Rental LED Display Unit

Quick Start Guide

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Preface

Applicable Models

This guide is applicable to the rental LED display unit.

Symbol Conventions

The symbols that may be found in this document are defined as follows.

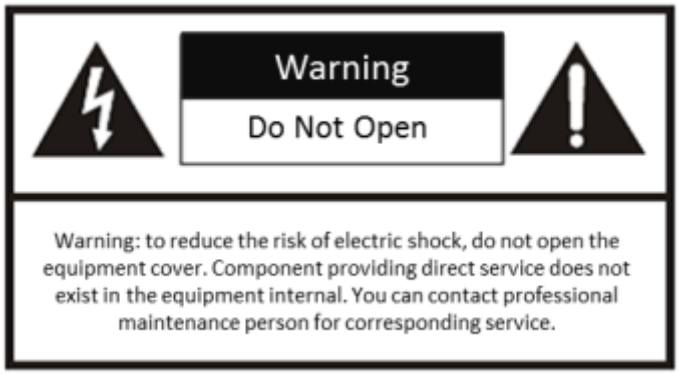
Symbol	Description
Note	Provides additional information to emphasize or supplement important points of the main text.
Caution	Indicates a potentially hazardous situation, which if not avoided, could result in equipment damage, data loss, performance degradation, or unexpected results.
Danger	Indicates a hazard with a high level of risk, which if not avoided, will result in death or serious injury.

Safety Instructions

Danger

- In the use of the product, you must be in strict compliance with the electrical safety regulations of the nation and region.
- CAUTION: If the fuse of the device can be replaced, replace it only with the same model to reduce the risk of fire or electric shock.
- Do not touch the bare components (such as the metal contacts of the inlets) and wait for at least 5 minutes, since electricity may still exist after the device is powered off.
- For the permanently connected device without a disconnect equipment, a readily accessible disconnect equipment shall be incorporated into the electrical installation of the connected building.
- For the permanently connected device without an overcurrent protection equipment, an overcurrent protection equipment shall be incorporated into the electrical installation of the connected building. The specifications of the overcurrent protection equipment shall not exceed that of the building.
- For the permanently connected device without an all-pole mains switch, an all-pole mains switch shall be incorporated into the electrical installation of the connected building.

- For the device with the sign ϟ indicating hazardous live, the external wiring connected to the terminals requires installation by an instructed person.
- Never place the device in an unstable location. The device may fall, causing serious personal injury or death.
- If the device supports wall mounting or ceiling mounting, the mounting surface shall be able to withstand the additional force of three times the weight of the device but not less than 50 N. The device and its associated mounting means shall remain secure during the installation. After the installation, the device, including any associated mounting plate, shall not be damaged. Refer to technical specifications for details.
- ALWAYS use cabinets or stands or mounting methods recommended by the manufacturer of the device.
- ALWAYS use furniture that can safely support the device.
- ALWAYS ensure the device is not overhanging the edge of the supporting furniture.
- ALWAYS route cords and cables connected to your television so they cannot be tripped over, pulled or grabbed.
- NEVER place a device in an unstable location.
- NEVER place the device on tall furniture (for example, cupboards or bookcases) without anchoring both the furniture and the device to a suitable support.
- NEVER place the device on cloth or other materials that may be located between the device and supporting furniture.
- NEVER place items that might tempt children to climb, such as toys and remote controls, on the top of the device or furniture on which the device is placed.



Caution

- If the ingress protection level is lower than IPx4, the device shall not be exposed to water dripping or splashing, and no objects filled with liquids, such as vases, shall be placed on the device.
- Provide a surge suppressor at the inlet opening of the device under special conditions such as the mountain top, iron tower, and forest.
- If the device is powered by terminals connected to the power cord, ensure correct voltage and wiring of the terminals for connection to mains supply.

- No naked flame sources, such as lighted candles, should be placed on the device.
- For the device with ventilation openings, the ventilation openings should not be impeded by covering the ventilation openings with items, such as newspapers, table-cloths, and curtains. The openings shall never be blocked by placing the device on a bed, sofa, rug, or other similar surface.
- This device is suitable for mounting on concrete or other non-combustible surface only to avoid fire hazard.
- For the device with sticker  or 

, pay attention to the following cautions:
- CAUTION: Hot parts! Do not touch. Burned fingers when handling the parts. Wait one-half hour after switching off before handling the parts.
- The power supply unit for the equipment must be placed in a restricted area to prevent unauthorized access.
- If the device installation is needed,

  1. Install the device according to the instructions in Quick Start Guide.
  2. To prevent injury, this device must be securely attached to the installation surface in accordance with the installation instructions. Refer to Quick Start Guide for details.
- Keep vertical when moving or using the device.
- CAUTION: If the bracket is designed for a specific device model of our company, use the bracket with the corresponding device only. Use with other devices may result in instability and cause injury.
- CAUTION: If the device needs to be installed with a specific bracket of our company, use the corresponding bracket only. Use others (such as carts, stands, and carriers) may result in instability and cause injury. Refer to the device datasheet for bracket model details. Refer to Quick Start Guide for details.
- The interface varies with the models. Please refer to the product datasheet for details.
- If the device is not released with a power adapter, and you need to wire the bare cables of the device:
  - The device external wiring connected to the hazardous live terminals requires installation by an instructed person.
  - Make sure that the power has been disconnected before you wire, install, or disassemble the device.
  - The power supply or device must be connected to an earthed mains socket-outlet.
  - High voltage for the power supply. Do not disassemble it.
  - If smoke, odor, or noise arises from the power supply or device, immediately turn off the power, unplug the power cable, and contact the service center.

  - If the device needs to be wired by yourself, select the corresponding wire to supply power according to the electric parameters labeled on the device. Strip off wire with a standard wire stripper at corresponding position. To avoid serious consequences, the length of stripped wire shall be appropriate, and conductors shall not be exposed.

- A circuit breaker shall be provided for the device externally. For a single device, an AC 220 V/230 V/240 V, 6 A circuit breaker is recommended. When multiple devices are stacked, select a circuit breaker of appropriate rating based on the total rated current, but this shall not exceed the rating of the circuit breaker provided for the building.

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Chapter 1 Product Introduction

1.1 Overview

The rental LED display unit (hereinafter referred to as "the device" or "the product") is a high-quality, high-precision, and highly reliable rental display solution designed for quick installation, easy transport, robust protection, and flexible configuration. It is suitable for a wide range of applications, including film and television production, large-scale entertainment events (e.g., ceremonies, concerts, and theater performances), sports and competitive events, conferences and exhibitions, and high-end entertainment venues.

1.2 Product Components

An LED control system includes sending and receiving cards. The sending card packages images and sends them to the receiving card. The receiving card unpackages and processes the images, and then displays the images on the LED display unit.

1.3 Features

- Lightweight design: Lightweight and thin design for easy transportation and installation.
- Flexible splicing: Both standard cabinets and 45° edge-cutting cabinets are available for flexible assembly into flat, curved, right-angle, or cube display screens.
- High image quality: Up to 1000 nit brightness for indoor products and 4500 nit brightness for outdoor products, providing excellent contrast and color performance for an immersive stage experience.
- Quick installation and easy maintenance: Modular design with special ejection button mechanism for full assembly, disassembly, and maintenance within 5 seconds.
- Integrated scenario solutions: Clean appearance and robust cabinet construction, offering a one-stop LED display solution tailored to applications such as conferences, stages, product launches, and real estate events.

Chapter 2 Rack Installation

The device supports both rigging and stacking installation using the same rack. You can remove the rack's bases to use it as a hanging bar for the rigging installation, or remove its ring to use it as a staking rack for the stacking installation.

Note

Since the product has different models, the following description takes one model for illustration. The actual model prevails.

2.1 Precautions

Read the following precautions carefully before you install the racks:

- Installation personnel must wear protective gear.
- Take safety measures when working at heights.
- Make sure that the rack is mounted vertically on a level surface, without tilting or twisting.
- Ensure that all structural parts and fasteners are fully mounted, and that none are missing.
- After all the accessories are mounted, clean all the metal debris in the rack.

2.2 Install the Cabinet on the Hanging Bar

The hanging installation mode supports a maximum number of 24 rental cabinets (500 mm × 500 mm) or 12 rental cabinets (500 mm × 1000 mm). To install the cabinets on the hanging bars, you need to fix the vertical fast locks of cabinets with the locks of hanging bars.

Install the Standard-Edge Cabinet and Edge-Cutting Cabinet

Step 1 Fix the hanging bars on the truss in a straight line from the center to both sides sequentially.

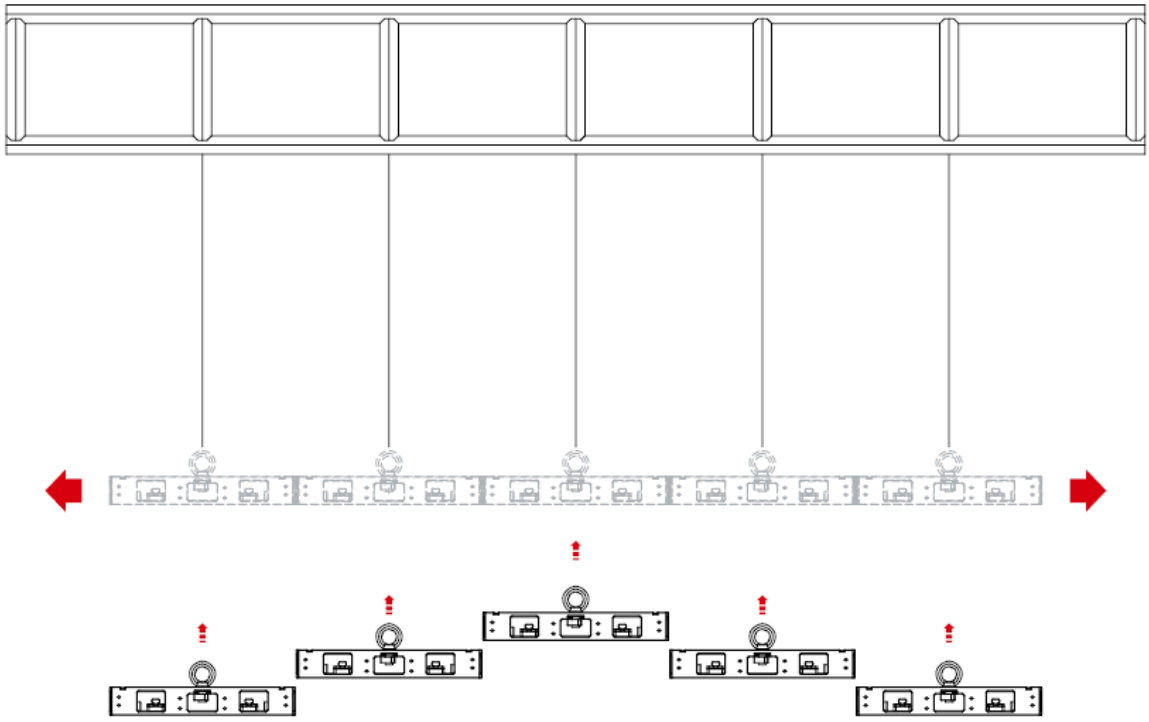


Figure 2-1 Fix the Hanging Bars

Step 2 Open the four corner protectors on the cabinet, adjust the curved locks of the cabinet to the required splicing angle (from -10° to +10° is supported), and rotate the handle to tighten.

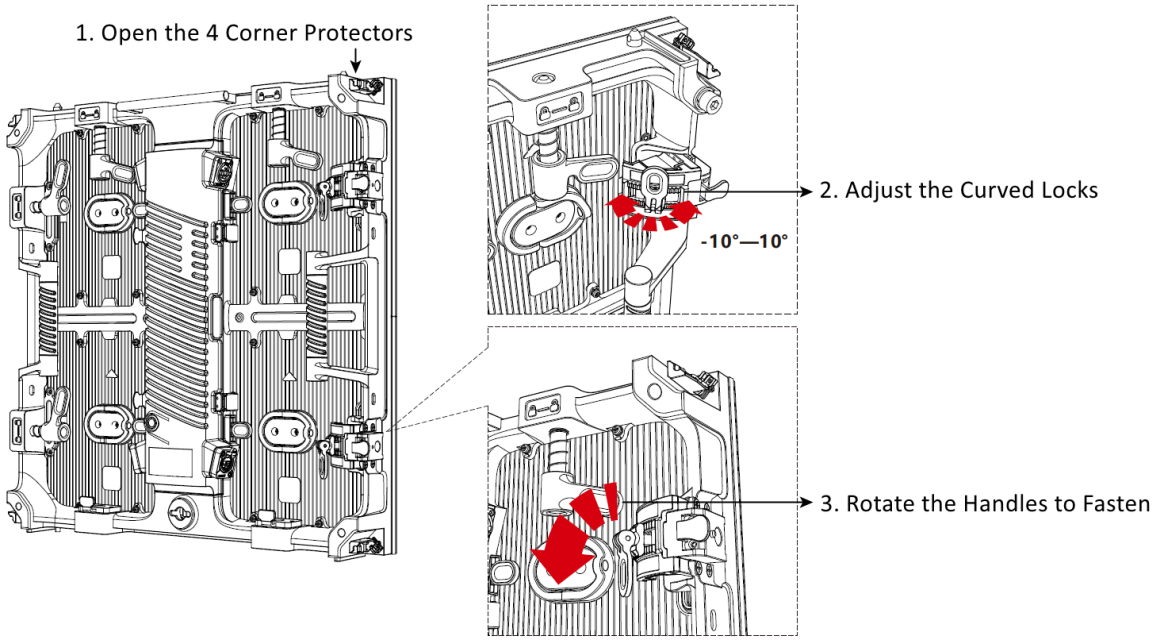


Figure 2-2 Adjust Curved Lock Angle

Step 3 Align the vertical fast locks on the cabinet with the mounting holes on the hanging bar, insert the locks and then rotate the handles to fasten them.

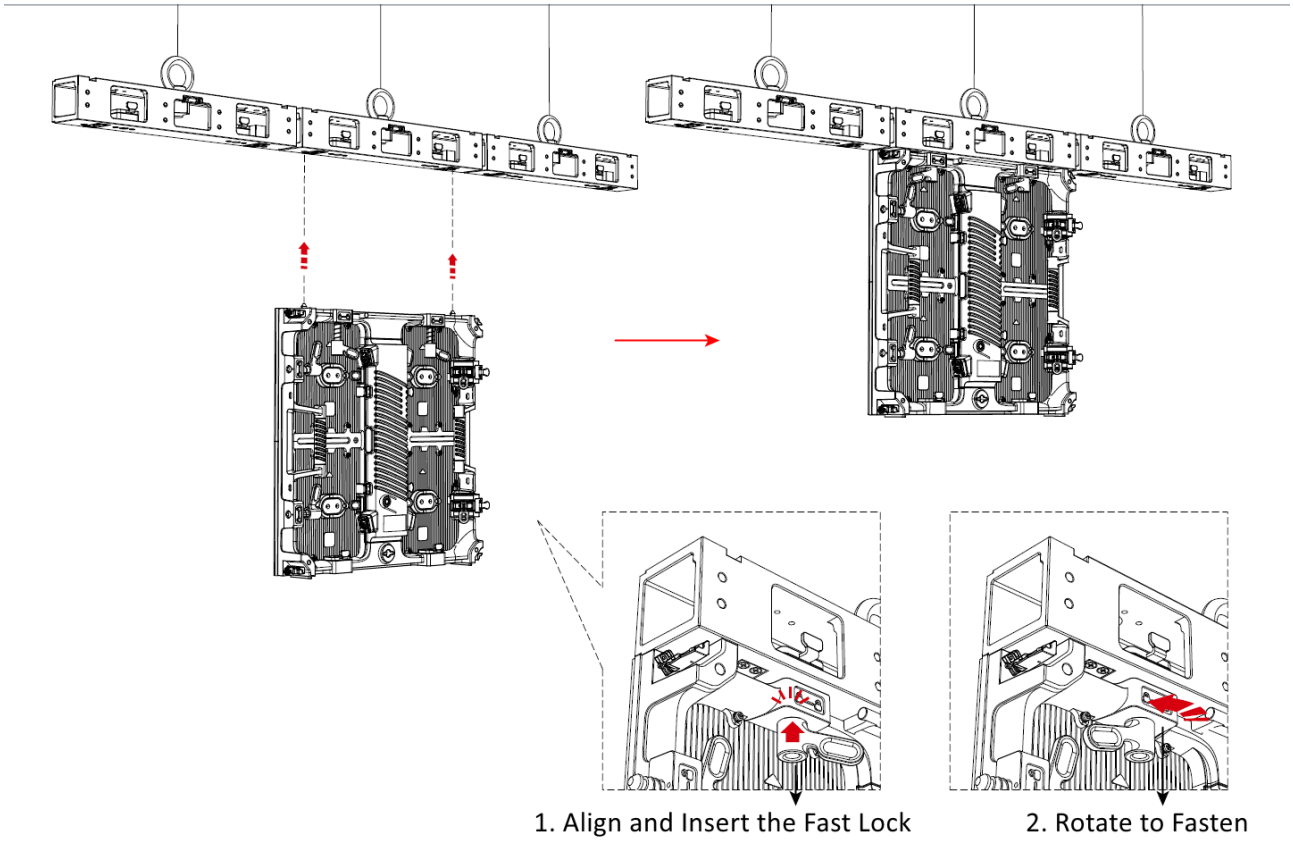


Figure 2-3 Install Cabinet to Hanging Bar (with Curved Lock)

Step 4 Repeat the step 3 to finish the installation of the top row of cabinets, and secure the adjacent cabinets horizontally. For more details, see **3.3.2 Splice Cabinet Frames Horizontally**.

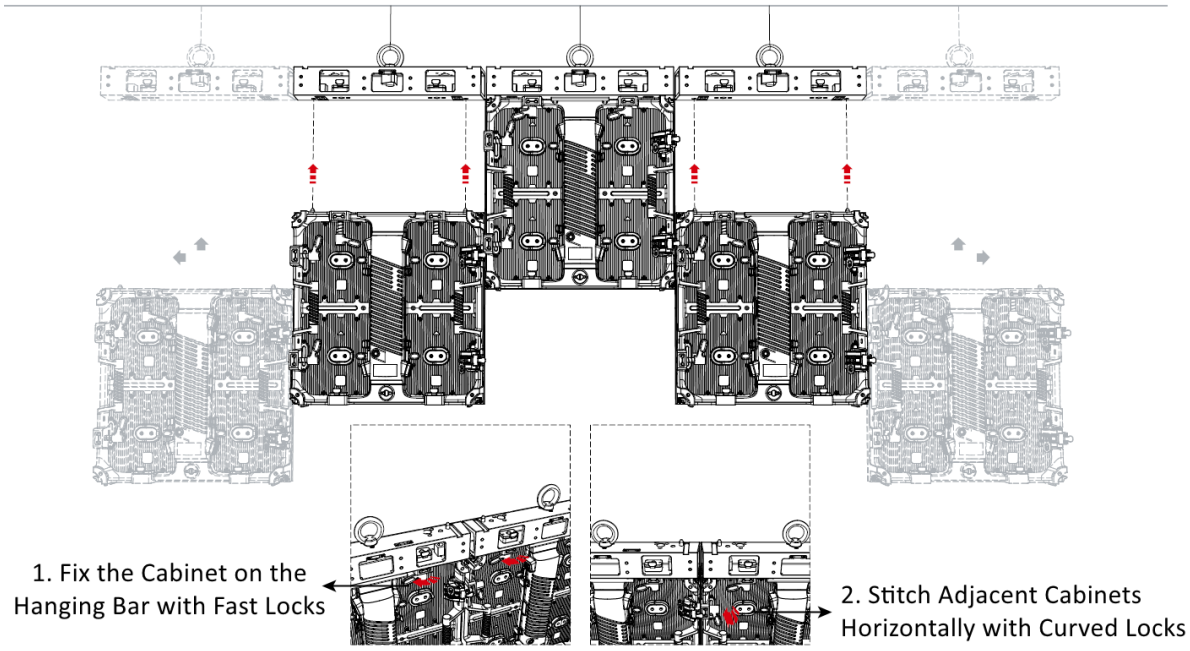


Figure 2-4 Install Top-Row Cabinets

Step 5 Secure the top-row cabinets and the hanging bars with lock plates. Fasten the lock plates with 4 screws for middle cabinet corners and 2 screws for end cabinet corners.

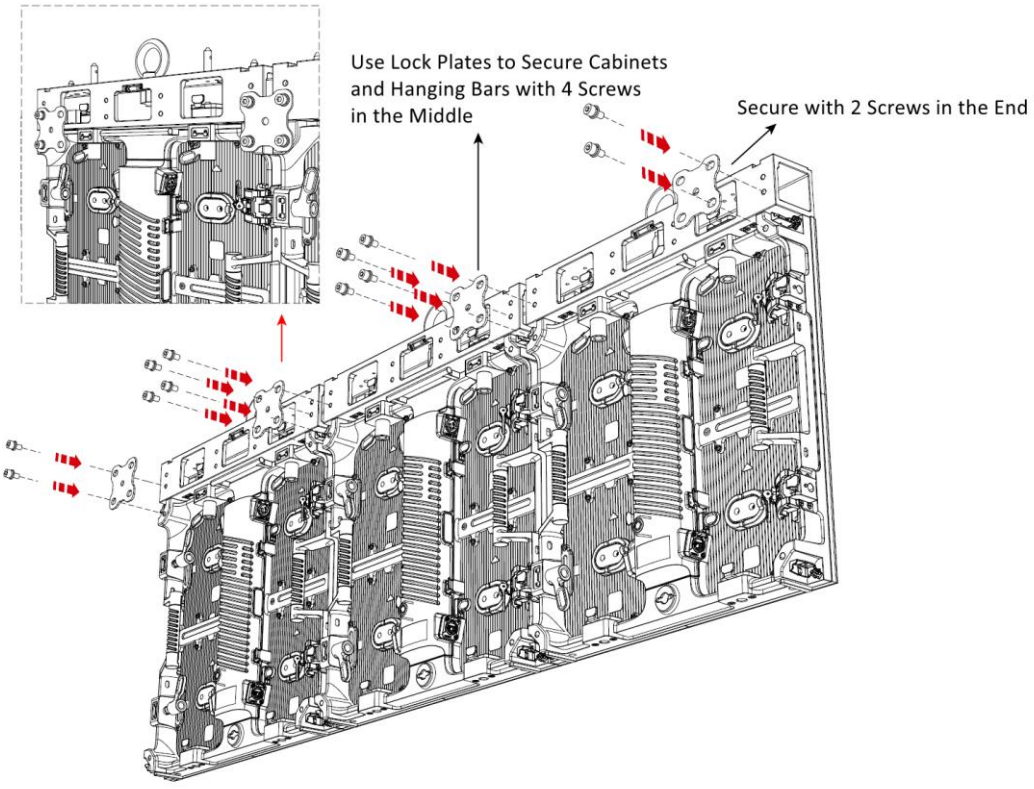


Figure 2-5 Secure Top-Row Cabinets and Hanging Bars

Step 6 Raise the hanging bar to the appropriate height, and then finish the installation of the second row of cabinets from the middle to both ends. Align the vertical locating studs on the second row of cabinets with the vertical locating holes on the top row of cabinets to finish the vertical splicing of cabinets. For more details, see **3.3.3 Splice Cabinet Frames Vertically**.

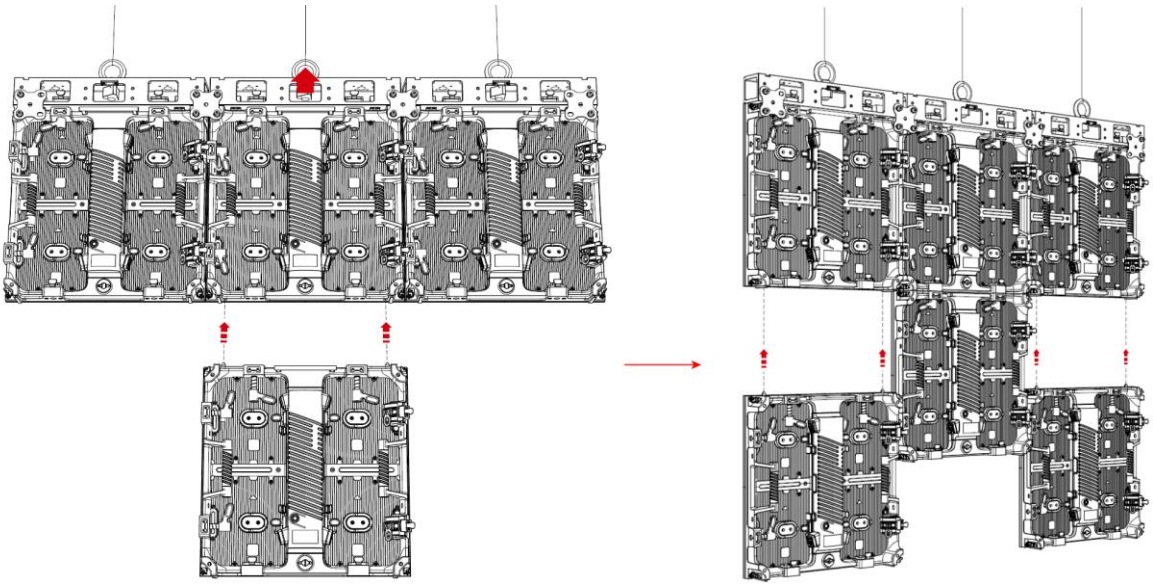


Figure 2-6 Install the Second Row of Cabinets (with Curved Lock)

Step 7 Repeat the above steps to install the remaining cabinets.

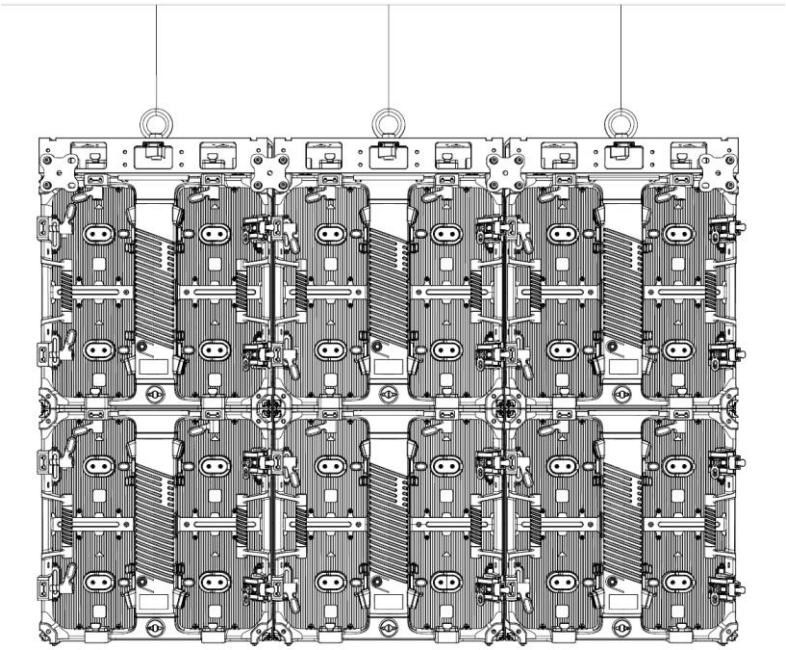


Figure 2-7 Installation Finished

Install the Flexible Cabinet

Step 1 Unscrew and remove the two leveling feet at the bottom of the dual-purpose beam. Fix the hanging bars on the truss in a straight line sequentially from the center to both sides, as shown in the figure below.

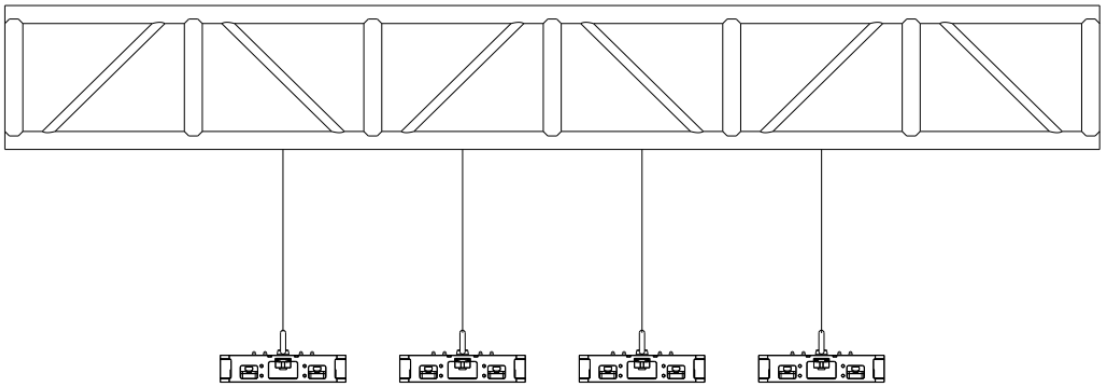


Figure 2-8 Remove Leveling Feet

Step 2 Flip the 4 corner protectors of the cabinet to hide them before installing the cabinet.

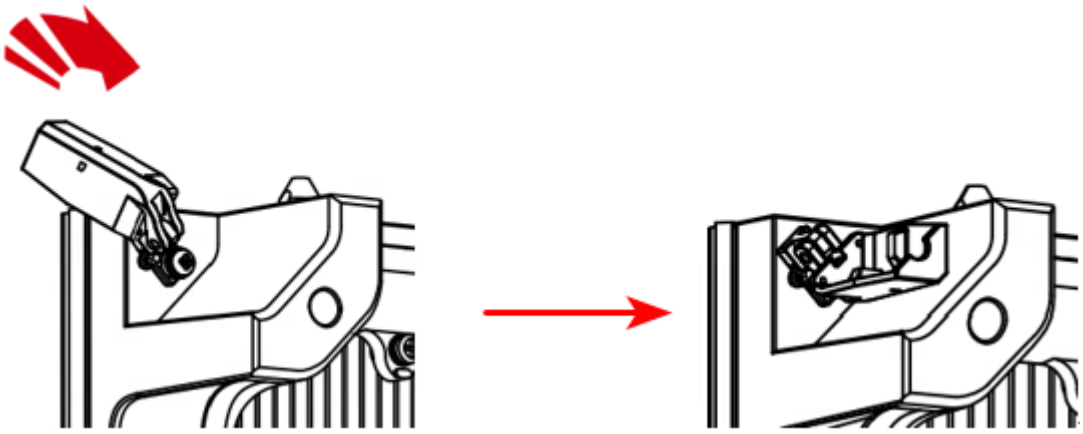


Figure 2-9 Flip Corner Protectors

Step 3 Insert the locating studs of the cabinet into the locating holes at the bottom of the two adjacent hanging bars respectively (1). Then, push the vertical fast locks at the top of the cabinet into the mounting holes on the hanging bars (2). After hearing a click, turn the lock handles to the left to tighten the fast locks. For more details, see **3.3.3 Splice Cabinet Frames Vertically**.

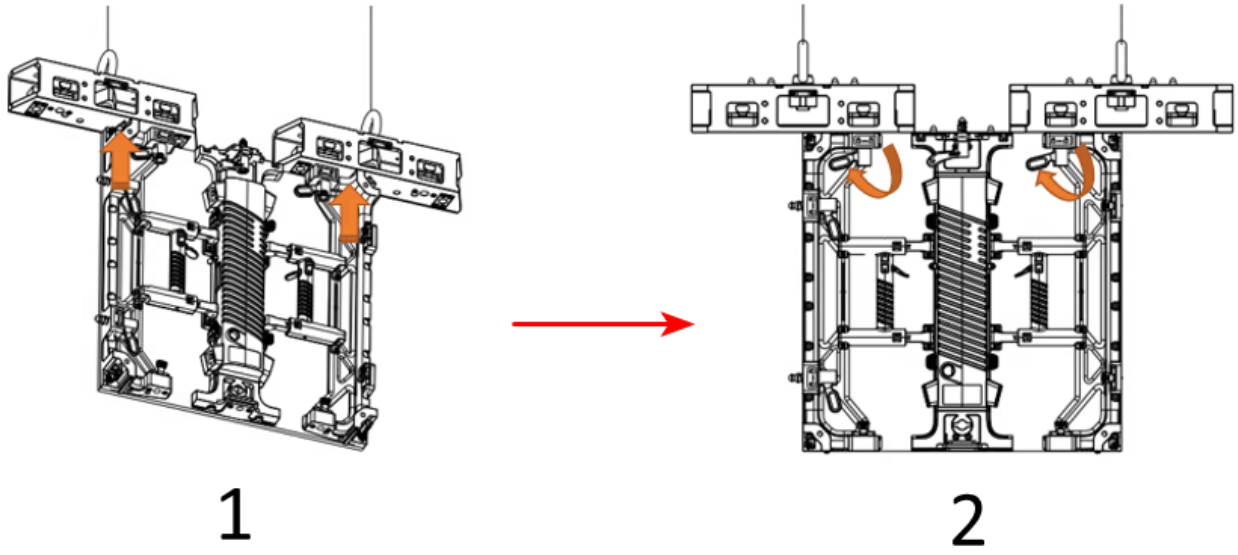


Figure 2-10 Lock the Cabinet onto the Hanging Bar

Step 4 Repeat Step 3 to install the first row of cabinets from the center to both sides.

For every two adjacent cabinets horizontally, push the horizontal fast locks of the right cabinet leftward into the lock holes of the left cabinet. After hearing a click, rotate the lock handles downward according to the indicated arrow, and tighten the fast locks. For more details, see **3.3.2 Splice Cabinet Frames Horizontally**.

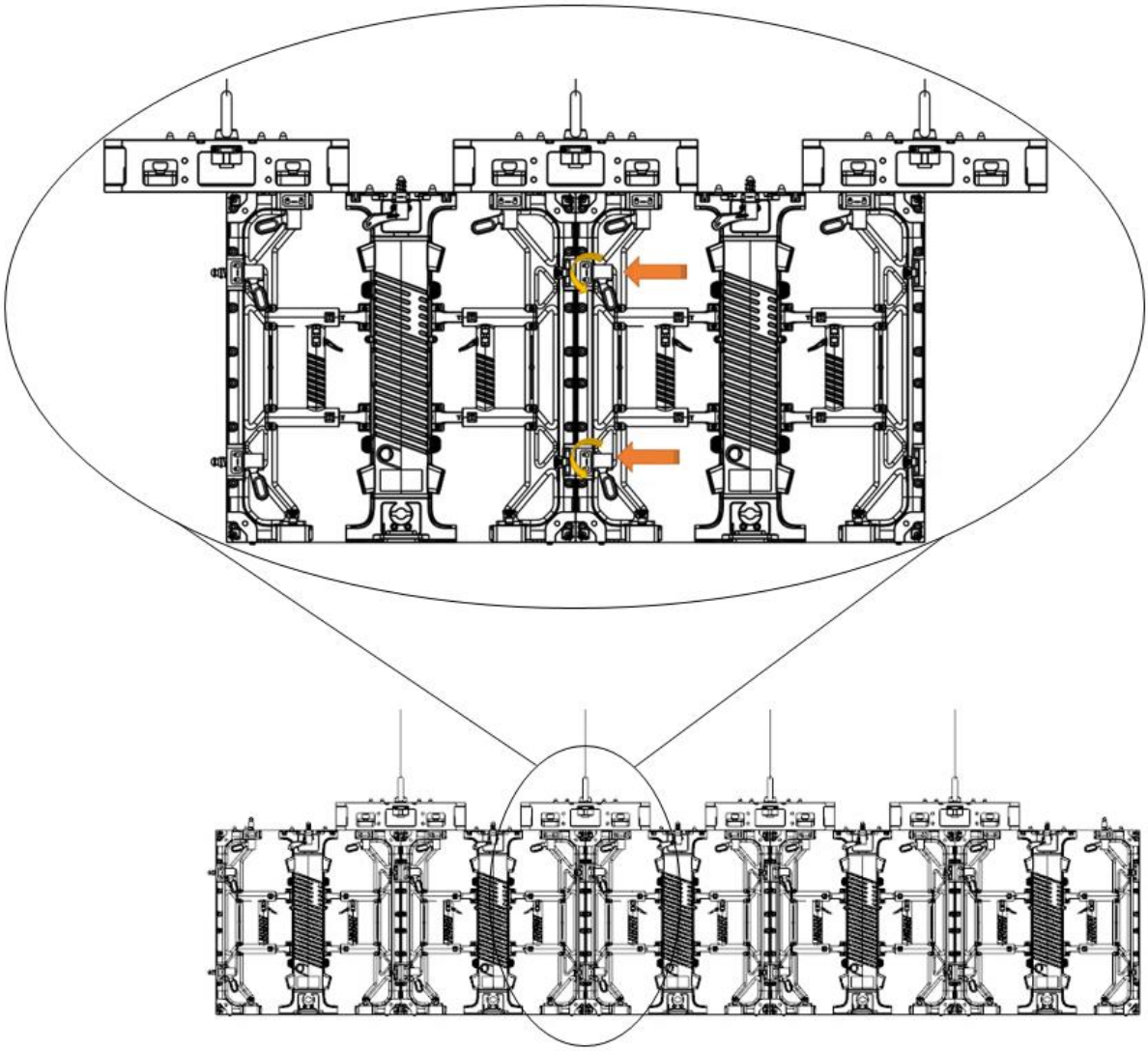


Figure 2-11 Lock Adjacent Cabinets

Step 5 Install the second row of cabinets.

1) Lift the first row of cabinets. Refer to Step 3 to align the locating studs of the second row of cabinets with the locating holes at the bottom of the first row of cabinets.
2) Push the vertical fast locks at the top of the second row of cabinets into the lock holes at the bottom of the first row. After hearing a click, turn the lock handles to the left and tighten the fast locks. For more details, see **3.3.3 Splice Cabinet Frames Vertically**.

   For every two adjacent cabinets horizontally, push the horizontal fast locks of the right cabinet leftward into the lock holes of the left cabinet. After hearing a click, rotate the lock handles downward according to the indicated arrow, and tighten the fast locks. For more details, see **3.3.2 Splice Cabinet Frames Horizontally**.

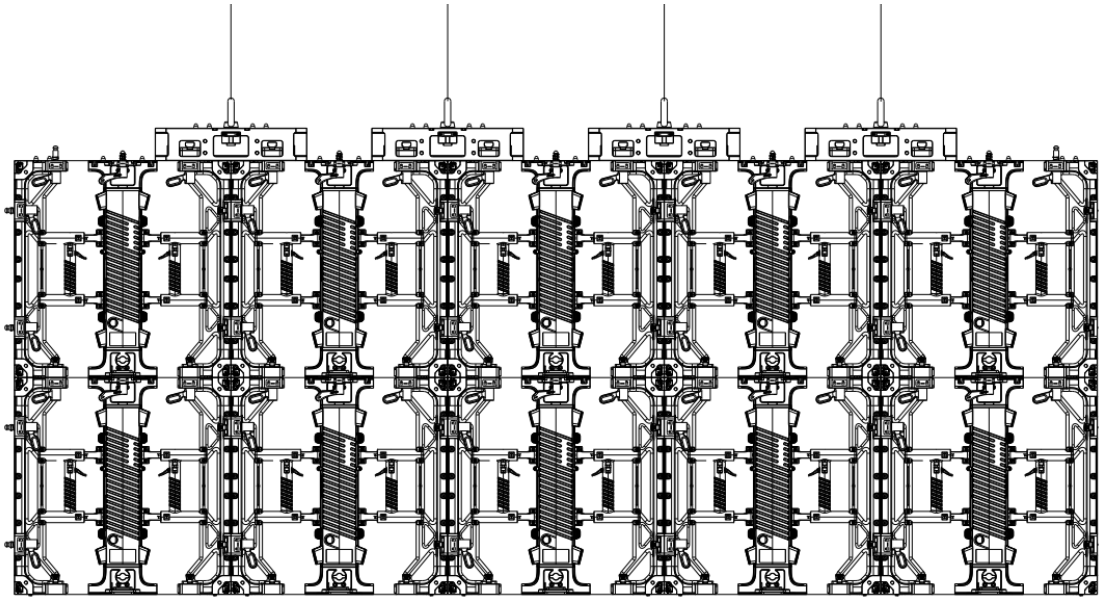


Figure 2-12 Tighten the Second Row of Cabinets

Step 6 Repeat the above steps to complete the installation of the remaining cabinets.

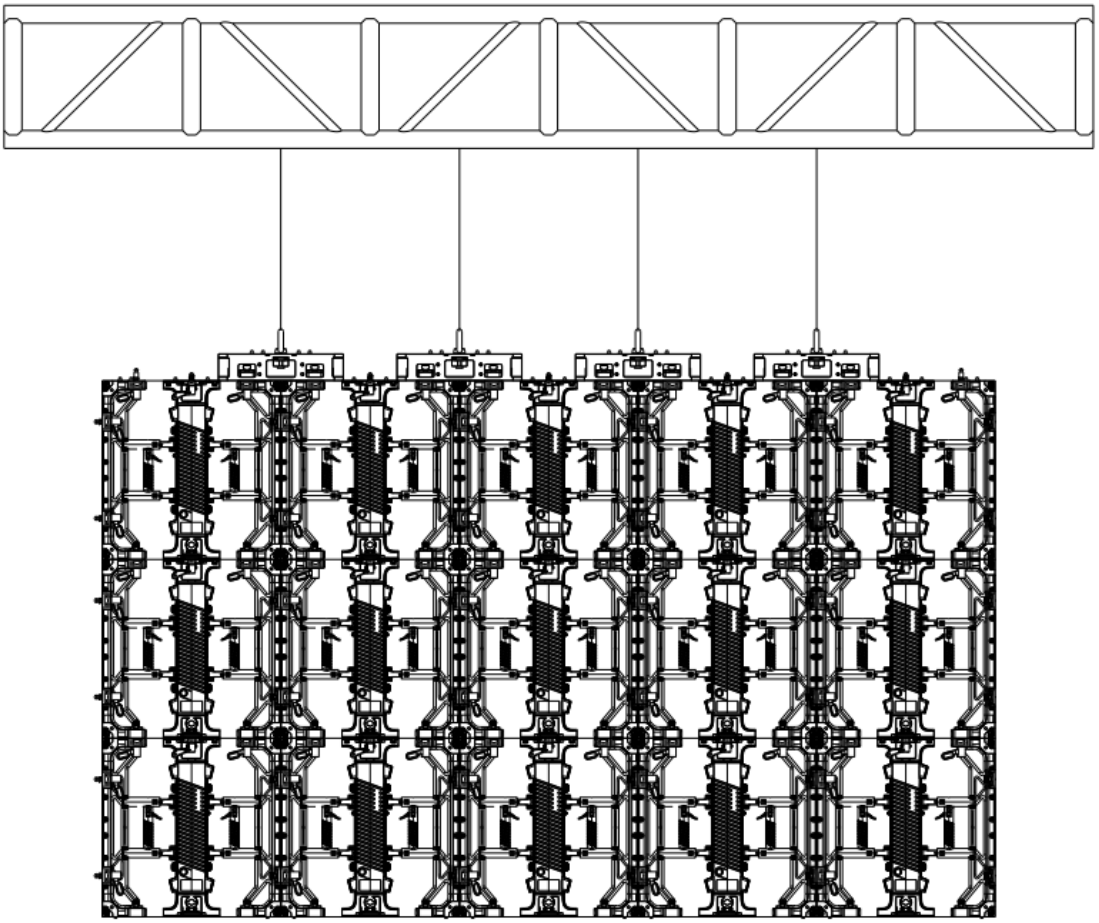


Figure 2-13 All Cabinets Installed

2.3 Install the Cabinet on the Stacking Rack

The stacking installation mode supports a maximum number of 10 rental cabinets (500 mm × 500 mm) or 5 rental cabinets (500 mm × 1000 mm). To install the cabinets on the stacking racks, you need to fix the vertical lock holes of cabinets with the locks of stacking racks.

Install the Standard-Edge Cabinet and Edge-Cutting Cabinet

Step 1 Line up the stacking racks on the installation ground, and then insert a 6 mm hex wrench into the height adjustment hole of each leveling foot and rotate the hex wrench to adjust each stacking rack to the same horizontal height.

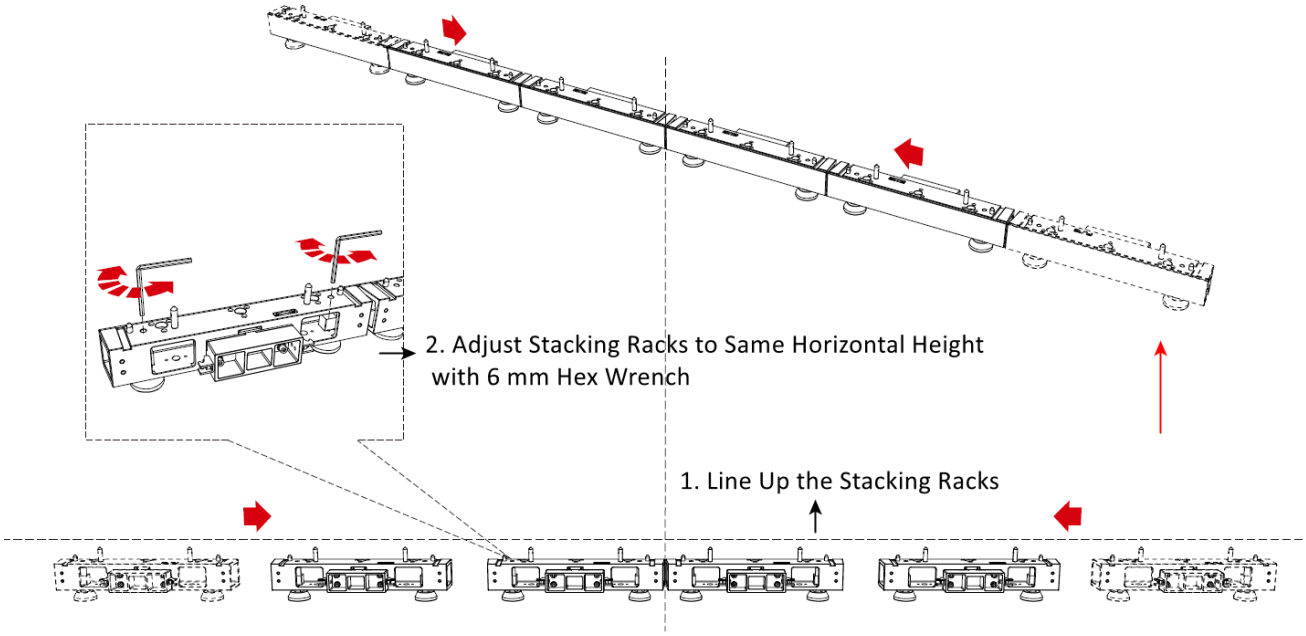


Figure 2-14 Line Up Stacking Racks and Adjust Their Height

Step 2 Install one ground base at both the front and rear ends of the row, and then install an additional ground base at every other stacking rack in between.

1) Use a 6 mm hex wrench to adjust the leveling feet of the ground base to make its top surface level with the rectangular connector of the stacking rack.
2) Insert one end of the ground base into the rectangular connector, and then secure them with the buckle lock.

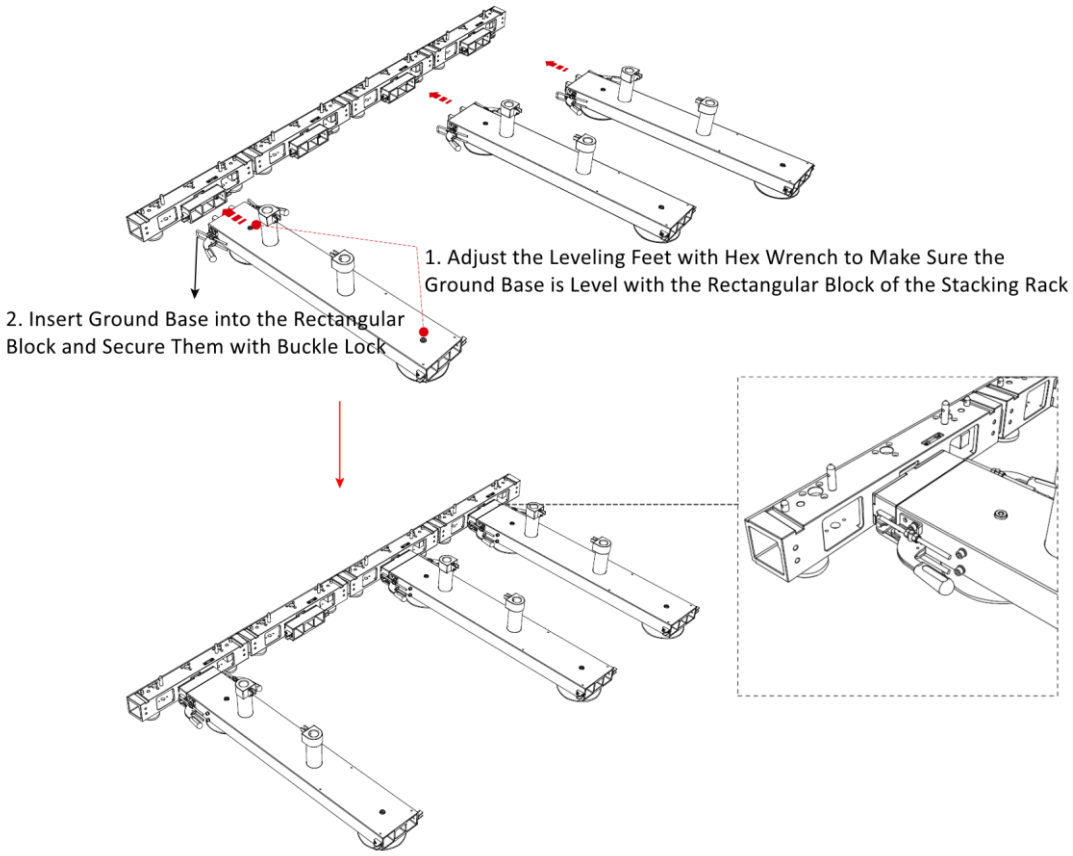


Figure 2-15 Install Ground Base with Stacking Rack

Step 3 Install a 1-meter bracing frame on each ground base and secure it with the buckle lock.

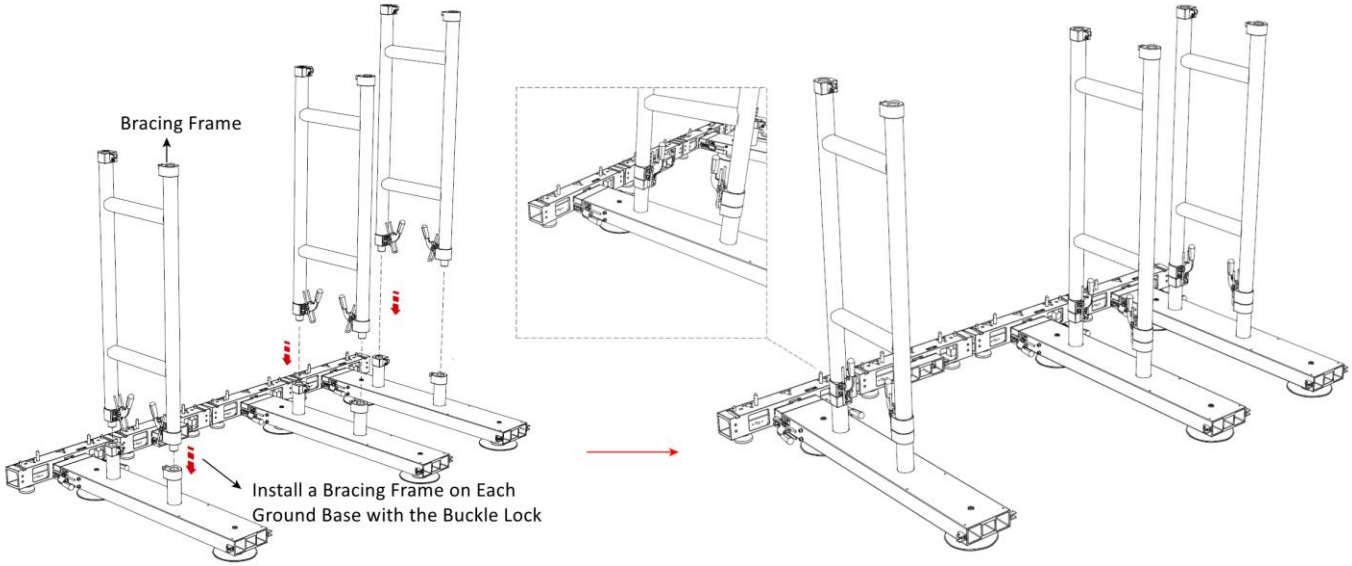


Figure 2-16 Fix Bracing Frames with Ground Bases

Step 4 Install the first row of cabinets on the stacking racks from the middle to both ends.

1) Align the locating studs on the stacking racks with the lock holes at the bottom on the lowest row of cabinets, and insert the locating studs into the holes.

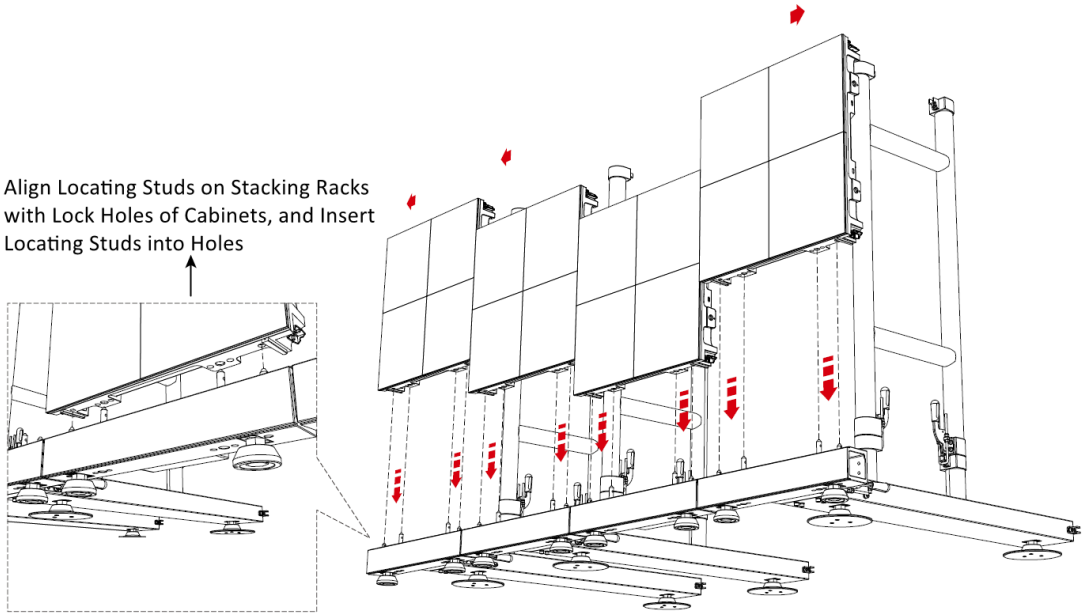


Figure 2-17 Install First Row of Cabinets

2) Secure the adjacent cabinets horizontally. For more details, see **3.3.2 Splice Cabinet Frames Horizontally**.

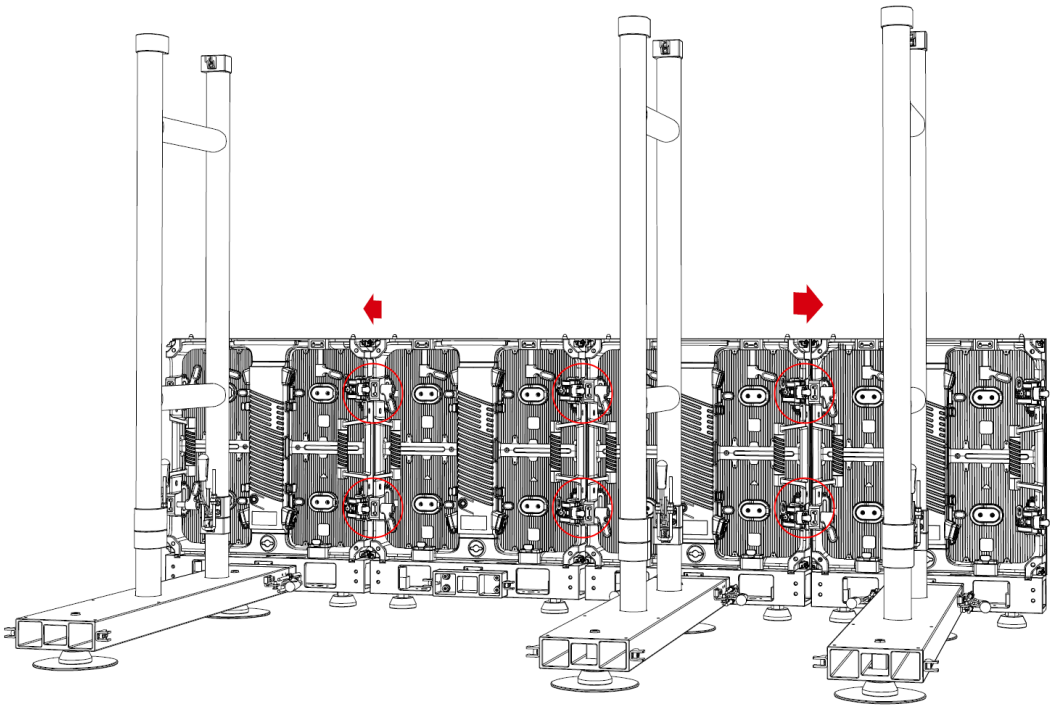


Figure 2-18 Secure Adjacent Cabinets Horizontally

Step 5 Install the rest cabinets from bottom to top row by row.

1) Place a new cabinet (cabinet A) on top of a lowest-row cabinet (cabinet B) that has a bracing frame behind it, align the vertical locating studs on the cabinet A with the vertical locating holes on the cabinet B to finish the vertical splicing of cabinets. For more details, see **3.3.3 Splice Cabinet Frames Vertically**.

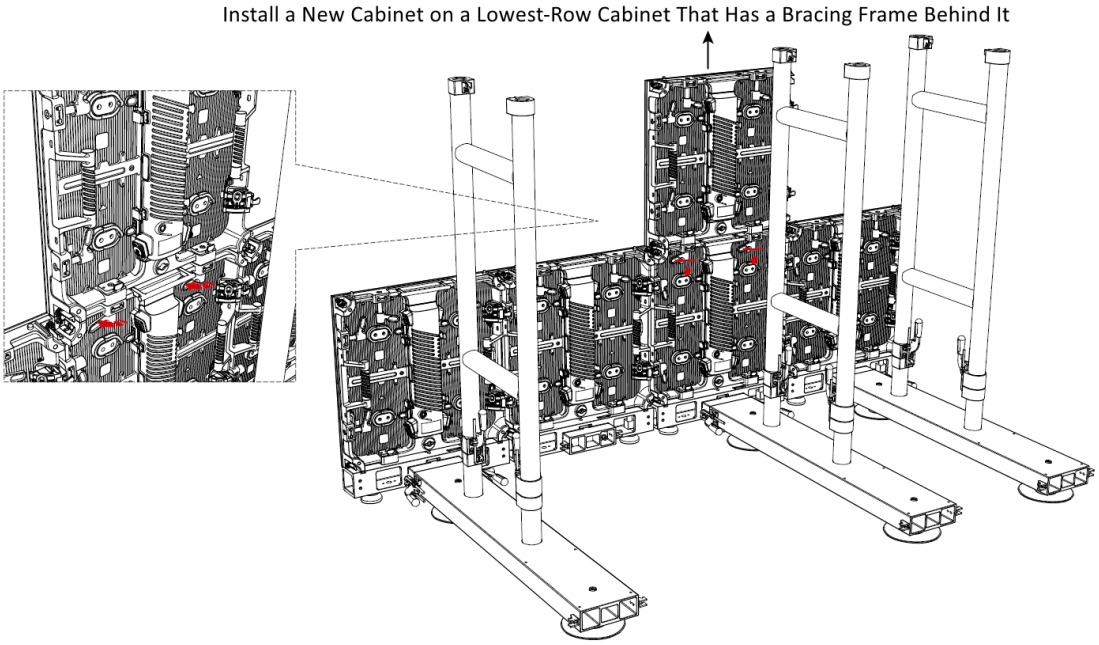
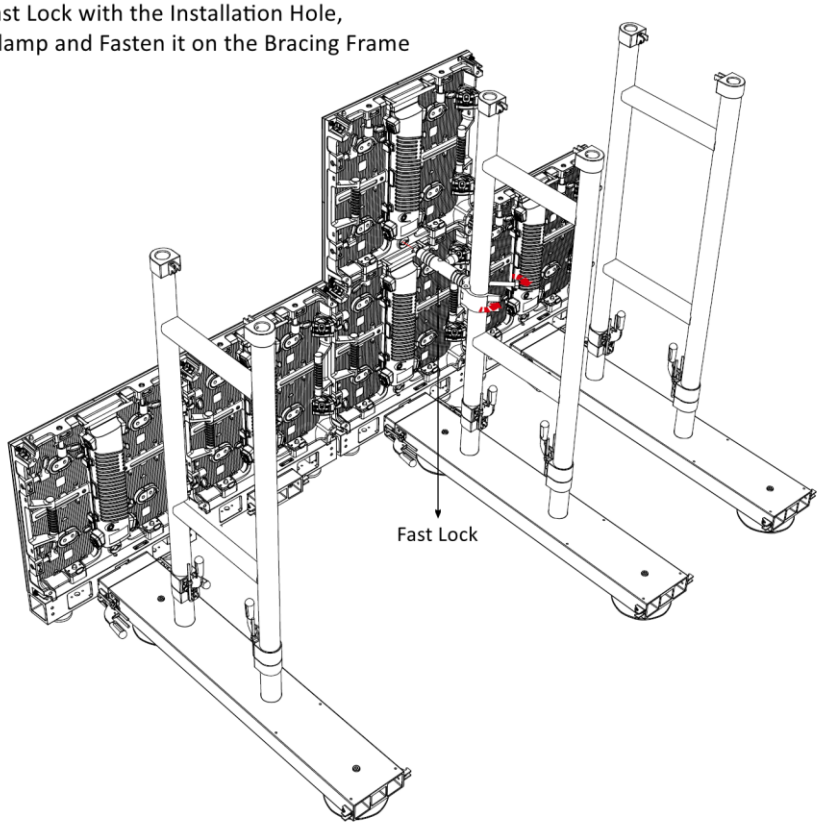


Figure 2-19 Install a Second-Row Cabinet

2) Fix the cabinet and the bracing frame with the fast lock: Align the fast lock with the installation hole at the bottom of the cabinet, open the clamp (A) of the fast lock, and secure it to the bracing frame. Rotate the handle (B) near the clamp counterclockwise, and insert the pin (D) of the fast lock into the installation hole. Flip the middle handle (C) up by 90 degrees, pull the lock rod till the pin D contacts the inner wall of the installation hole, and then rotate C clockwise to tighten it. Rotate the cylinder (E) clockwise until it contacts the outer wall of the installation hole to fasten it. Rotate B clockwise to complete the fixation.

1. Fix Fast Lock and Bracing Frame:
Align the Fast Lock with the Installation Hole,
Open the Clamp and Fasten it on the Bracing Frame



2. Fix Fast Lock and Cabinet:

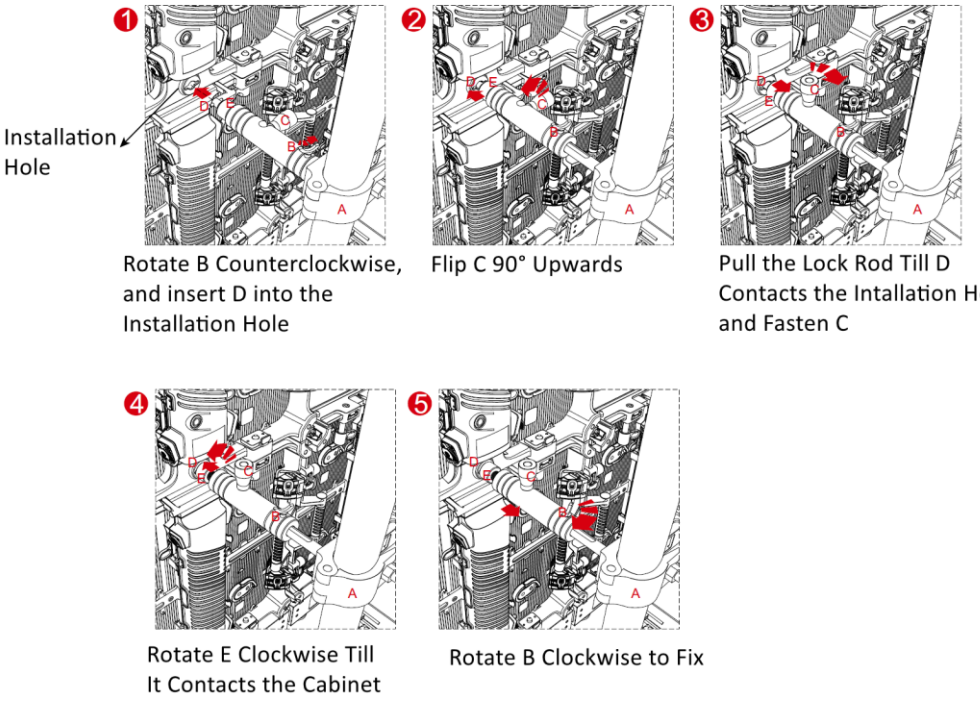


Figure 2-20 Fix Cabinet and Bracing Frame with Fast Lock

3) Repeat the above steps to install the rest cabinets sequentially. For the cabinets that have a bracing frame behind them, you need to fix the cabinets and the bracing frames with fast locks.

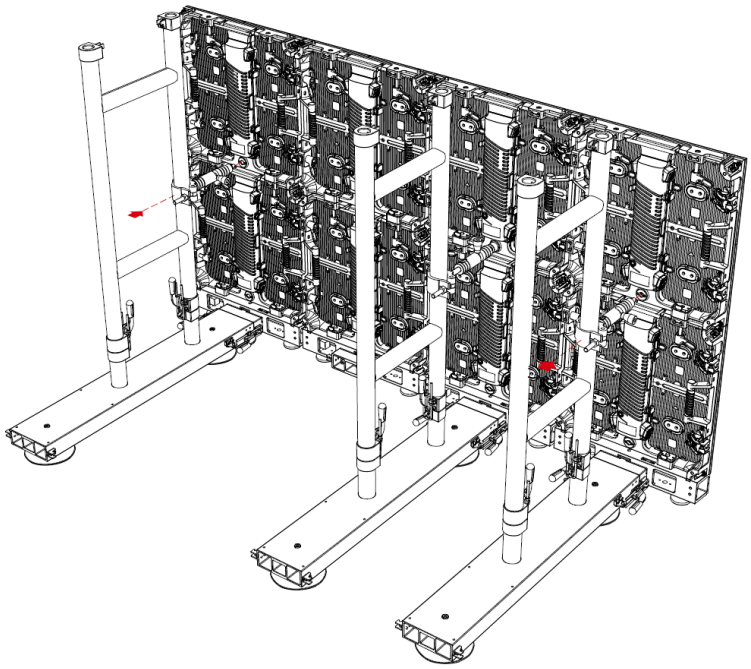


Figure 2-21 Install Rest Cabinets

Step 6 Install the telescoping crossbars between adjacent bracing frames.

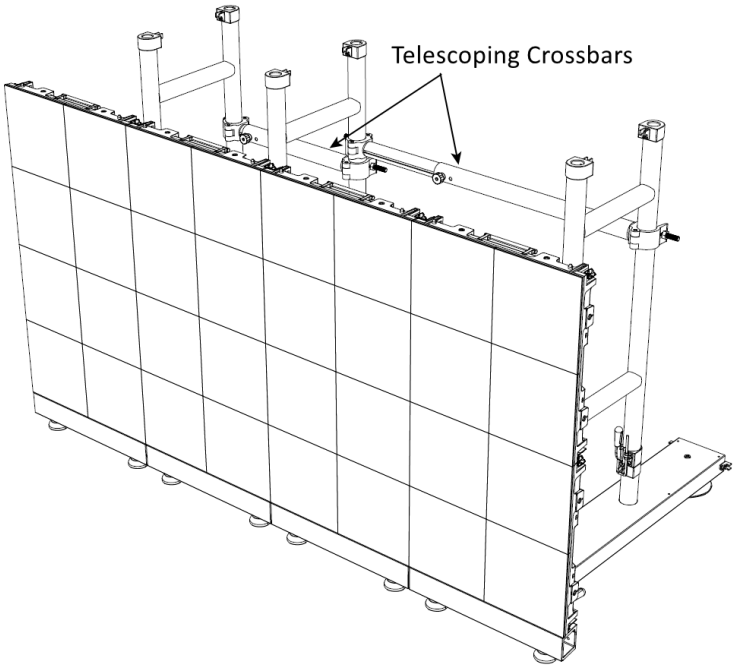


Figure 2-22 Install Telescoping Crossbars

Step 7 Repeat the above steps to install more cabinets as needed.

Install the Flexible Cabinet

Step 1 Remove the lifting rings from the hanging bars and install the rectangular connecting blocks to make them stacking racks. Line up them in a row on the installation ground. Referring to the level on the stacking racks, insert a 6 mm hex wrench into the height adjustment hole of each leveling foot and rotate the hex wrench to adjust each stacking rack to the same horizontal height.

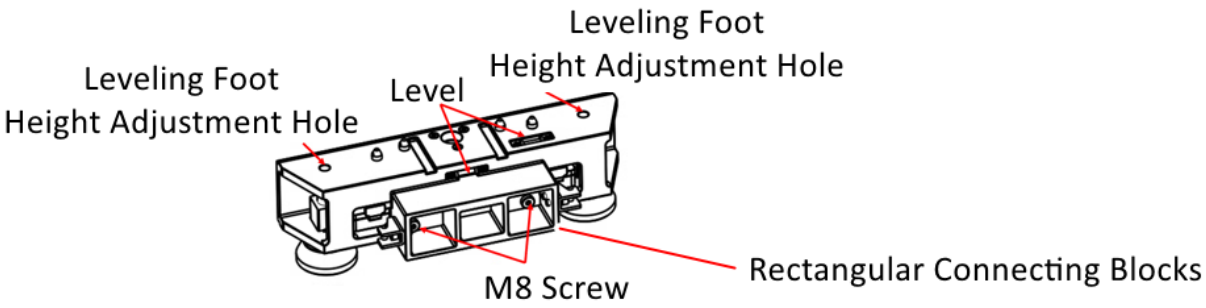


Figure 2-23 Fix Connecting Blocks



Figure 2-24 Line Up Stacking Racks (Top View)

Note

- For an odd number of columns, among three adjacent stacking racks, the middle one does not need to have a rectangular connecting block installed. Even if a rectangular connecting block is installed, a ground base will not be installed behind it.
- For an even number of columns, rectangular connecting blocks must be installed on the outermost two columns on one side, and ground bases must also be installed on these two columns.

Step 2 Connect a ground base behind each connecting block.

1) Adjust the U-shaped bolt and the nuts on the toggle latch to lock the ground base and the connecting block together.
2) Insert a 6 mm hex wrench into the height adjustment hole of leveling foot on the base to adjust the leveling feet of the ground base to make its top surface level with the rectangular connector of the stacking rack.

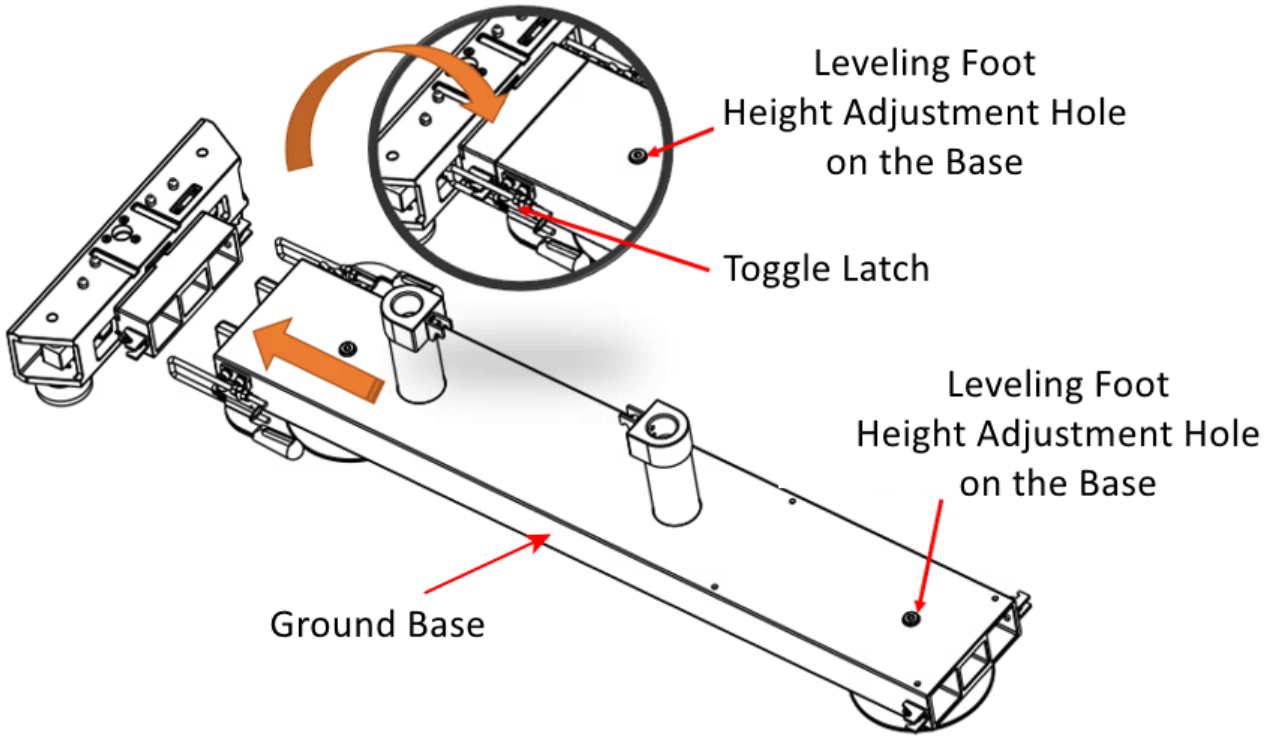


Figure 2-25 Lock Ground Base with Connecting Block

Step 3 Insert the bottom end of the 1 m bracing frame into the two corresponding mounting holes on the ground base, and lock the toggle latch.

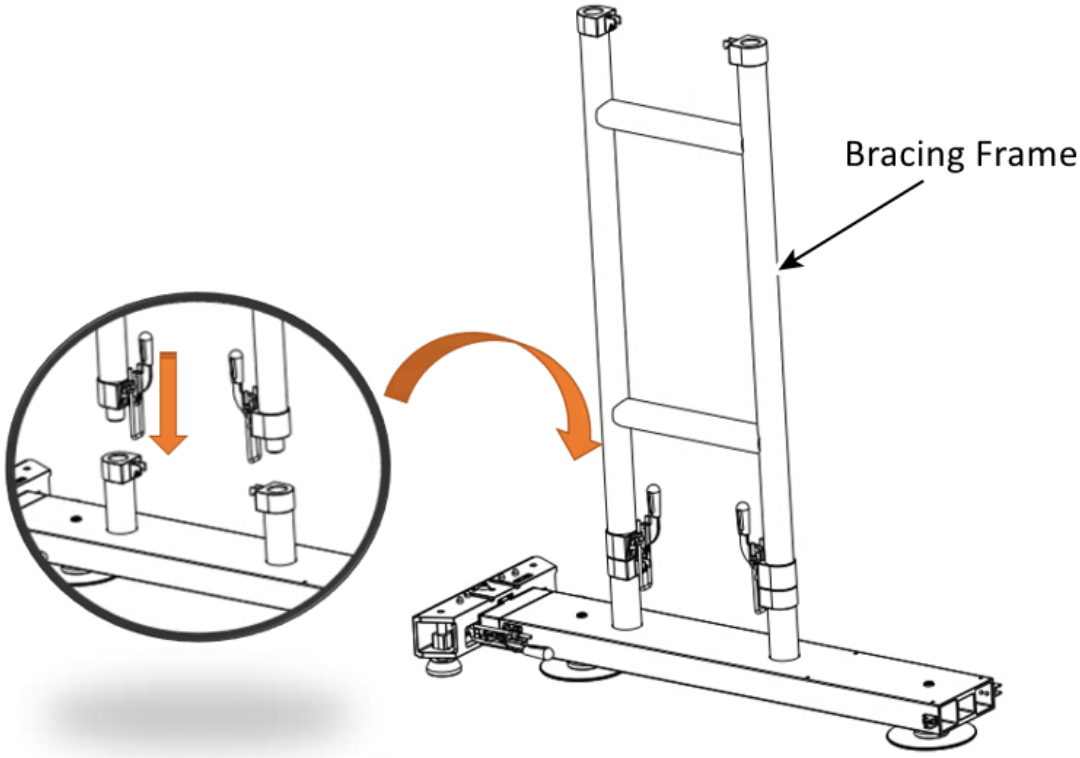


Figure 2-26 Fix Stacking Rack on the Base

Step 4 Flip all corner protectors of a cabinet to hide them.

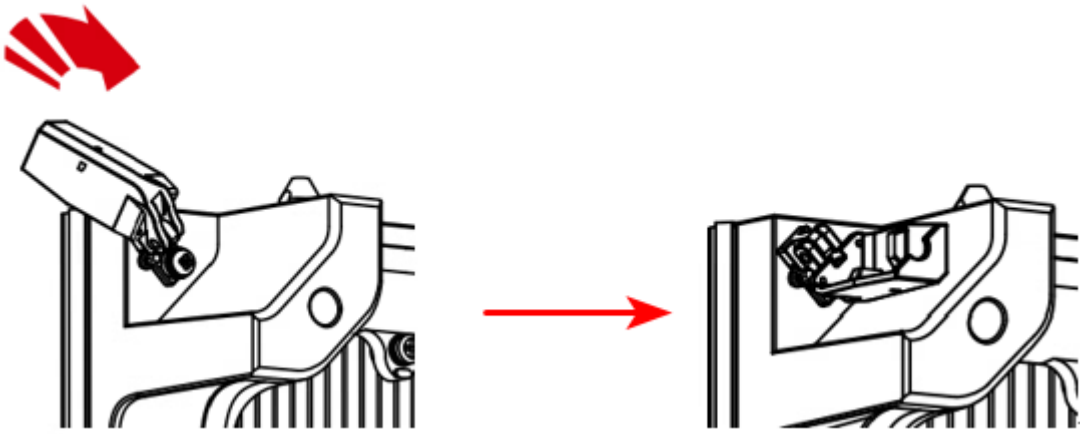


Figure 2-27 Flip Corner Protectors

Step 5 Align the two locating holes at the bottom of the cabinet with the locating studs on the corresponding two stacking racks, and insert them one by one.

For every two adjacent cabinets horizontally, push the horizontal fast locks of the right cabinet leftward into the lock holes of the left cabinet. After hearing a click, rotate the lock handles downward according to the indicated arrow, and tighten the fast locks. For more details, see **3.3.2 Splice Cabinet Frames Horizontally**.

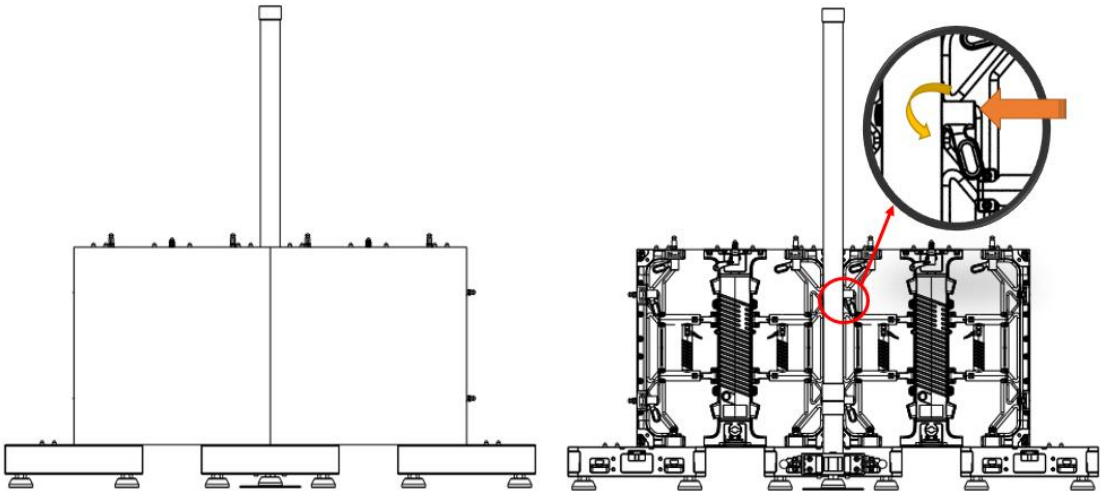


Figure 2-28 Lock Adjacent Cabinets on the Base

Step 6 Fix the cabinets onto the bracing frame with connecting plate.

1) Fix the mounting clamp onto the vertical rod of the bracing frame.
2) Loosen the set screw.
3) Hold the sliding handle and push the connecting plate towards the cabinet until it fits tightly against the back of the cabinet. Align the installation holes on the connecting plate with the threaded holes on the cabinet.

4) Use M8 bolts to lock the connecting plate and the cabinet together. Finally, tighten the set screw.

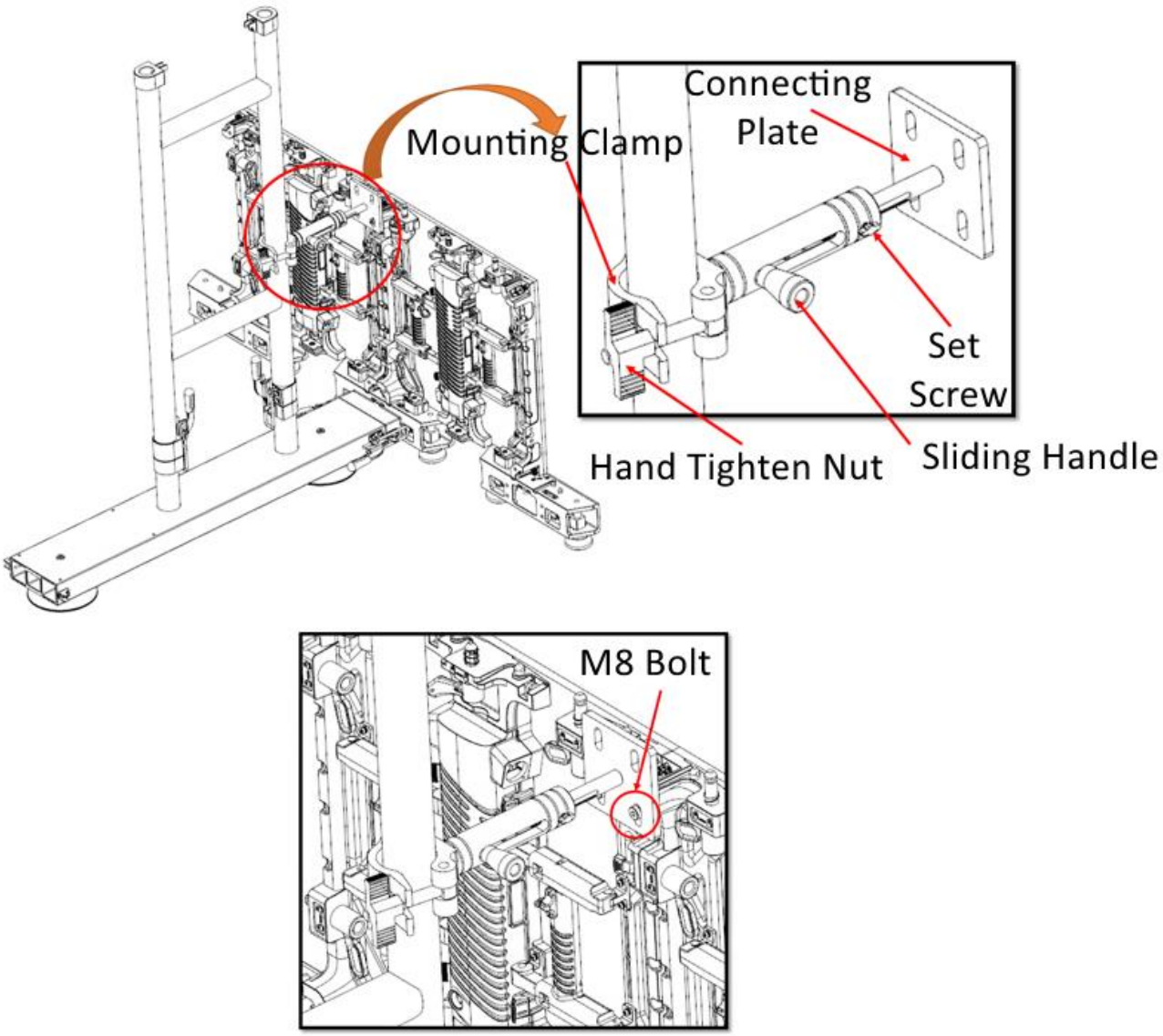


Figure 2-29 Fix the Cabinet onto the Stacking Rack

Step 7 Repeat Step 5 and Step 6 to splice and fix all cabinets in the first row from center to both sides.

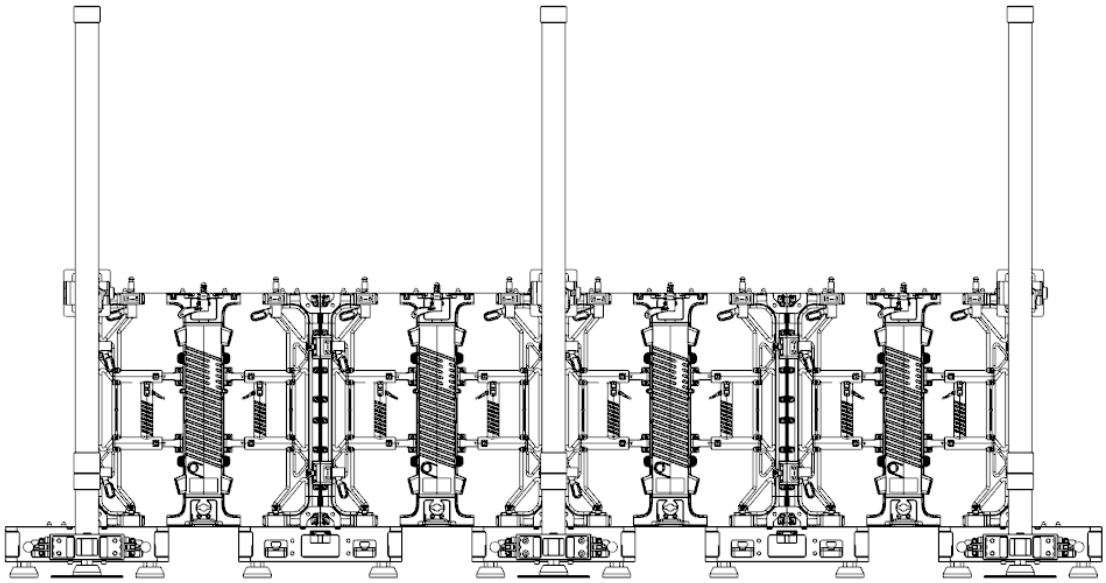


Figure 2-30 Fix the Remaining Cabinets in the First Row

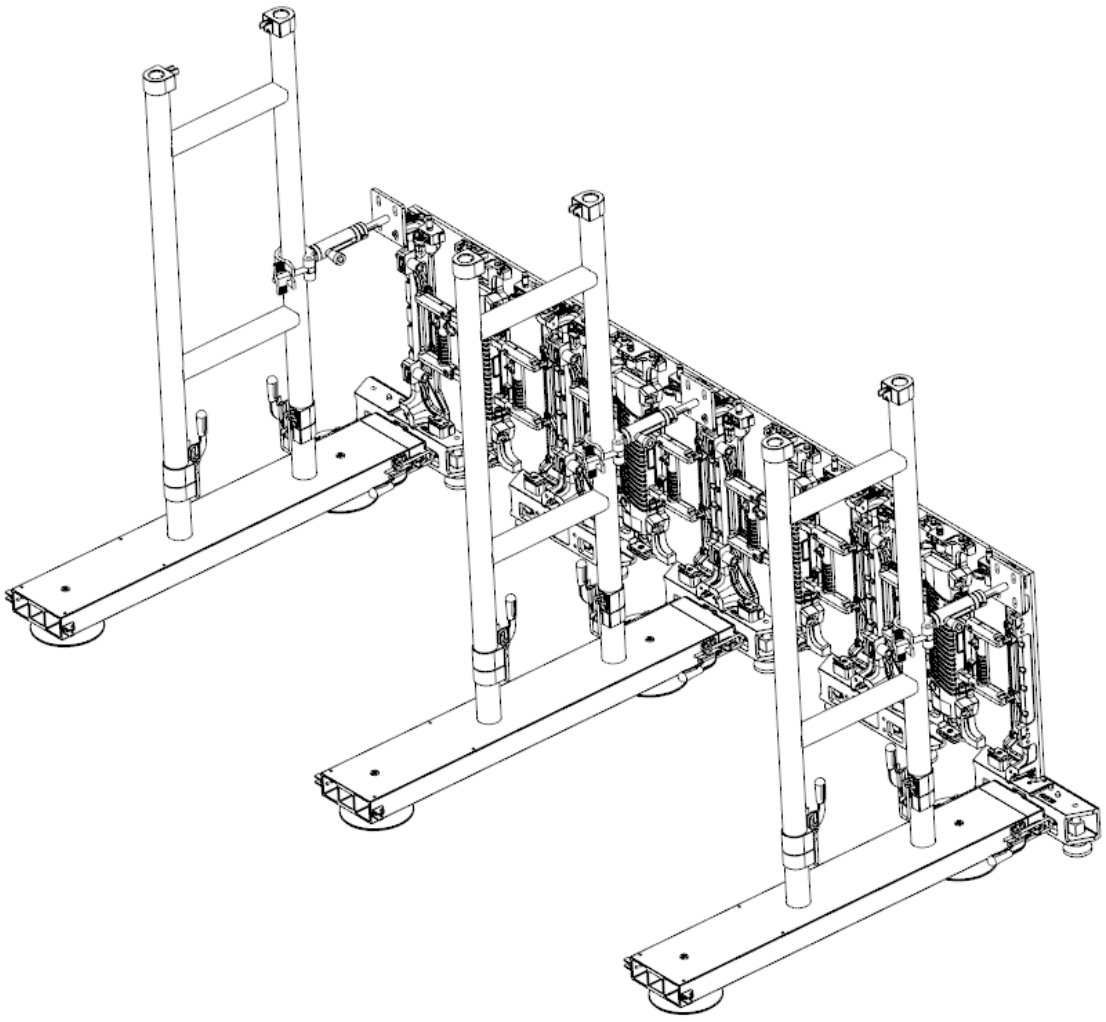


Figure 2-31 First Row of Cabinets Fixed

Note

You can adjust the height of the leveling feet of the stacking rack and the ground base to keep the first row of cabinets and the stacking rack level respectively.

Step 8 Refer to Step 5 to align the two locating holes at the bottom of the cabinet with the top locating studs of the cabinet below, and insert them one by one. Push the vertical fast locks of the lower cabinet into the lock holes at the bottom of the upper cabinet. After hearing a click, turn the lock handles to the left and tighten the fast locks. For more details, see **3.3.3 Splice Cabinet Frames Vertically**.

For every two adjacent cabinets horizontally, push the horizontal fast locks of the right cabinet leftward into the lock holes of the left cabinet. After hearing a click, rotate the lock handles downward according to the indicated arrow, and tighten the fast locks. For more details, see **3.3.2 Splice Cabinet Frames Horizontally**. Then use M8 bolts to lock the connecting plate and the cabinet together.

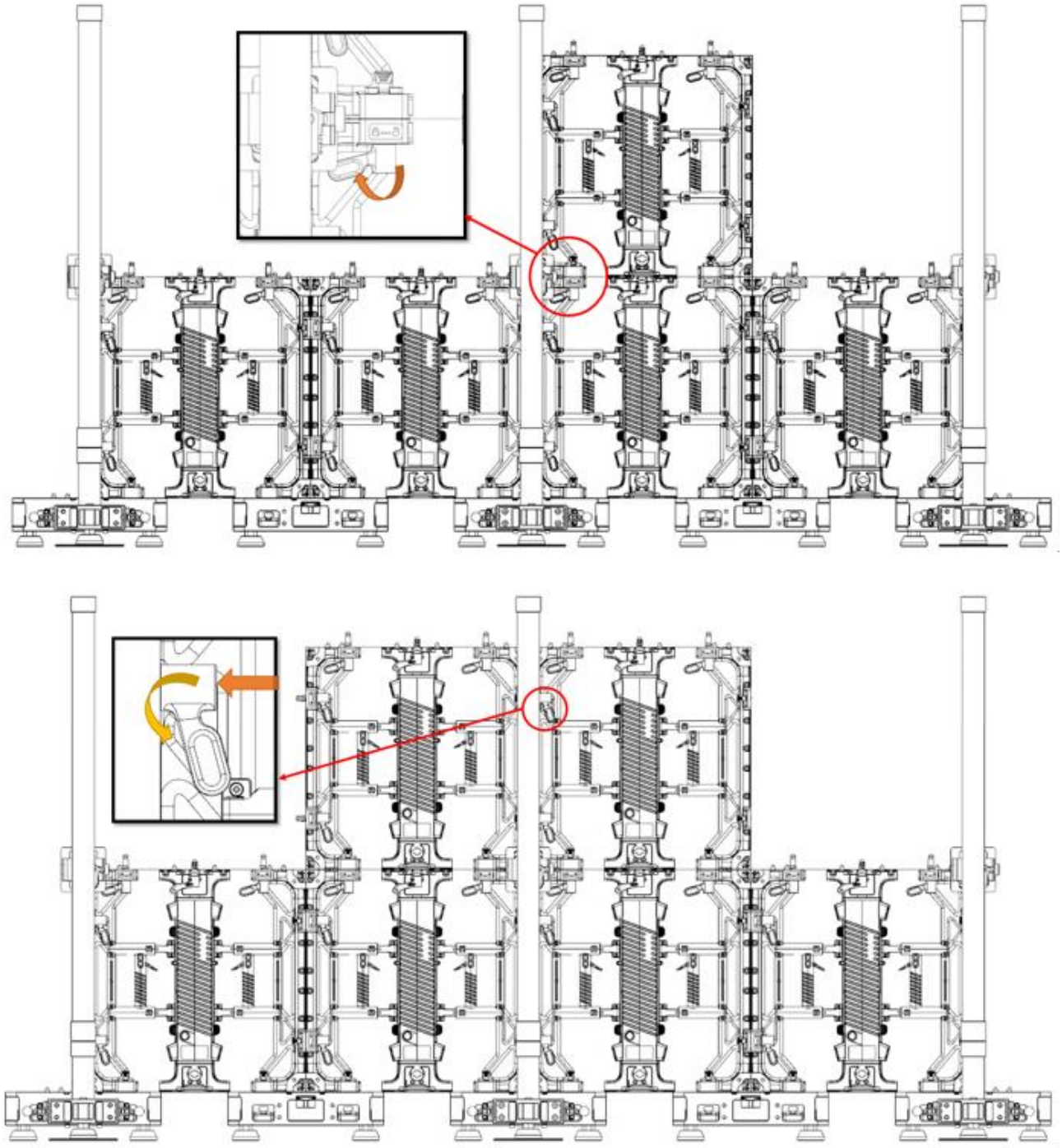


Figure 2-32 Tighten Adjacent Cabinets

Step 9 Repeat Step 8 to splice and fix all cabinets in the second row from the center to both sides.

Note

A BabyArm (a supporting frame) needed to be installed for every two rows of cabinets. When there is an even number of cabinets, there is no need to install a BabyArm on the top of the uppermost row of cabinets.

Step 10 Install the telescoping crossbars.

1) Loosen the wing nut of the 1 m telescoping crossbars to extend it.
2) Fix the mounting clamps respectively onto the vertical rods of two bracing frames spaced 1 m apart.
3) Lock the mounting clamps and tighten the wing nut.

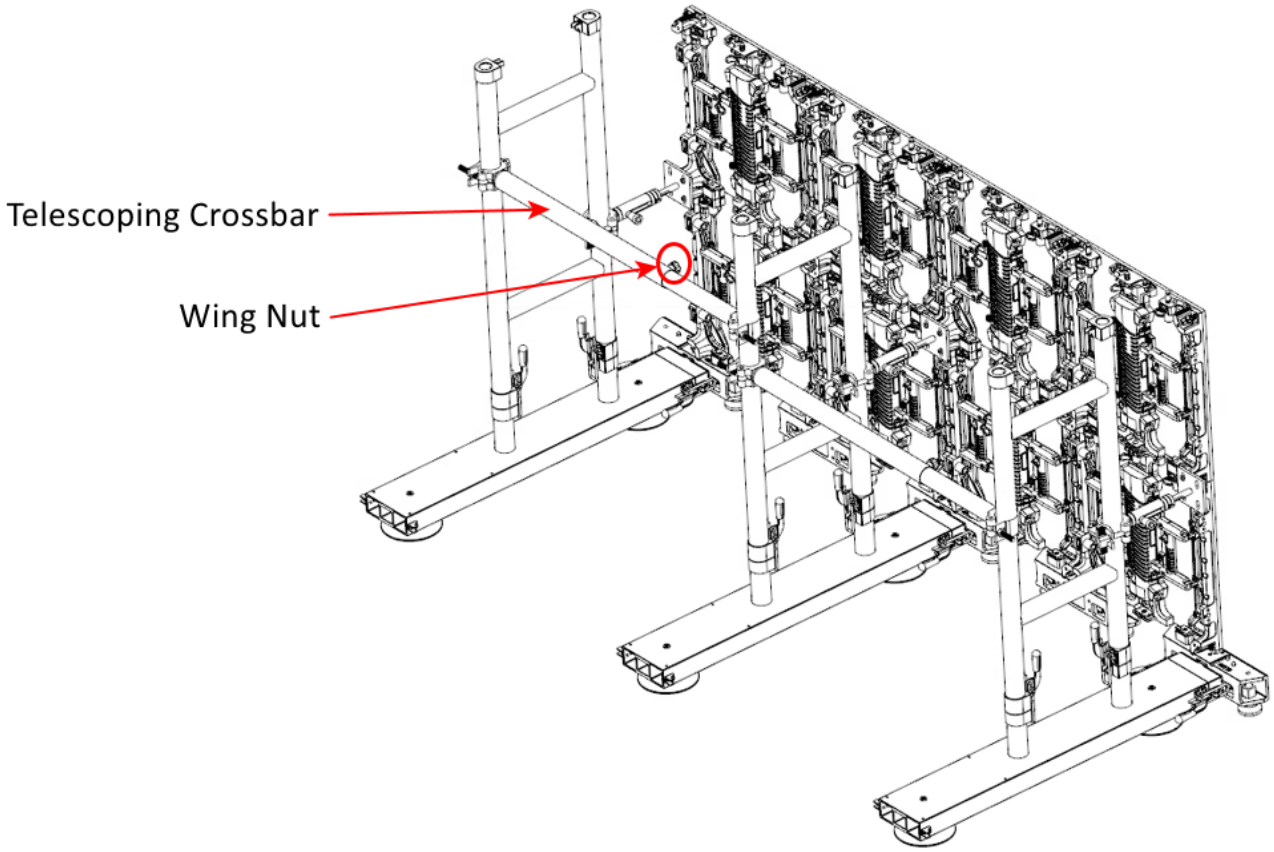


Figure 2-33 Install the Telescoping Bars (Side View)

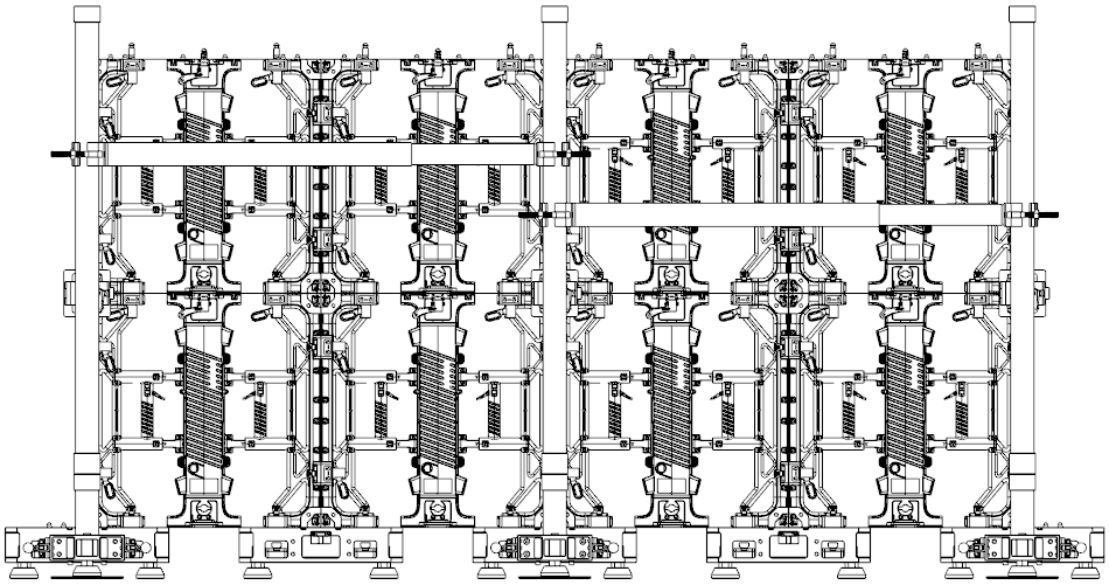


Figure 2-34 Install the Telescoping Bars (Rear View)

Step 11 Refer to Step 3, insert the bottom end of the 1 m bracing frame into the two corresponding mounting holes on the top of the first row of the stacking rack, and lock the toggle latch. Then repeat the above steps to install and fix all rows of cabinets.

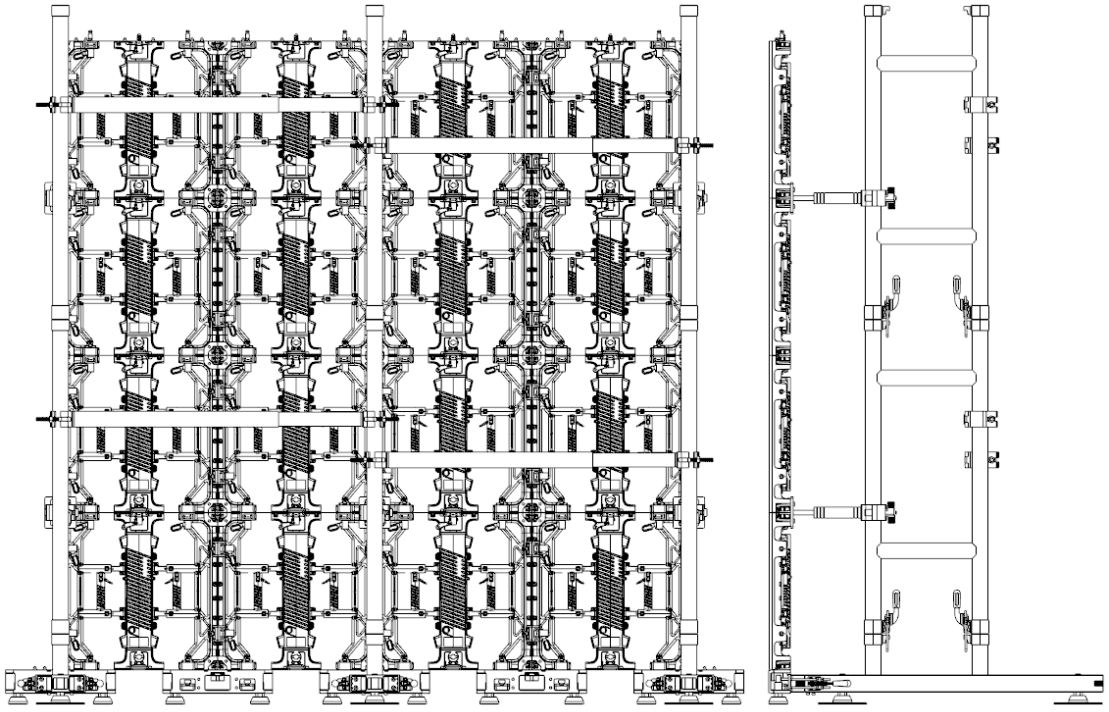


Figure 2-35 All Cabinets Installed

Chapter 3 Cabinet Installation

3.1 Cabinet Overview

An LED cabinet is the basic unit used to build an LED display. It consists of a metal frame (made of cast aluminum), LED modules (i.e., lamp boards), and a power supply box that contains a built-in receiving card and switching power supply.

The product comes in the following cabinet specifications.

Table 3-1 Cabinet Specifications

Series	Cabinet Dimensions (W × H × D)	Indoor/Outdoor	Pixel Pitch	Resolution
Aries	500 mm × 500 mm × 69 mm	Indoor	P2.6	168 × 168
			P2.9	128 × 128
	500 mm × 500 mm × 69 mm (for cutting edge cabinets only)	Indoor	P2.6	192 × 192
			P2.9	168 × 168
			P3.9	128 × 128
		Outdoor	P2.9	168 × 168
			P3.9	128 × 128
	500 mm × 1000 mm × 69 mm (for standard-edge cabinets only)	Indoor	P2.9	168 × 336
			P3.9	128 × 256
		Outdoor	P2.9	168 × 336
			P3.9	128 × 256
Aries Pro	500 mm × 500 mm × 69 mm	Indoor	P1.9	256× 256
			P2.6	192 × 192
			P2.9	168 × 168
	500 mm × 500 mm × 69 mm (for cutting edge cabinets only)	Indoor	P1.9	256× 256
			P2.6	192 × 192
			P2.9	168 × 168
		Outdoor	P2.9	168 × 168
			P3.9	128 × 128

Series	Cabinet Dimensions (W × H × D)	Indoor/Outdoor	Pixel Pitch	Resolution
	500 mm × 1000 mm × 69 mm (for standard-edge cabinets only)	Indoor	P2.9	168 × 336
		Outdoor	P2.9	168 × 336
			P3.9	128 × 256

Based on the edge type, the cabinets can be classified into 3 categories.

- Standard-edge rental cabinets: These cabinets have standard right-angle edges and are available with two lock options: standard fast locks and curved locks. Cabinets with standard fast locks can be assembled into flat LED display screens, while those with curved locks allow for curved LED display screen configurations (supported connection angle range is from -10° to +10°).

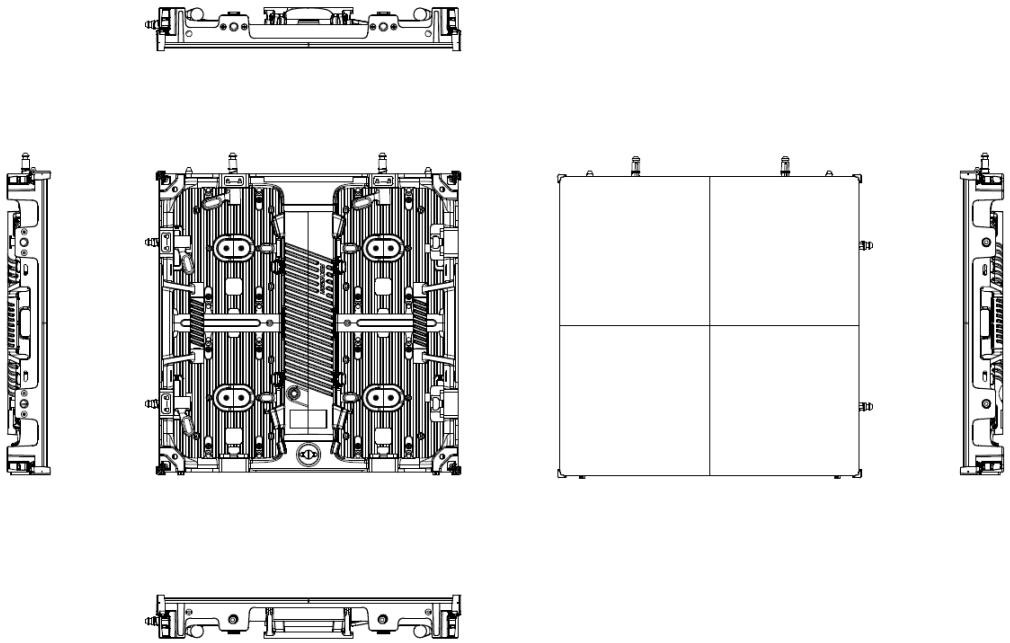


Figure 3-1 500 mm × 500 mm × 69 mm Indoor Cabinet (With Standard Lock)

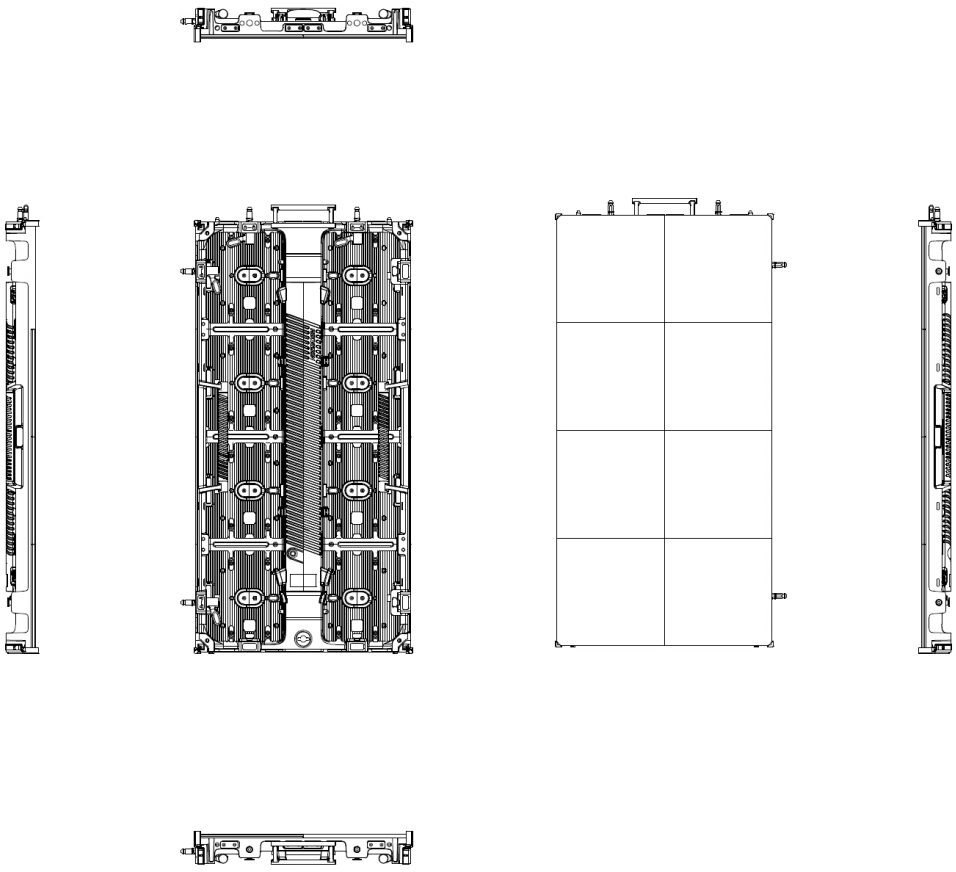


Figure 3-2 500 mm × 1000 mm × 69 mm Indoor Cabinet (With Standard Lock)

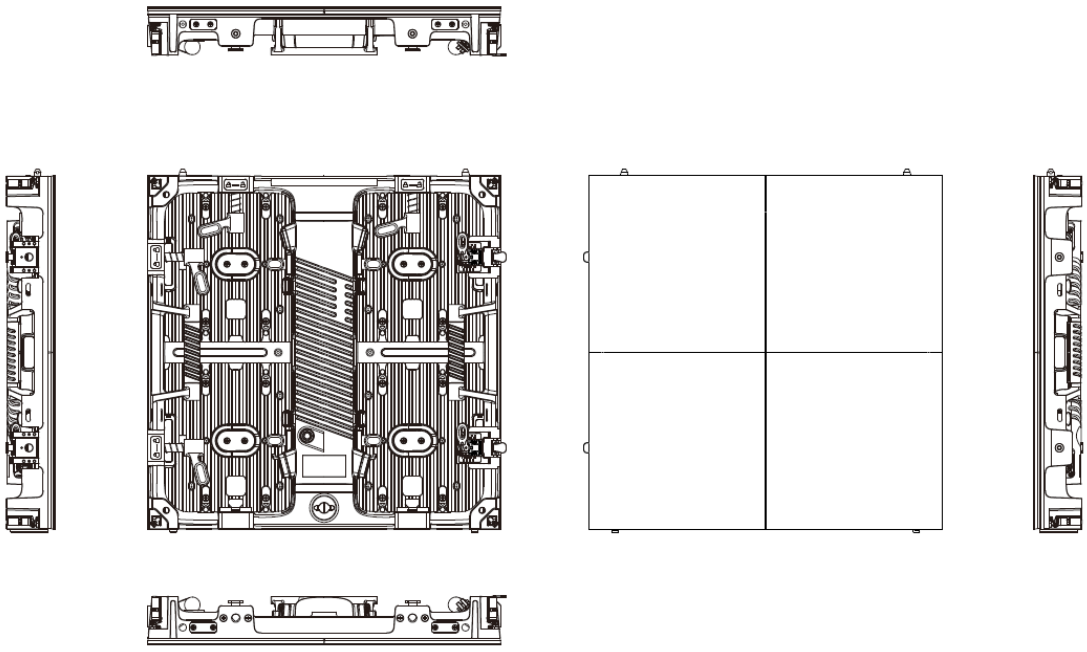


Figure 3-3 500 mm × 500 mm × 69 mm Indoor Cabinet (With Curved Lock)

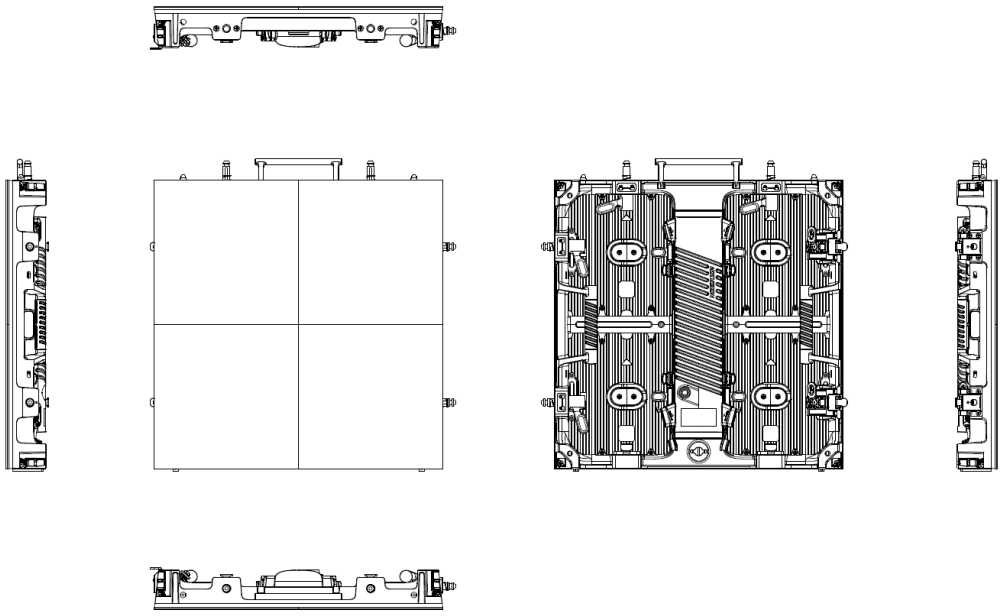


Figure 3-4 500 mm × 500 mm × 69 mm Outdoor Cabinet (With Curved Lock)

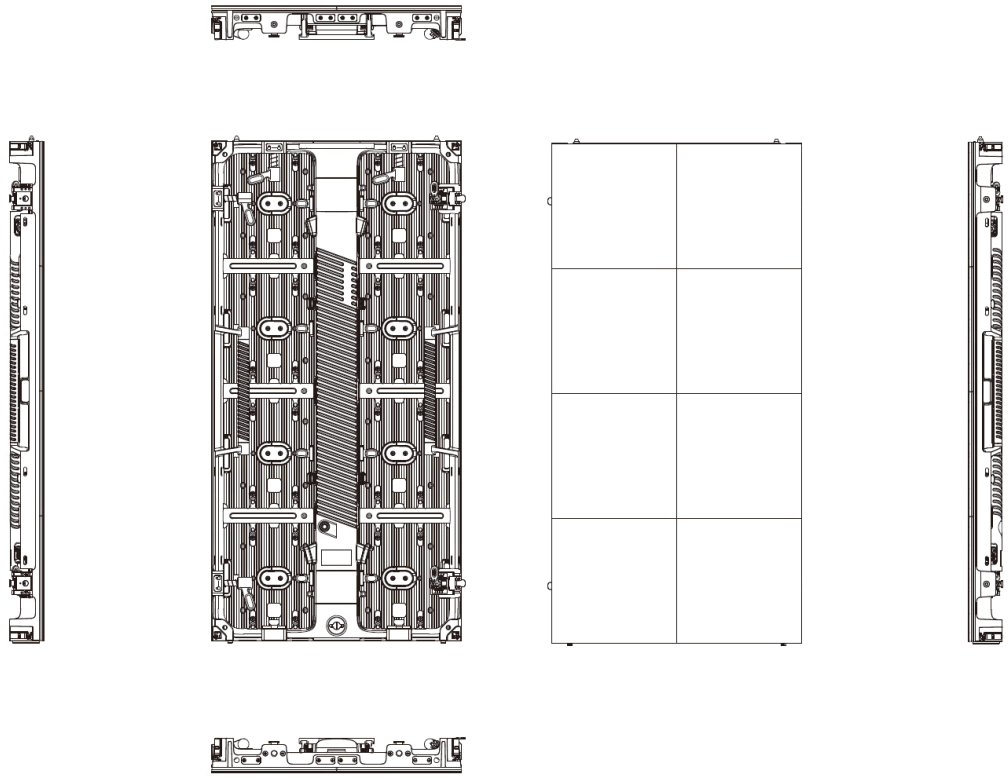


Figure 3-5 500 mm × 1000 mm × 69 mm Indoor Cabinet (With Curved Lock)

- 45° edge-cutting cabinets: These cabinets feature 45° beveled edges and come with curved locks, enabling seamless installation for right-angle and cube-shaped display setups.

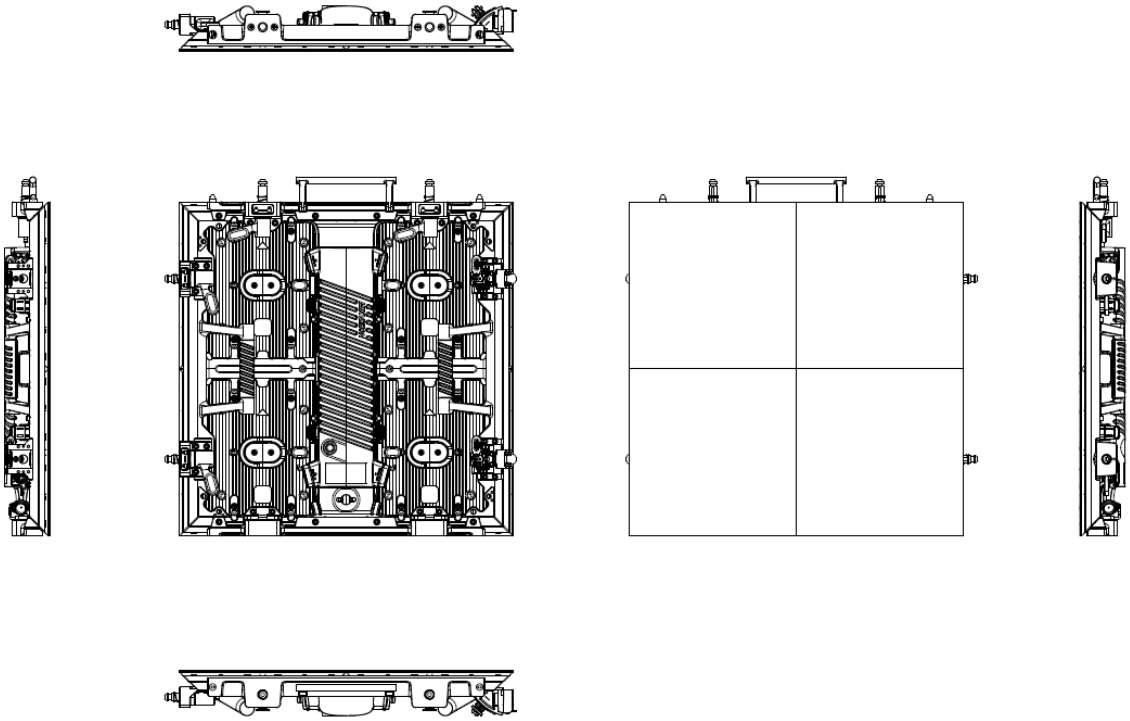


Figure 3-6 500 mm × 500 mm × 69 mm Edge-Cutting Cabinet (Indoor)

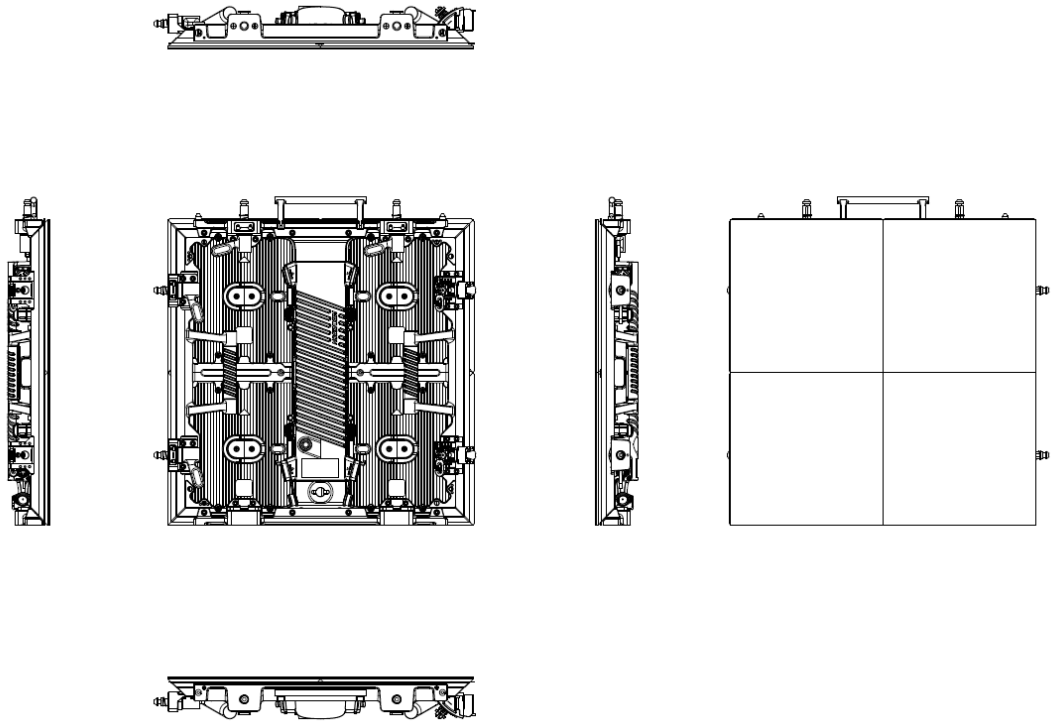


Figure 3-7 500 mm × 500 mm × 69 mm Edge-Cutting Cabinet (Outdoor)

- Flexible rental cabinets: The cabinets have arc adjustment locks and can be interlocked with standard-edge cabinets to form round corner LED screens or circular LED screens. The splicing curvature ranges from -22.5° to 22.5°.

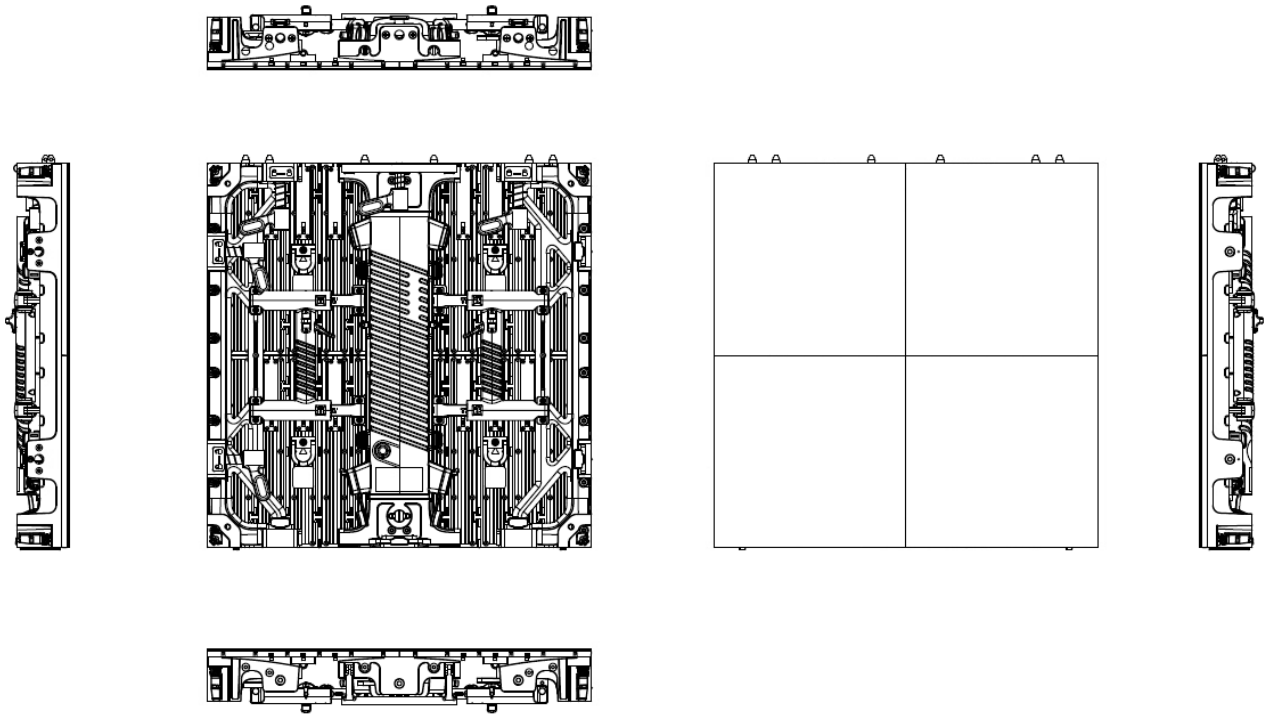


Figure 3-8 500 mm × 500 mm × 69 mm Indoor Cabinet (With Arc Adjustment Lock)

3.2 Precautions

Read the following precautions carefully before you install the device:

- Disconnect the device from power supply, and wait at least two minutes before operating the device, as residual electric discharge may persist briefly.
- Use only the original power cords provided with the device. To purchase replacement cords, contact authorized dealers for units with identical specifications.
- Avoid frequently plugging or unplugging the power cords while the device is powered on.
- To reduce the risk of fire or electric shock, do not expose the device to rain or humid environment.
- Avoid humid or high-PH environment to prevent damage to the LED lamps.

3.3 Splice Cabinet Frames

Note

Since the product has different models, the following description takes indoor cabinets for illustration. The actual model prevails.

3.3.1 Locate Cabinet Frames

A cabinet is equipped with vertical fast locks and horizontal fast locks as shown in the figures below. You can adjust the location of a cabinet frame briefly based on its locking system.

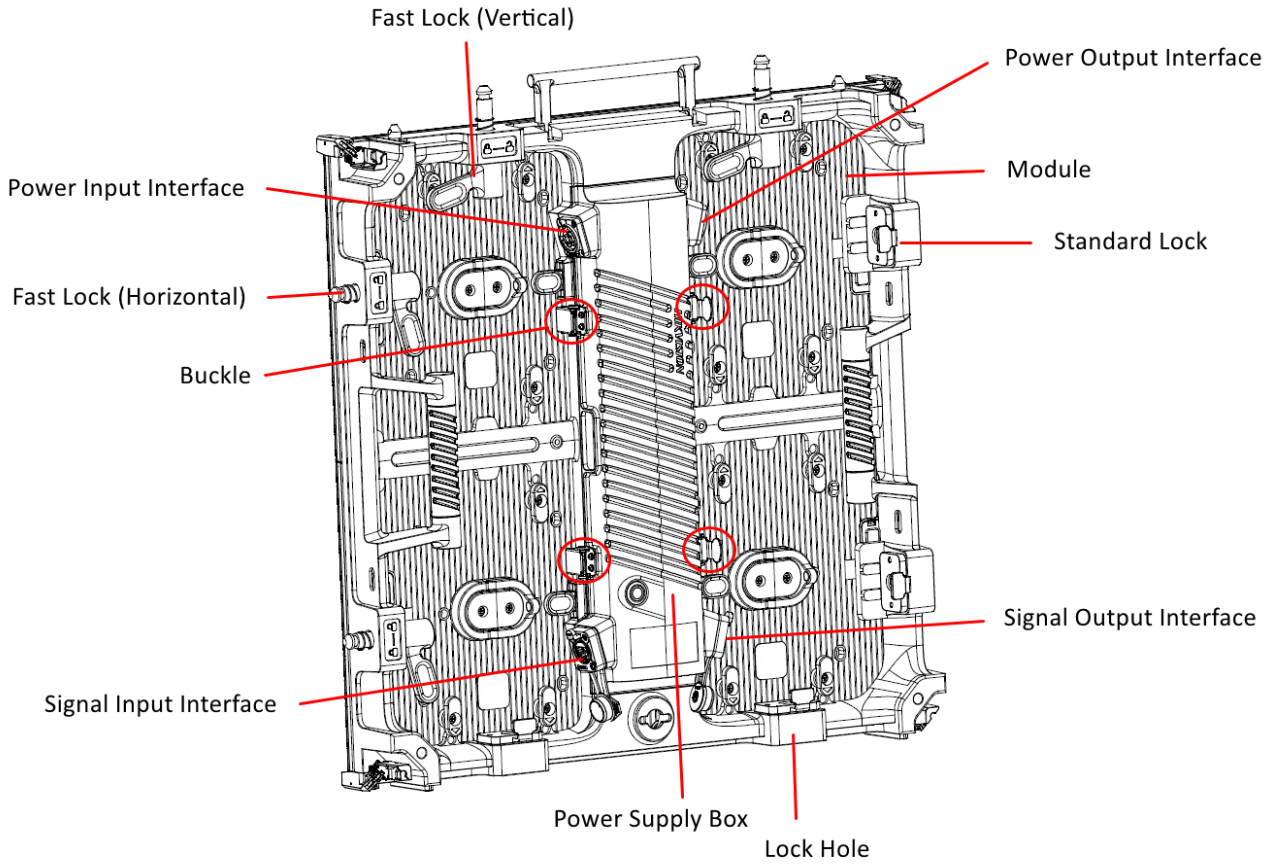


Figure 3-9 Standard-Edge Cabinet Structure (with Standard Lock)

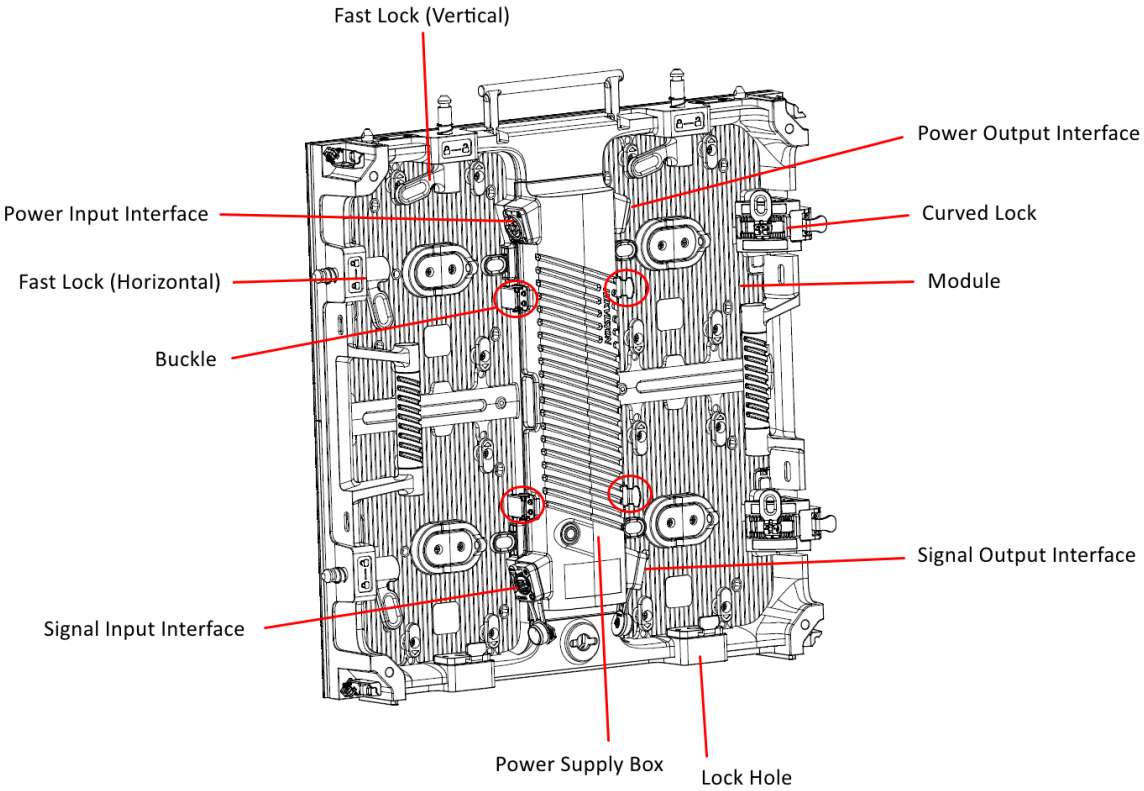


Figure 3-10 Standard-Edge Cabinet Structure (with Curved Lock)

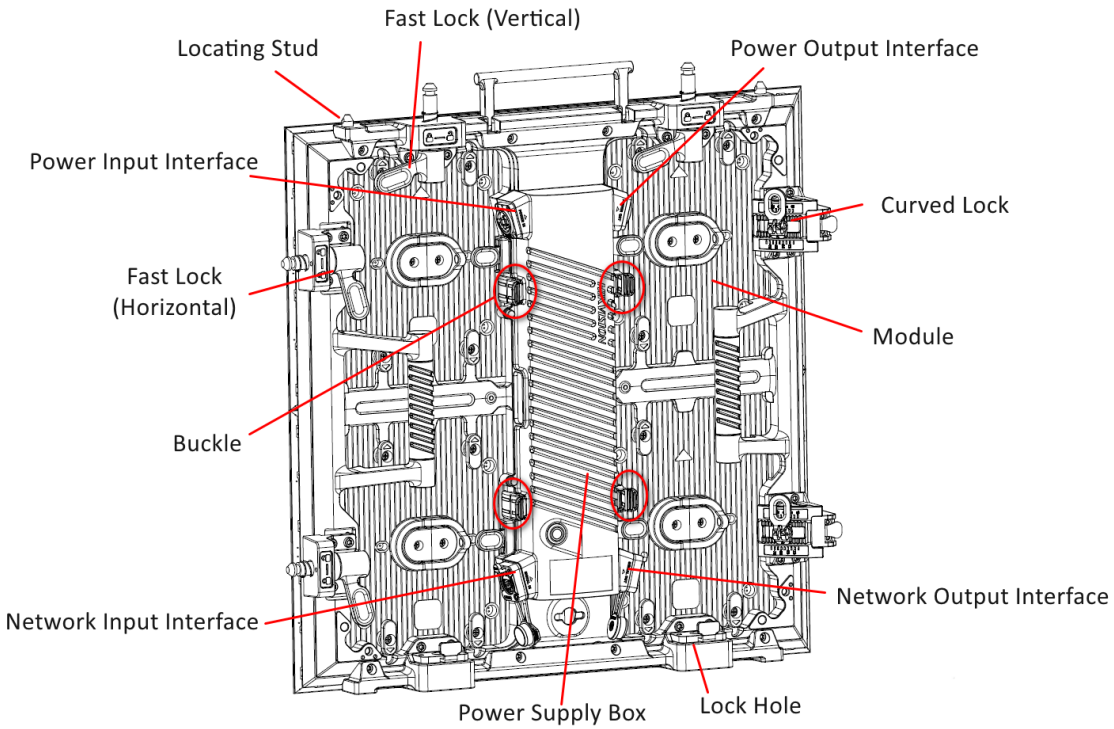


Figure 3-11 Edge-Cutting Cabinet Structure

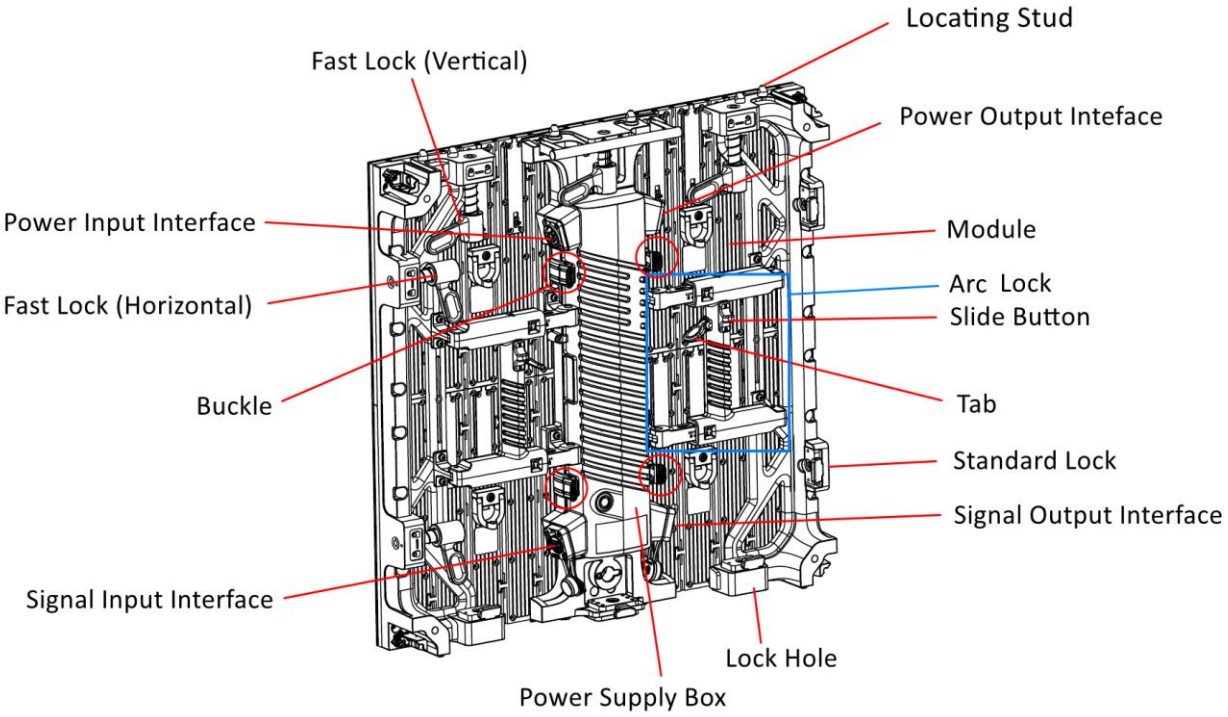


Figure 3-12 Standard-Edge Flexible Cabinet Structure (With Standard Lock)

3.3.2 Splice Cabinet Frames Horizontally

Splice Horizontally with Standard Locks (for Standard-Edge Cabinets Only)

Step 1 Open the four corner protectors on the adjacent cabinet frames.

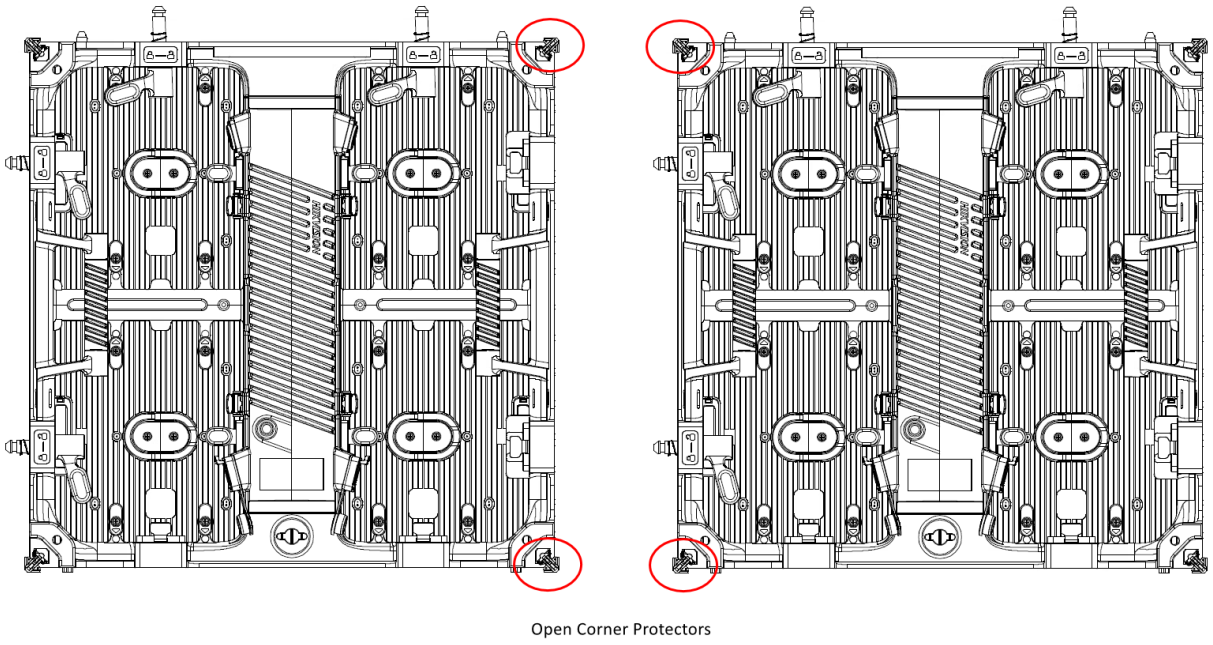


Figure 3-13 Open Corner Protectors

Step 2 Align the horizontal fast locks with the horizontal lock holes of the two adjacent cabinet frames, and adjust the cabinet frames to be relatively level.

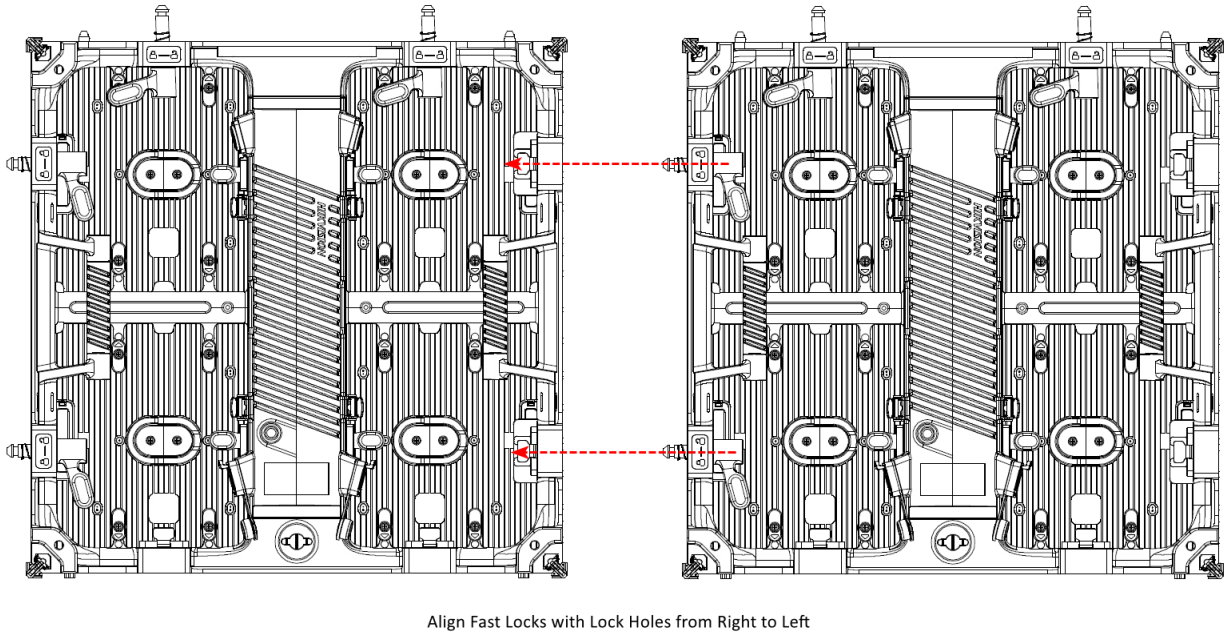


Figure 3-14 Splice Cabinets Horizontally

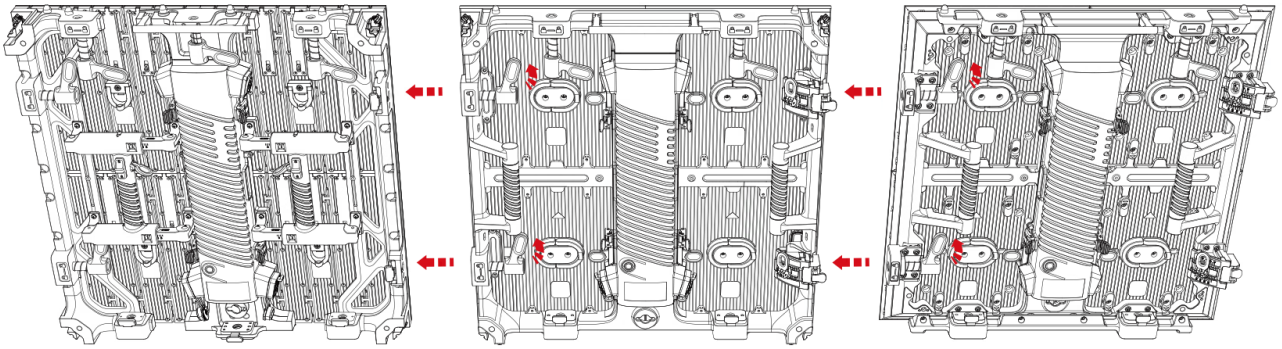


Figure 3-15 Align a Flexible Cabinet with a Standard-Edge Cabinet and an Edge-Cutting Cabinet Horizontally

Step 3 Insert the fast locks of the right cabinet frame counterclockwise into the lock holes of the left cabinet frames to secure it tightly.

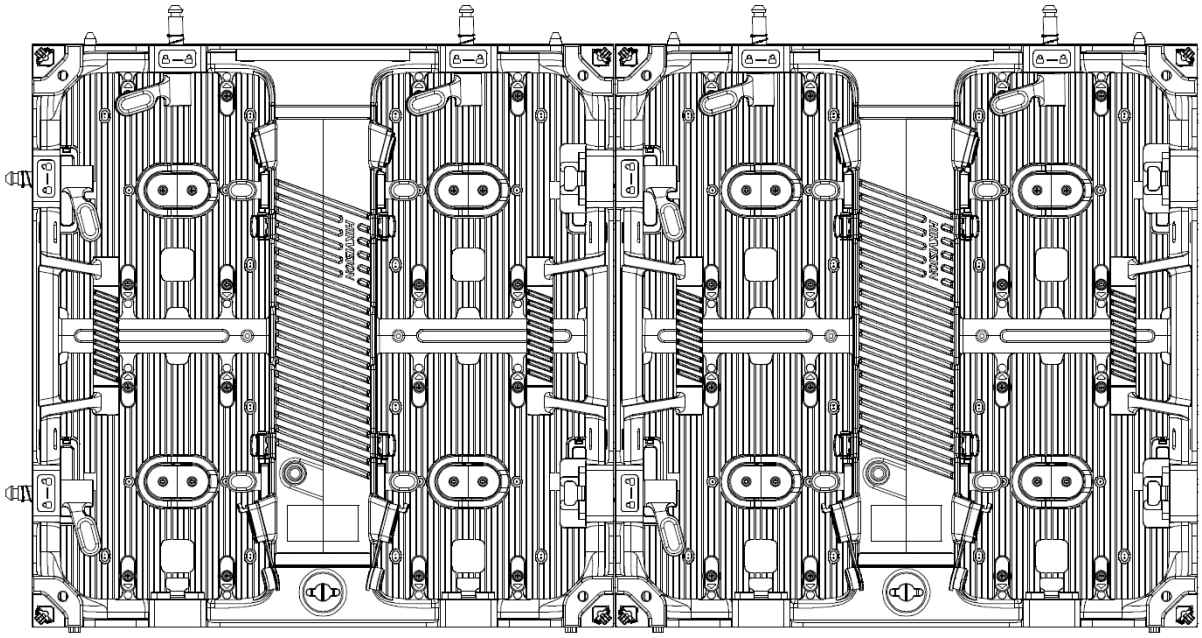


Figure 3-16 Cabinets Spliced

Step 4 (Optional) To unlock the adjacent cabinets, rotate the fast lock clockwise to the unlocked status and press the fast lock plates on the adjacent left cabinet frame to unlock the two cabinets.

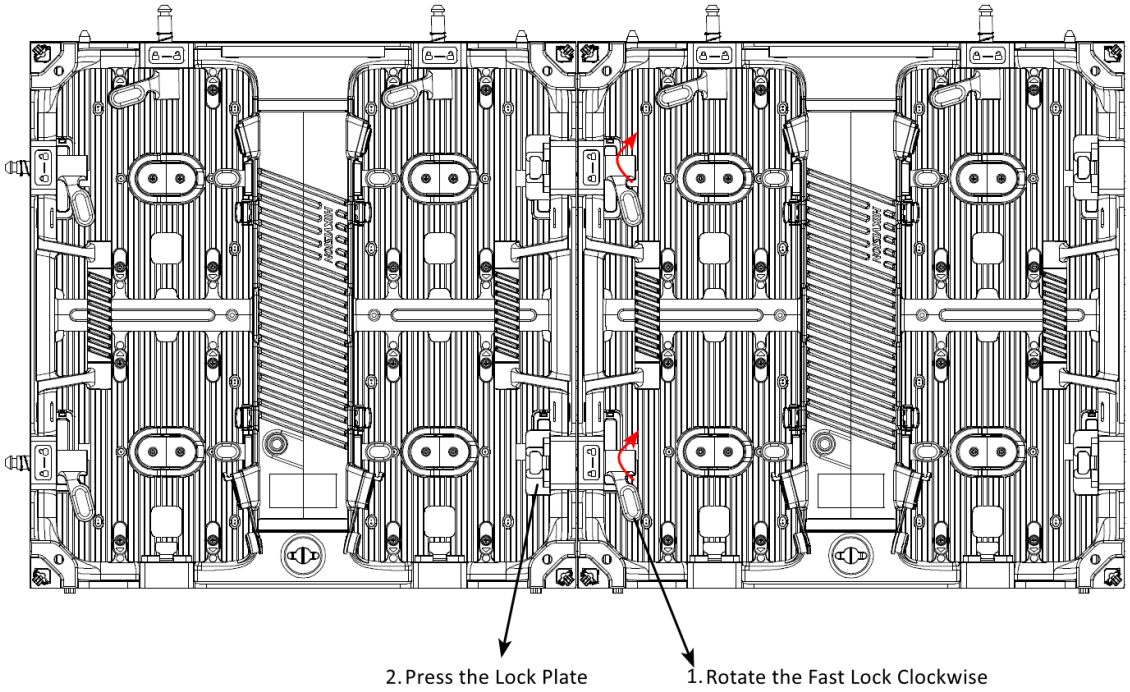


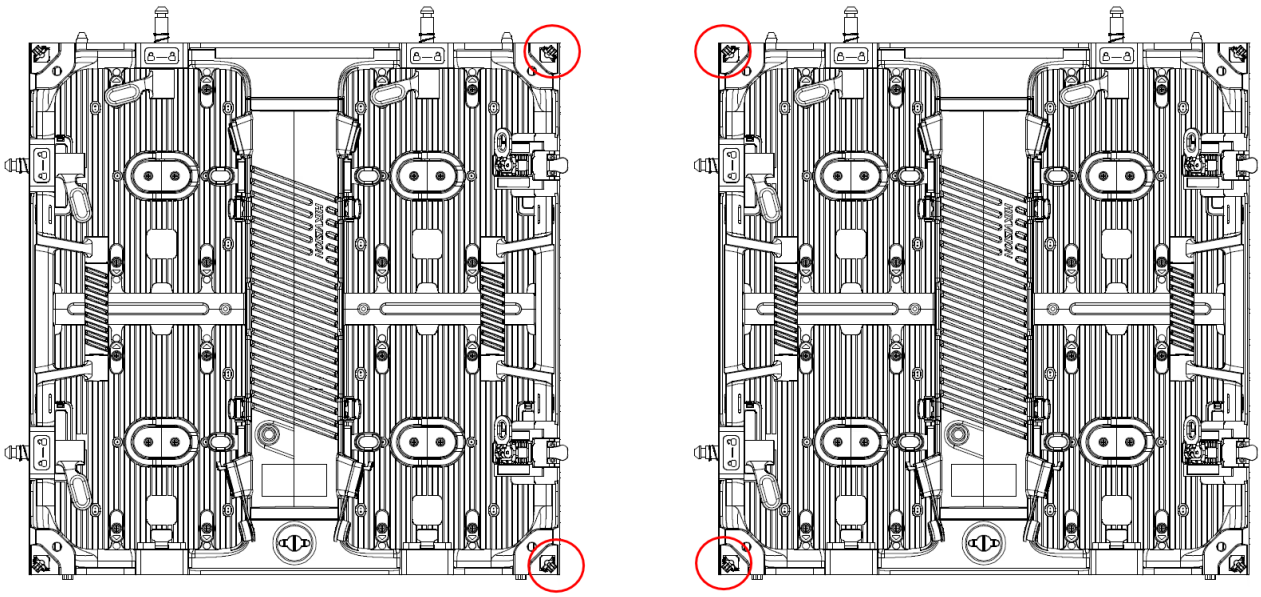
Figure 3-17 Unlock Adjacent Cabinets

Splice Horizontally with Curved Locks

Standard-edge cabinet frames and edge-cutting cabinet frames of the same dimensions can be spliced horizontally with any combination.

Step 1 Open the four corner protectors on the adjacent cabinet frames.

Skip this step for edge-cutting cabinet frames.



Open Corner Protectors

Figure 3-18 Open Corner Protectors of Standard-Edge Cabinets

Step 2 Adjust the two curved locks on the left cabinet to the required splicing angle, and adjust the adjacent cabinet frames to be relatively level.

Step 3 Align the fast locks of the right cabinet with the curved lock holes of the left cabinet.

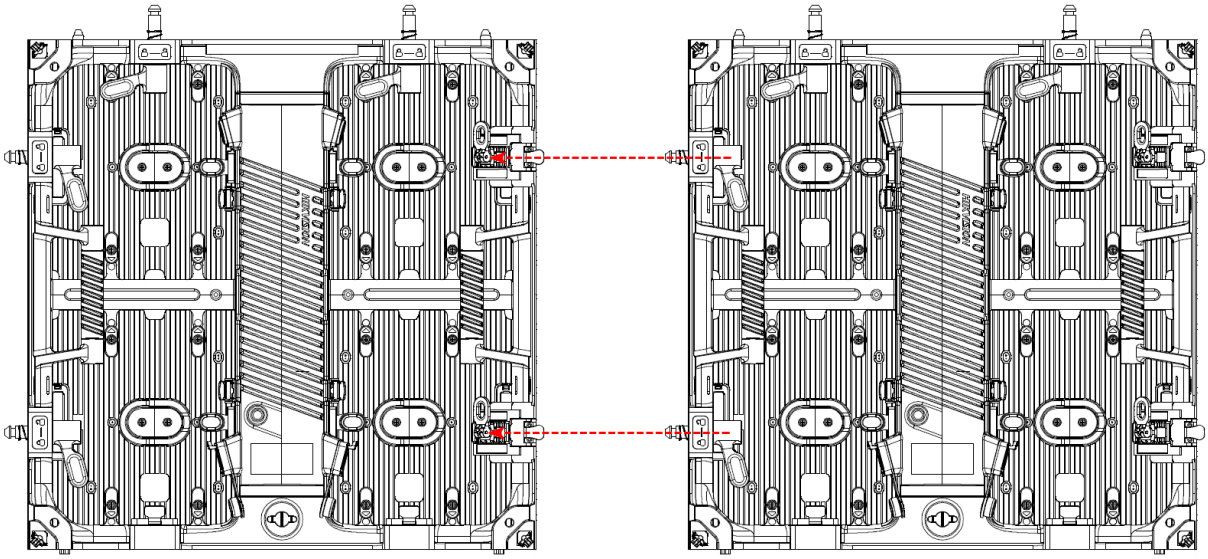


Figure 3-19 Align Two Standard-Edge Cabinets Horizontally

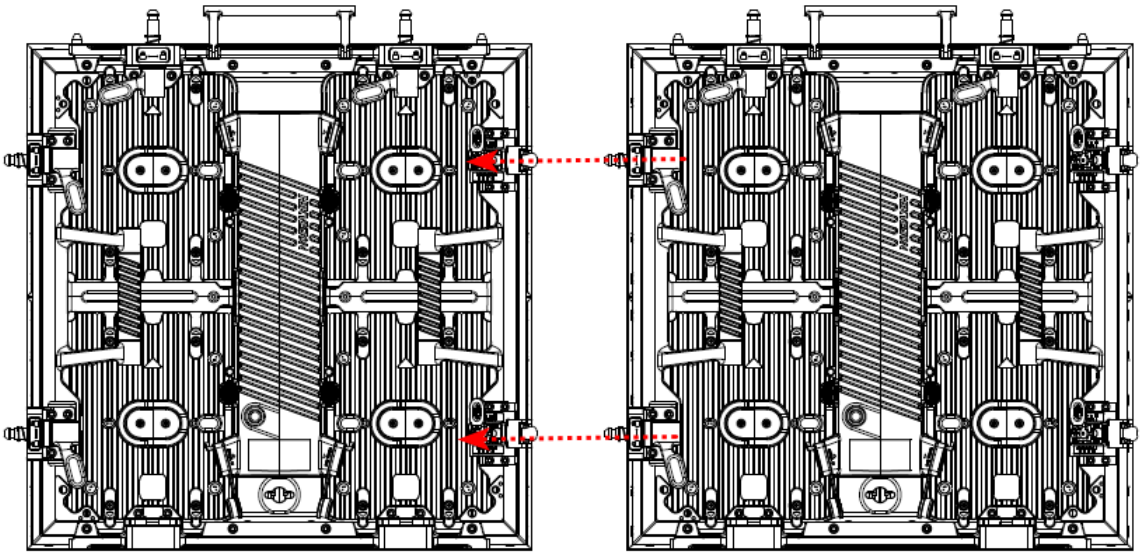


Figure 3-20 Align Two Edge-Cutting Cabinets Horizontally

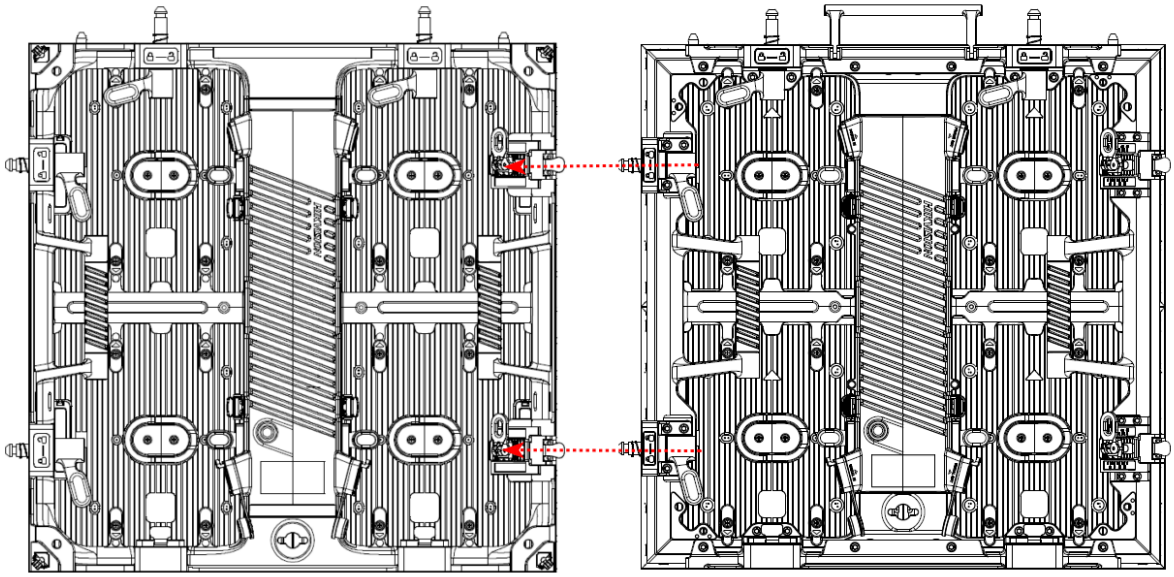


Figure 3-21 Align an Edge-Cutting Cabinet with a Standard-Edge Cabinet Horizontally

Step 4 Insert the fast locks of the right cabinet frame counterclockwise to secure them tightly.

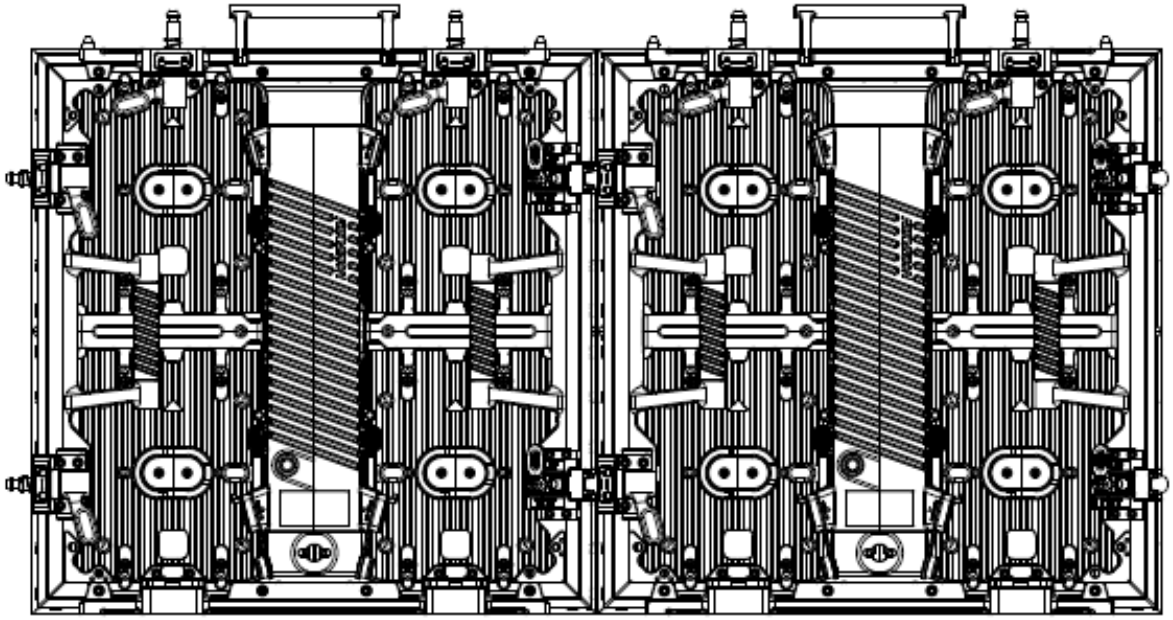


Figure 3-22 Two Edge-Cutting Cabinets Spliced Horizontally

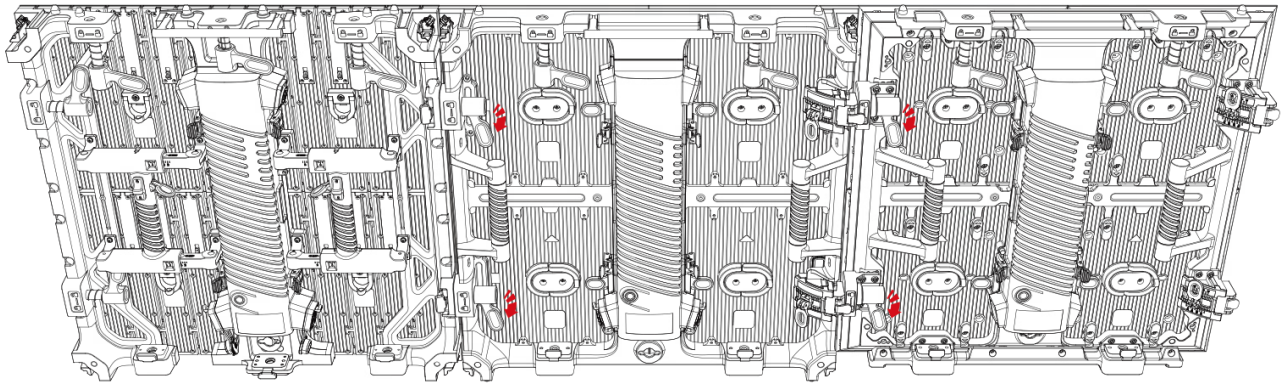


Figure 3-23 Flexible Cabinet, Standard-Edge Cabinet and Edge-Cutting Cabinet Spliced Horizontally

Step 5 (Optional) To unlock the adjacent cabinets, rotate the horizontal fast locks clockwise to the unlocked status and press the lock plates on the adjacent left cabinet to unlock the two cabinets. When unlocking, you can adjust the curved lock to a negative angle to facilitate separating the two cabinets.

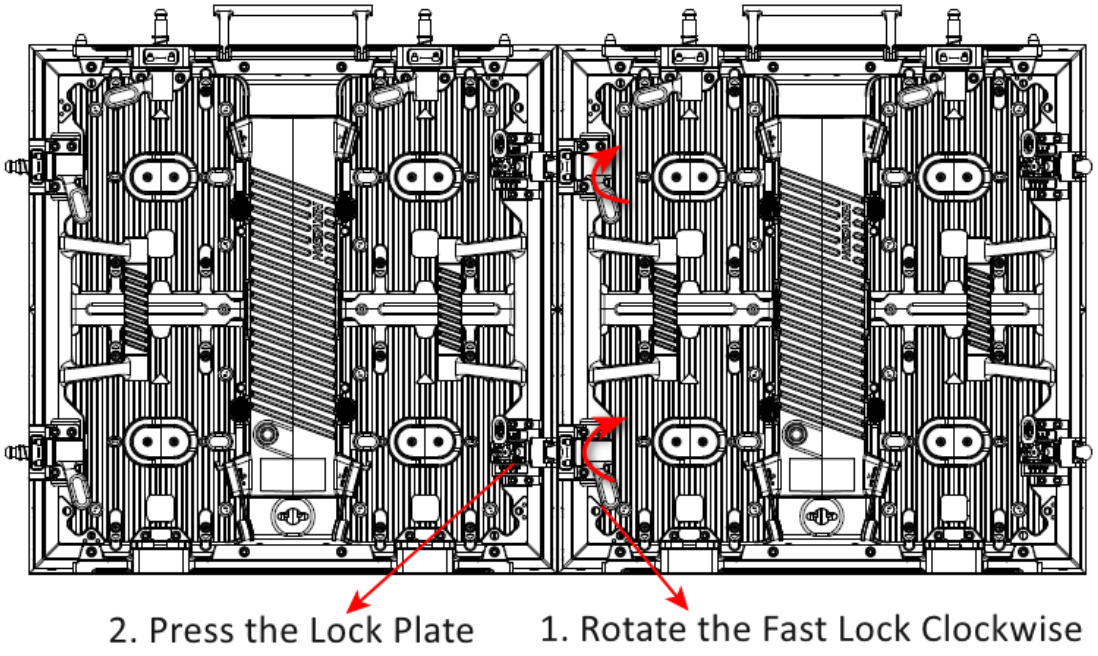


Figure 3-24 Unlock Adjacent Cabinets

3.3.3 Splice Cabinet Frames Vertically

Splice Vertically with Standard Locks (for Standard-Edge Cabinets Only)

Step 1 Open the four corner protectors on the adjacent cabinet frames.

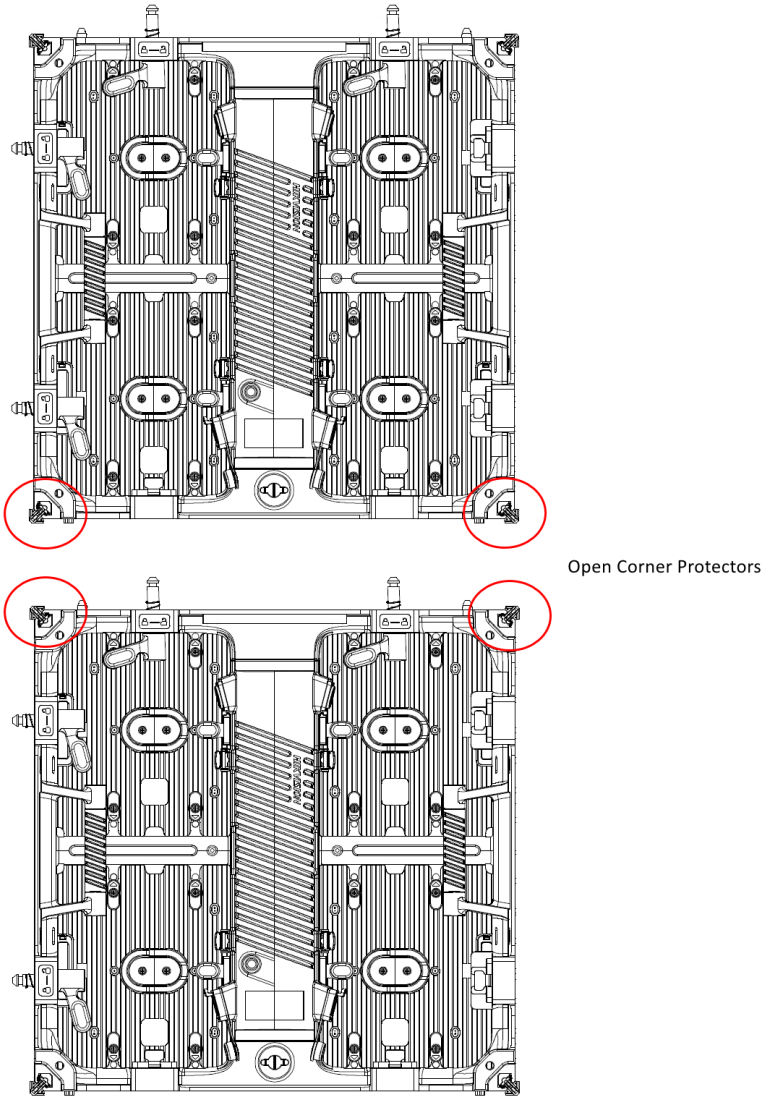


Figure 3-25 Open Corner Protectors

Step 2 Align the locks on the bottom of the upper cabinet with the vertical fast locks on the top of the lower cabinet, adjusting the two cabinet frames to be relatively vertical.

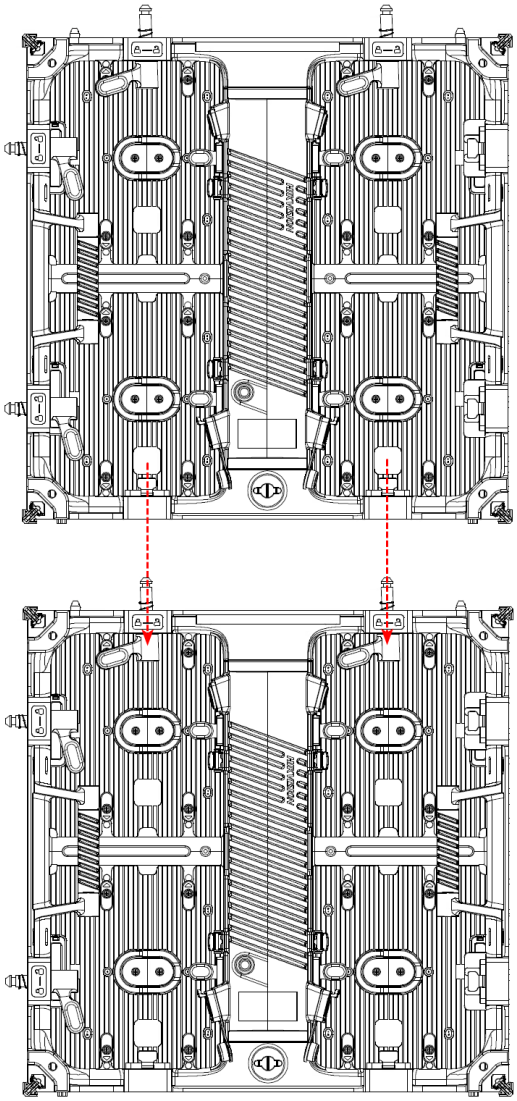


Figure 3-26 Splice Cabinets Vertically

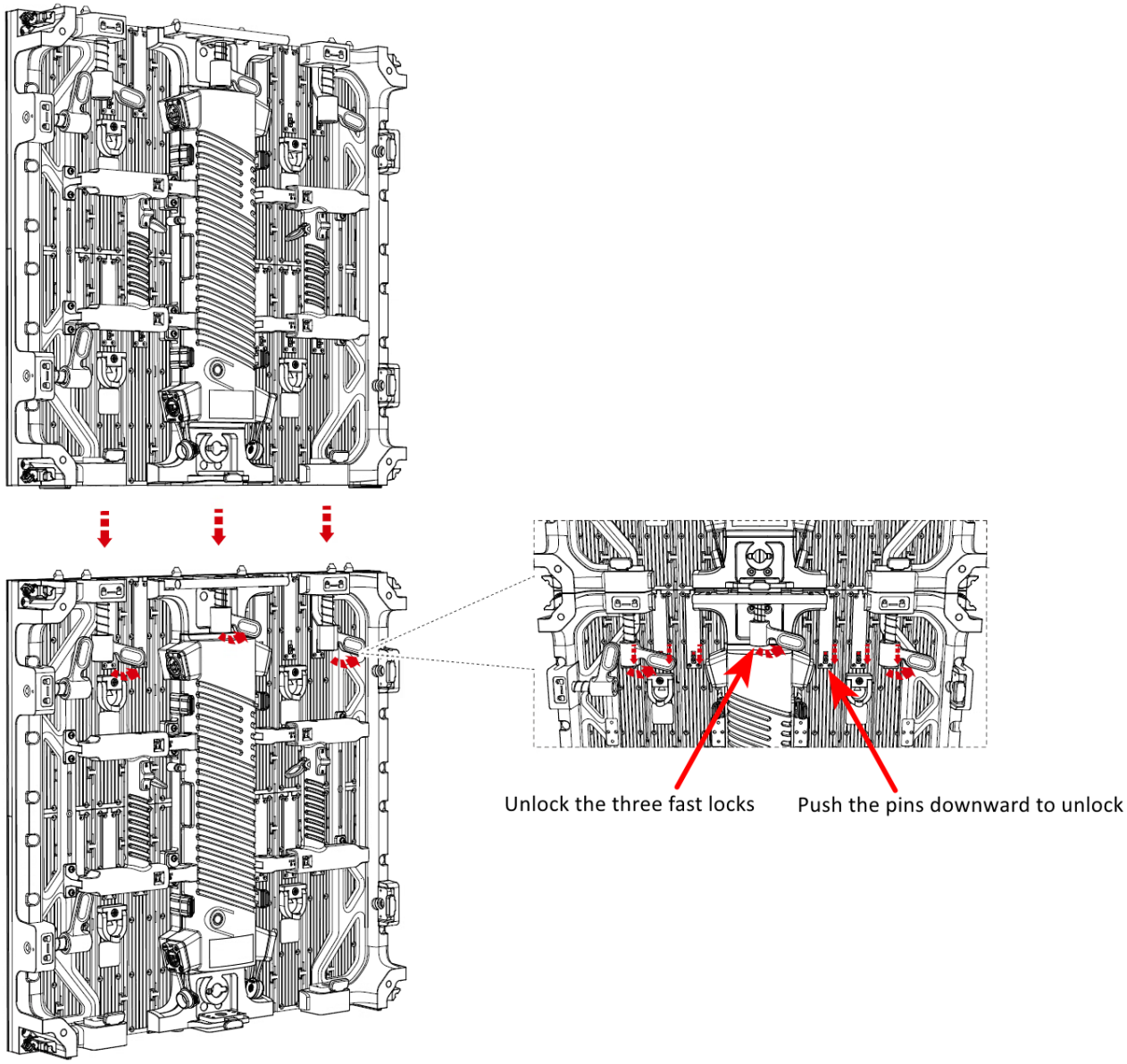


Figure 3-27 Splice Flexible Cabinets Vertically

Note

Adjust the arc angles of adjacent flexible cabinets to be exactly the same.

Step 3 Insert the fast locks on the top of the lower cabinet clockwise into the lock holes on the bottom of the upper cabinet to secure them tightly.

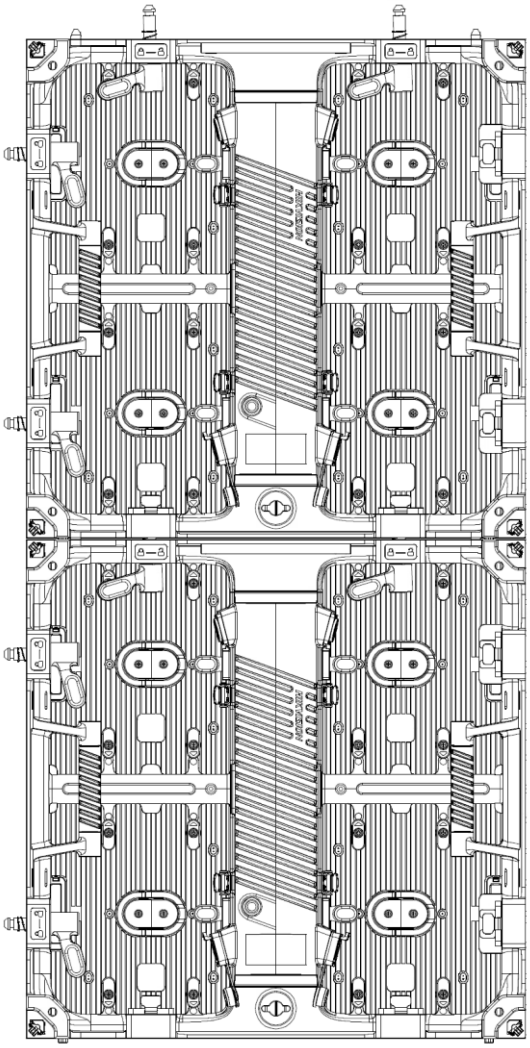


Figure 3-28 Cabinets Spliced

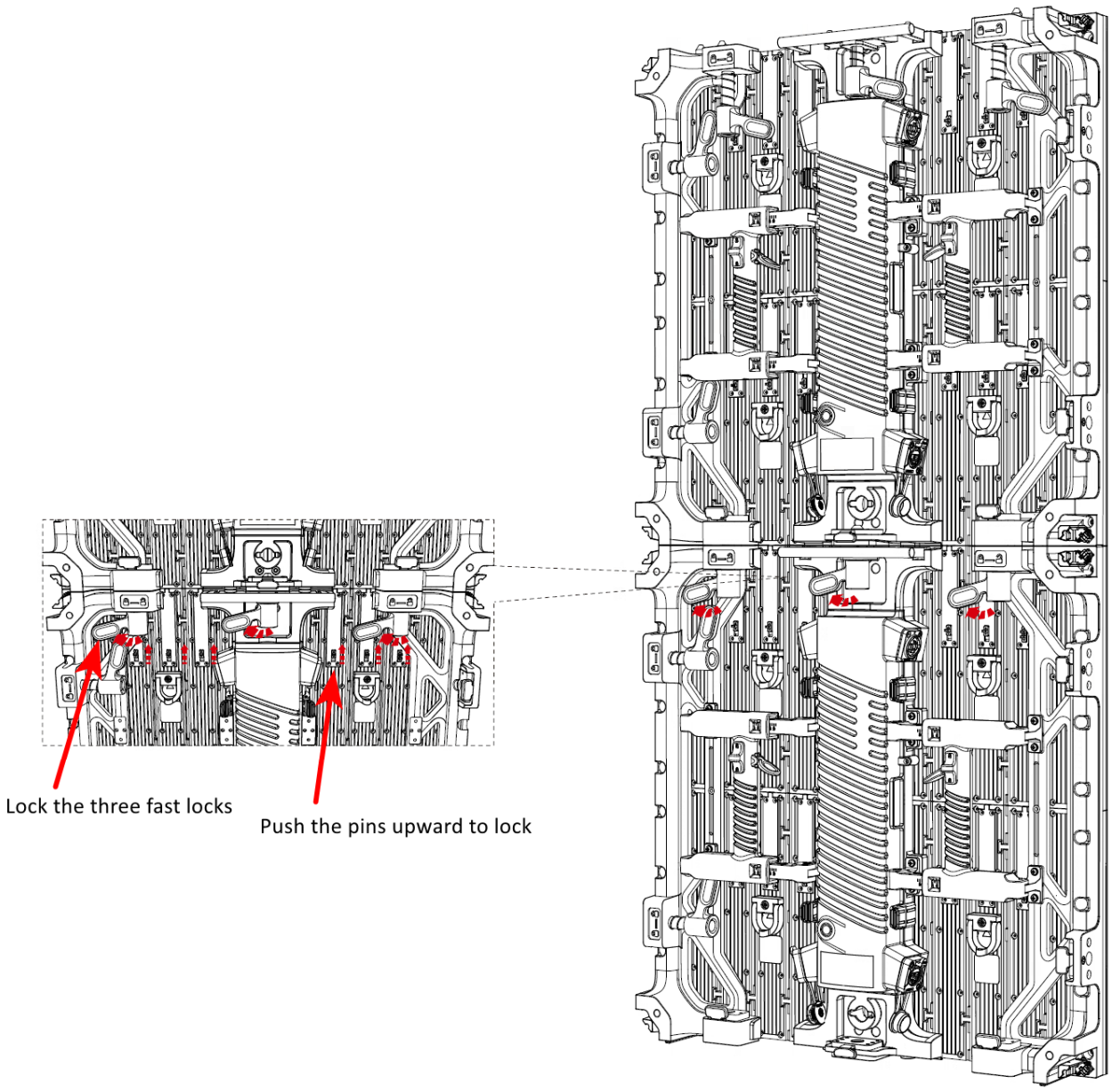


Figure 3-29 Flexible Cabinets Spliced

Note

- There are three fast locks on the flexible cabinet vertically that needed to be locked in sequence.
- Push the pins on the modules in the top row of the lower flexible cabinet upward to lock.

Step 4 (Optional) To unlock the adjacent cabinets, rotate the fast locks on the top of the lower cabinet counterclockwise to the unlocked status and press the lock plate on the bottom of the upper cabinet to unlock the cabinet frames.

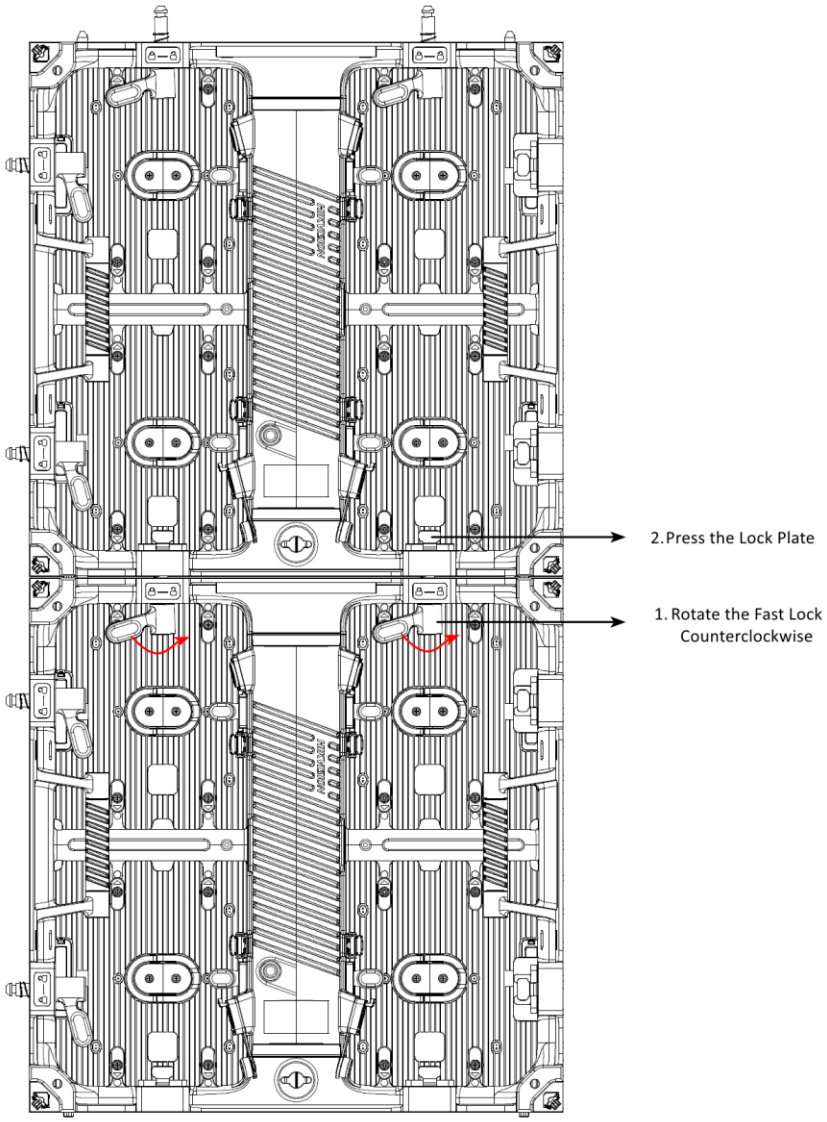


Figure 3-30 Unlock Adjacent Cabinets

Splice Vertically with Curved Locks

Standard-edge cabinet frames and edge-cutting cabinet frames of the same dimensions can be spliced vertically with any combination.

Step 1 Open the four corner protectors on the adjacent cabinet frames.

Skip this step for edge-cutting cabinet frames.

Step 2 Align the locks on the bottom of the upper cabinet with the vertical fast locks on the top of the lower cabinet, adjusting the two cabinet frames to be relatively vertical.

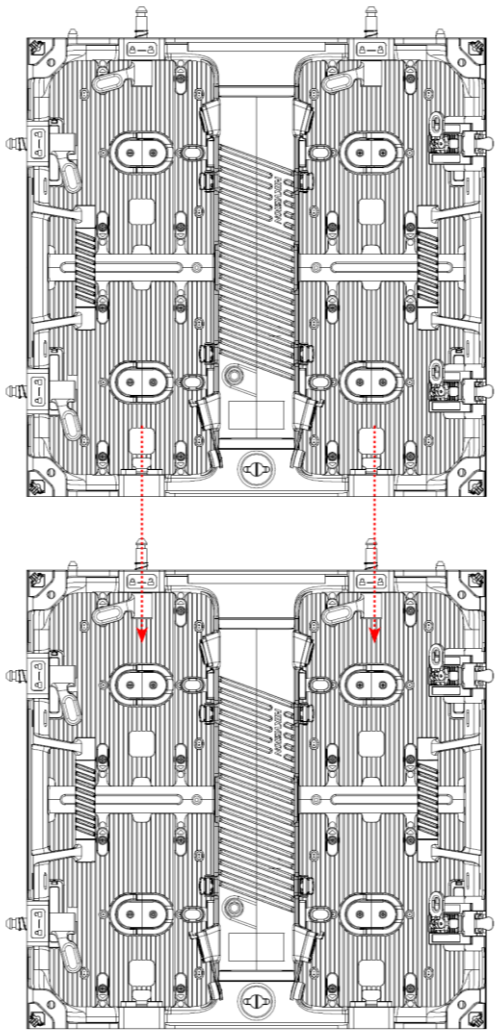


Figure 3-31 Align Two Standard-Edge Cabinets Vertically

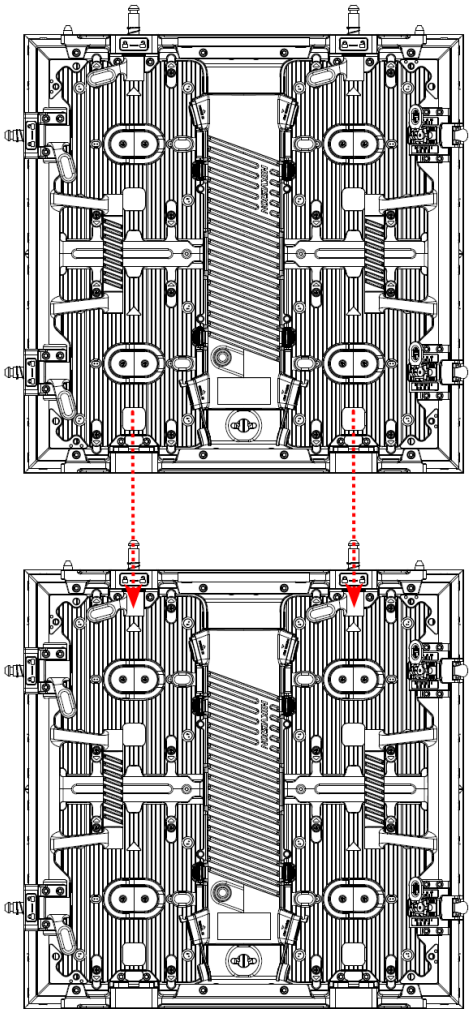


Figure 3-32 Align Two Edge-Cutting Cabinets Vertically

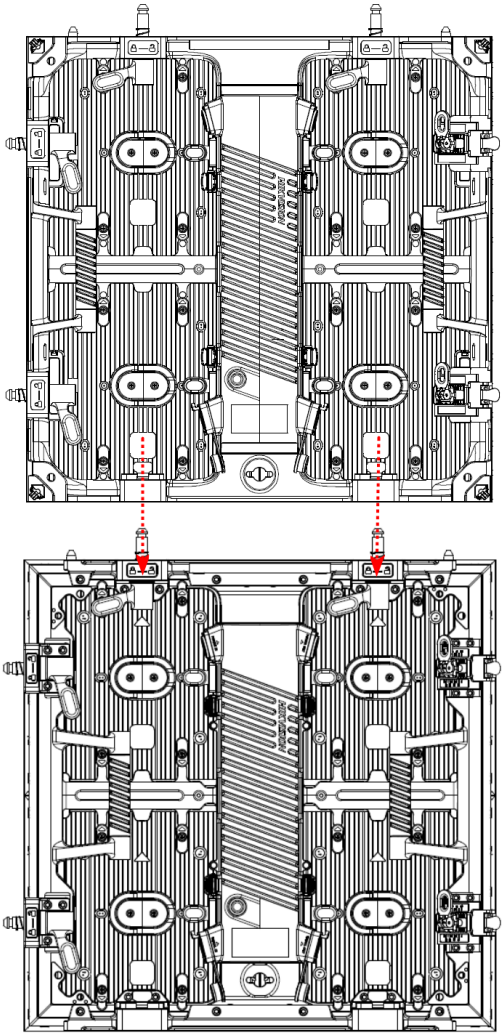


Figure 3-33 Align an Edge-Cutting Cabinet with a Standard Cabinet Vertically

Step 3 Insert the fast locks on the top of the lower cabinet clockwise into the lock holes on the bottom of the upper cabinet to secure them tightly.

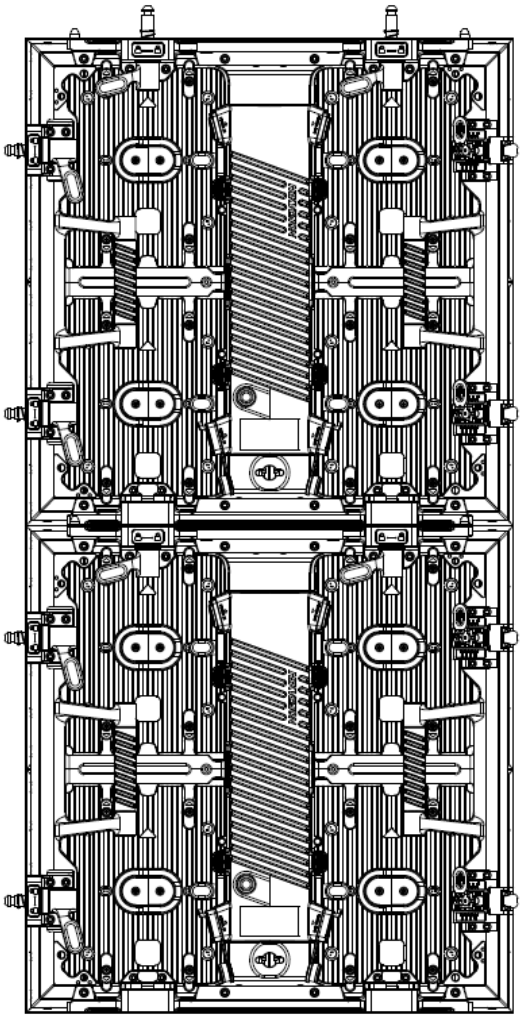


Figure 3-34 Two Edge-Cutting Cabinets Spliced Vertically

Step 4 (Optional) To unlock the adjacent cabinets, rotate the fast locks on the top of the lower cabinet counterclockwise to the unlocked status and press the lock plate on the bottom of the upper cabinet to unlock the cabinet frames.

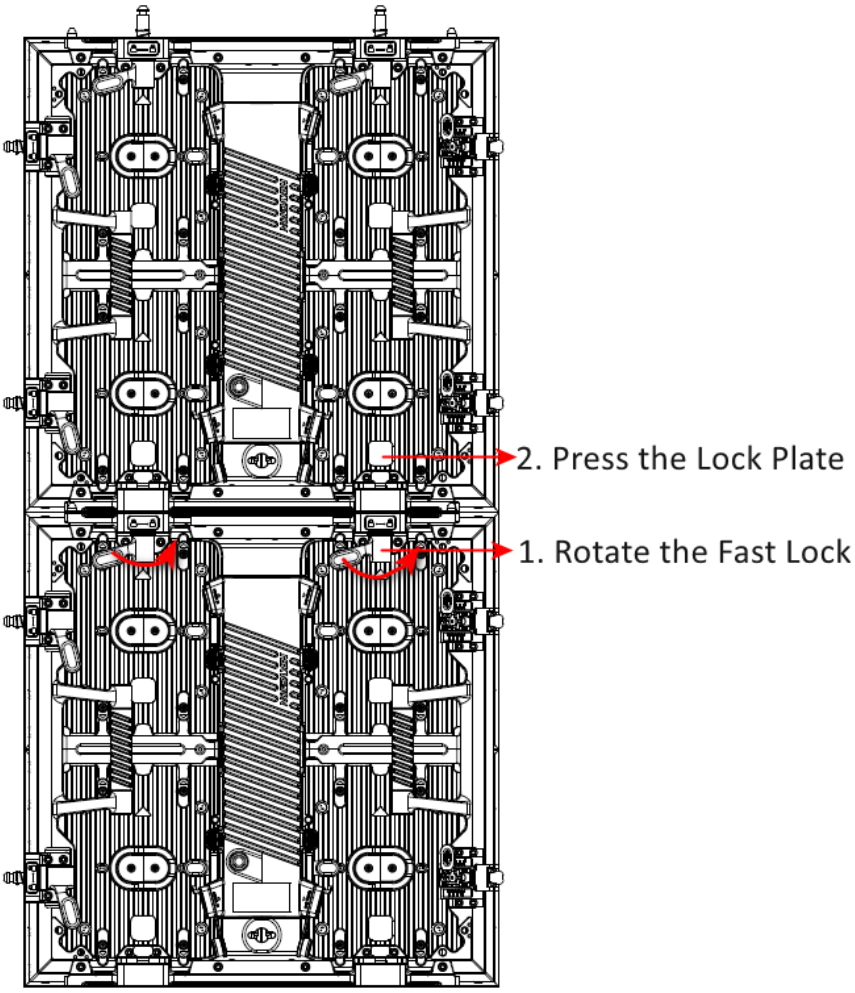


Figure 3-35 Unlock Adjacent Cabinets

Mixed Splicing of Different Cabinet Frames

Cabinets of varying specifications can be mixed and spliced together. Please calculate and select the specific splicing method based on the width and height of each cabinet.

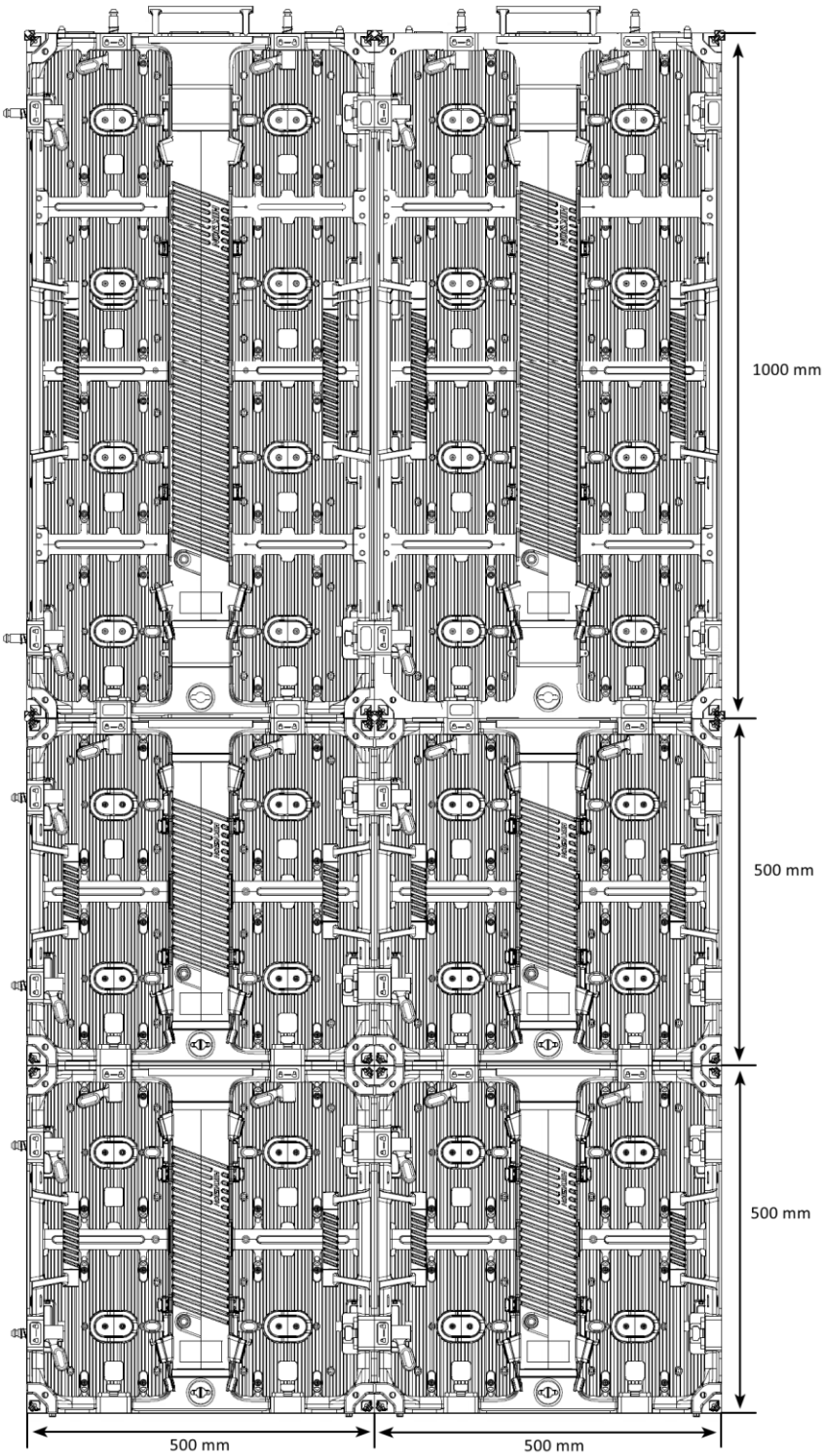


Figure 3-36 Mixed Splicing of Different Cabinets (With Standard Lock)

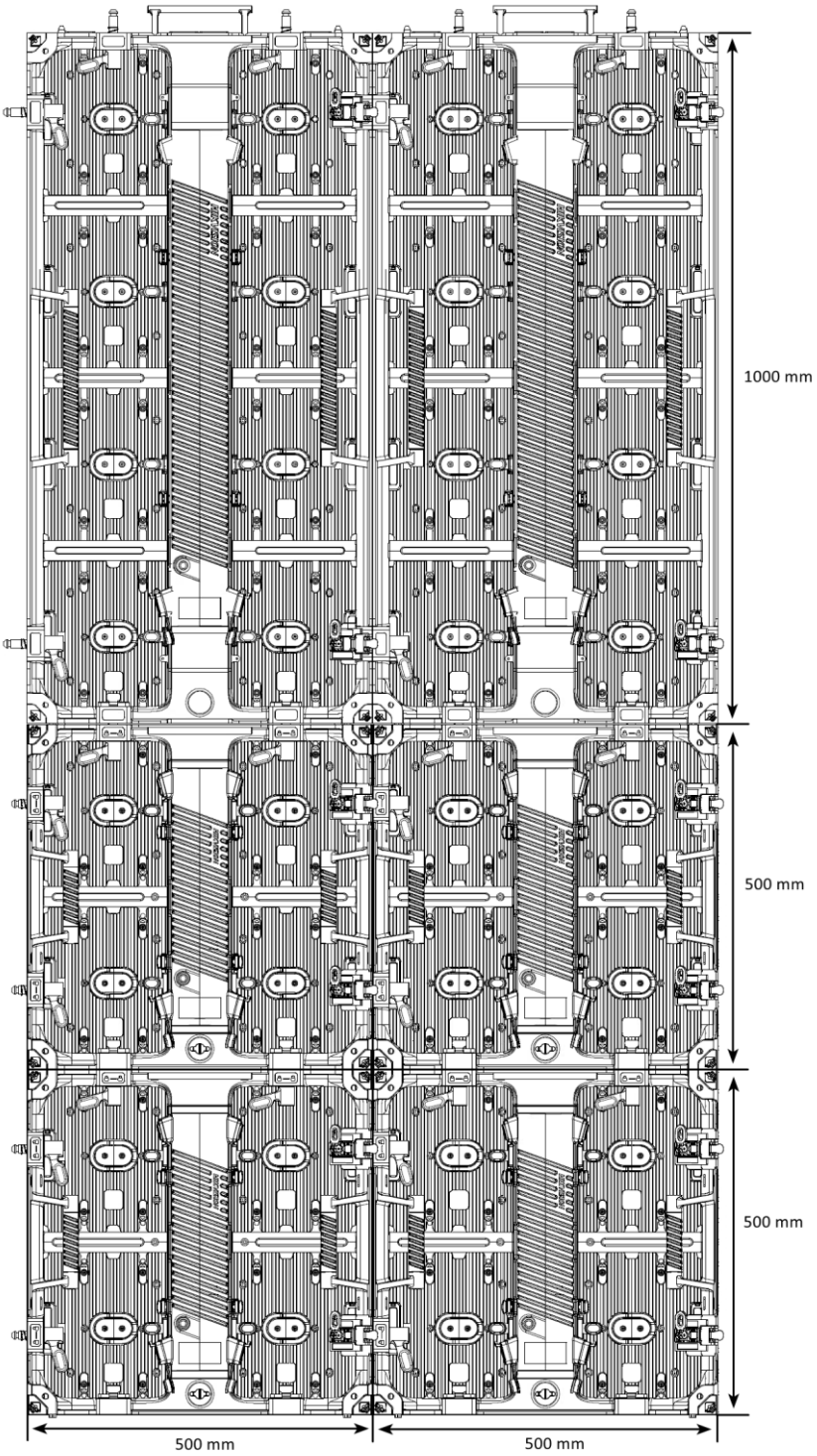


Figure 3-37 Mixed Splicing of Different Cabinets (With Curved Lock)

3.3.4 Splice Edge-Cutting Cabinet Frames to a Right Angle

You can splice two edge-cutting cabinets into a right angle with either right-angle locks or 3-way corner brackets.

Splice Edge-Cutting Cabinets to Right Angle with Right-Angle Locks

Step 1 Use a screwdriver to remove the screws securing the fast locks on the left side of a cabinet (the first cabinet).

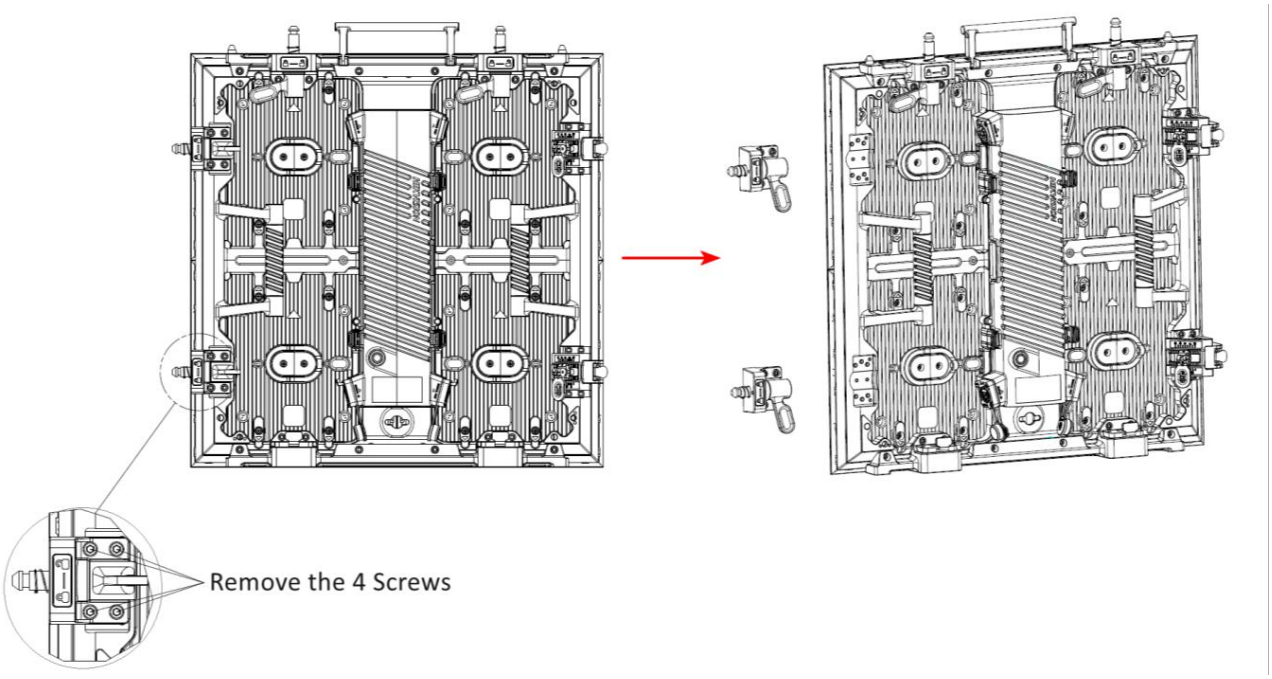


Figure 3-38 Remove Left-Side Fast Locks

Step 2 Use a screwdriver to remove the screws securing the curved locks on the right side of the other cabinet (the second cabinet).

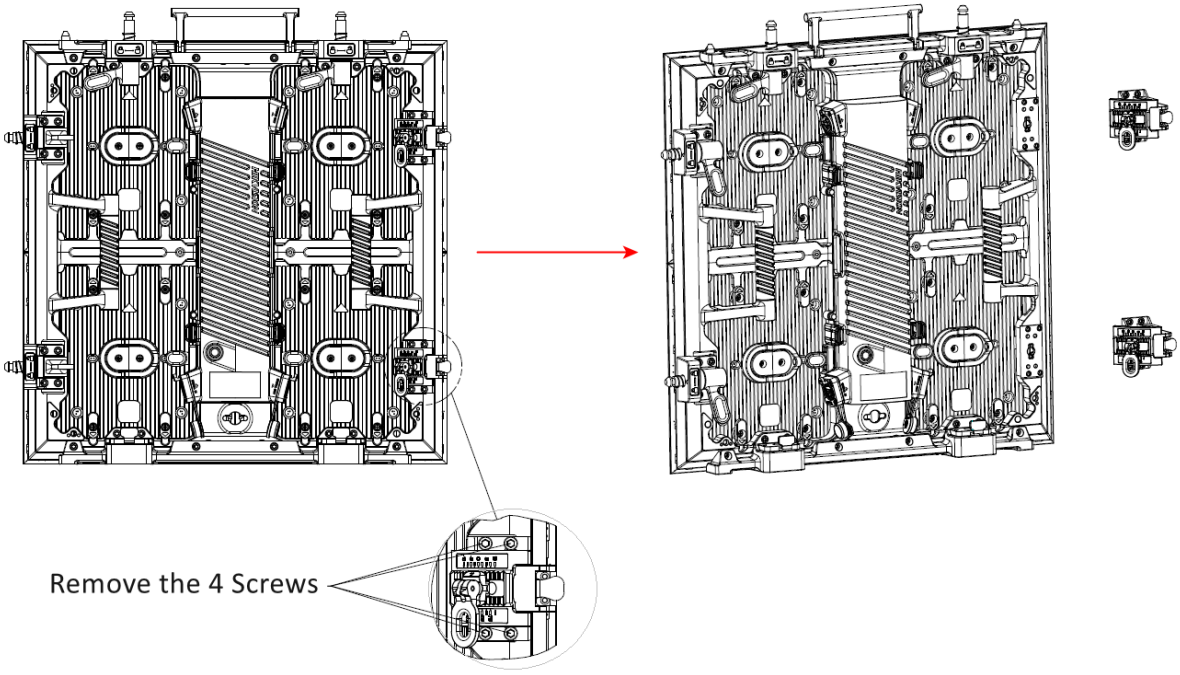


Figure 3-39 Remove Right-Side Curved Locks

Step 3 Fasten two right-angle locks onto the left side of the first cabinet with two screws per lock.

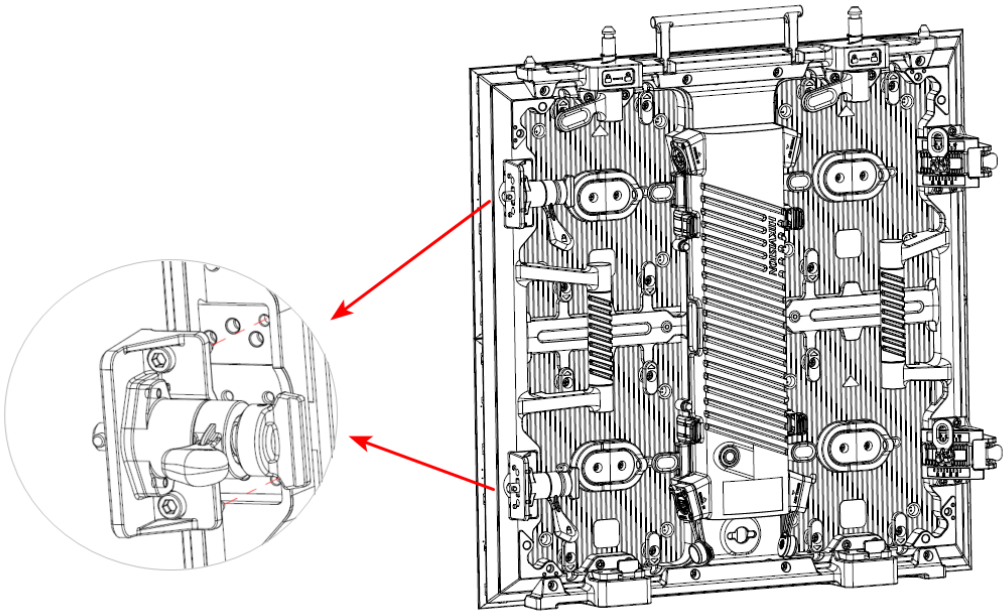


Figure 3-40 Fasten Right-Angle Locks

Step 4 Adjust the two cabinet frames to a 90° right angle.

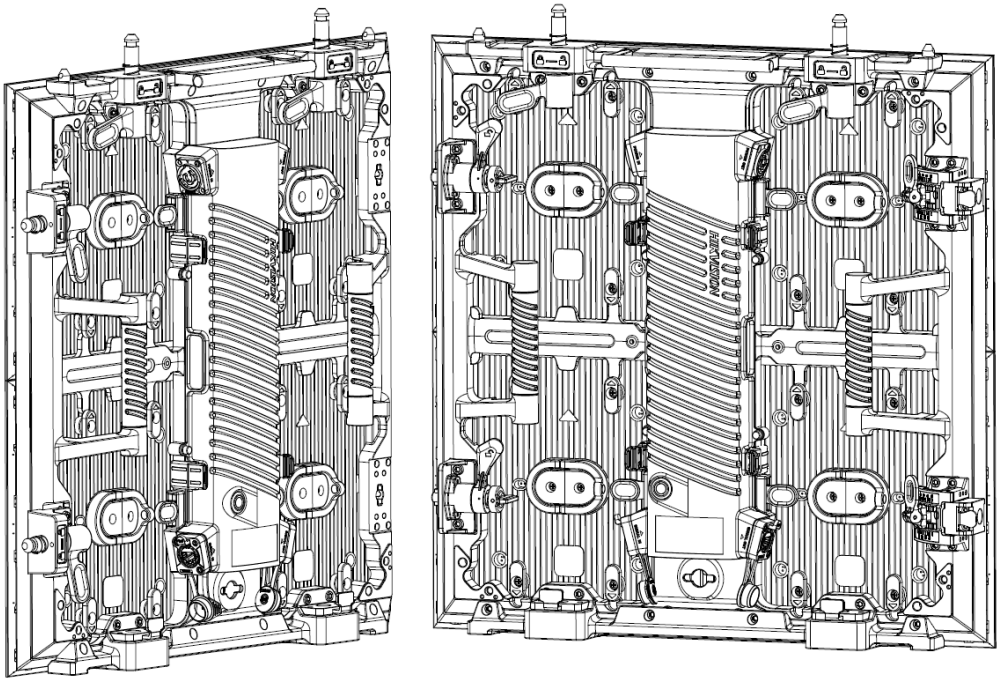


Figure 3-41 Adjust Two Cabinets to Right Angle

Step 5 Align the locating studs of the right-angle locks on the left side of the first cabinet with the locating holes on the right side of the second cabinet, rotate the operation handles of the locks 90 degrees clockwise until they hook, and then rotate the tightening handles counterclockwise to secure the cabinet frames tightly.

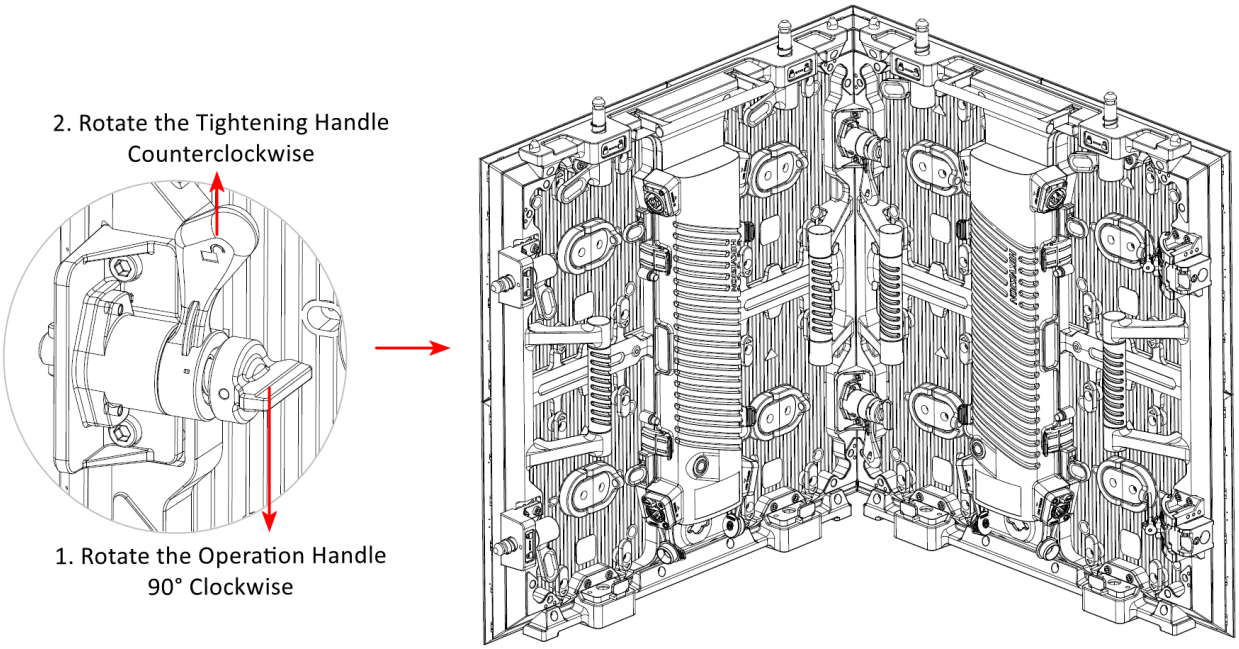


Figure 3-42 Tighten Right-Angle Locks

Step 6 (Optional) To unlock the adjacent cabinets, rotate the tightening handles of the locks clockwise to the top position, and then rotate the operation handles of the locks counterclockwise by 90 degrees.

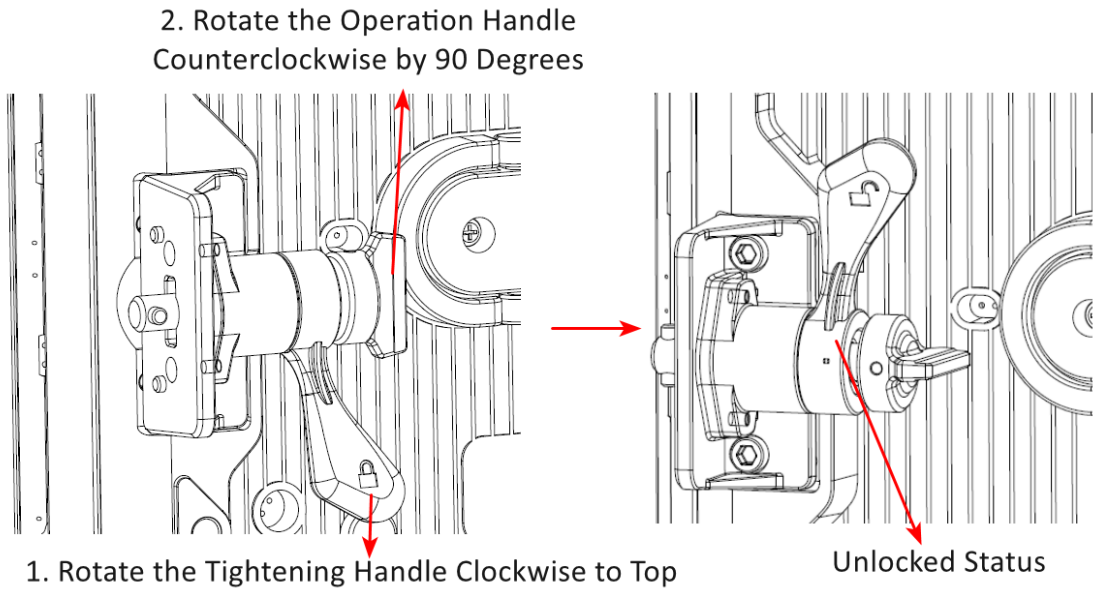


Figure 3-43 Unlock Right-Angle Locks

Splice Edge-Cutting Cabinets to Right Angle with 3-Way Corner Brackets

Step 1 Use a screwdriver to remove the screws securing the fast locks on the left side of a cabinet (the first cabinet).

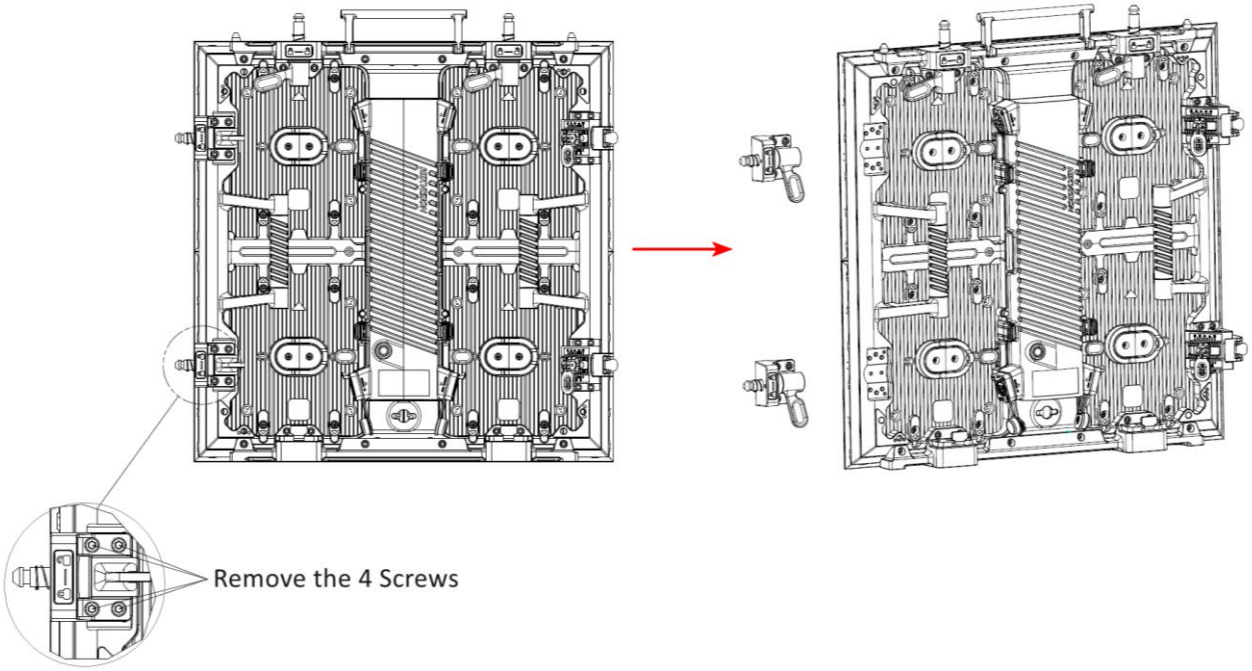


Figure 3-44 Remove Left-Side Fast Locks

Step 2 Use a screwdriver to remove the screws securing the curved locks on the right side of the other cabinet (the second cabinet).

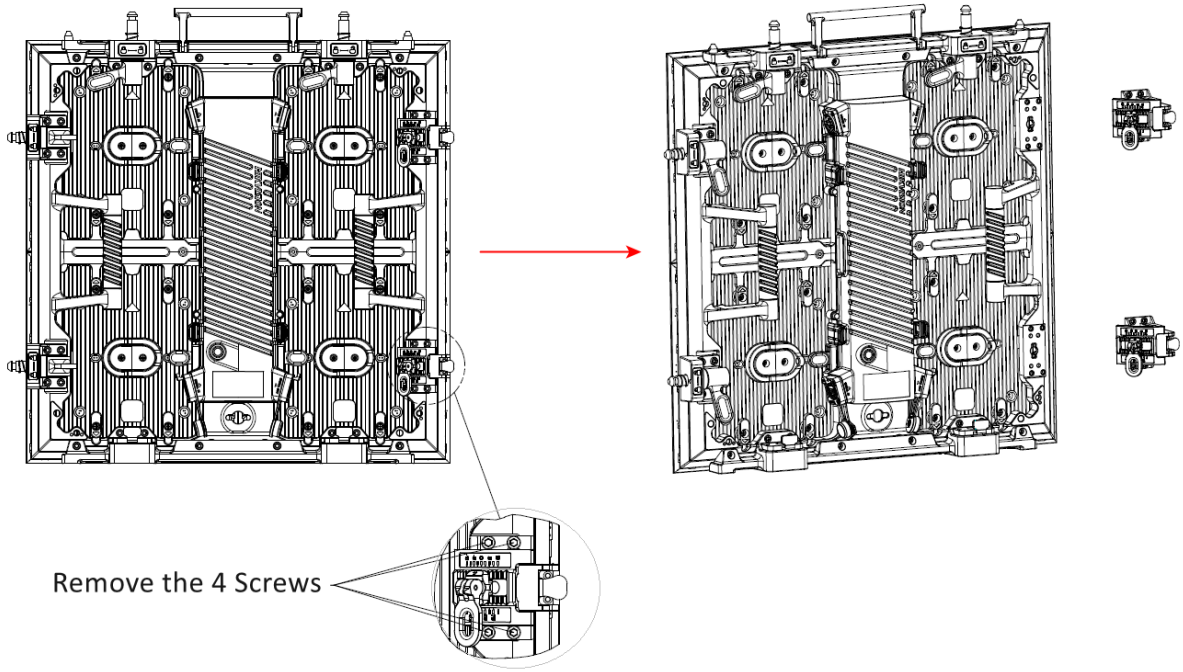


Figure 3-45 Remove Right-Side Curved Locks

Step 3 Fasten two 3-way corner brackets to the upper and lower corners on the left side of the first cabinet with one screw per lock.

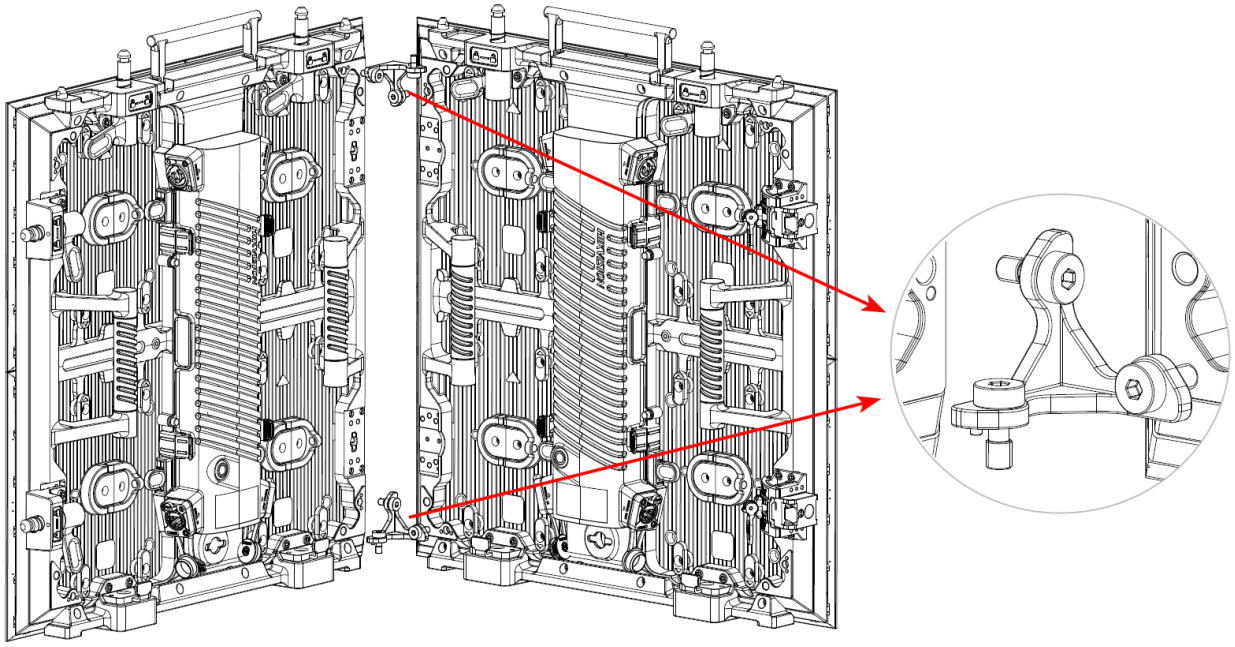


Figure 3-46 Fasten Corner Brackets

Step 4 Adjust the two cabinet frames to a 90° right angle, and fasten the corner brackets to the right side of the second cabinet with one screw per lock to finish locking.

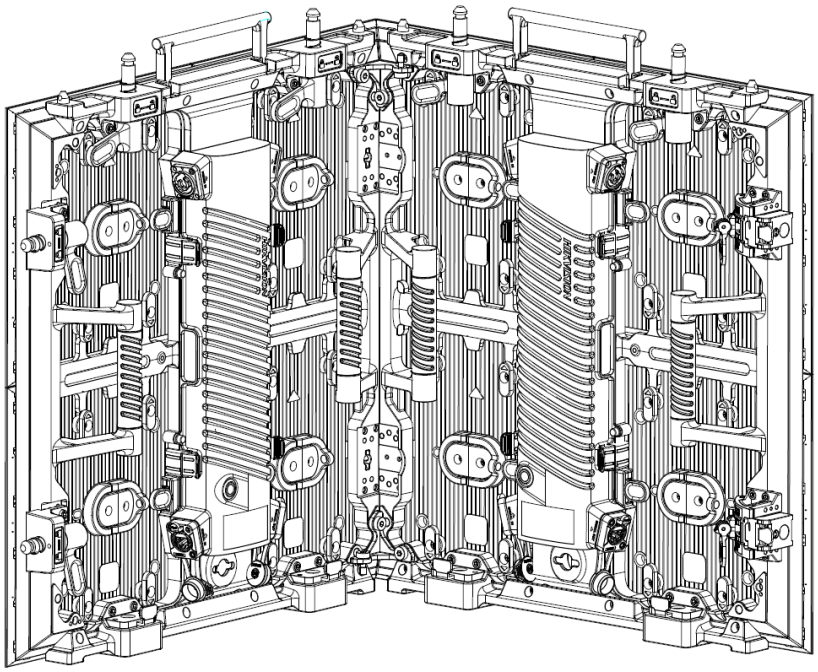


Figure 3-47 Fasten Two Cabinets to Right Angle

Step 5 (Optional) To unlock the adjacent cabinets, loose the screws fastening the corner brackets.

3.3.5 Splice Edge-Cutting Cabinet Frames to a Cube

You can build a cube display with either 6 or 5 edge-cutting cabinet frames (leaving one side open if using 5 frames).

Step 1 Use a screwdriver to remove the screws securing the handle, base, fast lock, and curved locks from the upper, lower, left and right side of the 6 cabinet frames.

For a 5-frame cube, remove the fast locks, curved locks, and handle from the left, right, and upper side of 4 cabinet frames, and remove all connected pieces from the 5th cabinet frame.

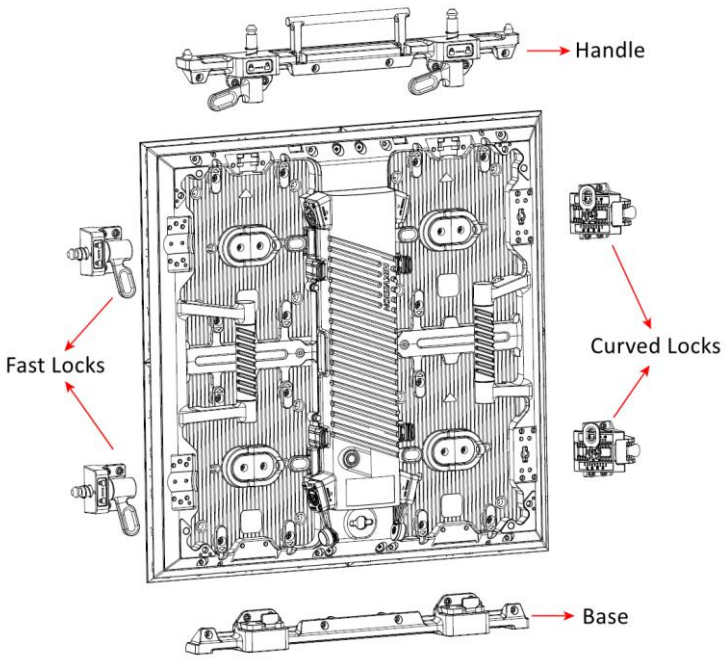


Figure 3-48 Remove Connected Pieces from Cabinet Frames

Step 2 Take 4 cabinet frames and attach one 3-way corner bracket to both the top and bottom corners of the left side of each frame. Align the frames to form the four side faces of the cube, and then secure the corner brackets between adjacent frames.

Step 3 Position the 5th cabinet frame at the bottom of the cube, align it with the locating holes on the brackets, and fasten it with one screw per bracket.

Step 4 Remove the modules from the last cabinet frame, repeat the step 3 to fasten the frame, and then install the modules back. See **3.5.1 Maintain the Module** for details of removing modules.

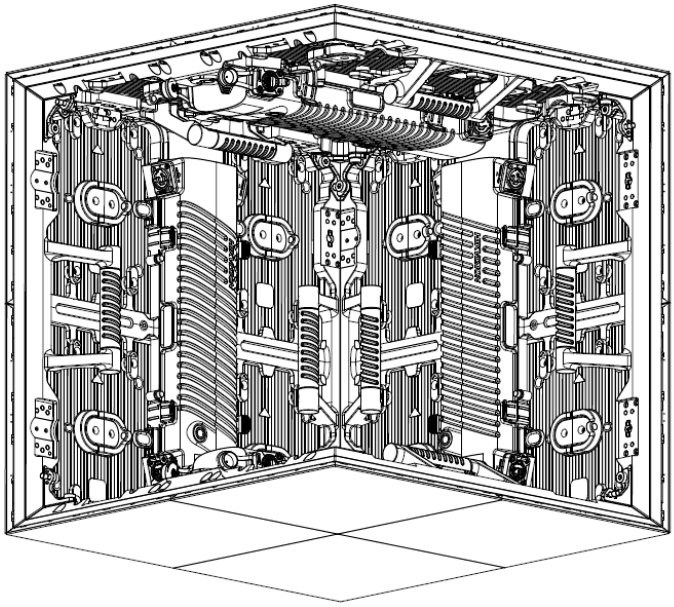


Figure 3-49 Splice Cabinet Frames to a Cube

3.3.6 Splice Flexible Cabinets to a Concave Arc

Step 1 Slide the button on the arc lock upward to unlock, then press the tab. You can adjust the arc angle when keeping the tab pressed.

Step 2 Pull the arc lock horizontally outward to a negative angle to form a concave arc of the cabinet, then slide the button downward to lock.

Note

The maximum concave arc angle on the one side of a cabinet is -22.5°, and the maximum concave arc angle on both sides of a cabinet is -45°.

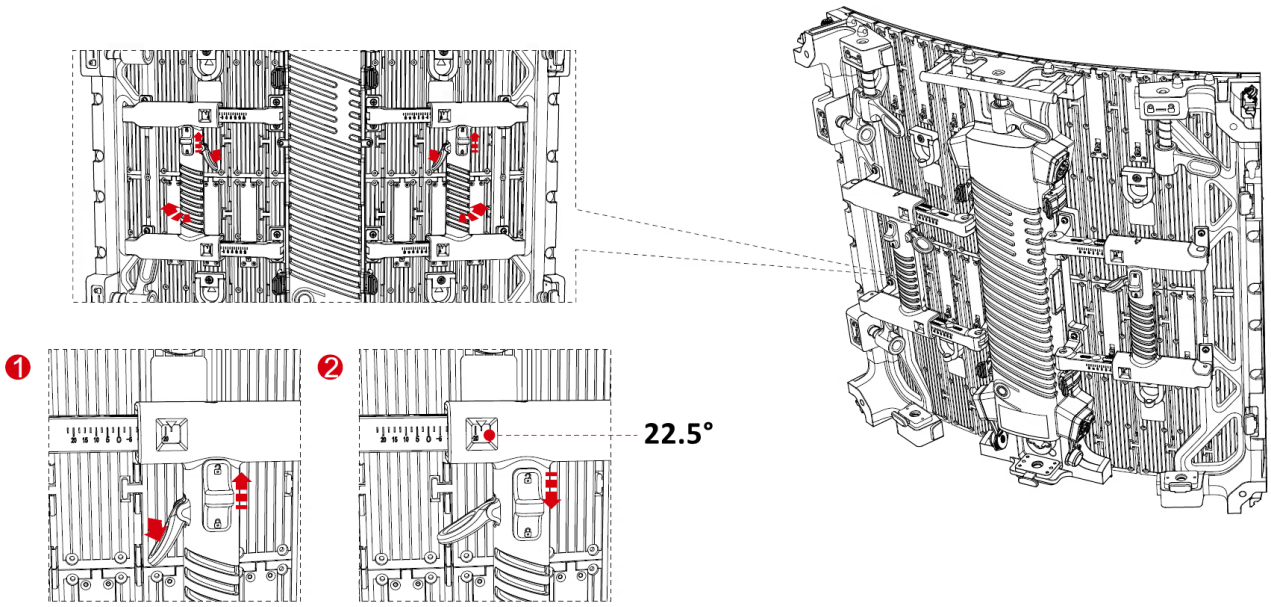


Figure 3-50 Slide the Button to Form a Concave Arc

Step 3 Refer to 3.3.2 Splice Cabinet Frames Horizontally to complete the horizontal splicing of the concave arc flexible cabinets.

1) When aligning the two adjacent flexible cabinets horizontally, keep the fast locks unlocked.
2) When the two adjacent flexible cabinets horizontally aligned and spliced together, lock the fast locks.

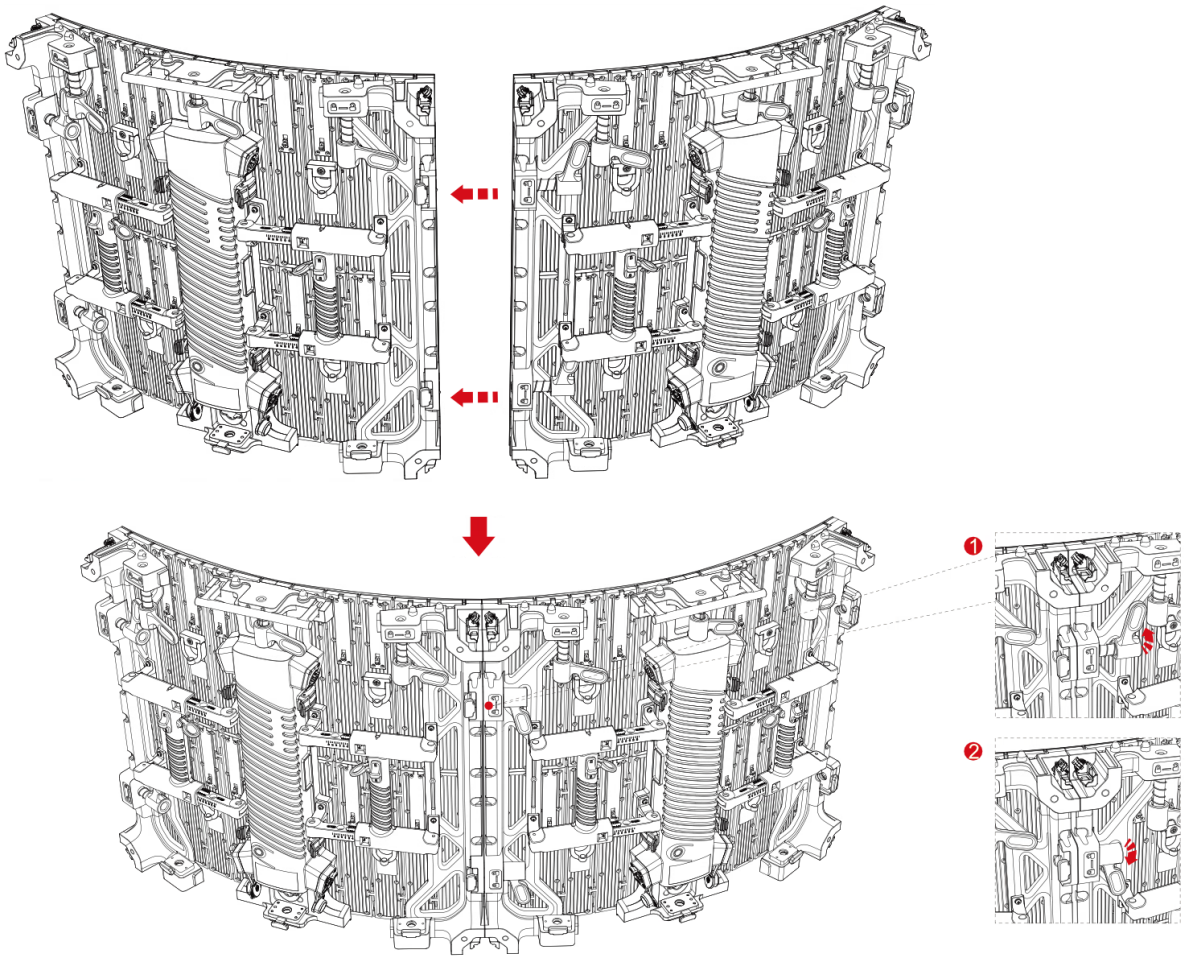


Figure 3-51 Splice Concave Arc Flexible Cabinets Horizontally

3.3.7 Splice Flexible Cabinets to a Convex Arc

Step 1 Slide the button on the arc lock upward to unlock, then press the tab. You can adjust the arc angle when keeping the tab pressed.

Step 2 Pull the arc lock horizontally toward the center of the cabinet to a positive angle to form a convex arc, then slide the button downward to the lock.

Note

The maximum convex arc angle on the one side of a cabinet is 22.5°, and the maximum convex arc angle on both sides of a cabinet is 45°.

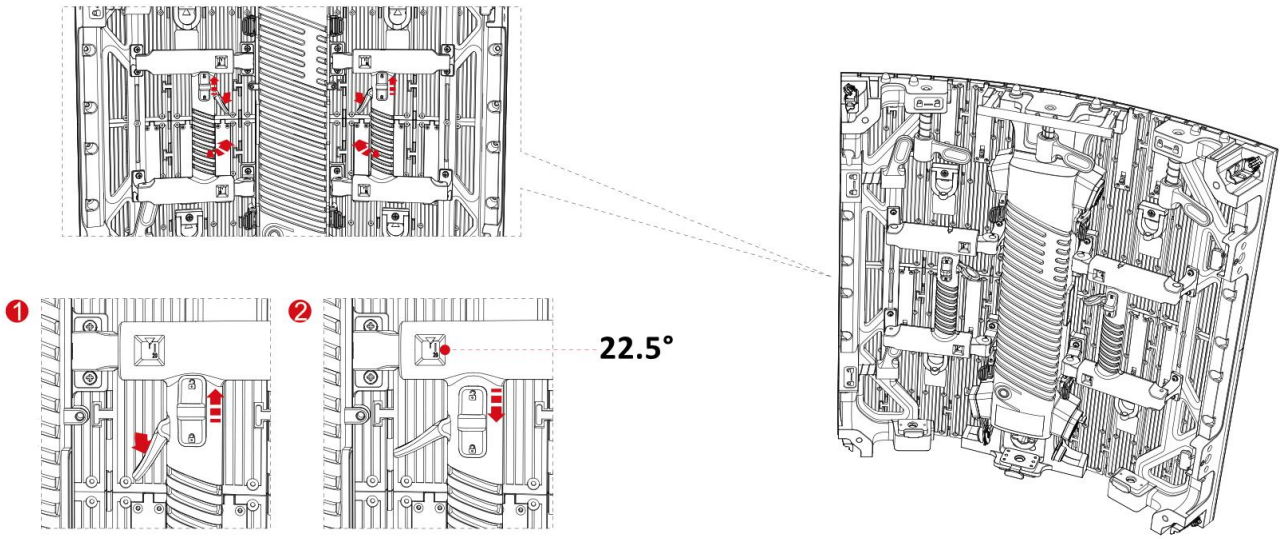


Figure 3-52 Slide the Button to Form a Convex Arc

Step 3 Refer to 3.3.2 Splice Cabinet Frames Horizontally to complete the horizontal splicing of the convex arc flexible cabinets.

1) When aligning the two adjacent flexible cabinets horizontally, keep the fast locks unlocked.
2) When the two adjacent flexible cabinets horizontally aligned and spliced together, lock the fast locks.

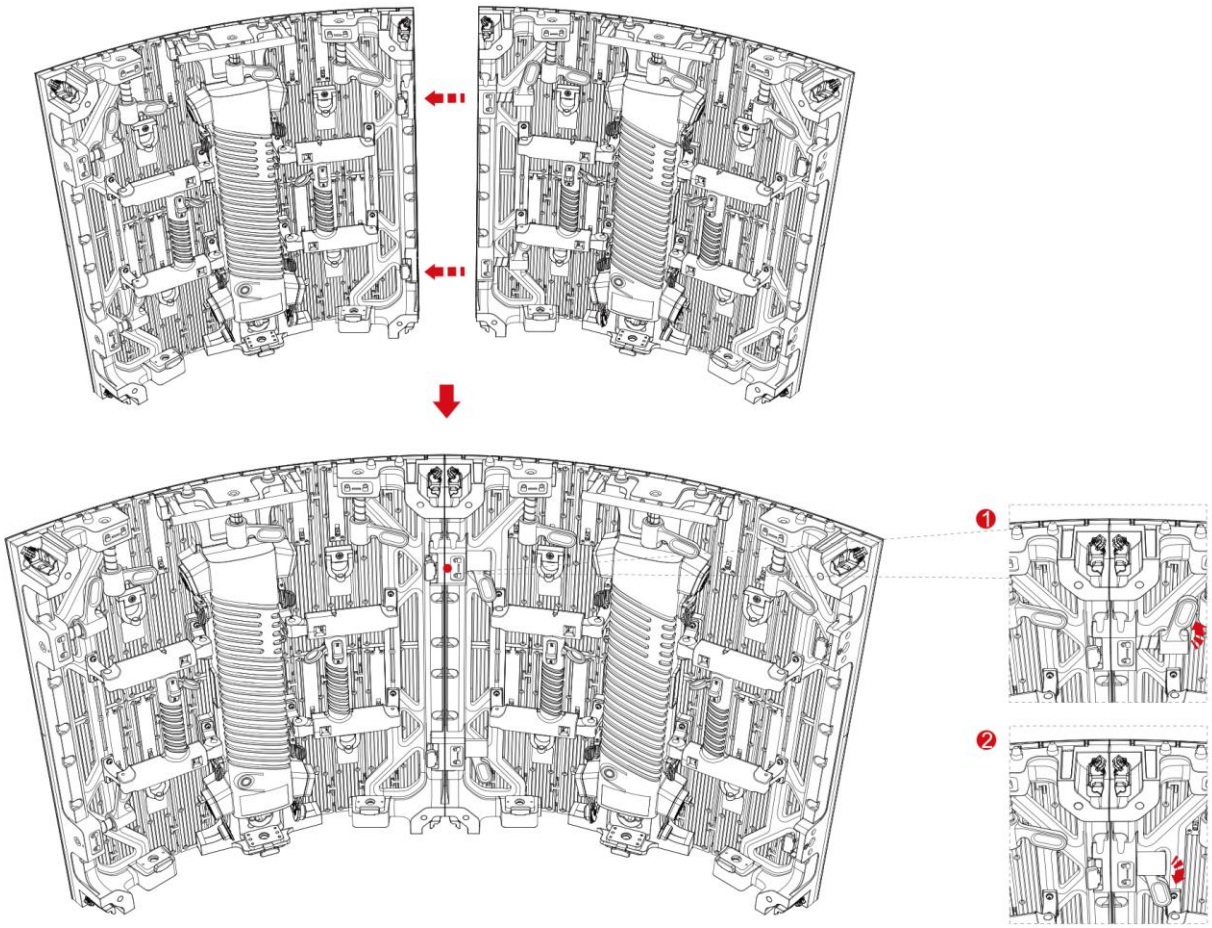


Figure 3-53 Splice Convex Arc Flexible Cabinets Horizontally

3.3.8 Splice Flexible Cabinets to an S-shaped Curved Screen

The angles on the left and right side of a cabinet can be adjusted independently. You can make an S-shaped curved screen either by adjusting the angles on the left and right side of a single cabinet or by splicing a concave arc flexible cabinet with a convex arc flexible cabinet.

Step 1 Adjust the left side of the cabinet to a concave arc and the right side of the cabinet to a convex arc.

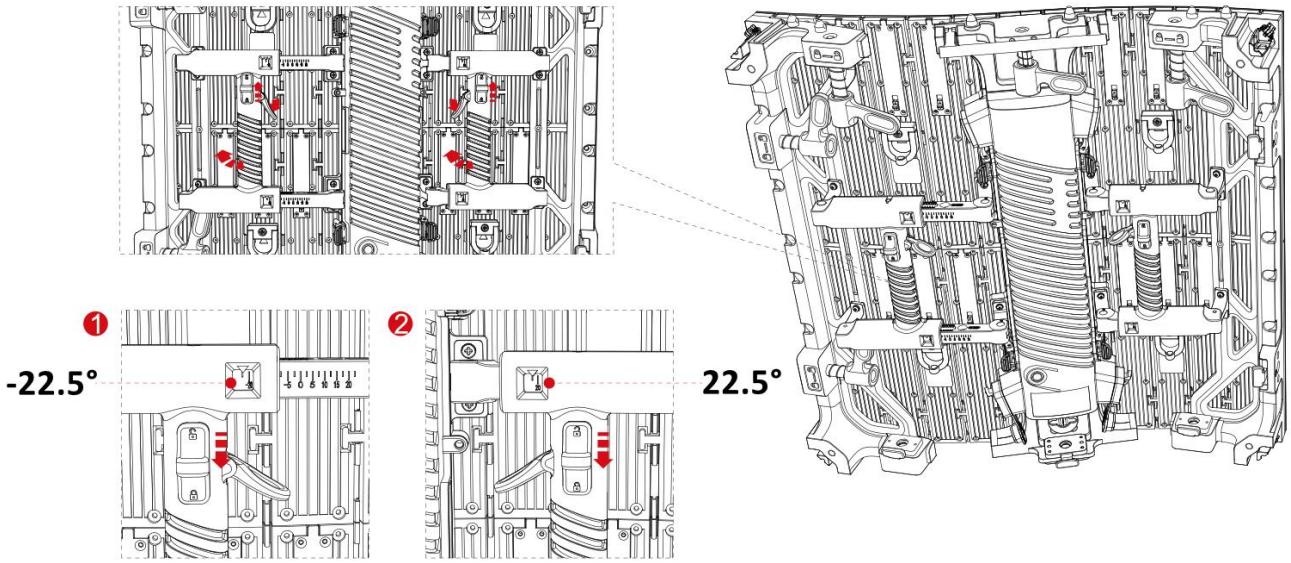


Figure 3-54 Adjust the Arc Lock to Form A S-shaped Curved Screen

Step 2 Refer to 3.3.2 Splice Cabinet Frames Horizontally to complete the horizontal splicing of the flexible cabinets.

1) When aligning the two adjacent flexible cabinets horizontally, keep the fast locks unlocked.
2) When the two adjacent flexible cabinets horizontally aligned and spliced together, lock the fast locks.

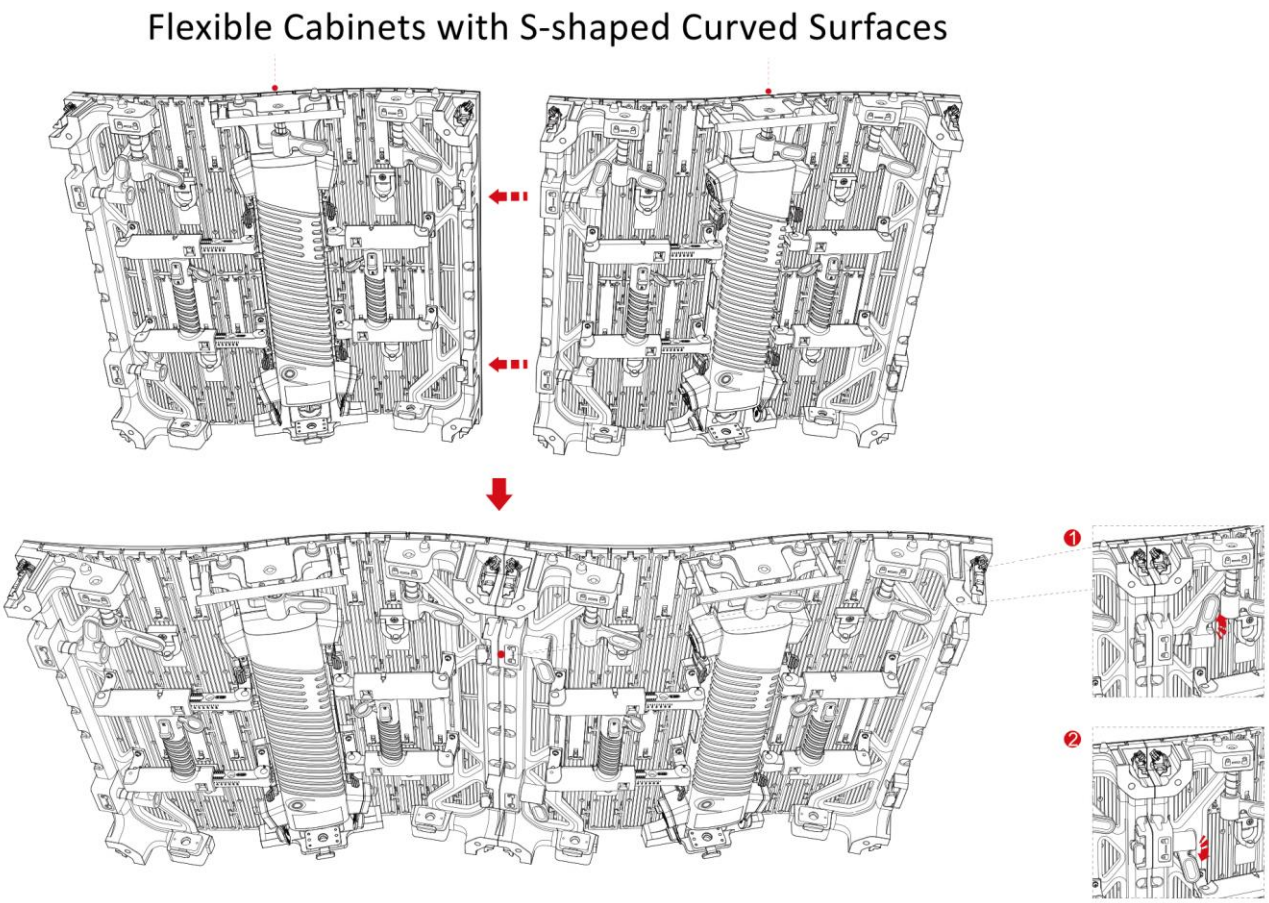


Figure 3-55 S-shaped Curved Screen 1

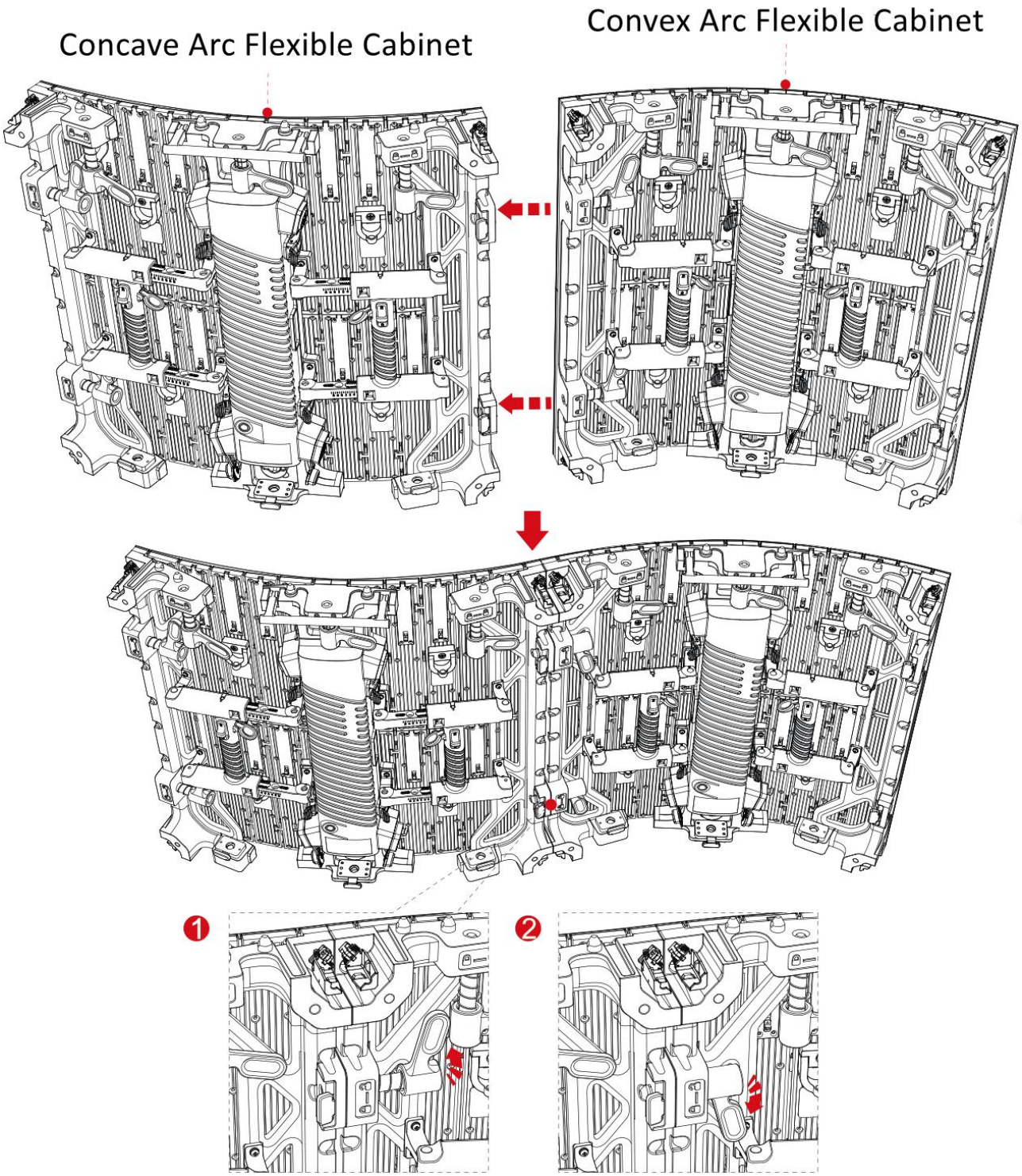


Figure 3-56 S-shaped Curved Screen 2

3.3.9 Splice Mixed Cabinets

Flexible cabinet can be spliced with the standard edge cabinet and edge-cutting cabinet horizontally. You can refer to 3.3.2 Splice Cabinet Frames Horizontally to complete the horizontal splicing of the flexible cabinet with the standard-edge cabinet and edge-cutting cabinet.

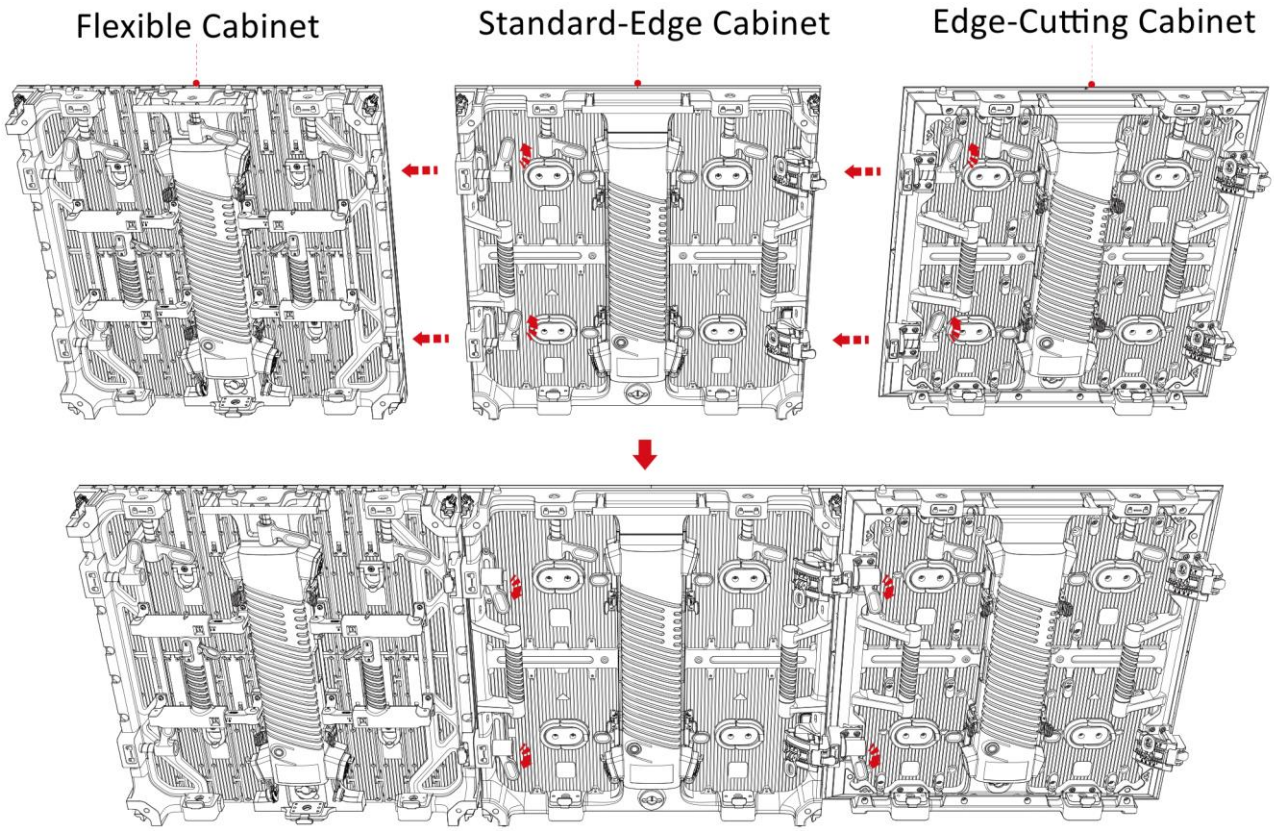


Figure 3-57 Splice Flexible Cabinet with Standard-Edge Cabinet and Edge-Cutting Cabinet

3.4 Connect Power Cords and Network Cables

3.4.1 Connect Power Cords between Cabinets

Each cabinet is equipped with one power input interface and one power output interface. Power is supplied from external power cords and then cascaded to adjacent cabinets via cascading power cords. You need to confirm the number of the required external power cords based on the number of the actually connected cabinets and the load capacity of a power cord.

Due to variations in cabinet dimensions, pixel pitch, and input voltage, the load capacity of a power cord may vary. Refer to the tables below for detailed load capacity.

Table 3-2 Load Capacity of a Power Cord (Aries Series)

Product Series	Cabinet Dimensions (W × H × D)	Indoor/Outdoor	Pixel Pitch	Input Power Voltage	Max. Load
Aries	500 mm × 500 mm × 69 mm	Indoor	P2.6	220 V, 50 Hz	19
				100 V, 60 Hz	8

Product Series	Cabinet Dimensions (W × H × D)	Indoor/Outdoor	Pixel Pitch	Input Power Voltage	Max. Load
			P2.9	220 V, 50 Hz	21
				100 V, 60 Hz	8
			P3.9	220 V, 50 Hz	20
				100 V, 60 Hz	8
		Outdoor	P2.9	220 V, 50 Hz	15
				100 V, 60 Hz	6
			P3.9	220 V, 50 Hz	17
				100 V, 60 Hz	7
	500 mm × 1000 mm × 69 mm (for standard-edge cabinets only)	Indoor	P2.9	220 V, 50 Hz	10
				100 V, 60 Hz	4
			P3.9	220 V, 50 Hz	10
				100 V, 60 Hz	4
		Outdoor	P2.9	220 V, 50 Hz	7
				100 V, 60 Hz	3
			P3.9	220 V, 50 Hz	8
				100 V, 60 Hz	3

Table 3-3 Load Capacity of a Power Cord (Aries Pro Series)

Product Series	Cabinet Dimensions (W × H × D)	Indoor/Outdoor	Pixel Pitch	Input Power Voltage	Max. Load
Aries Pro	500 mm × 500 mm × 69 mm	Indoor	P1.9	220 V, 50 Hz	14
				100 V, 60 Hz	6
			P2.6	220 V, 50 Hz	18
				100 V, 60 Hz	7
			P2.9	220 V, 50 Hz	18
				100 V, 60 Hz	7
		Outdoor	P2.9	220 V, 50 Hz	12

Product Series	Cabinet Dimensions (W × H × D)	Indoor/Outdoor	Pixel Pitch	Input Power Voltage	Max. Load
				100 V, 60 Hz	4
			P3.9	220 V, 50 Hz	12
				100 V, 60 Hz	5
	500 mm × 1000 mm × 69 mm (for standard-edge cabinets only)	Indoor	P2.9	220 V, 50 Hz	9
				100 V, 60 Hz	3
		Outdoor	P2.9	220 V, 50 Hz	6
				100 V, 60 Hz	2
			P3.9	220 V, 50 Hz	6
				100 V, 60 Hz	2

Note

- The table is for reference only and the actual capability of the power cord prevails. The load capability of a single power cord is limited. You can use the HiTools Designer to calculate the maximum load capability of a single power cord. Then connect the power cord between the cabinets according to the load capability generated by the calculation.
- Before connecting the power cords, ensure that the device is powered off.

Step 1 Connect the external power supply to the power input interface of the first cabinet at the bottom row.

Step 2 For 500 mm × 500 mm cabinets, use a 750 mm cascading power cord to connect the power output interface of each cabinet to the power input interface of the adjacent cabinet. For 500 mm × 1000 mm cabinets, use a 1400 mm cascading power cord to connect the power output interface of each cabinet to the power input interface of the adjacent cabinet.

Step 3 When the number of connected cabinets exceeds the maximum load capacity of the power supply, use an additional power cord to connect another external power supply to the power input interface of the first cabinet beyond this limit, and then repeat the step 2 to cascade the adjacent cabinets.

Step 4 Repeat the step 3 if more power cords are needed.

The figure below illustrates a 4 rows × 6 columns configuration of P2.6 indoor Aries cabinets. When the power supply voltage is 220 V, the maximum load per power cord is 19 cabinets. In this case, the remaining 1 row × 6 columns of cabinets exceed the power cord's capacity and require an additional power cord.

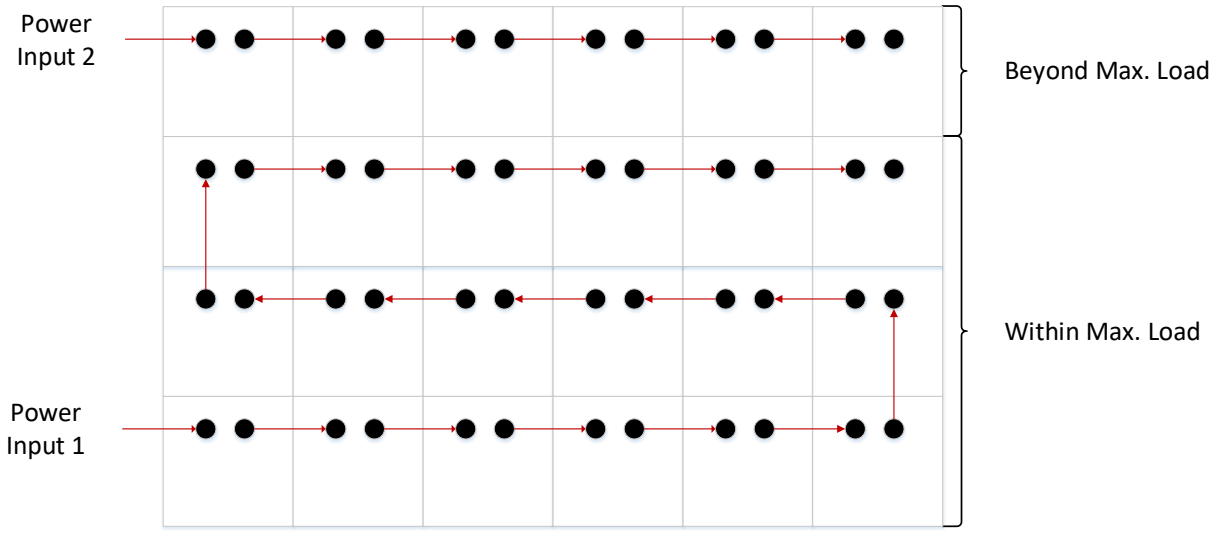


Figure 3-58 Power Cords Connection Between Cabinets

3.4.2 Connect Network Cables between Cabinets

Each cabinet is equipped with one network signal input interface and one network signal output interface. Data signals are input to the cabinet from the sending card via external network cables and then cascaded to adjacent cabinets via cascading network cables. You need to confirm the number of the required external network cables based on the number of the actually connected cabinets and the load capacity of the network interface of the sending card.
Refer to the table below for the maximum load of the network interface of the sending card.

Table 3-4 Load Capacity of Network Interface of the Sending Card

Series	Cabinet Dimensions (W × H × D)	Indoor/Outdoor	Pixel Pitch	Resolution	Max. Load
Aries	500 mm × 500 mm × 69 mm	Indoor	P2.6	192 × 192	17
			P2.9	168 × 168	23
			P3.9	128 × 128	39
		Outdoor	P2.9	168 × 168	23
			P3.9	128 × 128	39
	500 mm × 1000 mm × 69 mm (for standard-edge cabinets only)	Indoor	P2.9	168 × 336	11
			P3.9	128 × 256	19
		Outdoor	P2.9	168 × 336	11
			P3.9	128 × 256	19
Aries Pro	500 mm × 500 mm × 69 mm	Indoor	P1.9	256× 256	9
			P2.6	192 × 192	17

Series	Cabinet Dimensions (W × H × D)	Indoor/Outdoor	Pixel Pitch	Resolution	Max. Load
			P2.9	168 × 168	23
		Outdoor	P2.9	168 × 168	23
			P3.9	128 × 128	39
	500 mm × 1000 mm × 69 mm (for standard-edge cabinets only)	Indoor	P2.9	168 × 336	11
		Outdoor	P2.9	168 × 336	11
			P3.9	128 × 256	19

Note

- The table is for reference only and the actual capability of the network interface prevails. The load capability of a single network interface of the sending card is limited. You can use the HiTools Designer to calculate the maximum load capability of a single network interface of a sending card. Then connect the network cables between the cabinets according to the load capability generated by the calculation.
- Before connecting the network cables, ensure that the device is powered off.

Step 1 Use a network cable to connect the network input interface of the first cabinet in the bottom row to the network interface of the sending card.

Step 2 For 500 mm × 500 mm cabinets, use a 700 mm cascading network cable to connect the signal output interface of each cabinet to the signal input interface of the adjacent cabinet. For 500 mm × 1000 mm cabinets, use a 1200 mm cascading network cable to connect the signal output interface of each cabinet to the signal input interface of the adjacent cabinet.

Step 3 When the number of connected cabinets exceeds the maximum load capacity of the network interface, use an additional network cable to connect the signal input interface of the first cabinet beyond this limit to another network interface of the sending card, and then repeat the step 2 to cascade the adjacent cabinets.

Step 4 Repeat the step 3 if more network cables are needed.

The figure below illustrates a 5 rows × 4 columns configuration of P2.6 indoor Aries cabinets. When the cabinet resolution is 192 × 192, the maximum load of a network interface of the sending card is 17 cabinets. In this case, the remaining 3 cabinets require an additional network cable to connect to another network interface of the sending card.

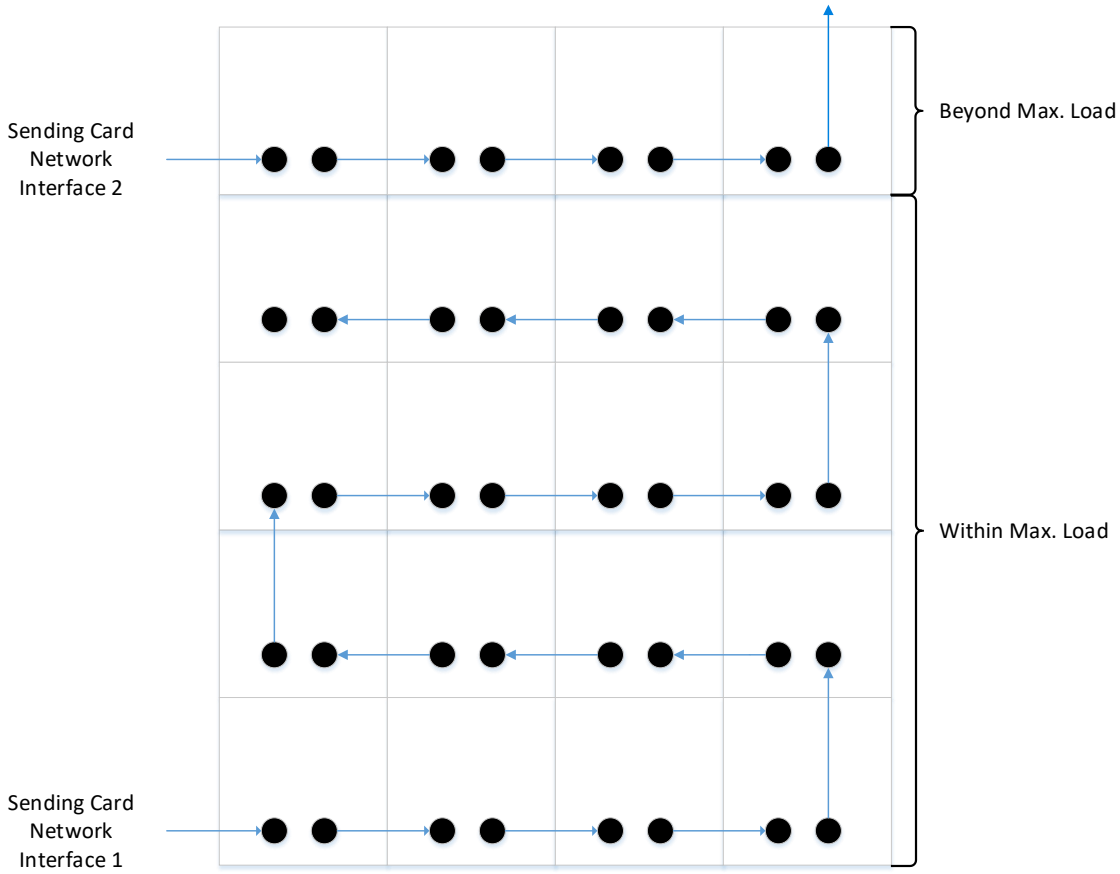


Figure 3-59 Network Cables Connection Between Cabinets

3.5 Maintain the Cabinet

You can replace the cabinet's modules, power supply, receiving card, and hub board as needed.

Note

The following maintenance description uses standard-edge cabinets for illustration. For edge-cutting cabinets, refer to the standard-edge cabinet maintenance methods.

3.5.1 Maintain the Module

You can maintain the module from the front or the rear side.

Front Maintenance

Step 1 Place an LED vacuum pump onto the surface of the module to be maintained.

Step 2 Turn on the switch of the pump, press and hold the suction button on the tool for 5 seconds.

Step 3 Gently pull the module to remove it.

Step 4 Replace the module with a new one and assemble the new module back.

Rear Maintenance

Step 1 Remove the parts fastening the module.

- For indoor cabinets, rotate the four knobs on the back cover of the module to ensure that they do not interfere with the connecting components on the cabinet frame when removing the module.

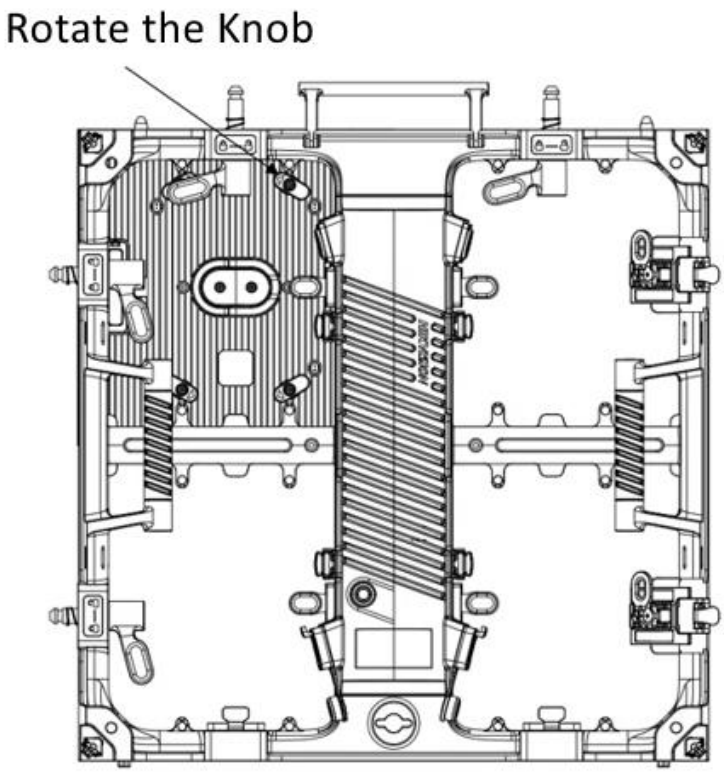


Figure 3-60 Rotate the Knob for Indoor Cabinet

- For outdoor cabinets, remove the four screws fastening the module.

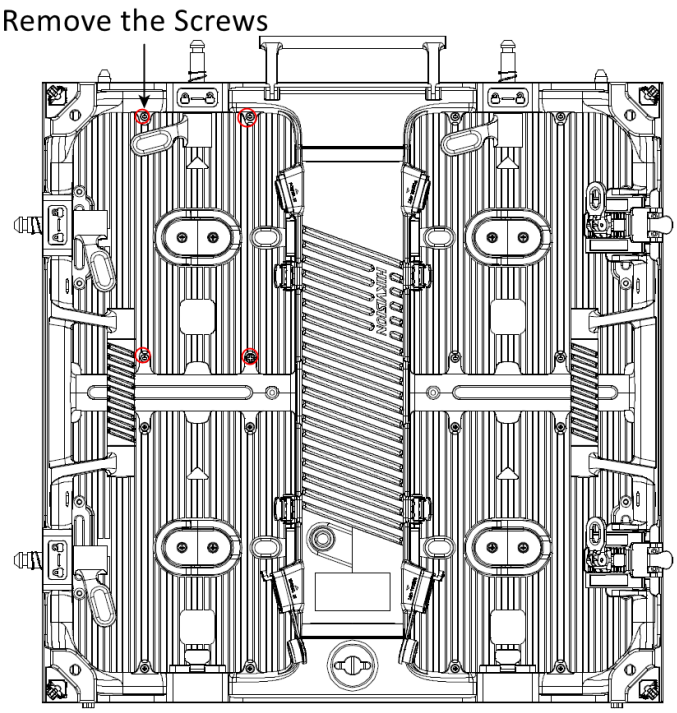


Figure 3-61 Remove the Screws for Outdoor Cabinet

Step 2 Use one finger to grip the handle and another finger to press the eject button on the cabinet, and push the module forward.

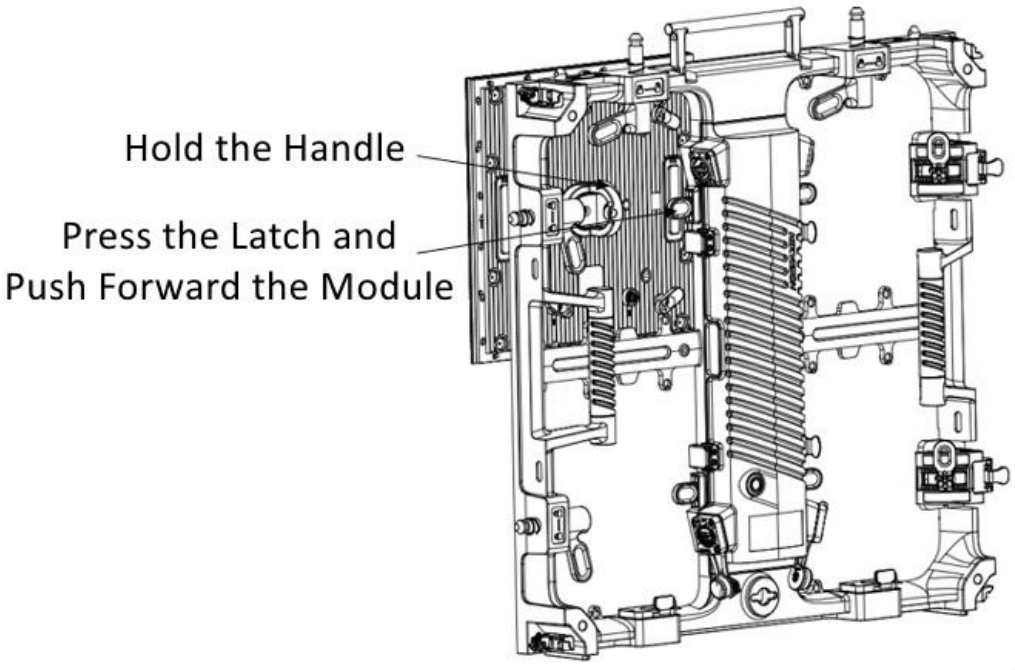


Figure 3-62 Push Forward the Module

Step 3 Rotate the module until its side can pass through the diagonal of the cabinet frame, and then remove the module.

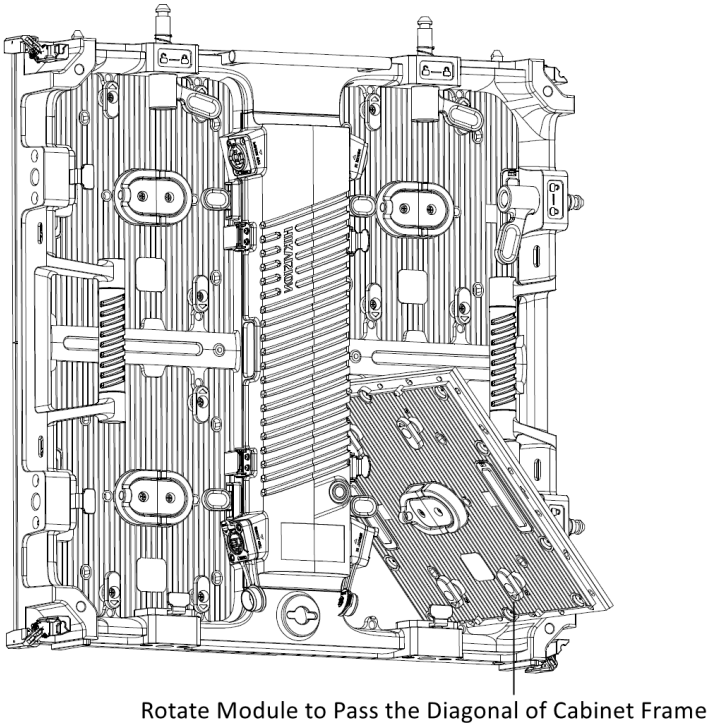


Figure 3-63 Remove the Module

Step 4 Replace the module with a new one and reinstall it.

1) Align the side of the module with the diagonal of the cabinet frame and rotate the module to the correct installation position.
2) Install the module slowly towards the back.
3) Rotate the four knobs on the back cover of the module to secure it to the cabinet frame.
4) Release the four latches around the power supply box.

3.5.2 Maintain the Power Supply

You can maintain the power supply from the rear side.

Before You Start

Switch off the external power supply before you maintain the power supply.

Step 1 Release the four buckles around the power supply box.

Step 2 Remove the entire power supply box.

Step 3 Replace the power supply box.

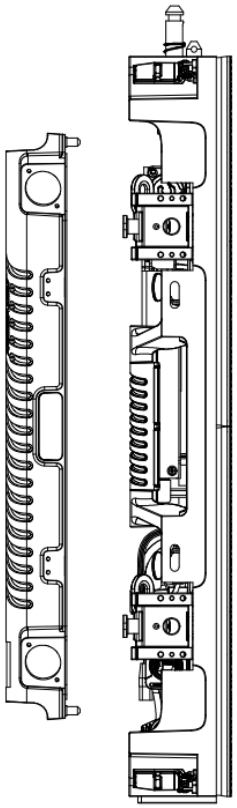


Figure 3-64 Remove the Power Supply Box

3.5.3 Maintain the Receiving Card

You can maintain the receiving card from the rear side.

Before You Start

Switch off the external power supply before you maintain the receiving card.

Step 1 Release the four buckles around the power supply box.

Step 2 Remove the power supply box and use a screwdriver to loosen the screws on the receiving card to disassemble the receiving card.

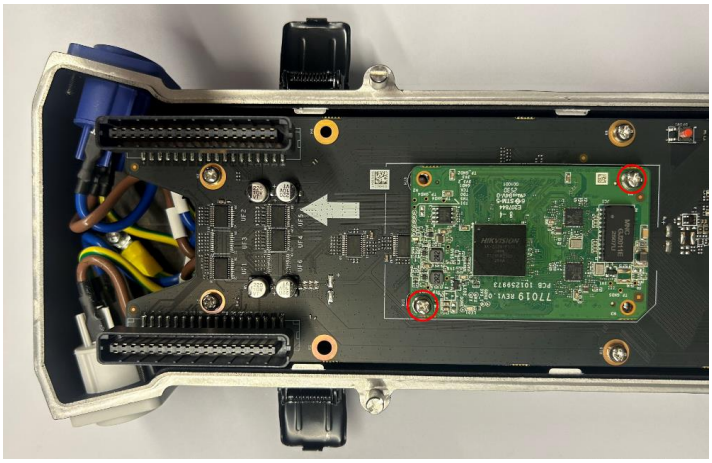


Figure 3-65 Remove the Receiving Card

Step 3 Install a new receiving card on the hub board, ensuring that the installation direction of the receiving card should correspond to the arrow direction on the hub board.

Step 4 Fasten the receiving card.

Note

The picture is for reference only. The actual model prevails.

3.5.4 Maintain the Hub Board

You can maintain the hub board from the rear side.

Before You Start

Switch off the external power supply before you maintain the hub board.

Step 1 Release the four buckles around the power supply box.

Step 2 Remove the power supply box and use a screwdriver to loosen all the screws on the hub board and the receiving card.



Figure 3-66 Remove the Hub Board

Step 3 Replace the hub board and reinstall it. Pay attention to the installation direction.

Step 4 Reinstall the receiving card and tighten the screws to secure it.

Step 5 Reinstall the power supply box.

Note

The picture is for reference only. The actual model prevails.

Chapter 4 Software Debugging

Use the LED Tool client to configure the device. For more details about the operating instructions, please download the LED Tool client, and then scan the QR code below to view the User Manual of the software.



Figure 4-1 QR Code of the LED Tool Client User Manual



UD45580B