



**BALTIMORE  
AIRCOIL COMPANY**



**FXV / FXV3**

**CXVB / CXVT**

# Crossflow Coil Products

**RIGGING & ASSEMBLY INSTRUCTIONS**



**Crossflow coil products should be rigged and assembled as outlined in this bulletin.**

These procedures should be thoroughly reviewed prior to the actual rigging and assembly of the equipment to acquaint all personnel with procedures to be followed and to ensure that all necessary equipment will be available beforehand. If outstanding circumstances require a departure from the procedures outlined in this manual, contact your local BAC Representative for guidance.



Be sure to have a copy of the certified drawings available for reference. If you do not have a copy of these drawings, or if you need additional information about this unit, contact your local BAC Representative whose name and telephone number are on a label adjacent to the access door. The model number and serial number of the unit are also located in this area.



# Table of Contents

**RIGGING & ASSEMBLY INSTRUCTIONS » CROSSFLOW COIL PRODUCTS**

## **1 Introduction**

---

- 3 Safety
- 3 Shipping
- 3 Pre-rigging Checks
- 4 Cold Weather Operation
- 4 Location
- 4 Warranties

## **2 Unit Rigging & Assembly**

---

- 4 Rigging
- 5 Section Assembly of Two-Piece Cells
- 6 Section Assembly of Optional Three-Piece Cells
- 7 Section Assembly of Four-Piece Cells
- 11 ENDURADRIVE® Fan System Installation

## **3 Single Air Intake Unit Optional Accessories**

---

- 12 Introduction
- 13 Motor Davit Assembly Installation
- 14 PCD Hood Assembly
- 15 Discharge Sound Attenuation Assembly (FXV Only)
- 16 Intake Sound Attenuation Assembly (FXV Only)
- 17 External Service Platform Installation
- 20 External Service Ladder Installation
- 21 Ladder Safety Cage Installation
- 22 Internal Platform Ladder Installation
- 22 Internal Ladder Installation
- 23 Door Platform



# Introduction

**WARNING:** Failure to use lifting provisions can result in a dropped load causing severe injury, death, and/or property damage. Lifts must be performed by qualified riggers following BAC published Rigging Instructions, and generally accepted lifting practices. The use of a supplemental safety sling may also be required if the lift circumstances warrant its use, as determined by the rigging contractor.

**CAUTION:** Only personnel qualified to do so should undertake operation, maintenance and repair of this equipment. Proper care, procedures and tools must be used in handling, lifting, installing, operating, maintaining and repairing this equipment to prevent personal injury and/or property damage.



## Safety

Adequate precautions appropriate for the installation and location of these products should be taken to safeguard the equipment and the premises from damage and the public from possible injury. **The procedures listed in this manual must be thoroughly reviewed prior to rigging and assembly. Read all warnings, cautions, and notes detailed in the margins.**

When the fan speed of the unit is to be changed from the factory set speed, including the use of a variable speed device, steps must be taken to avoid operating at or near the fan's "critical speed" which could result in fan failure and possible injury or damage. Consult with your local BAC Representative on any such applications.



## Shipping

FXV, FXV3, CXVB, and CXVT units are factory-assembled to ensure uniform quality with minimum field assembly. Single air intake models ship in two sections per cell (lower and upper). Dual air intake models ship in four sections per cell (one lower and three upper: each coil section ships separately) to minimize rigging and freight costs. Contact your local BAC Representative for more information. For the dimensions and weights of a specific unit or section, refer to the certified drawings.

## Pre-Rigging Checks

When the unit is delivered to the jobsite, it should be checked thoroughly to ensure all required items have been received and are free of any shipping damage prior to signing the bill of lading.

### The following parts should be inspected:

- Sheaves and Belts
- Bearings
- Bearing Supports
- Fan Motor(s)
- Fan Guard(s)
- Fan(s) and Fan Shaft(s)
- Float Valve Assembly(s)
- Water Distribution System
- Coil Surface
- Cold Water Basin Accessories
- Interior Surfaces
- Exterior Surfaces
- Louvers/Combined Inlet Shields
- Spray Water Pumps
- Mating Surfaces Between Sections/ Modules
- Miscellaneous Items: All bolts, nuts, washers, and sealer tape required to assemble sections or component parts are furnished by BAC and shipped with the unit. A checklist inside the envelope attached to the side of the unit marked "Contractor's Installation Instructions" indicates what miscellaneous parts are included with the shipment and where they are packed.



## Introduction

### Safety

### Shipping

### Pre-Rigging Checks

Unit Weights

Anchoring

### Cold Weather Operation

### Location

### Warranties

## Unit Weights

Before rigging any unit, the weight of each section should be verified from the unit certified drawing. Unit print weights include the final assembled unit with all accessories. Accessory weights (found on the respective drawing) can be deducted from the total weight.

## Anchoring

Seven-eighths inch (7/8") diameter holes are provided in the bottom flange of the basin section for bolting the unit to the support beams. Refer to the suggested support drawing included in the submittal for location and quantity of the mounting holes. **The unit must be level for proper operation.** Anchor bolts must be provided by others. The IBC rating is only certified with standard anchorage locations. Using alternate anchorage locations or alternate steel supports will void any IBC wind or seismic ratings. Contact your local BAC Representative for details.

## Cold Weather Operation

These products must be protected by mechanical and operational methods against damage and/or reduced effectiveness whenever a unit is operated in below freezing ambient conditions. Please refer to the *Crossflow Coil Product Operation and Maintenance Manual* on [www.BaltimoreAircoil.com](http://www.BaltimoreAircoil.com), or contact your local BAC Representative for recommended cold weather operation strategies.

## Location

All evaporative cooling equipment must be located to ensure an adequate supply of fresh air to the unit air intakes. When units are located adjacent to walls or in enclosures, care must be taken to ensure the warm, saturated, discharge air is not deflected and recirculated back to the air intakes.

Each unit should be located and positioned to prevent the introduction of discharge air into the ventilation system of any building. For detailed recommendations on BAC equipment layout, see our website at [www.BaltimoreAircoil.com](http://www.BaltimoreAircoil.com) or contact your local BAC Representative.

## Warranties

Please refer to the Limitation of Warranties (located in the submittal package) applicable to and in effect at the time of the sale/purchase of these products.

## Unit Operation

Prior to start-up and unit operation, refer to the *Crossflow Coil Product Operation & Maintenance Manual* shipped with the unit and also available at [www.BaltimoreAircoil.com](http://www.BaltimoreAircoil.com)



**ATTENTION:** Before an actual lift is undertaken, ensure no water, snow, ice, or debris has collected in the basin or elsewhere in the unit. Such accumulations will add substantially to the equipment's lifting weight.



**NOTE:** Each unit must be located and positioned to prevent the introduction of discharge air into the ventilation systems of the building on which the unit is located and of adjacent buildings.

# 2

## CROSSFLOW COIL PRODUCTS

# Unit Rigging & Assembly

**WARNING:** Failure to use lifting provisions can result in a dropped load causing severe injury, death, and/or property damage. Lifts must be performed by qualified riggers following BAC published Rigging Instructions, and generally accepted lifting practices. The use of a supplemental safety sling may also be required if the lift circumstances warrant its use, as determined by the rigging contractor.

**NOTE:** For weight information, refer to the submittal drawing package.

**NOTE:** All single-cell and multi-cell units must be rigged one section at a time.



### Rigging

Refer to **Tables 1, 2, and 3** and **Figures 1, 6, and 7** for each section's required minimum spreader bar length W1 and W2 (if applicable) and the recommended minimum vertical dimension "H". Refer to **Figures 1, 6, and 7** for dimension reference.

Failure to use lifting provisions can result in a dropped load causing severe injury, death, and/or property damage. Lifts must be performed by qualified riggers following BAC published Rigging Instructions, and generally accepted lifting practices. The use of a supplemental safety sling may also be required if the lift circumstances warrant its use, as determined by the rigging contractor.

### Section Assembly of Two-Piece Cells

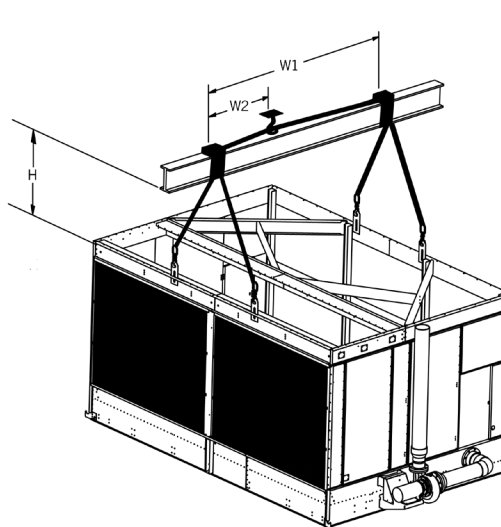


Figure 1a. Lower Section Lift

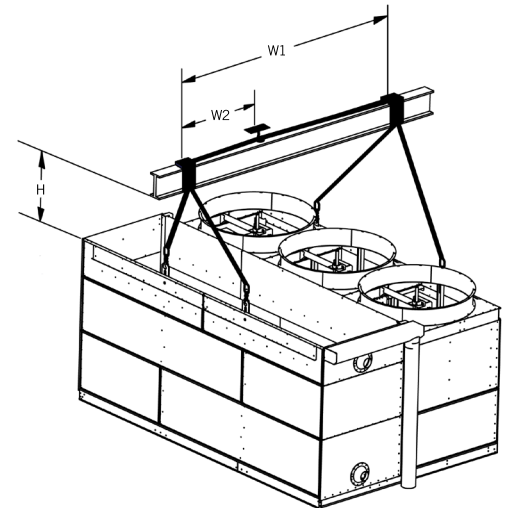


Figure 1b. Upper Section Lift

Model Number		Lower Section			Upper Section		
FXV	CXVB	H	W1	W2	H	W1	W2
FXV-0806x-x-x	CXVB-x-0806-x	3'-6"	8'-6"	4'-0"	3'-1"	8'-6"	3'-2"
FXV-0809x-x-x	CXVB-x-0809-x	4'-4"	8'-6"	4'-0"	3'-1"	8'-6"	3'-2"
FXV-0812x-x-x	CXVB-x-0812-x	4'-4"	8'-6"	4'-0"	5'-3"	8'-6"	3'-2"
FXV-0818x-x-x	CXVB-x-0818-x	5'-3"	8'-6"	4'-0"	8'-2"	8'-6"	3'-2"
FXV-1212x-x-x	CXVB-x-1212-x	4'-4"	11'-10"	5'-3"	5'-3"	11'-10"	4'-2"
FXV-1218x-x-x	CXVB-x-1218-x	5'-3"	11'-10"	5'-3"	8'-2"	11'-10"	4'-2"

Table 1. Minimum Vertical Dimension and Spreader Bar Length for Single Air Intake FXV and CXVB Units

#### Two-Piece Cell Assembly Instructions:

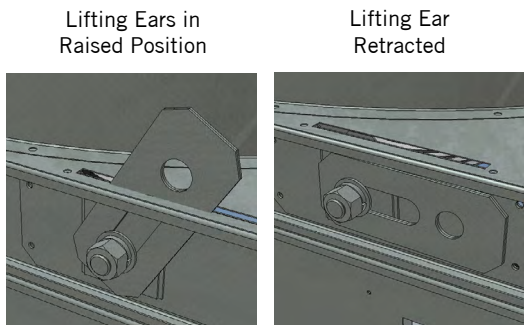
1. Remove any accessories shipped in the cold water basin.
2. Position the lower section on the unit supports and bolt in place.
3. Wipe any moisture and dirt from the perimeter mating flanges of the lower section.
4. After the lower section of the unit is in place, retract the lifting ears (where applicable) inside the unit to avoid interference when the upper section of the unit is positioned as illustrated in **Figure 2**.
5. Install flat butyl sealer tape (BAC part # 554000) supplied with the unit, as illustrated in **Figure 3**, on the mating flanges of the lower section in a continuous line. At each corner, allow 1" overlap.
6. Before lowering the upper section onto the lower section, be sure to line up the bolt holes using drift pins as illustrated in **Figure 4** (no fewer than one hole at each edge). Guide the upper section onto the lower section starting with a bolt hole at one corner and following down the flange.
7. Secure the upper section in place using bolts supplied with the unit to ensure leak-free operation (**Figure 5**).



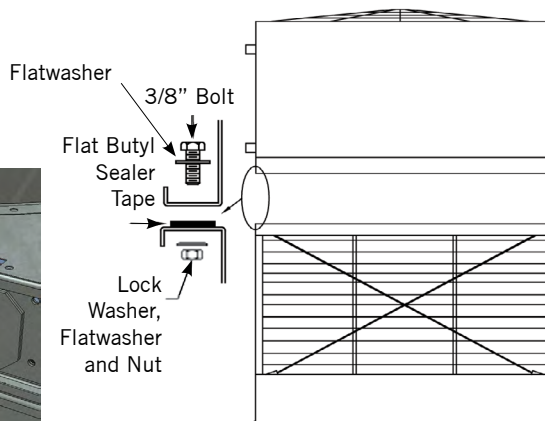
**NOTE:** All piping must be restrained to ensure no vertical or horizontal movement. All piping and supports are to be furnished by others. Piping must be independently supported, not from the unit. Refer to the certified drawing for details on the connection size, etc.



**NOTE:** IBC Rating is void if section assembly is not performed as described in this manual.



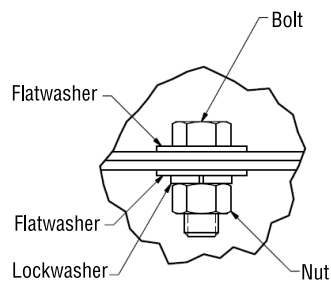
**Figure 2.** Lifting Ears



**Figure 3.** Assembly of Two-Piece Unit



**Figure 4.** Drift Pin Alignment



**Figure 5.** Typical Bolting

**WARNING:** Failure to use lifting provisions can result in a dropped load causing severe injury, death, and/or property damage. Lifts must be performed by qualified riggers following BAC published Rigging Instructions, and generally accepted lifting practices. The use of a supplemental safety sling may also be required if the lift circumstances warrant its use, as determined by the rigging contractor.

**NOTE:** For the lower section, see Figure 1a on page 4.

## Section Assembly of Optional Three-Piece Cells

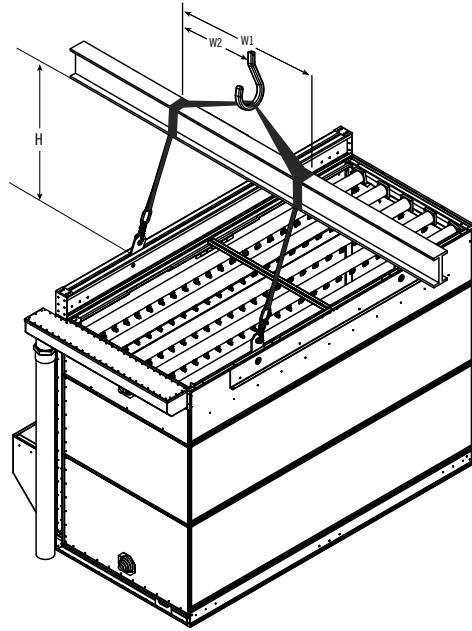


Figure 6a. Coil Section Lift

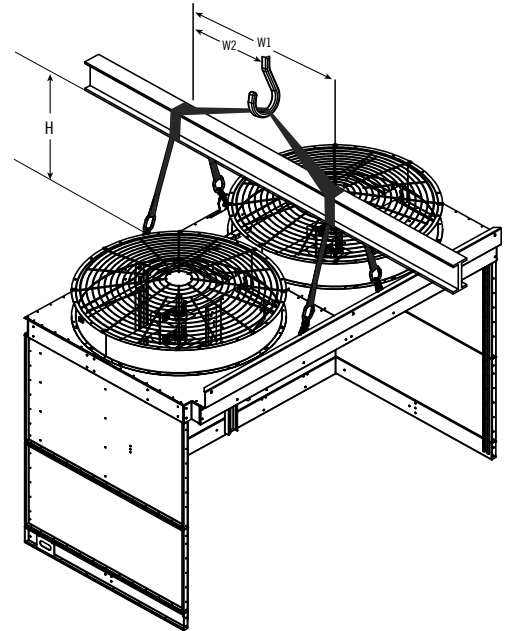


Figure 6b. Plenum Section Lift

Model Number		Lower Section			Plenum Section		Coil Section	
FXV	CXVB	H	W1	W2	H	W3	H	W4
FXV-0806x-x-x	CXVB-x-0806-x	3'-6"	8'-6"	4'-0"	3'-1"	4'-11"	3'-1"	3'-5"
FXV-0809x-x-x	CXVB-x-0809-x	4'-4"	8'-6"	4'-0"	3'-1"	4'-11"	3'-1"	3'-5"
FXV-0812x-x-x	CXVB-x-0812-x	4'-4"	8'-6"	4'-0"	5'-3"	4'-11"	5'-3"	3'-5"
FXV-0818x-x-x	CXVB-x-0818-x	5'-3"	8'-6"	4'-0"	8'-2"	4'-11"	8'-2"	3'-5"
FXV-1212x-x-x	CXVB-x-1212-x	4'-4"	11'-10"	5'-3"	5'-3"	6'-1"	5'-3"	5'-2"
FXV-1218x-x-x	CXVB-x-1218-x	5'-3"	11'-10"	5'-3"	8'-2"	6'-1"	8'-2"	5'-2"

Table 2. Minimum Vertical Dimension and Spreader Bar Length for Optional Three-Piece Lift for Single Air Intake FXV and CXVB Units





Three-Piece Cell Assembly Instructions:

1. Remove any accessories shipped in the cold water basin.
2. Position the lower section on the unit supports and bolt in place (see **Figure 1a** on **page 4**).
3. Wipe any moisture and dirt from the perimeter mating flanges of the lower section.
4. After the lower section of the unit is in place, retract the lifting ears (where applicable) inside the unit as illustrated in **Figure 2** on **page 5** to avoid interference when the coil and plenum sections of the unit are positioned.
5. Install butyl sealer tape (BAC part # 554000) supplied with the unit, as illustrated in **Figure 3**, on the mating flanges of the lower section in a continuous line. At each corner, allow a 1" overlap.
6. Before lifting the coil section, ensure that the three-piece rigging kit is properly installed onto the coil module. Refer to the 3 Piece Lift Kit Instructions included in the Customer Information Packet shipped with the unit.
7. Before lowering the coil section onto the lower section, be sure to line up the bolt holes using drift pins as illustrated in **Figure 4** on **page 5** (no fewer than one hole at each edge). Guide the coil section onto the lower section starting with a bolt hole at one corner and following down the flange.
8. Secure the coil section in place using bolts supplied with the unit to ensure leak-free operation (**Figure 5** on **page 5**).
9. Apply foam tape (BAC part #270567) to the coil section flanges that mate with the plenum section (**Figure 6a**).
10. Remove the three-piece rigging kit from the coil module.
11. Before lowering the plenum section onto the lower section, be sure to line up the bolt holes using drift pins as illustrated in **Figure 4** (no fewer than one hole at each edge). Guide the plenum section onto the lower section starting with a bolt hole at one corner and following down the flange.
12. Secure the plenum section in place and attach to coil section using bolts supplied with the unit to ensure leak-free operation (**Figure 5**).
13. Remove the three-piece rigging kit from the plenum section.

Section Assembly of Four-Piece Cells (FXV3 and CXVT)

Model Number	Lower Section		Plenum Section		Coil Section	
	H	W1	H	W1	H	W1
FXV3-1224-xxx	20'	12'	20'	12'	16'	12'
FXV3-1426-xxx	20'	14'	22'	14'	16'	14'
CXVT-x-1224-x, XECXVT-1224-x, CXVT-x-2424-x, XECXVT-2424-x	20'	12'	20'	12'	16'	12'
CXVT-x-1426-x, XECXVT-1426-x, CXVT-x-2826-x, XECXVT-2826-x	20'	14'	22'	14'	16'	14'

Table 3. Minimum Vertical Dimension and Spreader Bar Length for Dual Air Intake FXV and CXVT Units



**WARNING:** Failure to use lifting provisions can result in a dropped load causing severe injury, death, and/or property damage. Lifts must be performed by qualified riggers following BAC published Rigging Instructions, and generally accepted lifting practices. The use of a supplemental safety sling may also be required if the lift circumstances warrant its use, as determined by the rigging contractor.

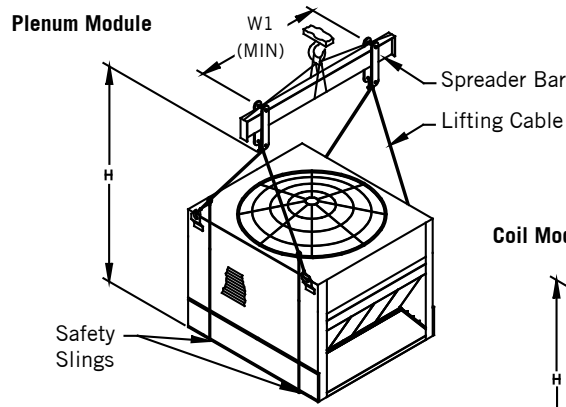


Figure 7a. Plenum Module Lift

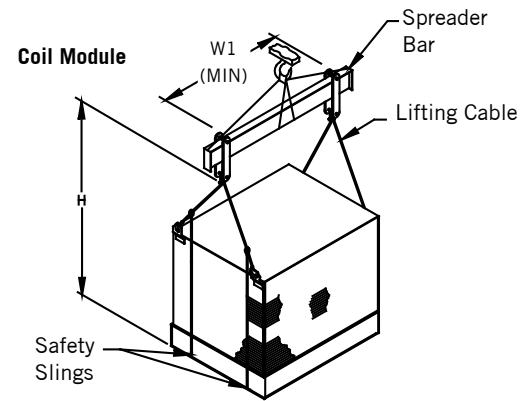


Figure 7b. Coil Module Lift

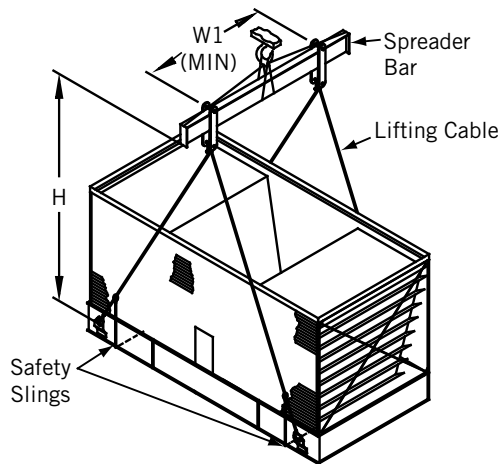


Figure 7c. Lower Section Lift

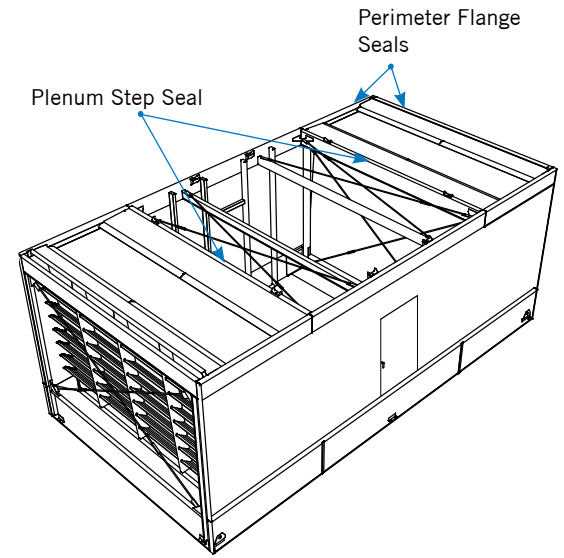


Figure 8. Lower Section Sealing Detail

**NOTE:** All single-cell and multi-cell units must be rigged one section at a time.



### Dual Air Intake Four Piece Cell Assembly Instructions:

1. Remove any accessories shipped in the cold water basin.
2. Position the lower section on the unit supports and bolt in place.
3. Wipe moisture and dirt from the perimeter flange and plenum step as shown in **Figure 8**.
4. Apply flat butyl sealer tape (BAC part #554000) to critical seal areas shown in **Figure 9**. Apply a 2" x 2" piece of flat butyl sealer tape to the corner rigging guides as shown in **Figure 10**. Apply flat butyl sealer tape across the plenum step as shown in **Figure 11**.
5. Apply flat butyl sealer tape around the entire perimeter of the lower section. Align the tape on the perimeter flange as shown in **Figure 12**. See **Figures 10** and **11** for critical sealing areas. Allow 1" overlap tape at these locations.

Critical Seal (See Figure 11)

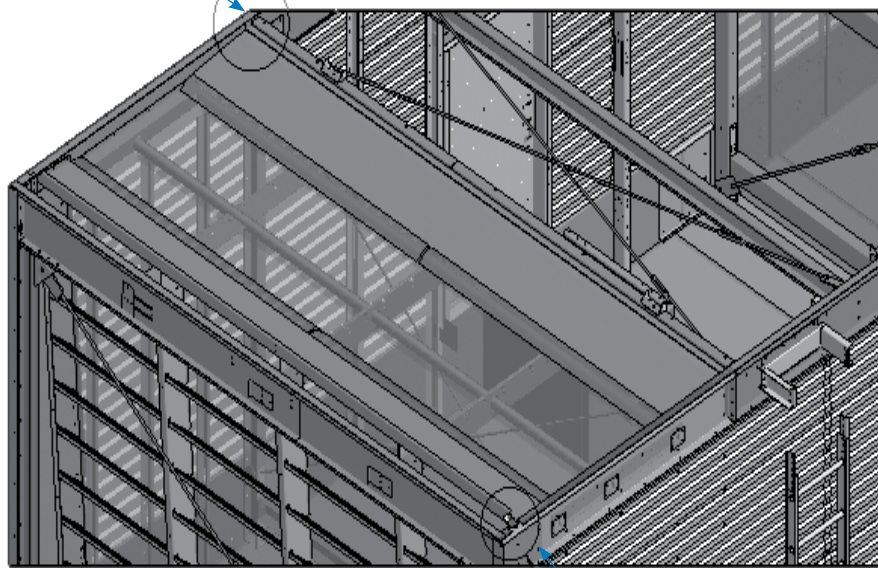


Figure 9. Upper and Lower Assembly for Dual Air Intake FXV3 and CXVT

Critical Seal (See Figure 10)

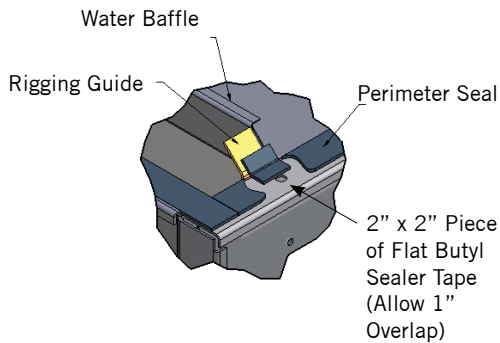


Figure 10. Perimeter Seal Detail

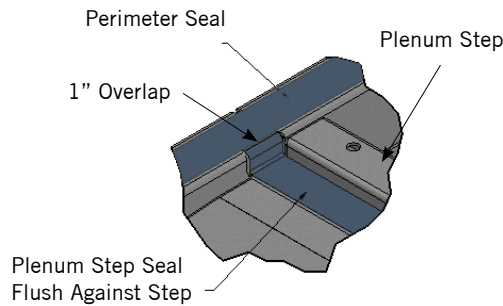


Figure 11. Plenum Step Detail

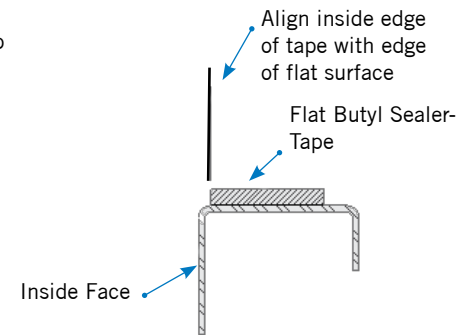


Figure 12. Application of Butyl Sealer Tape

6. Lift and set the plenum module. Center the plenum module transversely and longitudinally. The rigging guides (Figure 13a) will engage when the plenum module is within 2" of the lower section. Bolt the plenum module in place at the four internal bracket locations. See Figure 5 on page 5 for typical bolting detail.

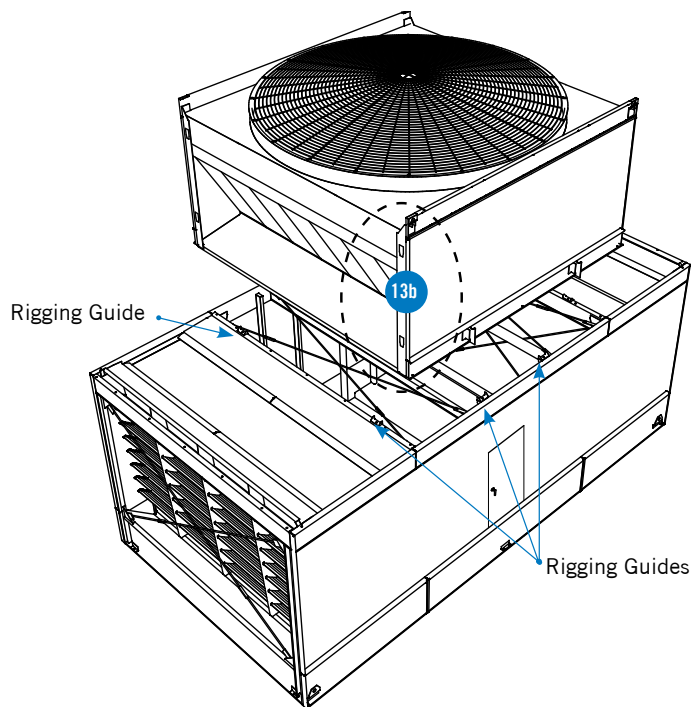


Figure 13a. Plenum Module Rigging

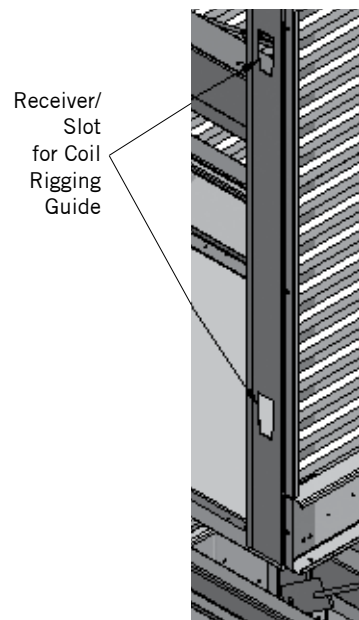


Figure 13b. Detail of Receiver/Slot for Coil Rigging Guide

- Before rigging the coil modules, wipe any moisture and debris from the corner columns and apply "D" seals (BAC part # 271665) at two locations on each coil module as shown in **Figure 14b**.

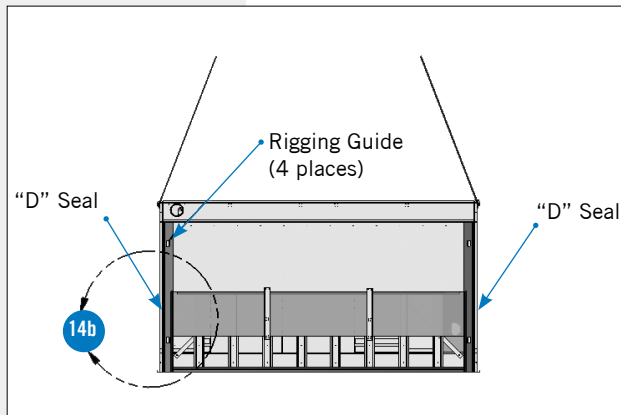


Figure 14a. Coil Module as Seen from the Plenum Side

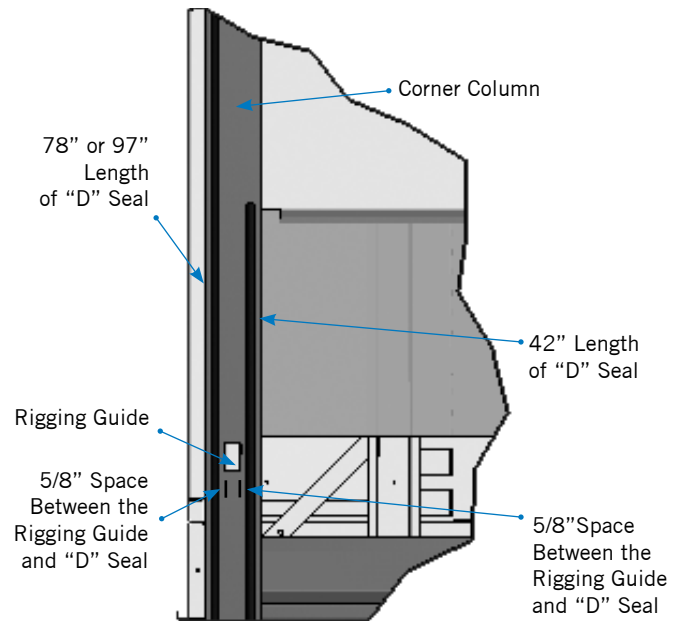


Figure 14b. Detail of Corner Column

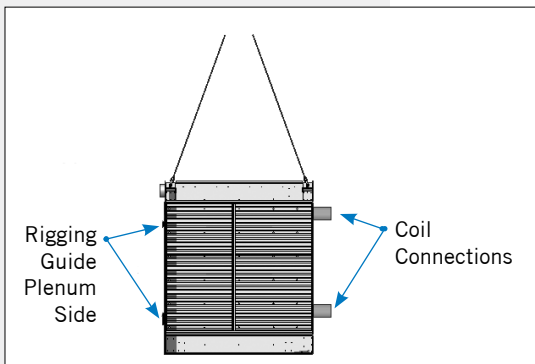


Figure 15. Coil Module End

- Lift the coil module and verify that it is level. Adjust lifting devices as necessary to level the coil module before attempting to set. The coil connection of the coil module weighs more and will affect the balance. Tolerances are given in **Figures 16** and **17**.

**NOTE:** Failure to level the coil module for rigging will prevent proper engagement of rigging guides.

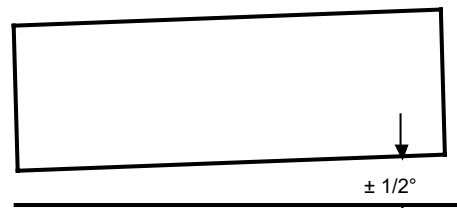


Figure 16. Coil Module Level Tolerance as Seen from the Plenum Side

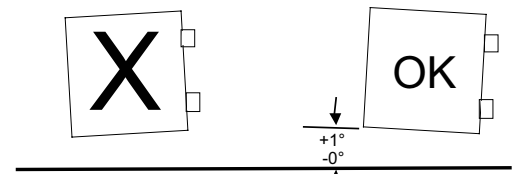


Figure 17. Coil Module Level Tolerance as Seen From the Coil Module End

- To engage the rigging guides, the coil module must be positioned between 2 3/4" and 3 3/4" above the lower section as it is moved towards the plenum module. Once the coil module rigging guides have engaged the plenum module corner columns, lower the coil into final position as shown in **Figure 18**.

- Bolt the coil module to the lower section along the lower face flange. See **Figure 5** on **page 5** for typical bolting details.

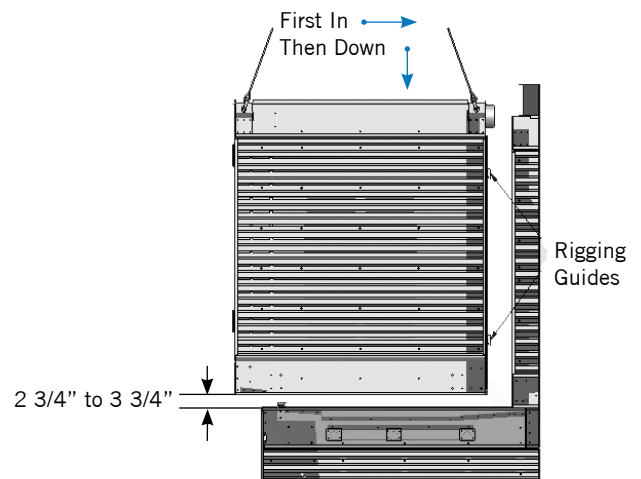


Figure 18. Coil Module Rigging



## ENDURADRI<sup>®</sup> Fan System Installation

The ENDURADRI<sup>®</sup> Fan System is optional for select Series FXV3 and CXVT models. The ENDURADRI<sup>®</sup> Fan System variable frequency drive (VFD) is to be installed per the *ACS880+N5350 Cooling Tower Drives User's Guide* available at [www.abb.com](http://www.abb.com). The fan motor must be wired directly into the VFD and cannot be wired across the line. For wiring details, refer to the submittal drawings.



### Warnings for the ENDURADRI<sup>®</sup> Fan System

- **WARNING:** ENDURADRI<sup>®</sup> Fan System motors can induce voltage and current in the motor leads by rotating the motor shaft, even when the motor is completely disconnected from the power source. Electrical shock can cause severe personal injury or death. Therefore, mechanically lock or tie down the fan until all wiring has been completed and before servicing the drive system, or when performing any motor maintenance procedure. Only qualified personnel should attempt the installation, operation and maintenance of this equipment.
- **WARNING:** Pacemaker danger – Magnetic and electromagnetic fields in the vicinity of current carrying conductors and ENDURADRI<sup>®</sup> Fan System motors can result in a serious health hazard to persons with cardiac pacemakers, metal implants, and hearing aids. To avoid risk, stay away from the area surrounding the ENDURADRI<sup>®</sup> Fan System motor.
- **WARNING:** The VFD may apply hazardous voltages to the motor leads after power to the controller has been turned off. Verify that the controller is incapable of delivering hazardous voltages and that the voltage at the motor leads is zero before proceeding. Failure to comply with this warning may result in severe personal injury or death.



### Attentions for the ENDURADRI<sup>®</sup> Fan System

- VFD must be powered on at all times so that trickle current can remove moisture from motor when idle.
- Use only a shielded motor power cable with a complete circumferential braided or copper film/tape ground jacket around the power leads. This ground should be secured to the motor frame from within the motor terminal box and must return without interruption to the drive ground.
- To prevent equipment damage, be sure that the electrical service is not capable of delivering more than the maximum motor rated amps listed on the rating plate.



# Single Air Intake Unit Optional Accessories

## Introduction

**This section includes installation information for FXV and CXVB single air intake optional accessories only.** For dual air intake units, all optional accessories such as ladders, safety cages, platforms and handrail packages should be installed as shown on the appropriate reference drawing in the submittal package from Baltimore Aircoil Company. Any applicable reference drawings are included with the unit in the envelope attached to the side of the unit marked “Contractor’s Installation Information.”

For this section, please refer to **Table 4** for rounded unit lengths and widths. These rounded measurements are used in the optional accessory installation instructions.

**NOTE:** Motor davit should be installed prior to rigging the upper fan section for easier installation.



Model Number		Rounded Width	Rounded Length
FXV	CXVB		
FXV-0806x-x-x	CXVB-x-0806-x	8'	6'
FXV-0809x-x-x	CXVB-x-0809-x	8'	9'
FXV-0812x-x-x	CXVB-x-0812-x	8'	12'
FXV-0818x-x-x	CXVB-x-0818-x	8'	18'
FXV-1212x-x-x	CXVB-x-1212-x	12'	12'
FXV-1218x-x-x	CXVB-x-1218-x	12'	18'

Table 4. Rounded Widths and Lengths for Single Air Intake FXV and CXVB Units

## Motor Davit Assembly Installation (Optional)

The removal system includes a davit assembly and a removable panel for each motor. The assembly is located on the side opposite of the air intake face to facilitate motor replacement.

1. Verify davit bracket(s) are already installed on the unit above the motor access panel(s).
2. Attach davit support(s) to davit bracket(s) with bolts, nuts, and lockwashers provided.
3. Lower davit arm into davit support. Relocate as necessary.

End Davit Assembly

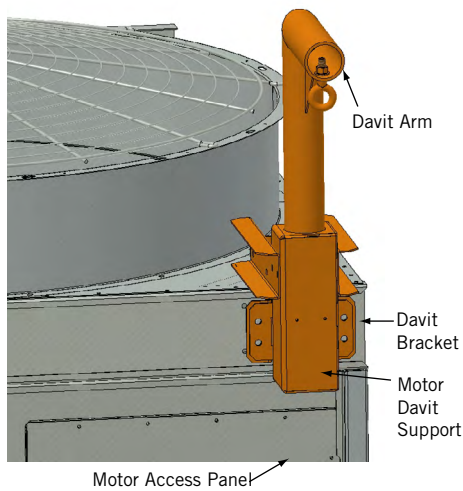


Figure 19a. End Motor Davit Assembly

Center Davit Assembly (When Applicable)

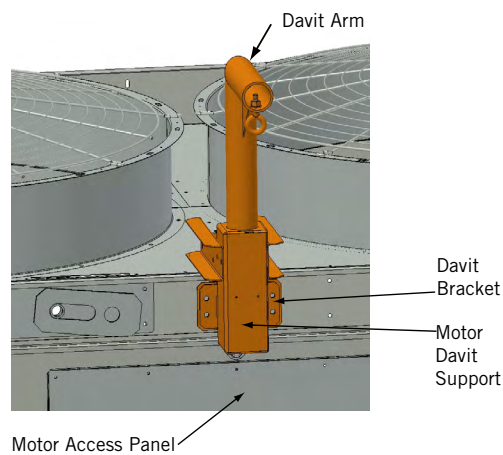


Figure 19b. Center Motor Davit Assembly

## Positive Closure Damper (PCD) Hood Assembly (Optional)

The FXV's innovative design results in a low heat loss when the unit is idle. When additional heat loss reduction is desired, coil air intake hoods with factory mounted PCDs with stainless steel linkages and damper actuators can be provided. The motor actuators are easily accessible. The addition of optional factory mounted insulation to the hood and casing can further reduce the heat loss by minimizing losses due to conduction.

1. Ensure the coil section lifting ears have been retracted to avoid interference when the PCD hood is positioned as illustrated in **Figure 2** on **Page 5**.
2. Lower the PCD hood into place with the access door on the louver face of the unit.
3. Apply foam tape (BAC part # 270567) to the bottom edge of the PCD hood. Attach the PCD hood along the front and back using hardware provided.

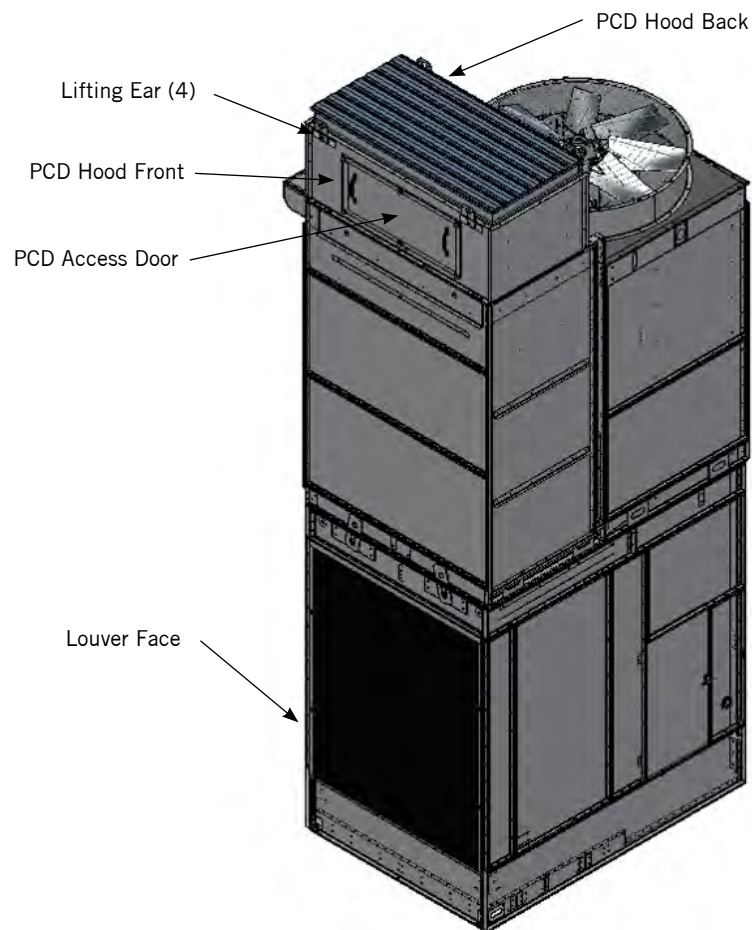


Figure 21. PCD Hood Assembly (FXV-0806 Shown)





## Discharge Sound Attenuation Assembly (FXV Only) (Optional)

1. Verify clips are factory installed as shown in **Figure 22** and **Table 4**.
2. Lower attenuator into place and fasten using provided hardware and attenuator clips.

Model Number	Position
FXV-0806, FXV-0809	A, B, E, and F
FXV-0812, FXV-0818, FXV-1212, FXV-1218	A, B, C, D, E, and F

Table 4. Position of Discharge Sound Attenuation Clips

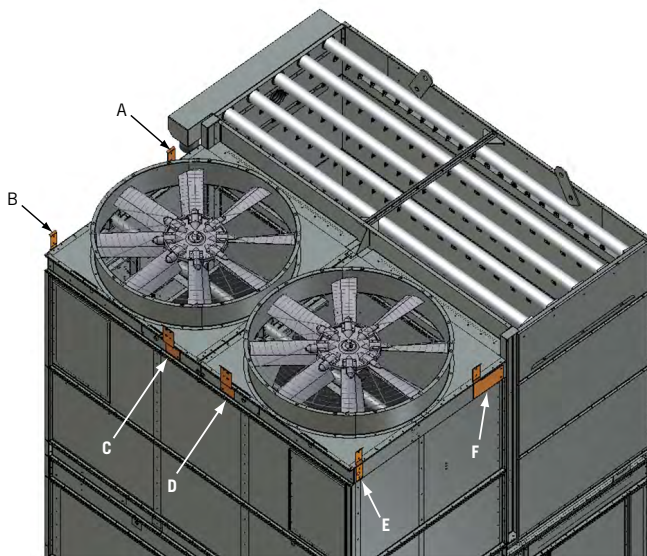


Figure 22. Position of Discharge Sound Attenuation Clips



**NOTE:** For extremely sound sensitive installations, factory designed, tested and rated sound attenuation is available for both the air intake and discharge. On single air intake models the thermal performance with intake or discharge sound attenuation is certified in accordance with CTI Standard STD-201.



**NOTE:** Discharge sound attenuation clip position is unaffected by the unit configuration.

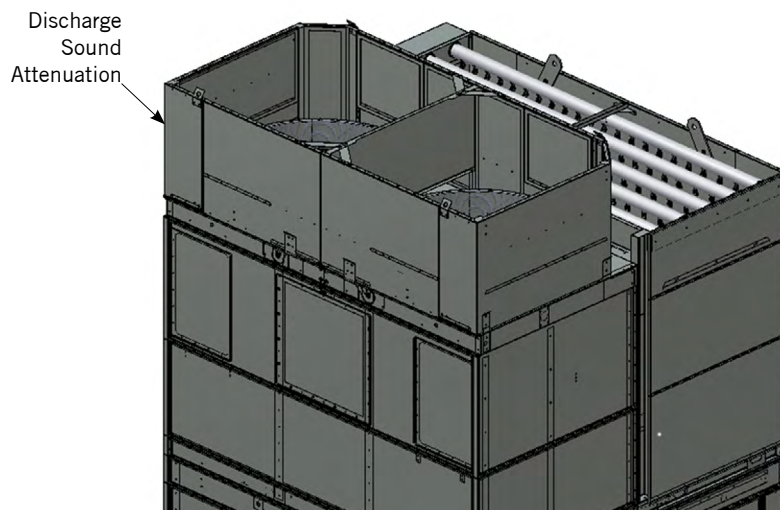


Figure 23. Discharge Sound Attenuation Installed (FXV-1212 Shown)

## Intake Sound Attenuation Assembly (FXV Only) (Optional)

1. Lower intake sound attenuation module so that the hangers fit into the flanges at the top and bottom of the air intake section.
2. Fasten both ends of the intake sound attenuation module to the unit using bolts provided.

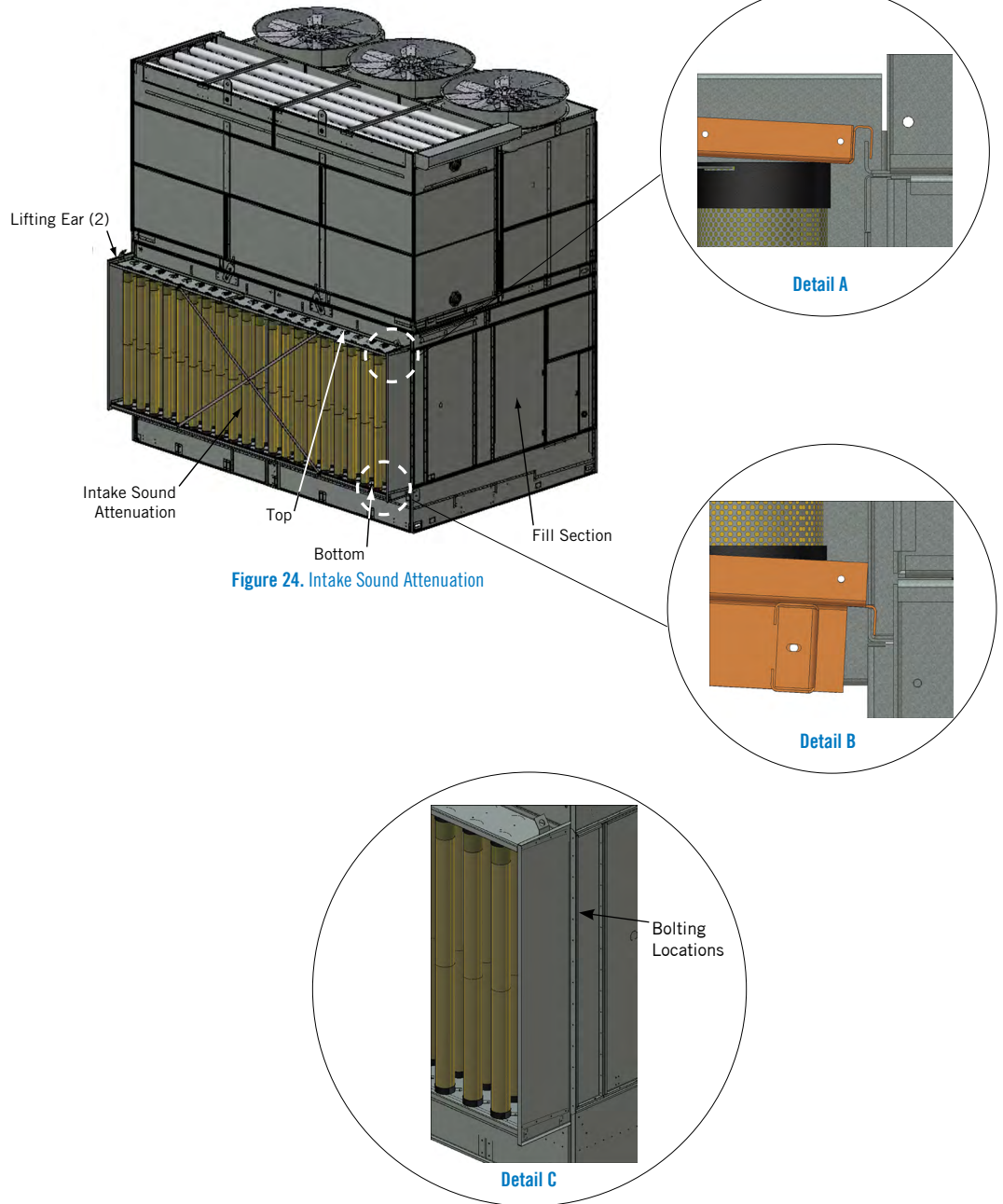


Figure 24. Intake Sound Attenuation



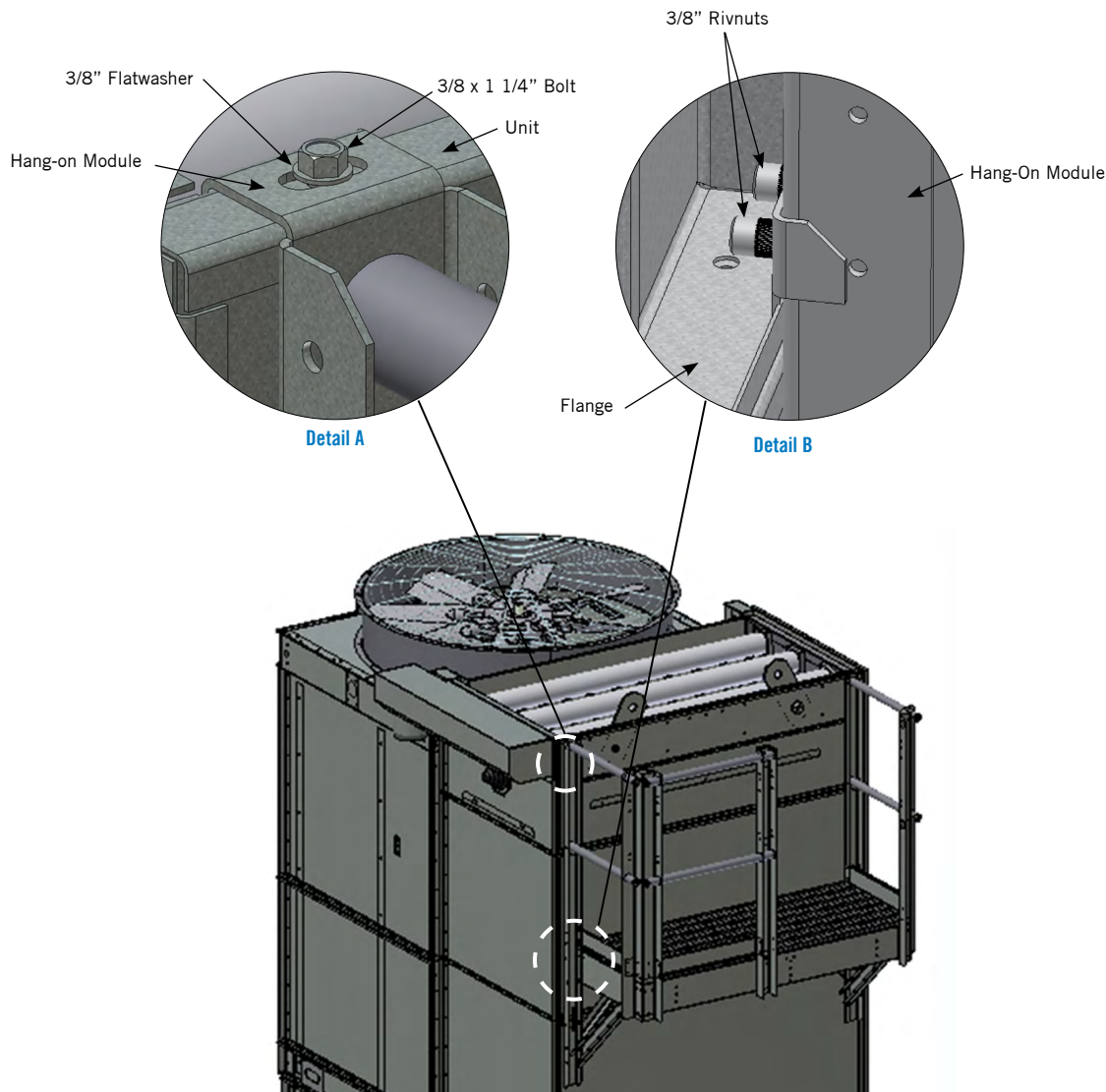
Intake Sound Attenuation Assembly (FXV Only)

External Service Platform Installation

### External Service Platform Installation (Optional)

Refer to **Figures 25 through 27** on **pages 17 through 19** for your unit platform assembly.

1. Lift hang-on module(s) into place by placing hanger into notch at the top of the unit, and secure to unit using 3/8" x 1 1/4" bolts. See **Detail A (Figures 25 through 27)**.
2. Slide clamps behind panel flange at bottom of hang-on module(s) supports, and secure to platform. See **Detail B (Figures 25 through 27)**.
3. If applicable, lift drop-in platform section(s) between mounted hang-on modules, and lower into position so that it rests on support channels. Bolt platform and railings into place using 3/8" x 1 1/4" bolts. See **Detail C (Figures 26 and 27)**.

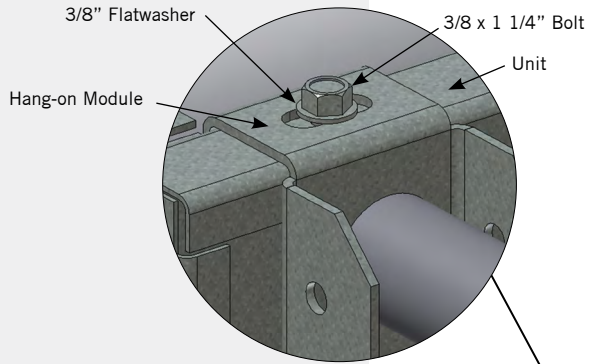


**Figure 25.** External Service Platform Assembly for 8' x 6' and 8' x 9' Units

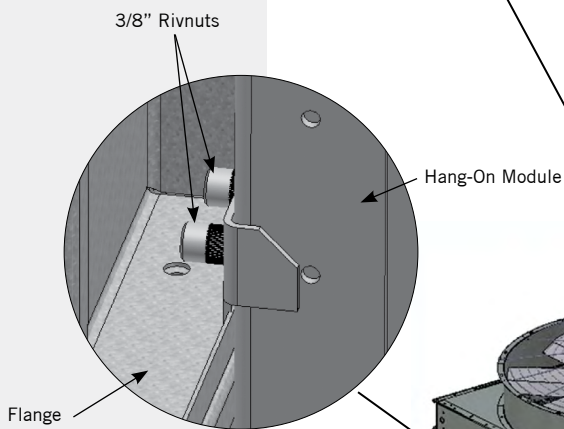


#### NOTES:

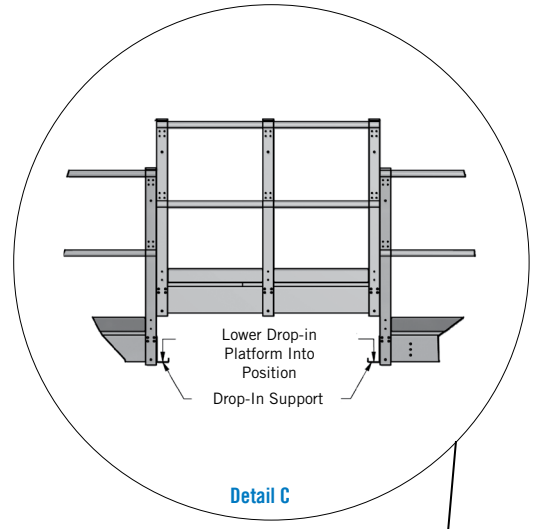
1. Platform can be installed prior to rigging coil section for easier installation.
2. Platforms, ladders and safety cages can be added at the time of order or as an aftermarket item.
3. Safety gates are provided for all handrail openings as standard. All components are designed to meet OSHA requirements.



Detail A



Detail B



Detail C

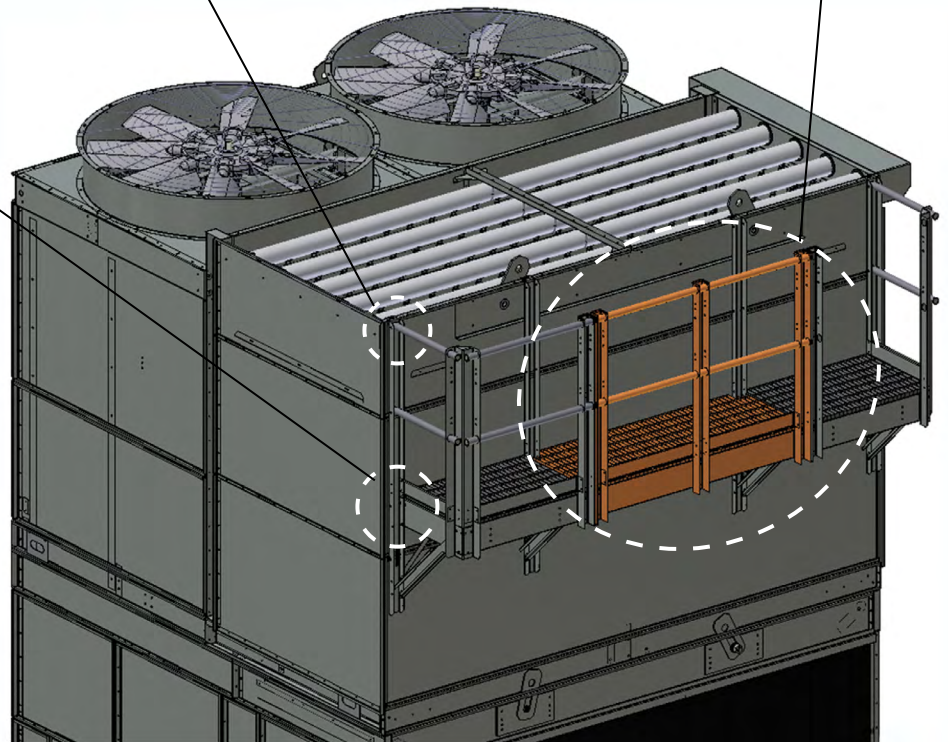


Figure 26. External Service Platform Assembly for 8' x 12' and 12' x 12' Units



External Service Platform Installation

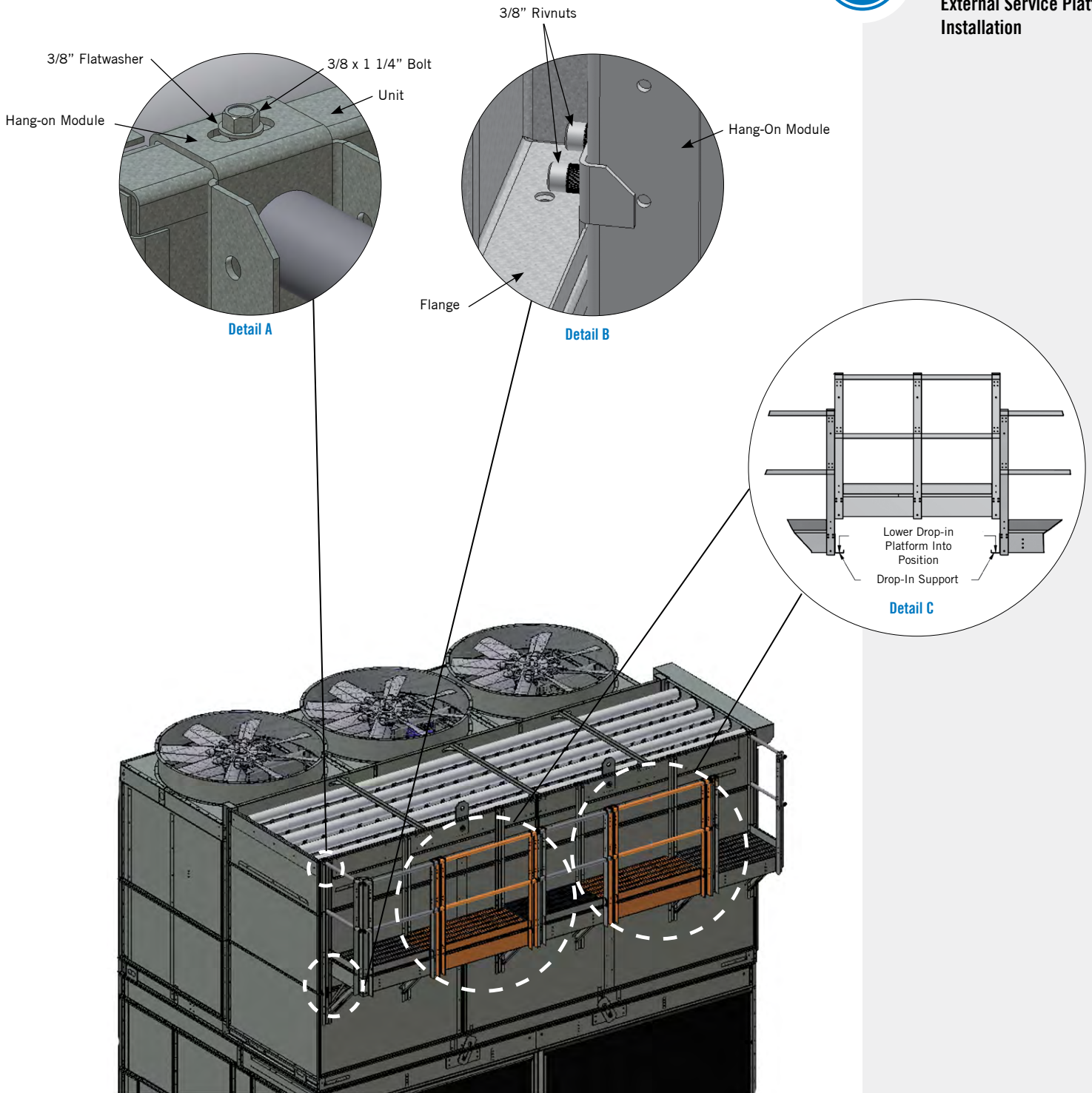


Figure 27. External Service Platform Assembly for 8' x 18' and 12' x 18' Units

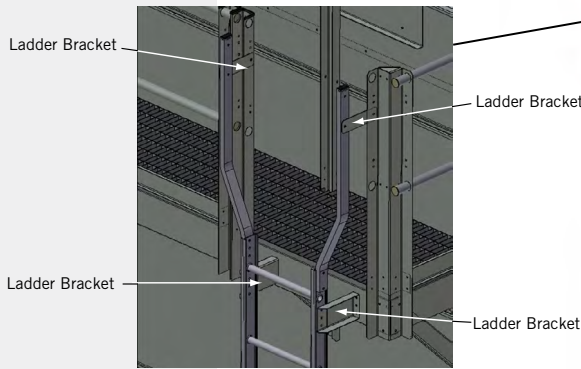
**NOTES:**

1. A left-hand ladder mount is shown. A right-hand ladder mount is located on the other side of the unit using the supplied holes in the casing panels.
2. Platforms, ladders and safety cages can be added at the time of order or as an aftermarket item.
3. Safety gates are standard for all handrail openings. All components are designed to meet OSHA requirements.

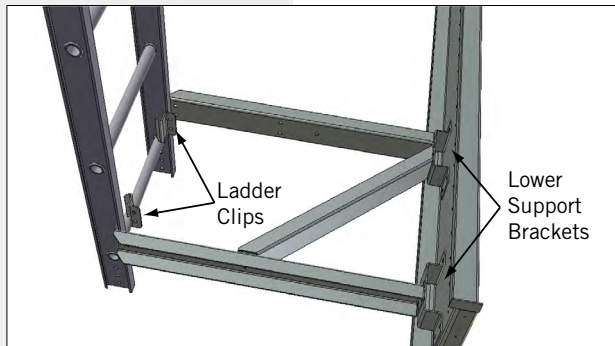


## External Service Ladder Installation (Optional)

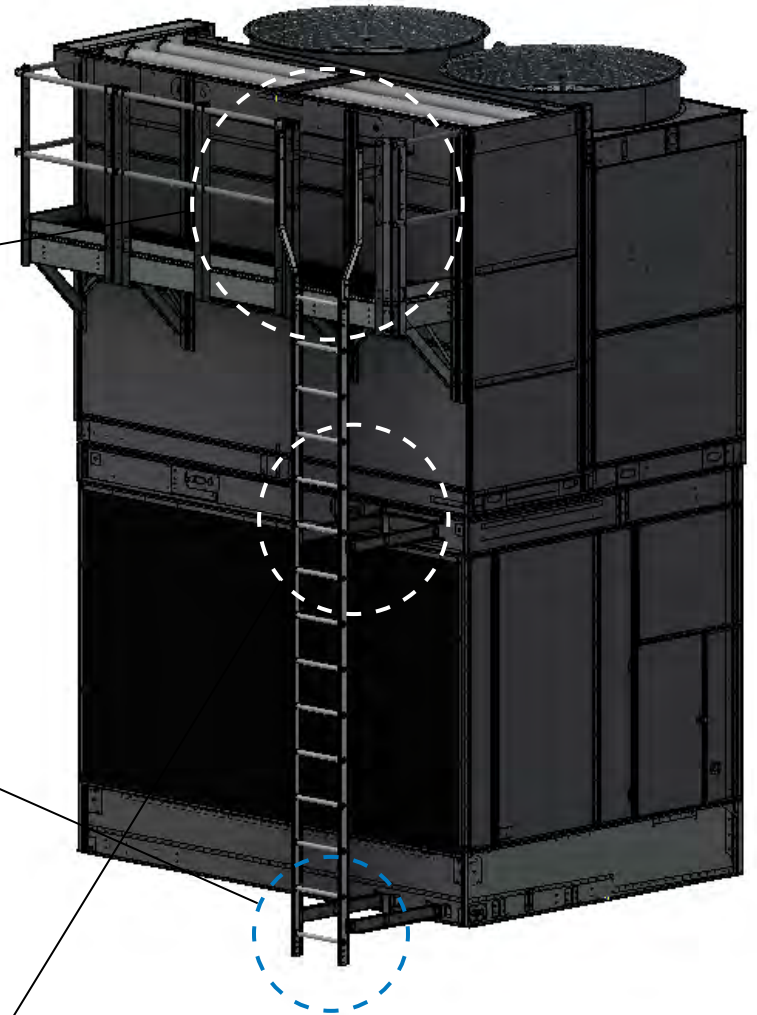
1. Assemble lower support assembly as shown, and attach assembly to unit using the lower support bracket. See **Figure 28, Detail B**.
2. Assemble mid support assembly as shown and attach assembly to unit. See **Figure 28, Detail C**. On 8'x6' & 8'x9' box sizes the mid support assembly will attached to mid support brackets similar to the lower support assembly.
3. Attach ladder to platform utilizing provided bolts. Attach lower and mid support assemblies using ladder clips provided.



**Detail A. Ladder/Platform Attachment**



**Detail B. Lower Support Assembly**



**Figure 28. External Ladder Assembly**



**Detail C. Mid Support Assembly**



## Ladder Safety Cage Installation (Optional)

1. If the safety cage is shipped in multiple pieces, reassemble the safety cage.
2. Bolt the safety cage to the ladder using flatwashers and locknuts. Orient all fasteners with boltheads inside safety cage. See **Figure 29, Detail A** through **D**.

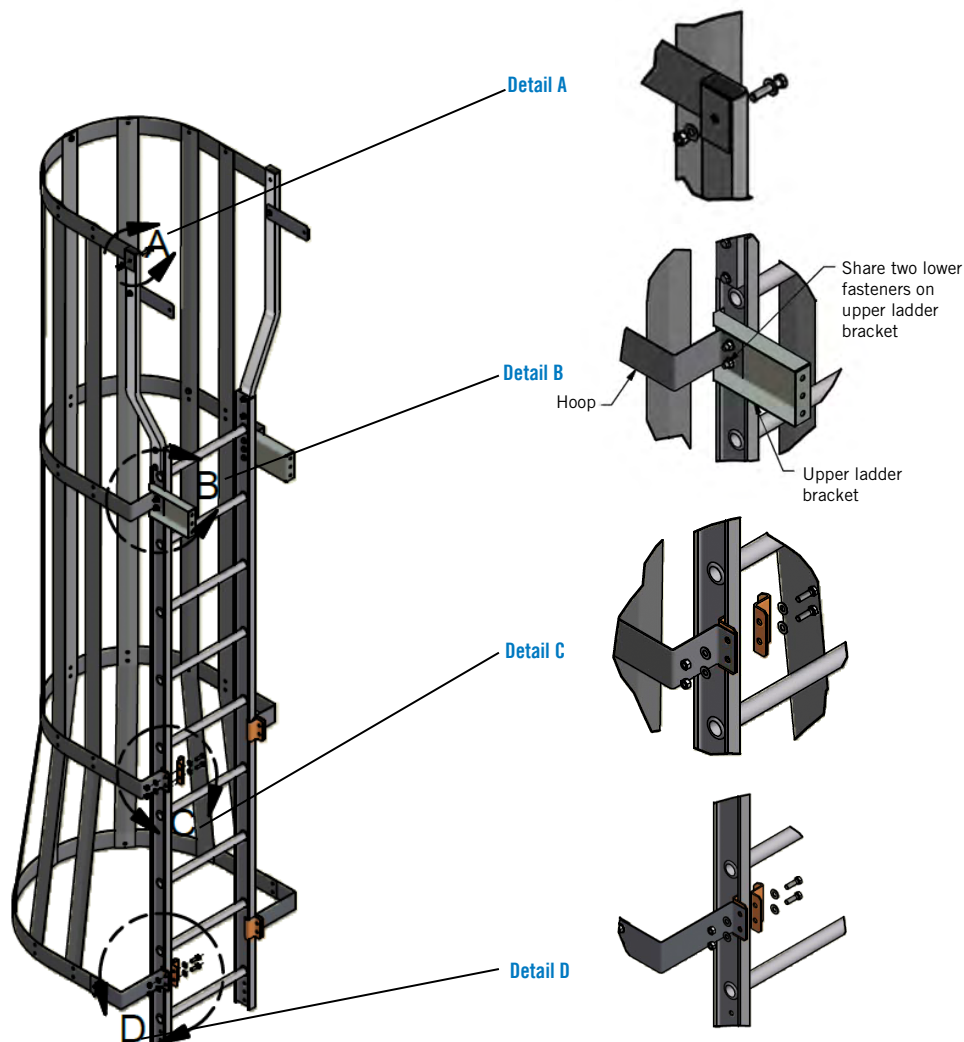


Figure 29. Safety Cage



**NOTE:** Safety gates are provided for all handrail openings, and all components are designed to meet OSHA requirements.

Cage Height (ft)	Bolting Location				Cage Height (ft)	Bolting Location				Cage Height (ft)	Bolting Location			
	A	B	C	D		A	B	C	D		A	B	C	D
4	1	–	–	1	12	1	1	2	1	20	1	1	4	1
5	1	1	–	1	13	1	1	2	1	21	1	1	4	1
6	1	1	–	1	14	1	1	2	1	22	1	1	4	1
7	1	1	–	1	15	1	1	2	1	23	1	1	4	1
8	1	1	–	1	16	1	1	2	1	24	1	1	4	1
9	1	1	1	1	17	1	1	3	1	25	1	1	5	1
10	1	1	1	1	18	1	1	3	1	27	1	1	5	1
11	1	1	1	1	19	1	1	3	1					

Table 5. Ladder Safety Cage Bolting Location and Quantities

## Internal Platform Ladder Installation (Optional)

For access to the motor and drive assemblies an internal ladder and upper service platform with handrails is available for select models.

1. Attach the six ladder brackets provided to the casing wall.
2. Secure the internal platform ladder to the ladder brackets.

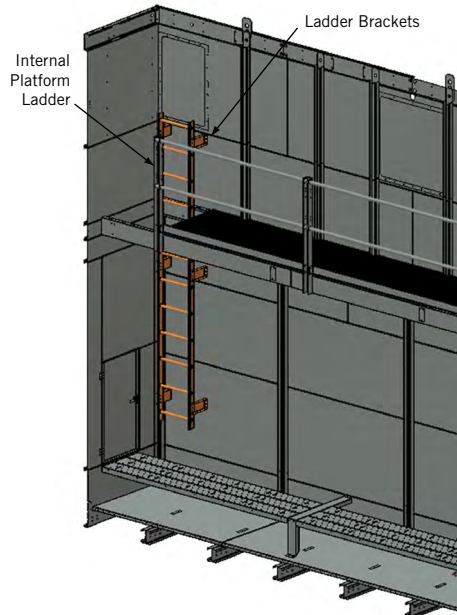


Figure 30. Internal Platform Ladder

**WARNING:** Ensure internal ladder is pinned in place and securely installed prior to use.

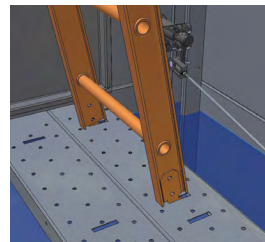


## Internal Ladder Installation (Optional)

1. Place ladder in the desired position within the unit. **See Figure 31.**
2. Bottom of the ladder sits in the slotted panel of the internal walkway.
3. Secure the ladder with the locking pin to secure the top of the ladder to the ladder support channel in the desired position.
4. Ladder can be moved as necessary to other fixed locations in the plenum.



Figure 31. Internal Ladder



Detail A. Lower Ladder Support



Detail B. Upper Ladder Support





## Door Platform (Optional)

1. Insert hanger at top of platform into slots between panels and bolt into place. See **Figure 32, Detail A**.
2. Slide clamps behind panel flange at bottom of platform supports and secure to platform. See **Figure 32, Detail B**.
3. Attach and ladder and/or safety cage(s) per “External Service Ladder Installation” on **page 20** and “Ladder Safety Cage Installation” on **page 21**.

Internal Platform Ladder Installation

Internal Ladder Installation

Door Platform



**NOTE:** Door access platform can be installed prior to rigging for easier installation.

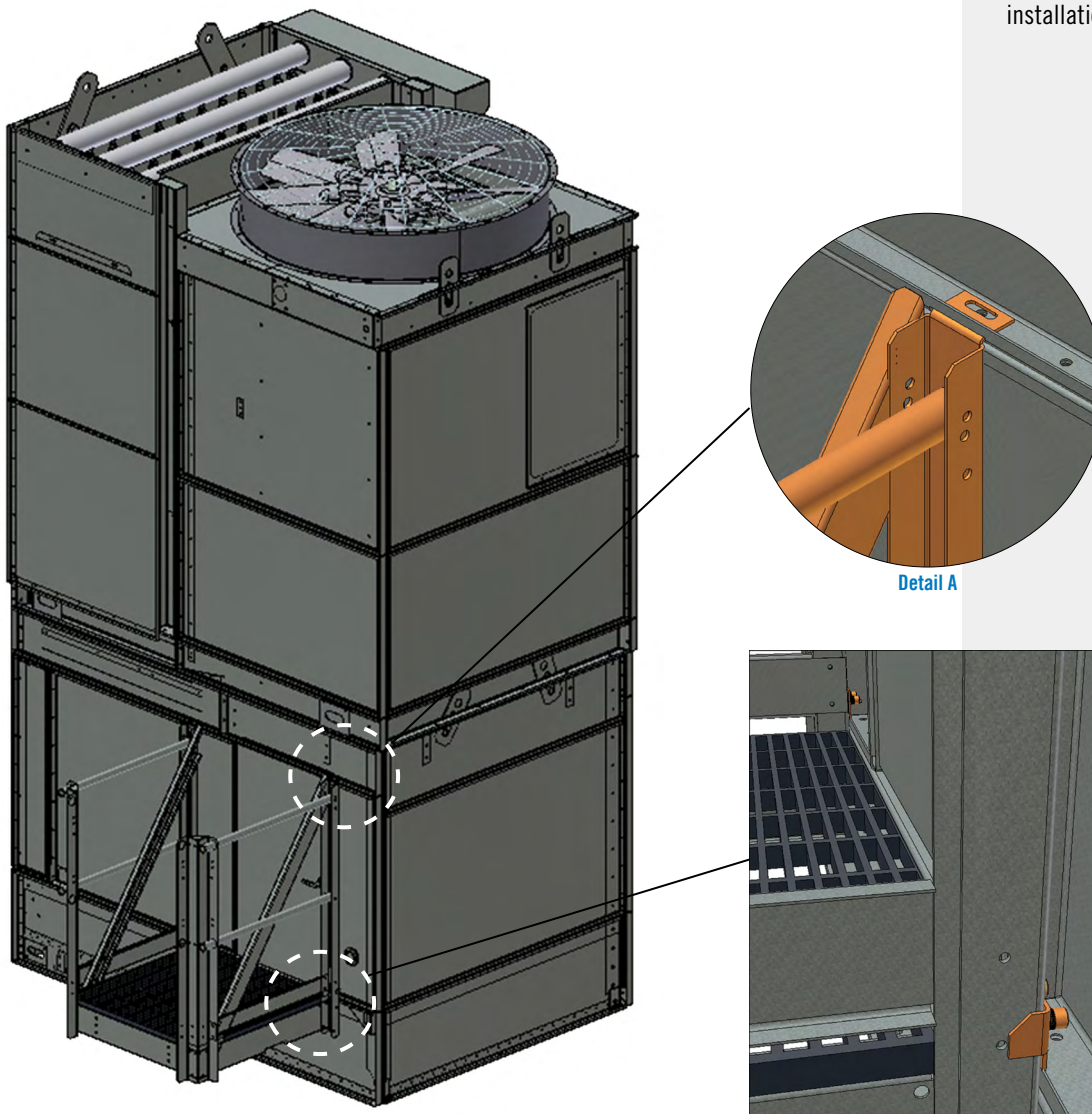


Figure 32. Door Platform

Detail B

COOLING TOWERS

---

**CLOSED CIRCUIT COOLING TOWERS**

---

ICE THERMAL STORAGE

---

**EVAPORATIVE CONDENSERS**

---

HYBRID PRODUCTS

---

PARTS & SERVICES



**w w w . B a l t i m o r e A i r c o i l . c o m**

7600 Dorsey Run Road, Jessup, MD 20794 > Telephone: (410) 799-6200 > Fax: (410) 799-6416

© 2021 Baltimore Aircoil Company > RGRAALL-03-R248\_R3.0