Rigging and Assembly Instructions

AT/UAT
INDUCED DRAFT COOLING TOWERS

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Method of Shipment

All AT/UAT models are shipped with the top section(s) separate from the bottom section(s). 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. In most cases the motors and belts are also shipped inside the pan for mounting during installation.

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, PVC louvers, or PVC fill.
For extended storage beyond six months rotate the fan and fan motor shaft(s) monthly.
Also, the fan shaft bearings should be purged and regreased prior to start-up.

Structural Steel Support

Two structural "I" beams running the length of the unit are all that is required for support of the units. These beams should be located underneath the outer flanges of the unit (see Figure 1). Mounting holes, 19 mm in diameter, are located in the bottom flange of the unit to provide for bolting it 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 13 mm. 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.
Support beams and anchor bolts are to be furnished by others. Always refer to certified print for unit weights, dimensions and technical data.

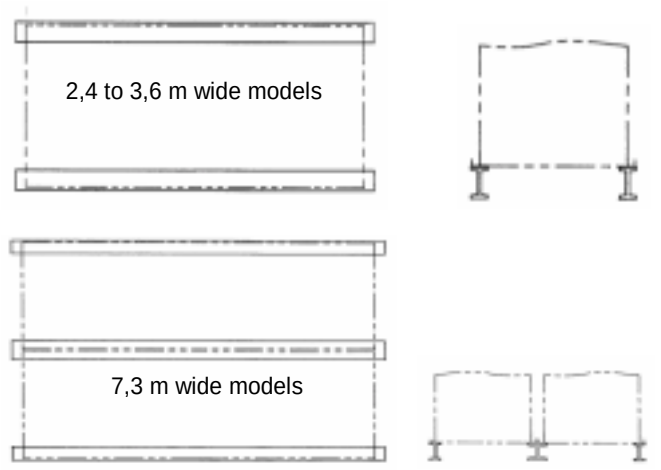

Figure 1 - Structural Steel Support.

Rigging Bottom Section

Lifting Bottom Section

Lifting devices are located in the upper corners of the bottom section for lifting and final positioning purposes as shown in Figure 2. 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" on page 7 for proper arrangement.)** Bolt the bottom section to the steel support before rigging the top section.

2,4 and 2,7 m WIDE MODELS	
UNIT LENGTH (m)	MIN. H (m)
1,8	2,7
2,4	3
2,7	3
3,2	3,3
3,6	3,6
4,3	4,5
5,5	5,7
6,4	6,6

3,6 m WIDE MODELS	
UNIT LENGTH (m)	MIN. H (m)
3,6	4,5
4,3	5,1
5,5	5,7
6	6,3
7,3	4,5
8,5	5,1
11	5,7

Table 1 - Minimum H Dimension for Bottom Sections.

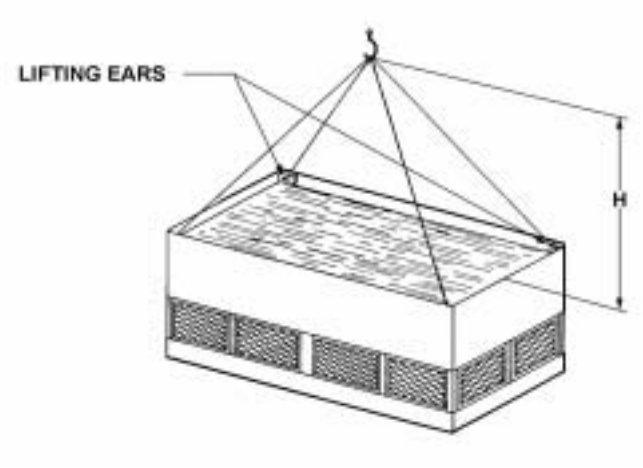

Figure 2a - AT/UAT Bottom Section up to 5,5 m Long

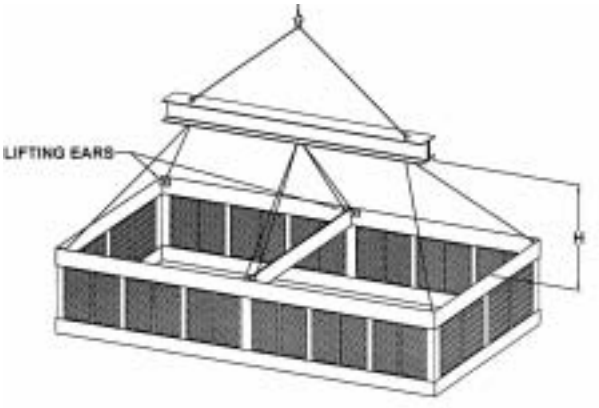

Figure 2b - 7,3 to 11 m Long Bottom Section

Joining Multi-Cell Units
2,4, 2,7 and 3,6 m wide units

Bottom Sections

The models with two bottom sections are shipped separately and are furnished with a connecting equalizer flume between them.

The models with three bottom sections are shipped separately and are furnished with two connecting equalizer flumes 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. All AT/UAT units have one horizontal drip channel and two vertical splash guards (one for each side) per flume box. 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 bottom section with the factory installed flume box 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 3).
3. Clean the mating surface of the equalizer flume opening of any dirt, grease or moisture.
4. Rig the second bottom section adjacent to the equalizer flume on the steel support as shown in Figure 4.
5. Align the bolt holes in the equalizer flume and equalizer opening with drift pins (drift pins shall be provided by others) while drawing the second bottom section against the flanged connection.
6. Install 8 mm bolts, nuts and washers in every hole around the equalizer opening and tighten.
7. Bolt the second bottom section to the steel support.
8. Remove the 6 mm bolts which hold the drip channel retaining clips to the end panel. Place the drip channel over the adjoining pan section flanges. Turn around the retaining clips and re-install them using the same hardware. (See Figure 5)
9. Place the vertical splash guard in the bend of the vertical supports. On galvanized units, attach the vertical splash guard using 8 mm self-tapping screws. On stainless steel units, attach the vertical splash guard using 8 mm stainless steel nuts and bolts. (See Figure 3)

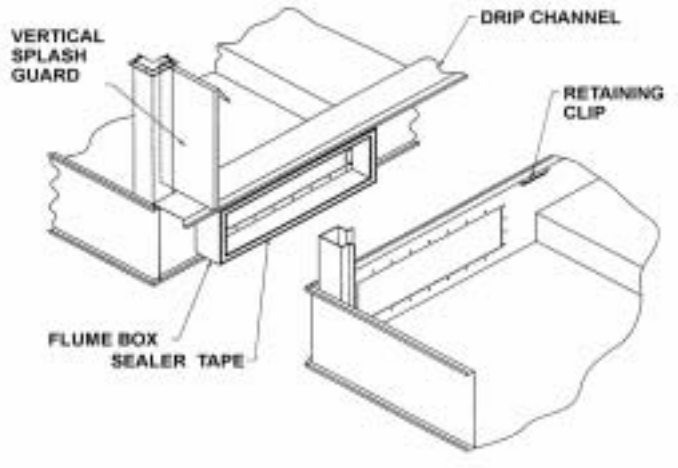

Figure 3 - Equalizer Flume Connection

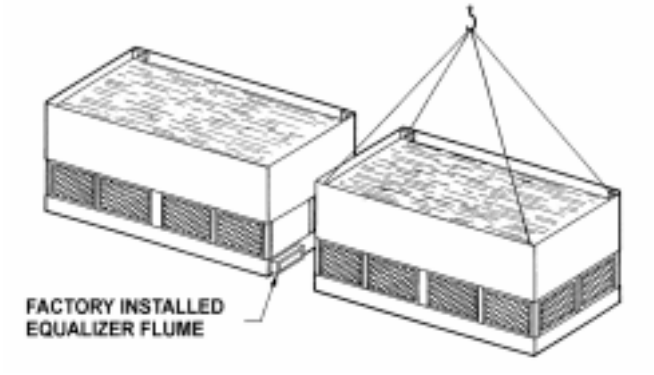

Figure 4 - Equalizer Flume Rigging Detail..

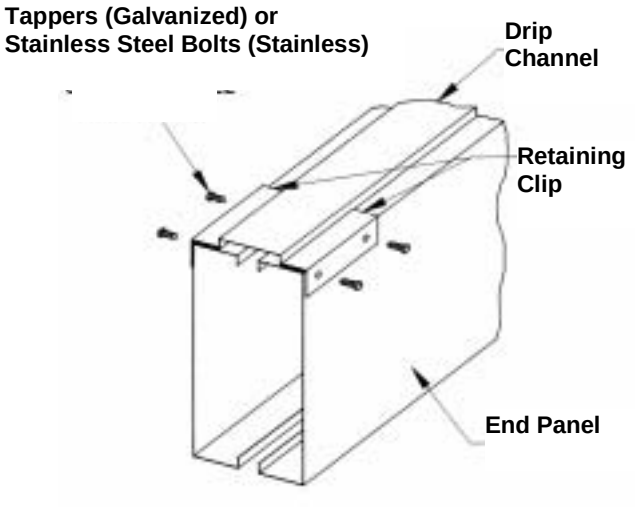

Figure 5 - Drip Channel Installation.

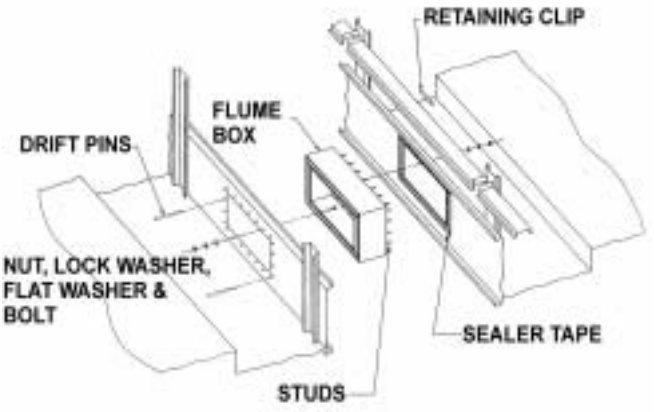

Figure 6 - Flume Assembly.

Joining Multi-Cell Units
7,3 m wide units

Bottom Sections

On 7,3 m wide models the equalizer flume is located on the sides of adjoining bottom sections. This flume box is shipped loose and must be installed to both bottom 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 bottom 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 6. 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.
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 bottom 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 bottom section against the first as shown in Figure 6.
7. Install 8 mm bolts, nuts and washers in every hole around the equalizer opening and tighten.
8. Bolt the second bottom section to the steel support.
9. Remove the 6 mm bolts which hold the drip channel retaining clips to the end panel. Remove the drip channel sections and fasten them together, end to end, by driving a self-tapping 8 mm screw through the section end with the larger hole into the mating end with the smaller hole. Stainless steel units will use 8 mm stainless steel nuts, bolts and washers. (See Figure 7).
10. Place the drip channel assembly over the adjoining pan section flanges. Turn around the retaining clips and re-install using the same hardware. (See Figures 6 and 7).
11. Place the vertical splash guard in the bend of the vertical supports. Attach the vertical splash guard using 8 mm self-tapping screws. On stainless steel units, attach the vertical splash guard using 8 mm stainless steel nuts and bolts. (See Figure 8).

*** 7,3m by 5,5m units have three drip channel sections.**
7,3m by 7,3m units have four drip channel sections.
7,3m by 11m units have six drip channel sections.
All units have two vertical splash guards (one per end).

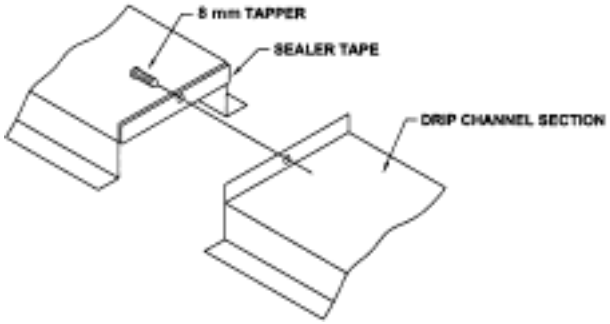

Figure 7 - Drip Channel Assembly

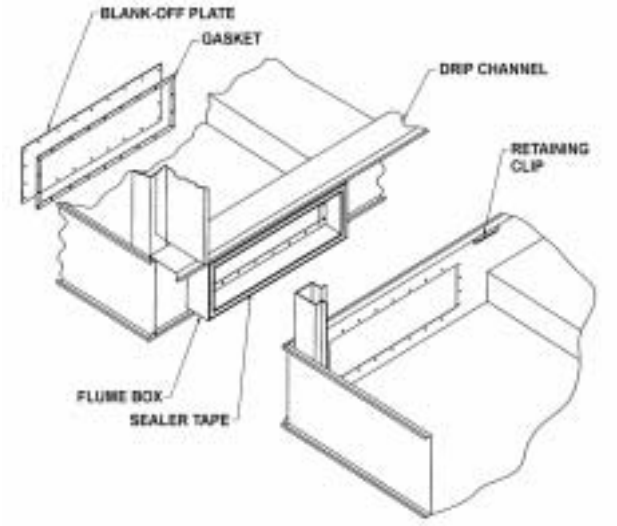

Figure 9 - Optional Blank-Off Plate on the Equalizer Flume.

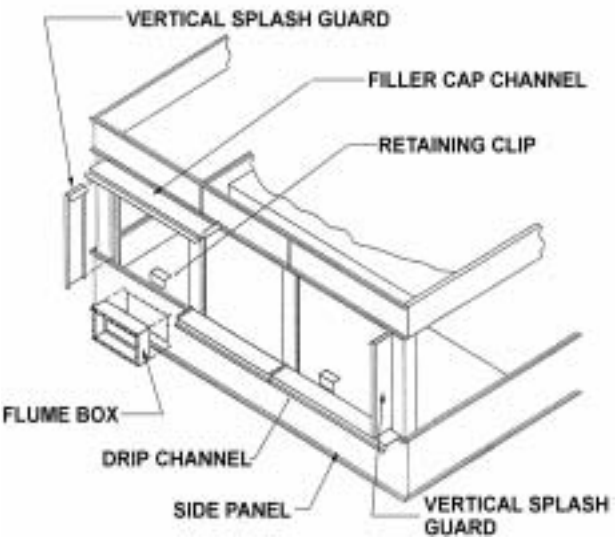

Figure 8 - Attachment of Drip Channel and Splash Guards.

Optional Equalizer Blank-Off Plate For All Multi-Cell Units

An accessory is available to isolate the bottom sections for individual cell operation, periodic cleaning or maintenance. This optional equalizer blank-off plate is factory installed on the equalizer flume inside of the pan and secured by wing nuts (See Figure 9).

For units not requiring the blank-off plate under normal operating conditions, remove the wing nuts, washers, plate and gasket. Reinstall washers and wing nuts for proper leak-free operation of the flume.

Application of 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 10. 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.**

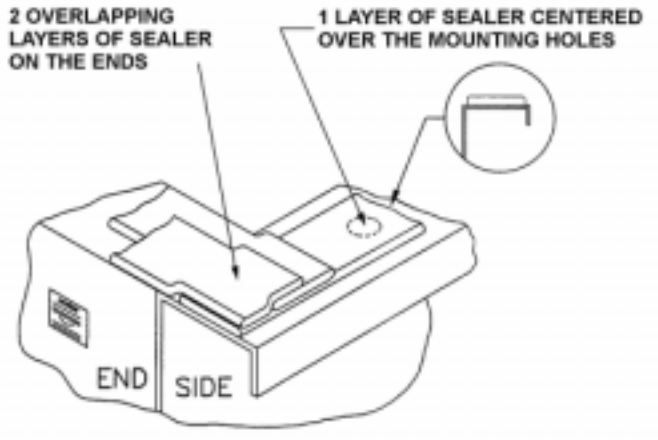

Figure 10 - Sealer on flange of Bottom Section.

Models that have two or more top sections. In these cases, sealer must be applied to all internal flanges as shown in Figure 11.

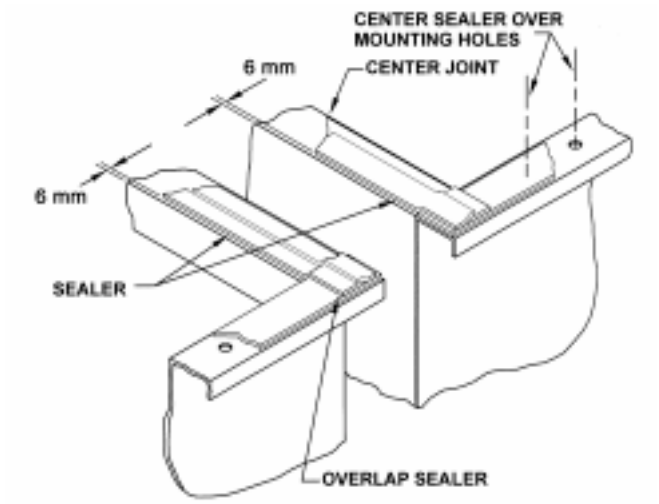

Figure 11 - Sealer Detail for Center Joint of Units with two or more Top Sections.

Note: Motors should be mounted prior to lifting the top section as shown in the "External Motor Installation" section, page 9.

Top Section

"U" bolts are provided in the four corners of the top section for lifting and final positioning (See Figure 12 and 13). See Figure 13 for proper arrangement of cables on fan sections with dual fans. The hook of the crane must be a minimum dimension "H" above the top section being lifted to prevent undue strain on the "U" bolts. See Table 2 for the minimum "H" dimension.

2,4 and 2,7 m WIDE MODELS	
UNIT LENGTH (m)	MIN. H (m)
1,8	2,1
2,4	2,4
2,7	2,7
3,2	3
3,6	3
4,3	3,6
5,5	4,2
6,4	5,1

3,6 m WIDE MODELS	
UNIT LENGTH (m)	MIN. H (m)
3,6	3,6
4,3	3,9
5,5	4,2
6	4,5

Table 2 - Minimum H Dimension for Top Sections.

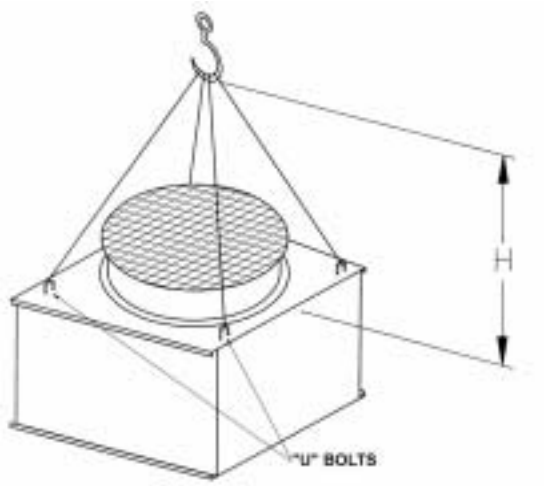

Figure 12 - AT/UAT Top Section(s).

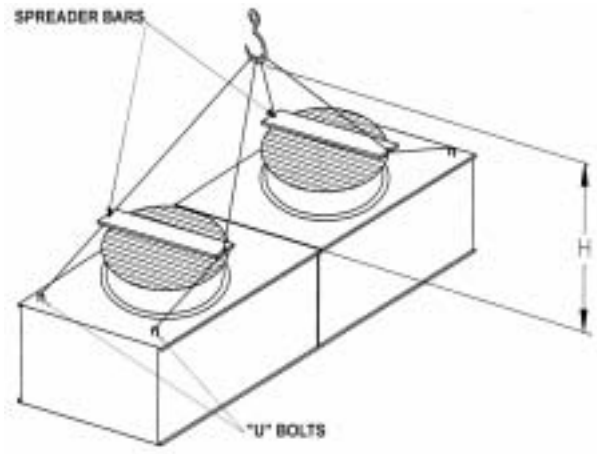

Figure 13 - AT/UAT Top Sections.

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 14a-d). 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.

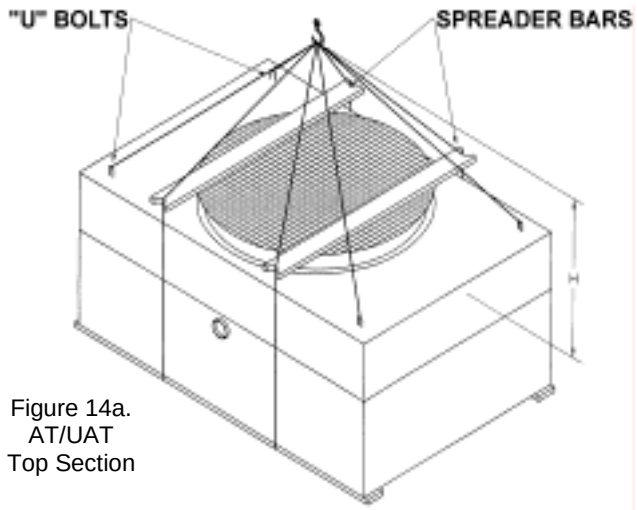

Figure 14a.
AT/UAT
Top Section

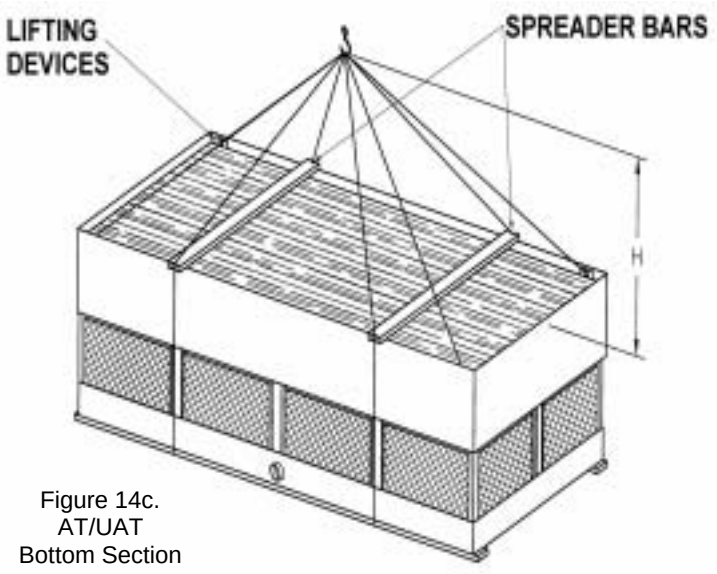

Figure 14c.
AT/UAT
Bottom Section

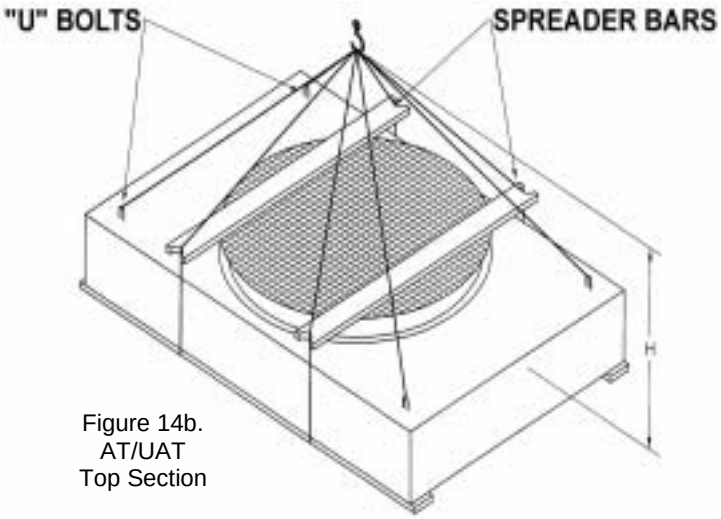

Figure 14b.
AT/UAT
Top Section

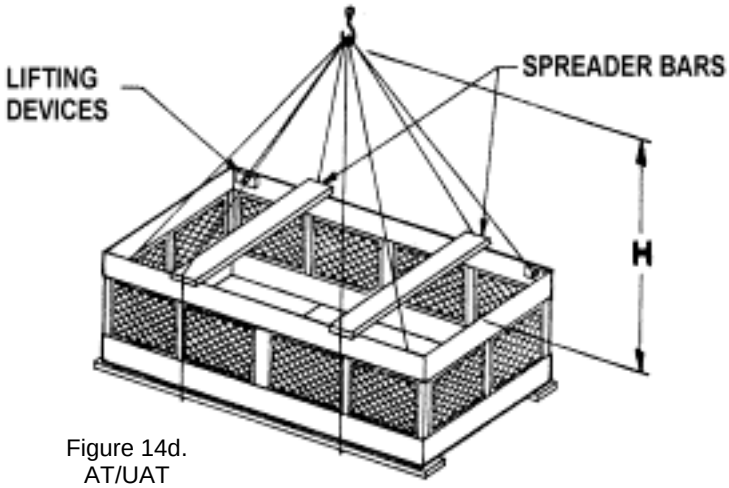

Figure 14d.
AT/UAT
Bottom Section

Figure 14 - Proper Rigging Method for Extended Lifts.

Safety slings and skids should be removed before final positioning of the unit.

Assembly of the Top Section to the Bottom Section

Before assembling the top section to the bottom section, remove any loose parts shipped in the pan.

Wipe the flanges on the bottom of the top section. Check to see that the water distribution connection on the top section is in the correct position relative to the bottom section (see certified unit drawing). Units are also provided with match markings on each section (i.e. A1 of bottom section should match up with A1 of top section).

Lower the top section to within several centimeters of the bottom section making sure the two sections do not touch and the sealer is not disturbed. Using suitably sized drift pins to assure proper alignment, lower the top section down onto the bottom section. Fasten all four corners. Install the remaining fasteners, working from the corners toward the center, using drift pins to align the holes. Fasteners must be installed in every hole on the side flange. None are required on the end flanges. Galvanized units will use 8 mm self tapping screws and stainless steel units will use 8 mm nuts, bolts and washers. (See Figure 15).

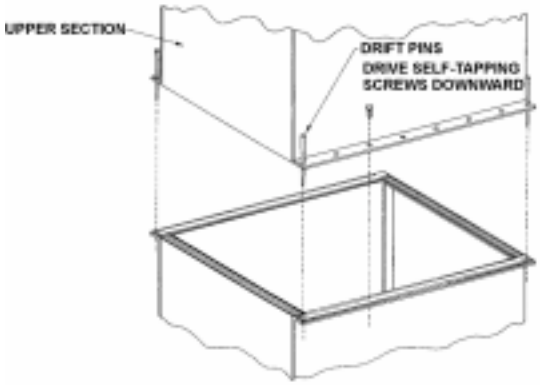

Figure 15 - Mating Upper Section to Bottom Section.

Units with multiple top sections will be mounted in the same fashion as described above. When assembling the top sections to the bottoms sections, self-tapping bolts are required along all mating flanges. The internal mating flange can be accessed from inside the unit. All self-tapping bolts are driven upward through the mating flange. (See Figure 16).

Note: 8 mm stainless steel nuts, bolts and washers are used on stainless steel models.

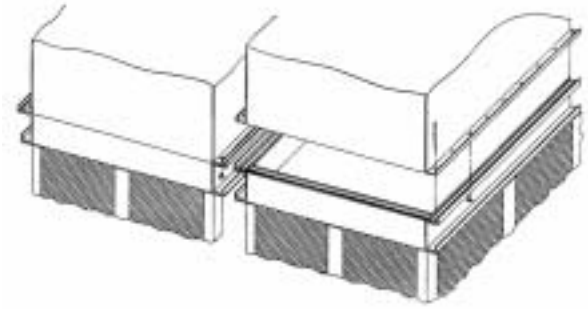

Figure 16 - Mating Upper Section to Bottom Section.

Rigging Fully Assembled Towers

Table 3 lists units which can be assembled prior to final positioning for rigging in one lift. The unit is assembled by the procedures described previously in the “Assembly of the Top Section to the Bottom” section.

All “U” bolts on the top section are to be used for lifting and final positioning of the unit as shown in Figure 17. The hook of the crane must be a minimum dimension of “H” above the top of the unit being lifted to prevent undue strain on the “U” bolts. See Table 3 for minimum “H” dimension.

The “U” bolts should not be used for extended lifts or where any hazard exists unless safety slings are employed under the section. **(See “Extended Lifts” on page 7 for proper arrangement.)**

Note: Fan Screens Ship Factory Mounted

2,4 and 2,7 m WIDE MODELS	
UNIT LENGTH (m)	MIN. H (m)
1,8	2,1
2,4	2,4
2,7	2,7
3,2	3,0
3,6	3,0
4,3	3,6

Table 3 - Minimum H Dimension for Fully Assembled Units.

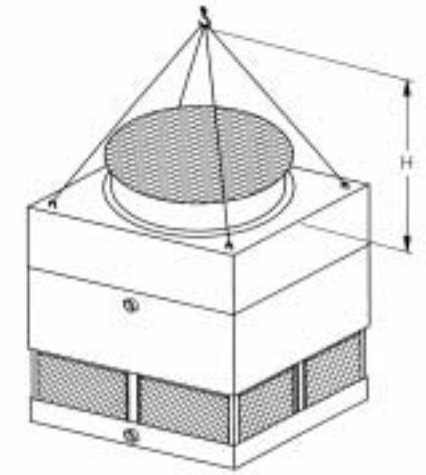

Figure 17 -Fully Assembled Unit. See Table 3.

Note: the motor and cover should be installed prior to lifting the fully assembled unit as described in the “External Motor Installation” section on page 9. **(Models with dimensions listed on Table 3 only)**

Caution: Remaining models not listed in Table 3 cannot be rigged fully assembled.

External Motor Installation

1. Study Figure 18 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 overtighten) 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 19) 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 19 mm 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 insure that the sheaves are properly aligned as they have been pre-set at the factory. As a final check, lay a straight edge from sheave to sheave. There should be four point contact (See Figure 20). Adjust the position of the motor sheave as necessary.
9. To install Motor Guard **L**, match up hinges and install hinge pins **M**. (See Figure 19).
10. Close Motor Guard and install (2) wing bolts **N**.

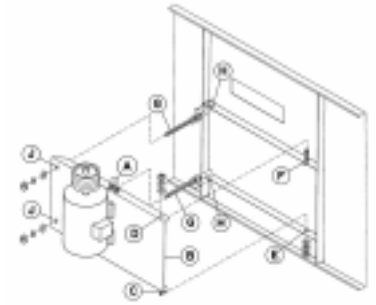

Figure 18 - External Motor Installation.

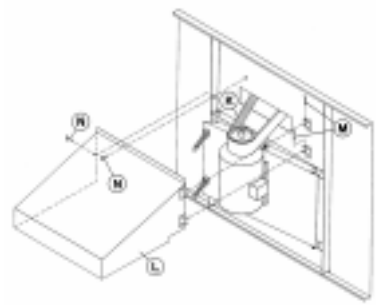

Figure 19 - Motor Guard and Powerband Belt Installation.

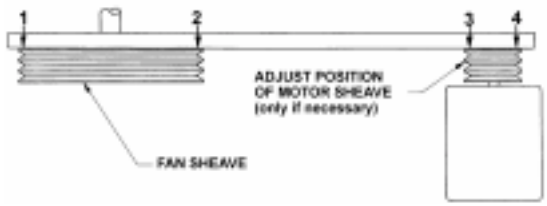

Figure 20 - Sheave Alignment Check.

For 7,3 m wide units

After the top sections have been secured to the bottom sections, a Filler Cap Channel should be installed between the top sections to prevent debris from entering the bottom sections. These sections are simply positioned over the mating flanges as shown in Figure 21. The Filler Cap Channel can be installed from inside the unit by inserting the channel through the space between the basin and casing sections. The channel does not require fastening.

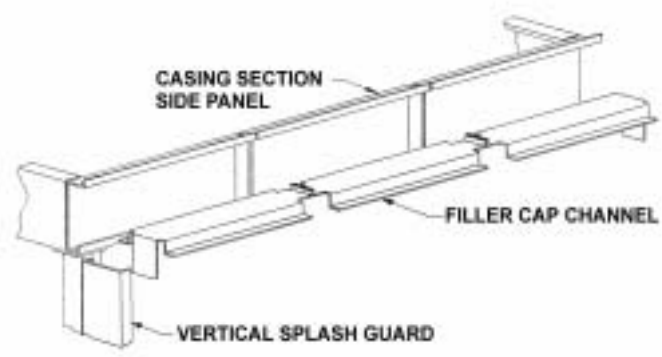

Figure 21- Filler Cap Channel Assembly.

Caution: all 3,6 and 7,3 m wide models cannot be rigged fully assembled

Accessing Internal Mating Flanges on Units with Wind Panels or Water Tight Partitions

When wind panels or water tight partitions are supplied between bottom sections, the upper half of the partition must be lowered to gain access to the upper mating flanges. The upper partition can be lowered by removing the bolts along the bottom edge of the panel. Bolt access is from the inside of the unit. After the mounting flange bolts or screws are installed, raise the upper partition and bolt it back into its original position. Seal the edges of the wind panel and bolt heads with the supplied caulk sealer. (See Figure 22).

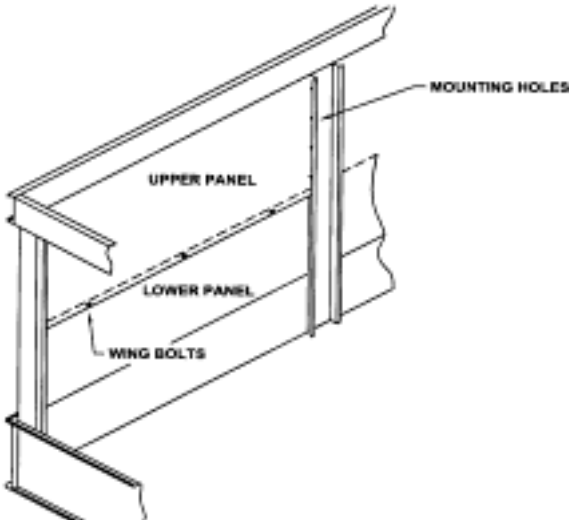

Figure 22 - Lowering of Wind Panels

Mounting Fan Screens

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 23.

3. Join the two screen halves with wire clips (Figure 24). 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 25.

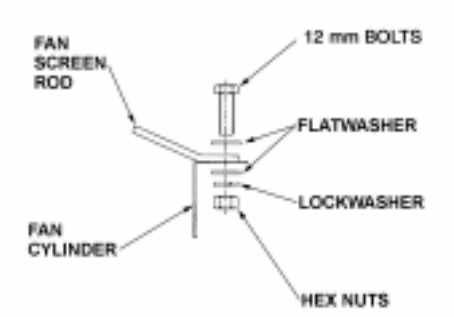

Figure 23 - Attachment of Fan Screen to Discharge Cylinder.

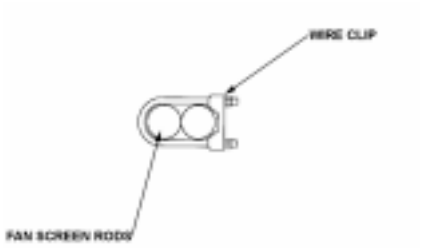

Figure 24 - Wire Clip Arrangement.

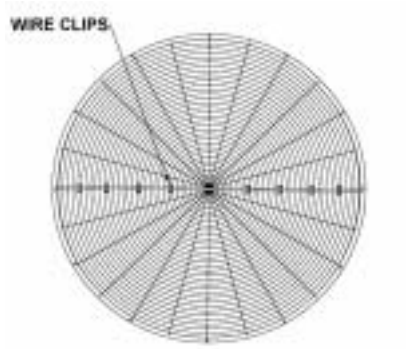

Figure 25 - Wire Clip Spacing.

On 3,6 and 7,3 m wide 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 26).

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 24). There should be 4 clips on either side of the fan screen. Space them evenly as shown in Figure 25.

4. At each hole, attach the fan screen to the discharge cylinder as shown in Figure 23. At the four points where the support frame meets the cylinder, bolt the support frame to the cylinder together with the fan screen.

Figure 26 - Support Frame Installation.

Start-up Details

Shipping Chocks and Debris

Remove any chocks that have been placed inside the unit for shipping purposes. Be sure to remove the chocks from between the fan and fan screen. Clean all debris from the pan prior to start-up. Close and secure all access doors.

Belt Tensioning and Sheave Alignment

AT/UATs are equipped with a factory mounted motor on a sliding base with single bolt adjustment on each motor. Check the belt tension by applying moderate hand pressure to the center of the belt, it should deflect approximately 19 mm. As a final check, confirm the sheave alignment by laying a straight edge from sheave to sheave. There should be four point contact (see Figure 27). Adjust the position of the motor sheave as necessary.

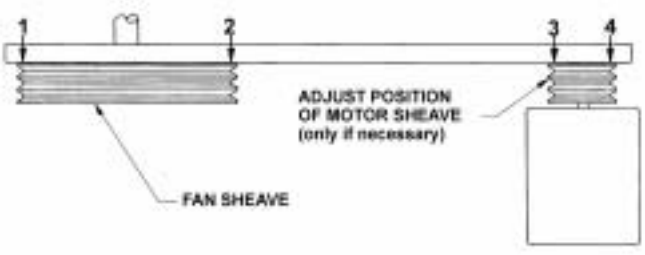

Figure 27 - Sheave Alignment Check.

Bleed-off Line
Make sure a bleed line and valve are installed on the pump discharge side of the system piping to a convenient drain. The bleed-off valve should be open. For installation details, see the “Maintenance Instructions Bulletin.”

Strainer
Check the strainer(s) in the pan to make sure they are in the proper location over the pump suction, alongside of the anticavitation hood. (See Figure 28 and 29).

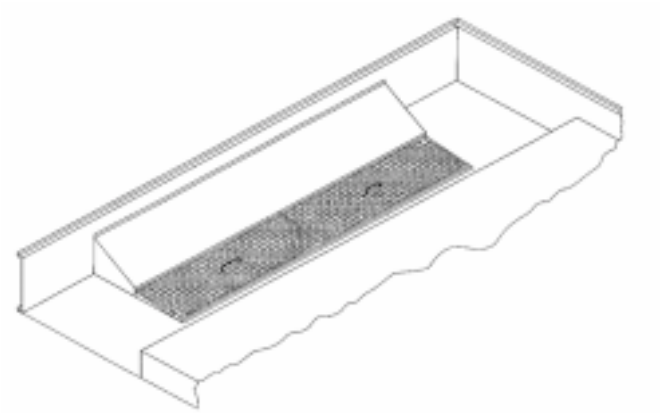

Figure 28 - Strainer Location.

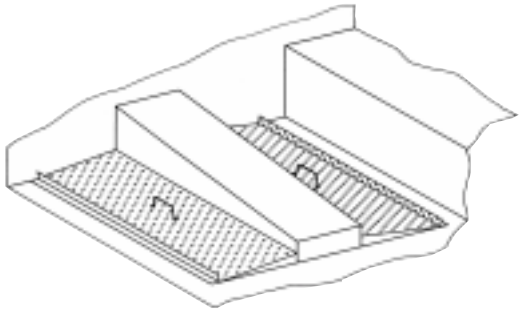

Figure 29 - Strainer Location.

Adjustment of Float Valve
The float valve should be adjusted to maintain the proper water level as specified in the maintenance instructions. At start-up, the pan should be filled to the overflow level.

The water level can be checked during operation by opening the removable louver section at the valve while the pump is running and the fans are off.

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

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

1. Fill the pan to the overflow level.

2. Start the water pumps. Check the water flow to the unit by checking the spray water pressure at the water inlet. It should be the same as the pressure indicated on the certified drawing.

3. Start the fans. Check the fans for proper rotation. Directional arrows are placed on the side of the fan cylinder.

NOTE: Do not operate the fans while the pump is off. Damage to the PVC fill can result during dry operation. Always start the water pumps first, with the fan motors following.

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.

Substitute for "Top Section" in Bulletin 141F, Pages 6 & 7

Rigging the Top Section with the Low Sound Fan Option

"U" bolts are provided in the four corners of the low sound fan top section for lifting and final positioning. See Figure 30 for proper arrangement of cables on fan sections with low sound fans. The hook of the crane must be a minimum dimension "H" above the top section being lifted to prevent undue strain on the "U" bolts. See Table 4 for the minimum "H" dimension.

Units furnished with the low sound fan option have a taller fan cylinder than standard AT/UAT units. Spreader bars are not necessary, but it is very important to maintain the minimum "H" dimension to prevent damage to the taller fan section.

UNIT NO.	MIN. H (m)
AT/UAT 112-012 to 112-912	4,6
AT/UAT 112-314 to 112-914	5,2
AT/UAT 112-018 to 112-918	5,8
AT/UAT 112-520 to 112-920	6,4
AT/UAT 212-024 to 212-924	4,6
AT/UAT 212-128 to 212-928	5,2
AT/UAT 212-036 to 212-936	5,8
AT/UAT 312-036 to 312-936	4,6
AT/UAT 312-042 to 312-942	5,2
AT/UAT 312-054 to 312-954	5,8
AT/UAT 312-260 to 312-960	6,4
AT/UAT 224-018 to 224-918	5,8
AT/UAT 424-024 to 424-924	4,6
AT/UAT 424-036 to 424-936	5,8

Table 4 - Minimum H Dimension for Low Sound Fan Top Sections for 3,6 m and 7,3 m wide units.

Caution: 3,6 m and 7,3 m wide AT/USS units with Low Sound Fans should never be rigged fully assembled.

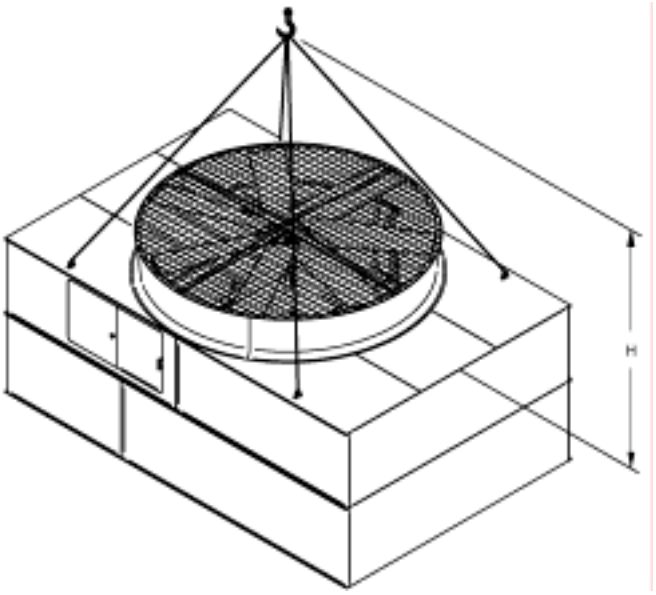

Figure 30 – 3,6 m and 7,3 m Wide AT/UAT Top Section(s) with Low Sound Fan.

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 31). Spreader bars should always be used between the cables at the top of the section to prevent damage to the upper flanges and the extended fan cylinders.

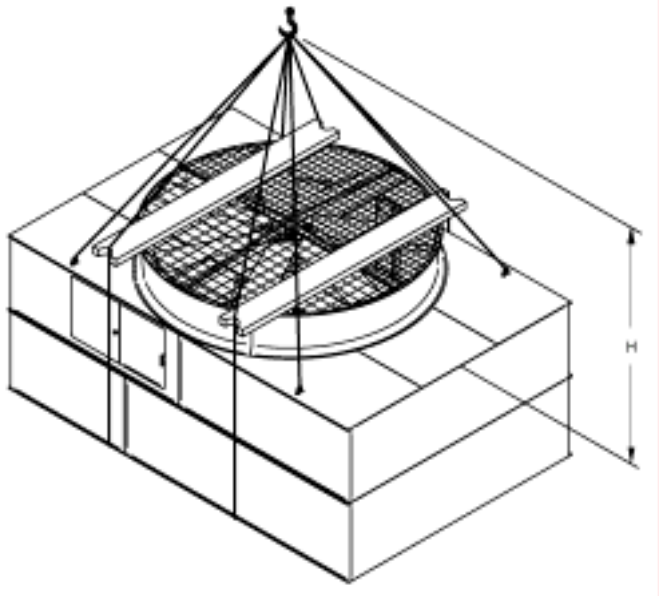

Figure 31 – Proper rigging method for extended lifts with Low Sound Fan top sections.

Substitute for "Top Section" in Bulletin 141F, Pages 6 & 7

Rigging the Top Section with SUPER Low Sound Fan Option

Units furnished with SUPER Low Sound fan options have a taller fan cylinder than standard AT/UAT units. Spreader bars must always be used between the cables at the top of the unit to prevent damage to the fan cylinder. See Figure 32 for proper arrangement of cables on fan sections with single fans. See Figure 33 for proper arrangement of cables on fan sections with dual fans. The hook of the crane must be a minimum dimension "H" above the top section being lifted to prevent undue strain on the "U" bolts. See Table 5 for the minimum "H" dimension.

UNIT NO.	MIN. H (m)
AT/UAT 19-56 to 19-96	2,1
AT/UAT 19-28 to 19-98	2,4
AT/UAT 18-49 to 18-99	2,8
AT/UAT 18-511 to 18-911	3,0
AT/UAT 18-312 to 18-912	3,0
AT/UAT 18-214 to 18-914	3,7
AT/UAT 28-518 to 28-918	4,3
AT/UAT 28-521 to 28-921	5,2
AT/UAT 28-524 to 28-924	3,0
AT/UAT 28-428 to 28-928	3,7
AT/UAT 38-236 to 38-936	3,0
AT/UAT 38-442 to 38-942	3,7

Table 5 - Minimum H Dimension for SUPER Low Sound Fan Top Sections.

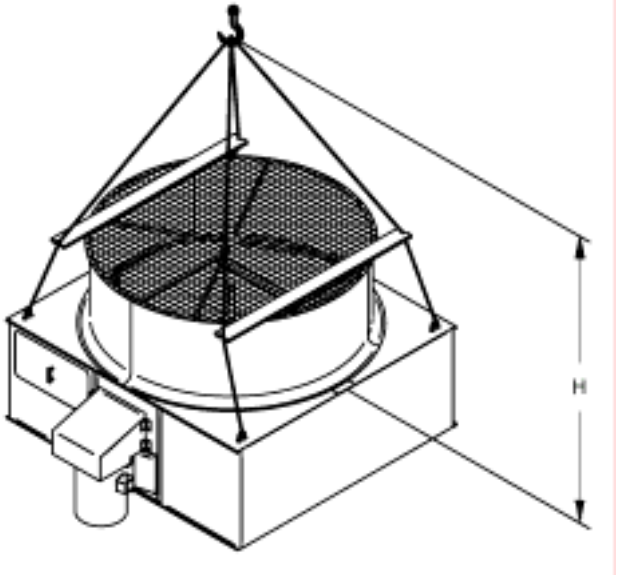

Figure 32 – AT/UAT Top Section(s) with SUPER Low Sound Fan, except Models AT/UAT 28-518 through 28-921.

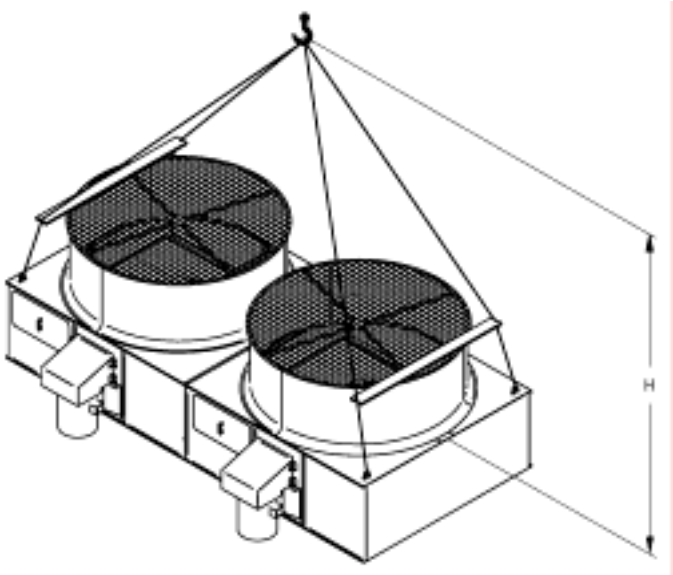

Figure 33 – AT/UAT 28-518 through 28-921 Top Section(s) with SUPER Low Sound Fan

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 34 & 35). Spreader bars should always be used between the cables at the top of the section to prevent damage to the upper flanges and the extended fan cylinders.

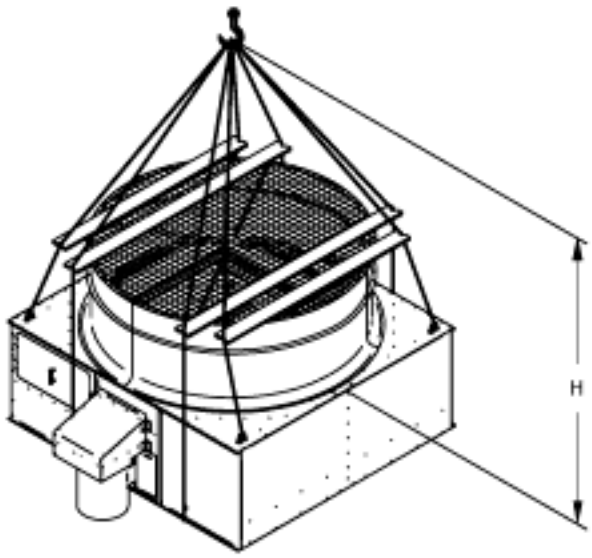

Figure 34 – Proper rigging method for extended lifts with SUPER Low Sound Fan top sections, except Models AT/UAT 28-518 through 28-921.

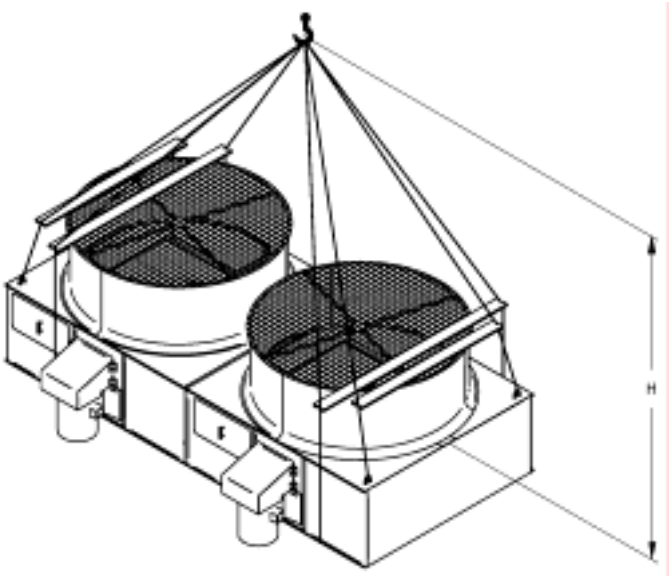

Figure 35 – Proper rigging method for extended lifts with SUPER Low Sound Fan top sections, Models AT/UAT 28-518 through 28-921.

Caution: 2,4 and 2,7 m wide AT/UAT units with SUPER Low Sound Fans should never be rigged fully assembled.

Assembly of the Discharge Sound Attenuator

(Including Units with the Low Sound Fan Option)

The discharge sound attenuator should only be mounted after the top section and bottom section of the tower are fully assembled.

"U" bolts are provided on the four corners of the upper sound attenuator section for lifting and final positioning. Spreader bars must always be used between the cables at the top of the upper sound attenuator section to prevent damage to the section. See Figure 36 for proper arrangement of cables on upper discharge attenuator section. The hook of the crane must be a minimum dimension "H" above the top section being lifted to prevent undue strain on the "U" bolts. See Table 6 for the minimum "H" dimension.

Lower the upper discharge attenuation section to within several centimeters of the attenuator collar attachment which ships pre-mounted on the fan section. Using suitably sized drift pins to assure proper alignment, lower the upper discharge attenuation section onto the attenuator collar attachment. Fasten all four corners. Install the remaining fasteners, working from the corners toward the center, using drift pins to align the holes. Fasteners must be installed in every hole on the side flange. None are required on the end flanges. Galvanized units will use 8 mm self tapping screws and stainless units will use 8 mm nuts, bolts and washers. See Figure 36.

Note: 8 mm stainless steel nuts, bolts and washers are used on stainless steel models

2,4 and 2,7 m WIDE MODELS	
UNIT LENGTH (m)	MIN. H (m)
1,8	2,1
2,4	2,4
2,7	2,7
3,2	2,7
3,6	3,0
4,3	3,0
5,5	2,7
6,4	2,7

3,6 m WIDE MODELS	
UNIT LENGTH (m)	MIN. H (m)
3,6	3,6
4,3	3,6
5,5	4,3
6	4,3

Table 6 – Minimum H Dimension for Discharge Fan Attenuator Sections.

Caution: Upper discharge attenuator section and tower top section must never be rigged as one piece.

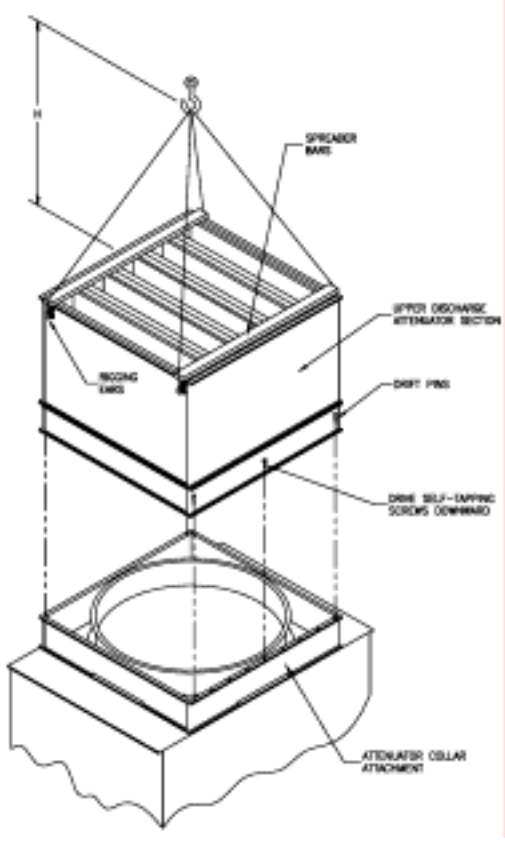

Figure 36 – Mating upper discharge attenuator section to the attenuator attachment collar.

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 37). Spreader bars should always be used between the cables at the top of the section to prevent damage to the upper flanges and the extended fan cylinders.

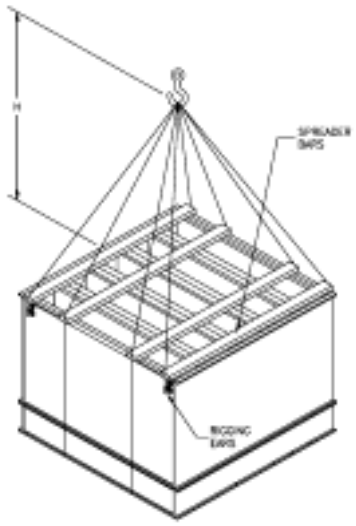

Figure 37 – Proper rigging method for extended lifts with Low Sound Fan top sections.

Notes: _____

