



# Rigging and Assembly Instructions

## ATC-DC Condenser eco-ATWB-H Closed Circuit Cooler

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## Method of Shipment

The ATC-DC and eco-ATWB-H induced draft coil products are shipped in three sections. These sections consist of the fan section, the coil section and the basin section. These sections have mating flanges and will join together in a waterproof joint when sealed and bolted together as described in the following instructions. Miscellaneous items, such as sealer, self-tapping screws and any other required materials, are packaged and placed inside the pan for shipment. For units consisting of multiple cells, drip channels and splash guards will ship loose in the basin for field installation. For 8.5' wide units, the motors and drives are factory aligned and then shipped loose inside the basin section for mounting during installation. Refer to the "External Motor Installation" section in this bulletin.

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**NOTE:** All casing sections are factory inspected prior to shipment to verify proper fit for rigging. Please take extra care to handle and rig unit section per the instructions of this manual to avoid possible distortion and poor casing alignment. It is advisable to check each section upon receipt and during each lift to ensure that the factory alignment has not been altered. Should the field inspection indicate the section alignment ("square") has been altered, please contact the factory or your local EVAPCO representative for additional instructions to obtain proper section fit.

## Storage

Do not place tarps or other coverings over the top of the units if the units are to be stored before installation. Excessive heat can build up if the units are covered causing possible damage to the PVC eliminators or PVC louvers. For extended storage beyond six months rotate the fan and fan motor shaft(s) monthly. Also, the fan shaft bearings should be purged and regreases prior to start-up.

## International Building Code Provisions

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. As of June 2008, all 50 states plus Washington D.C have adopted the International Building Code. The code provisions require that evaporative cooling equipment and all other components permanently installed on a structure must meet the same seismic design criteria as the building. The ATWB, eco-W and eco-WE Closed Circuit Coolers and ATC Evaporative Condensers are IBC 2006 compliant up to 1g with standard construction and up to 5.12g with additional structural modifications.

All items attached to the Evapco ATWB, eco-W and eco-WE Closed Circuit Cooler or ATC Evaporative Condenser must be independently reviewed and isolated to meet applicable wind and seismic loads. This includes piping, ductwork, conduit, and electrical connections. These items must be flexibly attached to the Evapco unit so as not to transmit additional loads to the equipment as a result of seismic or wind forces.

## Structural Steel Support

### 3', 4', 8.5', 10' and 12' Wide Models

Two structural "I" beams running the length of the unit are required for supporting the unit. These beams should be located underneath the outer flanges of the unit. (See Figure 1.)

### 17', 20' and 24' Wide Models

Three structural "I" beams running the length of the unit are required for supporting the unit. Locate two beams underneath the outer flanges of the unit, and locate one beam longitudinally along the center of the unit. (See Figure 2.)

### All Models

Mounting holes, 3/4" in diameter, are located in the bottom flange for bolting to the structural steel (see certified print for exact bolt hole location). Bolt the bottom section to the steel support before rigging the top section.

Beams should be sized in accordance with accepted structural practices. Maximum deflection of the beam under the unit to be 1/360 of the unit length, not to exceed 1/2". Deflection may be calculated by using 55% of the operating weight as a uniform load on each beam (see certified print for operating weight).

The supporting "I" beams should be level before setting the unit. Do not level the unit by shimming between the bottom flange and the beams as this will not provide proper longitudinal support.

Note: Consult IBC 2006 for required steel support layout and structural design.

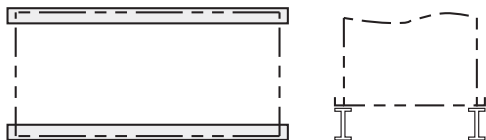


Figure 1 - Steel Support (3', 4', 8.5', 10' and 12' wide models)



Figure 2 - Steel Support (17', 20' and 24' wide models)

## Rigging Basin Section

Lifting devices are located in the upper corners of the basin section for lifting and final positioning purposes as shown in Figures 3 and 4. The hook of the crane must be a minimum dimension of “H” above the top of the section being lifted to prevent undue strain on the lifting devices. See Table 1 for the minimum “H” dimension. These lifting devices should not be used for extended lifts or where any hazard exists unless safety slings are employed under the section. (See “Extended Lifts” section for proper arrangement.) Bolt the basin section to the steel support before rigging the coil/fan section.

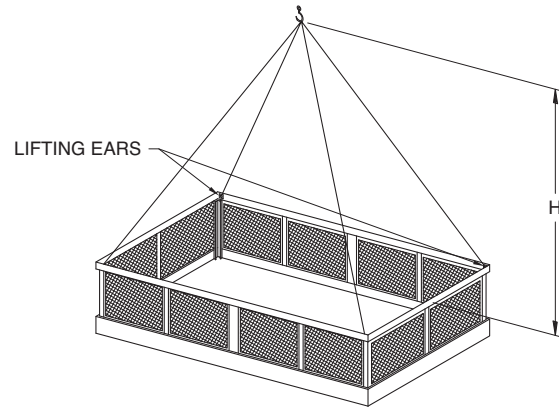


Figure 3 - Basin Section up to 21' long

Basin Section Length	Min. “H” Dim.
3-6 Feet	8 Feet
8.5 Feet	10 Feet
9 Feet	10 Feet
10.5 Feet	11 Feet
12 Feet	15 Feet
14 Feet	17 Feet

Basin Section Length	Min. “H” Dim.
18 Feet	19 Feet
20 Feet	21 Feet
21 Feet	22 Feet
24 Feet	15 Feet
28 Feet	16 Feet
36 Feet	19 Feet
40 Feet	21 Feet

Table 1 - Minimum “H” Dimension for Basin Sections

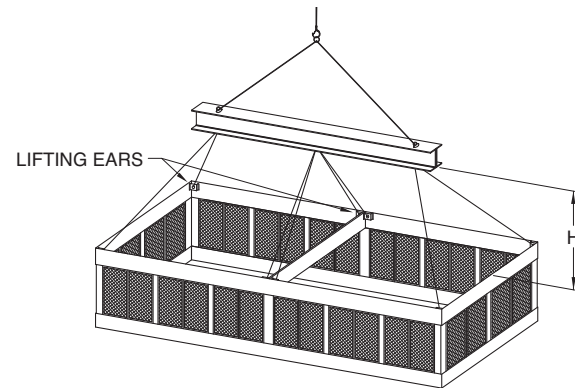


Figure 4 - Basin Section 24' to 40' long

## Joining Multi-Cell Units

### Basin Sections - 10' & 12' Wide Models (24' to 40' Long)

The bottom sections are shipped separately and are furnished with a connecting equalizer flume between them. In addition to the equalizer flumes, these units are provided with drip channels and splash guards to keep water from exiting between the cells.

The equalizer flume is factory installed on one section for field connection to the other. It is important to connect the equalizer flume to balance the water level in the pans for proper pump suction operation. The following procedures are to be performed in sequence.

1. Install the basin section with the factory installed flume on it as described earlier.
2. Clean the flanges on the equalizer flume on the end to be field connected. Apply a layer of sealer tape on the flange centered between the hole centers and the outside edge. Remove paper backing strip from the sealer tape. (See Figure 5.)
3. Clean the mating surface of the equalizer opening of any dirt, grease or moisture.

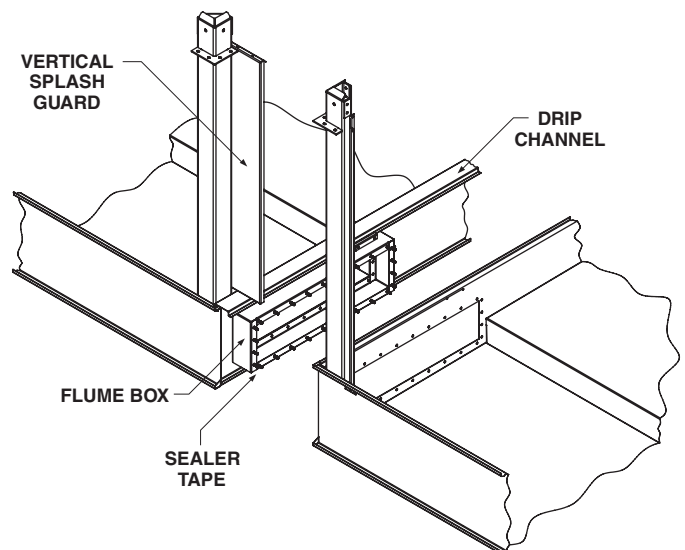
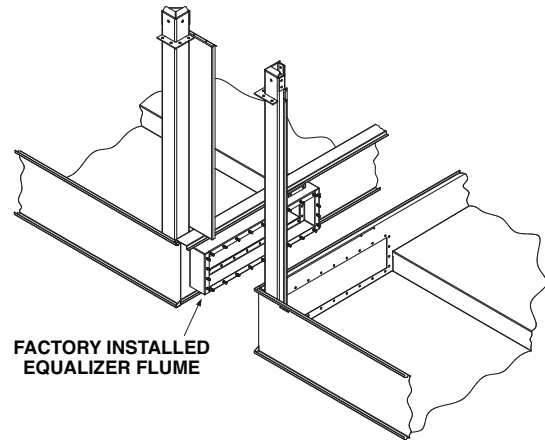


Figure 5 - Equalizer Flume Connection, 12' Wide Models

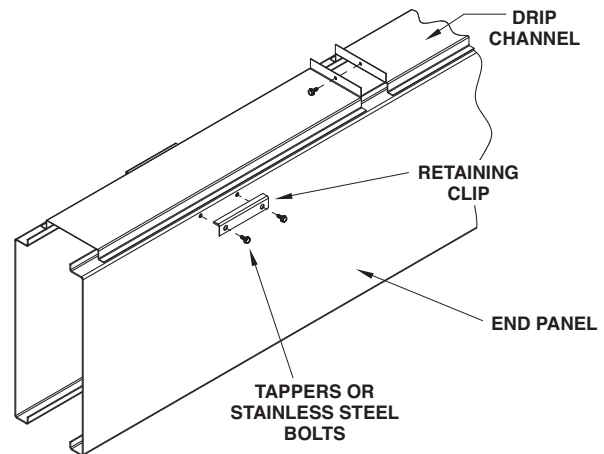
## Joining Multi-Cell Units

### Basin Sections - 10' & 12' Wide Models (24' to 40' Long)

4. Rig the second basin section adjacent to the equalizer flume on the steel support as shown in Figure 6.
5. Align the bolt holes in the equalizer flume and equalizer opening with drift pins (drift pins provided by others) while drawing the second basin section against the flanged connection.
6. Install 3/8" bolts, nuts and washers in every hole around the equalizer opening and tighten. Cut off excess sealer tape.
7. Bolt the second basin section to the steel support.
8. Place the drip channel over the adjoining pan section flanges. Secure by installing 5/16" self-tapping screws through the retaining clips into the end panels. For stainless steel construction, secure by installing 1/4" stainless steel bolts through the retaining clips into brass rivnuts secured in the end panel. (See Figure 7.)
9. Place the vertical splash guard in the bend of the vertical supports. Attach the vertical splash guard using 5/16" tappers. For stainless steel construction, attach the vertical splash guard using 5/16" stainless steel nuts and bolts. (See Figure 5.)



**Figure 6 - Equalizer Flume Rigging Detail, 12' Wide Models**



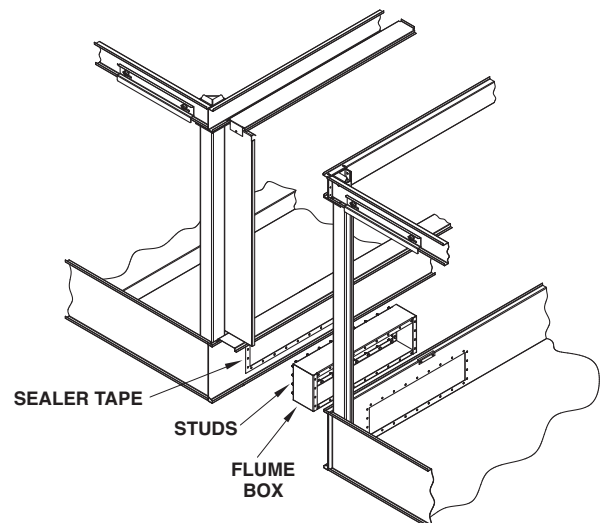
**Figure 7 - Drip Channel Installation**

## Joining Multi-Cell Units

### Basin Sections - 17' 20' & 24' Wide Models (12' to 40' Long)

On 17' 20' and 24' wide models the equalizer flume is located on the sides of adjoining basin sections. This flume is shipped loose and must be installed to both basin sections. In addition to the equalizer flume, these units are provided with drip channels and splash guards to keep water from exiting between the cells. The following procedure should be performed in order to assure proper assembly.

1. Install one basin section of the unit on structural steel and secure as described earlier.
2. Mating flanges which will make contact with others should be cleaned to remove dirt, grease and moisture. Apply a layer of sealer tape on one side panel centered over the flume box holes as shown in Figure 8. Remove paper backing strip from the sealer tape.
3. The side of the flume box which has studs installed in it should now be connected to the side panel. The studs are pushed through the sealer tape and holes of the side panel and are secured by washers, lock washers and nuts.



**Figure 8 - Equalizer Flume Assembly, 17' & 24' Wide Models**

## Joining Multi-Cell Units

### Basin Sections - 17' and 24' Wide Models (12' to 40' Long)

4. Clean the mating flanges on the equalizer flume on the end to be field connected. Apply a layer of sealer tape on the flange, centered between the hole centers and the outside edge. Remove paper backing strip from the sealer tape.
5. Clean the mating surface of the side panel of any dirt, grease or moisture. Rig the second basin section adjacent to the equalizer flume on the steel support.
6. Align the bolt holes in the equalizer flume and equalizer opening with drift pins while drawing the second basin section against the first as shown in Figure 8.
7. Install 3/8" bolts, nuts and washers in every hole around the equalizer opening and tighten. Cut off excess sealer tape to prevent strainer blockage.
8. Bolt the second basin section to the steel support.
9. Place the drip channel over the adjoining pan section flanges. Secure by installing 5/16" self-tapping screws through the retaining clips into the side panel. For stainless steel construction, secure by installing 1/4" stainless steel bolts through the retaining clips into brass rivnuts secured in the side panel. (See figures 8 & 9.)
10. Fasten the drip channel sections together, end to end, by driving a self-tapping 5/16" screw through the section end with the larger hole into the mating end with the smaller hole. Stainless steel units will use 5/16" stainless steel nuts, bolts, and washers. (See Figure 9.)
11. Place the vertical splash guard in the bend of the vertical supports. Attach the vertical splash guard using 5/16" tappers. For stainless steel construction, attach the vertical splash guard using 5/16" stainless steel nuts and bolts. (See Figure 10.)

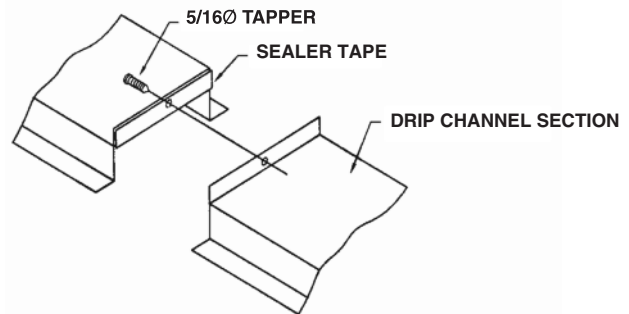


Figure 9 - Drip Channel Assembly

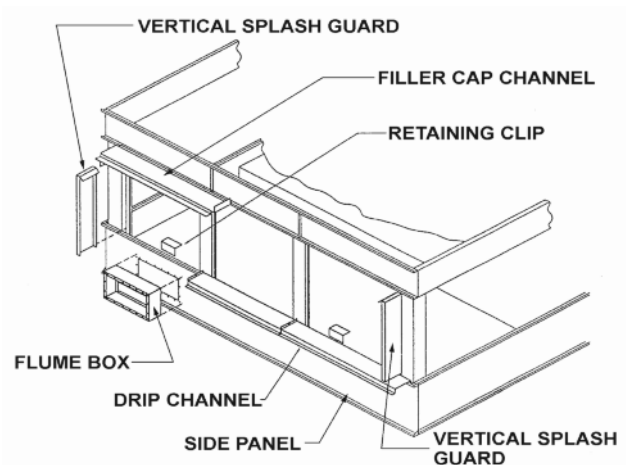


Figure 10 - Drip Channel and Splash Guards, 17' & 24' Wide Models

## Applying Sealer Tape

Once the bottom section has been set on the supporting steel and bolted in place, the top flanges should be wiped down to remove any dirt or moisture. Sealer tape should be placed over the mounting hole centerline on the side flanges. Apply two strips of sealer tape, one partially overlapping the other, on the end flanges.

The sealer tape should overlap on the corners as shown in Figure 11. Do not splice the sealer tape along the end flanges and preferably not on the side flanges if it can be avoided. **Always remove the paper backing from the sealer tape.**

Units that are 24' to 40' in length have two or more coil/fan sections. In these cases, sealer must be applied to all internal flanges. Cut off excess sealer tape once the top section has been properly set into place and the rig is complete.

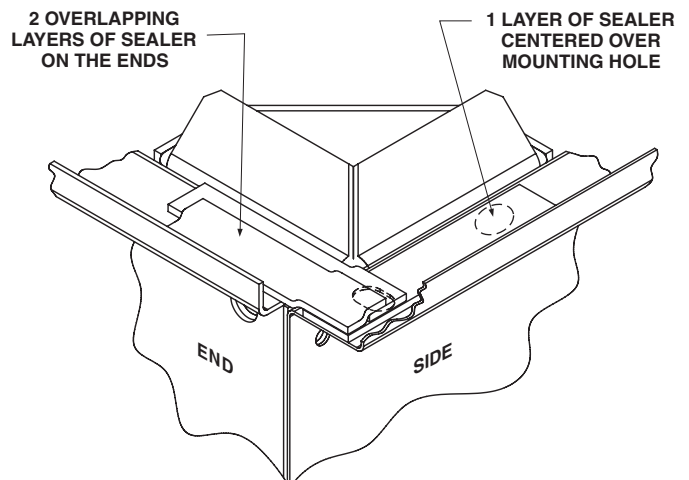


Figure 11 - Proper Sealer Tape Application



## Coil/Fan Section

### Coil Section

Four lifting ears are provided in the lower corners of most coil/fan sections for lifting into final position. 18', 20' and 21' long sections will have two additional lifting ears in the middle of the section. Use all lifting ears. A spreader beam must be used for lifting the top section(s) as shown in Figures 12 and 13. The hook of the crane must be a minimum dimension "H" above the top section being lifted to prevent undue strain on the lifting ears. See Table 2 for the minimum "H" dimension. These lifting devices should not be used for extended lifts or where any hazard exists unless safety slings are employed under the section. (See "Extended Lifts" for proper arrangement.)

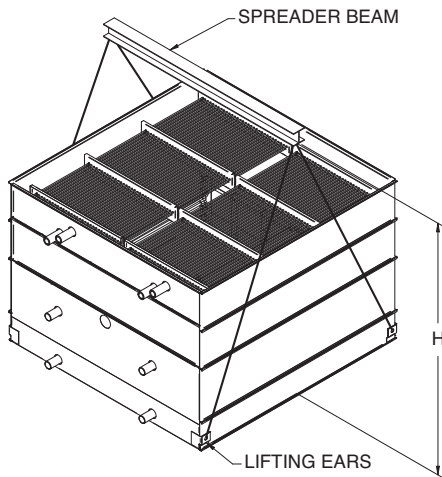


Figure 12 - Four Point Lift

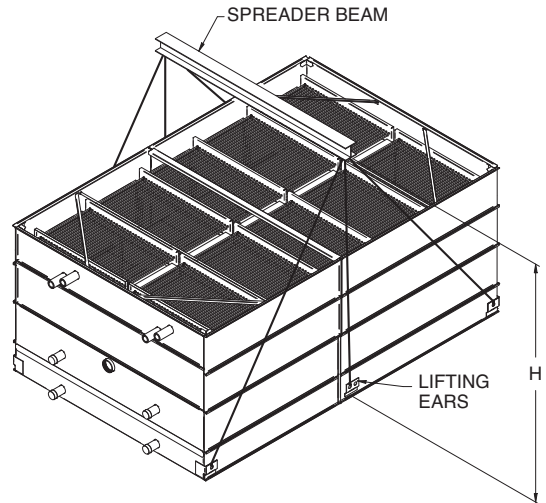


Figure 13 - Four Point Lift

### Fan Section

Four lifting ears are provided in the lower corners of most coil/fan sections for lifting into final position. Some fan sections will have a lifting ear located on the motor support in addition to two U-Bolts located on the top of the fan deck (See Figure 15.) Use all lifting ears. A spreader beam must be used for lifting the top section(s) as shown in Figures 14. The hook of the crane must be a minimum dimension "H" above the top section being lifted to prevent undue strain on the lifting ears. See Table 2 for the minimum "H" dimension. These lifting devices should not be used for extended lifts or where any hazard exists unless safety slings are employed under the section. (See "Extended Lifts" for proper arrangement.) Note: For 8.5' wide models, mount the external motor prior to rigging as detailed in the "External Motor Installation" section.

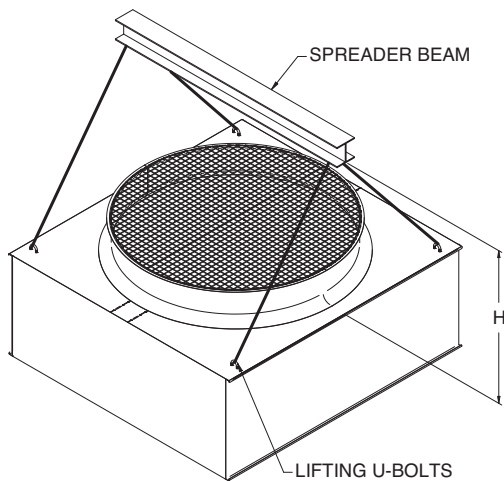


Figure 14 - Four Point Lift

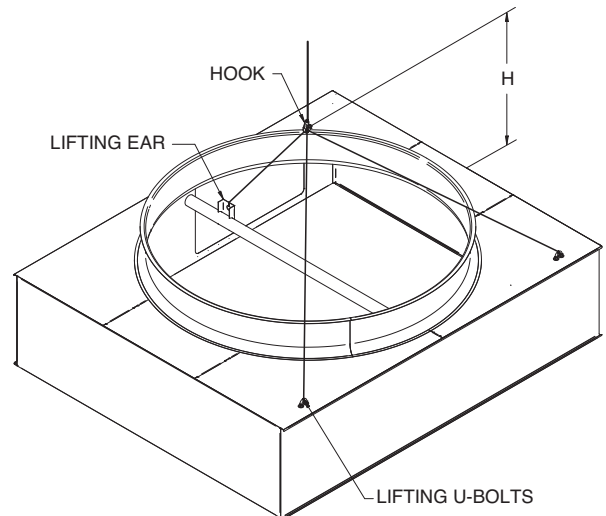


Figure 15 - Three Point Lift

Fan/Coil Section	Min. "H" Dimension
3-6 Feet	8 Feet
8.5 and 9	9 Feet
10.5 Feet	11 Feet
12 Feet	12 Feet
14 Feet	14 Feet
18 Feet	17 Feet
20 Feet	18 Feet
21 Feet	19 Feet

**Table 2** - Minimum "H" Dimension for Coil/Fan Sections

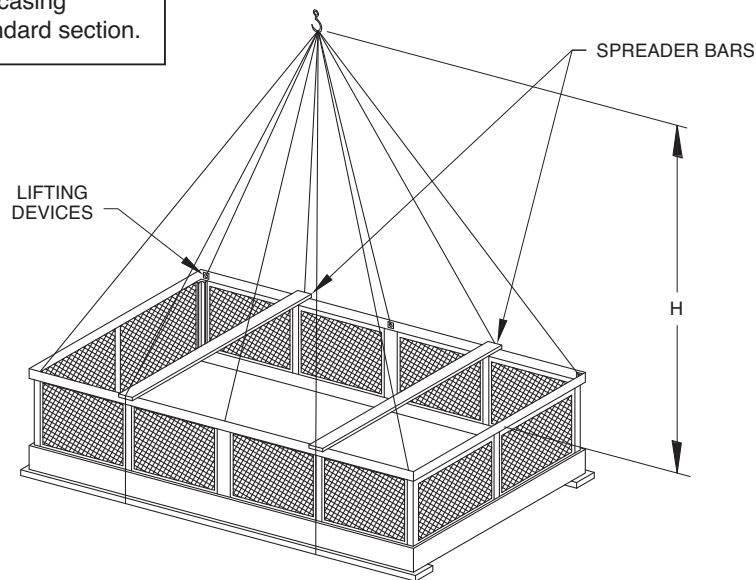
## Extended Lifts

Important: The lifting devices and "U" bolts should be used for final positioning only and for lifting where no danger exists. If they are used for extended lifts, safety slings should be provided under the sections.

The preferred method for extended lifts is to use slings under the unit. (See Figure 16.) Spreader bars should always be used between the cables at the top of the section to prevent damage to the upper flanges or fan cylinders.

Safety slings and skids should be removed before final positioning of the unit. Refer to Tables 1 and 2 for minimum "H" dimensions.

Move basin extended lift and casing extended lift behind each standard section.



**Figure 16** - Extended Lifts, Basin Section

## Assembly of the Coil Section to the Basin

### Section (3', 4', 8.5', 10' and 12' Wide Models)

Before assembling the coil section to the basin section, remove any loose parts shipped in the pan. Four lifting ears are provided in the corners of most coil sections for lifting into final position. 18', 20' and 21' long sections will have two additional lifting ears in the middle of the section. Use all lifting ears. When lifting the coil sections, use the lifting ears at the bottom of the coil section. The hook of the crane must be a minimum dimension "H" above the top section being lifted to prevent undue strain on the lifting ears. See Table 2 for the minimum "H" dimension. These lifting devices should not be used for extended lifts or where any hazard exists unless safety slings are employed under the section. (See Extended Lifts' for proper arrangement.)

Before assembling the fan section to the coil section, wipe the flanges on the bottom of the fan section and apply sealer tape. Check to see that the access doors are in the correct position relative to the coil section (see certified print). Units are also provided with match markings on each section (i.e. A1 of the coil section should match up with the A1 of the basin section). Place nuts and bolts in all four corner bolt holes. Then continue to install the rest of the nuts and bolts working from the corners towards the center. Nuts and bolts are required on the end flanges. Drift pins are provided in rigging box to assist with alignment.

Note: 3/8" stainless steel nuts, bolts and washers are used for stainless steel construction. 3', 4' wide units use 5/16" stainless steel nuts, bolts and washers for stainless steel construction.

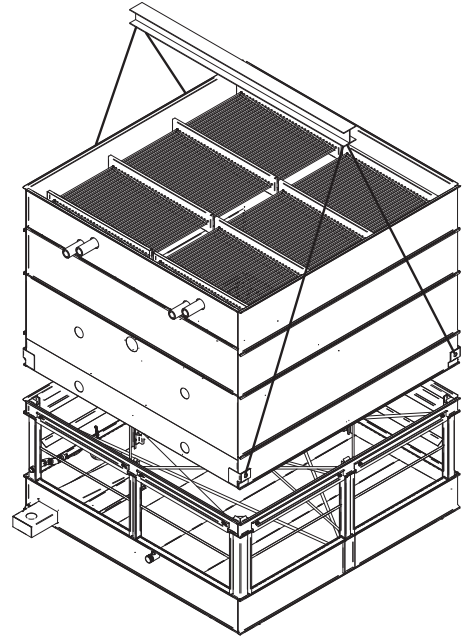


Figure 17 - Mating Upper Section to Basin Section

## Assembly of the Fan Section to the Coil

### Section (3', 4', 8.5', 10' and 12' Wide Models)

Four lifting U-Bolts are provided in the top corners of most fan sections for lifting into final position. 18', 20' and 21' long sections will have two additional U-Bolts in the middle of the fan section. Use all U-Bolts. The hook of the crane must be a minimum dimension "H" above the top section being lifted to prevent undue strain on the lifting ears. See Table 2 for the minimum "H" dimension. These lifting devices should not be used for extended lifts or where any hazard exists unless safety slings are employed under the section. (See Extended Lifts' for proper arrangement.) Note: for 8.5' wide cells (17' wide models), mount the external motor prior to rigging as detailed in the "External Motor Installation" section.

Before assembling the fan section to the coil section, wipe the flanges on the bottom of the fan section and apply sealer tape. Check to see that the motor access doors are in the correct position relative to the coil section (see certified print). Units are also provided with match markings on each section (i.e. A1 of the coil section should match up with the A1 of the fan section). Place nuts and bolts in all four corner bolt holes. Then continue to install the rest of the nuts and bolts working from the corners towards the center. Nuts and bolts are required on the end flanges. Drift pins are provided in rigging box to assist with alignment.

Note: 3/8" stainless steel nuts, bolts and washers are used for stainless steel construction. 3', 4' wide units use 5/16" stainless steel nuts, bolts and washers for stainless steel construction.

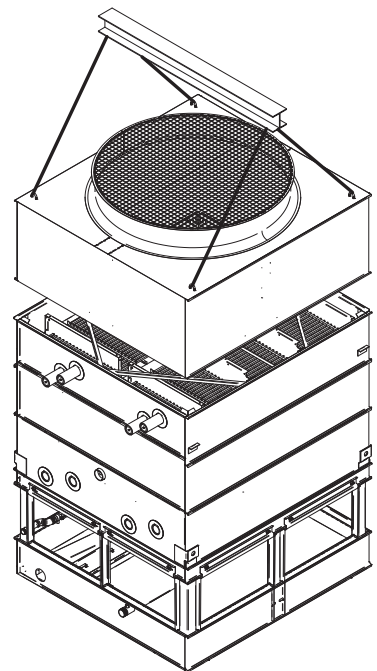


Figure 18 - Mating Fan Section to Coil/Basin



## Assembly of the Fan Section to the Coil Section

**Section (17', 20' and 24' Wide Models)** – Fan Section Will Need To Be Mounted to the Coil Section First

Four lifting U-Bolts are provided in the top corners of most fan sections for lifting into final position. 18', 20' and 21' long sections will have two additional U-Bolts in the middle of the fan section. Use all U-Bolts. The hook of the crane must be a minimum dimension "H" above the top section being lifted to prevent undue strain on the lifting ears. See Table 2 for the minimum "H" dimension. These lifting devices should not be used for extended lifts or where any hazard exists unless safety slings are employed under the section. (See Extended Lifts' for proper arrangement.) Note: for 8.5' wide cells (17' wide models), mount the external motor prior to rigging as detailed in the "External Motor Installation" section.

Before assembling the fan section to the coil section, wipe the flanges on the bottom of the fan section and apply sealer tape. Check to see that the motor access doors are in the correct position relative to the coil section (see certified print). Units are also provided with match markings on each section (i.e. A1 of the coil section should match up with the A1 of the fan section). Place nuts and bolts in all four corner bolt holes. Then continue to install the rest of the nuts and bolts working from the corners towards the center. Nuts and bolts are required on the end flanges. Drift pins are provided in rigging box to assist with alignment.

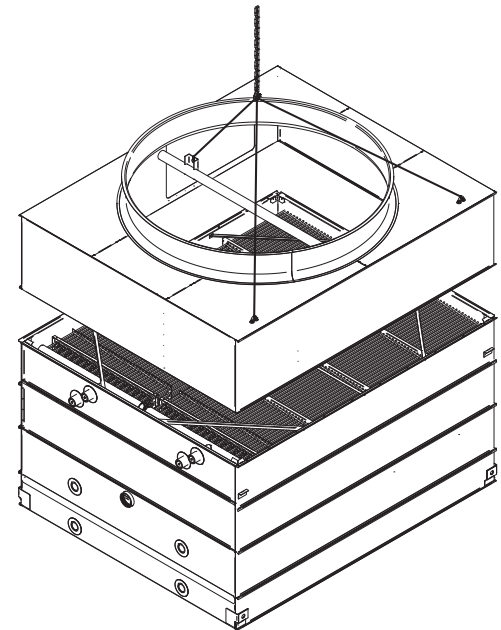


Figure 19 - Mating Fan Section to Coil Section

Note: 3/8" stainless steel nuts, bolts and washers are used for stainless steel construction. 3', 4' wide units use 5/16" stainless steel nuts, bolts and washers for stainless steel construction.

## Assembly of the Coil Section to the Basin

**Section (17', 20' and 24' Wide Models)** – Fan Section Will Need To Be Mounted to the Coil Section First

Before assembling the coil section to the basin section, remove any loose parts shipped in the pan. Four lifting ears are provided in the corners of most coil sections for lifting into final position. 18', 20' and 21' long sections will have two additional lifting ears in the middle of the section. Use all lifting ears. When lifting assembled fan/coil sections, use the lifting ears at the bottom of the coil section and not the U-Bolts of the fan section. The hook of the crane must be a minimum dimension "H" above the top section being lifted to prevent undue strain on the lifting ears. See Table 2 for the minimum "H" dimension. These lifting devices should not be used for extended lifts or where any hazard exists unless safety slings are employed under the section. (See Extended Lifts' for proper arrangement.)

Before assembling the fan/Coil section to the basin section, wipe the flanges on the bottom of the coil section and apply sealer tape to the basin section. Check to see that the access doors are in the correct position relative to the basin section (see certified print). Units are also provided with match markings on each section (i.e. A1 of the coil section should match up with the A1 of the fan section). Place nuts and bolts in all four corner bolt holes. Then continue to install the rest of the nuts and bolts working from the corners towards the center. Nuts and bolts are required on the end flanges. Drift pins are provided in rigging box to assist with alignment.

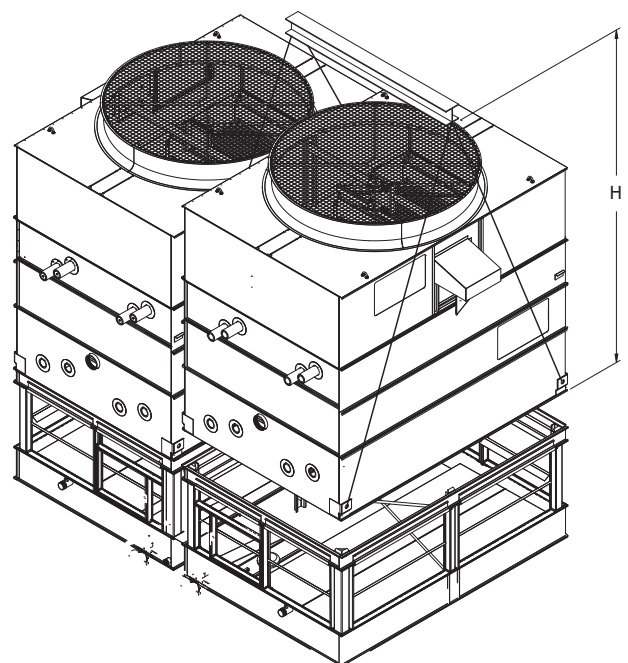


Figure 20 - Mating Fan/Coil Section to Basin Section

Note: 3/8" stainless steel nuts, bolts and washers are used for stainless steel construction. 3', 4' wide units use 5/16" stainless steel nuts, bolts and washers for stainless steel construction.

## Mounting Fan Screens

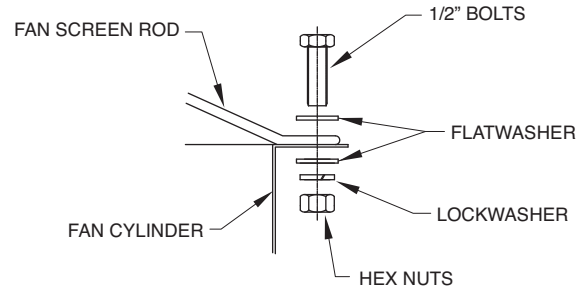
### 10' & 12' Wide by 12' or 24' Long Models

### 20' & 24' Wide by 12' or 24' Long Models

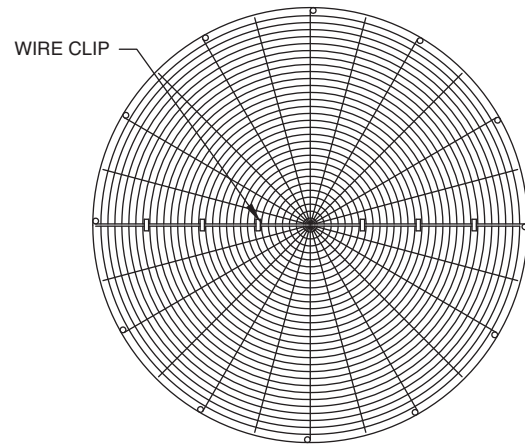
In certain situations some units may be shipped with the fan screens in the basin. Under these circumstances use the following procedures to mount the fan screen on the discharge cylinder.

**WARNING: DO NOT WALK ON THE FAN SCREENS AT ANY TIME!**

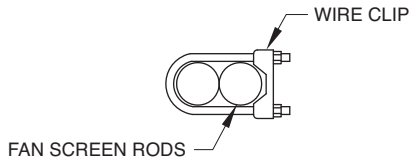
1. Place both halves of the fan screen on top of the discharge cylinder. Each half will be tagged to match markings on the cylinder. Align the eyelets of the fan screen with the holes that can be found on the perimeter of the discharge cylinder.
2. At each hole, attach the fan screen to the discharge cylinder as shown in Figure 21.
3. Join the two screen halves with wire clips (Figure 22). There should be 4 wire clips on each side of the fan screen. Space the wire clips evenly across the radius of the fan screen as shown in Figure 23.



**Figure 21 - Attaching Fan Screen to Cylinder**



**Figure 23 - Wire Clip Spacing**



**Figure 22 - Wire Clip Arrangement**

## Mounting Fan Screens

### 10' & 12' Wide by 14' through 20' Long Models

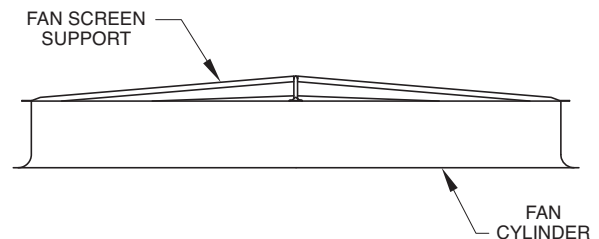
### 10' & 12' Wide by 28' through 40' Long Models

### 20' & 24' Wide by 14' through 20' Long Models

### 20' & 24' Wide by 28' through 40' Long Models

On these models, the fan screen is supported from underneath by an "X" shaped support frame.

1. Set the support frame across the top of the discharge cylinder (See Figure 24).
2. Place both halves of the fan screen on top of the support frame. Each half will be tagged to match markings on the cylinder. Align the eyelets of the fan screen with the holes on the cylinder perimeter.
3. Join the two screen halves with wire clips (See Figure 22). There should be four clips on either side of the fan screen. Space them evenly as shown in Figure 23.
4. At each hole, attach the fan screen to the discharge cylinder as shown in Figure 21. At the four points where the support frame meets the cylinder, bolt the support frame to the cylinder together with the fan screen.



**Figure 24 - Support Frame Installation**

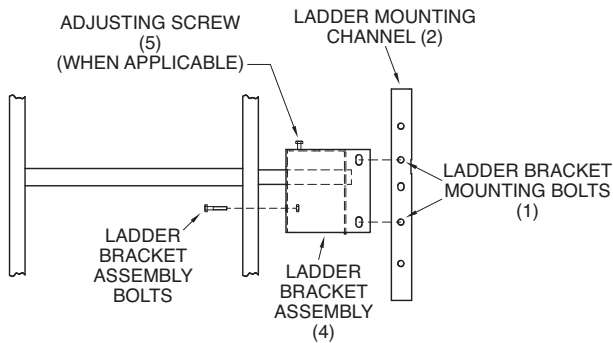
## Assembly of Sloped Ladders

When sloped ladders are supplied with a unit, they are shipped in the basin of the unit. One sloped ladder will be provided for each cell. Assembly is identical for each cell.

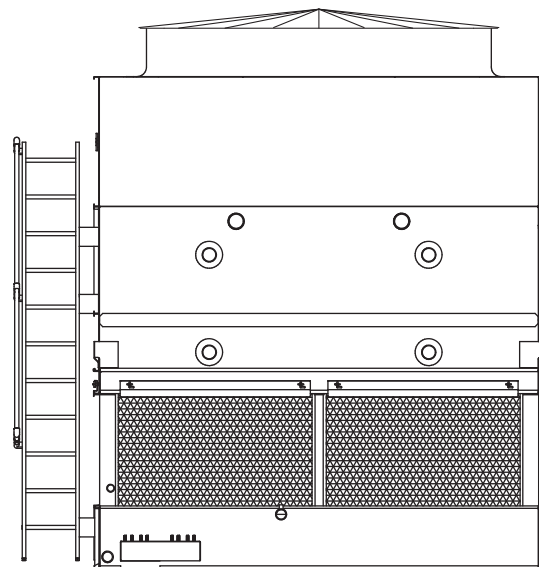
See Figures 26 & 27 for end and side view ladder arrangement.

Sloped ladders are attached at a minimum of three points. Taller units will be attached at four points. At each point of attachment, the ladder will be fitted with a ladder bracket assembly. The ladder bracket assembly looks like a metal box and is shown in detail (component #4) in Figure 25 below. The upper two assembly brackets will be rigidly mounted to the ladder and are not adjustable. These two brackets define the slope of the ladder. The lower brackets are adjustable.

NOTE: Upper Section of Unit Must Be Properly Oriented with Respect to Lower Section. All Mounting Brackets Must be on Same Side of Unit. Refer to Certified Print For Proper Orientation.



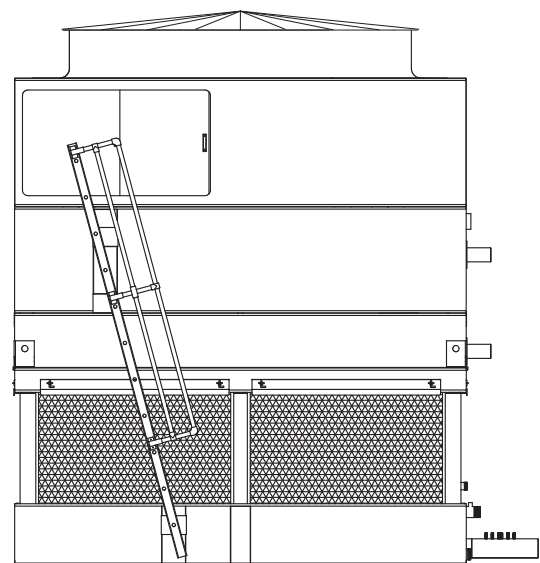
**Figure 25** - Detail of Ladder, Ladder Bracket Assembly and Mounting Channel



**Figure 26** - End View of Ladder Assembly

To install the ladder assembly, follow the steps outlined below which refer to Figure 25:

1. Remove the ladder bracket mounting bolts (1) from the ladder mounting channels (2) on pan and casing sections.
2. Loosen, but do not remove, the ladder bracket and assembly bolts (3).
3. Slide the ladder bracket assembly (4) over the ladder mounting channels (2) located on the pan and casing sections. Do not remove the ladder bracket assembly (4) from the ladder.
4. Align the bolt holes and reinstall the ladder bracket mounting bolts (1) through the ladder bracket assembly and the ladder mounting channels (2).
5. Tighten all bolts.
6. Tighten the adjusting screw (5) in the adjustable mounting bracket where applicable.



**Figure 27** - Side View of Ladder Assembly



### Field Assembly of Working Platform and Ladder

The working platform/ladder assemblies are shipped in the basin of the unit. In some cases they are shipped separately due to basin accessories that interfere with storage. The platform is partially assembled prior to shipment for minimal field assembly.

The platform and ladder assembly should be attached after the unit is fully rigged following the instructions below.

<p style="font-size: small;">CONFIDENTIAL This document is the property of Evapco, Inc. It should not be copied or disclosed without prior written authorization.</p>	<p style="font-size: small;">PART NO. <b>093-04342GA</b></p>	<p style="font-size: small;">REV. NO. <b>3</b></p>																	
<p style="font-size: small;">DETAIL A: SECURE DIAGONAL SUPPORT TO CONNECTION PLATE USING 5/8" GRADE 5 HARDWARE</p> <p style="font-size: small;">DETAIL B: SECURE DIAGONAL SUPPORT TO CONNECTION PLATE USING 5/8" GRADE 5 HARDWARE</p> <p style="font-size: small;">DETAIL C: SECURE DECK SUPPORT TO CONNECTION PLATES WITH 5/8" GRADE 5 HARDWARE</p> <p style="font-size: small;">DETAIL D: SECURE LADDER BRACKET TO BASE ON UNIT WITH 3/8" GRADE 5 HARDWARE</p> <p style="font-size: small;">DETAIL E: RAILING FITTING, SECURE RAILING FITTING TO FRONT TOEPLATE USING 3/8" GRADE 5 HARDWARE</p> <p style="font-size: small;">DETAIL F: FAN DECK ATTACHMENT IF APPLICABLE</p>			<p style="font-size: small;">SHIP THIS DRAWING WITH UNIT</p>																
<p style="font-size: small;">NOTES: 1. PLATFORM GRATING NOT SHOWN FOR CLARITY</p>			<p style="font-size: small;">EVAPCO, INC. FIELD ASSY PLTF GENERAL ARR</p>																
<p style="font-size: small;">REVISIONS</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 10%;">REV. NO.</th> <th style="width: 10%;">DATE</th> <th style="width: 10%;">BY</th> <th style="width: 10%;">CHKD</th> <th style="width: 10%;">SCALE</th> <th style="width: 10%;">N.C. INFO.</th> <th style="width: 10%;">PART NO.</th> <th style="width: 10%;">REV. NO.</th> </tr> <tr> <td>3</td> <td>03/28/01</td> <td>JLC</td> <td></td> <td>N.T.S.</td> <td></td> <td>093-04342GA</td> <td>3</td> </tr> </table>			REV. NO.	DATE	BY	CHKD	SCALE	N.C. INFO.	PART NO.	REV. NO.	3	03/28/01	JLC		N.T.S.		093-04342GA	3	<p style="font-size: small;">STAINLESS STEEL OPTION</p> <p style="font-size: small;">NOTE: 1. ALL 1/4Ø HOLES SHOULD BE 11/32Ø 2. USE STAINLESS STEEL N.C. SET-UP SHEET</p>
REV. NO.	DATE	BY	CHKD	SCALE	N.C. INFO.	PART NO.	REV. NO.												
3	03/28/01	JLC		N.T.S.		093-04342GA	3												

## Optional Motor and Gear Box Davit ATWB, eco-W and eco-WE 8.5' 10' and 12' Wide Models

A removable, dual point motor davit is provided on 8.5' 10' and 12' wide models for both the Powerband Belt Drive System and the optional gear drive system (Figure 28.)

This accessory is available to aid in the removal of fan motors and gear boxes. The assembly consists of a davit and a mounting base/channel that is attached to the side of the unit next to the access door. Both of these items will ship loose in the unit's basin.

Use the following procedure to install the mounting channel.

1. Place the mounting channel on the factory-installed mounting brackets near the access door.
2. At each hole, attached the mounting channel to the bracket using 3/8" hardware as shown in Figure 29.

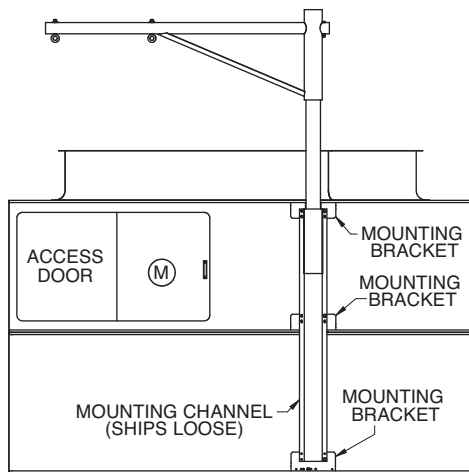


Figure 28

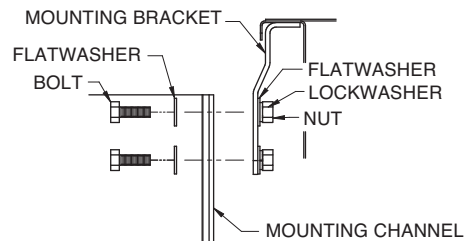


Figure 29

## Optional Discharge Hood Damper

### Section Assembly ATWB, eco-W and eco-WE Models

Once the upper section (casing/fan section) has been secured to the bottom section, inspect the top of the upper section to ensure removal of any shipping blocks or other obstructions. Lower the discharge hood damper section onto the top of the upper section while aligning the holes located in each corner.

Place self-tapping bolts in all four corner bolt holes. Continue to install the rest of the self-tapping bolts working from the corners toward the center. A self-tapper must be installed in every hole on the side flanges although none are required on the end flanges.

NOTE: Do not use U-bolts to lift the discharge hood damper section when attached to another part of the equipment. Always lift the hood

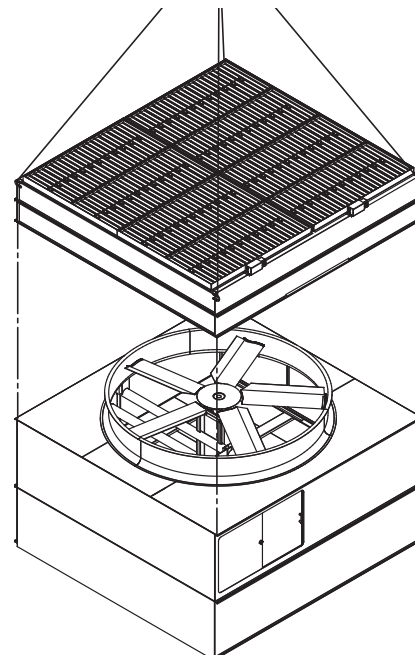
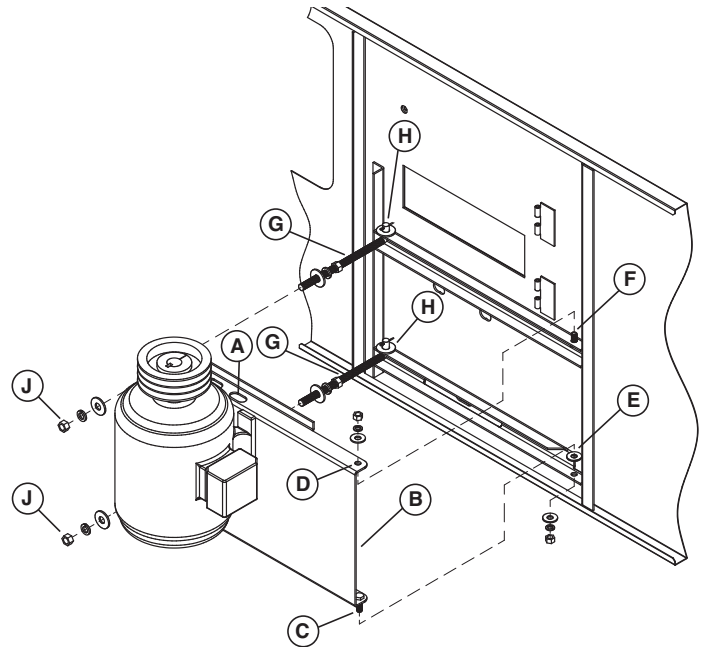


Figure 30 - Mating Discharge Hood Damper Section to Coil/Fan Section

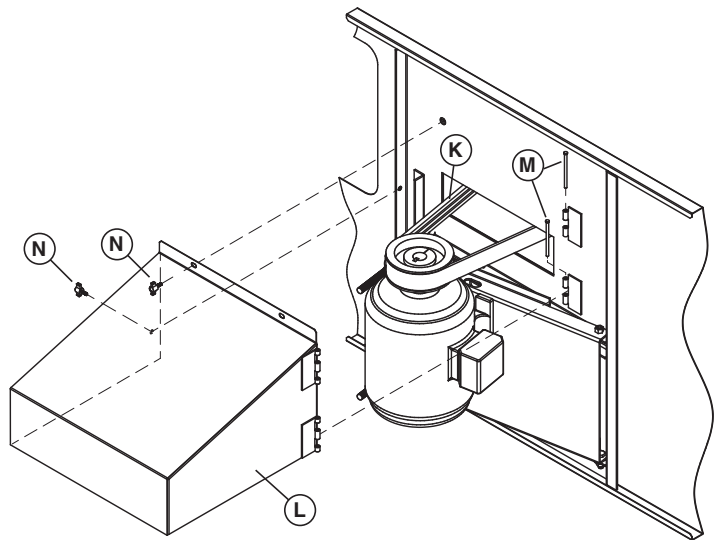
## External Motor Installation

**3', 4' & 8.5' Wide Models (Note: 3' & 4' motors ship mounted)**

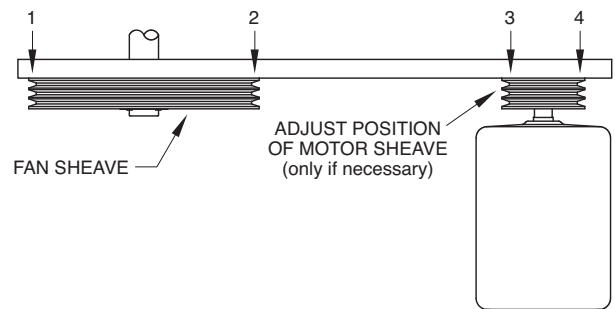
1. Study Figure 31 before installing the motor base on the unit.
2. Insert the lifting device into "U" bolt A on motor base B.
3. Lift the motor base and insert the pivot pin C down into hole E and pivot pin F into hole D.
4. Install washer and nut (do not over tighten) on pivot pins. Install jam nut on pivot pin C.
5. Insert "J" bolts G into holes H. Install flat washers and cotter pins. Place nuts and washers on threaded portion of "J" bolts. These will be behind the motor base installed in the next step.
6. Insert "J" bolts into holes J in the motor base. Install flat washers, lock washer and nuts. Remove lifting device from the "U" bolt on the motor base. Position motor base toward casing of unit for belt installation.
7. Install Powerband belt K (Figure 32) around fan sheave and motor sheave. Tighten belt by adjusting nuts on "J" bolts. Do not over tighten the belts. The center of the belt should deflect approximately 3/4" with moderate hand pressure.
8. Measure to see that the top and bottom of the motor base are the same distance out from the casing of the unit. This should ensure that the sheaves are properly aligned as they have been pre-set at the factory.
9. As a final check, lay a straight edge from sheave to sheave. There should be four point contact. (See Figure 33.) Adjust the position of the motor sheave as necessary.
10. To install Motor Guard L, match up hinges and install hinge pins M. (See Figure 32.)
11. Close Motor Guard and install (2) wing bolts N.



**Figure 31 - External Motor Installation**



**Figure 32 - Motor Guard and Powerband Belt Installation**



**Figure 33 - Sheave Alignment Check**



## Start-up Details

### Debris

Clean all debris from the basin prior to start-up. Close and secure all access doors.

### Pump Discharge Line

Connect the riser pipe from the pump discharge on the basin section to the riser pipe on the coil/fan section using the flexible connection and hose clamps provided.

### Bleed-off Line

A bleed-off line and valve are installed on the unit when shipped with a pump. On units shipped without a pump (remote sump applications) make sure a bleed-off line and valve are properly sized and installed on the discharge side of the pump and connected to a convenient drain. In either case, the bleed-off valve should be fully open.

### Strainer

Check the strainers, if applicable, in the basin section to make certain they are in the proper location over the pump suction, along side of the anti-vortex hood. (See Figure 34.)

### Screens

Protective fan screens are provided across the top of the fan cylinders of all models. Check and tighten all bolts.

### Float Valve Adjustment

The float valve is pre-set at the factory; however, adjustment should be checked after rigging. The float valve should be adjusted so that the centerline of the float is at the measurement shown in Table 3 or 4 from the basin bottom. Raise or lower the float by using the wing nuts on the vertical threaded rod only. Do not adjust the horizontal rod.

### Starting Sequence

Before starting the unit, check that all access openings, safety screens and covers are in place. Start the unit as outlined below:

1. Fill the pan to the overflow level.
2. Bump start and check the spray water pump(s) for proper rotation. Directional arrows are found on the pump impeller housing.
3. Bump start and check the fan(s) for proper rotation. Directional arrows are placed on the side of the fan cylinder.

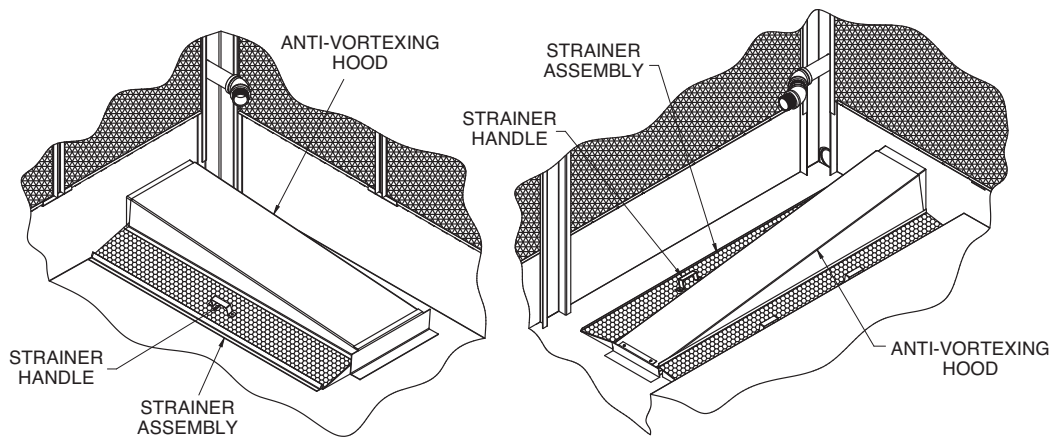


Figure 34 - Strainer Location

Unit Length	Level
to 9'	8"
12'	10"

Table 3 - Float Valve Adjustment 4' Wide Models

Unit Length	Level
All Models	11"

Table 4 - Float Valve Adjustment 8.5' through 24' Wide Models



## Maintenance

Once the installation is complete and the unit is turned on, it is important that it be properly maintained. Maintenance is not difficult or time-consuming but must be done regularly to assure full performance of the unit. Refer to the maintenance instructions enclosed with the unit for proper maintenance procedures.

## Freeze Protection

Proper freeze protection must be provided if the unit is located in a cold climate. Refer to maintenance instructions as well as product bulletins for further information.

## Rigging Hardware Parts List

The following table lists those parts which are shipped together with the unit(s) for field assembly and/or spare parts.

ATC-B Model ATWB Model	Box Size	Flume Hard-	Rigging Joint Hardware	Sealer Tape	ZM® Nozzles
50B to 80B 24-3G to 24-5G	4x6	0	35	2	1
90B to 120B 36-3F to 36-5F	4x9	0	45	2	1
135B to 165B 48-3F to 48-5G	4x12	0	55	3	1
187B to 247B 64-3H to 64-6J	8.5x7.5	0	16	4	2
218B to 305B 77-3I to 77-6K	8.5x9	0	14	4	2
246B to 369B 89-3I to 89-6L	8.5x10.5	0	16	4	2
358B to 409B 102-3J to 102-6L	8.5x12	0	18	5	2
385B to 473B 119-3J to 119-6M	8.5x14	0	22	5	2
486B to 630B 153-3I to 153-6K	8.5x18	0	26	5	2
508B to 755B 179-3I to 179-6L	8.5x21	0	30	6	2
643B to 809B	8.5x24	22	36	10	2
800B to 950B	8.5x28	22	44	10	2
639B to 805B 204-3J to 204-6L	17x12	22	36	10	2
780B to 926B 238-3J to 238-6M	17x14	22	44	10	2
428B to 583B 144-3K to 144-6N	12x12	0	18	5	2
545B to 647B 168-3L to 168-6N	12x14	0	22	6	2
	3x3	0	22	1	1
	4x4	0	25	2	1

ATC-B Model ATWB Model	Box Size	Flume Hard-	Rigging Joint Hardware	Sealer Tape	ZM® Nozzles
642B to 892B 216-3L to 216-6O	12x18	0	26	6	3
791B to 967B 240-3M to 240-6P	12x20	0	30	7	3
858B to 1167B 286-3K to 286-6N	12x24	26	36	10	3
1164B to 1294B 334-3L to 334-6N	12x28	26	44	12	3
1192B to 1784B 430-3L to 430-6O	12x36	26	52	12	4
1625B to 1925B 478-3M to 478-6P	12x40	26	60	14	4
857B to 1166B 290-3K to 290-6N	24x12	26	36	10	3
1163B to 1293B 338-3L to 338-6N	24x14	26	44	12	3
1191B to 1783B 434-3L to 434-6O	24x18	26	52	12	4
1616B to 1915B 482-3M to 482-6P	24x20	26	60	14	4
1879B to 2320B 578-3K to 578-6N	24x24	26	72	20	6
2256B to 2509B 672-3L to 672-6N	24x28	26	88	24	6
2490B to 3459B 866-3L to 866-6O	24x36	26	104	24	6
2855B to 3714B 960-3M to 960-6P	24x40	26	120	28	6

NOTES:

- 3/8 x 1-1/2" bolt, hex nut, lockwasher, flat washer.
- 5/16 x 1" or 3/8 x 1" tapper. Stainless units use 5/16" nuts and bolts.

Table 5 - Rigging Hardware





## Accessory Location Checklist

Accessories can ship in a variety of locations depending on the type of accessory, the size of the unit and the accessories purchased with the unit. See Table 6 for a guide to accessory location.

Unit Accessories	Shipping Location
Aluminum Ladder	Shipping Location is Unit and Accessory Dependent - If Space is Available: Strapped Inside Unit Basin - If No Space is Available: Shipped Separately on Truck Bed
Cap Channels for Multi Cell Units	Strapped Inside Unit Basin
Discharge Attenuation	Shipping Location is Unit Dependent - 4' Wide Units: Shipped Separately on Truck Bed - 8' Wide Units and Larger: Mounted Loosely Bolted on Basin
Discharge Hood with Dampers	Shipping Location is Unit Dependent - 4' Wide Units: Shipped Separately on Truck Bed - 8' Wide Units and Larger: Mounted Loosely Bolted on Basin
Electric Basin Heater	Shipping Location is Unit Dependent - End Mounted Heater: Installed in Unit Basin - Side Mounted Heater: Strapped Inside Unit Basin
Electric Basin Heater Control Panel	Shipping Location is Dependent on Control Panel Size - If Space is Available: Mounted on Unit Basin - If No Space is Available: Boxed, Wrapped and Wire Tied Inside Unit Basin
Electric Basin Heater Low Water Cutout	Shipped in Rigging Box
Electric Basin Heater Thermostat	Shipping Location is Unit Dependent - End Mounted Thermostat: Mounted on Unit Basin - Side Mounted Thermostat: Shipped in Rigging Box
Electronic Water Level Control Probes	Mounted in PVC standpipe
Electronic Water Level Control PVC Standpipe	Strapped Inside Unit Basin
External Service Platform with Ladder	Shipping Location is Unit and Accessory Dependent - If Space is Available: Strapped Inside Unit Basin - If No Space is Available: Crated and Shipped Separately on Truck Bed
Factory Mounted Crossover Piping	Welded to Coil Connections
Fan Screens (If not mounted)	Shipping Location is Unit and Accessory Dependent - If Space is Available: Strapped Inside Unit Basin - If No Space is Available: Crated and Shipped Separately on Truck Bed
Fan Screen Supports (If not mounted)	Shipping Location is Unit and Accessory Dependent - If Space is Available: Strapped Inside Unit Basin - If No Space is Available: Crated and Shipped Separately on Truck Bed
Flume Plate	Mounted to Flume Box
Hot Water or Steam Coil	Installed in Unit Basin
Low Water Cutoff for Pump	Shipped in Rigging Box
Remote Sump Trash Screen	Installed In Unit Basin
Rigging Hardware	Shipped in Rigging Box
Safety Cage	Attached to the Ladder
Sealer Tape	Shipped in Rigging Box
Splash Guards for Multi Cell Units	Strapped Inside Unit Basin
Sump Sweeper Piping with and without High Flow Eductors	Installed in Unit Basin
Vibration Isolation Rails	Shipping Location is Unit and Accessory Dependent - If Space is Available: Strapped Inside Unit Basin - If No Space is Available: Shipped Separately on Truck Bed
Vibration Switch	Mounted in Fan Section
Motor Davit and Base	Shipping Location is Unit and Accessory Dependent - If Space is Available: Strapped Inside Unit Basin - If No Space is Available: Crated and Shipped Separately on Truck Bed
Water Level Indicator	Strapped Inside Unit Basin
Water Silencers	Installed in Unit Basin

Table 6 - Unit Accessory Shipping Location



Notes:



Notes:



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