- d) The belt shall be a multigroove belt system, constructed of neoprene with polyester cords and designed for 150% of the motor nameplate horsepower.
- e) The grease fittings shall be extended to a location just inside the access door.

### Motor (0.9, 1.2, 2.4 and 4.8 meter wide Models) a) The fan motor shall be Totally Enclosed Fan Cooled

- (TEFC), squirrel cage, ball bearing tribused ran cooled The motor shall be specially designed for cooling tower use with moisture protection on the winding, shaft and bearings. The motor shall be minimum IP 55 degree of protection,
- **c**) Class F insulation, Service Factor 1 and selected for the appropriate cooling tower duty and the correct ambient temperature but minimum 40°C.
- d) Motors bearings shall be double sealed non-relubricable or external grease nipples shall be provided.
- e) The motor shall be mounted on an adjustable heavy duty steel motor base.
- A hinged protective cover shall shield the motor and f) sheave from the weather.
- g) The motor power supply shall be \_\_\_\_\_ volts, \_\_\_\_ hertz and \_ \_ phase.

#### Motor (3, 3.6, 6 and 7.3 meter wide Models)

- The fan motor shall be Totally Enclosed Air Over (TEAO), a) squirrel cage, ball bearing type motor.
- The motor shall be specially designed for cooling tower b) use with moisture protection on the windings, shaft and bearings.

### **S**PECIFICATIONS

- c) The motor shall be minimum IP 55 degree of protection, Class F insulation, Service Factor 1 and selected for the appropriate cooling tower duty and the correct ambient temperature but minimum 40°C.
- Motor bearings shall be double sealed non-relubricable or external grease nipples shall be provided. d)
- The motor shall be mounted on an adjustable heavy e) duty steel motor base. The motor base shall be able to swing to the outside of
- f) the unit for repair or removal.
- g) The motor power supply shall be \_\_\_\_ volts, \_\_\_\_ hertz and \_ \_ phase.

#### Sound Levels

#### Sound Level

The maximum sound pressure levels (dB) measured 1.5 m 45° from the top of the closed circuit cooler operating at full fan speed shall not exceed the sound levels detailed below.

Location	63	125	250	500	1000	2000	4000	8000	dB(A)
	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	
Fan discharge									
Air inlet /en	nd								

#### ACCESSORIES (Optional)

#### **Electric Heaters**

- a) The closed circuit cooler cold water basin shall be provided with an electric heater package to prevent freezing of the water in the cold water basin, when the pump is shut down.
- b) The electric heater package includes: electric heater element(s), thermostat and low water level cutoff. The heaters shall be selected to maintain 4 °C basin c)
- \_°C ambient \_V / \_\_\_\_ phas water temperature at \_\_\_\_ d) The heater(s) shall be \_ phase / \_\_\_ Hz
- electric power supply.

#### Three Probe Electric Water Level Control Package

- a) The closed circuit cooler manufacturer shall provide an electric water level control package instead of the mechanical float valve arrangement.
- b) The package consist of the following elements : Multiple heavy duty stainless steel 316 static sensors mounted in a stilling chamber outside the unit. Electrodes or sensors mounted inside the unit are not accepted as their operation will be disturbed by the moving water in the basin.
  - An ABS, IP 56 case contains all the contactors for the different level probes and will provide an output signal of a relay for automatic filling and one relay for alarm level.
  - The power supply to the control package is 24 Vac / 230 Vac -Hz.
  - A weather protected solenoid valve (PN16) for the water make up ready for piping to a water supply with pressure between 140 kPa and 340 kPa.

#### Vibration Switch

- a) A vibration limit switch shall be installed on the mechanical equipment support and wired into the control panel. The purpose of this switch is to interrupt power to the motor in the event of excessive vibration.
- b) The switch shall be adjustable for sensitivity and shall require manual reset.

#### Vertical Access Ladders

- a) A vertical ladder with safety cage which provide easy access to the water distribution system and drive components shall be provided with the closed circuit cooler(s).
- The ladder will be completed with a safety cage for b) safety purposes.
- c) Ladder safety cage shall meet OSHA CE BS requirements.

#### Service Platform

- a) The closed circuit cooler shall be supplied with an external service platform.
- The external service platform will be self supporting and include access ladders to the platform.
- The external service platform will be installed in front of
- the fan access doors. d) The platform shall meet OSHA CE BS requirements. Motor Davit
- a) The closed circuit cooler shall be supplied with a motor davit to facilitate the removal of fan motor(s) and fan(s). The davit and braket are constructed of aluminum and
- are mounted on the side of the unit.
- c) The fan motor davit ships loose with the unit and is installed in the field.

#### Water Silencer

- a) The water silencers are located in the falling water area of the cold water basin.
- b) The water silencers will reduce the overall sound levels 4 dB (A) to 7 dB (A) measured at 1.5 m from the side or end of the unit, when the fans are running, and 9 dB (A) to 12 dB (A) when fans are off.
- c) The water silencers are constructed of lightweight PVC sections and can be easily removed for access to the basin area.
- d) The water silencers will have no impact on the unit's thermal performance.

#### **Control panel**

The unit(s) shall be provided with a control panel which operates by measuring and analyzing water inlet and outlet temperature simultaneous with ambient dry bulb monitoring in order to minimize the evaporative cooling mode of operation and to save system water. The control panel can also be programmed to operate with a water savings or energy savings priority.

The system will include:

- A MODBUS 485\* Port for the Building Automation System
- Programmable Logic Control
- Fluid Inlet Temperature Sensor(s) Fluid Outlet Temperature Sensor(s)
- Basin Temperature Sensor(s)
- Ambient Dry Bulb Sensor(s)
- Variable frequency drive(s) For Fan Motor(s)
- Recirculating Pump Motor Starter(s).
- Main Disconnect
- Manual Bypass
- DC power supply for the PLC and instrumentation.
- Heater Package Controls w/ Contactor with Overload Protection
  - **Control Power Transformer**
- Electronic Water Level Control Package

# CCO-ATTMB

Notes:





Notes:



#### EVAPCO, Inc. - World Headquarters & Research / Development Center

P.O. Box 1300 • Westminster, MD 21158 USA Ph: +1 410-756-2600 • Fx: +1 410-756-6450 • marketing@evapco.com

#### **North America**

EVAPCO, Inc. World Headquarters P.O. Box 1300 Westminster, MD 21158 USA Ph: 410-756-2600 - Fx: 410-756-6450 marketing@evapco.com

#### EVAPCO East

5151 Allendale Lane Taneytown, MD 21787 USA Ph: 410-756-2600 - Fx: 410-756-6450 marketing@evapco.com

**EVAPCO Midwest** 1723 York Road Greenup, IL 62428 USA Ph: 217-923-3431 - Fx: 217-923-3300 evapcomw@evapcomw.com

**EVAPCO West** 1900 West Almond Avenue Madera, CA 93637 USA Ph: 559-673-2207 - Fx: 559-673-2378 contact@evapcowest.com

**EVAPCO** lowa 925 Quality Drive Lake View, IA 51450 USA Ph: 712-657-3223 - Fx: 712-657-3226

**EVAPCO** lowa Sales & Engineering 215 1st Street, NE P.O. Box 88 Medford, MN 55049 USA Ph: 507-446-8005 - Fx: 507-446-8239 evapcomn@evapcomn.com

**EVAPCO** Newton 701 East Jourdan Street Newton, IL 62448 USA Ph: 618-783-3433 - Ex: 618-783-3499 evapcomw@evapcomw.com

EVAPCOLD 521 Evapco Drive Greenup, IL 62428 USA Ph: 217-923-3431

evapcomw@evapcomw.com EVAPCO-BLCT Dry Cooling, Inc. 981 US Highway 22 West Bridgewater, NJ 08807 USA Ph: 1-908-379-2665

#### info@evapco-blct.com **Refrigeration Valves &** Systems Corporation

A wholly owned subsidiary of EVAPCO, Inc. 1520 Crosswind Dr. Bryan, TX 77808 USA Ph: 979-778-0095 - Fx: 979-778-0030

rvs@rvscorp.com **Evapco Northwest** 5775 S.W. Jean Road, Suite 104 Lake Oswego, OR 97035 USA Ph: 503-639-2137 - Fx: 503-639-1800

EvapTech, Inc. A wholly owned subsidiary of EVAPCO, Inc. 8331 Nieman Road Lenexa, KS 66214 USA Ph: 913-322-5165 - Fx: 913-322-5166 marketing@evaptechinc.com

Tower Components, Inc. A wholly owned subsidiary of EVAPCO, Inc. 5960 ÚS HWY 64E Ramseur, NC 27316 Ph: 336-824-2102 - Fx: 336-824-2190 mail@towercomponentsinc.com

#### **South America**

EVAPCO SEMCO Equipamentos de Refrigeração Ltda Rua Alexandre Dumas 1601 - 2 andar 04717-004 Sao Paulo - SP - Brazil Ph: (55) 11-5184-0067

### Europe

EVAPCO Europe BVBA **European Headquarters** Heersterveldweg 19, Industrieterrein Oost 3700 Tongeren, Belgium Ph: (32) 12-395029 -Fx: (32) 12-238527 evapco.europe@evapco.be

Via Ciro Menotti 10 I-20017 Passirana di Rho, Milan, Italy evapcoeurope@evapco.it

EVAPCO Europe, S.r.l. Via Dosso 2 23020 Piateda Sondrio, Italy

EVAPCO Europe, GmbH Insterburger Straße, 18 D-40670 Meerbusch, Germany Ph: (49) 2159-69560 - Fx: (49) 2159-695611 info@evapco.de

#### Flex Coil a/s

A wholly owned subsidiary of EVAPCO. Inc. Knøsgårdvej 115 9440 Aabybro, Denmark Ph: (45) 9824-4999 - Fx: (45) 9824-4990 flexcoil@flexcoil.dk

EVAPCO S.A. (Pty.) Ltd.

A licensed manufacturer of Evapco, Inc. 18 Quality Road Isando 1600, Republic of South Africa Ph: (27) 11 392-6630 - Fx: (27) 11-392-6615 evapco@evapco.co.za

Evap Egypt Engineering Industries Co. A licensed manufacturer of Evapco. Inc. 5 Al Nasr Road St. Nasr City, Cairo, Egypt Ph: (20) 2-24022866 / (20) 2-24044997/8 Fx: (20) 2-404-4667/ Mob: (20) 12-3917979

#### Asia/Pacífic

#### EVAPCO China Asia/Pacific Headquarters

1159 Luoning Rd. Baoshan Industrial Zone Shanghai, P. R. China, Postal Code: 200949 Ph: (86) 21-6687-7786 - Fx: (86) 21-6687-7008 marketing@evapcochina.com

#### Evapco (Shanghai) Refrigeration Equipment Co., Ltd.

1159 Louning Rd., Baoshan Industrial Zone Shanghai, P.R. China, Postal Code: 200949 Ph: (86) 21-6687-7786 - Fx: (86) 21-6687-7008 marketing@evapcochina.com

#### **Beijing EVAPCO Refrigeration**

Equipment Co., Ltd. Yan Qi Industrial Development District Huai Rou County Beijing, P.R. China, Postal Code: 101407 Ph: (86) 10 6166-7238 - Fx: (86) 10 6166-7395 evapcobj@evapcochina.com

#### EVAPCO Australia Pty Ltd.

34-42 Melbourne Road - P.O. Box 436 Riverstone, N.S.W. Australia 2765 Ph: (61) 29 627-3322 - Fx: (61) 29 627-1715 sales@evapco.com.au

EvapTech Composites Sdn. Bhd

No. 70 (Lot 1289) Jalan Industri 2/3 Rawang Integrated Industrial Park Rawang, Selangor, 48000 Malaysia Ph: 60 3 6092-2209 - Fx: 60 3 6092-2210

#### EvapTech Asia Pacific Sdn. Bhd

A wholly owned subsidiary of EvapTech, Inc. IOI Business Park, 2/F Unit 20 Persiaran Puchong Jaya Selatan Bandar Puchong Jaya, 47170 Puchong, Selangor, Malaysia Ph: +(60-3) 8070 7255 - Fx: +(60-3) 8070 5731 marketing-ap@evaptech.com



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©2013 EVAPCO Europe Bulletin 230-E Metric 0616 primacool@link.net / shady@primacool.net

EVAPCO Europe, S.r.l. Ph: (39) 02-939-9041- Fx: (39) 02-935-00840