

NetShelter[®] VX Enclosure

User's Manual





This manual is available in English on the enclosed CD.

Uživatelská příručka v češtině je k dispozici na přiloženém CD.

Dieses Handbuch ist in Deutsch auf der beiliegenden CD-ROM verfügbar.

Este manual está disponible en español en el CD-ROM adjunto.

Ce manuel est disponible en français sur le CD-ROM ci-inclus.

A hasznalati utasítás magyarul megtalálható a csatolt CD-n.

Questo manuale è disponibile in italiano nel CD-ROM allegato.

本マニュアルの日本語版は同梱の CD-ROM からご覧になれます。

Denne manualen er tilgjengelig på norsk på vedlagte CD.

Instrukcja Obsługi w języku polskim jest dostępna na CD.

O manual em Português está disponível no CD-ROM em anexo.

ИНСТРУКЦИЯ ПО ИСПОЛЬЗОВАНИЮ НА РУССКОМ ЯЗЫКЕ ПРИЛАГАЕТСЯ НА ДИСКЕ (CD).

Denna manual finns tillgänglig på svenska på medföljande CD.

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Product Description and Inventory

Product description

The American Power Conversion (APC) NetShelter® VX Enclosure is a high-quality enclosure for storage of industry-standard (EIA-310), 19-inch or 23-inch rack-mount hardware, which includes servers, voice, data, networking, internetworking, and APC power-protection equipment.

NetShelter VX enclosures

Model	Rack Mounting Height	Rack Mounting Width	Nominal Enclosure Width	Description
AR2100 AR2100BLK	42U [†]	19"	600 mm	Enclosure with sides
AR2101 AR2101BLK	42U	19"	600 mm	Enclosure without sides
AR2102BLK	42U	19"	600 mm	Enclosure without sides or doors
AR2103BLK	47U	19"	600 mm	Enclosure with sides
AR2104BLK	47U	19"	600 mm	Enclosure without sides
AR2310BLK	42U	19" or 23"	750 mm	Wide enclosure with sides
AR2311BLK	42U	19" or 23"	750 mm	Wide enclosure without sides

[†]One U = 1.75 in (4.44 cm)

APC offers side panels for enclosures without sides. Each kit includes the panels and the hardware to mount them.

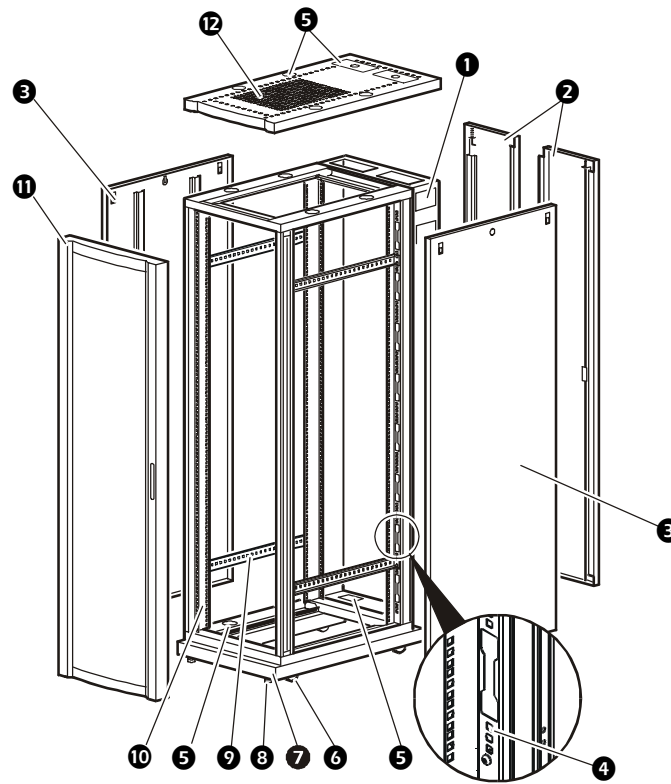
SKU	Description
AR8364	42U beige side panels
AR8364BLK	42U black side panels
AR8367BLK	47U black side panels

APC also offers doors for enclosures without doors. Each kit includes a front door or rear doors and the hardware to mount them.

SKU	Description
AR8361	42U beige front door
AR8361BLK	42U black front door
AR8362	42U beige rear doors
AR8362BLK	42U black rear doors

Product Inventory

Features of the enclosure



- | | |
|--|---|
| ❶ Rear cabling channel | ❷ Front and rear skirts |
| ❸ Split rear doors (only on enclosures with doors) | ❸ Adjustable leveling feet |
| ❹ Side panels with locks (only on enclosures with sides) | ❹ Adjustable horizontal braces |
| ❺ Frame posts | ❺ Vertical rails |
| ❻ Cable access | ❻ Reversible front door (only on enclosures with doors) |
| ❼ Casters | ❼ Ventilated roof |

Hardware, grommets, and covers

Item	Quantity	
	AR2100 AR2100BLK AR2103BLK AR2310BLK	AR2101 AR2101BLK AR2102BLK AR2104BLK AR2311BLK
Baying hardware		
M6 × 12 low-profile, socket-head screws	—	3
3-mm hex wrench	—	1
Mounting hardware		
M6 × 16 pan-head, Phillips/slotted screws	60	60
Caged nut installation tool	1	1
M6 caged nuts	60	60
Plastic cup washers	60	60
Open-ended wrench (13 mm/14 mm)	1	1
5-mm hex wrench	1	1
Door/side panel keys	2	2
Grommets/covers (included in bag)		
4 × 4" grommets	2	0
4 × 8" grommets	3	0
4 × 4" cover	4	4

Before Installation



Warning

Before you begin to unpack the enclosure, read and follow these warnings to prevent injury and damage:

- Use at least two people to unpack and assemble the enclosure.
- Stabilize the enclosure before installing the components—failure to do so may cause the enclosure to tip over.
- Do not extend more than one component from the enclosure at one time to prevent the enclosure from becoming dangerously unstable.
- Load the heaviest components first and place them toward the bottom of the enclosure to prevent the enclosure from becoming top-heavy.

Location of keys and mounting hardware

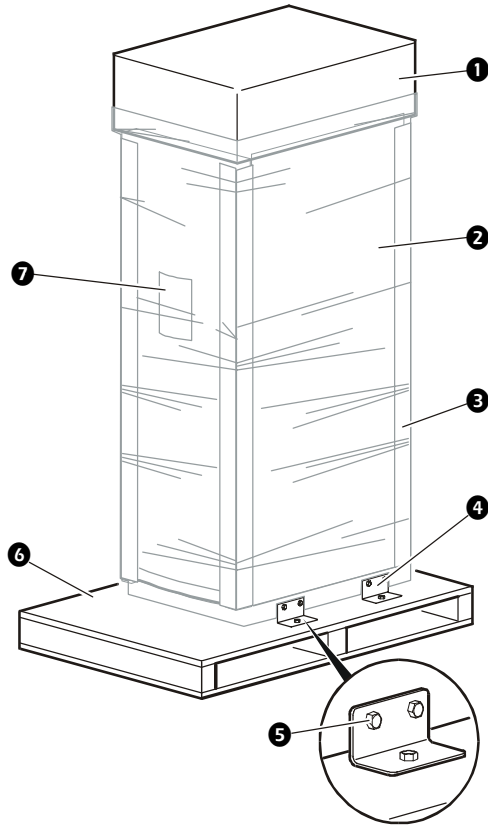
The keys are packed inside the enclosure, fastened at the top of one of the mounting rails. The bag containing the mounting hardware is fastened to the floor of the enclosure.

Tools required

The following tools (not included) will be necessary to unpack and adjust the enclosure:

- Phillips screwdriver
- Shears/utility knife
- Level

Packaging of the enclosure



- | | |
|-------------------------------|---|
| ❶ Cardboard top cover | ❺ 13-mm bolts |
| ❷ Stretch wrap | ❻ Shipping pallet |
| ❸ Cardboard corner protectors | ❼ Pouch containing the open-ended wrench, this user's manual, warranty card, and literature |
| ❹ Pallet brackets | |

How to unpack the enclosure

1. Move the shipping pallet to a firm, level surface in an open area. Inspect the enclosure for visible signs of shipping damage. If you detect shipping damage, contact APC Customer Support at the number listed on the yellow sticker on the front of the enclosure.
2. Remove the open-ended wrench from the pouch on the front of the packaging.
3. Refer to the label on the packaging to determine where to cut the wrapping. Using heavy-duty shears or a utility knife, carefully remove the plastic stretch wrap surrounding the enclosure.
4. Remove the cardboard cover and the four cardboard corner protectors.
5. Remove the four brackets that are anchoring the enclosure to the shipping pallet. Use the 13-millimeter end of the open-ended wrench (stored inside the pouch on the front of the enclosure packaging) to remove the 13-millimeter bolts that secure the brackets to the pallet.
6. With one person on each side of the enclosure, carefully roll it toward the rear of the pallet until the rear casters clear the back edge of the pallet. Continue to slide the enclosure rearward until the rear casters make contact with the floor.
7. While one person carefully tips the enclosure slightly away from the pallet, have the other person pull the pallet away from the enclosure.



Note

Save the pallet if you plan to reship the enclosure.

Please recycle



The shipping materials are recyclable. Please save them for later use, or dispose of them appropriately.

Disclaimer

APC is not responsible for damage sustained during reshipment of this product.

Take inventory

After unpacking the enclosure, verify that all required components and hardware have been shipped with the enclosure. See the product inventory section for a list of components.



Note

If any items are missing, contact APC Customer Support using the appropriate number or Web address listed on the back cover of this manual.

Configuration

Before installing your enclosure, plan the location of the equipment to be installed. Consider the space needed by the equipment and the ergonomics of keyboards and video monitors.

The NetShelter Configurator, available on the APC Web site, helps you plan your configuration to maximize the available U-space of your enclosures.



Improper airflow could damage installed components. To maintain proper airflow, cover any empty vertical enclosure space with optional blanking panels (not included). Use AR8101 and AR8101BLK for 19-inch equipment mounting and AR8107BLK for 23-inch equipment mounting.

To avoid damage or injury, level and stabilize the enclosure in its permanent location before loading equipment.

Installation

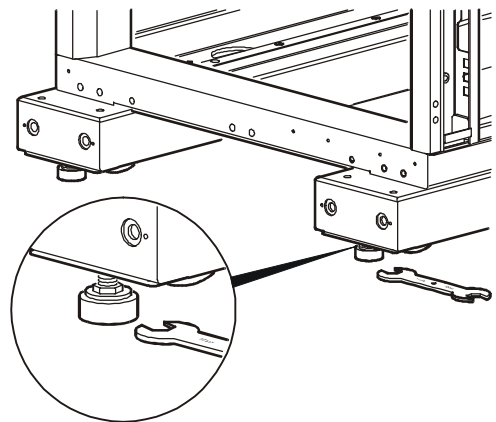
How to Install the NetShelter VX Enclosure

The first step when installing the enclosure is to level it. You can also provide additional stability by using any of the stabilizing kits described in this section.

How to level the enclosure

Leveling feet are attached under the enclosure at each corner. The leveling feet help provide a stable base if the selected floor space is uneven, but they cannot compensate for a badly sloped surface. You can remove the casters and leveling feet to allow the base of the enclosure to rest directly on the floor.

1. Move the enclosure to a level location.
2. For each leveling foot, fit the 14-millimeter end of the open-ended wrench (included) to the hex head just above the round pad on the bottom of the foot. Turn the wrench clockwise to extend the leveling foot until it makes firm contact with the floor.
3. Use a level to determine which feet need further adjustment to level the enclosure. Adjust them as necessary.



How to remove the casters and leveling feet (optional)

Lay the enclosure on its side.



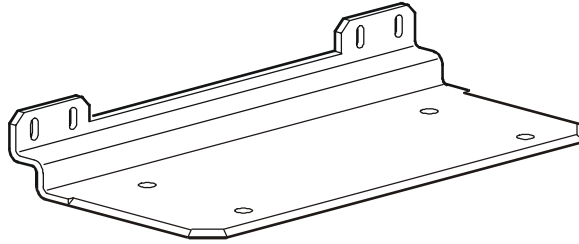
To avoid personal injury or damage to the enclosure, two people should support the enclosure.

1. Remove the four hex nuts from each of the casters and remove the casters.
2. For each leveling foot, fit the 14-millimeter end of the open-ended wrench (included) to the hex head just above the round pad on the bottom of the leveling foot. Turn the wrench clockwise to extend and remove the leveling foot.

Stabilizing kits (optional)

APC offers additional products (not included) for stabilizing the enclosure:

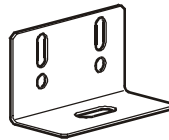
- Stabilizer Plate Kit (AR8115 or AR8115ABLK for 600mm-wide enclosures and AR8120BLK for 750mm-wide enclosures)—includes one plate and mounting hardware for attaching to the enclosure. Use up to three plate kits to provide stability to the front and sides. You can also bolt stabilizer plates to the floor for additional stability.



Note

To use the Stabilizer Plate Kit, remove the front skirt of the enclosure. See “How to remove the skirts” on page 28.

- Bolt-Down Bracket Kit (AR8112BLK)—includes four brackets and mounting hardware for attaching to the interior or the exterior of the base of the enclosure. These brackets must be bolted to the floor to stabilize the enclosure.



How to Remove and Install the Side Panels

You can remove the side panels when you need to access the interior or when you are joining two enclosures together.

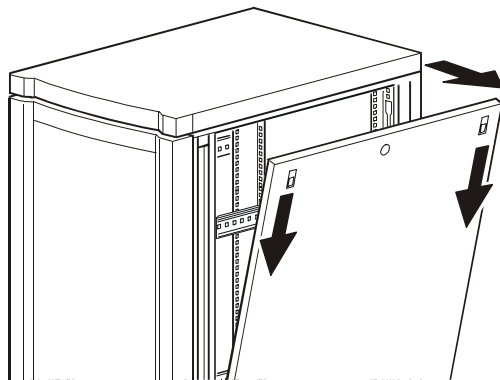


Warning

To avoid personal injury or damage to the enclosure, one person should support the side panel while another releases the side panel from its frame.

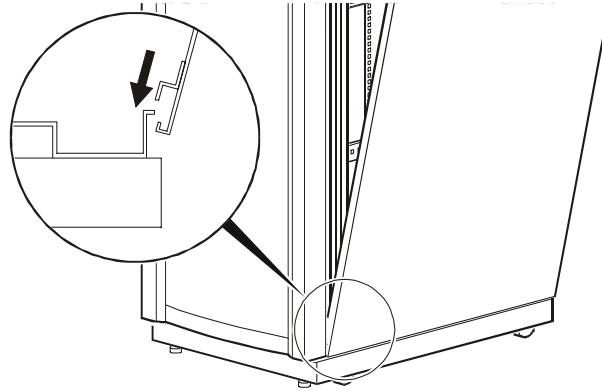
To remove the side panels:

1. Use the key to unlock the panel, if necessary.
2. Slide both panel latches down at the same time and tip the top of the panel toward you.
3. Release the latches and lift the panel up and off the narrow horizontal lip at the bottom of the enclosure frame.



Installation: How to Remove and Install the Side Panels

To reinstall: Engage the bottom of the panel securely with the lip before pushing the top of the panel forward into place.



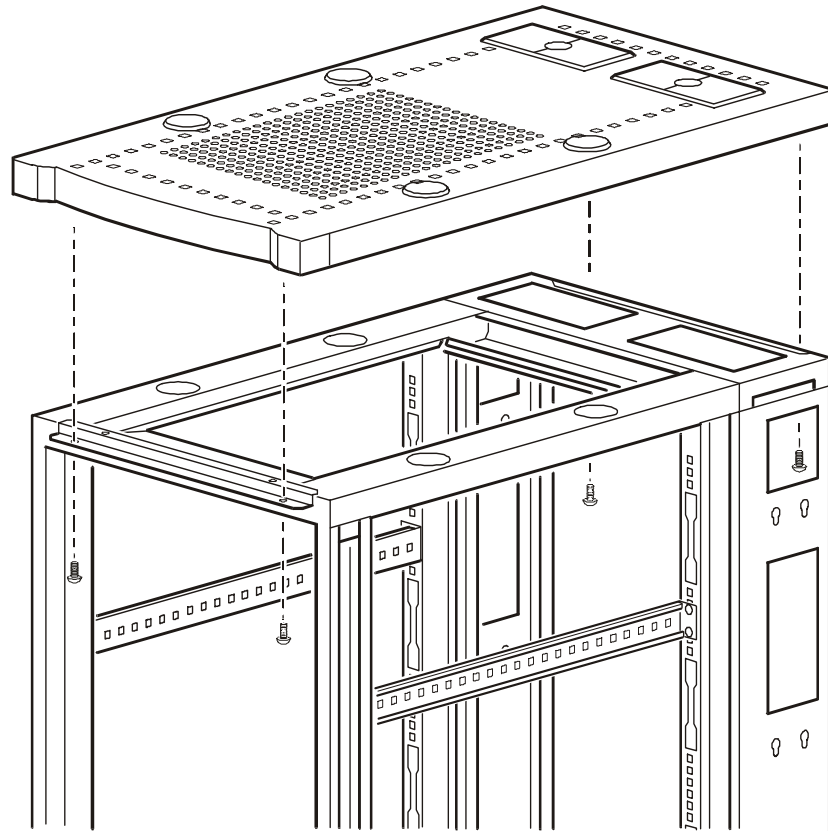
When installing the side panels on an enclosure without sides, be sure to remove the plastic grommets from the rear, side-facing, cable-access openings on the rear cabling channel. Also, remove all the baying hardware from the side(s) on which the side panels are being installed.



See “How to Move the Baying Hardware” on page 32.

How to Remove the Roof

You can remove the roof from the enclosure by removing the four hex-head screws from the inside corners. Use the 5-millimeter hex wrench (included).



How to Reverse the Front Door

Remove the side panels:

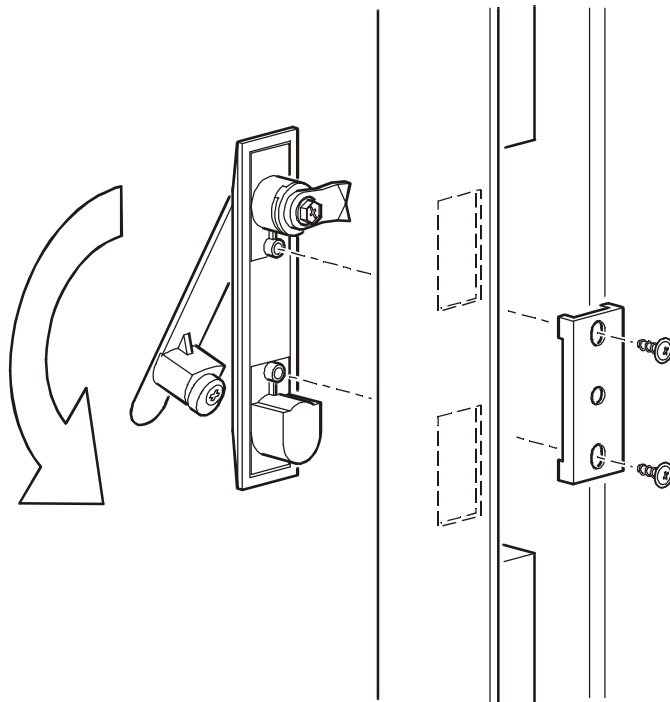
1. Remove both side panels.



See “How to Remove and Install the Side Panels” on page 11.

Reverse the door handle:

2. Remove the two Phillips screws from the rear of the door handle assembly and remove the handle assembly from the door.
3. Rotate the door handle assembly 180° and reinstall it, using the hardware removed in step 2.

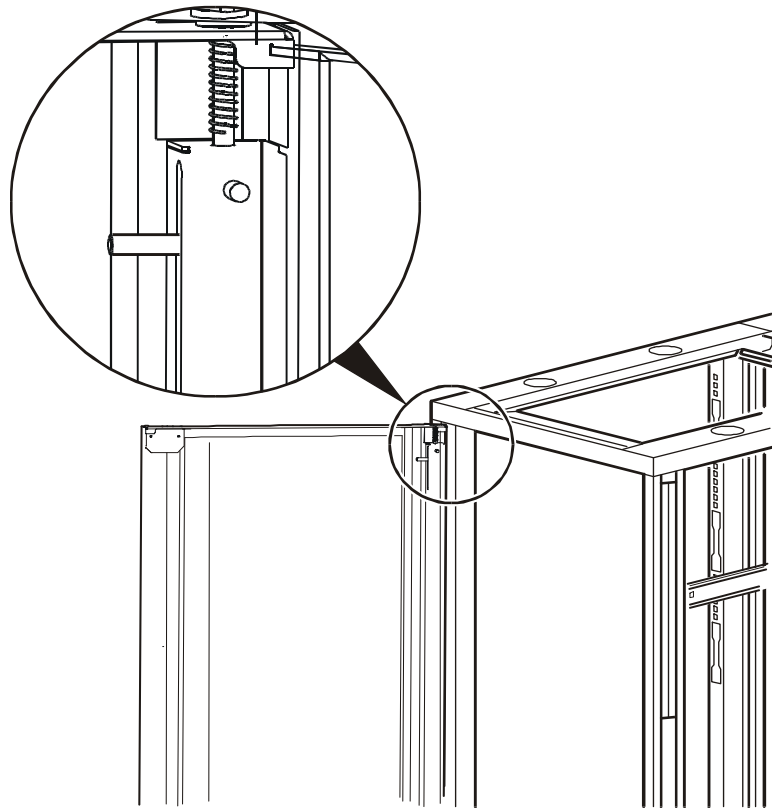


Remove the door:



To avoid personal injury or damage to the enclosure, one person should support the door while another places the door in its frame.

4. Open the door and pull down on the spring-loaded hinge pin attached to the top of the door. Lift the door from its frame and safely set it aside.





APC Worldwide Customer Support

Customer support for this or any other APC product is available at no charge in any of the following ways:

- Visit the APC Web site to find answers to frequently asked questions (FAQs), to access documents in the APC Knowledge Base, and to submit customer support requests.
 - **www.apc.com** (Corporate Headquarters)
Connect to localized APC Web sites for specific countries, each of which provides customer support information.
 - **www.apc.com/support/**
Global support with FAQs, knowledge base, and e-support.
- Contact an APC Customer Support center by telephone or e-mail.
 - Regional centers:

APC headquarters U.S., Canada	(1)(800)800-4272 (toll free)
Latin America	(1)(401)789-5735 (USA)
Europe, Middle East, Africa	(353)(91)702020 (Ireland)
Japan	(0) 35434-2021

- Local, country-specific centers: go to **www.apc.com/support/contact** for contact information.

Contact the APC representative or other distributor from whom you purchased your APC product for information on how to obtain local customer support.

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