BALTIMORE
AIRCOIL AUSTRALIA

Compass Series

Compass Series Cooling Towers

RIGGING & ASSEMBLY INSTRUCTIONS

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RIGGING & ASSEMBLY INSTRUCTIONS » Compass Series Cooling Towers

Note:

1. Compass Cooling Towers 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 assure that all necessary equipment will be available beforehand.
2. Be sure to have a copy of the certified drawing available for reference. If you do not have a copy of this drawing, or if you need additional information about this unit, contact your local BAC Representative.

Introduction

1

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 in this manual must be thoroughly reviewed prior to rigging and assembly. Read all dangers, 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

Models CPSC-0716-06*, CPSC-0716- 07*, CPSC-0817-07*, CPSC-0817-08* and CPSC-1020-07* are shipped factory assembled or as knockdown units. Models CPSC-1020-08*, CPSC-1020-09*, CPSC-1222-08*, CPSC-1222-09*, CPSC-1222-10*, CPSC-1222-12*, CPSC-1222-14*, CPSC-1424-12*and CPSC-1424-14* are shipped knockdown. For the dimensions and weights of a specific unit or section, refer to the certified drawings or consult with your local BAC Representative.

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
- ❑ Bearing Supports
- ❑ Fan Motor(s)
- ❑ Fan(s) and Fan Shaft(s)
- ❑ Float Valve Assembly(s)
- ❑ Water Distribution System
- ❑ Combined Inlet Shields
- ❑ Cold Water Basin Accessories
- ❑ Interior Surfaces
- ❑ Exterior Surfaces
- ❑ Water Outlet Strainer
- ❑ Fill
- ❑ 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.

⚠ 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.

Unit Weights

Before rigging any unit, the weight of each section should be verified from the unit certified drawing. Some accessories add additional weight as shown on the respective accessory drawings.

Anchoring

19mm 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 location 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.

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.

Cold Weather Operation

These products must be protected by mechanical and operational methods against damage and/or reduced effectiveness due to possible freeze-up. Please refer to the Series Compass Operation & Maintenance Manual, or contact your local BAC Representative for recommended cold weather operation strategies.

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.

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, please contact your local Distributor.

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 Series Compass Operation & Maintenance Manual shipped with the unit.

Unit Rigging & Assembly

Rigging

In the event of extended lifts or where hazards exist, the lifting devices should be used in conjunction with safety slings placed under the unit.

Model Number	Dimensions(For Each Section)	
	Min.H	Min. W
CPSC-0716-06*	4100mm	2417mm
CPSC-0716-07*	4500mm	2417mm
CPSC-0817-07*	4500mm	2722mm
CPSC-0817-08*	5000mm	2722mm
CPSC-1020-07*	5200mm	3388mm

Table 1. Minimum Vertical Dimension and Spreader Bar Length

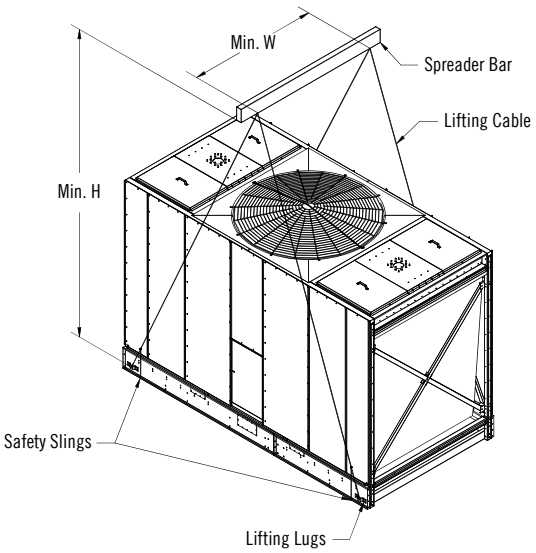


Figure 1.Unit Rigging & Assembly

Warning: Failure to use designated lifting points 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 supplemental safety slings may also be required if the lift circumstances warrant its use, as determined by the rigging contractor.

Fan Guard Installation

Due to height limitations on truck shipments, the fan guard of these models may ship unmounted. Refer to Table 2 for the number of fan guard pieces Compass Cooling Towers will have.

Model Number	Number of Fan Guard Pieces
CPSC-0716-06*	2
CPSC-0716-07*	2
CPSC-0817-07*	2
CPSC-0817-08*	2
CPSC-1020-07*	2

Table 2. Number of Fan Guard Pieces

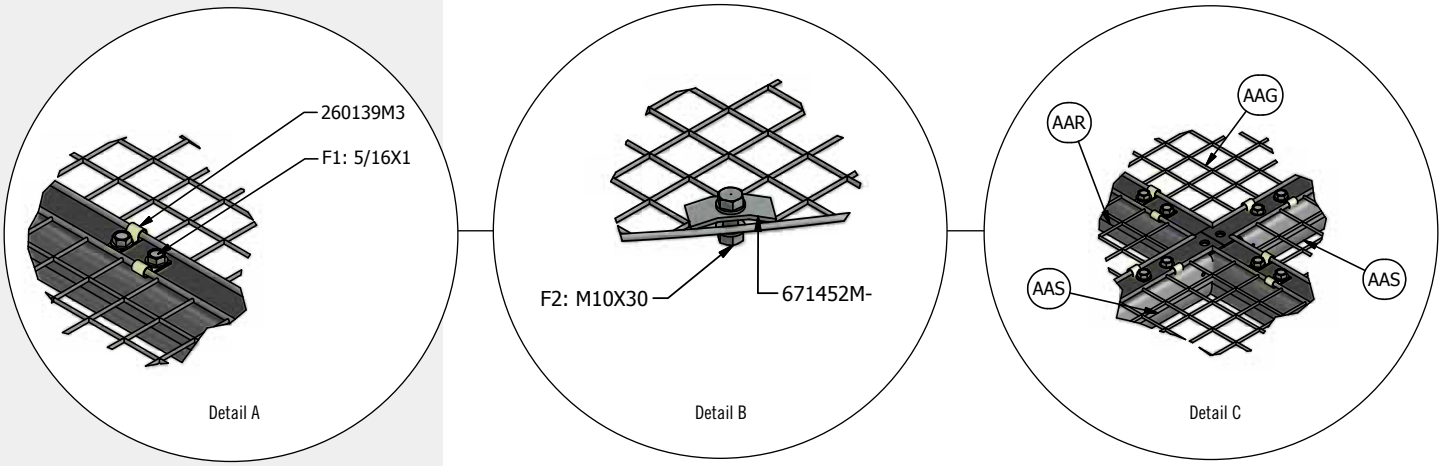
NOTE: Using (4)lifting lugs to fix the tower on the truck.

Four-Piece Fan Guard

DANGER: Fan guard must be securely in place before the cooling tower is placed in operation. Never step or walk on fan guard.

NOTE: For X and Y dimension locations, refer to Figure 2.

1. Assemble all the fan guard parts together as illustrated in figure 2, Detail A, B & C.
2. Place fan guard on the fan cowl and adjust its location, then drill 13mm hole at fan cowl per the hole of the fan guard.
3. Using fastener set & 671452M - fix fan guard at fan cowl.
4. After assembling the fan guard and fan cowl together, lift it on the tower. Lifting points as shown.



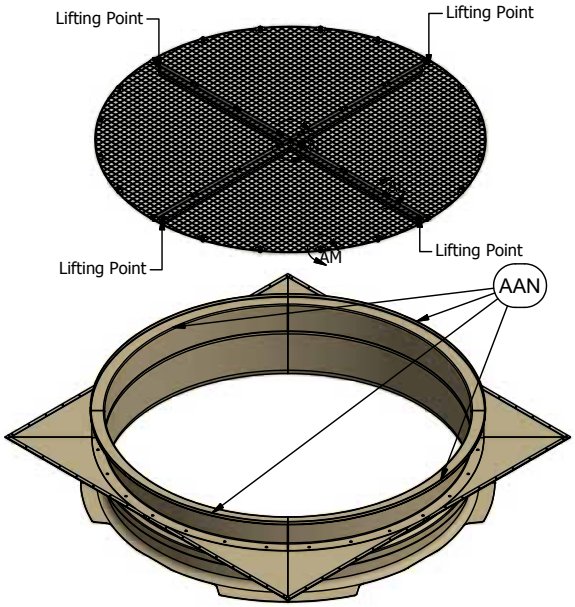


Figure 2. Fan Guard Assembly

NOTES:

1. Existing 10mm(3/8") stud and nut for guard mounting at fan deck level.
2. Gradually tighten each nut alternating from one to the other, until torque has been achieved.

Optional Accessories Installation 3

Side Outlet / Equalizer Depressed Sump Box Installation (Optional)

The optional side outlet depressed sump box allows a cooling tower water outlet connection to be piped from underneath the unit in four possible directions. The piping connection is a bolt circle designed to fit a face flange with a full-face gasket.

To install the side outlet depressed sump box, follow the steps below:

1. Wipe the edges around the opening inside the cold water basin to remove any dirt or moisture that may have accumulated during shipment.
2. Apply two layers of trapezoidal butyl sealer tape (554009) around the opening in the basin over the centerline of the holes. Do not stretch the sealer tape too thinly or overlap. When it is necessary to splice the sealer tape, be sure to press the two ends together to form a smooth continuous strip. Refer to **Figure 3.**
3. Insert the sump box assembly into the opening in the cold water basin and attach it to the basin with M10X30bolts or drilling screws (no beam under the sump box) as shown in **Detail A**. The bolts spacing and screws spacing is 75mm. Fix anti-vortex plate on the centerline of the strainer, facing the inlet side. Please refer to installation instruction for bolt fixation.
4. Place the suction strainer over the opening.

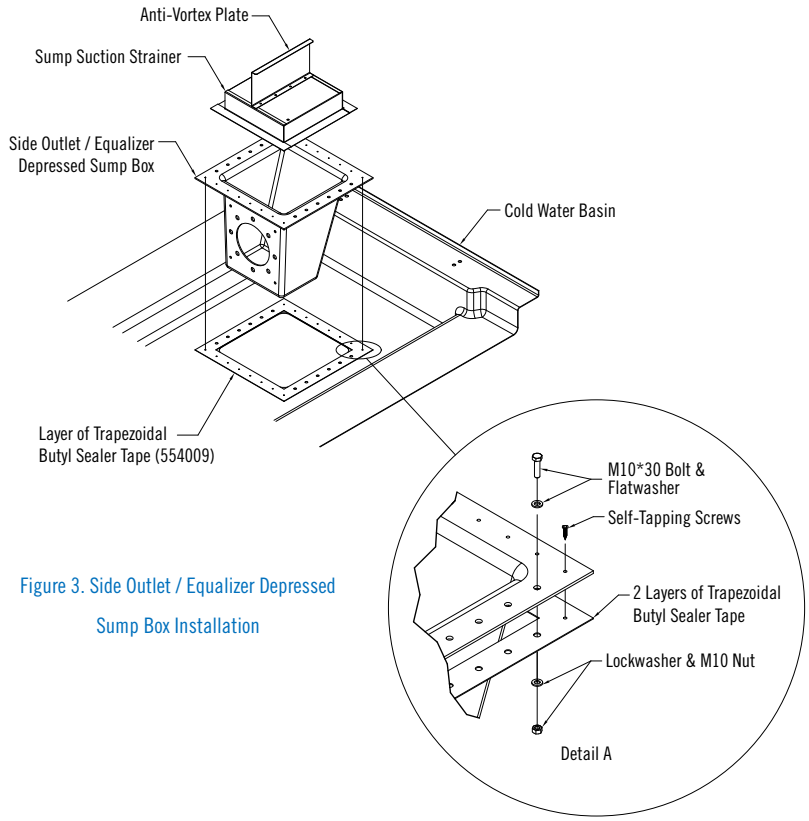
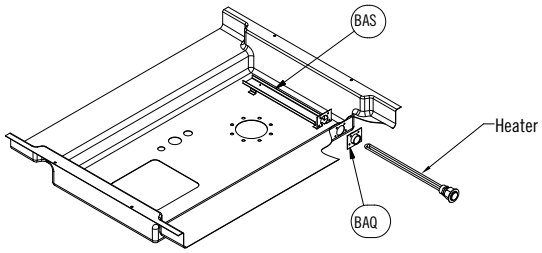


Figure 3. Side Outlet / Equalizer Depressed Sump Box Installation

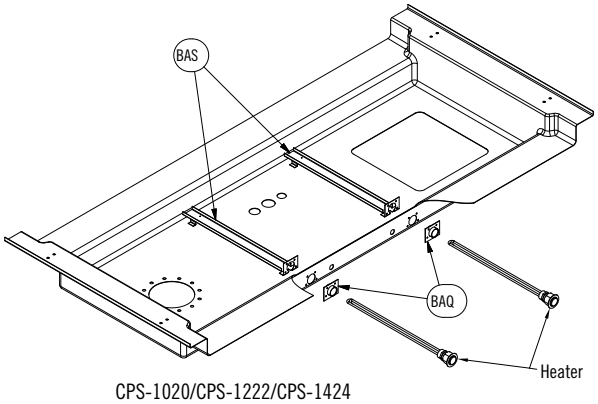
Heaters and Control Components (Optional)

To install the heaters and control components, follow the steps below:

1. Use thin butyl sealer tape on BAQ and BAS interface.
2. Insert the BAQ into the opening in the cold water basin and attached to BAS with M8X30 bolts.
3. Twist the thread seal tape around the heaters and screw in BAQ.
4. Install the float sensor and thermostat according to the figures below.



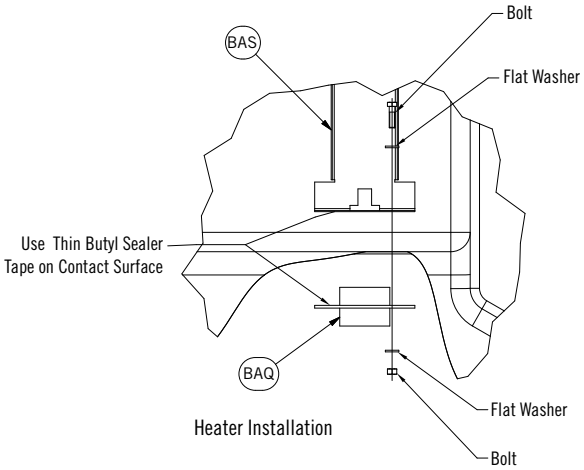
CPS-0716/CPS-0817



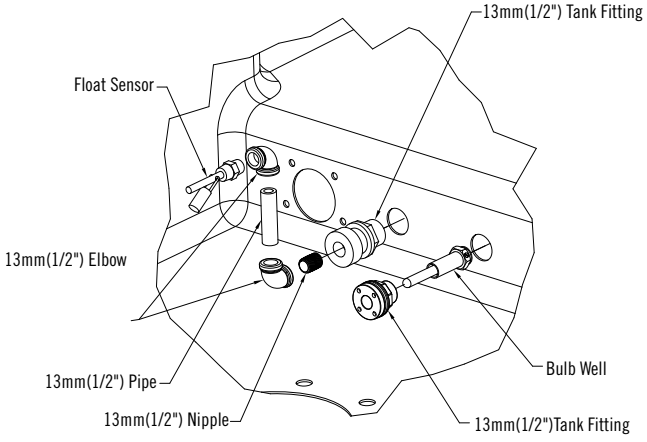
CPS-1020/CPS-1222/CPS-1424

Assembly Instructions:

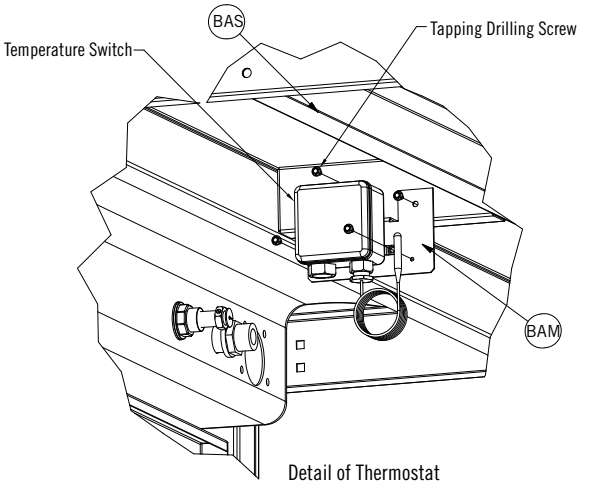
1. Install float sensor into piping and pull wires through.
2. Install tank fitting in hole in pan, with gasket on inside of pan, and nut on outside of pan.
3. Orient sensor as required to avoid interference with other components.
4. Tighten nut on tank fitting to 1/4 turn past hand tight.
5. Wire sensor to panel/contactor in waterproof conduit per applicable electrical codes.



Heater Installation



Detail of Float Sensor & Bulb Well



Detail of Thermostat

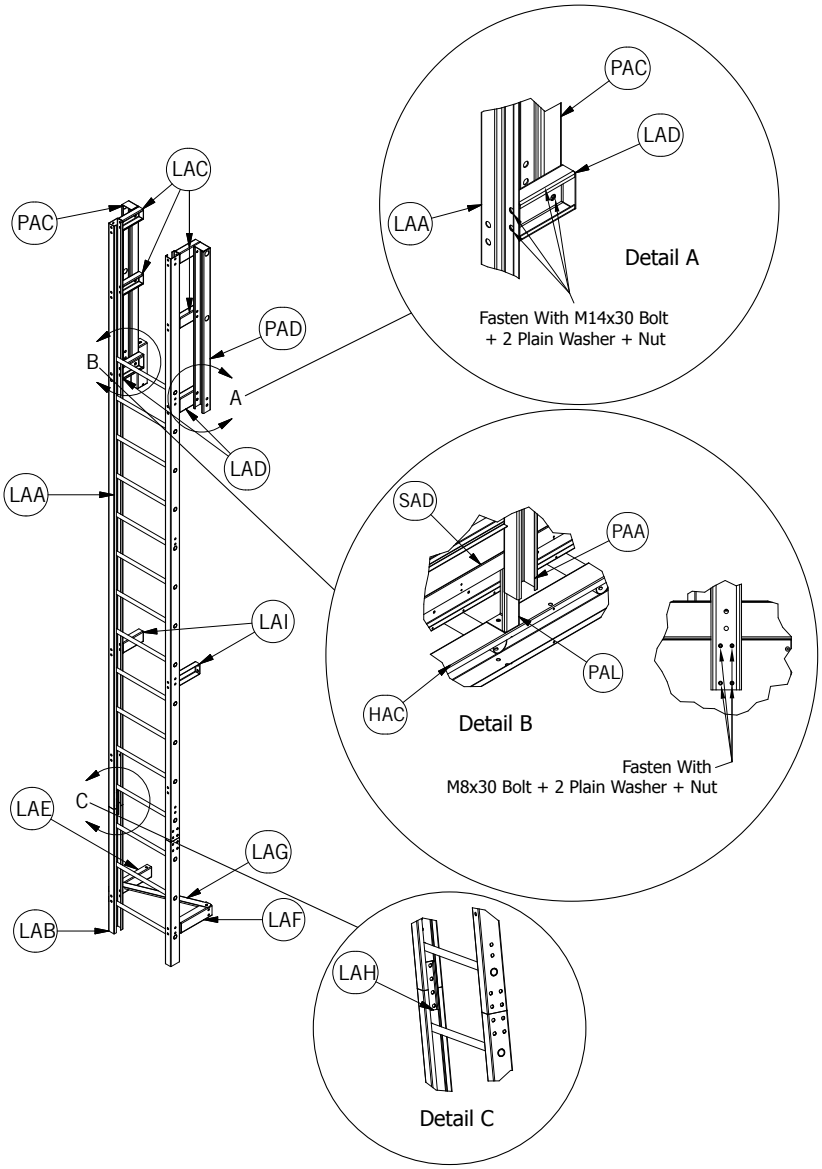
*Install #BAM in middle of short beam, and then install thermostat

Figure 4. Heaters and Control Components

Ladders / Safety Cages / Handrails Installation(Optional)

A. To install the ladders, follow the steps below:

1. Install the handrail posts PAC & PAD and attached topost or PAL with four M8 bolts.
2. Integrate connect plates (LAD,LAE,LAF,LAG,LAI) with ladder parts (LAA,LAB,LAH) on the ground.
3. Fasten the assembled ladder parts to the tower, PAC and PAD.



NOTE:

1. All of the unspecified fasteners include M10X30 bolt, 2 flat washer and nut.
2. The 2438mm(96")/2845mm(112") height towers do not use LAH, LAB and LAI.

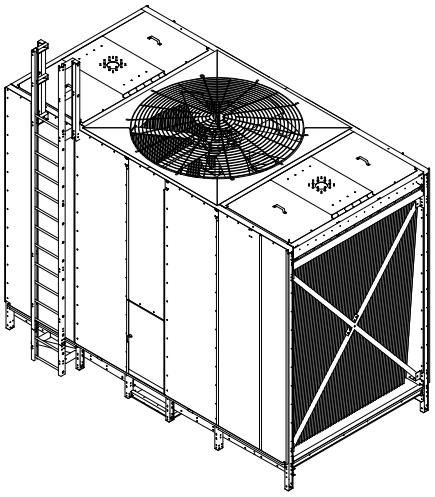
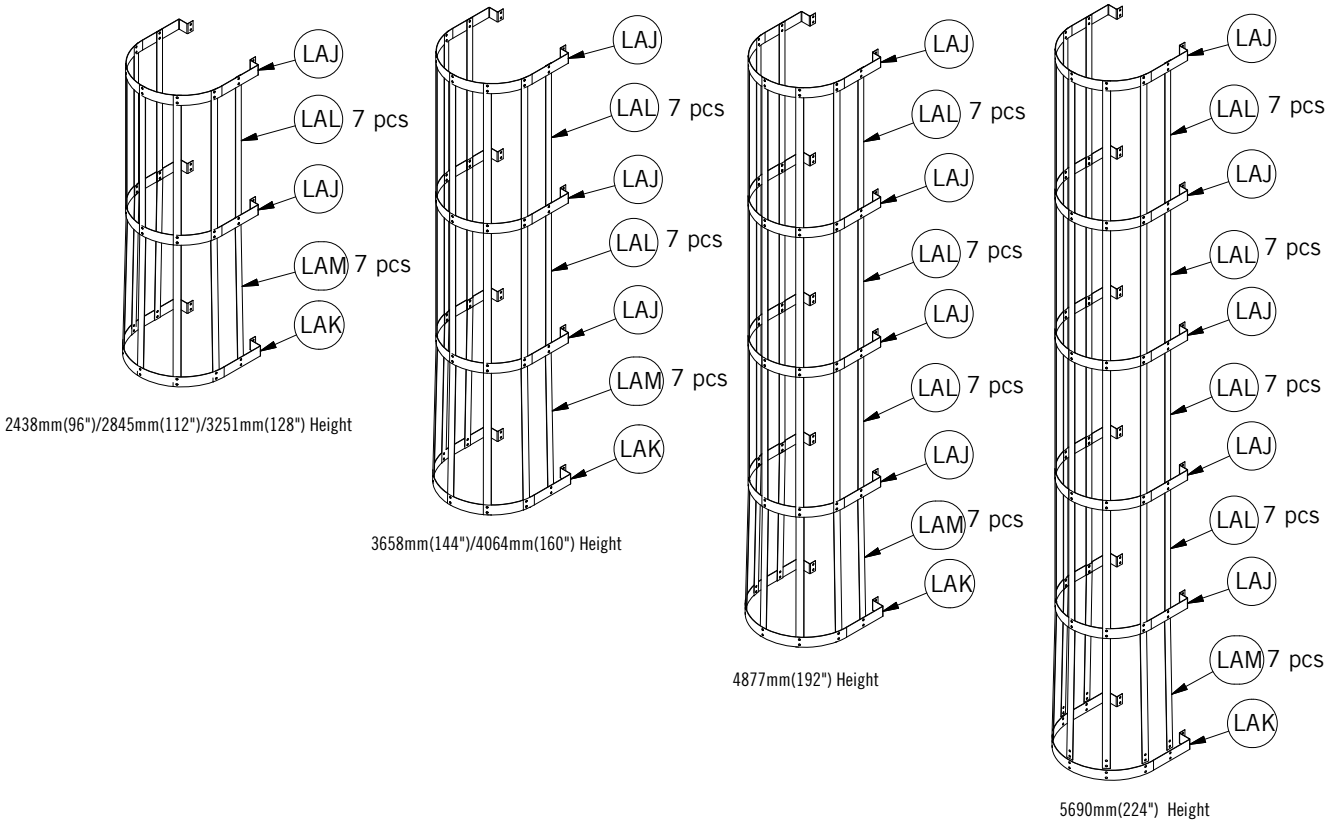


Figure 5. Ladders Installation

B. To install the safety cages, follow the steps below:

1. Please refer to the installation diagrams below for different height.
2. According to the instruction, assemble the safety cage on the ground.
3. Position the assembled safety cage on the unit and bolt in place.



NOTE: All of the unspecified fasteners include M10X30 bolt, 2 flat washer and nut.

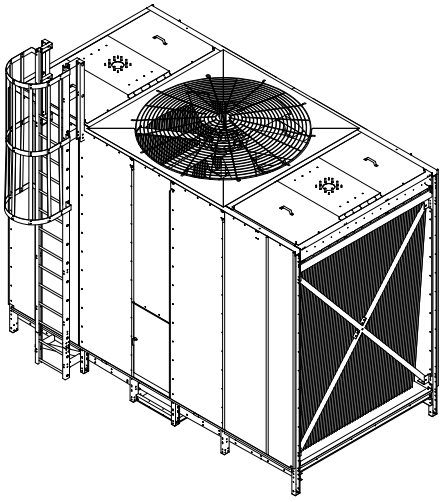
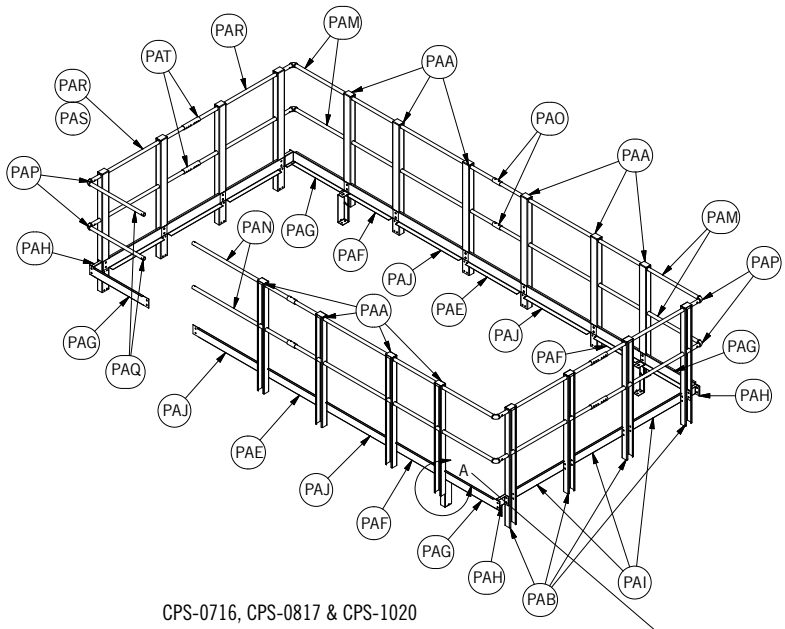


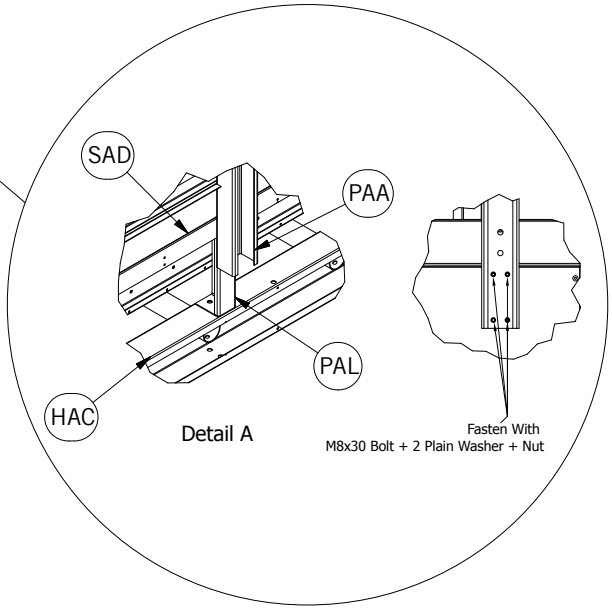
Figure 6. Safety cages Installation

C. To install the handrails, follow the steps below:

1. Install the handrail posts PAA and PAB according to the installation diagrams below.
2. Install the handrail rails PAM, PAN and PAQ, PAO&PAT for joint and PAP for corner.
3. Fasten PAE, PAJ, PAF, PAF, PAK,PAG,PAI and PAH in place.



CPS-0716, CPS-0817 & CPS-1020



NOTE:
All of the unspecified fasteners include M10X30 bolt, 2 flat washer and nut.

	CPS-0716	CPS-0817	CPS-1020
PAA	10	10	10
PAB	6	8	8
PAM	6	6	6
PAN	2	2	2
PAQ	2	2	2
PAR	4	8	8
PAS	4	-	-
PAO	4	4	4
PAT	4	4	4
PAP	8	8	8
PAE	2	2	2
PAJ	4	4	4
PAF	3	3	3
PAK	-	-	4
PAG	4	4	4
PAI	4	6	6
PAH	4	4	4

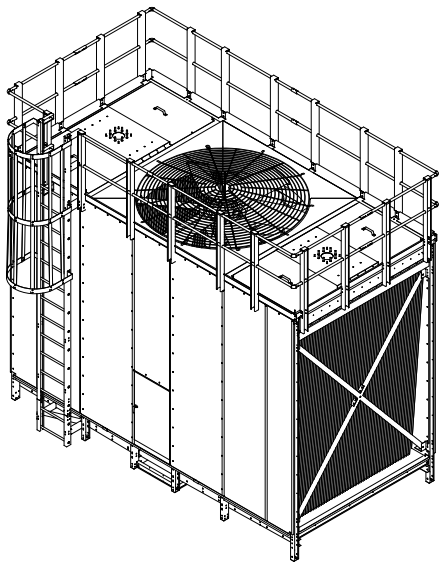


Figure 7. Handrails Installation

COOLING TOWERS

CLOSED CIRCUIT COOLING TOWERS

ICE THERMAL STORAGE

EVAPORATIVE CONDENSERS

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PARTS & SERVICES

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