

# NetShelter SX applications and selection

## The world's most versatile rack enclosure for demanding IT environments

Ready for high-density environments right out of the box, NetShelter SX rack enclosures offer the most standard features on the market today. Influenced by 10 years of customer feedback, Schneider Electric has specifically engineered the next-generation NetShelter SX enclosure to handle today's power-hungry, high-density server and networking applications.

The NetShelter SX is the base building block of the InfraStruxure system. NetShelter SX has many inherent features that facilitate a faster installation and reduce handling after installation, lowering your installation and operating costs. In addition, the homogenous appearance of the NetShelter SX and its sister components in an InfraStruxure solution provides a clean, consistent look that every first-rate data center requires.

## Rack enclosure systems for converged IT: high-efficiency, high-density, integrated solutions

With IT hardware trending toward Converged Infrastructure (CI) and single-source IT providers, a simplified prebuilt and pretested solution is more standardized, better defined, and quickly becoming preferred over the numerous combinations of IT hardware and software solutions of the past. Customers are looking for solutions that deliver fully populated IT racks — whether to the customer site or a co-location facility.

Schneider Electric rack systems have been pre-engineered as an optimized system for efficiently housing multiple IT equipment types in high-density situations. Special packaging options for NetShelter SX enable integrators to “rack and stack” the solution for a truly end-to-end converged system delivered prebuilt, pretested, racked, and shipped to the end customer. The packaging provides peace of mind of safe delivery of costly IT investment and the partner provides a choice of simplified, plug-and-play, integrated solutions.

## Rack enclosure systems for server applications: high efficiency, high density

Servers are the lifeblood of any organization's IT operations. But keeping today's high-density servers up and running — keeping that lifeblood pumping — has become more challenging than ever. Current trends, such as virtualization, consolidation, and adoption of blade servers, mean more devices, more power, and more heat packed into each enclosure. And that means more cable clutter blocking proper airflow, more hot air recirculation concerns, and more cold air leakage, leading to more inefficiency.

Schneider Electric server enclosure systems have been pre-engineered as an optimized system to provide proper front-to-back airflow to prevent hot air recirculation and promote efficient cable management that permits quick and easy installation of new options as servers change.

## Features

### Best-in-class design

Offers most standard features to facilitate installation and speed of deployment.

Guarantees compatibility with all EIA standard 19 in. rack-mount equipment — or your money back.

Integrates seamlessly with the full line of InfraStruxure components.

### Greatest flexibility

Available in 24U, 42U, 45U, and 48U heights, 24 in. and 30 in. widths, and 32.5 in., 42 in., and 47.5 in. depths.

Easily adjustable vertical mounting rails for equipment varying in depth.

Rapid installation of vertical rack PDUs in the rear vertical zero-U accessory channel of NetShelter enclosures.

### Superior cable management capabilities

Accommodate high-density networking and blade applications.

Easy installation to enable faster and easier moves, adds, and changes.

Promote proper airflow to improve cooling efficiency.



### Applications for height

24U enclosures — Remote offices and small spaces.

42U enclosures — Standard height used globally, designed to fit through standard doorways.

45U enclosures — Enclosures with additional U-spaces for environments that standardize on a 45U 1,225 mm (7 ft.) enclosure height.

48U enclosures — More U-spaces for more equipment in the same footprint.



### Applications for depth

835 mm (32.5 in.) is the preferred depth for AV equipment.

1,070 mm (42 in.) is the standard depth and meets most low- to medium-density applications.

The 1,195 – 1,220 mm (47 – 48 in.) depth enclosures are becoming the new standard because of increasing server depth crowding cable and power space.

### Applications for width

600 mm (24 in.) wide enclosures are the standard for most server applications. For higher densities, a deeper enclosure may be required.

750 mm (30 in.) wide enclosures offer more space for high-capacity cable management and power distribution. Typically, wider enclosures are used for networking applications but the extra side space is often requested in blade server applications.



NetShelter SKU	Height	Width	Depth	Application
AR3100 <sup>1</sup> <sup>2</sup>	42U	600 mm (24 in.)	1,070 mm (42 in.)	Low/medium-density servers
AR3105 <sup>1</sup>	45U	600 mm (24 in.)	1,070 mm (42 in.)	Low/medium-density servers
AR3107 <sup>1</sup>	48U	600 mm (24 in.)	1,070 mm (42 in.)	Low/medium-density servers
AR3150 <sup>1</sup>	42U	750 mm (30 in.)	1,070 mm (42 in.)	Networking and blade applications
AR3155 <sup>1</sup>	45U	750 mm (30 in.)	1,070 mm (42 in.)	Networking and blade applications
AR3157 <sup>1</sup>	48U	750 mm (30 in.)	1,070 mm (42 in.)	Networking and blade applications
AR3300 <sup>1</sup> <sup>2</sup>	42U	600 mm (24 in.)	1,200 mm (47.5 in.)	Medium/high-density servers
AR3305 <sup>1</sup>	45U	600 mm (24 in.)	1,200 mm (47.5 in.)	Medium/high-density servers
AR3307 <sup>1</sup> <sup>2</sup>	48U	600 mm (24 in.)	1,200 mm (47.5 in.)	Medium/high-density servers
AR3350 <sup>1</sup>	42U	750 mm (30 in.)	1,200 mm (47.5 in.)	HD networking and blade applications
AR3355 <sup>1</sup>	45U	750 mm (30 in.)	1,200 mm (47.5 in.)	HD networking and blade applications
AR3357 <sup>1</sup>	48U	750 mm (30 in.)	1,200 mm (47.5 in.)	Networking and blade applications
AR3140 <sup>2</sup>	42U	750 mm (30 in.)	1,070 mm (42 in.)	High-density networking
AR3340 <sup>2</sup>	42U	750 mm (30 in.)	1,200 mm (47.5 in.)	Very-high-density networking
AR3347	48U	750 mm (30 in.)	1,200 mm (47.5 in.)	Very-high-density networking
AR3200	42U	600 mm (24 in.)	1,070 mm (42 in.)	2 x 20U compartments for colocation
AR3104	24U	600 mm (24 in.)	1,070 mm (42 in.)	Remote server applications
AR3810	42U	600 mm (24 in.)	825 mm (32.5 in.)	Audiovisual applications
AR3812	42U	600 mm (24 in.)	825 mm (32.5 in.)	Audiovisual applications
AR3814	24U	600 mm (24 in.)	825 mm (32.5 in.)	Audiovisual applications
AR3180 <sup>2</sup>	42U	800 mm (31.5 in.)	1,070 mm (42 in.)	Networking and blade applications
AR3380 <sup>2</sup>	42U	800 mm (31.5 in.)	1,200 mm (47.5 in.)	Networking and blade applications

<sup>1</sup> Shock packaging available for shipping enclosures with up to 900 kg (2000 lbs) of equipment installed

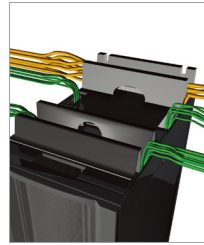
<sup>2</sup> Grey enclosure available

# NetShelter SX enclosure features

## More standard features for faster installation

### 1 Cable access roof

- Eight cable entry slots
- Toolless mounting of overhead cable trough system
- Snap-in mounting to allow easy roof removal and installation with cables in place



### 2 Integrated baying brackets

- Preinstalled on frame, front and back
- Spacing options at 600 mm (24 in.)
- Bays with other Schneider Electric power and cooling products

### 3 Preinstalled leveling feet and castors

- Easily adjustable leveling from top-down
- Castors standard on all enclosures

### 4 Toolless, zero-U accessory channel

- Toollessly mount rack PDUs
- Toollessly mount vertical cable organizers



### 5 Easily adjustable vertical mounting rails

- Simple screw and cam engagement
- Captive screws — no loose hardware
- Easy visual alignment for quick adjustment
- Adjust in 6 mm (0.25 in.) increments through enclosure
- Hole cutouts for 0U installation (AR8469) of Data Distribution Cable (DDC) accessories

### 6 Half-height side panels

- Easy and safe handling
- Quick release latch
- Lockable — same key as doors
- Enclosure width remains the same with or without sides attached



### Other standard features include:

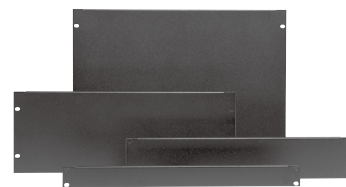
- Integrated electrical bonding of sides, doors, roof, and rails to frame
- Ventilated front and rear doors
- Split-rear ventilated rear doors for better clearance in hot aisle
- Numbered U positions front and back
- Open bottom for unobstructed under-floor access
- 1,365 kg (3,000 lb.) static (leveling feet) load, 1,025 kg (2,250 lb.) dynamic (castor) load
- UL Listed
- 482.6 mm (19 in.) rack-mount standard compliant

# Rack cooling and airflow management

## Air sealing

Covers open rack space to prevent air recirculation and reduce bypass airflow to improve cooling efficiency.

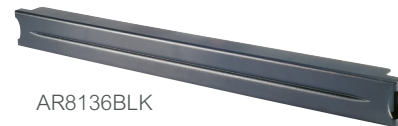
- **AR8136BLK** — 1U toolless snap-in blanking panel, 10 pk
- **AR8136BLK200** — 1U toolless snap-in blanking panel, 200 pk
- **AR8108BLK** — 1U standard metal blanking panel, 2 pk
- **AR8101BLK** — 1U, 2U, 4U, 8U, blanking panel kit
- **AR7708** — NetShelter SX Air Recirculation Prevention Kit for closing gaps and pass-through holes between side panels and equipment mounting rails
- **AR7731** — NetShelter SX external air sealing kit seals external openings at roof and floor, 10 pk



AR8101BLK



AR7731

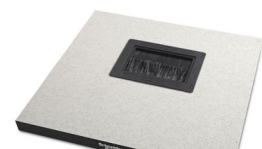


AR8136BLK

## KoldLok® raised floor grommets

Seal a variety of cutouts in a raised floor environment to reduce cold air leakage and improve cooling efficiency under the raised floor.

- **AR7720** — Integral raised floor grommet (enclosed) for new installation, 10 pk
- **AR7730** — Surface-mount raised floor grommet (split) for existing cables, 10 pk
- **AR7740** — Extended raised floor grommet to cover length of floor tile, 10 pk



AR7720



AR7740

## Rack fan panel

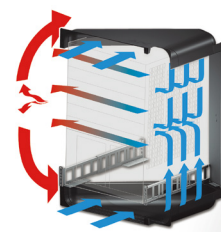
2U rack-mounted fan panel and accessories.

- **ACF600** — 2U rack fan panel
- **ACF601** — Rack fan panel temperature controller
- **ACAC40000** — 2U vent panel with temperature display
- **ACAC40001** — 2U vent panel

## Side airflow cooling

Support cooling for small and large networking switches mounted within networking enclosures.

- Consists of two duct assemblies that act as diverters, utilizing the existing fan power of the switch
- Systems of baffles are located throughout the enclosure to mitigate exhaust air from recirculating back into the air intake
- **AR7742 (42U)/AR7747 (48U)** — Side airflow solution for Cisco Nexus 7018 attaches to sides of 1,200 mm (47.5 in.) deep enclosures
- **AR7715** — Side airflow duct kit mounts inside 750 mm (30 in.) wide enclosures for Cisco 6509, 6513, 9509, 9513, and 9500 series switches
- **AR7725** — Side airflow duct kit mounts inside 30 in. wide enclosures for Cisco Nexus 7009 series switches



AR7715



AR7715

## Ducting only

Vertical Exhaust Duct (VED) for NetShelter SX is an easy-to-install, low-cost cooling option that can increase the efficiency of the attached cooling system.

- **AR7751** — VED for 600 mm (24 in.) enclosures, short range
- **AR7752** — VED for 600 mm (24 in.) enclosures, tall range
- **AR7753** — VED for 750 mm (30 in.) enclosures, short range
- **AR7754** — VED for 750 mm (30 in.) enclosures, tall range
- **AR7755** — Overhead cable extension for VED 600 mm (24 in.)
- **AR7756** — Overhead cable extension for VED 750 mm (30 in.)

Roof fan trays available for 1,070 mm (42 in.) deep enclosures, see "Rack components" on page 13.



AR7751 and AR7755 installed on AR3300 with cable management

# NetShelter enclosure and rack accessory compatibility chart

SKU	Description	AR3100 NetShelter SX 1070 Deep 42U x 600 (W)	AR3105 NetShelter SX 1070 Deep 45U x 600 (W)	AR3107 NetShelter SX 1070 Deep 48U x 600 (W)	AR3150 NetShelter SX 1070 Deep 45U x 750 (W)	AR3155 NetShelter SX 1070 Deep 45U x 750 (W)	AR3157 NetShelter SX 1070 Deep 48U x 750 (W)	AR3300 NetShelter SX 1200 Deep 42U x 600 (W)	
Vertical Cable Management									
AR7502	NetShelter SX 42U Vertical PDU Mount and Cable Organizer	•			•			•	
AR7505	Rear Center Mount Cable Tree for NetShelter SX	•		•	•		•	•	
AR7511	Narrow Vertical Cable Organizer, NetShelter SX, 42U	•			•			•	
AR7552	Vertical Cable Organizer, NetShelter SX, 45U		•			•			
AR7572	NetShelter SX 48U Vertical PDU Mount and Cable Organizer			•			•		
AR7580A	Vertical Cable Manager for NetShelter SX 750 mm Wide 42U (Qty 2)				•				
AR7581A	Hinged Covers for NetShelter SX 750 mm Wide 42U Vertical Cable Manager (Qty 2)				•				
AR7585	Vertical Cable Manager for NetShelter SX 750 mm Wide 45U (Qty 2)					•			
AR7586	Hinged Covers for NetShelter SX 750 mm Wide 45U Vertical Cable Manager (Qty 2)					•			
AR7588	Vertical Cable Manager for NetShelter SX 750 mm Wide 48U (Qty 2)						•		
AR7589	Hinged Covers for NetShelter SX 750 mm Wide 48U Vertical Cable Manager (Qty 2)						•		
AR7706	NetShelter SX 750 mm Mounting Rail Brush Strips				•	•	•		
AR7721	Vertical Cable Manager for NetShelter SX 600 mm Wide, 42U	•						•	
AR7722	Vertical Cable Manager for NetShelter SX 600 mm Wide, 45U		•						
AR7723	Vertical Cable Manager for NetShelter SX 600 mm Wide, 48U			•					
AR8442	Vertical Cable Organizer for NetShelter 0U Channel	•	•	•	•	•	•	•	
AR8443A	Vertical Fiber Organizer	•	•	•	•	•	•	•	
AR8444	Fiber Spools	•	•	•	•	•	•	•	
AR8008BLK	Side Channel Cable Trough				•	•	•		
AR8016ABLK	NetShelter SX Side Channel Cable Trough				•	•	•		
Rack Cooling SKUs									
AR7708	NetShelter SX Air Recirculation Prevention Kit	•	•	•	•	•	•	•	
ACF001	RM Air Distribution Unit 120 V	•	•	•	•	•	•	•	
ACF002	RM Air Distribution Unit 208/230 V	•	•	•	•	•	•	•	
ACF003	RM Air Distribution Unit 100 V	•	•	•	•	•	•	•	
ACF501	Netshelter SX Roof Fan Tray 115 VAC	•	•	•					
ACF502	Netshelter SX Roof Fan Tray 208 – 230 VAC	•	•	•					
ACF503	Netshelter SX Roof Fan Tray 115 VAC 750 mm				•	•	•		
ACF504	Netshelter SX Roof Fan Tray 208 – 230 VAC 750 mm				•	•	•		
AR7715	NetShelter SX Internal Side Air Flow Duct Kit				•	•	•		
AR7725	NetShelter SX Internal Side Airflow Duct Kit for Nexus 7009				•	•	•		
AR7742	NetShelter SX 42U Nexus 7018 Duct Kit								
AR7747	NetShelter SX 48U Nexus 7018 Duct Kit								