VE 系列机柜

用户手册

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VE Series Rack

User Manual

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Precautions

Thank you for purchasing products from Vertiv Co., Ltd.! Before operating, please read the safety instructions and precautions provided by Vertiv Co., Ltd. carefully. All the “Notes” in this manual do not represent the precautions to be observed rather are also given as supplementary information. Only qualified trained personnel should be allowed to install before operation. During operation, the operator must follow the safety rules as per the industry standard.

Styling used in the Guide

The styles used in this manual are defined in the following table:

Situation	Description
Warning/Danger/Caution 	*The Warning/Danger/Caution note indicates a hazardous or potentially harmful situation that can result in death or injury. It also indicates instructions that need to be adhered to, failing which may result in danger and safety issues, thereby having an adverse effect on the reliability of the device and security. Even for practices not related to physical injury, the content under the Warning heading is used for precautions which need to be taken which, otherwise, could result in equipment damage, performance degradation, or interruption in service, follow the warning instruction.*
Notes 	*The Note section indicates additional and useful information, including tips and tweaks. It also calls attention to best practices and industry-best protocols that are standardized and help make maximum utilization of the resources at hand. Helpful information related to the mainstream content also comes under the Note heading helping the users get to grips with the definitions, concepts, and terminologies used in the manual.*

Version History

Issue	Revision Date	Issue	Changes
1.0	04-01-2019		

Table of Contents

Chapter 1: Product Overview

VE Series rack (referred to as the rack) is a high-quality rack manufactured by Vertiv Co., Ltd. for the installation and placement of 19-inch rack hardware equipment in accordance with industry standards (EIA-310-E). It also includes servers, voice, data, internet network equipment, UPS and batteries, etc. which are used in indoor environments such as data centers or computer rooms.

This chapter introduces model description, specifications, features, appearance and components, standard configuration and optional accessories.

1.1. Model Description

The model description of the rack is shown in Figure 1-1.

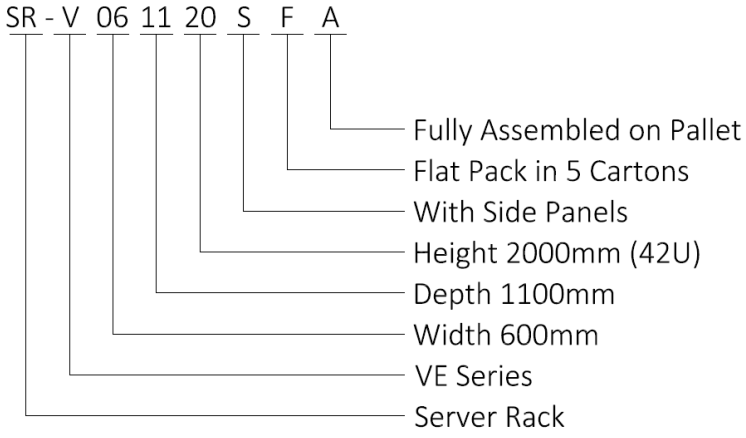


Figure 1-1 Model Description

1.2. Specifications

The apparent size of the rack is shown in Figure 1-2 and its specifications are shown in Table 1-1.

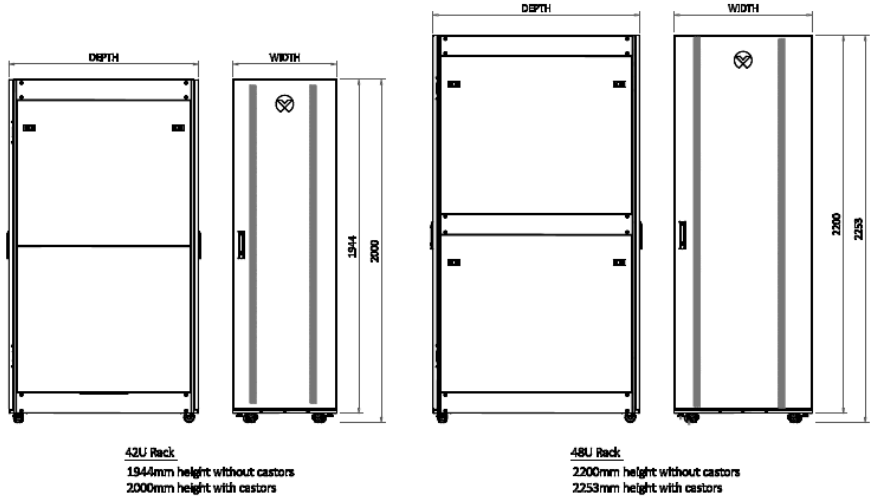


Figure 1-2 Rack Appearance Dimensions

Table 1-1 Rack Specifications

Item Number	Product Model	Dimensions (WxDxH, in mm)	Installation Height (1U=44.45mm)
Flat Pack Rack (Knock Down & pack into 5 cartons)			
01230840	SR-V061120SF	600x1100x2000	42U
01230841	SR-V061122SF	600x1100x2253	48U
01230842	SR-V061220SF	600x1200x2000	42U
01230843	SR-V061222SF	600x1200x2253	48U
01230844	SR-V081120SF	800x1100x2000	42U
01230845	SR-V081122SF	800x1100x2253	48U
01230846	SR-V081220SF	800x1200x2000	42U
01230847	SR-V081222SF	800x1200x2253	48U
Fully Assemble Rack, Build up with Pallet, without outer carton			
01230848	SR-V061120SA	600x1100x2000	42U
01230849	SR-V061122SA	600x1100x2253	48U
01230850	SR-V061220SA	600x1200x2000	42U
01230851	SR-V061222SA	600x1200x2253	48U
01230852	SR-V081120SA	800x1100x2000	42U
01230853	SR-V081122SA	800x1100x2253	48U
01230854	SR-V081220SA	800x1200x2000	42U
01230855	SR-V081222SA	800x1200x2253	48U

1.3. Features

Convenient Configuration

- Available in a wide range of sizes for flexible configuration of rack and it's accessories according todifferent application requirements.
- The feet of the rack can be adjusted up and down.
- Mounting EIA rails for quick adjustment.
- Tool-less mounting of top cover.
- 42U rack contains casters that can smoothly pass through standard-sized room door.
- Baying the VE rack only needs one rear door to be removed.
- Compatible with top and bottom cabling mode, convenient on-site wiring.
- Installation and disassembly are convenient by using built-in side panel.
- Supports a variety of rack-based cold aisle solutions, such as SmartAisle.

Plentiful Accessories

- The bottom panels are optional accessories.
- PDU/Cable Management Bracket supports a variety of PDU installation methods (does not occupy the rack internal U height installation space and the manual operating space in front and rear of the rack).
- Provide a variety of rack accessories to meet the different application needs of the server room site.

Excellent Function

- Front and rear door integrated bending forming, beautiful, durable, high rigidity and strength.
- Dynamic load: 1000kg, Static load: 1600kg.
- Front and rear door through hole rate of 75%, to meet the high heat density of heat dissipation needs.
- Unified color of RAL 7021 is used for rack & accessories.
- Intelligent door lock (specific type) installation is compatible with front door.
- Front and rear door locks and side panel lock keys can be overridden by master key.
- The front door can be reversed to fit with left or right opening.
- Reliable grounding of all parts of the rack to ensure safe operation.
- Meets RoHS environmental protection.

Appearance and Components

The appearance and components of the rack are shown in Figure 1-3.

- *VE Series Rack User Manual (referred to as user manual) includes drawings with SR-V061120 as an example. The appearance and configuration of the rack shall be based on the rack actually received by the customer.*
- *Any version upgrade in user manual, will not be notified.*

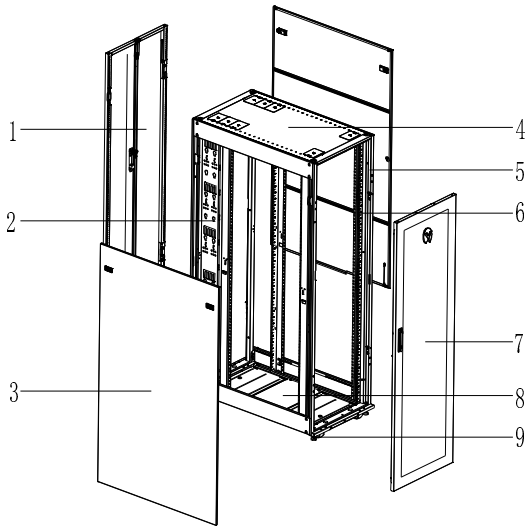


Figure 1-3 Appearance and Components Diagram

The rack is mainly composed of the following components:

1	Rear Door	2	PDU/Cable Management Bracket	3	Side Panels
4	Top Cover	5	Frame	6	EIA Rails
7	Front Door	8	Bottom Panel (optional)	9	Feet & Caster (included in all model of VE rack)

1.4 Standard Configuration

The standard configuration list for rack is shown in Table 1-2.

Table 1-2 Standard Configuration List (unit: pcs)

Model	Frame	Beam	EIA Rails	Side Panel	Top Cover	Front Door (mesh)	Rear Door (mesh)	Bottom Panel	PDU/Cable Management Bracket
SR-V061120SF	2	4	4	4	1	1	2	NA	2
SR-V061120SA	2	4	4	4	1	1	2	NA	2
SR-V061122SF	2	6	4	4	1	1	2	NA	2
SR-V061122SA	2	6	4	4	1	1	2	NA	2

Model	Frame	Beam	EIA Rails	Side Panel	Top Cover	Front Door (mesh)	Rear Door (mesh)	Bottom Panel	PDU/Cable Management Bracket
SR-V061220SF	2	4	4	4	1	1	2	NA	2
SR-V061220SA	2	4	4	4	1	1	2	NA	2
SR-V061222SF	2	6	4	4	1	1	2	NA	2
SR-V061222SA	2	6	4	4	1	1	2	NA	2
SR-V081120SF	2	4	4	4	1	1	2	NA	2
SR-V081120SA	2	4	4	4	1	1	2	NA	2
SR-V081122SF	2	6	4	4	1	1	2	NA	2
SR-V081122SA	2	6	4	4	1	1	2	NA	2
SR-V081220SF	2	4	4	4	1	1	2	NA	2
SR-V081220SA	2	4	4	4	1	1	2	NA	2
SR-V081222SF	2	6	4	4	1	1	2	NA	2
SR-V081222SA	2	6	4	4	1	1	2	NA	2

Chapter 2: Pre-Installation Preparation

This chapter introduces the preparation of rack prior to installation, including installation tools, accessories, transportation, unpacking, and equipment room requirements.

2.1. Installation Tools

Floating Nut Hook

Floating nut hook (accessory included) is mainly used to install floating nuts, as shown in Figure 2-1. For specific usage methods, refer to section *"3.12. Installing and Removing Floating Nut"*.

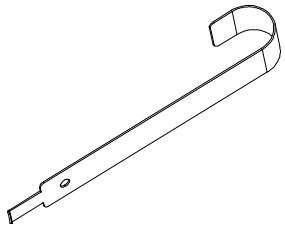
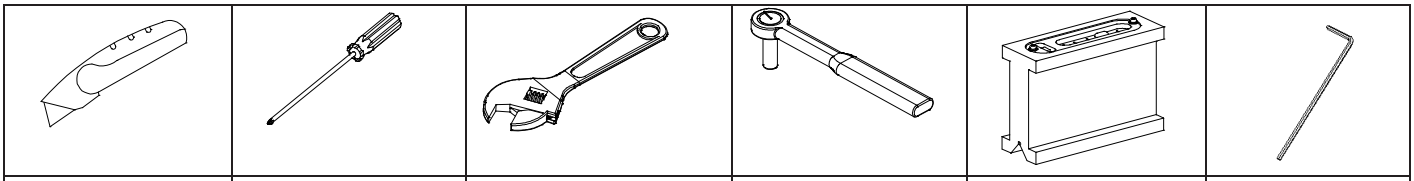


Figure 2-1 Floating Nut Hook

Other Installation Tools (user-owned)

The schematic diagram of the other installation tools is shown in Figure 2-2 and its usage purpose is mentioned in Table 2-1.



Utility Knife	Phillips Screwdriver	Active Wrench	Sleeve Wrench	Gradienter	Allen Wrench

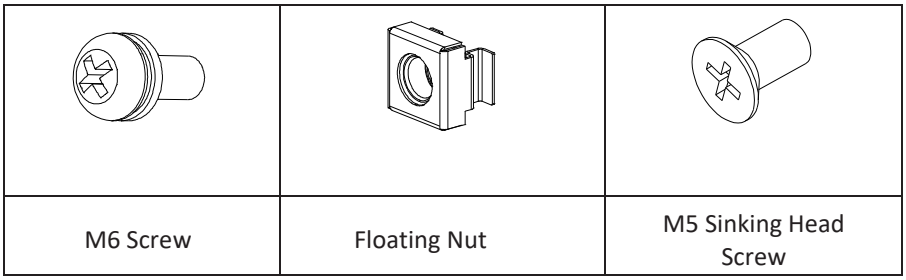
Figure 2-2 Other Installation Tools

Table 2-1 Usage of Other Installation Tools

Name	Usage
Utility Knife	Disassembly outside the rack packaging.
Phillips Screwdriver	Tighten the screws when assembling the parts of the rack.
Active Wrench	Adjusting and removing casters and feet.
Sleeve Wrench	Remove hexagonal screws or bolts from casters and pallet fixtures.
Gradienter	Display its horizontal status when leveling the rack.
Allen Wrench	Used to adjust the rack feet.

2.2. Threaded Accessories

The threaded accessories are shown in Figure 2-3 and its usage purpose is mentioned in Table 2-2.



M6 Screw	Floating Nut	M5 Sinking Head Screw

Figure 2-3 Threaded Accessories Table 2-2

Threaded Accessories Usage

Name	Usage
M6 Screw	Used in conjunction with floating nuts for equipment installation.
Floating nut	Used in conjunction with M6 screws for equipment installation.
M5 Sinking head screw	Used to secure rack parts in a rack.

2.3. Transportation

Rail, road, and shipping are the preferred transport options for transporting the whole packaged rack. If transport by rail or ship is unavailable, transport by road is recommended. When selecting road transport, roads without too many bumps are strongly recommended. The entire packaged rack is shown in Figure 2-4, it's size and weight is shown in Table 2-3.

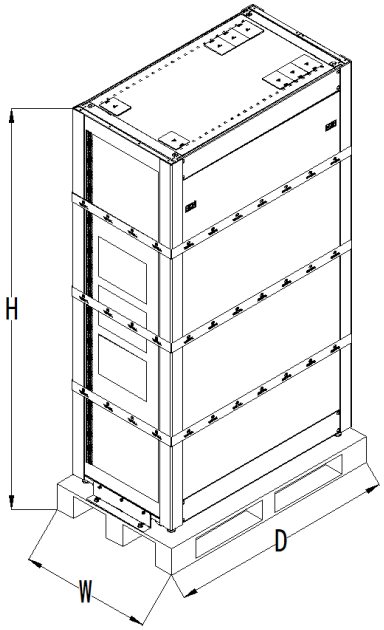


Figure 2-4 Whole Package Rack

Table 2-3 Size and weight range of the entire packaging rack

Model	Size Range (in mm)			Weight Range (in kg)
	H	W	D	
SR-061120SA	2135	700	1200	131
SR-V061122SA	2380			149.5
SR-V061220SA	2135		1300	143.5
SR-V061222SA	2380			155
SR-V081120SA	2135	900	1200	167.5
SR-V081122SA	2380			182.5
SR-V081220SA	2135		1300	172.5
SR-V081222SA	2380			188.5

The user is required to ship the rack to the nearest place of the installation site. Mechanical handling tools, such as hand pallet truck or electric forklifts, are recommended for unloading and handling heavy rack, as shown in Figure 2-5.

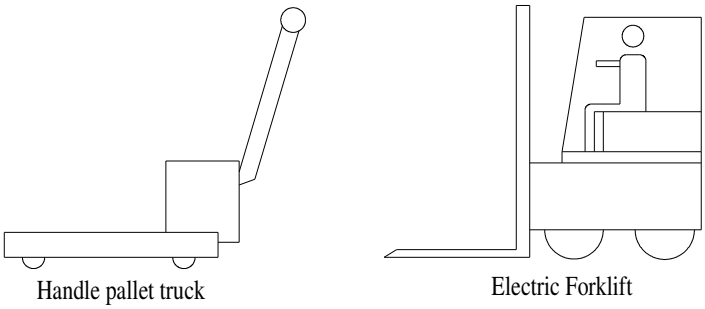


Figure 2-5 Mechanical Handling Tools

When handling and unloading with an electric forklift, it is recommended that the fork to be in the center of gravity position to prevent dumping. When handling, ensure that the maximum tilt angle on both sides of the rack does not exceed 15°, see Figure 2-6.

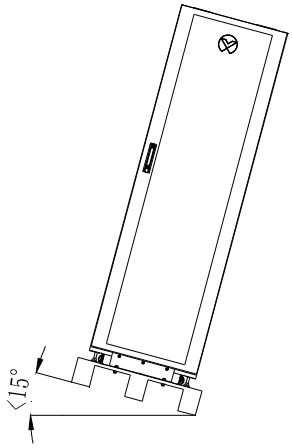


Figure 2-6 Maximum tilt angle on both sides of the rack (front view)

2.4. Unpacking

The procedure to open the packaged rack is as follows:

1. Move the packaged rack to a horizontal open, firm ground.
2. Inspect whether the rack of assembled package has any obvious damages during transportation. If any damage is found, please contact the carrier immediately.
3. Use a utility knife to remove the extension film wrapper on the rack.

Removing the Pallet

2000mm and 2253mm height rack are fixed in the same ways on the pallets by using pallet fixtures.

Pallet disassembly for Racks with castors and feet:

Loosen the M6 combination screws and M10 bolts on the pallet fixture with a hexagonal sleeve wrench and remove the pallet fixture as shown in Figure 2-7.

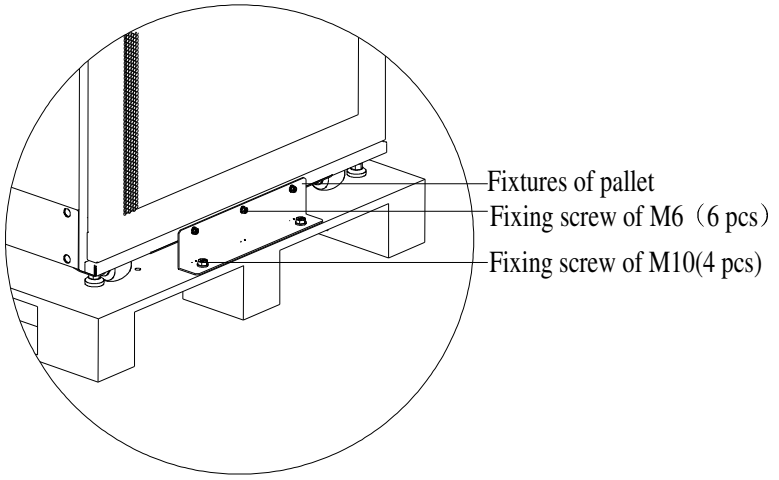


Figure 2-7 Disassembly of Pallet Fixtures

The procedure to remove the pallet is as follows:

1. Place a wooden board of about 1200mm on the pallet.
2. Slide the rack carefully towards the wooden board from the rear of the pallet through the caster and feetof the rack, then slide slightly to the ground, as shown in Figure 2-8.

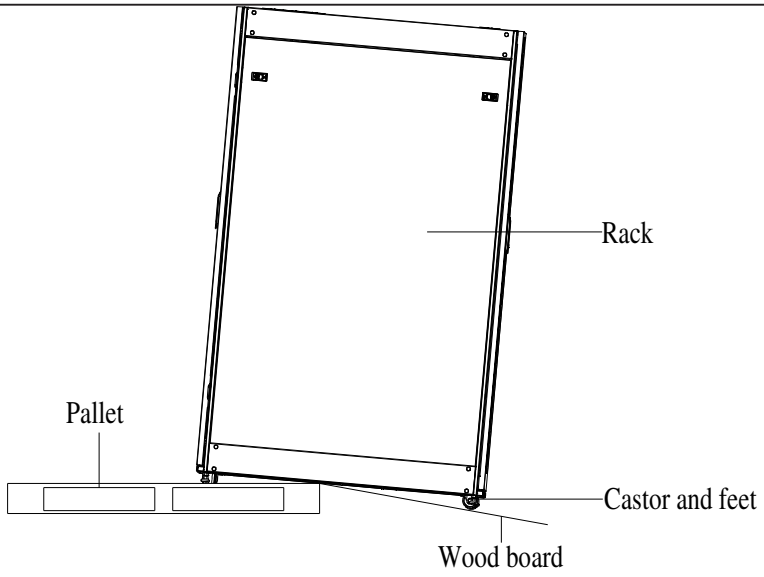


Figure 2-8 Removing the Pallet

Pallet disassembly for Rack without castors and feet:

1. Use a hexagonal sleeve wrench (user-owned) to remove the M8 screws or bolts from the hole as shown in Figure 2-9, with a total of four bolts or screws in the front and rear.

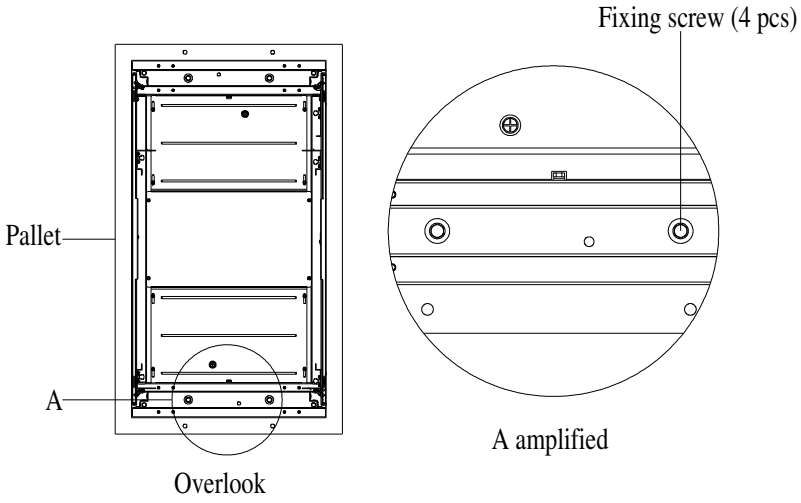


Figure 2-9 Pallet Disassembly Diagram

2. As shown in Figure 2-10, VE series racks are equipped with four M12 hoisting threaded holes at the top ofthe rack (hoisting ring needs to be owned by the user) to remove the 2200mm height rack from the pallet using cranes or other booster equipment, as shown in Figure 2-11. During the disassembly personal safety must be taken into consideration, prevent rack from dumping in order to avoid serious injury to people.

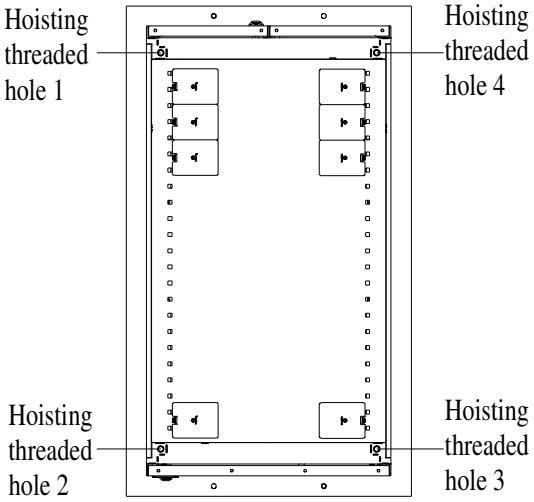


Figure 2-10 Rack Hoisting Hole

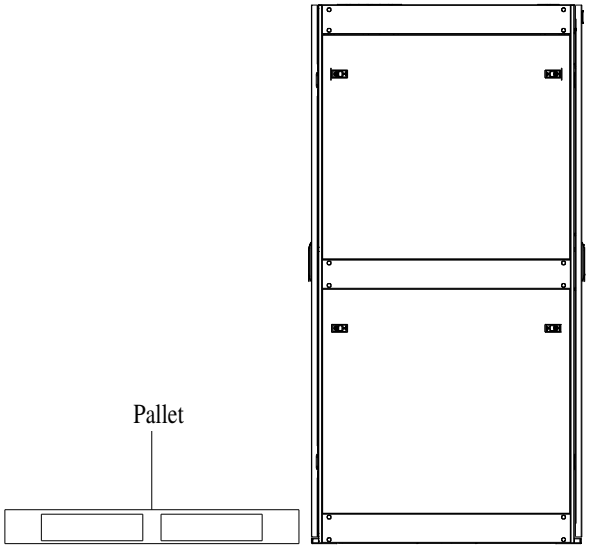


Figure 2-11 Removing the Pallet

3. After disassembling the pallet, remove four hole plugs from the accessory bag, plug (2 pcs) in the rack front and rear door frames as shown in Figure 2-12.

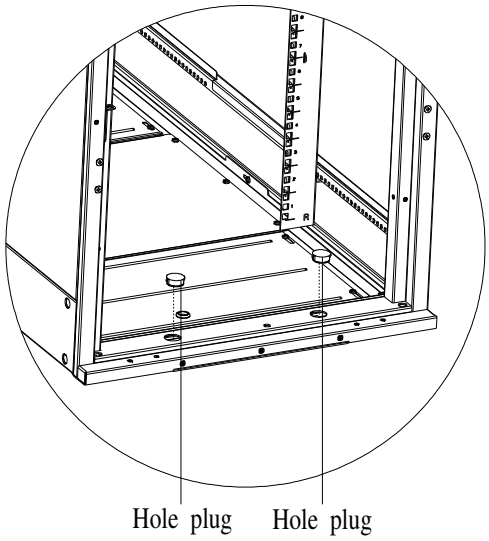


Figure 2-12 Hole Plug Head Mounting

- *Please be careful to move the rack through its casters. Move the rack from its front or rear. fmoving the rack from its side, the rack may have the risk of toppling over.*
- *By default the feet adjustment in VE series rack at factory is at the highest position.*
- *Racks of 2200mm height do not contain casters and feet, pay high attention to safety during pallet disassembly.*
- *After removing the pallets from 2000mm and 2200mm height rack, the rubber clasp should be removed from the accessory bag and the hole at the bottom frame of the rack should be jammed.*

2.5. Equipment Room Requirements

Environment

Ensure that the rack is installed away from any source of heat and sparkle. Avoid direct sunlight. The equipment room should be clear of corrosive gas and organic solvent.

Space

Enough space to install rack should be reserved to facilitate the installation, maintenance, and cooling of rack. In VE series rack, the front and rear door open at a maximum angle of 135°, the space required to open the rack front and rear door is shown in Figure 2-13 (the figure shows 800mm wide, 1200mm deep rack).

- *When installing the rack, the specific installation design should be based on the air conditioner system and air-duct circulating system in the equipment room.*

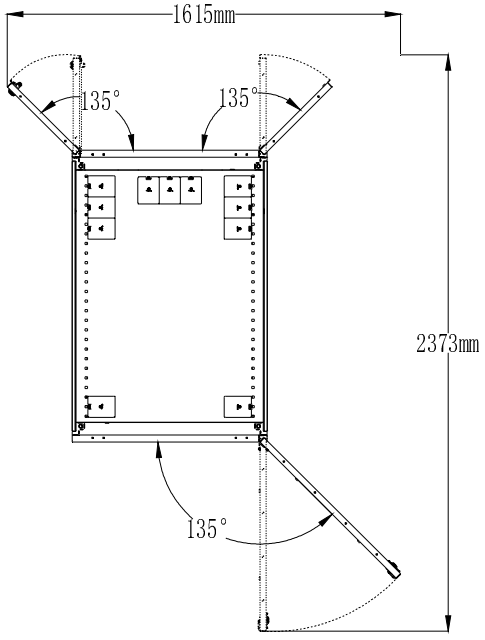


Figure 2-13 Space required to open the front and rear door of the rack (overlooking, unit: mm)

Ground Smoothness and Weight-bearing Capacity

The product installation floor must ensure the desired level, the maximum deviation is less than 0.6mm/m. The weight-bearing capacity of the equipment room must be considered before installation due to heavy rack. Generally, the required weight-bearing of the equipment room is 1000Kg/m^2. However, the rack's internal bearing equipment is different and the weight-bearing requirements of the equipment room are also different. To estimate the requirements, please consult the nearest Vertiv Co., Ltd. office or service center.

Chapter 3: Installation Instructions

This chapter introduces the installation of each part of the rack. Before installing, ensure that the installation tools and accessories are in place, and then follow the contents of this chapter. To adjust the relevant parts of the rack, refer to the installation instructions of the corresponding parts for more information.

- *When installing, wear gloves to keep the rack surface clean.*
- *Do not scratch the rack surface during installation.*
- *Pay attention to personal safety during installation.*

3.1. Adjusting the EIA Rails

EIA Rail Installation at Factory Mounting Location

The factory mounting position of the EIA rail is shown in Table 3-1, and the distance between the two EIA rail sets can be adjusted according to the equipment requirements.

Table 3-1 Factory Mounting Position of the EIA Rail

Rack Width (W) x Depth (D) (mm)	Distance between front rail and inner surface of front door panel (mm)	Front and Rear Rail Spacing (mm)
600 x 1100	87.5	734
600 x 1200	87.5	734
800 x 1100	225	634
800 x 1200	225	734

Adjusting the EIA Rail

The EIA rails are divided into left rail and right rail. Please confirm the silkscreen of L and R on the bottom of the EIA rails before the installation. The diagonal rail structure of the rack is identical. The EIA rail adjustment method is suitable for 600mm and 800mm wide rack.

The adjustment steps for EIA rails are as follows:

1. As shown in Figure 3-1, use a screwdriver to loosen four M5 combination screws (2200mm height rack with three adjusting fixtures and six M5 combination screws for reference), move the right front EIA rail from position A (factory mounting position) to position B (user desired position), use M5 combination screws to lock the EIA rails.

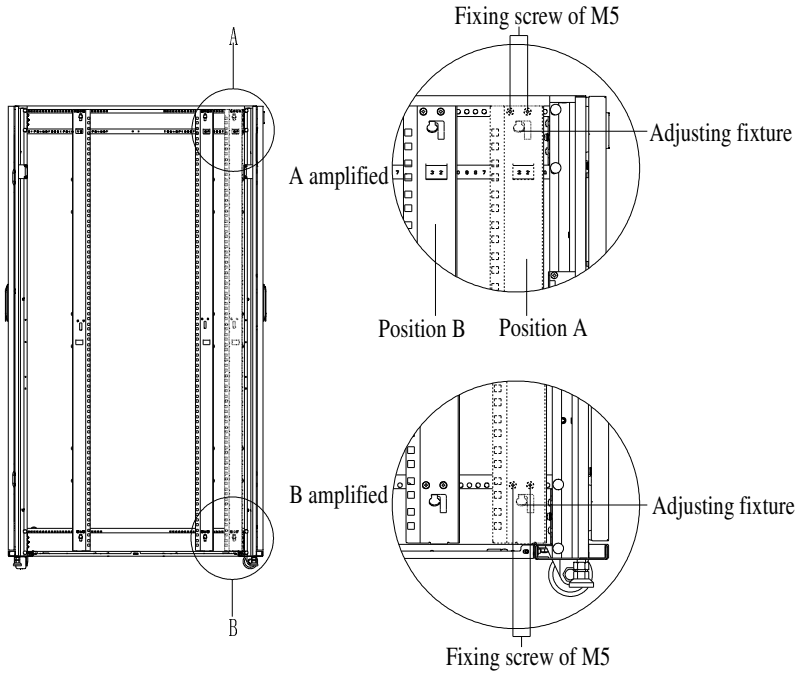


Figure 3-1 EIA Rail Adjustment

2. The left front EIA rail can be moved by using the same method as mentioned in step 1, so that the left front EIA rail is aligned with the right front EIA rail, as shown in Figure 3-2, the mounting hole spacing on the crossbeam is 12.5mm, and the silkscreen on the upper crossbeam helps to adjust the alignment of the left and right EIA rails.

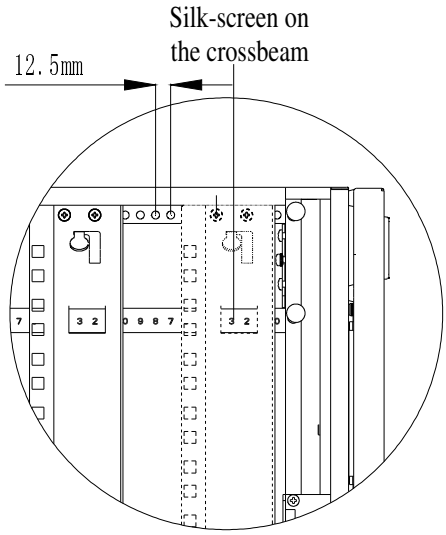


Figure 3-2 Diagram of Crossbeam Silkscreen

3. Use the same method mentioned in steps 1 and 2 to adjust the remaining two EIA rails.

- *The left and right EIA rails of the rack must be aligned in order to install the user device.*
- *2200mm height rack have three adjustment pieces per EIA rail.*
- *Use EIA rail adjustment and M5 combination screws to secure the medium and lower EIA rails.*

3.2. Adjusting PDU/Cable Management Bracket (optional)

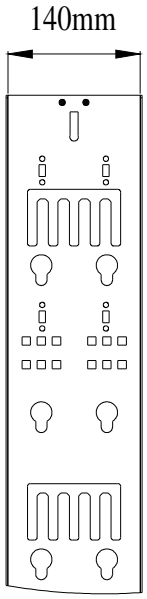


Figure 3-3 PDU/Cable Management Bracket available Width

As shown in Figure 3-3, the PDU/Cable management bracket is 140mm wide, and its adjustment mode is consistent with the EIA rail adjustment mode.

3.3. Removing and Replacing the Side Panel (optional)

Removing the Side Panel

- *Remove the front door, if the side panel has been connected to the crossbeam with grounding wire, firstly disconnect the grounding wire.*

The steps of removing the side panel are as follows:

1. Use the key to twist the lock core to the open position, as shown in Figure 3-4, and toggle the latch inwards with your finger.

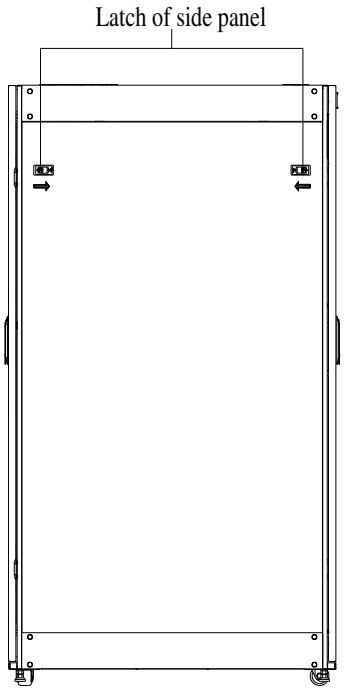


Figure 3-4 Side Panel Disassembly

2. Pull the top of the side panel outwards from the rack frame, as shown in Figure 3-5 and lift it up to remove the side panel.

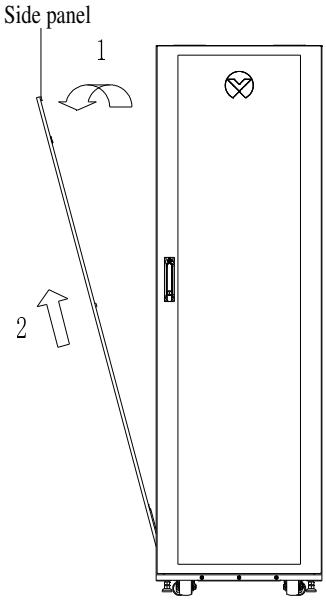


Figure 3-5 Side Panel Disassembly

3. Similarly remove the other side panel.

Mounting Side Panel

The mounting steps for the side panel are as follows:

1. Embed the side panel in the correct direction (latch up) between the front and rear EIA rails, and place the lower end on the crossbeam below the rack, as shown in Figure 3-6.

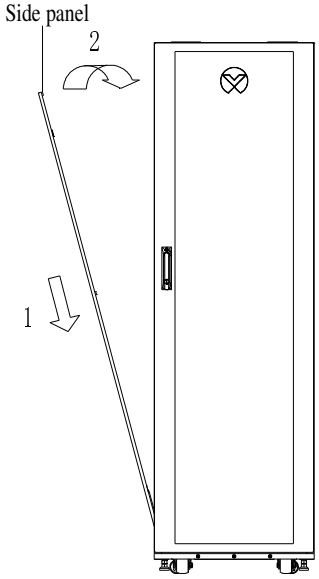


Figure 3-6 Side Panel Mounting

2. Toggle the latch in the direction of the arrow as shown in Figure 3-7, push the top of the side panel forward until the latch on both sides is stuck in the square hole of the frame, then release the latch, the side panel is now installed.

3. Use the key to twist the lock core to the closing position and complete the side panel lock.

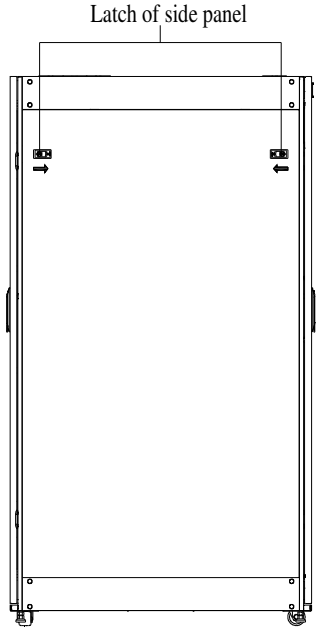


Figure 3-7 Side Panel Mounting

4. Similarly mount the side panel on the other side.

3.4. Removing and Replacing the Top Cover

Top Cover Cabling Hole Size

Figure 3-8 shows the VE series 600mm and 800mm wide rack top cover cabling hole size (in mm).

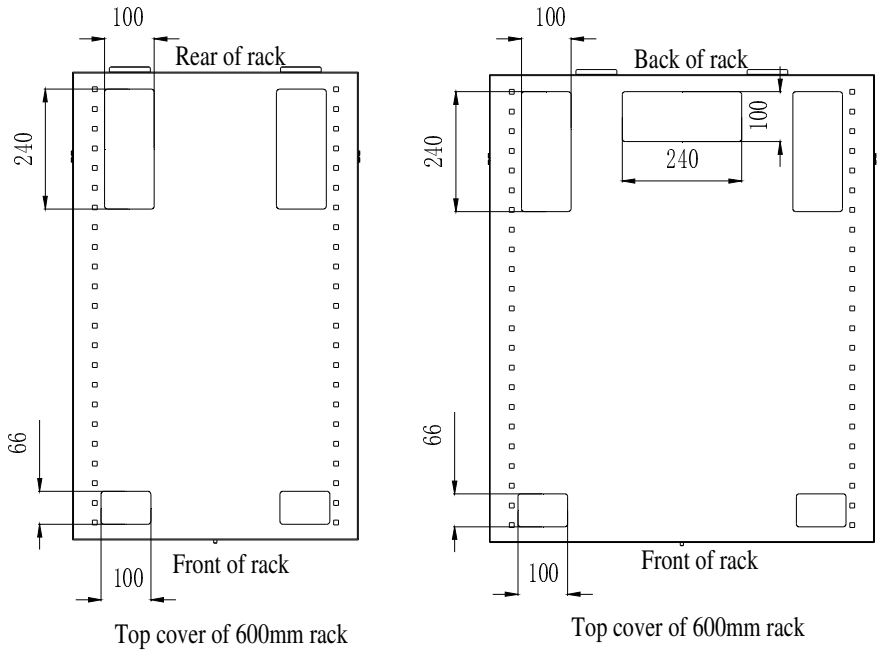


Figure 3-8 Top Cover Cabling Hole Size

Removing the Top Cover

1. Pull back the spring-loaded plunger on the front end of the top cover and push the top cover upwards by approximately 150mm, as shown in Figure 3-9.

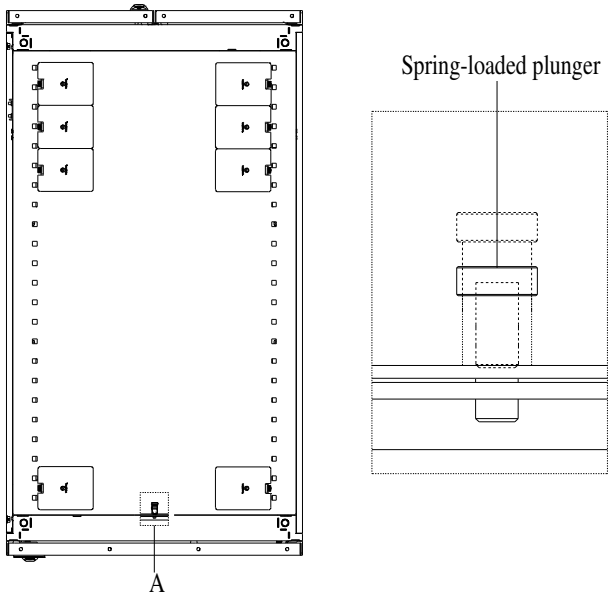


Figure 3-9 Disassembly of Top Cover

2. Pull the top cover upwards from the front of the frame, as shown in Figure 3-10.

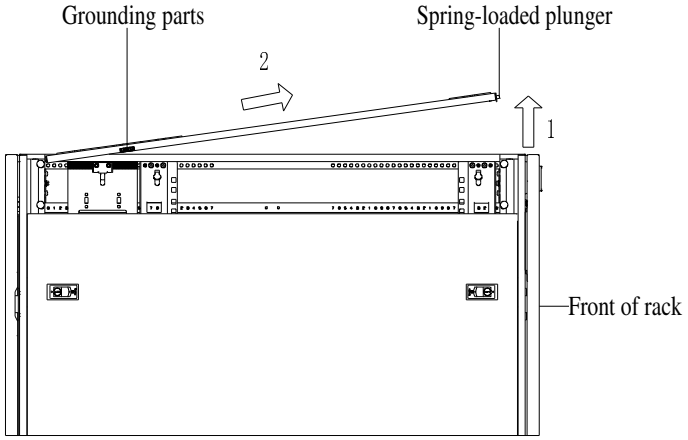


Figure 3-10 Disassembly of Top Cover

Mounting Top Cover

The VE series racks are equipped with tool-free disassembly of the top cover. When mounting the top cover as shown in Figure 3-11, insert the top cover in the frame with slight jerk to the spring-loaded plunger, and pull the top cover downwards to align with the top of the rack. Loosen the spring-loaded plunger.

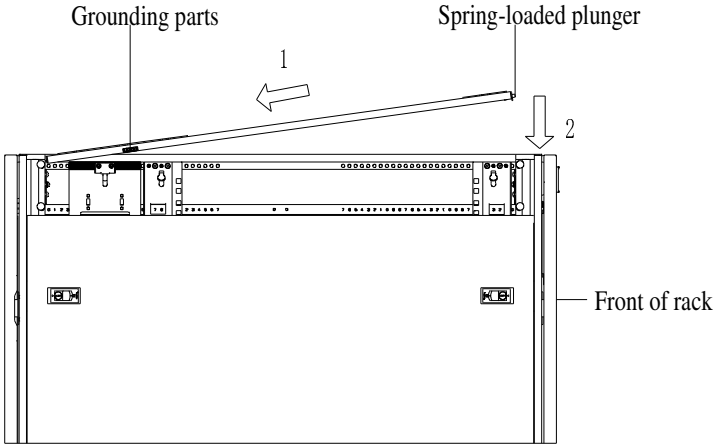


Figure 3-11 Top Cover Mounting

- *When installing the top cover, verify that the grounding shrapnel is installed on both sides of the top cover.*
- *No trampling on the top cover.*

3.5. Adjusting the Bottom Panel (optional)

In some VE series rack models, the standard three-section type bottom panel is an optional accessory. The adjustment method of the three-section type bottom panel is as follows:

Adjust the area of the air inlet on the bottom of the rack according to the need. Move the three sections of the bottom panel forward or backward to the required position, and use M5 self-tapping screws to fix them on the guide rails, as shown in Figure 3-12.

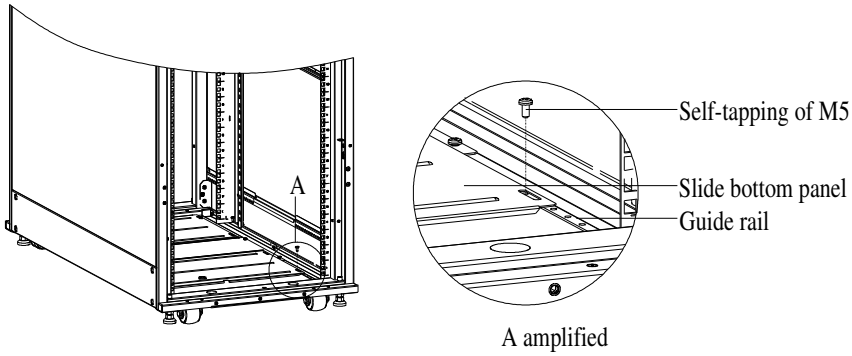


Figure 3-12 Bottom Panel Adjustment

- *The bottom panel is divided into three segments, the front and two rear segments are identical, pay attention to the difference while adjusting.*
- *No trampling on the bottom panel.*

3.6. Removing the Front and Rear Door

Removing the Front Door

As shown in Figure 3-13, open the front door at 90° or at a larger angle (<135°), then lift the front door up to approximately 15mm, then pan it to the right approximately 50mm, and remove the front door.

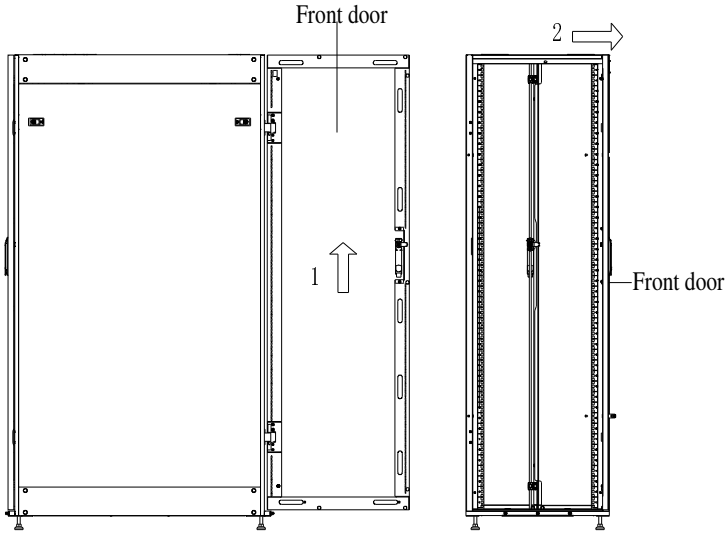


Figure 3-13 Remove the Front Door Schematic (Front Door Open)

- *When removing the front door, the front door and frame angle should be ≥90°.*
- *Disconnect the grounding wire when removing the front door.*

Removing the Rear Door

The method of removing the rear door is same as the front door.

Door Lock Operation Method

The door lock has a handle and a keyhole, as shown in Figure 3-14.

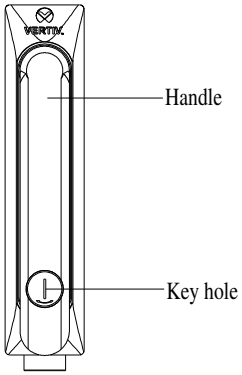


Figure 3-14 Door Lock

Open Door Method

1. Insert the key into the keyhole.
2. Rotate the key clockwise 180°.
3. After pulling up the handle, rotate counterclockwise to open the door lock.

Door Closing Method

1. Rotate the handle clockwise to its place and press the handle.
2. Insert the key into the keyhole, rotate the key 180° counterclockwise to close the door lock.

Intelligent Door Lock Installation (optional)

VE series racks are compatible with the intelligent door locks installation (specific type). For this specific installation method, refer to the Intelligent Door Lock User Manual, the schematic diagram after installation is shown in Figure 3-15.

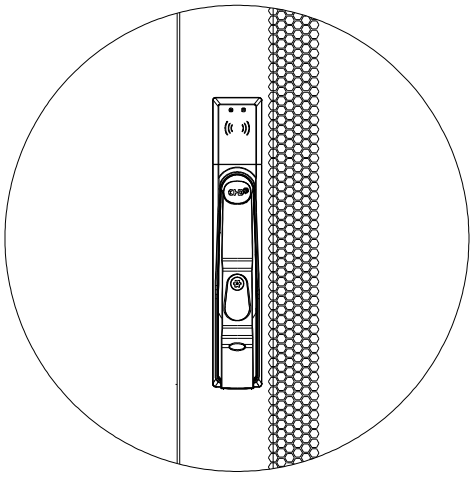


Figure 3-15 Intelligent Door Lock Installation

3.7. Rack Grounding Points

Grounding Wire

The grounding wire of the VE series rack with OT terminals at both ends is shown in Figure 3-16.

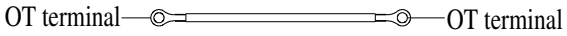


Figure 3-16 Grounding Wire

Grounding Points

The frame and front door grounding points are shown in Figure 3-17 and the frame and rear door grounding points are shown in Figure 3-18.

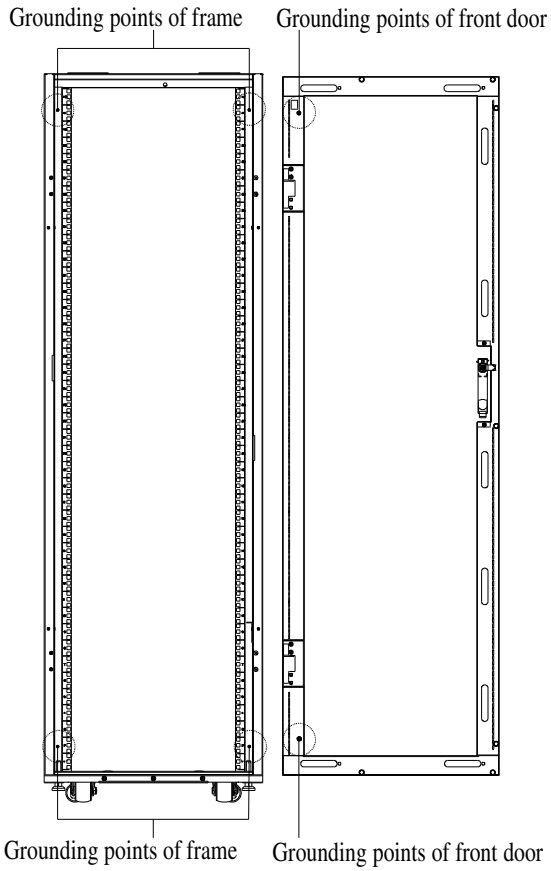


Figure 3-17 Grounding Points of Frame and Front Door

- *When the rear door is grounded with the frame, the two rear doors to the left and right must be connected to the frame grounding wire, the grounding position is identical.*

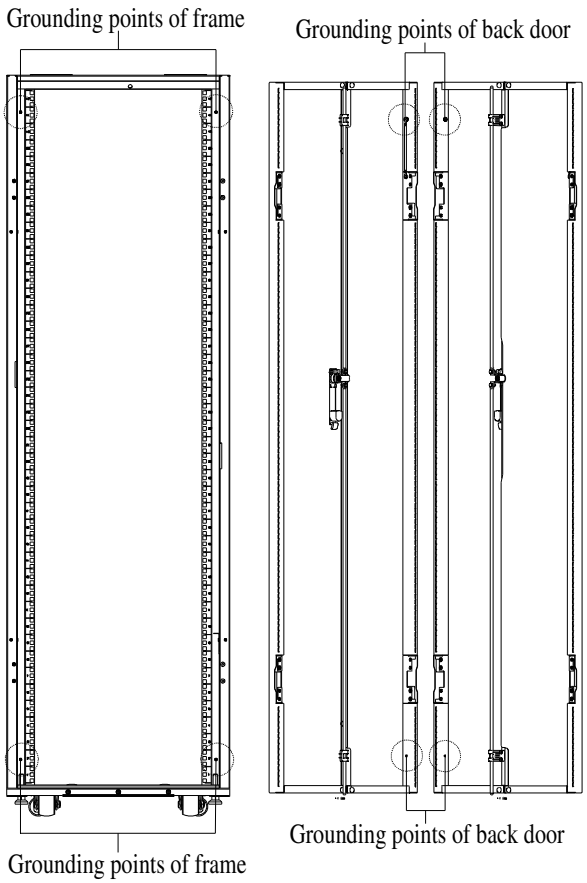


Figure 3-18 Grounding Points of Frame and Rear Door

At the factory, 600mm and 800mm wide rack side doors are connected with the crossbeam grounding, but its grounding line installation location is different. 600mm wide rack side door grounding position is located on both sides of the rear end of the rack, 800mm wide rack side door grounding position is located on both sides of the front end of the rack. Rack side panel position and the rack beam connection location position are shown in Figure 3-19.

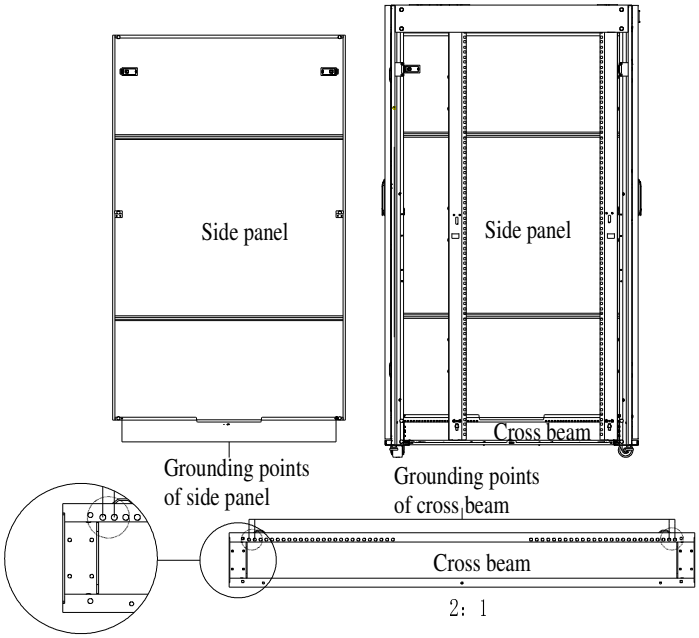


Figure 3-19 Rack Side Panel and Beam Grounding Points

- *The EIA rails are in firm contact with the crossbeam through spray protection, the top cover is protected by spraying and the grounding shrapnel is in firm contact with the crossbeam, and the bottom panel and frames are firmly connected by M5 self-tapping screws and paint-breaking gaskets, so that the EIA rail, top cover, and bottom panel need not use a grounding cable.*
- *When connecting the side panel with the crossbeam, the left and right sides of the panel must be connected with the crossbeam grounding wire, the grounding position is identical.*

3.8. Rack Main Grounding Points

The rack is provided with both front and rear main grounding points inside the lower width beam on the front and rear frames, three main grounding points are present at both front and rear ends respectively, and the rack is equipped with one M6 main grounding screw, as shown in Figure 3-20.

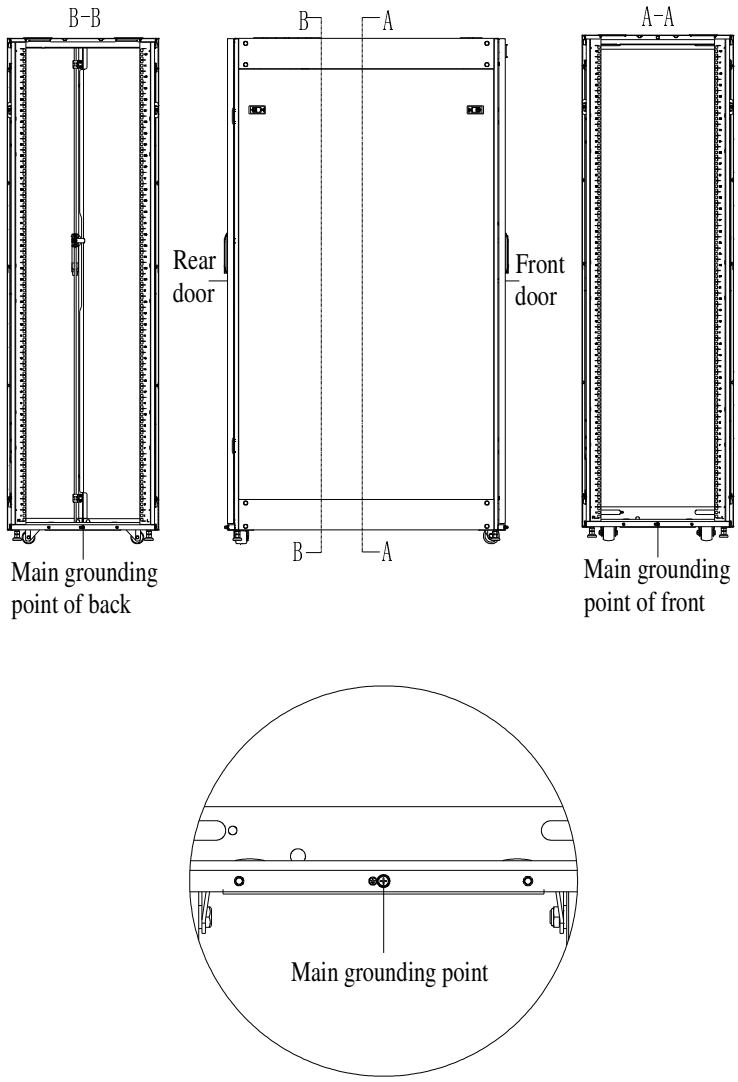


Figure 3-20 Rack Main Grounding Points

- *Rack needs to be securely connected and guided by grounding wires, from the main grounding points to the external grounding position, otherwise there may be a risk of electric shock.*

3.9. Adjusting the Feet and Leveling the Rack

Adjusting the Feet

VE series rack feet adjustment has two ways: Up and Down.

Adjusting Mode on Feet

1. Insert the inner hexagonal wrench with a CR-V6 model (user-owned) in the inner hexagon hole of the feet (see Figure 3-21).

2. Rotate the inner hexagonal wrench to raise or lower the feet as shown in Figure 3-21.

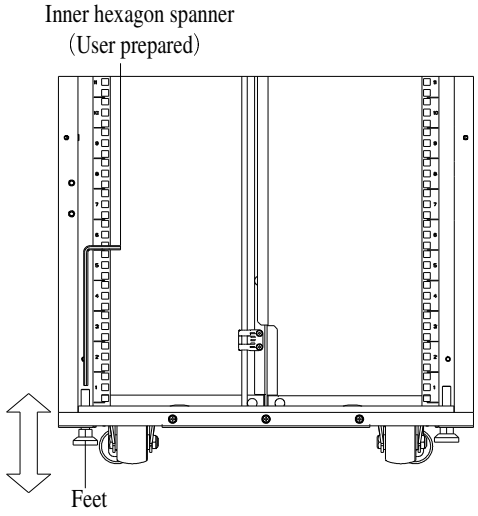


Figure 3-21 Adjusting Mode on Feet

The way to adjust the feet is as follows:

1. Tighten the feet nut with an active wrench (user-owned) as shown in Figure 3-22.

2. Rotate the feet nut at the bottom of the feet to raise or lower the feet as shown in Figure 3-22.

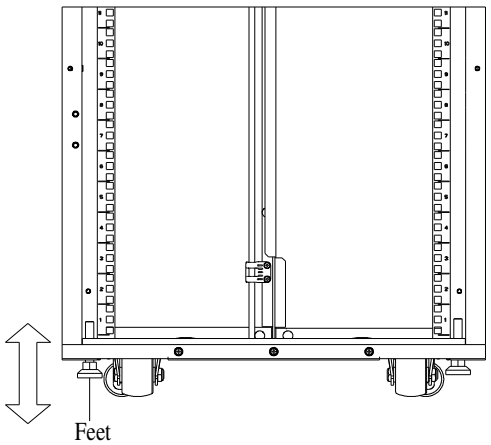


Figure 3-22 The Way to Adjust the Feet

Leveling the Rack

After the installation of each component of the rack is completed, the rack should be leveled and the equipment is installed.

1. Place the rack on the open ground.

2. Rotate the feet nut at the bottom of the feet counterclockwise (clockwise) until the feet is raised or lowered to an ideal position. Ensure to check that the rack is in horizontal position using a gradienter.

3.10. Removing the Feet and Casters (optional)

- *Two persons are required for performing this operation to avoid personnel injury and rack damage.*
- *Before putting the rack on its side, please remove the equipment installed in the rack.*
- *In VE series rack, only 2000mm height racks contain feet and casters.*

1. Place the rack side on the open ground, take care to protect the rack's exterior surface.

2. Remove the caster: Remove the hexagonal bolt from each caster with a socket wrench, and then remove the caster.

Disassembly of Feet

1. Loosen the fastening nut with an active wrench (clockwise) on four feet screws.

2. Turn the hexagonal bolts clockwise at the bottom of the feet until the feet falls from the rack frame.

3.11. Baying the VE Rack

The accessories of VE Rack have Baying kits. The rack is configured with pre-installed rack connectors. To extend the installation, you can connect multiple racks through the rack connectors.

- *Before proceeding with the rack operation, firstly level the rack. For adjustment methods, refer to section "3.9. Adjusting the Feet and Leveling the Rack". For VE series rack there is no need to disassemble the front door, only one rear door needs to be disassembled.*
- *If there is any appearance of an uneven phenomenon, first confirm that the floor or installation base meet the smoothness requirements of the room floor. Refer to the "Anti-static Flooring National Industry Standard SJ/T10796-2001" requirements, floor flatness: ≤0.6mm/m; vertical degree of adjacent edges: ≤0.3mm/m.*

Baying the Rack in the Front

1. Align the two racks, remove the two baying kits (two on the front and rear) and two M5 countersunk head screws from the accessory package, and secure the rack on the frame of rack 1 using the M5 countersunk head screw, as shown in Figure 3-23.

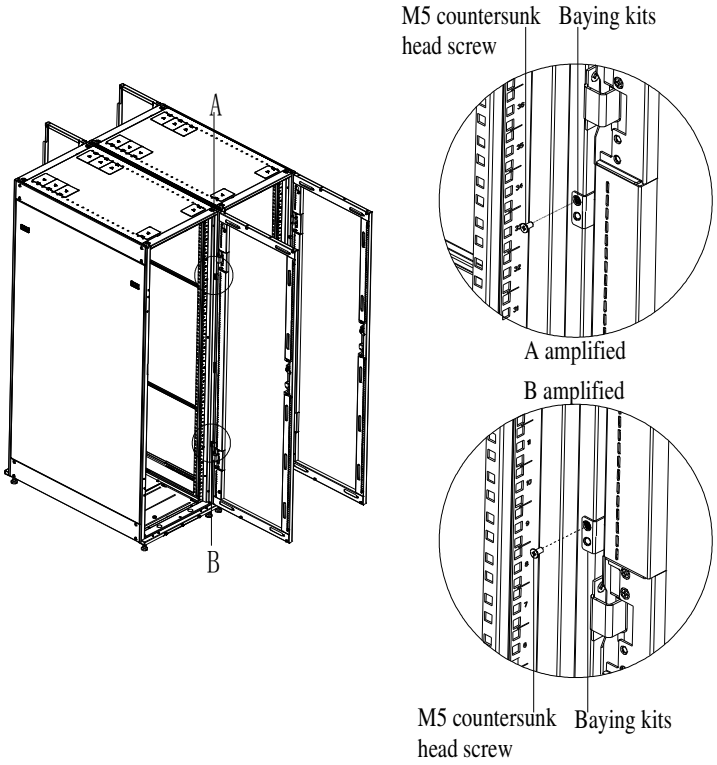


Figure 3-23 Installing the Baying Kits

2. Use the M5 countersunk head screws to secure the rack to the frame of Rack 2, as shown in Figure 3-24.

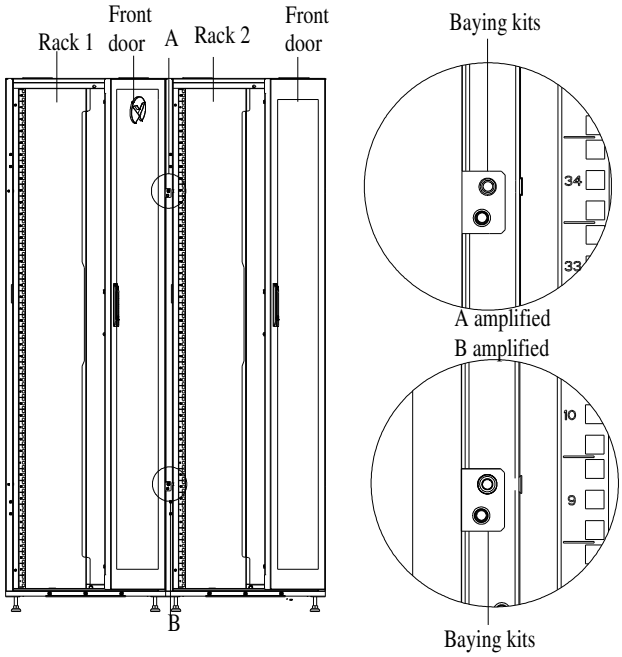


Figure 3-24 Baying the Rack in the Front

Baying the Rack in the Rear

1. Similar to the front door, remove two racks and two M5 countersunk head screws from the accessory bag and secure the rack on Rack 1.

2. As shown in Figure 3-25, remove the Rack 2 right rear door, for disassembly method refer to section "3.6. Removing the Front and Rear Door", use the M5 sinking head screws to secure the rack to Rack 2.

3. Install the right rear door of Rack 2 after baying the rack.

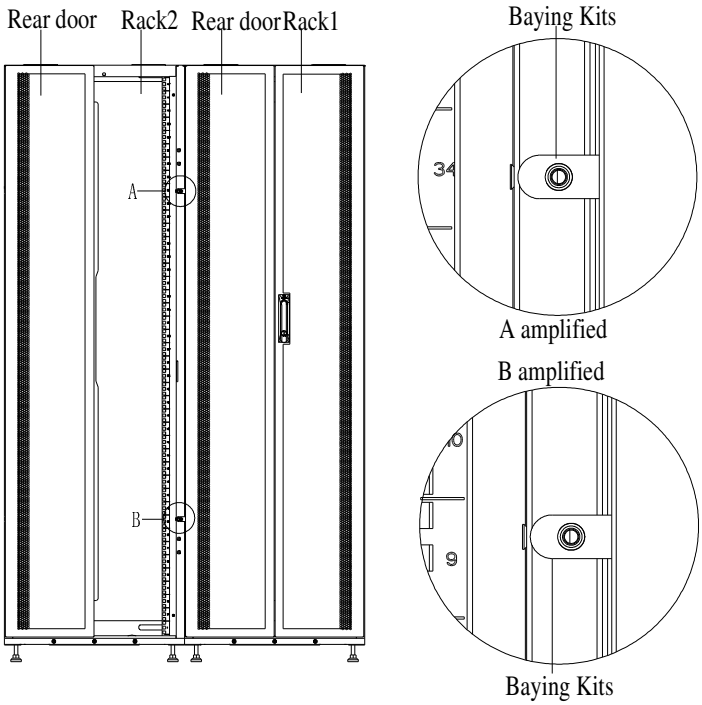


Figure 3-25 Baying the Rack in the Rear

3.12. Installing and Removing the Floating Nut

There are 30 sets of floating nuts and screws configured with the rack, which are used to install the user equipment.

The installation procedures of the floating nuts are as follows:

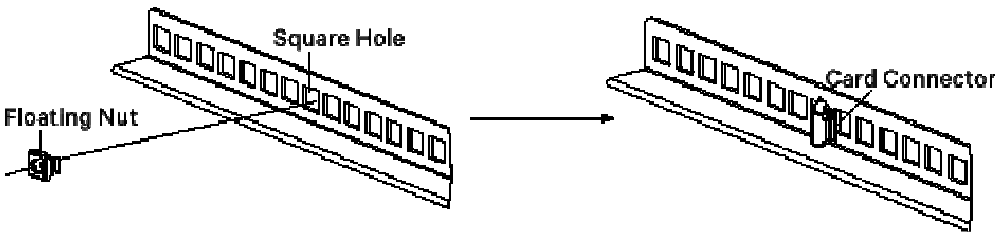


Figure 3-26 Floating Nut Mounting

1. Fix the fastener on one side of the floating nut into the square hole of the crossbeam, as shown in Figure 3-26.

2. Lead the floating nut hook through the square hole to fasten the fastener on the other side of the floating nut, and gently rotate the floating nut hook to make the fastener totally fixed into the square hole, as shown in Figure 3-27.

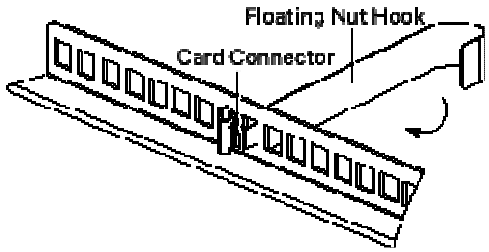


Figure 3-27 Floating Nut Mounting

- *The floating nut should be inserted into the square hole in level direction, that is, the fasteners on both sides of the floating nuts should touch the left and right sides of the square hole. Do not make the fasteners touch the top and bottom sides of the square hole.*

The removal steps for floating nuts are as follows:

1. Remove the screws mounted on the floating nut.

2. Squeeze the sides of the floating nut by hand to remove it from the square hole.

3.13. Fixing the Rack on the Floor

There are two groups of reserved installation holes on the frame of the bottom rack, four for each group, as shown in Figure 3-28. These holes are used to fix the rack on the floor. Lead M8 screws through the four reserved installation holes on the frame from inside of the rack to fix the rack on the floor.

If you need to strengthen the fixation between the rack and the floor, remove the feet referring to section "3.10. Removing the Feet and Caster (optional)". Lead M12 screws through the M12 installation holes, which will appear after removing the feet, from underside of the rack to fix the rack on the floor.

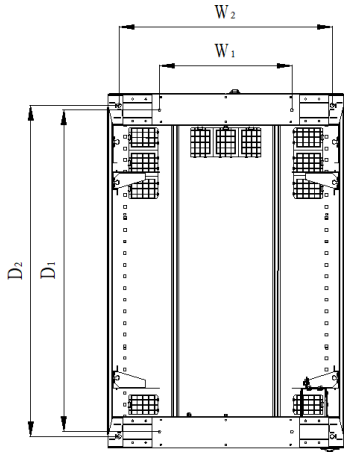


Figure 3-28 Position of installation hole at the bottom of the rack

The distance between the installation holes is shown in Table 3-2.

Table 3-2 Distance between installation holes at the bottom of the rack

Model	D1 (mm)	W1 (mm)	D2 (mm)	W2 (mm)
SR-V061120	991	250	1022	522
SR-V061220	1091	250	1122	522
SR-V081120	991	450	1022	722
SR-V081220	1091	450	1122	722
Note: D1, W1 corresponds M8 installation hole; D2, W2 corresponds M12 installation hole.				

3.14. Toxic and Harmful Substances or Element Identification Table

Part Name	Toxic and harmful substances or elements					
	Lead	Mercury	Cadmium	Hexavalent Chromium	Polybrominated biphenyls PBB	Polybrominated diphenyl ethers
	Pb	Hg	Cd	Cr6+	PBB	PBDE
Cable	x	o	o	o	o	o

o: Indicates the content of the toxic and hazardous substance in all homogeneous materials of the part is within the limits specified in SJ/T-11363-2006.
x: Indicates the content of the toxic and hazardous substance in at least one of the average quality materials of the part is outside the limits specified in SJ/T-11363-2006.

Vertiv Co., Ltd. has been committed to the design and manufacturing of environmentally-friendly products, it will reduce and eventually eliminate the hazardous substances in the products through unremitting efforts in research. However, limited by the current technical level, the following parts still contain hazardous substances due to the lack of reliable substitute or mature solution: The Copper alloy in the cable contains the lead that is smaller than 4%.

About Environment Protection Period: The Environment Protection Period of the product is marked on the product. Under normal working conditions and normal use of the products observing relevant safety precautions, the hazardous substances in the product will not seriously affect the environment, personnel safety or property in the Environment Protection Period starting from the manufacturing date.

Scope of application: VE Series Rack