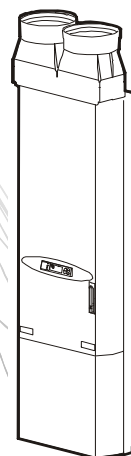




# Installation and Operation

## Rack Air Removal Unit SX

ACF400, ACF402





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This manual is available in English on the enclosed CD.

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

Deze handleiding staat in het Nederlands op de bijgevoegde cd.

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

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

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。

Instrukcja Obsługi w języku polskim jest dostępna na CD.

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

Данное руководство на русском языке имеется на прилагаемом компакт-диске.

您可以从包含的 CD 上获得本手册的中文版本。

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동봉된 CD 안에 한국어 매뉴얼이 있습니다 .

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# Contents

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<b>General Information .....</b>	<b>1</b>
<b>Overview .....</b>	<b>1</b>
Product description .....	1
<b>Safety Information.....</b>	<b>1</b>
<b>Inventory .....</b>	<b>2</b>
Tools required (not provided) .....	2
Receiving inspection .....	2
<b>Installation .....</b>	<b>3</b>
<b>Attach the Mounting Frame .....</b>	<b>3</b>
Remove the doors .....	3
Secure the mounting frame to the enclosure .....	4
Extend and attach the mounting frame .....	7
Install the fan assembly .....	8
Install the anti-tip strap .....	8
Connect the ground wire .....	9
<b>Fan Assembly Extension .....</b>	<b>9</b>
Adjust the fan assembly extension .....	9
Attach the fan assembly extension .....	10
<b>Connect the Power Supply.....</b>	<b>10</b>
<b>Optional Items .....</b>	<b>11</b>
<b>Operation .....</b>	<b>12</b>
<b>Display Interface .....</b>	<b>12</b>
Navigating the interface .....	12
Password entry .....	13
<b>Set Points.....</b>	<b>13</b>
Master Control .....	13
Mode .....	13
Total Flow .....	13
kW Support .....	13

<b>Fan Status</b> .....	<b>14</b>
ARU Fan .....	.14
Status .....	.14
Speed .....	.14
Flow .....	.14
<b>Exhaust</b> .....	<b>14</b>
Upper Plenum .....	.14
Lower Plenum .....	.14
Override .....	.14
<b>Environment</b> .....	<b>14</b>
Remote Sensor .....	.14
Temperature .....	.14
Status .....	.14
Sensor Config. ....	.14
<b>Maint</b> .....	<b>15</b>
Fan History .....	.15
Fan Runtime .....	.15
<b>Alarms</b> .....	<b>15</b>
View Active Alarms .....	.15
Alarm/Event Log .....	.15
Alarm Beacon .....	.15
Alarm Beeper .....	.15
<b>Config</b> .....	<b>15</b>
Device/Network .....	.15
Units/Log Lamp/Etc .....	.16
Manufacturer Data .....	.16
Factory Defaults .....	.16
Device ID .....	.16
<b>Input</b> .....	<b>16</b>
AC Input 1 .....	.16
AC Input 2 .....	.16
Redundant Pwr .....	.16
<b>Troubleshooting</b> .....	<b>17</b>
<b>Specifications</b> .....	<b>18</b>

# General Information

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## Overview

### Product description

The American Power Conversion (APC<sup>®</sup>) Rack Air Removal Unit SX (ARU) removes heat generated by the equipment contained in a NetShelter<sup>®</sup> SX or VX enclosure. The ARU consists of a fan box (ACF115) and an enclosure frame (ACF136 or ACF137). Four fans provide airflow to cool densely packed equipment and allow air to bypass power and data cables in the rear of the enclosure. An optional duct kit removes the heat entirely from the data area. Features of the Rack Air Removal Unit SX include the following:

- Redundant fans
- Power and temperature-controlled fans
- Dual-input power connectors
- Integrated remote management through the Web (HTTP and HTTPS), SNMP, Telnet, and SSH
- Integrated LCD display
- Duct kit (ACF126, ACF127)—removes heat from the air-conditioned space (recommended)
- Alarm beacon (AP9324)—flashes when an alarm condition exists (optional)
- Remote temperature sensors (AP9335T)—connect up to three sensors (optional)

## Safety Information



**Warning:** For computer-room use only.

**Install the Rack Air Removal Unit SX only on an enclosure that is loaded with equipment, counter-weighted, or stabilized to avoid tipping of the enclosure.**

**Inspect the Rack Air Removal Unit SX for damage before installation.**

**Do not apply power to the unit until the installation is complete. The Rack Air Removal Unit SX contains moving parts, which are potentially hazardous when operated outside of the enclosure.**

**Do not allow loose hair or clothing near the fans because the fans create suction.**

**Check that the power cord plugs and sockets are in good condition before installation.**

**Always install and operate the Rack Air Removal Unit SX only as shown in this manual.**

**There are no customer-serviceable items on the Rack Air Removal Unit SX. Do not attempt to open or repair the Rack Air Removal Unit SX.**



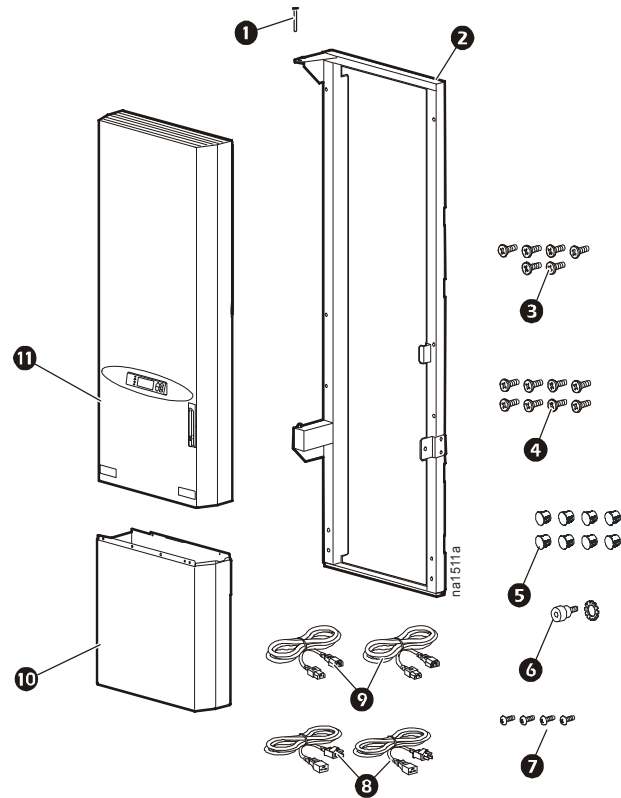
**Electrical Hazard:** Connect the Rack Air Removal Unit SX to a three-wire, grounded outlet. The outlet must be connected to appropriate branch circuit or mains protection (fuse or circuit breaker). Connection to any other type of outlet may result in a shock hazard.

This equipment contains potentially hazardous voltages. Do not attempt to disassemble the unit.



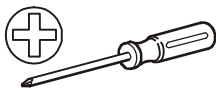
**Heavy:** Do not attempt to install the Rack Air Removal Unit SX by yourself. Doing so introduces the risk of injury. The Rack Air Removal Unit SX requires at least two people to install it safely.

# Inventory



Item	Description	Quantity
1	Hinge pin	1
2	Fan assembly mounting frame <b>NOTE:</b> Narrow frame shown; your frame may differ.	1
3	NetShelter SX M6 Phillips rack-mounting screws	6
4	NetShelter VX M6 Phillips rack-mounting screws	8
5	Hole plugs	8
6	M6 shoulder hex screw with lock washer	1
7	Fan assembly extension M4 Phillips mounting screws	4
8	Power cords—NEMA 5-15	2
9	Power cords—CEE22	2
10	Fan assembly extension	1
11	Fan assembly	1

## Tools required (not provided)



#2 Phillips screwdriver



M5 Torx<sup>®</sup>/Phillips



Hex wrench

## Receiving inspection

Inspect the package and contents for shipping damage, and make sure that all parts were sent. Report any damage immediately to the shipping agent. Report missing contents, damage, or other problems immediately to APC or your APC reseller.



# Installation

## Attach the Mounting Frame

### Remove the doors



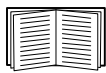
**Warning:** To avoid personal injury or damage to the enclosure, one person should support the door while another person removes it from the frame.

1. If necessary, move the enclosure to allow at least 762 mm (30 in) of clearance at the rear of the enclosure to install the ARU.



**Warning:** If the enclosure is not joined to other enclosures, ensure it contains sufficient weight or has adequate support to prevent it tipping during ARU installation.

2. Disconnect the grounding wires from each door.
3. Remove the grounding wires from the rack to enable the ARU to fit properly.
4. Remove the rear doors from the enclosure, using the appropriate instructions for your enclosure.

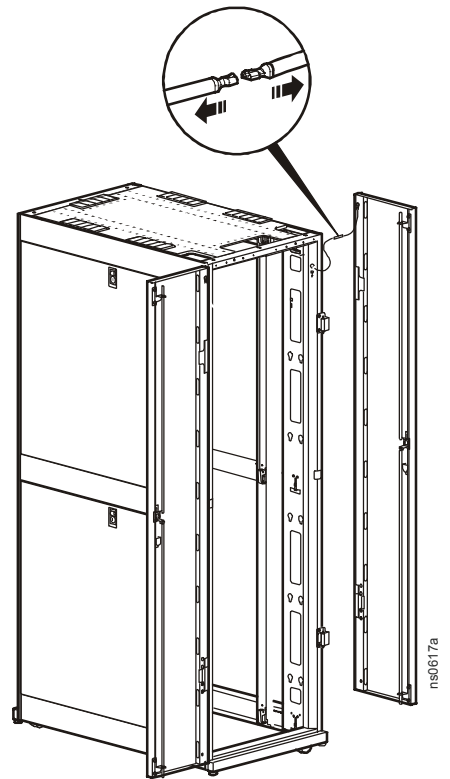
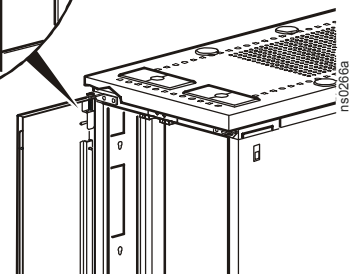
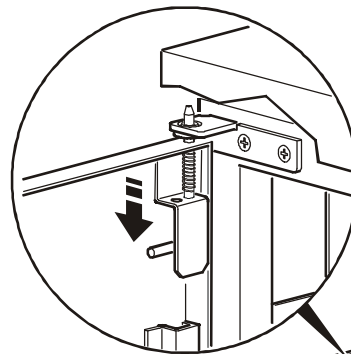


See “Removing doors from an SX enclosure” on this page.  
See “Removing doors from a VX enclosure” on page 3.

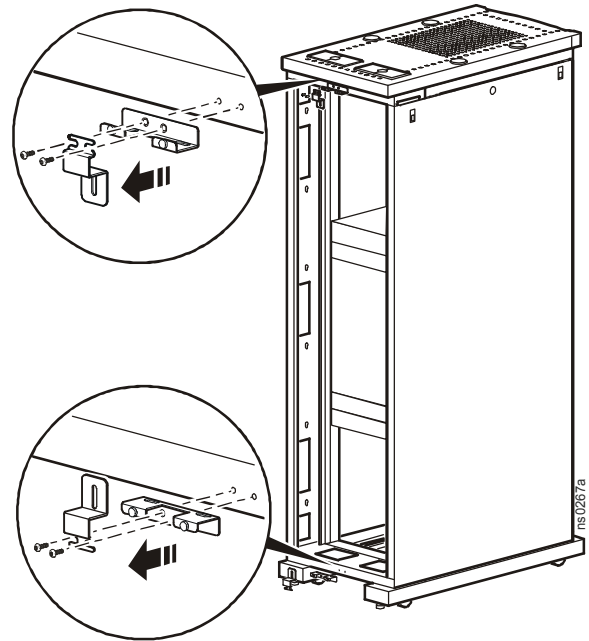
**Removing doors from an SX enclosure.** Open the door 90 degrees and lift it up and off its hinges.

**Removing doors from a VX enclosure.**

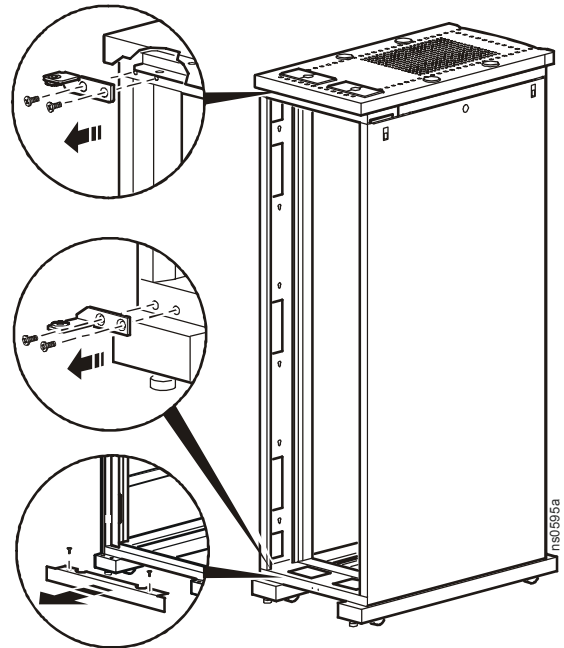
1. Open the rear doors and pull down on the spring-loaded hinge pin. Lift the doors from their frame.



- Using an Allen wrench, remove the door bumpers at the top and bottom of the door frame.



- Using a Phillips head screwdriver, remove the rear door hinges and the rear skirt from the enclosure.



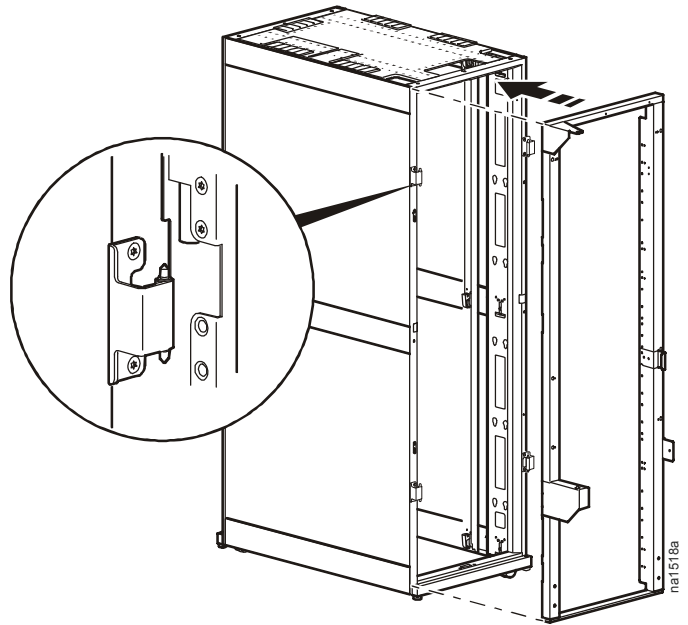
### Secure the mounting frame to the enclosure



**Warning:** Install the Rack Air Removal Unit SX only on an enclosure that is loaded with equipment, counter-weighted, or stabilized to avoid tipping the enclosure.

## Attach the mounting frame to a 42U SX enclosure.

1. Remove the six hole plugs from the mounting holes of the enclosure.
2. Lift and place the mounting frame on top of the door hinges, letting the frame rest on the hinges.

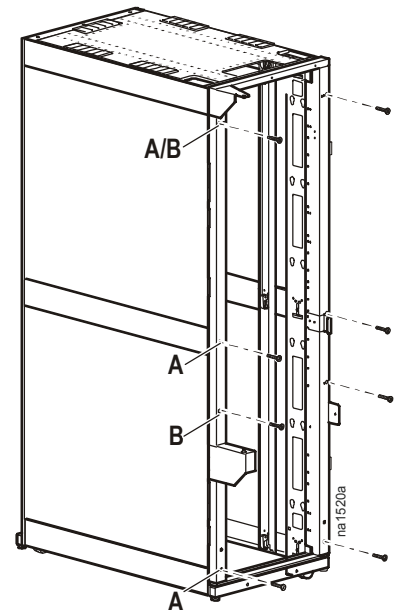


**Note:** On NetShelter SX enclosures, the mounting frame uses the door hinges for correct installation.

3. Secure the frame to the enclosure using six M6 Phillips screws.
  - a. Use the top holes marked **A/B**.
  - b. Use the middle and bottom holes marked **A**.
  - c. If desired, fill unused middle holes marked **B** with hole plugs (provided).



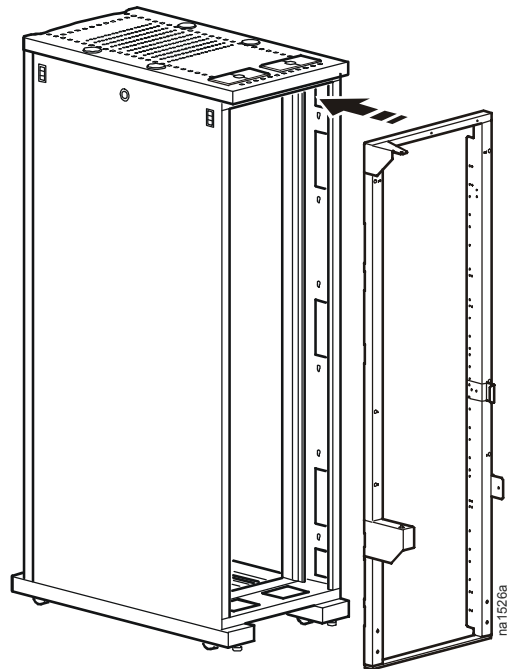
**Note:** Your mounting frame may look slightly different.



All NetShelter SX 42U high enclosures

**Attach the mounting frame to a 42U VX enclosure.**

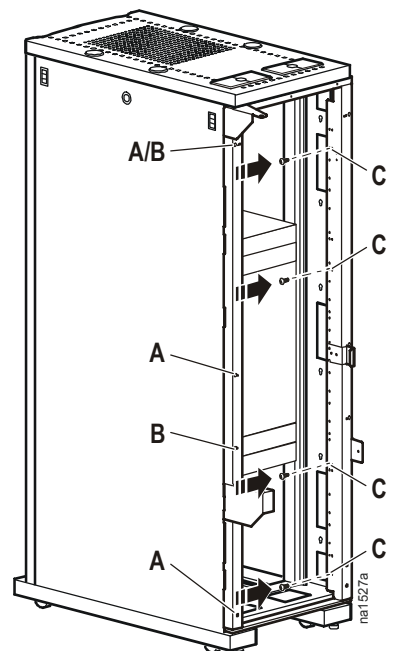
1. Place the mounting frame on the enclosure, aligning the top of the mounting frame with the top edge of the enclosure opening.



2. Secure the mounting frame to the enclosure using eight M6 Phillips screws (four per side). Use the holes marked **C** on the inside edges of the mounting frame.
3. If desired, fill unused holes marked **A/B**, **A**, and **B** on the front surface with hole plugs (provided).



**Note:** Your mounting frame may look slightly different.



All NetShelter VX 42U high enclosures

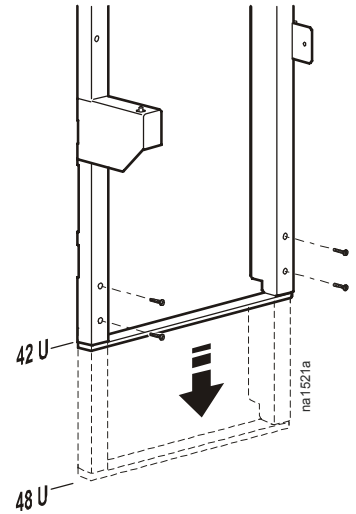
## Extend and attach the mounting frame

If your enclosure is 47U or 48U tall, extend the mounting frame to accommodate the additional U-spaces.

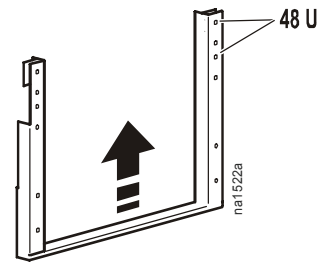
1. Remove the two screws on each side of the lower part of the frame.
2. Extend the frame to the height of the enclosure.
3. Use the two screws removed in step 1 to attach the frame.



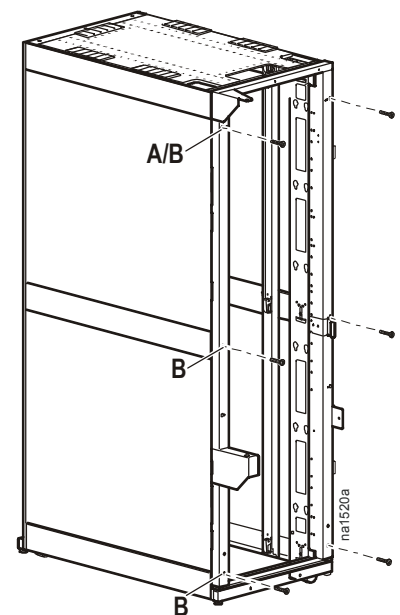
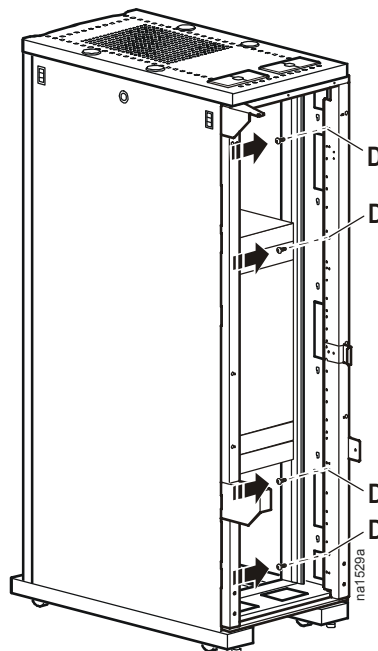
**Note:** There are four holes on each side of the expandable section of the frame. A 47U frame will use the second and fourth holes for installation. A 48U frame will use the first and third holes for installation.



4. Place the mounting frame onto the enclosure.
5. For a NetShelter SX installation, secure the mounting frame to the enclosure using six M6 Phillips screws (three per side). Use the holes marked **A/B** and **B** on the front surface of the mounting frame. For a NetShelter VX installation, secure the mounting frame to the enclosure using eight M6 Phillips screws (four per side). Use the holes marked **D** on the inside edges of the mounting frame.
6. If desired, fill unused mounting holes on the mounting frame surface with hole plugs (provided).

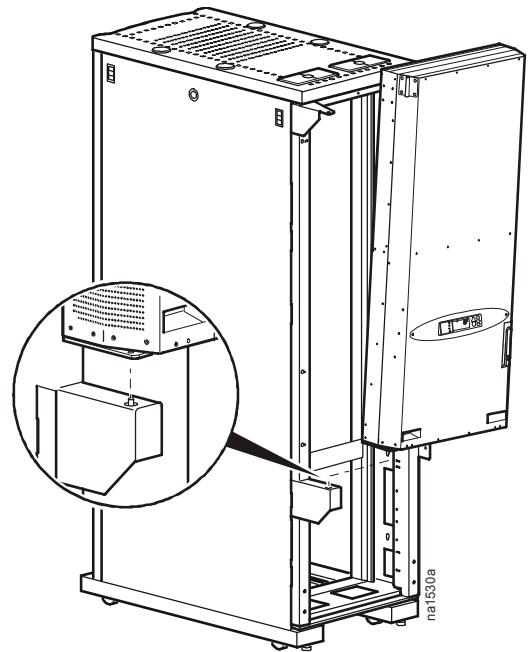


**Note:** Your mounting frame may look slightly different.

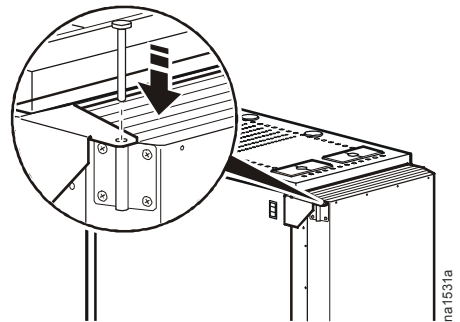


## Install the fan assembly

1. Ensure that the leveling feet of the enclosure have been lowered to the surface of the floor.
2. Using two people, lift the fan assembly using the handles on the front, bottom, and inside of the unit.
3. Align the lower hinge pin of the mounting frame with the hole in the pin on the fan assembly, and carefully set it into place.



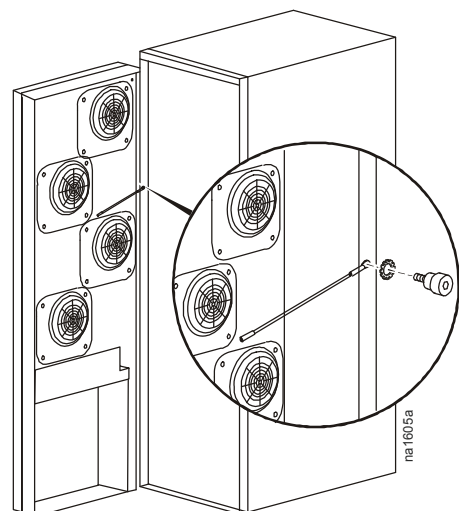
4. Align the upper hinge of the mounting frame with the upper hinge of the fan assembly, and slide the hinge pin into position.



## Install the anti-tip strap

The anti-tip strap prevents the enclosure from tipping to the side before the enclosure is stabilized.

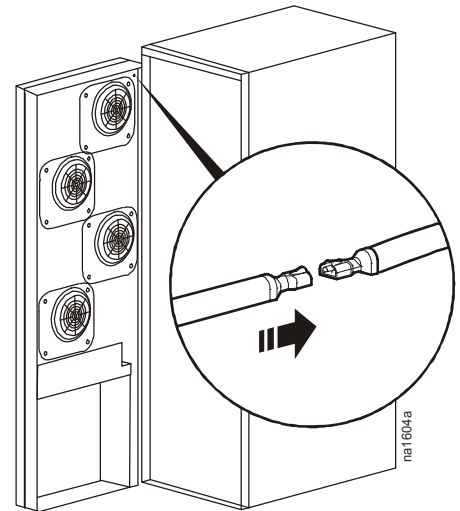
Using the M6 shoulder hex screw and lock washer (provided), attach the anti-tip strap.



**Caution:** Do not remove the anti-tip strap after it has been installed. Lowering the leveling feet of the enclosure will help stabilize it, but will not prevent it from tipping over.

## Connect the ground wire

To ground the unit, attach the ground wire connected to the fan assembly to the ground wire connected to the mounting frame.

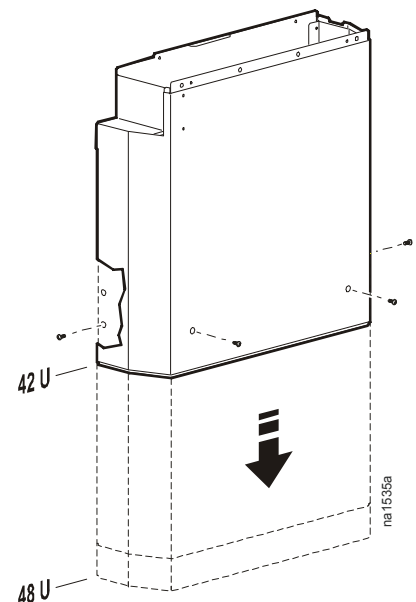
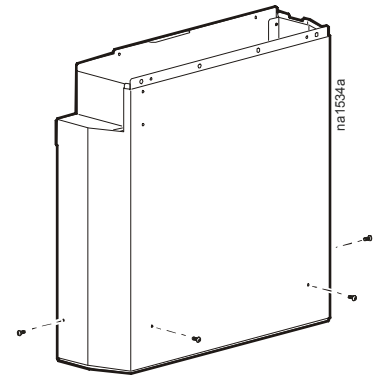


## Fan Assembly Extension

### Adjust the fan assembly extension

Install the fan assembly extension below the ARU on the mounting frame to cover the open area. The extension is configured by default for use in 42U enclosures. You can extend it to accommodate a 47U or 48U enclosure.

1. Remove the four adjustment screws.
2. Slide the base down and align it with either the 47U or 48U assembly holes.
3. Reinstall the previously removed screws.



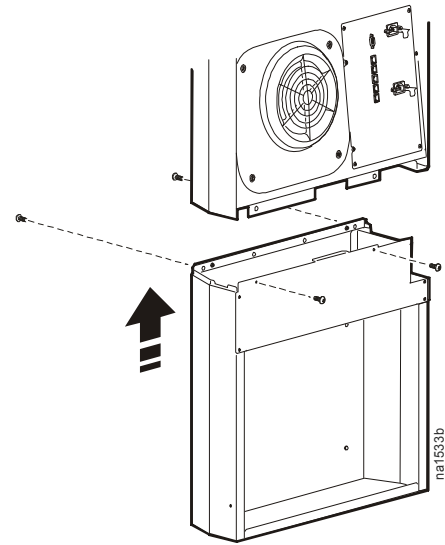
## Attach the fan assembly extension

1. Slide the fan assembly extension up and into the bottom of the fan assembly.
2. Secure the fan assembly extension to the fan assembly using four M4 Phillips machine screws.



**Caution:** Do not overtighten the screws.

3. Insert hole plugs into all open holes.



## Connect the Power Supply

1. Ensure that there is adequate power for the fans to run at full capacity.

### Acceptable Power

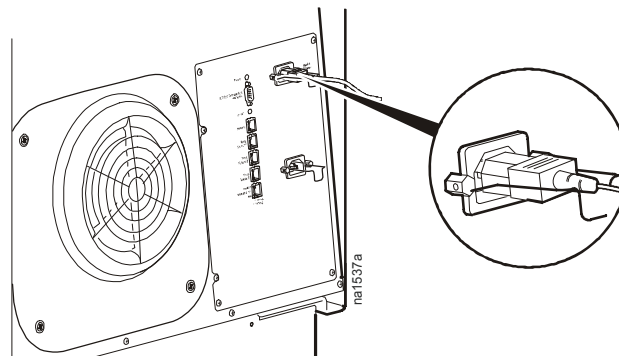
Voltage	Frequency (Hz)	Current (Amps)
120	60	12 (maximum)
100	60	12 (maximum)
200/208/230/240	50/60	10 (maximum)

The UPS in the enclosure must be sized properly to provide adequate power to this unit.



**Warning:** If you are using a UPS, connect the Rack Air Removal Unit SX to a 3000-kW or higher Smart-UPS®. The UPS should not be loaded above 80% when using the Rack Air Removal Unit SX.

2. Using one of the supplied power cords, connect the female end to the **A** input socket on the inside of the ARU, as shown. Plug the male end into a power-protected socket and tilt the retainer clip up to ensure that it captures the socket and forms a secure connection.



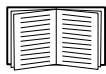
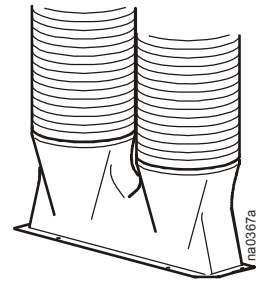
3. To provide redundant power to the unit, use the **B** input socket to connect the ARU to a second source of protected power.



# Optional Items

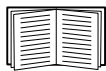
APC offers additional products (not included) for the Rack Air Removal Unit SX:

- Air Duct Kit (ACF126 for 24-inch ceiling tiles, ACF127 for 600-mm ceiling tiles)—for removal of heat from the air conditioned room. This product is required in a room with a ceiling less than 3.66 m (12 ft) high, but is recommended for all installations regardless of ceiling height.



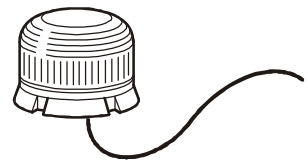
For more information on the Air Duct Kit see the installation sheet provided with the Air Duct Kit (APC part number 990-2773), or on the APC Web site, [www.apc.com](http://www.apc.com).

- Temperature Sensor (AP9335T)—monitors the air temperature at a location remote from the ARU.



For more information on temperature sensors, see the installation sheet provided with the sensors (APC part number 990-2311), or on the APC Web site, [www.apc.com](http://www.apc.com).

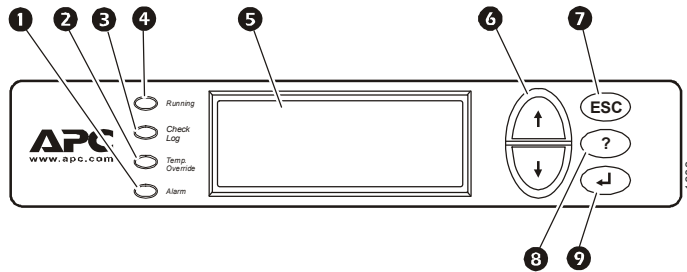
- Alarm Beacon (AP9324)—will light up when an alarm is present.



# Operation

## Display Interface

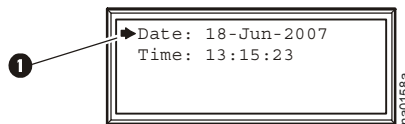
You can use the display interface to configure settings, set alarm thresholds, and provide audible and visual alarms.



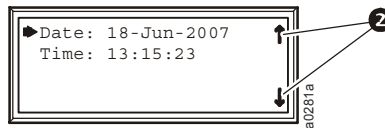
1	Alarm	When red, at least one new critical or warning alarm or event has occurred.
2	Temp Override	When yellow, the temperature override alarm is active.
3	Check Log	When yellow, at least one new event has been added to the event log.
4	Running	When green, the ARU is operating.
5	Liquid crystal display (LCD)	View alarms, status data, configuration items, and help files.
6	Up and down navigation keys	Select menu items and access information.
7	ESC key	Return to previous screen displayed.
8	HELP key	Launch context-sensitive help. Press the HELP key for information about each item on the screen and for instructions on how to perform certain tasks.
9	ENTER key	Open menu items and input changes to system parameters.

### Navigating the interface

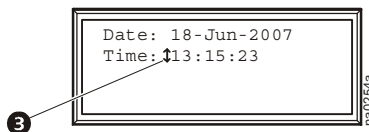
**Selector arrows.** Press the up or down arrow key to move the selector arrow 1 to a menu option or setting. Press the ENTER key to view the selected screen or modify the setting.



**Continue arrows.** Continue arrows 2 indicate that additional options or settings are available on a menu or status screen. Press the up or down arrow key to view the additional items.



**Input arrows.** Input arrows 3 next to a selected setting indicate that the setting can be modified by pressing the up or down arrow key. Press the ENTER key to save the change or the ESC key to cancel the change.



## Password entry

When you attempt to change any of the settings, the display will prompt you to enter your password.



To enter your password, use the up or down arrow keys to scroll through the alphabet. When you reach the desired letter, press the ENTER key and the cursor will move to the next letter position. After entering the last letter of your password, press the ENTER key once more to submit your password.



**Note:** Passwords are case sensitive.

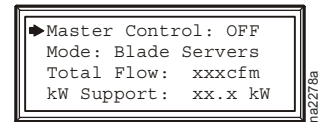


See “Local Password” on page 15 to change your password.

## Set Points

### Master Control

Select **ON** or **OFF** to turn all fans on or off.



### Mode

To use the predefined settings, select the rack configuration that is similar to your rack environment. If you adjust the settings and the temperature override settings do not match the predefined settings, the ARU displays **Customized** as your mode of operation.

Mode	Flow Rate	Airflow Ratio	Temperature Override	Temperature Setpoint
Standard IT	7.5 kW (1200 CFM)	160 CFM per kW	On	40°C (104°F)
Mixed IT	10 kW (1200 CFM)	120 CFM per kW	On	45°C (113°F)
Blade Server	16.5 kW (1600 CFM)	80 CFM per kW	On	50°C (122°F)

**Airflow.** ARU airflow is variable between 400 and 2000 cfm. The settings are in 100 cfm increments between 400 and 1000 cfm, and in 200 cfm increments thereafter.

**Temp Override.** Temperature override allows the ARU to increase the airflow in the enclosure if the exhaust temperature exceeds the temperature set point **Temp Set Point**.

**Temp Set Point.** When the exhaust temperature exceeds the set point, the ARU will automatically increase airflow if the **Temp Override** is **On**.

### Total Flow

The amount of air being exhausted through the ARU.

### kW Support

This kW value can be used to help you to pick the appropriate flow rate based on power draw of the equipment in the rack. The kW value is a calculated value based on the **Total Flow** and the **Operating Mode** since different types of equipment have different airflow requirements.

# Fan Status

## ARU Fan

Select a fan to view its status.

```
➔ ARU Fan: 1of4  
Status: On & Ok  
Speed: xxxxxrpm  
Flow: xxxxcfm
```

## Status

Summary of the selected fan.

**OK**The fan is functioning.

**Failed Off**The fan has failed and needs to be replaced.

**Cyclic Failure**The fan status has changed from **OK** to **Failed Off** several times. Review the event log to determine the cause.

## Speed

The speed of the fan in **cfm** (cubic feet per minute) or **m<sup>3</sup>/hr** (meters cubed per hour). See “Config” on page 15 to change the units of measure.

## Flow

The amount of air the selected fan is moving through the duct into the exhaust system.

# Exhaust

## Upper Plenum

Temperature of the exhaust removed by fans 1 and 2.

```
Exhaust Temperature  
Upper Plenum: xxxC  
Lower Plenum: xxxC  
Override: Warning
```

## Lower Plenum

Temperature of the exhaust removed by fans 3 and 4.

## Override

**Warning.** The ARU has increased airflow in the enclosure to a level higher than the base airflow. This occurs when the temperature override is enabled and the exhaust temperature is over the **Temp Setpoint**.

**Critical.** The ARU fans are functioning at their highest speed, and the exhaust temperature is increasing.

# Environment

## Remote Sensor

Select the remote temperature sensor to view.

```
Remote Sensor: 1 of 3  
Temperature: xxxC  
Status: Normal  
Sensor Config.
```

## Temperature

Display the temperature of the selected sensor.

## Status

View the detailed alarm status of the selected sensor.

## Sensor Config.

View and configure the name, alarm limits, and location for the selected sensor.

**Remote Sensor.** Select a sensor using the arrow keys.

**Name/Location.** View and configure the name and location of a sensor.

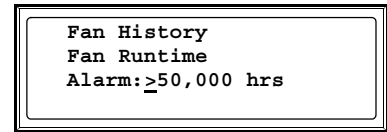
**Temperature Limits.** View and configure the alarm limits of a sensor. Set the **Low/Hi** warning threshold, the **Min/Max** critical thresholds, and the **Alarm Reset Hysteresis**. The hysteresis setting requires the measurement causing an alarm to correct itself by at least the set amount before the alarm condition will end.

**Rate of Change.** View and configure the rate of change alarm settings.

# Maint

## Fan History

- ARU Fan.** View the history of a fan.
- Date.** View the date the fan was put into service.
- Runhours.** View the number of hours the fan has been running.
- Remaining.** View the number of hours remaining before a runtime alarm will exist.



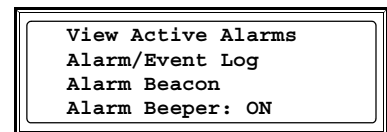
## Fan Runtime

**Fan Runtime Alarm.** Set the number of hours the fan operates before an alarm condition indicates that the fan needs to be replaced.

# Alarms

## View Active Alarms

View all active alarms.



## Alarm/Event Log

- View a list of past alarms and events.
- New Logged Items.** View items logged since the New Logged Items list was last viewed.
- Entire Log.** View the entire alarm/event log.
- Clear Log.** Clear the alarm/event log.



**Note:** Clearing the log will remove information from the Web and Telnet views as well.

## Alarm Beacon

- Status.** View the status of an installed alarm beacon (optional).
- Control.** Turn the alarm beacon on or off.
- Alarm Beacon Map.** Use the arrow keys to scroll through the list of conditions. Press **Enter** to map a condition to the beacon. When **Apply Now (Pending)** appears on the screen, press **Enter** to save the changes.

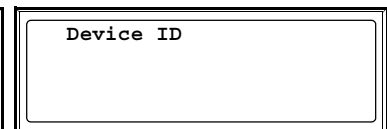
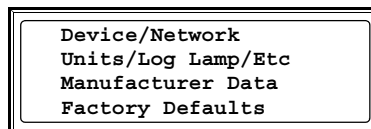
## Alarm Beeper

Turn the alarm beeper on or off. When the alarm beeper is set to **ON**, the alarm beeps when an alarm condition exists. When the alarm beeper is set to **OFF**, the alarm does not beep at all. When an alarm condition exists, pressing any button stops the alarm beeper. The alarm beeper restarts if another alarm condition exists.

# Config

## Device/Network

- Local Password.** Change the system password or the amount of time before timeout.
- Date/Time.** View or change the current date and time.
- Local Interface.** Change preferences for contrast, key clicks, beeper, and volume.
- Network Address.** View or change the IP address, subnet mask, or default gateway.



## Units/Log Lamp/Etc

**Flow Units.** Select **cfm** (cubic feet per minute) or **m<sup>3</sup>/hr** (meters cubed per hour).

**Temp Units.** Select **C** (Celsius) or **F** (Fahrenheit).

### Check Log.

- |                      |  |
|----------------------|--|
| <b>Disabled</b>      | The light on the user interface will not light when a new event is added to the event log. |
| <b>Informational</b> | The light will be illuminated when any event is logged.                                    |
| <b>Warning</b>       | The light will be illuminated when a warning or critical alarm is logged.                  |
| <b>Critical</b>      | The light will be illuminated only when a critical event is logged.                        |

**Rem. Sensor Display.** Select **Show** to display a summary of the sensor measuring the inlet temperature of the enclosure. Select **Hide** if a sensor is not installed.

## Manufacturer Data

**Mfg Data.** Displays device name and factory data.

## Factory Defaults

**Set Configuration to Factory Defaults?** Select **YES** to return all settings to the factory default settings, or select **NO, ABORT**.

## Device ID

**Name.** Define a name for the unit (40 characters maximum).

**Contact.** Define a contact person for the unit (40 characters maximum).

**Location.** Define the location of the unit (40 characters maximum).

# Input

## AC Input 1

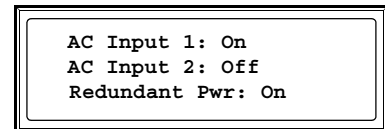
Indicates whether the AC voltage on this input is sufficient to operate the ARU.

## AC Input 2

Indicates whether the AC voltage on this input is sufficient to operate the ARU.

## Redundant Pwr

Set to **ON** to enable an alarm for loss of redundant power. Set to **OFF** when using only one input line cord.



# Troubleshooting

<b>Problem</b>	<b>Possible Cause</b>	<b>Corrective Action</b>
The ARU is operating on alternate power source (Input B) even though the main power source (Input A) is available.	The voltage of Input A may be less than 90 V.	Check the Input A voltage. If it is less than 90 V, increase the voltage to 90 V or greater.
	The power board may be faulty.	Contact APC Customer Support to replace the electronic module (W0M-7053).
The ARU is delivering less CFM than the set value.	The power board may be faulty.	Contact APC Customer Support to replace the electronic module (W0M-7053).
	One or more fans may be faulty.	Contact APC Customer Support to replace the faulty fan module (W0M-7054).
The unit is not reading the proper exhaust temperature.	One or more fans may be faulty.	Contact APC Customer Support to replace the faulty fan module (W0M-7054).
	Sensor may be faulty.	Contact APC Customer Support to replace the faulty sensor.
The beacon is not working.	Improper connection of the beacon.	Make sure that beacon is properly connected.
	The power board may be faulty.	Contact APC Customer Support to replace the electronic module (W0M-7053).
	Beacon may be faulty.	Replace the beacon (AP9324).
The network port is not working.	The network cable may not be properly connected.	Properly connect the network cable.
	The Network Management Card may be faulty.	Contact APC Customer Support to replace the electronic module (W0M-7053).
The display interface is not functioning properly.	The Network Management Card may be faulty.	Contact APC Customer Support to replace the electronic module (W0M-7053).
	Backlight of display interface may be faulty.	Contact APC Customer Support to replace the display interface.
The console port is not working.	The unit may be improperly connected to the console port.	Make sure the cable is properly connected.
	The Network Management Card may be faulty.	Contact APC Customer Support to replace the electronic module (W0M-7053).
The remote sensor is not reading proper temperature.	The controller board may be faulty.	Contact APC Customer Support to replace the electronic module (W0M-7053).
	The sensor may be faulty.	Contact APC Customer Support to replace the sensor.
	The remote sensor may be improperly connected, or connected to the wrong port.	Ensure the cable is properly plugged into the ARU and the sensor.

# Specifications

## Electrical

### Power source

Rated input ..... 100 V–240 V, 12 A–10 A

## Environmental

Maximum ambient temperature ..... 50°C (122°F)  
 Maximum internal static pressure (with ducting kit installed) . 6.86 mm (0.27 in) water column  
 Sound level ..... 79 dBA at 1 m (3.3 ft)

## Physical Dimensions

### Fan Assembly

Fan assembly  
 (H x W x D)..... 135.3 x 58.4 x 19.0 cm  
 (53.3 x 23 x 7.5 in)

Shipping dimensions  
 (H x W x D) ..... 152.4 x 81.3 x 30.5 cm  
 (60 x 32 x 12 in)

Net weight ..... 47 kg (104 lb)  
 Shipping weight..... 60 kg (125 lb)

### Fan Assembly Mounting Frame & Extension

Fan assembly mounting frame (H x W x D)..... 191.8 x 60 x 22.9 cm  
 (75.5 x 23.5x 9 in)

Fan assembly mounting frame extension (H x W x D)..... 55.9 x 58.4 x 15.9 cm  
 (22 x 23 x 6.3 in)

Shipping dimensions—frame and extension (H x W x D) .... 208.3 x 78.7 x 38.0 cm  
 (82 x 31 x 15 in )

Net weight—frame ..... 12 kg (25 lb)  
 Net weight—extension ..... 9 kg (19 lb)  
 Shipping weight—frame and extension ..... 33 kg (73 lb)

## Compliance

UL, C-UL, VDE, FCC Part 15, CE, VCCI, CISPR 22, CISPR 24, EN 61000-3-2, EN 61000-3-3, AS/NZS CISPR 22, IRAM

## Heat Removal Capacity

Estimated power that can be drawn by the enclosure based on the amount of airflow provided by the ARU

Flow Rate	Mode: Standard IT (160 kW/CFM)	Mode: Mixed IT (120 kW/CFM)	Mode: Blade Server (80 kW/CFM)
680 m <sup>3</sup> /hr (400 CFM)	2.5 kW	3.3 kW	5 kW
1 360 m <sup>3</sup> /hr (800 CFM)	5.0 kW	6.7 kW	10 kW
2 040 m <sup>3</sup> /hr (1,200 CFM)	7.5 kW	10 kW	15 kW
2 720 m <sup>3</sup> /hr (1,600 CFM)	10 kW	13.3 kW	16.5 kW
3 400 m <sup>3</sup> /hr (2,000 CFM)	12.5 kW	16.5 kW	16.5 kW









# 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 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 searching APC Knowledge Base and using e-support.
- Contact the APC Customer Support Center by telephone or e-mail.
  - Local, country-specific centers: go to **www.apc.com/support/contact** for contact information.

For information on how to obtain local customer support, contact the APC representative or other distributors from whom you purchased your APC product.

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