



# S-Series enclosures

Protect. Manage. Power.

**EATON**

*Powering Business Worldwide*

# Keeping pace with technology

## Optimized solutions

The new S-Series Enclosures provide optimized solutions – balancing the requirements of airflow management, greater power demands and higher density cabling.

## Today's data center

Today's enclosures go well beyond simple cabinets that solely house servers; essentially they are mini data centers that reside within the company's physical data center. In an effort to regain control of increased energy costs to run the company's data center, IT managers and their colleagues need to consider the IT rack as an integral and necessary component of the airflow plenum design.

While legacy data center design factors are still relevant, the ability to use the rack as a plenum provides IT managers with a new weapon in their arsenal.

Each rack can be designed and implemented as an isolated environment. Managers now have the freedom to set the airflow requirements of individual racks as they relate to the larger plenum system.

## Rack hygiene

The concept of rack hygiene encompasses the identification, analysis and repair of hot air leakage areas/infusion paths and cold air bypass routes within and around individual data center racks.

Rack hygiene describes the care in which the rack envelope is designed, controlled and maintained.

The rack envelope consists of the entire volume of space from the floor to top of the rack itself, and perhaps a measurement of rise above the floor to include empty space above the rack that would rise to the heat deck.

Regardless of the rack's dimensions, it is incumbent upon the data center professional to employ solutions that provide an impenetrable barrier around the front plane of the rack in a front-to-back dominated airflow environment.

## Small and medium business

From small businesses to government installations – preconfigured, smaller enclosures provide the perfect solution for small server, storage and communication racks. They are available in 30U and 36U heights.

## Enclosure integration

Eaton's S-Series Enclosures provide the integration of a wide range of accessory products including ePDUs for power distribution, UPS products for power backup, airflow management elements including chimneys and compatibility with end-of-row doors and other

Eaton containment solutions, cable management and a full range of monitoring and management products. With a focus on energy efficiency, a solution that provides a holistic and integrated approach is critical.

Additionally, the enclosure solution must interface seamlessly with the surrounding data center environment. Key considerations in a solutions approach include cable egress and ingress, interface of air management elements with the thermal/cooling infrastructure, aligning the ePDU and UPS requirements with the anticipated workload in the enclosure and ensuring that all necessary grounding and ESD factors are addressed. Eaton's application engineers are here to assist you in determining the solution that best matches your data center needs.



High performance S-Series Enclosures for mission-critical applications.

# Energy efficient solutions for high-density equipment

## Integrating key design elements

Energy efficient designs require attention to a wide range of enclosure elements including cable management, airflow, power distribution and environmental monitoring/management. The S-Series design addresses each of these elements. Cable management is critical for ensuring air intake/exhaust paths are clear to maximize equipment cooling. Top panels with brushes provide airflow management while facilitating overhead cabling. Blanking panels are key to maintaining cold/hot aisle configurations and minimizing any recirculation of air. Chimneys provide a cost effective yet high performance option for hot air exhaust. Eaton's extensive offering of managed and monitored ePDUs – which mount directly to the S-Series – provide a wide range of sensor and communication options for managing an installation. The bottom line – S-Series offers integrated energy efficient options.



**Cable management features are built into the frame.**

**Top panels include brush strips and cableways.**

**Small and Medium Enterprise (SME) Enclosures.**

**Eaton's Telescopic Chimney solution channels hot air from IT equipment, through the chimney, to the return plenum, for increased CRAC efficiency.**



**Frames feature grommet holes to allow cable pass through while managing airflow.**



**Integrated power distribution mounting is built into the frame.**



**Blanking panels are available to seal open U spaces.**



**Monitor and manage system energy with Eaton ePDUs.**

**Divider panels feature grommet holes with covers to manage airflow while providing side-to-side cabling.**

# S-Series preconfigured solutions

Preconfigured S-Series solutions provide a full complement of rack hygiene, cable management and ePDU mounting options. These include high flow doors, air seals to ensure minimal leakage between hot/cold aisles, and optimized ePDU mounting to minimize interference with the rackmounting space. Best of all, this turnkey solution is ordered as a single product number, making the ordering process quick and easy.

Eaton offers a wide range of configuration options to best meet the specific application requirements. Each enclosure comes with a welded steel frame, and equipment mounting EIA-310 vertical mounting rails (4) with cage nuts and hardware. All enclosures come standard in black. Additional features vary based on configuration.

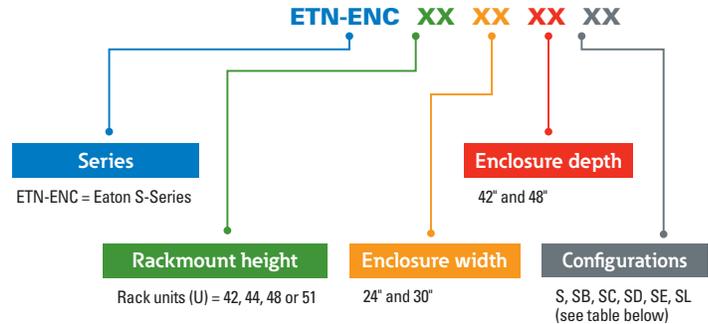
## Frame features:

- 3000 lbs. static loading
- 2200 lbs. dynamic loading for enclosures with casters
- Integral mounting for up to two ePDUs in rear on each upright (minimizes any interference with rear equipment mounting)
- Enhanced frame ensures minimal leakage around the front perimeter and also features oval grommets in front frame verticals for cable pass-thru between racks

## Additional features based on configurations:

- High flow single front door with 75 percent open perforation pattern
- High flow split rear door with 75 percent open perforation pattern
- Top panel with two six-inch wide brushed openings for cable egress on all version except SE; top panel with no brushes on SE version
- Divider panel with cable pass-thru installed on left side; grommets included on cable pass-thru to manage airflow; divider panels used in bayed units
- 19 inch EIA-310 vertical mounting rails (quantity four) with U-markings
- Vertical blanking panels (quantity two) with grommeted cable pass-thru for 30-inch wide models to minimize leakage while providing cable access
- Grounding pre-installed

## S-Series enclosure part number breakdown:



## CONFIGURATIONS / SIZES

U	Configurations	Height	Width	Depth
42	S, SB, SC, SD, SE, SL	81"	24"	42"
42	S, SB, SC, SD, SE	81"	24"	48"
42	S, SB, SC, SD, SE	81"	30"	42"
42	S, SB, SC, SD, SE	81"	30"	48"
44	S, SE	84"	24"	42"
44	S, SB, SE	84"	24"	48"
44	S, SE	84"	30"	42"
44	S, SB, SE	84"	30"	48"
48	S, SE	91"	24"	42"
48	S	91"	24"	48"
48	S	91"	30"	42"
48	S	91"	30"	48"
51	S	96"	24"	42"
51	S	96"	24"	48"
51	S	96"	30"	42"
51	S	96"	30"	48"

Refer to accessory section for side panel and divider panel options.

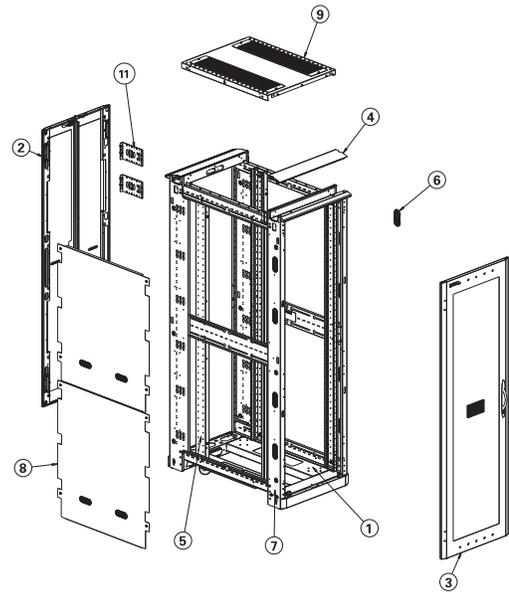
## S-SERIES CONFIGURATIONS

Configuration type	Options				
	Casters	Dividers/ side panels	Top panel	Front/rear perf doors	Lock style
<b>S</b> For bayed enclosures	X	Divider (one side)	X	X	Key with pull handle
<b>SD</b> For bayed enclosures			X	X	Key with pull handle
<b>SB</b> For stand alone enclosures	X	Sides	X	X	Key with pull handle
<b>SC</b> For stand alone enclosures		Sides	X	X	Key with pull handle
<b>SE</b> For four post rack mounting			X (no brushes)		
<b>SL</b> Combo lock for security requirements	X	Sides	X	X	Combo lock

# S-Series typical configurations

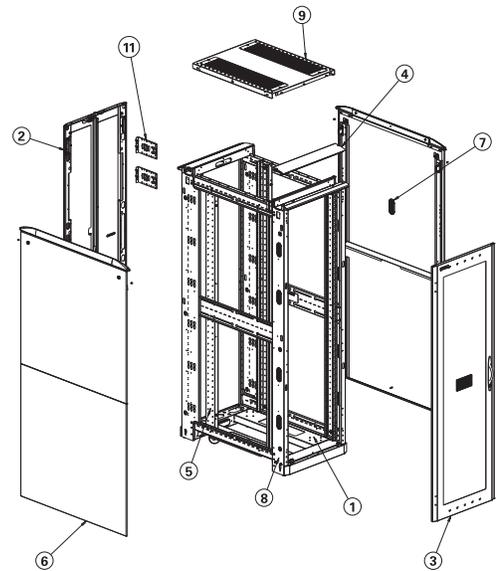
## ETN-ENCXX24XXS – 24"W S ENCLOSURE

Item	Description	Quantity
1	Caster bracket	1
2	High flow split door – rear	1
3	High flow door – front	1
4	Frame trim kit	1
5	Rackmount rails	1
6	Oval grommet	1
7	Welded frame	1
8	Divider panel	1
9	Top panel	1
10	Grounding kit	1
11	Power strip bracket assembly	1



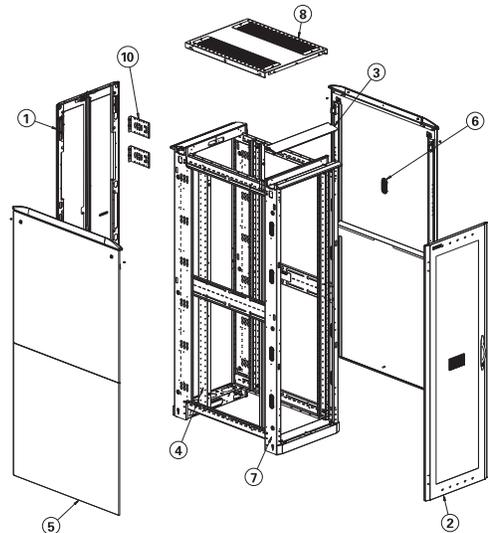
## ETN-ENCXX24XXSB – 24"W SB ENCLOSURE

Item	Description	Quantity
1	Caster bracket assembly	1
2	High flow split door – rear	1
3	High flow door – front	1
4	Frame trim kit	1
5	Rackmount rails	1
6	Side panel, split	2
7	Oval grommet	8
8	Welded frame	1
9	Top panel	1
10	Grounding kit	1
11	Power strip bracket assembly	1

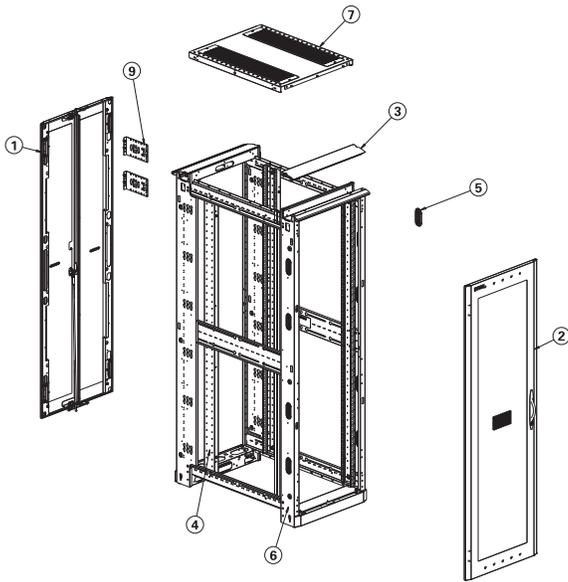


## ETN-ENCXX24XXSC – 24"W SC ENCLOSURE

Item	Description	Quantity
1	High flow split door	1
2	High flow door	1
3	Frame trim kit	1
4	Rackmount rails	1
5	Side panel, split	2
6	Oval grommet	8
7	Welded frame	1
8	Top panel	1
9	Grounding kit	1
10	Power strip bracket assembly	1

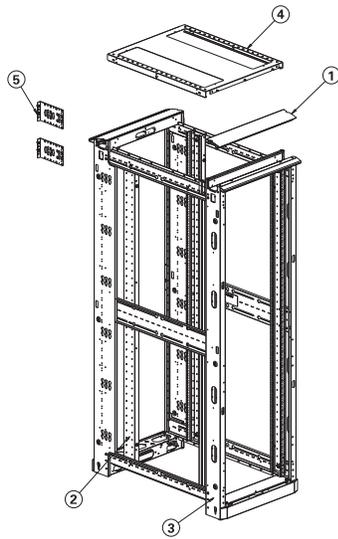


# S-Series typical configurations



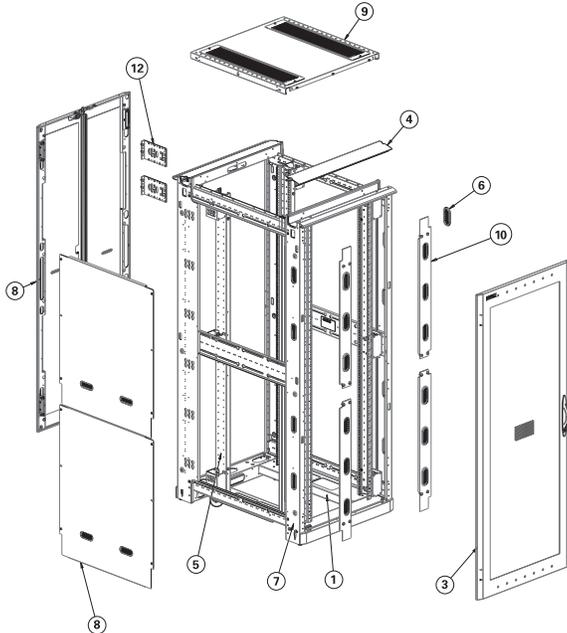
**ETN-ENCXX24XXSD – 24"W SD ENCLOSURE**

Item	Description	Quantity
1	High flow split door – rear	1
2	High flow door – front	1
3	Frame trim kit	1
4	Rackmount rails	1
5	Oval grommet	8
6	Welded frame	1
7	Top panel	1
8	Grounding kit	1
9	Power strip bracket assembly	1



**ETN-ENCXX24XXSE – 24"W SE ENCLOSURE**

Item	Description	Quantity
1	Frame trim kit	1
2	Rackmount rails	1
3	Welded frame	1
4	Top panel	1
5	Power strip bracket assembly	1



**ETN-ENCXX30XXS – 30"W S ENCLOSURE**

Item	Description	Quantity
1	Caster bracket assembly	1
2	High flow split door – rear	1
3	High flow door – front	1
4	Frame trim kit	1
5	Rackmount rails	1
6	Oval grommet	8
7	Welded frame	1
8	Divider panel	1
9	Top panel	1
10	Vertical blanking panels	1
11	Grounding kit	1
12	Power strip bracket assembly	1

# Enclosure airflow management

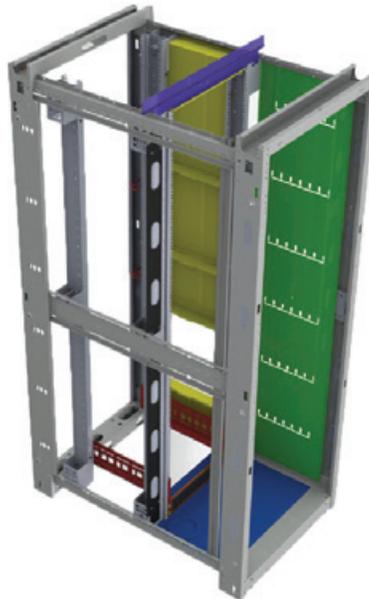
## Airflow management options include:

- Blanking panels to separate hot and cold sections
- Conversion kits to manage airflow on devices with cooling which does not align with front-to-back configurations
- Enclosure chimneys to manage/enhance heat exhaust



### Blanking Panels

Provide a quick, easy and cost effective solution to optimize air circulation within an enclosure.



### Conversion Kit

Provides ducting of cold air to side inlet on IT equipment.



### Telescopic Chimney

Directs heat at the rear of the enclosure to overhead ducting.

## For Cisco switches

Standard S-Series configurations (S, SB, SC and SL) with rack hygiene can be converted to accommodate Cisco switch applications.

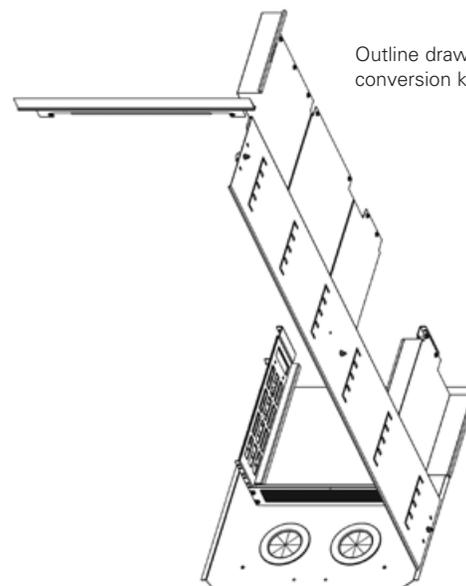
### Features

- Integrated air seal panels to convert side-to-side into front-to-back airflow
- Vertical lacing bars for managing large bundles of data cables
- Pre-installed adjustable chassis support brackets for supporting heavy switches

### CONVERSION KITS FOR CISCO SWITCHES

Part number	Cisco model	Converts S-Series model
ETN-6509CVK42	Catalyst 6509-E	ETN-ENC423042X and ETN-ENC423048X
ETN-6509CVK48	Catalyst 6509-E	ETN-ENC483042X and ETN-ENC423048X
ETN-6513CVK42	Catalyst 6513	ETN-ENC423042X and ETN-ENC423048X
ETN-6513CVK48	Catalyst 6513	ETN-ENC483042X and ETN-ENC423048X

**Note:** "X" denotes the S-Series configuration; Conversion kits may be used with S, SB, SC and SL options



Outline drawing of a Cisco conversion kit.

# Enclosure chimney solutions

The Eaton Telescopic Chimney (TC) is a passive straight duct designed to channel the rear heat exhaust from the S-Series enclosures. The TC channels the hot exhaust from the rear of the unit to the return plenum, increasing cooling efficiencies in the white space.

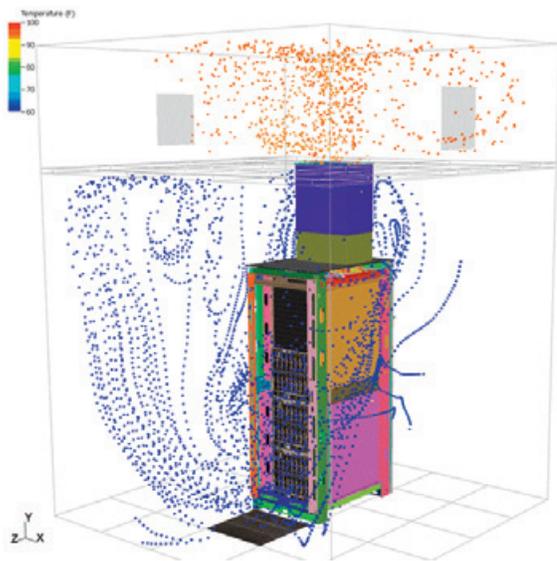
The TC prevents the remixing of hot exhaust with cool air intake and prevents the recirculation of hot exhaust to the server or network equipment.

## Features

- **Range of height options:** The TC is available in a range of height options to accommodate most data center ceiling heights. It also offers infinite adjustability within the range of options.
- **Low maintenance:** The TC does not contain electrical fans that need monitoring or maintenance.

## Benefits

- **Increased efficiency:** The TC channels heat exhaust to the return plenum. This prevents hot spots, recirculation and remixing of hot exhaust and cool air intake, thus maximizing cooling efficiencies. If the return plenum exhaust is ducted back to the CRAC units, CRAC efficiency is increased as well.
- **Ease of installation:** The TC can be installed in less than 30 minutes. It attaches to the enclosure with eight fasteners and the height is adjusted and locked in place with four fasteners.
- **Elimination of hot aisle:** By isolating the hot air exhaust in the chimney, the hot aisle has been eliminated; creating a more comfortable workspace for data center personnel.



### CFD analysis

Computational Fluid Dynamics (CFD) model showing airflow through a passive telescopic chimney.



## TELESCOPIC CHIMNEY OPTIONS

Item number	Height adjustment (in.)	Width (in.)	Depth (in.)	Weight (lbs.)	Finish
ETN-EXTTC1219	12-19	23	19.5	30	Black
ETN-EXTTC1728	17-28	23	19.5	39	Black
ETN-EXTTC2645	26-45	23	19.5	56	Black
ETN-EXTTC4376	43-76	23	19.5	87	Black

## S-SERIES ENCLOSURE CONFIGURATIONS

Item number	Configuration	Height (U)	Height (in.)	Width (in.)	Depth (in.)*	Weight (lbs.)
ETN-ETC422442S	(1) Divider panel	42	81	24	42	322
ETN-ETC422442SB	(2) Solid finish side panels	42	81	24	42	320
ETN-ETC422448S	(1) Divider panel	42	81	24	48	330
ETN-ETC422448SB	(2) Solid finish side panels	42	81	24	48	335
ETN-ETC423042S	(1) Divider panel	42	81	30	42	325
ETN-ETC423042SB	(2) Solid finish side panels	42	81	30	42	330
ETN-ETC423048S	(1) Divider panel	42	81	30	48	335
ETN-ETC423048SB	(2) Solid finish side panels	42	81	30	48	340

\* Depth of enclosures includes front and rear doors

## Configuration notes

### ETN-ETCXXXXXS

- 75% perforated high flow front door
- Telescopic Chimney top panel
- Solid split rear door
- 19" EIA square hole rails
- Divider panel with cable pass-thru
- Casters
- PDU brackets
- Black finish

### ETN-ETCXXXXXSB

- 75% perforated high flow front door
- Telescopic Chimney top panel
- Solid split rear door
- 19" EIA square hole rails
- Two solid side panels
- Casters
- PDU brackets
- Black finish

# Cable management made simple

S-Series Enclosures take a unique approach by addressing cable access and management concurrently. From a structural standpoint, the S-Series frame design efficiently accommodates large quantities of cables and provides unmatched enclosure-to-enclosure, raised floor and overhead cable access. This approach is not only crucial to safeguarding cabling, but it is required to maximize airflow and provide clear, easy access to equipment.

**Please see the accessories section starting on page 18 for additional cable management solutions.**



### Vertical blanking panels

The vertical blanking panels combine cable management from front to back with airflow management – ensuring minimal leakage between the hot and cold regions of the enclosure.



### Overhead cable management system

Allows users to route cables on top of the enclosure and offers separate trays for power and data.



### Active equipment cable managers

Provide bend radius support for patch cables.



### Waterfalls

Provide the optimal bend radius for CAT 5e/6 and fiber cables as specified in TIA/EIA-568-A.



### Vertical cable manager

Creates a vertical trough in the side channel that allows up to 300 CAT 5e/6 fiber cables.



### Vertical cable distribution spools

Manage surplus power cords or network cables.



### Brush strips

Brushes enable egress of cables through the top panel while providing airflow management within the enclosure.

# Small and medium enterprise (SME) enclosure



From small businesses to government installations – SME preconfigured enclosures provide the perfect solution for small server, storage and communication racks. Available in 25U, 30U and 36U heights, these preconfigured solutions feature:

- Perforated front and rear doors to ensure proper cooling for IT equipment
- Mounting provisions on rear uprights for ePDUs and cable management accessories
- Adjustable rails with cage nuts for equipment mounting
- Key lock for security
- Casters to facilitate ease of transport/installation
- Removable side panels to facilitate cabling and equipment installation
- Cutouts in top panel for cable egress/ingress

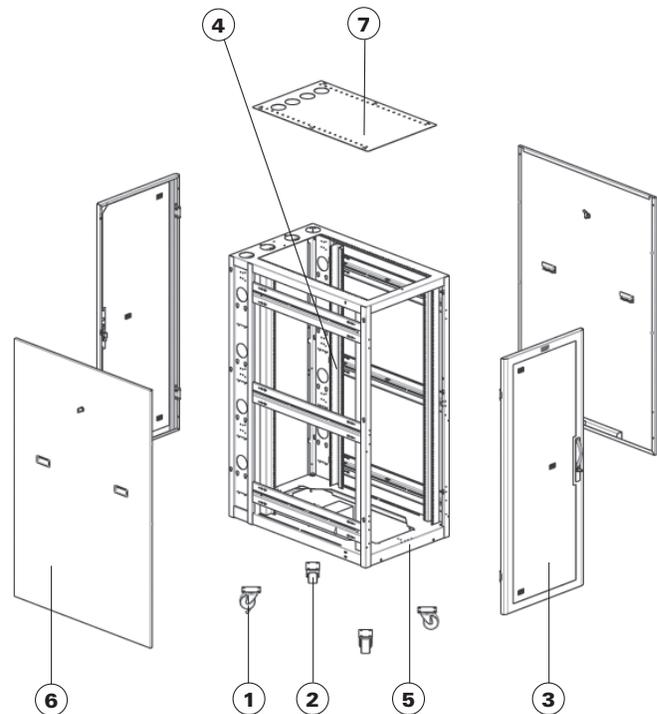
#### Applications:

- Backup power enclosure
- Server cabinet
- Storage rack
- Communications rack

Note: Standard enclosure color is black. Other colors available by special order.

#### SME ENCLOSURE CONFIGURATION

Item	Description	Quantity
1	Caster kit with four swivel casters	1
2	Mounting kit which includes 20 M6 cage nuts and 20 M6 x 20mm PH screws	1
3	Perforated doors with key lock and handle	2
4	Equipment mounting rail set (four rails)	1
5	Frame – 25U/30U/36U x 24"W x 40"D	1
6	Solid side panels	2
7	Top panel with cable cutouts	1



# Small and medium enterprise (SME) enclosure

## SME ENCLOSURES

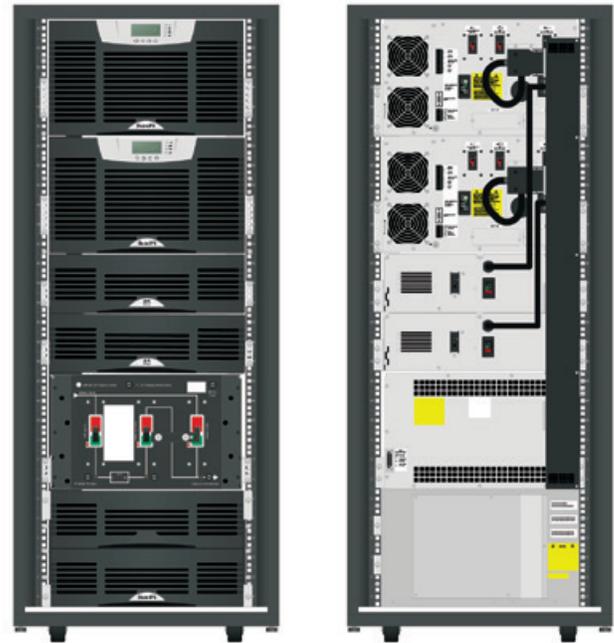
Item number	Description	Width (including sides)	Depth (including doors)	Height (including casters)	Color
ETN-VS2252440	25U 19" rackmount enclosure	25.3"	41.7"	50"	Black
ETN-VS2302440	30U 19" rackmount enclosure	25.3"	41.7"	59"	Black
ETN-VS2362440	36U 19" rackmount enclosure	25.3"	41.7"	69"	Black

## SUGGESTED ENCLOSURE ACCESSORIES

Item number	Description	Use
ETN-PB1U10	Kit of 10 IU plastic blanking panels	Cover unused slots in rack
ETN-BX45V110	Kit of 50 VELCRO® straps – 11" long	Cable management
ETN-BX45V8	Kit of 50 VELCRO® straps – 8" long	Cable management
ETN-STLDRING	Kit of 4 steel D-rings	Cable management
ETN-CMPD19031U	1U 19" rackmount cable ring manager	Cable management
ETN-CMRB19022U	2U strain relief bar for 19" rail mount	Cable management
ETN-CHASBKT2032	Adjustable chassis brackets (20"-32" mounting)	Equipment support
ETN-RS19281U10	Standard duty roll-out shelf, 19" EIA, 28"D, 100 lbs. max load	Equipment support

## SUGGESTED POWER PRODUCTS FOR A TYPICAL 24KW POWER BACKUP CONFIGURATION

Item number	Description	Quantity
ZC121P060100000	BladeUPS 12kW, 208V with parallel cord	2
103005747-6591	BladeUPS 3U Battery Module, 9.5 min	2
103007415-5208	BladeUPS Bypass Module, 208V	1
103007830-5591	BladeUPS 48kW Bus Bar, bottom entry	1
103007569-5591	BladeUPS Universal Wireway	1
103007974-5591	Power Xpert Gateway UPS card	1
116750224-001	Environmental monitoring probe	1



This typical solution for power backup includes an SME Enclosure and various Eaton BladeUPS systems.

## EPDU OPTIONS FOR 30U & 36U ENCLOSURES

Item number	Input/output voltage (V)	Amps	Functionality	Input	Input cord length	Output	Dimensions (H x W x D in.)	Rackmount orientation
ePBZ75	120	15	Basic	5-15P	15'	(14) 5-15R	24 x 1.5 x 1.5	0U
ePBZ73	120	15	Basic	5-15P	15'	(18) 5-15R	48 x 1.5 x 1.5	0U
ePBZ74	120	20	Basic	5-20P, L5-20P*	15'	(14) 5-20R	24 x 1.5 x 1.5	0U
ePBZ72	120	20	Basic	5-20P, L5-20P	15'	(18) 5-15R	48 x 1.5 x 1.5	0U
EMI103-10	208	20	Metered	C20 (L6-20 adapter)	10'	(18) C13, (2) C19	35.5 x 2.05 x 2.1	0U
ePBZ90	120	30	Basic	L5-30P	15'	(24) 5-20R	40 x 1.9 x 2.1	0U
PULSTS1400R-IU	120	15	ATS	(2) 5-15	6'	(6) NEMA 5-15R	1.75 x 19 x 9.8	1U
ePBZ82	120	20	Basic	L5-20P	15'	(12) 5-20R	1.7 x 17.3 x 2.3	1U
ePBZ83	120	15	Basic	5-15P	15'	(12) 5-15R	1.7 x 17.3 x 2.3	1U

\*Note: 20-amp PDUs come with a standard locking adapter to convert L5-20P to 5-20P. To see the full Eaton ePDU offering, please visit [Eaton.com/epdu](http://Eaton.com/epdu).

# S-Series seismic enclosure solutions

Seismic enclosures are the solution of choice for installations where shock and vibration are factors. This includes earthquake zones, transportation (railway and shipboard) and high vibration environments such as power plants and airports. Seismic enclosures protect your electronics by providing enhanced frame strength and rigidity.

## Features

- Tested to NEBS Zone 4 via Telcordia GR-63-CORE
- Weight loads up to 1300 lbs. (590 kg)
- Welded 12-gauge steel enclosures
- Fully configured 42U enclosures
- 24" and 30" enclosure widths
- Overall height: 84"

## Primary markets/applications

- Enterprise data centers
- Colocation or web hosting data centers
- Networking room

## What is Seismic?

Seismic products are performance tested according to Telcordia (formerly Bellcore) GR-63-CORE Network Equipment Building System (NEBS™) requirements for physical protection. A Telcordia GR-63-CORE compliant test must be conducted by a Nationally Recognized Testing Laboratory (NRTL) or other recognized independent laboratory before certification will be issued. This test is conducted on an installation-specific basis with customer-installed equipment and cabling mounted inside.

## Testing

Eaton has tested specific seismic configurations under weight loading and equipment loading conditions. The testing verified the enclosure performance up to NEBS Zone 4 for weight load up to 1300 lbs. (590 kg). During testing, the enclosures showed no deformations to the frame or any load bearing elements. A detailed test report is available on our web site.

Different enclosure applications will likely require additional seismic testing to ensure performance based on the specific equipment loading and weights.

There are many factors which impact the ability of an enclosure and equipment mounted internally to withstand the shock and vibration conditions typical of seismic applications. These include:

- Weight of the equipment loaded into the enclosure
- Center of gravity of the enclosure with the equipment loaded
- Attachment/anchoring
- Height and width of the enclosure
- Level of seismic activity

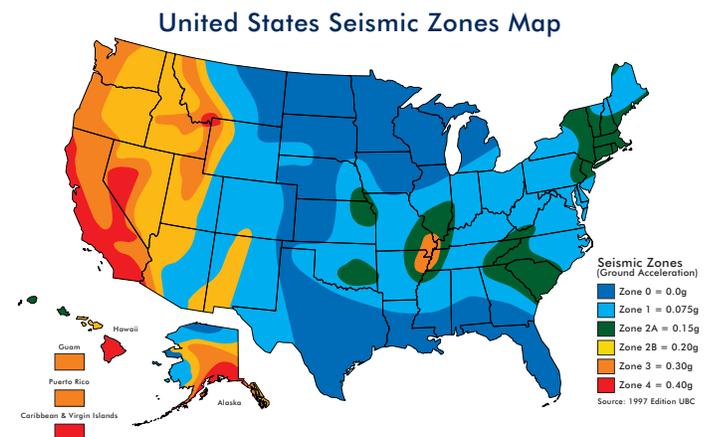


The enclosure performance may change once equipment is installed - depending on the weight, positioning and attachment features. These changes may or may not affect the seismic stability of the enclosure.

Eaton's application engineers will work with you to configure a solution which best meets your application requirements. From FEA (Finite Element Analysis) through testing - we will partner with you to create a solution which meets your seismic requirements.

## Seismic zones

Seismic enclosure standards are often specified in terms of the earthquake risk zones. As shown in the seismic map, zones vary from 0 to 4 - with the zone 0 designating no substantial risk. Zones 3 and 4 are generally viewed as regions where Seismic enclosures are needed.



# S-Series seismic enclosure solutions

## Key design elements

### Product details

- Fully configured Seismic Enclosures
- Tested to Telecordia GR-63-Core seismic requirements up to 1300 lbs. (590 kg)
- 12 gauge steel construction
- Size: 84"H (42U usable vertical space), 24"W or 30"W and 40"D
- NEBS rated doors with Dirak swing handle three-point latching system (black)
- Dirak swing handle is the NEBS approved lock for this enclosure
- Doors have full perforation pattern
- Standard Titanium insert panels are used with the NEBS door frames
- Mechanically fastened NEBS rated side panels or divider panels (black)
- Frame is configured with networking top panel
- Seismic mounting washers included with the frame
- Lacing bar provided for ePDU mounting in rear
- Grounding kit included
- Rails (4) with .375" square holes provided for 19" mounting

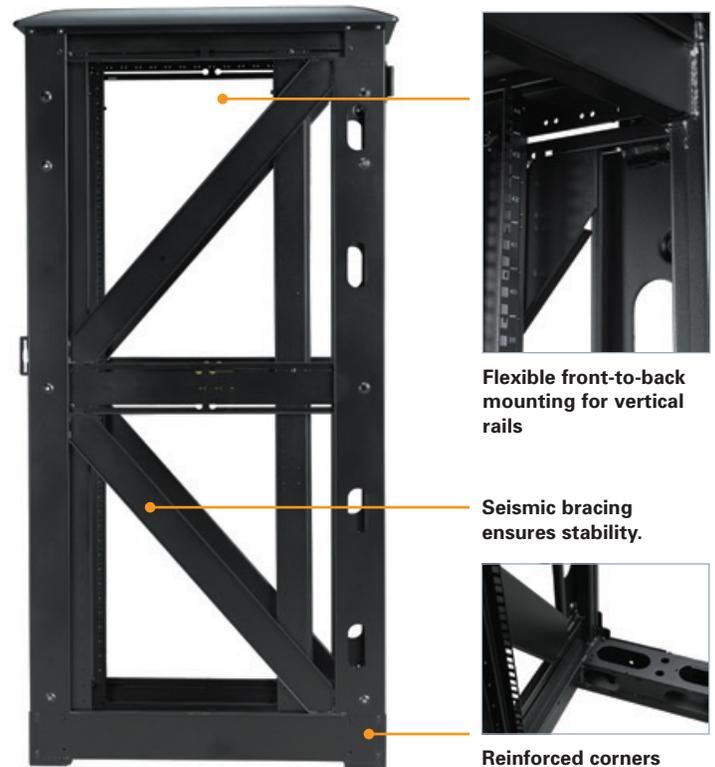
## S-Series Seismic Enclosure configurations

### ETN-ENZ422440S

Description	Quantity
Color: Black	
Seismic frame: 42U x 24"W x 40"D	1
Seismic divider panel	1
Rails - square holes (4)	1
Seismic trim kit	1
Seismic door frame	2
Perf insert for seismic door	2
Key lock	2
Lacing bar for ePDU mounting	1
Grounding kit	1
Networking top	1

### ETN-ENZ423040S

Description	Quantity
Color: Black	
Seismic frame: 42U x 30"W x 40"D	1
Seismic divider panel	1
Rails - square holes (4)	1
Seismic trim kit	2
Seismic door frame	2
Perf insert for seismic door	2
Key lock	1
Lacing bar for ePDU mounting	1
Grounding kit	1
Networking top	1



Flexible front-to-back mounting for vertical rails

Seismic bracing ensures stability.

Reinforced corners

### ETN-ENZ422440SB

Description	Quantity
Color: Black	
Seismic frame: 42U x 24"W x 40"D	1
Seismic side panels	2
Rails - square holes (4)	1
Seismic trim kit	1
Seismic door frame	2
Perf insert for seismic door	2
Key lock	2
Lacing bar for ePDU mounting	1
Grounding kit	1
Networking top	1

### ETN-ENZ423040SB

Description	Quantity
Color: Black	
Seismic frame: 42U x 30"W x 40"D	1
Seismic side panels	2
Rails - square holes (4)	1
Seismic trim kit	2
Seismic door frame	2
Perf insert for seismic door	2
Key lock	1
Lacing bar for ePDU mounting	1
Grounding kit	1
Networking top	1

# Integrated power management solutions



What was once a simple task of mounting 15-20 amp power strips has evolved into a calculated strategy to manage power-intensive servers in densely packed enclosures. Eaton provides the widest variety of power and power management capabilities through its basic, monitored and switched power distribution offering with solutions ranging from .5 kVA up to 15+ kVA.

## Three-phase power distribution

Running three-phase power directly to the rack reduces the required number of feeds/whips/drops, resulting in lower installation costs. In addition, three-phase power offers the flexibility of providing 120V and 208V receptacles on a single unit. Eaton offers a broad range of three-phase power distribution solutions and also offers a 400V solution.

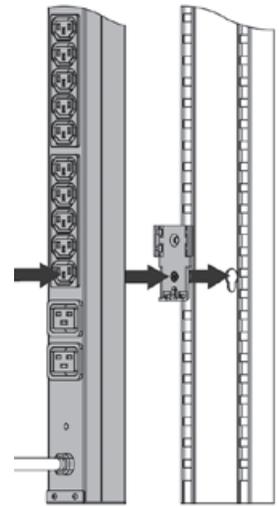
## Basic/monitored/switched power

Eaton's broad ePDU product line offers a reliable solution to your every day power distribution needs. From basic solutions, to monitoring at the outlet level, Eaton provides horizontal and vertical rackmounted solutions from 1-15+ kVA. The plug-and-play architecture, industry leading software and space-saving mounting options make these units the perfect solution for your IT environment.

## Space-saving mounting options

Installing your new ePDU is quick and easy. There are models that mount horizontally in minimal rack space (1U or 2U), or vertically in rack side pockets or rear channels or on a wall or floor, saving traditional U space for IT equipment.

The units come with mounting hardware included, ready to install. Some units use a button-mount system and can be mounted in keyhole-type openings in popular racks, with no tools required. Depending on rack size, some units may require additional brackets.



Bracket mount with clip feet



## Optimized rear PDU mounting solutions

The S-Series Rack Hygiene frame features optimized rear PDU mounting. The rear upright is wider and can mount up to two typical 0U ePDUs side-by-side with no additional bracket. Because the ePDUs are mounted on the upright, there is no interference between the PDU and the equipment mounting space between the rails.

## Benefits of vertical mounts

Eaton ePDUs can be mounted vertically, allowing you to save valuable space. You can mount them vertically in rack side pockets, rear channels, or on a wall, which allows you to save traditional U space for IT equipment.

Check out Eaton's new high performance G3 ePDU offering at: [Eaton.com/ePDUG3](http://Eaton.com/ePDUG3)



## IEC Outlet Grip

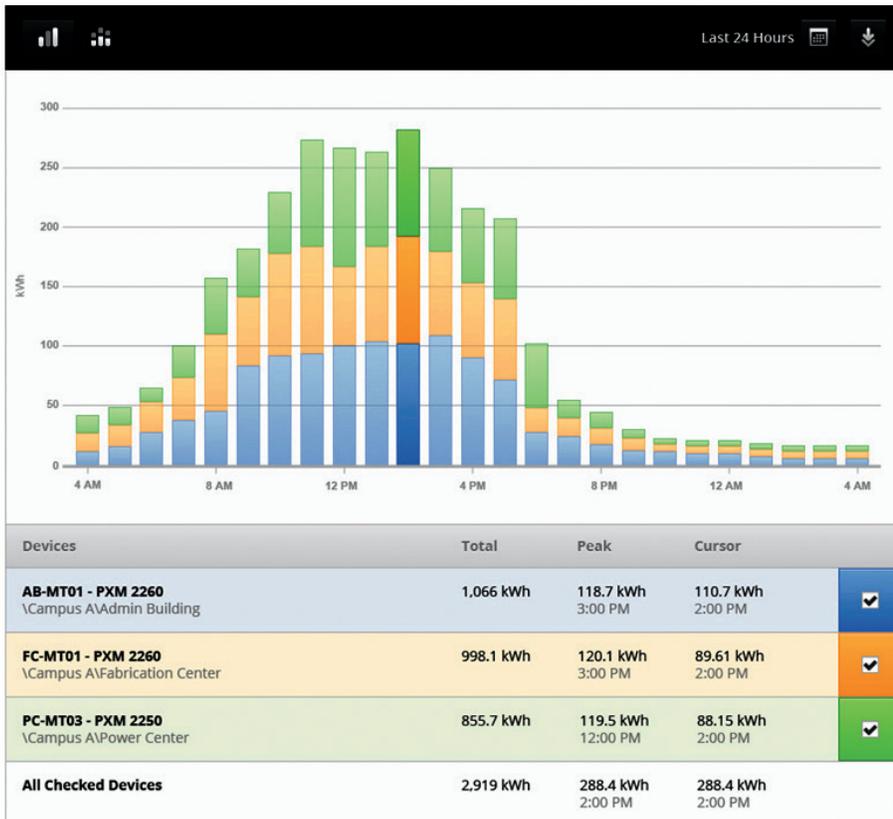
Eaton's new patented IEC outlet grip secures plugs in place with a lever-activated grip that is integrated into each outlet.

## LCD Display

The G3 ePDU's LCD pixel display allows viewing of power and total input.



# Integrated power management solutions



## Temperature Sensors

Eaton Monitored ePDUs allow remote monitoring of the current draw of the unit and individual sections. Equipped with these 10' temperature sensors, you can monitor the temperature inside your enclosure.



## Environmental Monitoring

You can utilize the Environmental Monitoring Probe to track internal and external temperatures, humidity and contact closure. This information allows you to operate the ePDU up to 50°C (122° F), in turn reducing cooling costs. (Part number EMP001).

## Power Xpert® software

An ideal facility enterprise solution, Power Xpert supports the full offering of Eaton's electrical products and offers support for third party products. Power Xpert monitors alarms, logs current readings and environmental sensors on an ePDU. There is a web-based dashboard view that allows you to drill down to a specific ePDU. Using the optional reporting package, it can generate customized power utilization reports.

Power Xpert also allows you to customize the conditions under which alarms are triggered and can run deployment validation tools during installation so all key setup requirements are automatically validated. To learn more, please visit [Eaton.com/pxs](http://Eaton.com/pxs).

## Uninterruptible power supply

Eaton helps protect critical equipment by providing uninterruptible power, backup power systems and power management through rack-based UPSs. Eaton delivers clean and efficient backup power from the desktop to the data center, protecting your critical IT systems. These units are integrated with ABM® technology, which increases battery service life up to an additional 50 percent.



### BladeUPS

The scalable and modular BladeUPS expands power protection from 8 to 60 kW in a single 19" rack. Key solution for blade server and data center environments.



### 9130 Rack UPS

The 9130 UPS delivers premium performance with a 0.9 power factor and with greater than 95 percent efficiency. Key solution for small to medium business data centers and networking solutions.



### 5PX Rack/Tower UPS

The 5PX UPS offers integrated power management with 99 percent efficiency and up to 28 percent more power available. Key solution for networking and server applications, as well as virtual environments.

# Aisle containment solutions



## Vertical aisle containment

This system allows greater isolation for either cold or hot aisle containment. Vertical containment panels connect from the top of the enclosures to the data center ceiling.

## Horizontal aisle containment

Eaton's ceiling system is modular and scalable to accommodate differences in rack heights and row spacing.

## Aisle duct

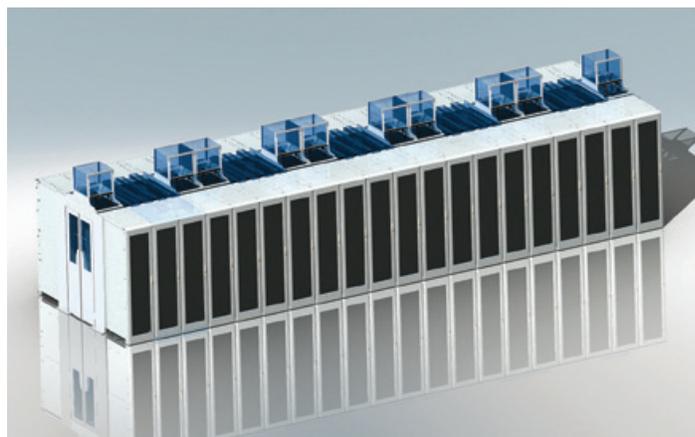
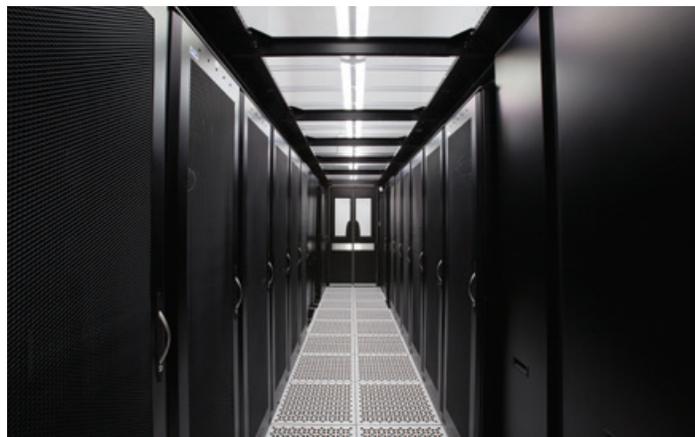
The rack-integrated aisle duct works seamlessly with the horizontal aisle containment.

- Integration with the air conditioning supply or exhaust is easily achieved with the duct's modular and scalable design.

Industry studies indicate that an estimated 60% of the cool air supplied to traditional data centers is wasted because it bypasses the intended IT equipment and returns directly to the hot air intake of the CRAC. Adopting a cold or hot aisle containment strategy increases air efficiencies, allowing a significant reduction of cold air supply, translating to longer hardware life and valuable energy savings.

Eaton's solutions can be equally effective for both hot and cold aisles in the data center.

- Containment structures can be rack- or ceiling-supported, allowing for easy rack changes within the row.
- Horizontal or vertical panels mount easily to the top of S-Series.
- Containment panels are comprised of clear materials with multiple ratings including UL94 V-0, ASTM E 84, FM4910 or antistatic.



Visit [Eaton.com/airflow](https://www.eaton.com/airflow) for details on Eaton's aisle containment solutions.

# Protecting your investment

## Data center cages

Security remains a growing concern in today's data center environments. After all, the life-blood of your business is running on the equipment that is stored and monitored within your enclosures. In addition to security at the rack level, Eaton's cages offer an added layer of security.

Eaton's cage offering now includes mounting provisions for 1-, 2- and 3-sided cage configurations for all your data center and colocation layouts.

With security appliances and accessories ranging from standard key locks to electronic access control and graphical management tools, you can rest assured that we're completely focused on the deployment and reliability of your systems.



### Cages

Provide the ultimate level of security for your valuable information systems. The cage system is the perfect solution for data center environments requiring subdivision or a higher level of security.

### Cage attributes

- Construction: Sheet steel
- Height options: 7', 8', 9' and 10'
- Door: Left and right-hand sliding
- Lock options: Medeco® mechanical key lock
- Perforation: 3/8 optional for ventilation while maintaining secure structure
- Ceiling structure: Optional 3'W and 4'W panels
- Anchoring: Concrete floor anchors
- Finish: Black
- Layout: CAD layout provided for each Cage project with dimensions and bill of materials

### Applications

- Colocation facilities - customer management
- Electronic Medical Records (EMR) - addressing the security issues associated with managing EMRs
- Web Hosting - customer management
- Security - managing classified and restricted information



Medeco security locks provide unique keys for customer separation.

Visit [Eaton.com/racks](https://www.eaton.com/racks) for more details on Eaton's cage solutions.

# S-Series accessories

## Side panels



### S-Series Side Panels and Divider Panels

- Solid side panels further enclose your rack and help control temperature and airflow
- Side panels work best in end-of-row configurations or on single racks where aesthetics are a factor
- Divider panels are used on bayed enclosures to provide thermal separation

Part number	Description
ETN-ACC4242DP	Solid divider panel – 42U x 42D
ETN-ACC4248DP	Solid divider panel –42U x 48D
ETN-ACC4842DP	Solid divider panel – 48U x 42D
ETN-ACC4848DP	Solid divider panel – 48U x 48D
ETN-ACC5142DP	Solid divider panel – 51U x 42D
ETN-ACC5148DP	Solid divider panel – 51U x 48D
ETN-ACC4242SP	Solid side panel – 42U x 42D
ETN-ACC4248SP	Solid side panel –42U x 48D
ETN-ACC4842SP	Solid side panel – 48U x 42D
ETN-ACC4848SP	Solid side panel – 48U x 48D
ETN-ACC5142SP	Solid side panel – 51U x 42D
ETN-ACC5148SP	Solid side panel – 51U x 48D

## Cable management



### Upper Transition Tray

Provides upper bend radius control for copper and fiber cables

- Meets TIA/EIA 568-A bend radius standards
- Tool-less width adjustment of waterfall from 19" to 29"
- Two-point mounting

Part number	Depth	Height
ETN-CMFP19032U	3.5"	2U
ETN-CMFP19052U	5.0"	2U



### Paramount Lacing Bars

- Flexible management bar for attaching/mounting cables and power strips
- Vertical slots provide areas for standard and buckle VELCRO® straps
- Tool-less adjustment allows for quick placement

Part number	Width	Height
ETN-LACEB42U03	3"	42U
ETN-LACEB42U08	8"	42U
ETN-LACEB42U12	12"	42U
ETN-LACEB48U03	3"	48U
ETN-LACEB48U08	8"	48U
ETN-LACEB48U12	12"	48U



### Lower Transition Tray

Provides lower bend radius control for copper and fiber cables

- Meets TIA/EIA 568-A bend radius standards
- Tool-less width adjustment of waterfall from 19" to 29"
- Two-point mounting

Part number	Depth	Height
ETN-CMLT19032U	3.5"	2U
ETN-CMLT19052U	5.0"	2U



### 1U/2U Cable Ring Kit

- Allows for vertical cable management
- Flexible mounting to multiple points
- Mounts with a self-tapping screw in multiple positions
- Accommodates up to 129 CAT 5 cables
- Four per kit

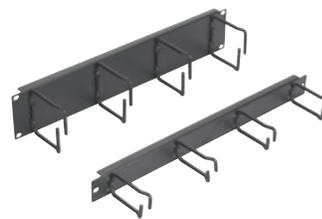
Part number	Height	Depth	Qty
ETN-CMDRNR031U	1U	3.25"	4
ETN-CMDRNR032U	2U	3.25"	4



### Take-up Spool

- Provides a means to manage excess network or power cables with integrated bend radius support
- One per kit

Part number	Diameter	Depth	Qty	Compatibility
ETN-CMTUNR02	2.0	2.5"	1	30"W enclosure
ETN-CMTUNR05	2.0	5.0"	1	30"W enclosure



### 19" Horizontal Ring Manager

- Horizontal management of cables from network equipment
- Open rings allow for easy access to network cables
- Accommodates up to 129 CAT 5 cables in a single panel
- 19" rail mount
- Four cable rings per manager

Part number	Height	Depth	Qty
ETN-CMPD19031U	1U	3.25"	4 rings
ETN-CMPD19032U	2U	3.25"	4 rings

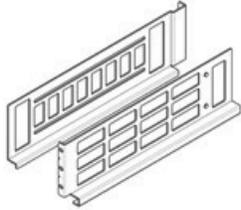
# S-Series accessories



## VELCRO® Buckle Straps

- VELCRO® buckle straps allow for mechanical fastening of strap to multiple points in the enclosure
- VELCRO® offers superior reusability versus tie wraps
- 50 straps per kit (Standard VELCRO® Straps) and 10 straps per kit (VELCRO® Buckle Straps)

Part number	Length	Width	Qty
ETN-CMVBCKL	9"	.5"	10
ETN-CMVBCKL12	12"	.5"	10
ETN-BX45V8	8"	.5"	50
ETN-BX45V11	10"	.5"	50



## Adjustable Chassis Brackets

- Provides added flexibility when mounting equipment in enclosures

Part number	Mounting Range
ETN-CHASBKT2032	20" to 32"



## Cable Strain Relief Bars

- Provides strain relief for cables in patch cable racks
- Multiple depths allow for transitioning of cables
- 19" rail mount
- One per kit

Part number	Height	Depth	Qty
ETN-CMRB19022U	2U	2"	1
ETN-CMRB19042U	2U	4"	1
ETN-CMRB19062U	2U	6"	1
ETN-CMRB19082U	2U	8"	1

## Overhead cable management system



### Overhead Cable Management

- Overhead distribution of power and network cables reduces raised floor obstructions
- Mounting holes located every 1.5" from front to back on top of racks
- Add as many partitions as you need to manage copper, fiber and power
- Data cable partitions feature large openings to route cables into enclosure

Part number	Description	Width	Qty
ETN-JCMT24SP	Solid cable partition	24"	1
ETN-JCMT24PP	Cable partition with pass through opening	24"	1
ETN-JCMT30SP	Solid cable partition	30"	1
ETN-JCMT30PP	Cable partition with pass through opening	30"	1
ETN-JCMT24PT	Power Cable	24"	1
ETN-JCMT30PT	Power Cable	30"	1

## Overhead Cable Management System Ladder Brackets

- Allows for cables to transition from one row to another
- Works with most ladder systems
- Two per kit

Part number	Description
ETN-JCMTLDRPD	Perpendicular bracket kit
ETN-JCMTLDRPR	Parallel ladder kit

**Note:** Cable ladder not included

## Airflow management



### Plastic Blanking Panels

- Tapped/square holes
- Cost effective, tool-less, aesthetic solution for airflow management requirements.

Part number	Height	Qty
ETN-PBP1U10	1U	10
ETN-PBP1U100	1U	100
ETN-PBP1U500	1U	500
ETN-PBP2U10	2U	10
ETN-PBP2U100	2U	100
ETN-PBP2U500	2U	500
ETN-PBP8U10	8U	10
ETN-PBP8U100	8U	100
ETN-PBP8U500	8U	500



### Cable Pass-thru Blanking Panels with Brush Strip

- Cable pass-thru panels provide cable access while managing airflow and maintaining rack hygiene.

Part number	Height	Qty
ETN-CMBPBRSH1U	1U	1
ETN-CMBPBRSH2U	2U	1

# S-Series accessories

## Airflow management



### Raised Floor Grommet

- Optimize the effectiveness of raised floor cold air delivery by eliminating bypass airflow
- Seal cable pass-through openings in floor
- Zero downtime – the split design allows for installation in live environments
- Eaton's raised floor grommets outperform competitive brush strip and membrane-based solutions by 20-50% depending on application

Part number	Description
ETN-FLRGR118	Floor Grommet 11"W x 8.25"D Surface Mount
ETN-FLRGR11810	Floor Grommet 11"W x 8.25"D Surface Mount, Qty 10
ETN-FLRGR76	Floor Grommet 7.5"W x 6.5"D Surface Mount
ETN-FLRGR7610	Floor Grommet 11"W x 8.25"D Surface Mount, Qty 10

## Shelf products



- Standard and heavy-duty fixed and roll-out shelves for storing peripherals and non-rackmounted legacy equipment.

Part number	Description	Height	Width	Depth	Weight Capacity	Mounting Range
ETN-US192U1605	Utility shelf	2U	17.2"	16.6"	50 lbs	n/a
ETN-FS19201U20	Standard-duty fixed shelf	1U	17.4"	20.2"	200 lbs	20" to 26"
ETN-FS19241U20	Standard-duty fixed shelf	1U	17.4"	23.2"	200 lbs	24" to 29"
ETN-FS19281U20	Standard-duty fixed shelf	1U	17.4"	28.2"	200 lbs	28" to 35"
ETN-RS19241U10	Standard-duty roll-out shelf	1U	17.5"	23.7"	100 lbs	24" to 29"
ETN-RS19281U10	Standard-duty roll-out shelf	1U	17.5"	27.7"	100 lbs	28" to 34"
ETN-FS19201U40	Heavy-duty fixed shelf	1U	17.7"	20.2"	400 lbs	20" to 26"
ETN-FS19241U40	Heavy-duty fixed shelf	1U	17.7"	24.2"	400 lbs	24" to 29"
ETN-FS19281U40	Heavy-duty fixed shelf	1U	17.7"	28.2"	400 lbs	28" to 35"

## Hardware



### Caster Wheels

Part number	Rack Size	Qty
ETN-ACCJCSTR40	42" deep	4
ETN-ACCJCSTR45	48" deep	4

**Note:** 2,000 pound static load capacity; for higher weights, consult the factory.



### Anchor Bracket

Part number	Description	Length	Qty
ETN-JANCHOR1	Anchor bracket kit for enclosures without casters	8"	4
ETN-JANCHORCSTR	Anchor bracket kit for enclosures with casters	7"	2

To contact an Eaton salesperson or local distributor, please visit [Eaton.com/S-Series](http://Eaton.com/S-Series) or call **1.800.356.5794, Option 2**