

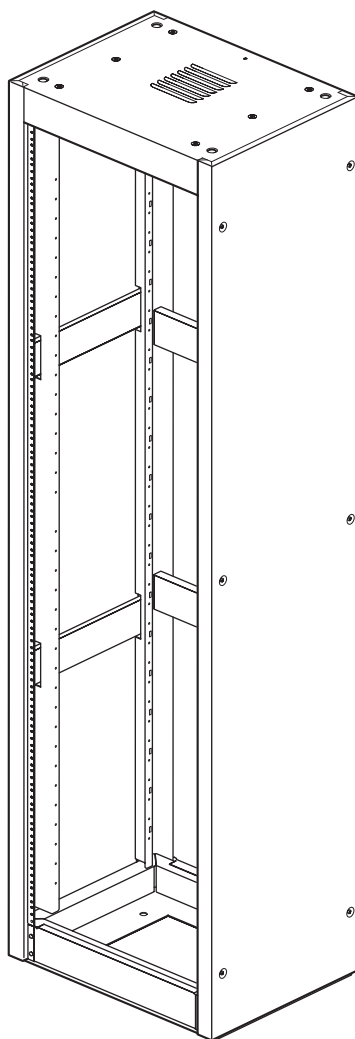


INSTALLATION MANUAL

CABINET RACKS

CR-273 (27-UNIT SIZE)

CR-413 (41-UNIT SIZE)



CR-413

Be sure to read this installation manual thoroughly before installing this Cabinet Rack. For the mounting procedures of the components and the relevant wirings, refer to the instruction manual attached to each component.

Thank you for purchasing TOA's Cabinet Racks.

Please carefully follow the instructions in this manual to ensure long, trouble-free use of your equipment.

TABLE OF CONTENTS

1. SAFETY PRECAUTIONS	3
2. CONFIRMING INCLUDED PARTS	
2.1. Complete Parts	4
2.2. Screws	4
2.3. Accessories Other Than Screws	4
3. DIMENSIONAL DIAGRAMS	
3.1. CR-273 (27-Unit size)	5
3.2. CR-413 (41-Unit size)	6
4. RACK ASSEMBLY	
4.1. Cabinet Rack Assembly	7
4.2. YA-706 Supporting Runner (option) Installation	12
4.3. BU-412 Blower Unit (option) Installation	13
4.4. Screw Cover Installation	13
4.5. 2202 Microphone Hanger (option) Installation	14
4.6. Cable Duct (commercial item) Installation	15
4.7. Cable Binding	16
5. CABINET RACK INSTALLATION	
5.1. Installation	17
5.2. Securing to Floor	17
5.3. Securing to Wall	18
5.4. Securing Multiple Racks in Line	18
5.5. Installing Eyebolts for Rack Suspension	19
5.6. Making Fine Height Adjustment of Rack	19
5.7. Grounding	19

1. SAFETY PRECAUTIONS

- Before installation or use, be sure to carefully read all the instructions in this section for correct and safe operation.
- Be sure to follow all the precautionary instructions in this section, which contain important warnings and/or cautions regarding safety.
- After reading, keep this manual handy for future reference.

Safety Symbol and Message Conventions

Safety symbols and messages described below are used in this manual to prevent bodily injury and property damage which could result from mishandling. Before operating your product, read this manual first and understand the safety symbols and messages so you are thoroughly aware of the potential safety hazards.



WARNING

Indicates a potentially hazardous situation which, if mishandled, could result in death or serious personal injury.

When Installing the Unit

- Avoid installing or mounting the unit in unstable locations, such as on a rickety table or a slanted surface. Doing so may result in the unit falling down and causing personal injury and/or property damage.
- Install the unit only in a location that can structurally support the weight of the unit and the mounting bracket. Doing otherwise may result in the unit falling down and causing personal injury and/or property damage.



CAUTION

Indicates a potentially hazardous situation which, if mishandled, could result in moderate or minor personal injury, and/or property damage.

When Installing the Unit

- Secure the rack to the floor with anchor bolts and to the wall with steel brackets to prevent it from being toppled over by earthquakes, etc. If it falls down or moves, this may cause personal injury and/or property damage.
- When unpacking or moving the unit, be sure to handle it with two or more persons. Falling or dropping the unit may cause personal injury and/or property damage.
- Avoid touching the unit's sharp metal edge to prevent injury.

When the Unit is in Use

- Do not place heavy objects on the unit as this may cause it to fall or break which may result in personal injury and/or property damage. In addition, the object itself may fall off and cause injury and/or damage.
- Do not stand or sit on, nor hang down from the unit as this may cause it to fall down or drop, resulting in personal injury and/or property damage.

2. CONFIRMING INCLUDED PARTS

Refer to the tables below to check quantity of each part before assembling the cabinet rack.

Notes

- Assemble the parts into a complete rack while checking the name label attached to each part and screw.
For covers, the name labels are on their backsides.
- Be sure to use the specified screws to mount the components in the rack.

2.1. Complete Parts

Part name	Quantity	
	CR-273	CR-413
Top plate	1	1
Base	1	1
Front right frame	1	1
Front left frame	1	1
Rear right frame	1	1
Rear left frame	1	1
Side reinforcement bracket	2	4
Rear reinforcement bracket	1	2
Top cover	1	1
Side cover (right)	1	1
Side cover (left)	1	1
Base cover (front)	1	1
Base cover (rear)	1	1
Rear cover	2	3

2.2. Screws

Screw type	Quantity	
	CR-273	CR-413
Bind head taptite screw type B 5 x 12	50 (44)	60 (56)
Bind head taptite screw type B 4 x 10	20 (14)	20 (14)
Bind head screw M4 x 8	20 (16)	30 (24)

() = Quantity to be actually used.

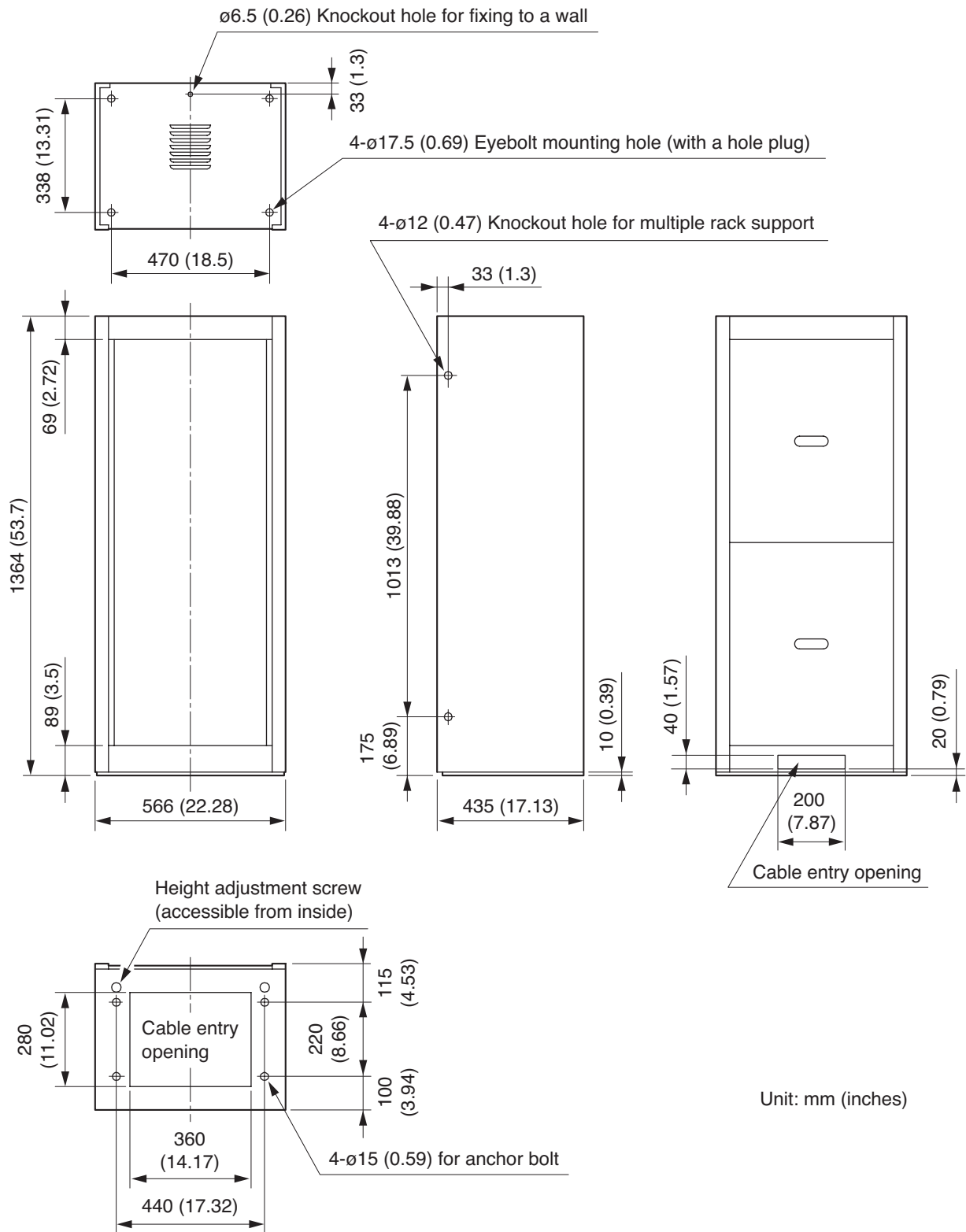
2.3. Accessories Other Than Screws

Accessory	Quantity	
	CR-273	CR-413
Screw cover	2 (130 cm)	2 (190 cm)
Screw cover rail	6	8
Cable tie	12	20

3. DIMENSIONAL DIAGRAMS

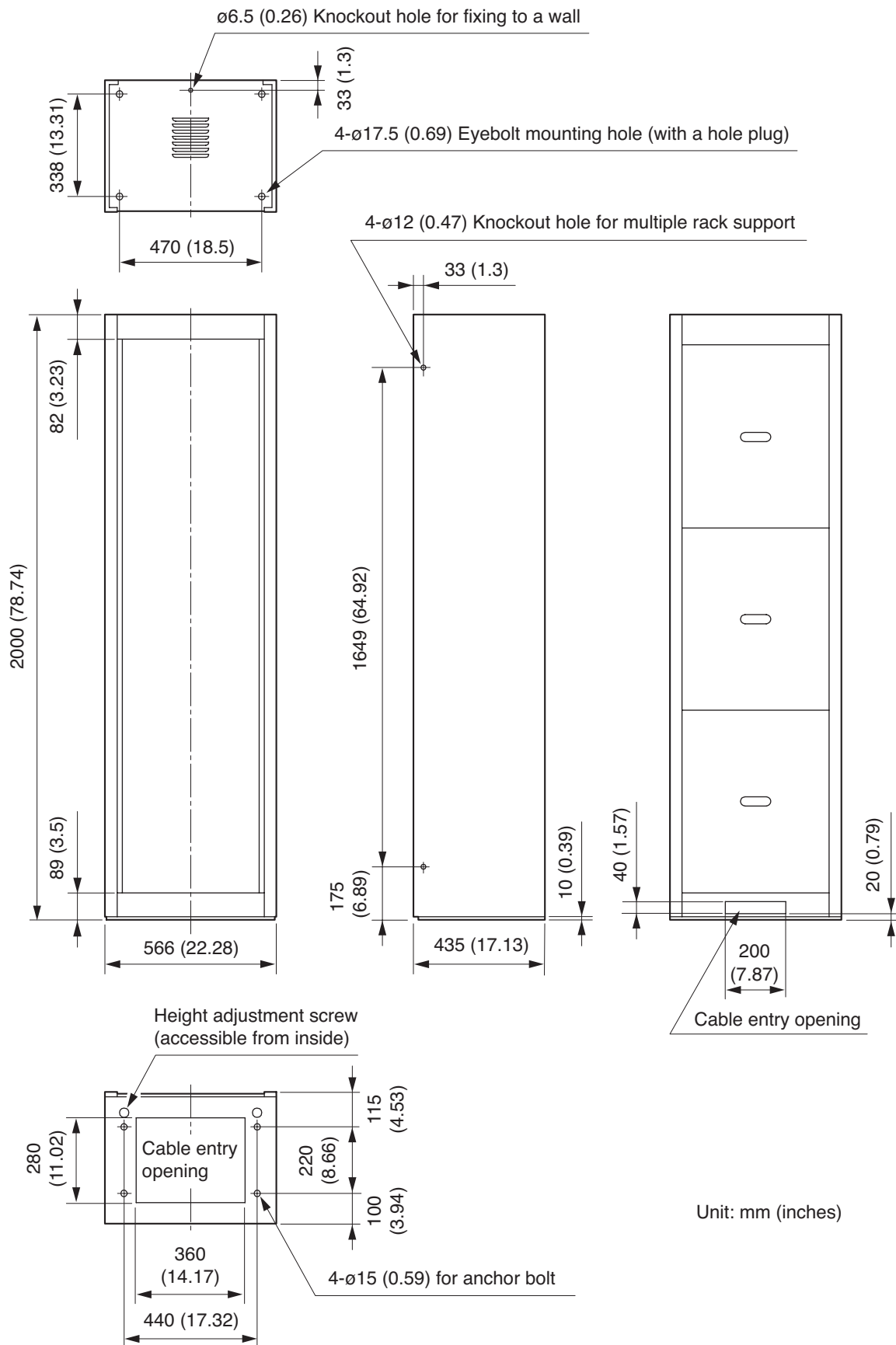
3.1. CR-273 (27-Unit size)

Mountable depth from the panel mounting surface is 410 mm (16.14"). (402 mm or 15.83" to rear reinforcement bracket)



3.2. CR-413 (41-Unit size)

Mountable depth from the panel mounting surface is 410 mm (16.14"). (402 mm or 15.83" to rear reinforcement bracket)



4. RACK ASSEMBLY

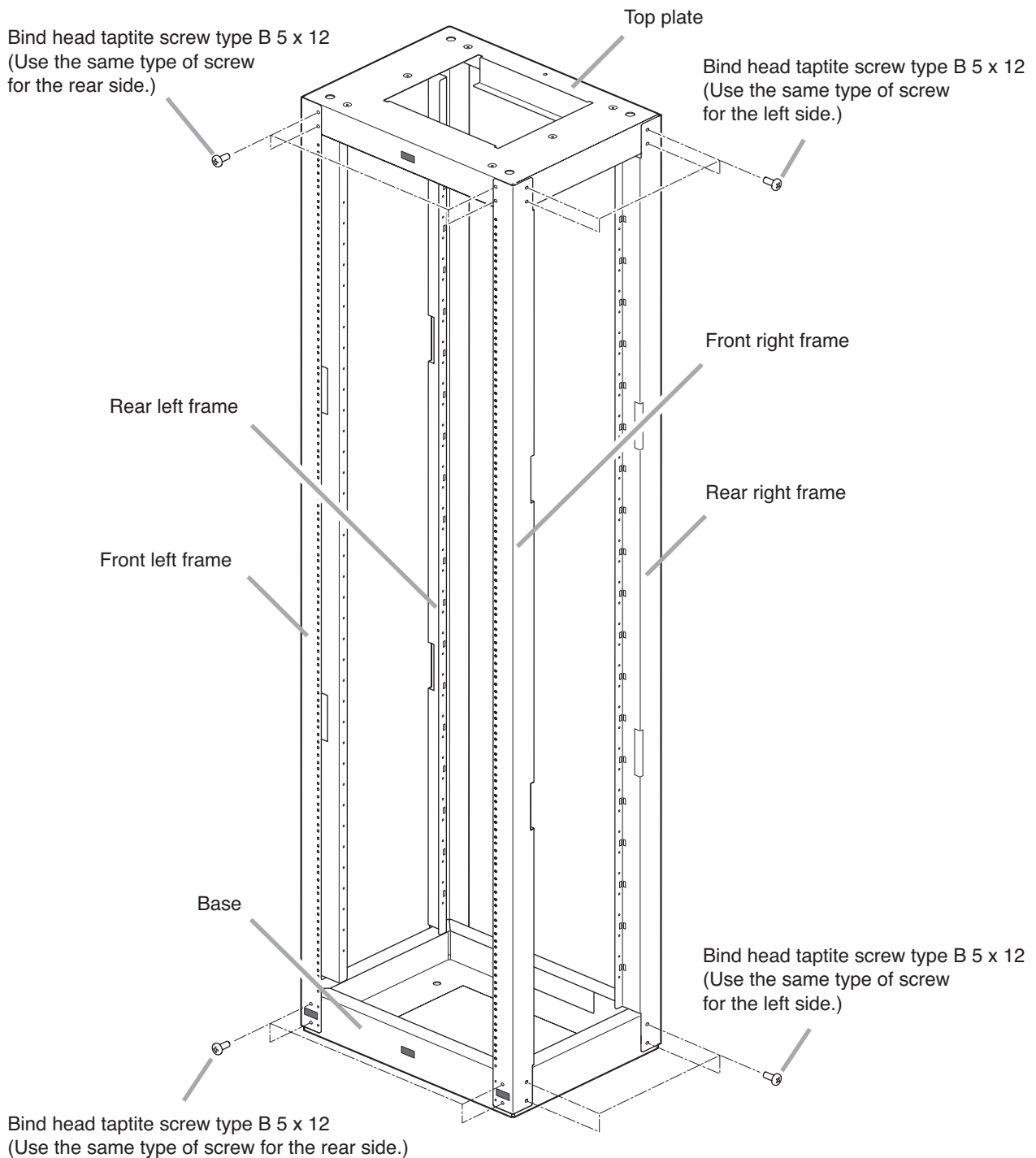
4.1. Cabinet Rack Assembly

Note

Be sure to check the name label () attached to each part and the location of each part to be positioned before assembly.

Step 1. Assemble the base, frames, and top plate.

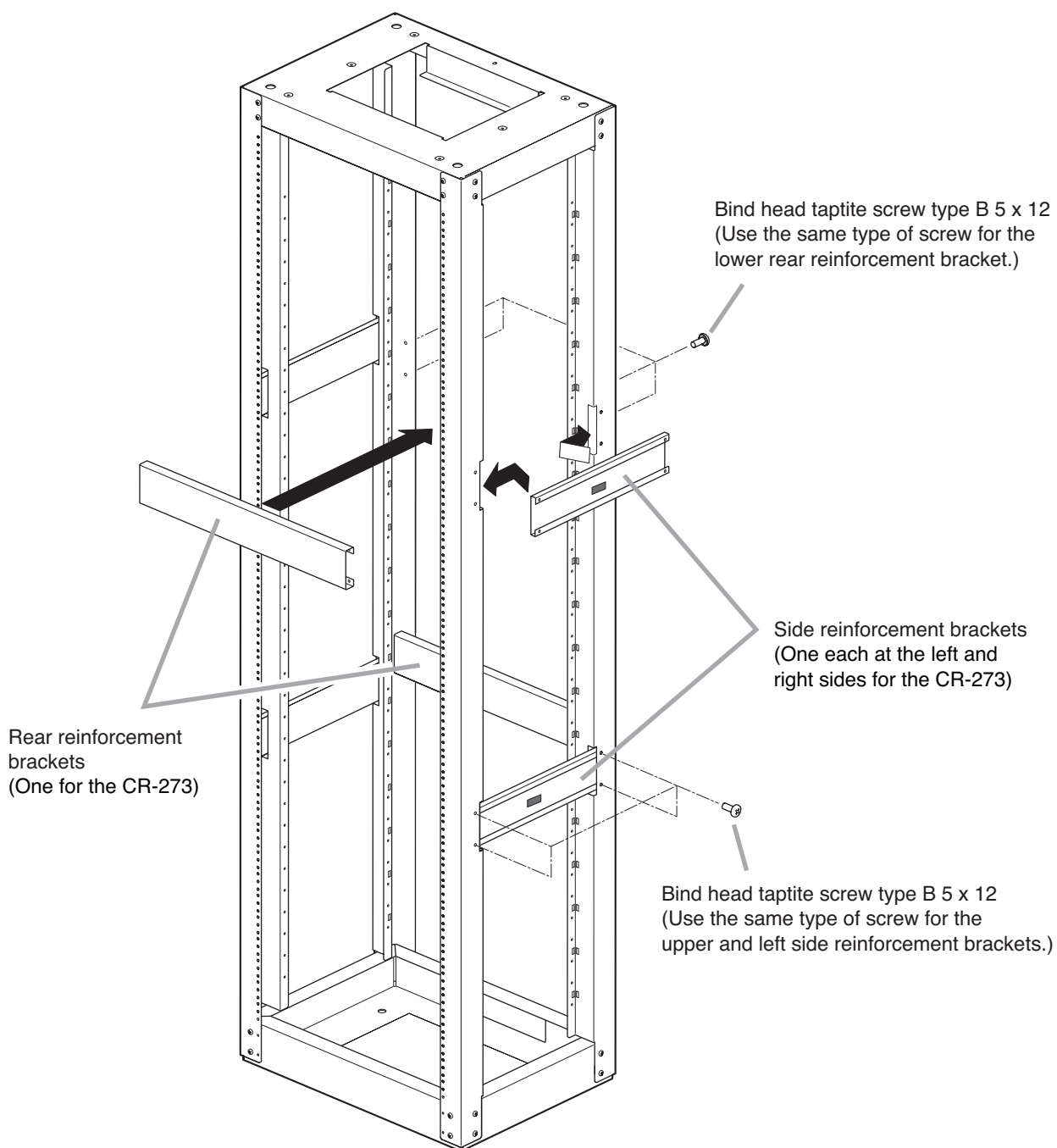
Screws used	Bind head taptite screw type B 5 x 12 32 pieces
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The figure shows the CR-413.

Step 2. Install the reinforcement brackets.

Screws used	Bind head taptite screw type B 5 x 12 12 pieces (CR-273) or 24 pieces (CR-413)
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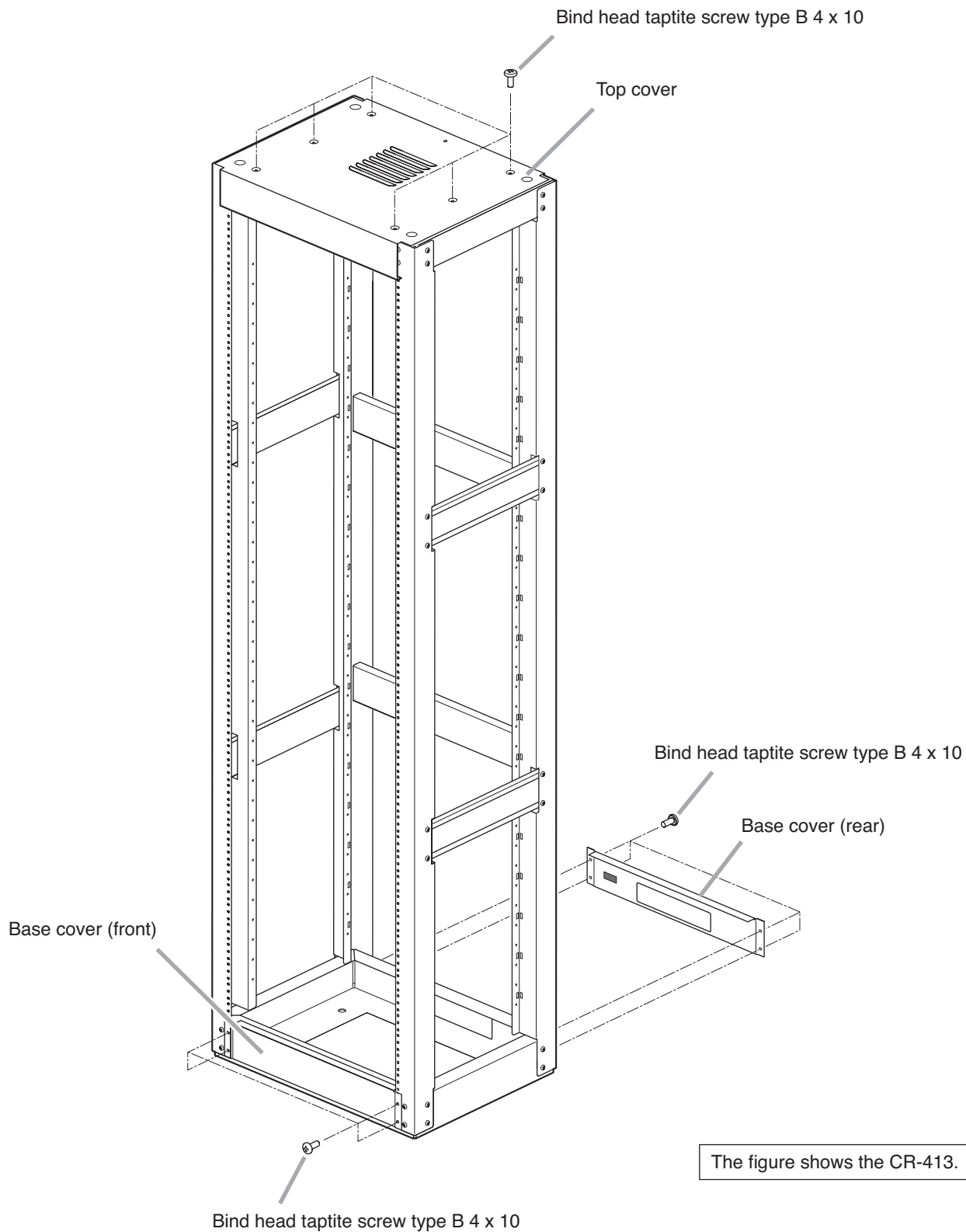
The figure shows the CR-413.

Step 3. Install the top and base covers.

Note

As a protection film is attached to each cover to prevent it from being scratched and stained, remove it after installation completion.

Screws used	Bind head taptite screw type B 4 x 10 14 pieces
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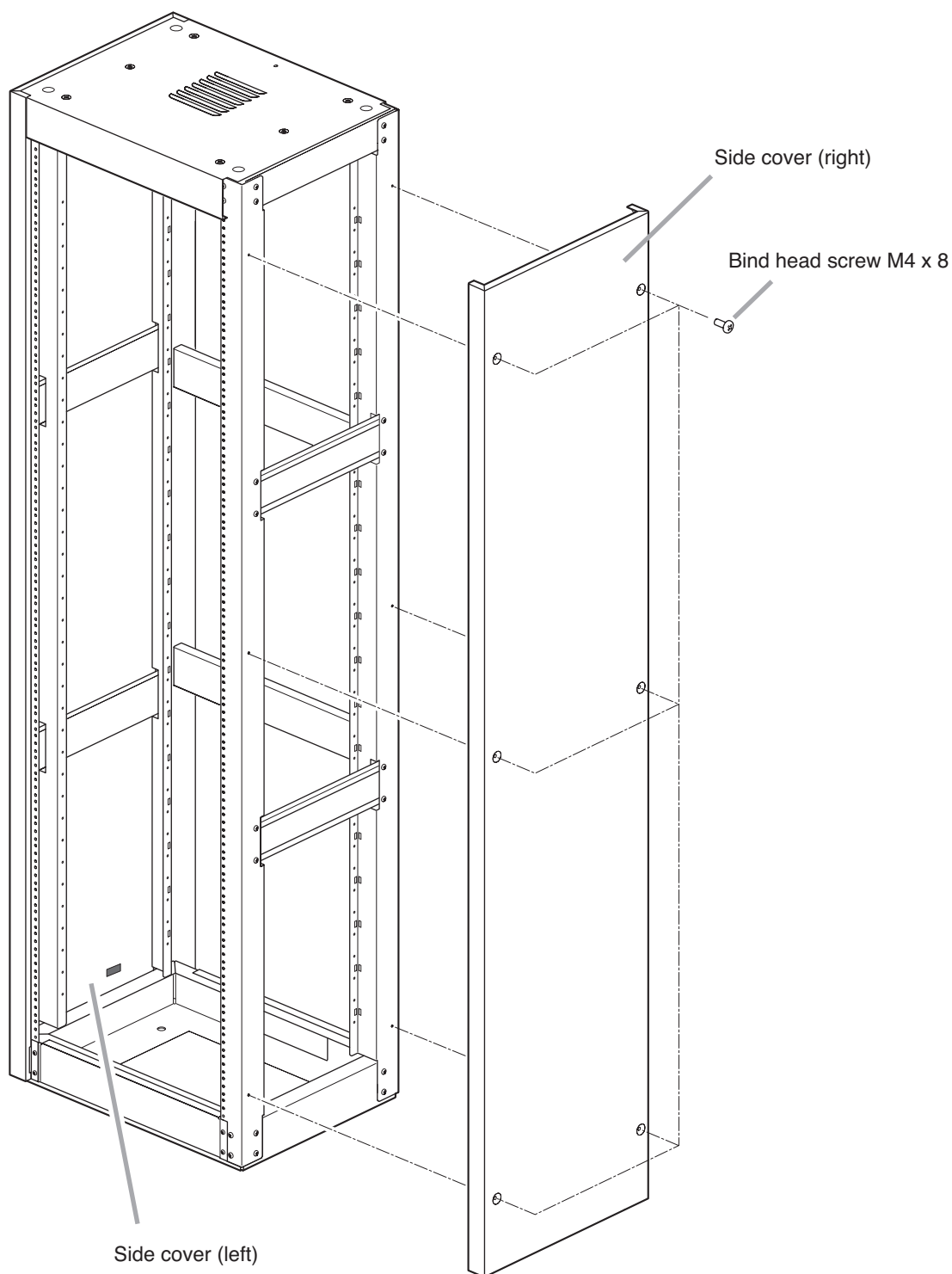


Step 4. Install the side covers.

Note

As a protection film is attached to each cover to prevent it from being scratched and stained, remove it after installation completion.

Screws used	Bind head screw M4 x 8 8 pieces (CR-273) or 12 pieces (CR-413)
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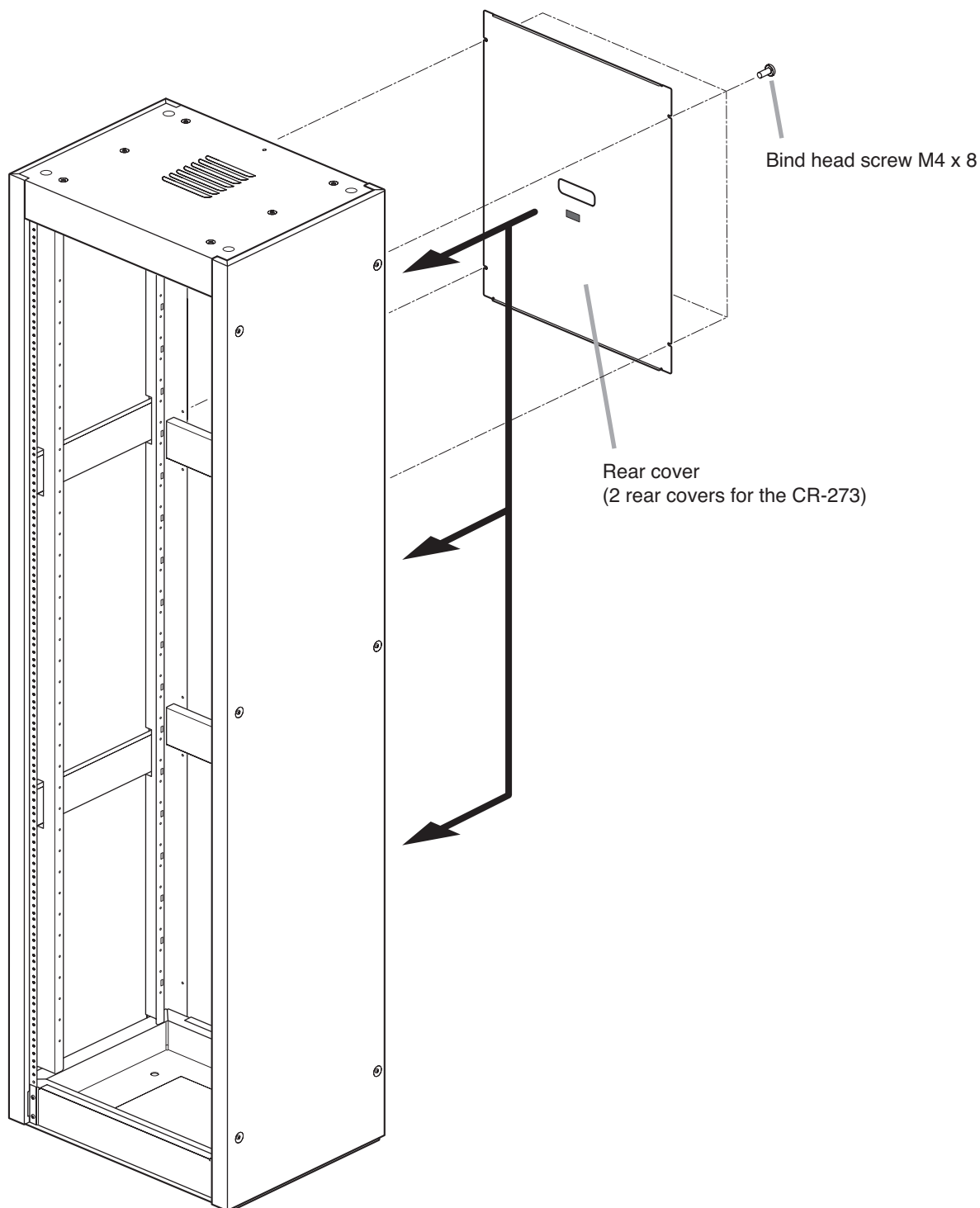
The figure shows the CR-413.

Step 5. Install the rear covers.

Note

As a protection film is attached to each cover to prevent it from being scratched and stained, remove it after installation completion.

Screws used	Bind head screw M4 x 8 8 pieces (CR-273) or 12 pieces (CR-413)
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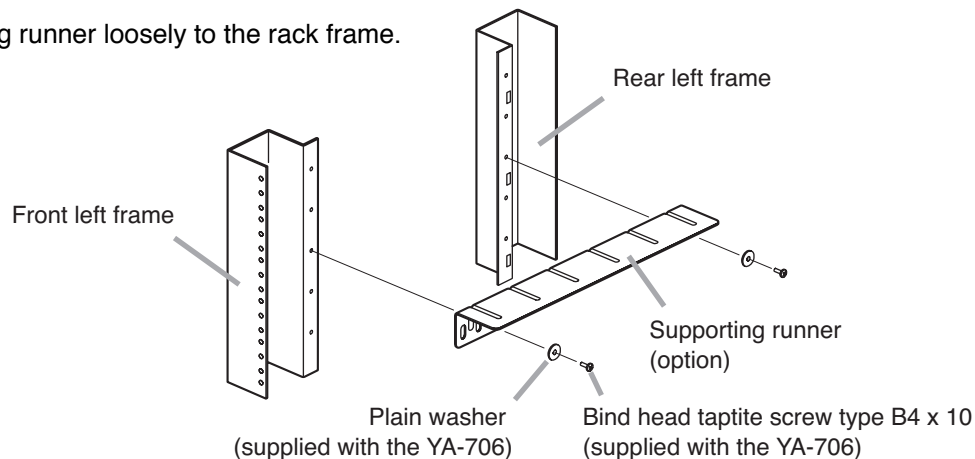
The figure shows the CR-413.

4.2. YA-706 Supporting Runner (option) Installation

It is recommended that the optional Supporting Runner be installed to the rack so that the component can be easily drawn from the front of the rack for maintenance purpose or if the strength is particularly needed when installing the components in the rack.

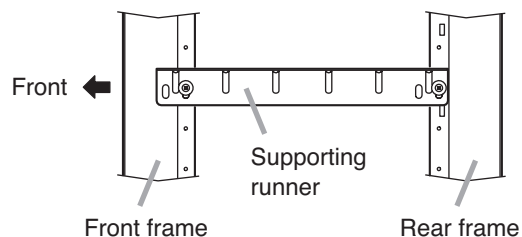
The figures below show the way to install the runner to the left side of the rack.
Follow the same procedure for installation to the right side.

Step 1. Fix the supporting runner loosely to the rack frame.

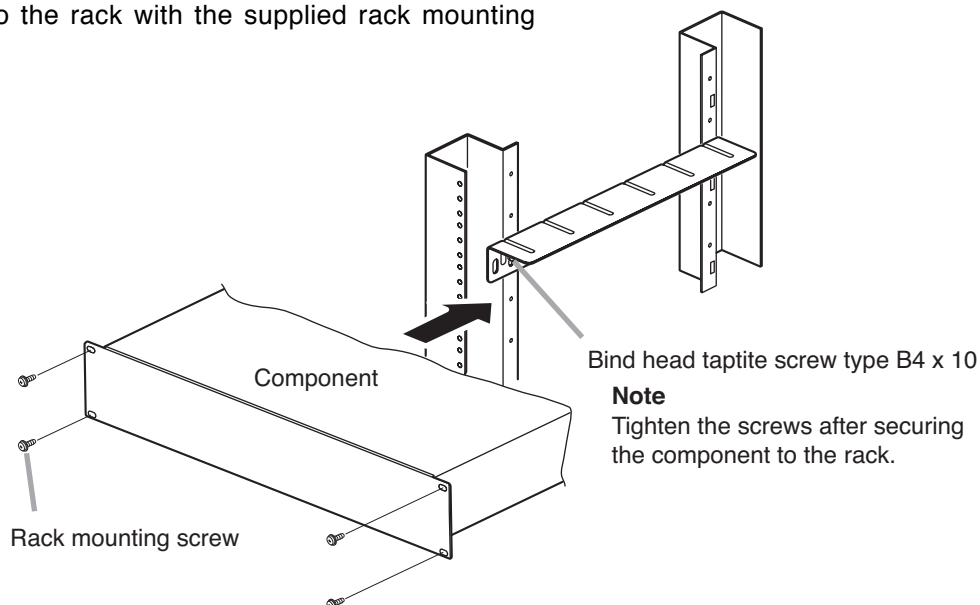


Note

To install the supporting runner, use its second front hole and rearmost hole as shown at right.



Step 2. Place the component on the loosely fitted supporting runners, then secure it to the rack with the supplied rack mounting screws.

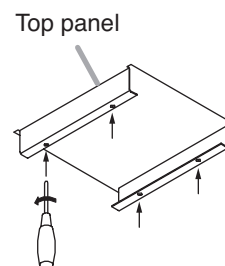


Step 3. Lift up the supporting runners until they hold the component, then secure them.

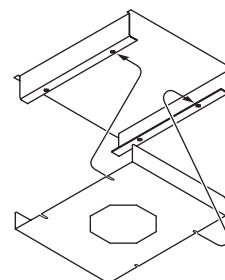
4.3. BU-412 Blower Unit (option) Installation

The installation instructions are printed on the BU-412.

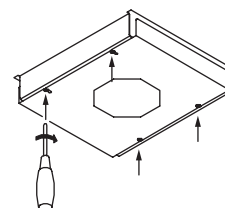
Step 1. Loosen 4 screws inside the top panel.
(No need to remove them.)



Step 2. Align the BU-412's front notches with the loosened front screws, and rear notches with the rear screws.



Step 3. Tighten 4 loosened screws to secure the BU-412.

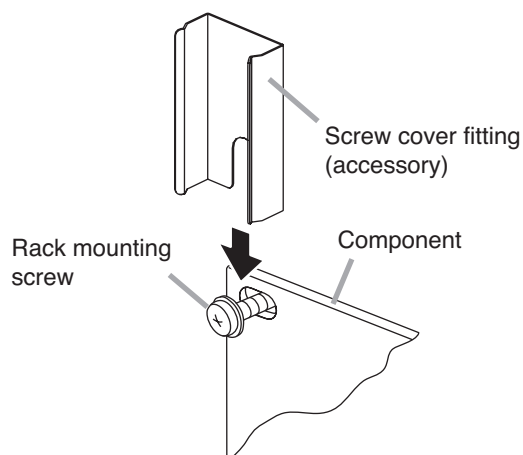


4.4. Screw Cover Installation

Install the screw covers after installation completion of the components.

Six screw cover fittings (3 each on both sides) are supplied with the CR-273, and eight screw cover fittings (4 each on both sides) with the CR-413.

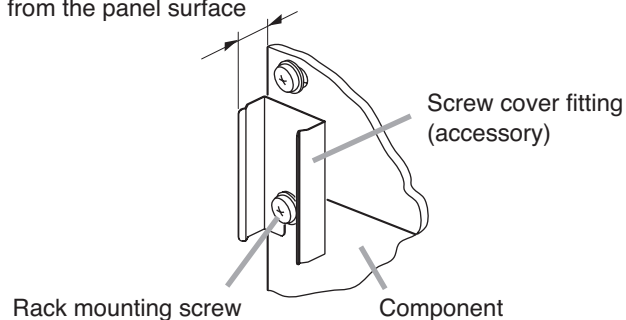
Step 1. Loosen any rack mounting screw that holds the component, then insert the supplied screw cover fitting into the gap exposed.



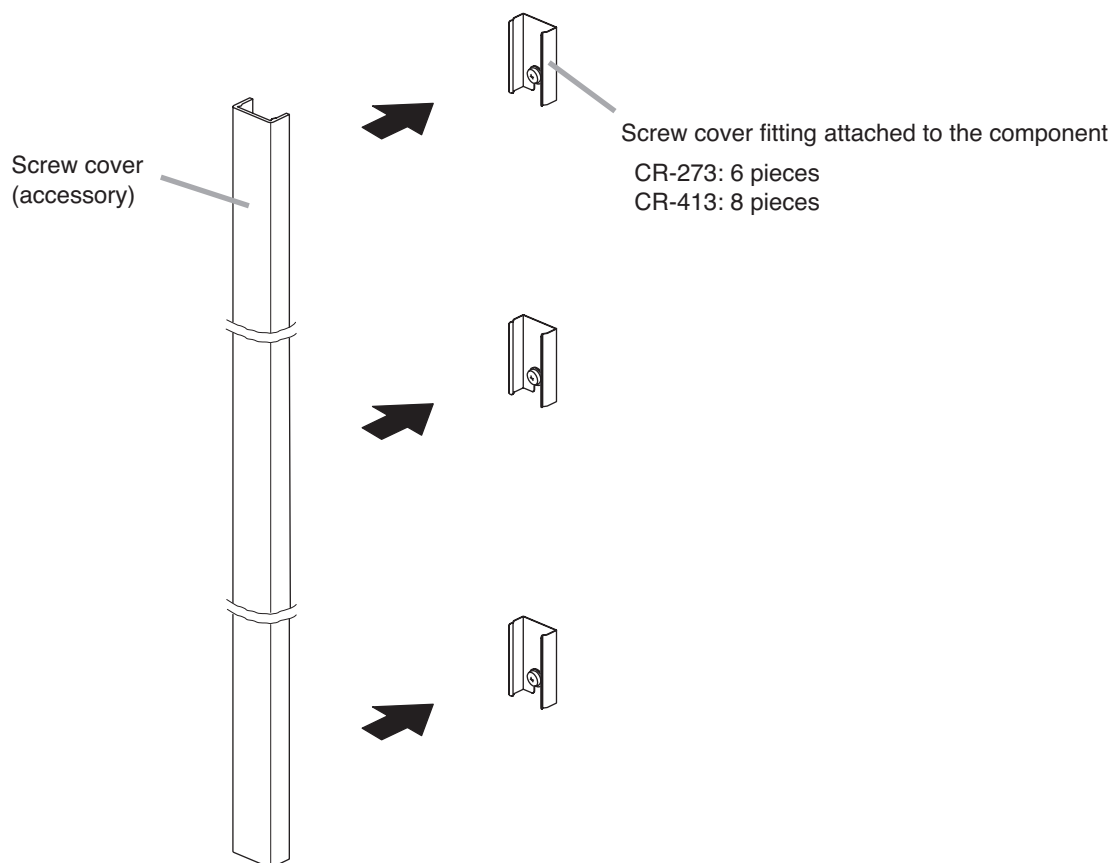
Notes

The component's front panel thickness may differ depending on the model. In such cases, insert a spacer between the screw cover fitting and component's front panel to align the height of all screw cover fittings from the components' panel surfaces.

Height of the screw cover fitting from the panel surface



Step 2. Fit the supplied screw cover in the screw cover fittings.

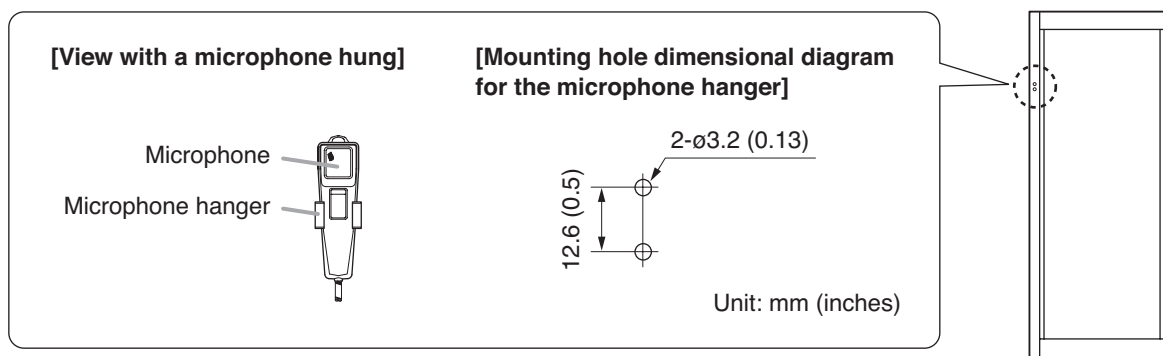


4.5. 2202 Microphone Hanger (option) Installation

Install the optional 2202 Microphone Hanger to the rack's front frame to hang a handheld microphone. Make holes in the desired position on the front frame referring to the figure below.

Note

Since no mounting screws are supplied with the microphone hanger, prepare two 4 x 10 tapping screws separately.

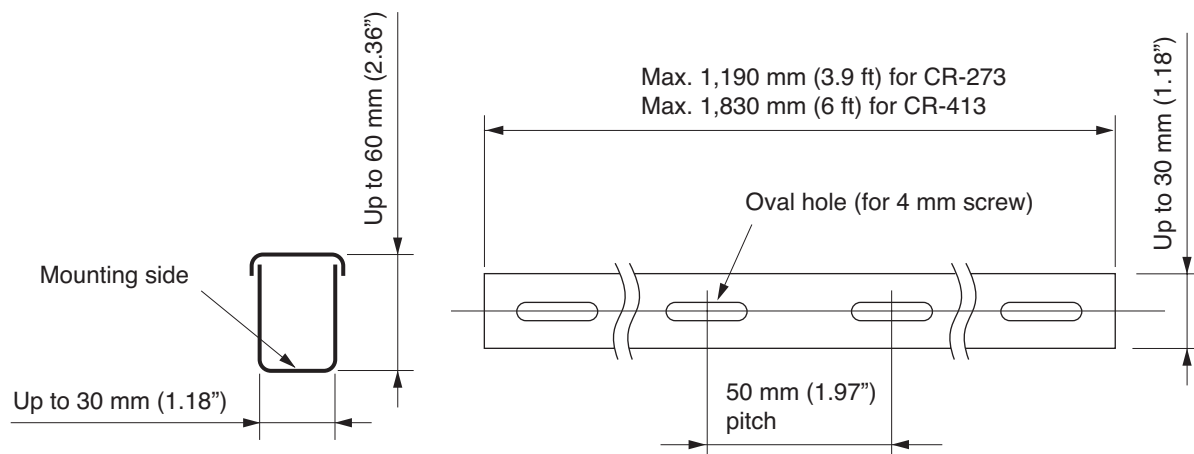


4.6. Cable Duct (commercial item) Installation

Separately prepare the cable duct to arrange wiring, then attach it with the following procedures.
One each duct can be attached on both sides of the rear frames.

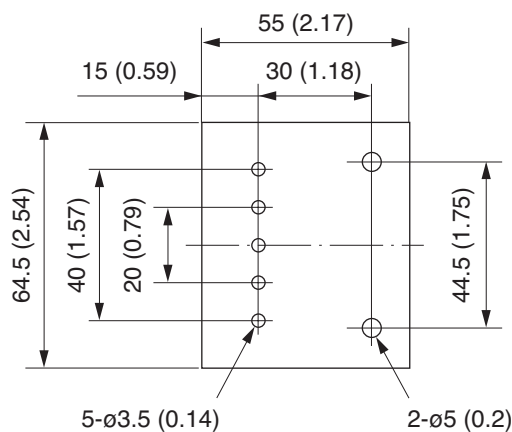
The following materials are required when installing the cable duct.

[Cable duct]



[Duct mounting bracket]

Two duct mounting brackets as shown below are required per duct.



Unit: mm (inches)

Plate thickness: 1.6 (0.06)

Material: Steel plate

Treatment: Chrome plated or painted

[Screws and washer]

4 x 10 tapping screw 3 (per duct mounting bracket)

Plain washer for M4

(around 16 mm or 0.63" of outside diameter) 1 (per duct mounting bracket)

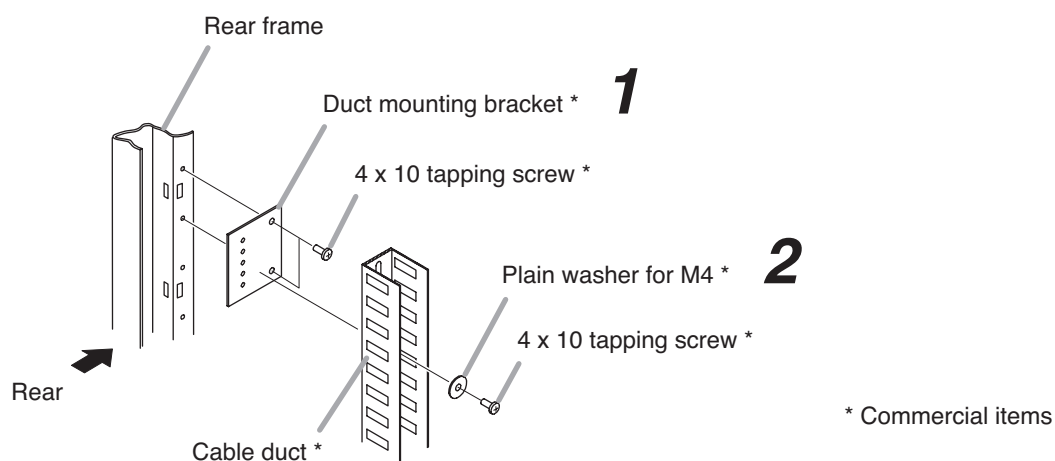
Step 1. Attach the duct mounting bracket to the appropriate position on the rear frame.

Step 2. Attach the cable duct to the duct mounting bracket.

Screws used	4 x 10 tapping screw 3 (per duct mounting bracket) Plain washer 1 (per duct mounting bracket)
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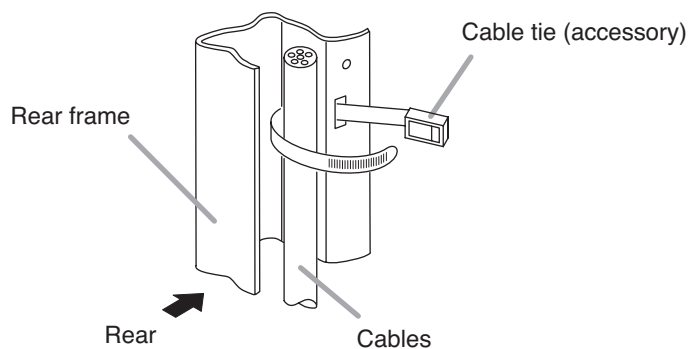
Notes

- The duct mounting bracket cannot be mounted at the place of the supporting runner. To mount, keep the duct mounting bracket a bit apart from the runner, and attach it to the frame.
- Installing the cable duct reduces the mountable depth of the component to be installed in a rack to 360 mm (1.18 ft) from the panel mounting surface.



4.7. Cable Binding

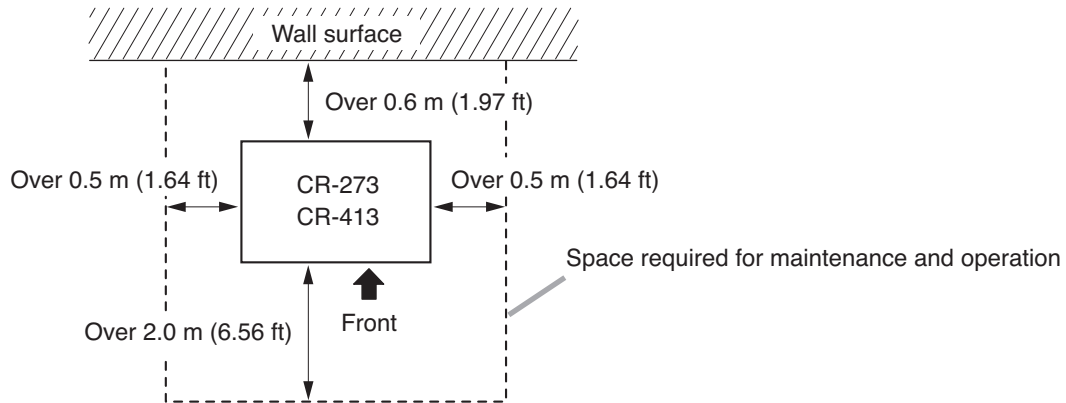
Bundle the cables of each component together using the supplied cable ties as shown below.



5. CABINET RACK INSTALLATION

5.1. Installation

Keep spaces around the rack as shown below to facilitate maintenance and operation.

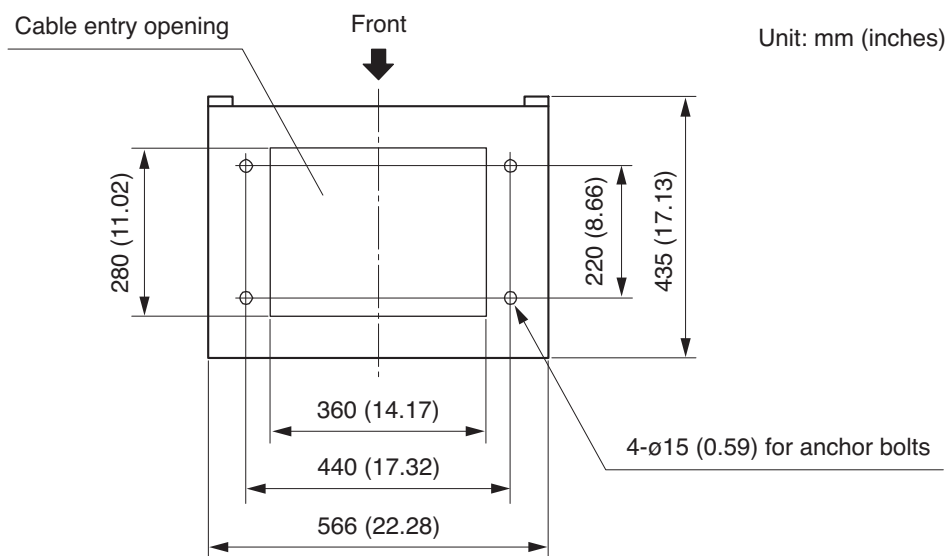


CAUTION

Secure the rack to the floor with anchor bolts and to the wall with steel brackets to prevent it from being toppled over by earthquakes, etc.

5.2. Securing to Floor

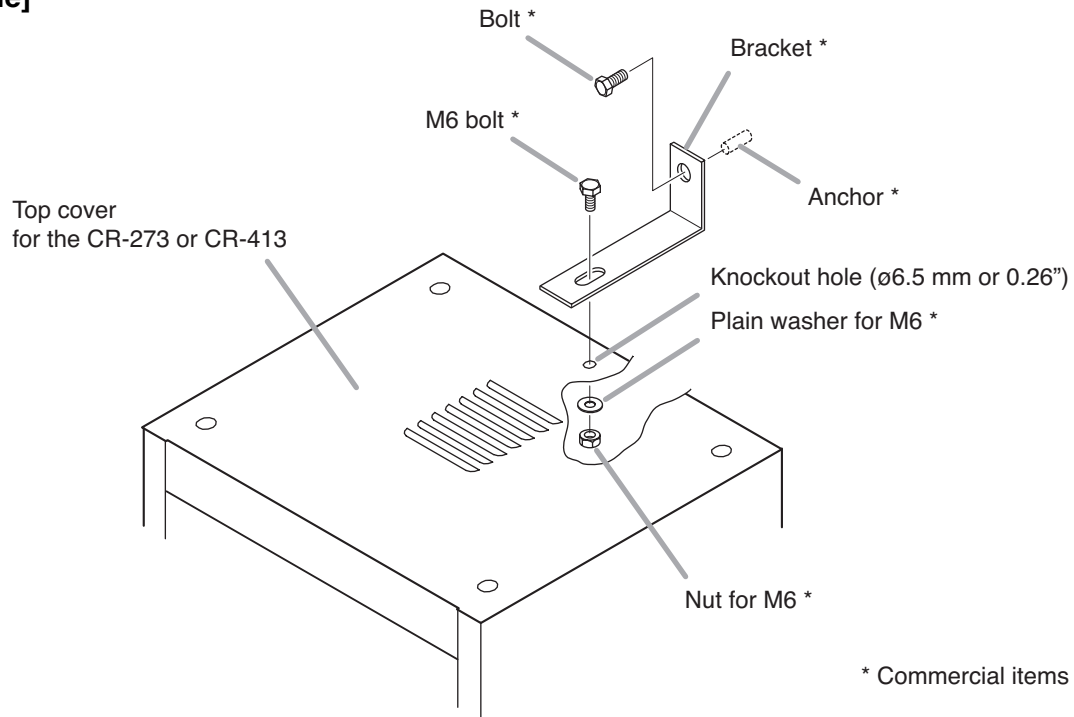
- 4- $\phi 15$ (0.59") anchor bolt holes are provided in the bottom surface of the base for securing the rack to the floor.
- Secure the rack to the floor with M10 - M12 anchor bolts referring to the dimensions of the bottom surface of the base as shown below.



5.3. Securing to Wall

A $\varnothing 6.5$ mm (0.26") knockout hole is provided in the top cover of the rack. (See pages 5 and 6.) Remove the knockout with a screwdriver, and secure the top cover to a wall using the bracket (separately prepared).

[Example]



5.4. Securing Multiple Racks in Line

Two $\varnothing 12$ mm (0.47") knockout holes are provided in each side cover. (See pages 5 and 6.) When installing multiple racks in line, remove these knockout holes with a screwdriver, then connect each adjacent racks using M8 bolts and nuts.

5.5. Installing Eyebolts for Rack Suspension

Commercial suspension eyebolts can be installed on the top cover of the rack.

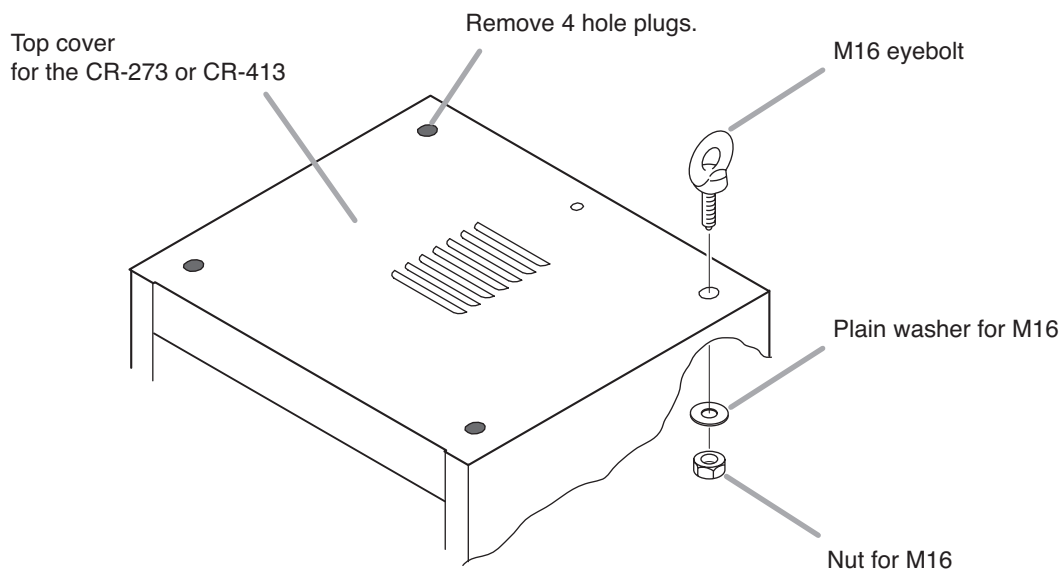
Note that following commercial parts are required.

M16 eyebolt	4
Nut for M16	4
Plain washer for M16	4

Remove 4 hole plugs on the top cover, then install the eyebolts as illustrated below.

Important

The total weight of the rack system that can be suspended must not exceed 300 kg (661.38 lb).



5.6. Making Fine Height Adjustment of Rack

If the rack installed on the floor is unstable or its top cover is not kept horizontal, make fine adjustment of its height by turning the height adjustment screws on the bottom surface of the base (see pages 5 and 6) using a standard screwdriver.

5.7. Grounding

Use three M5 screws located at the back of the base for grounding.

Tip

Also, three M5 threaded holes are provided on the front of the base for your convenience.

