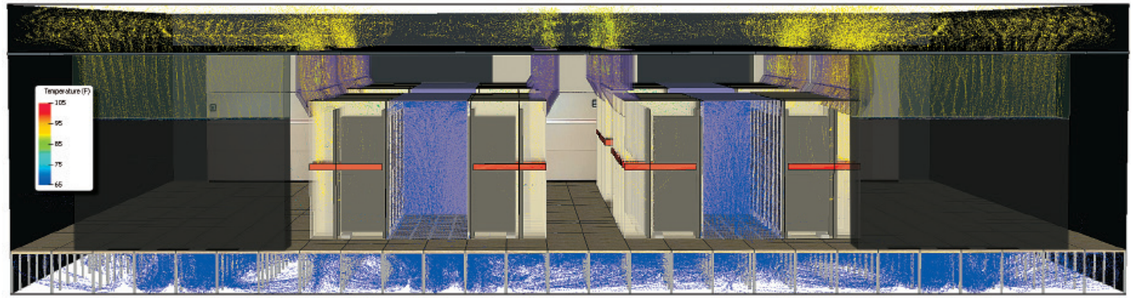
Product brochure

# Airflow management solutions

Powering Business Worldwide




**Computational Fluid Dynamics (CFD) model of an optimized data center illustrating cold-aisle isolation and Eaton's Heat Containment System® (HCS). See CFD Services on Page 15 for more information.**

# The optimized data center

Eaton's Airflow Management Solutions (AMS) optimize data center equipment, improve information processing density, create a greener data center and increase spatial flexibility for the data center manager—all while saving money for our customers.

Greening the data center provides incremental benefits for a company. According to the American Council for an Energy Efficient Economy (**http://energytaxincentives.org/**):

"A tax deduction of up to $1.80 per square foot is available to owners or tenants (or designers, in the case of government-owned buildings) of new or existing commercial buildings that are constructed or reconstructed to save at least 50% of the heating, cooling, ventilation, water heating, and interior lighting energy cost of a building that meets ASHRAE Standard 90.1-2001, in buildings or systems placed in service from January 1, 2006, through December 31, 2013". The Consolidated Appropriations Act, signed in December 2015, retroactively reinstated the tax credit for projects completed in 2015 and 2016.

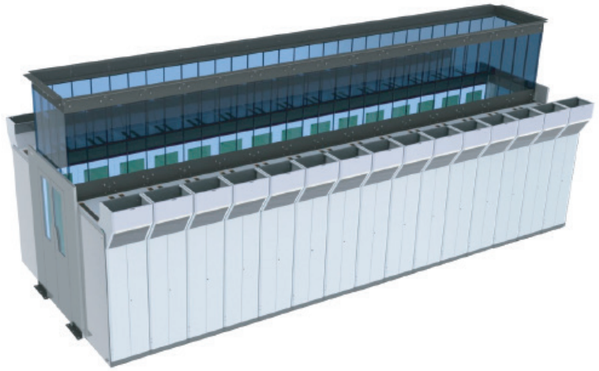
Eaton's AMS containment solutions can not only lower data center energy demands, but also save on energy costs. Eaton offers a wide range of partial and total containment solutions that can accommodate hot aisle containment, cold aisle containment and rack-based heat containment. Eaton takes a consultative approach to AMS solutions. We do not advocate one containment concept over another because each data center has unique issues of concern, especially in relation to energy management. Rather, we work with data center professionals to audit current operations and then develop a comprehensive airflow management strategy that enables the energy management control and savings that make the most sense for the facility.

The solution may be heat containment at the rack level, hot aisle or cold aisle containment. It might also be a combination of more than one of these approaches, depending on the layout of the data center. Whatever the need is, Eaton has the expertise, the flexibility and the capacity to work with our customers, not only to provide them with a customized solution, but also to assist them in the stages leading up to total aisle containment, resulting in improved data center operations and reduced energy costs that enable tax credits.





# Aisle containment solutions



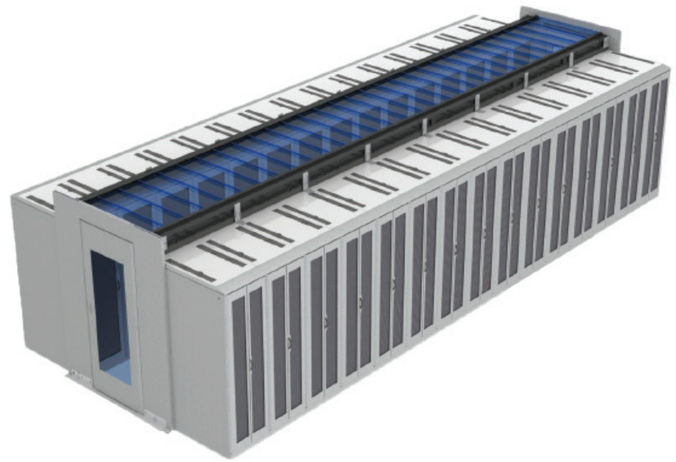
Industry studies indicate that an estimated 60% of the cool air supplied to traditional data centers is wasted because it bypasses the intended IT equipment and returns directly to the hot air intake of the CRAC. Adopting a cold or hot aisle containment strategy increases air efficiencies, allowing a 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 Paramount, Vantage S2 and some third-party enclosures
- Containment panels are comprised of clear materials with multiple ratings including UL 94 V-0, ASTM E 84, FM4910 or antistatic

## 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.



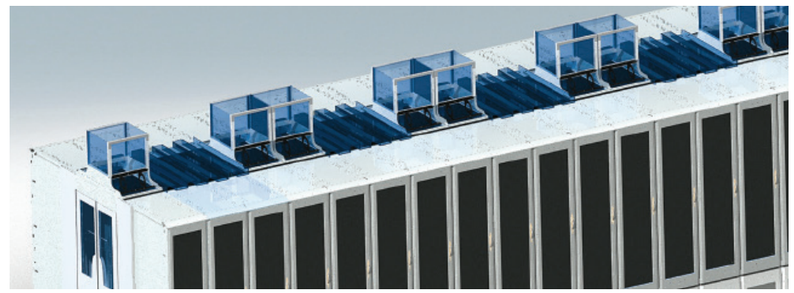
## Horizontal aisle containment

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.



# Aisle containment solutions

## End of Row Doors

End of Row Doors create more efficient cold aisles by blocking an obvious cold-air escape route and entry for hot air re-circulation and air mixing. This allows you to set a higher overall temperature within the data center thus saving energy and extending hardware life.

**Features and benefits**

- Variety of door models—choose from three styles of doors—single-swing, dual-swing, cafe-style, single-sliding and dual-sliding
- Ease of installation—field-installable, rack-integrated and freestanding options available
- Rack agnostic—flexible enough to install almost anywhere on any manufacturer's brand enclosure
- Improve efficiency and predictability—increases cold air intake efficiency, from the bottom of the enclosure to the top, within the cold aisle
- Minimize air re-mixing—cost-effectively minimize air mixing between the hot and cold aisle while keeping the uniform cold air supply in front of the servers for a consistent temperature top to bottom

**Eaton's End of Row Doors help achieve aisle containment. Double-swing café style doors shown here.**

**Our space-efficient sliding End of Row Doors open with little effort and close on their own. They are a great choice when end-of-row space is at a premium and air containment is required at the end of a cold or hot aisle.**

**Dual-swing End of Row Doors are a simple, cost-effective solution to improve efficiency while lowering overall operating costs.**



# Aisle containment solutions

## End of Row Doors

### Dual sliding End of Row Doors

- Automatic hold open and close feature
- Fully transparent and impact resistant, UL 94, V-0 Windows
- Sliding doors do not interfere with open aisles
- Integrated edge grip seal at bottom of doors to seal air gaps

| Item number | Type | Color options | Weight (lb) | Height (in) | Width (in) | Depth (in) |
|---|---|---|---|---|---|---|
| EORDDS9048 | Dual sliding EoRD | Black, NuGrey | 250 | 90 | 48 | 6.1 |
| EORDDS9648 | Dual sliding EoRD | Black, NuGrey | 265 | 96 | 48 | 6.1 |

### Single-sliding End of Row Doors

- Automatic hold open and close feature
- Fully transparent and impact resistant, U L94, V-0 Windows
- Sliding doors do not interfere with open aisles
- Right and left sliding option
- Integrated edge grip seal at bottom of doors to seal air gaps

| Item number | Type | Color options | Weight (lb) | Height (in) | Width (in) | Depth (in) |
|---|---|---|---|---|---|---|
| EORDDS9048 | Dual sliding EoRD | Black, NuGrey | 250 | 90 | 48 | 6.1 |
| EORDDS9648 | Dual sliding EoRD | Black, NuGrey | 265 | 96 | 48 | 6.1 |

### Café End of Row Doors

- Crash through doors for hands free access in and out of aisle
- Fully transparent and impact resistant, UL 94, V-0 Windows
- Doors hold open at 90 degrees
- Optional stainless steel crash plates available
- Integrated edge grip seal at bottom of doors to seal air gaps

| Item number | Type | Color options | Weight (lb) | Height (in) | Width (in) | Depth (in) |
|---|---|---|---|---|---|---|
| EORDCH9042 | Café EoRD | Black, NuGrey | 155 | 90 | 42 | 3.85 |
| EORDCH9642 | Café EoRD | Black, NuGrey | 165 | 96 | 42 | 3.85 |
| EORDCRPLATE | Café Crash Plates | Stainless Steel | 15 | | | 5.3 |

# Aisle containment solutions

## End of Row Doors

### Single-swing End of Row Doors

- Fully transparent and impact resistant, UL 94, V-0 Windows
- Grabber latch to hold doors closed
- Right and left swing option
- Integrated edge grip seal at bottom of doors to seal air gaps

| Item number | Type | Color options | Weight (lb) | Height (in) | Width (in) | Depth (in) |
|---|---|---|---|---|---|---|
| EORDSH9033 | Swing-swing EoRD | Black, NuGrey | 124 | 90 | 33 | 3.6 |
| EORDSH9036 | Swing-swing EoRD | Black, NuGrey | 131 | 90 | 36 | 3.6 |
| EORDSH9633 | Swing-swing EoRD | Black, NuGrey | 133 | 96 | 33 | 3.6 |
| EORDSH9636 | Swing-swing EoRD | Black, NuGrey | 140 | 96 | 36 | 3.6 |

### Dual-swing End of Row Doors

- Fully transparent and impact resistant, UL 94, V-0 Windows
- Grabber latch to hold doors open
- Integrated edge grip seal at bottom of doors to seal air gaps

| Item number | Type | Color options | Weight (lb) | Height (in) | Width (in) | Depth (in) |
|---|---|---|---|---|---|---|
| EORDDH9048 | Dual hinged EoRD | Black, NuGrey | 164 | 90 | 48 | 3.6 |
| EORDDH9648 | Dual hinged EoRD | Black, NuGrey | 175 | 96 | 48 | 3.6 |

## Optional end of row panel numbers

*(End panels to create a finished look against end of row enclosures)*

| Item number | Type | Color options | Weight (lb) | Height (in) | Width (in) |
|---|---|---|---|---|---|
| EOR2P9006 | EoR panel | Black, NuGrey | 15 | 90 | 6 |
| EOR2P9009 | EoRD panel | Black, NuGrey | 19 | 90 | 9 |
| EOR2P9012 | EoRD panel | Black, NuGrey | 24 | 90 | 12 |
| EOR2P9024 | EoRD panel | Black, NuGrey | 41 | 90 | 24 |
| EOR2P9606 | EoRD panel | Black, NuGrey | 16 | 96 | 6 |
| EOR2P9609 | EoRD panel | Black, NuGrey | 21 | 96 | 9 |
| EOR2P9612 | EoRD panel | Black, NuGrey | 25 | 96 | 12 |
| EOR2P9624 | EoRD panel | Black, NuGrey | 43 | 96 | 24 |

## Mounting brackets

*(Allow doors to mount to ceiling if required and enclosure mounting is not permitted)*

| Item number | Application type | Color options | Qty | Notes |
|---|---|---|---|---|
| SCCI * | Ceiling mounting brackets | Black, NuGrey | Single | Order (2) for each EoRD that will be ceiling- mounted and (1) for each end of row panel |



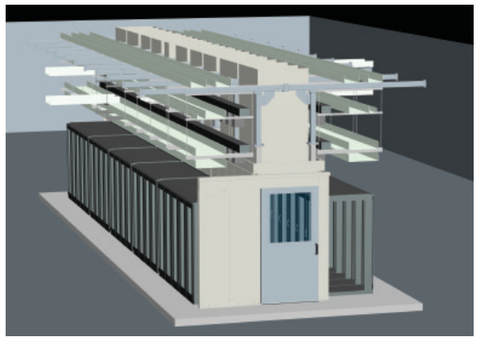
# Aisle containment solutions

## Independent Containment System (ICS)

The culmination of Eaton containment strategies is its patent-pending Independent Containment System (ICS), a free-standing, scalable, sustainable and vendor-neutral containment solution for high-density computing environments.

- Assembled within the footprint of a standard aisle to provide maximum flexibility in all environments
- Designed to be freestanding and meets seismic NEBS Zone 4 standards
- Accepts a variety of Eaton's End of Row Doors (p. 4) including café style, swing and sliding models
- Aisle ceilings (p. 3) are constructed of a light-weight steel frame and clear Lexan panels allowing ambient room light to illuminate the ICS aisle, eliminating the need for energy-consuming supplemental lighting
- The ceiling accepts 2' x 2' aisle ducts (p. 3) which can be added anywhere on the ceiling structure as IT loads increase

**Shown above—ICS featuring End of Row, café-style doors and vertical blanking panels to accommodate third-party enclosures.**



**The ICS with single-swing End of Row Door provides RPP access and features vertical containment walls and overhead cable tray support structure.**

**Features and benefits**

- Scalable design—the ability to extend aisles with load growth makes the ICS an ideal solution for colocation and other highly evolving data center environments that require on-the-fly modifications. Design can support an overhead cable tray.
- Containment integrity—vertical blanking panels ensure airflow containment when racks are partially deployed within the row and are easily removed in sections to allow quick installation of new IT racks.
- Rack agnostic—ability to support virtually any brand of server or network rack in any depth, height and size with on-demand reconfiguration of the row.
- Cold/hot aisle compatible—easily deployed as a cold aisle containment solution with or without a down flow chimney system.
- Increased ROI—modular, building-block design offers complete flexibility and room for growth increasing your initial return on investment.

# Rack containment solutions

Eaton's Paramount enclosure with integrated HCS.

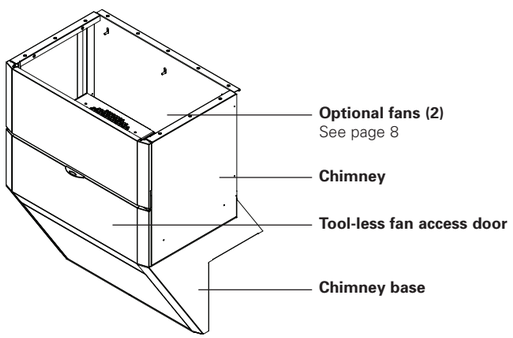
## Heat Containment System® (HCS)

Eaton's HCS is a simple, scalable and low-cost solution to cool up to 25 kW or more per enclosure without the expense of adding supplemental CRAC units to your data center.

- Patented technology is available on Eaton's Paramount and Vantage S2 enclosure systems and can also be field retrofitted to most manufacturers' enclosures
- HCS contains and directs the heat exhaust of your IT equipment through the chimney that is attached to the top rear of the enclosure
- Hot air is then ducted to your existing CRAC units through a plenum ceiling or high air returns

Photo courtesy of Humana

**The HCS allows for your existing cable management without the interruption of re-routing or disconnecting cables and power. Shown here on Eaton's Paramount Enclosure System.**






# Rack containment solutions

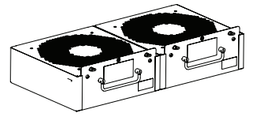
## HCS flexible return duct

For data centers unable to accommodate steel chimneys, an alternative solution for controlling chaos cooling is Eaton's flexible return duct. A simple interface easily connects to the top of the Heat Containment System chimney.

- Flexible 10" ducts are clamped to the interface and a 2' X 2' ceiling tile, which is mounted to the plenum ceiling to create a closed loop system.
- Ducting is V-0 rated and self extinguishing
- Ceiling tile is available in Nugrey to match existing tiles
- Ducting can be cut in the field for custom fits
- Each duct comes with four clamps
- Ducts are positioned directly over the fan for maximum airflow

**HEAT CONTAINMENT SYSTEM BASE (OFFSET)**

| Item number | Base height (in) |
|---|---|
| HCS240001B | 14.85 |
| HCS30001B | 14.85 |



**Optional fans available upon request.**

**HEAT CONTAINMENT (OFFSET) CHIMNEY**

| Item number | Width (in.) | Height adjustment (in.) Min. | Max. |
|---|---|---|---|
| HCSCHM241 | 24 | 0 | 1 |
| HCSCHM242 | 24 | 0 | 2 |
| HCSCHM2435 | 24 | 3 | 5 |
| HCSCHM2459 | 24 | 5 | 9 |
| HCSCHM241014 | 24 | 10 | 14.99 |
| HCSCHM241519 | 24 | 15 | 19.99 |
| HCSCHM242024 | 24 | 20 | 24.99 |
| HCSCHM242529 | 24 | 25 | 29.99 |
| HCSCHM243034 | 24 | 30 | 34.99 |
| HCSCHM243539 | 24 | 35 | 39.99 |
| HCSCHM244044 | 24 | 40 | 44.99 |
| HCSCHM244548 | 24 | 45 | 48.99 |
| HCSCHM301 | 30 | 0 | 1 |
| HCSCHM302 | 30 | 0 | 2 |
| HCSCHM3035 | 30 | 3 | 5 |
| HCSCHM3059 | 30 | 5 | 9 |
| HCSCHM301014 | 30 | 10 | 14.99 |
| HCSCHM301519 | 30 | 15 | 19.99 |
| HCSCHM302024 | 30 | 20 | 24.99 |
| HCSCHM302529 | 30 | 25 | 29.99 |
| HCSCHM303034 | 30 | 30 | 34.99 |
| HCSCHM303539 | 30 | 35 | 39.99 |
| HCSCHM304044 | 30 | 40 | 44.99 |
| HCSCHM304548 | 30 | 45 | 48.99 |

**Note:** A base is required for the Offset Chimney. No base needed for the Telescopic Chimney.

**The ideal solution for enclosures that are off-grid from drop ceilings, where obstacles preclude the use of sheet metal chimneys, or where there are uneven ceilings throughout a data center.**

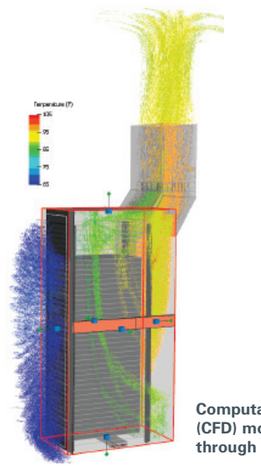
## Heat Containment System (HCS)

**Eaton's HCS is:**

- Scalable—can be adapted to existing infrastructures to increase rack utilization as your capacity demands grow
- Predictable—separates hot exhaust air and cold supply air; dramatically increasing the reliability of the data center
- Efficient—allows hotter air to return directly to the CRACs, increasing their efficiency by operating at a higher Delta T (ΔT)
- Reliable—extends existing cooling capacity throughout the data center; freeing up stranded assets and lowering operational costs
- Flexible—does not require you to alter existing enclosure locations and is also field-installable on third-party enclosures

**PARAMOUNT COOLING SCALABILITY** solid side and top panels

| Load (kW) | Rear door |
|---|---|
| Up to 3.5 kW | Perforated door |
| Up to 26 kW | Solid door with HCS chimney and optional 2600 CFM fans |
| Up to 30 kW | Solid door with passive HCS chimney |



**Computational Fluid Dynamics (CFD) model showing airflow through an active HCS System.**

# Rack Containment Solutions

## Telescopic Chimney

The Eaton Telescopic Chimney (TC) is a passive straight duct that is capable of channeling up to – of heat exhaust in a high-density enclosure. The TC channels the hot exhaust from the rear of the enclosure to the return plenum, increasing cooling system efficiencies. The TC prevents hot exhaust air from mixing with the cool air in the data center ambient space, which maximizes cooling efficiencies and reduces energy costs. The TC solution is compatible with all Paramount Enclosures and can be retrofitted for existing installations. The TC system will require a Paramount Enclosure TC top panel with chimney cut-out and a solid rear door to maintain the separation of cold and hot air.

**Features**:

- **Large range of height options:** The TC extensions range from 12"H to 76"H to accommodate most data center ceiling heights and offer infinite adjustability within the selected height ranges
- **Compatible with Paramount:** The TC is compatible with all of Eaton's standard Paramount Enclosures for existing and new data center build outs
- **Data center upgrades:** The TC and its Paramount components can be retrofitted on existing Paramount Enclosures by replacing the Paramount top panel and rear door*

**Benefits:**

- **Increased efficiency:** The TC is capable of channeling up to 30 kW of heat exhaust to the return plenum. This prevents hotspots, recirculation and remixing and thus maximizes cooling efficiencies
- **Low maintenance:** The TC has no moving or electrical parts to monitor or maintain
- **Ease of installation:** The Telescopic Chimney attaches to the enclosure top panel with eight fasteners and can be installed in less than 30 minutes. The TC is secured to its desired height with only four fasteners

**Attributes:**

- **Construction:** 20 guage sheet steel
- **Finish:** Available in Black and NuGrey
- **Compatibility:** Paramount Enclosures



# Rack containment solutions

## Telescopic Chimney

**TELESCOPIC CHIMNEY OPTIONS**

| Part number | Height adjustment (in) | Width (in) | Depth (in) | Weight (lbs) | Colors |
|---|---|---|---|---|---|
| EXTTC1219 | 12-19 | 23 | 19.5 | 30 | Black & NuGrey |
| EXTTC1728 | 17-28 | 23 | 19.5 | 39 | Black & NuGrey |
| EXTTC2645 | 26-45 | 23 | 19.5 | 56 | Black & NuGrey |
| EXTTC4376 | 43-76 | 23 | 19.5 | 87 | Black & NuGrey |

*NOTE: Ships with required fasteners.*

**Rear view of the Telescopic Chimney mounted on a Paramount Enclosure with solid rear doors. Model JDDS8430 shown here.**

**Chimney extensions range from 12"H to 76"H to accommodate varying data center ceiling heights. Model EXTTC4376 shown here.**

**Top panel includes two brush strips for cable entry. Brush cable openings can accommodate 1,000 (42"D) to 1,600 (48"D) CAT6 cables. Model JTPTC3045 shown here.**

**PARAMOUNT ENCLOSURE TOP AND FILLER PANEL OPTIONS**

| Part number | Description | Width (in) | Depth (in) | Weight (lbs) |
|---|---|---|---|---|
| JTPTC2440 | Solid top with two front-to-back strips for cable entry | 24 | 40 | 17 |
| JTPTC3040 | Solid top with two front-to-back strips for cable entry | 30 | 40 | 19 |
| JTPTC2445 | Solid top with two front-to-back strips for cable entry | 24 | 45 | 20 |
| JTPTC3045 | Solid top with two front-to-back strips for cable entry | 30 | 45 | 23 |
| JTPTCFP | Top Filler Panel Chimney | 22 | 19.5 | 3 |

**PARAMOUNT ENCLOSURE REAR DOOR OPTIONS**

| Part number | Description | RU Height | Depth (in) | Weight (lbs) |
|---|---|---|---|---|
| JDDS7724 | Split rear door | 40 | 24 | 47 |
| JDDS7730 | Split rear door | 40 | 30 | 53 |
| JDDS8124 | Split rear door | 42 | 24 | 49 |
| JDDS8130 | Split rear door | 42 | 30 | 53 |
| JDDS8424 | Split rear door | 44 | 24 | 51 |
| JDDS8430 | Split rear door | 44 | 30 | 57 |
| JDDS9124 | Split rear door | 48 | 24 | 55 |
| JDDS9130 | Split rear door | 48 | 30 | 53 |
| JDDS9624 | Split rear door | 51 | 24 | 59 |
| JDDS9630 | Split rear door | 51 | 30 | 66 |
| JDS7724LR | Solid left hand and right hand rear door | 40 | 24 | 37 |
| JDS7730LR | Solid left hand and right hand rear door | 40 | 30 | 42 |
| JDS8124LR | Solid left hand and right hand rear door | 42 | 24 | 53 |
| JDS8130LR | Solid left hand and right hand rear door | 42 | 30 | 58 |
| JDS8424LR | Solid left hand and right hand rear door | 44 | 24 | 55 |
| JDS8430LR | Solid left hand and right hand rear door | 44 | 30 | 61 |
| JDS9124LR | Solid left hand and right hand rear door | 48 | 24 | 60 |
| JDS9130LR | Solid left hand and right hand rear door | 48 | 30 | 66 |
| JDS9624LR | Solid left hand and right hand rear door | 51 | 24 | 63 |
| JDS9630LR | Solid left hand and right hand rear door | 51 | 30 | 70 |

# Airflow management accessories

## Blanking panels

In today's dynamic data center environment, IT equipment is refreshed on a frequent basis. These changes often leave open U-space in the enclosure which can allow re-circulation of hot exhaust air back to the equipment inlet. This can cause overheating of the equipment and subsequent shutdown of servers when the maximum temperature threshold is reached.

- Blanking panels provide a quick, easy and cost-effective solution to optimize air circulation within an enclosure while maintaining high aesthetics
- Eaton offers blanking panels in a variety of styles including tool-less, mechanically fastened, clear and with cable pass through options in steel as well as plastic
- Width meets EIA-310-D standards and comes in various heights (depending on style). Most panels are bulk packed in quantities of 10 and 100

**Tool-less plastic blanking panels are a low cost and necessary solution for preventing re-circulation and optimizing airflow in your rack (ETN-CMBPBRSH1U).**

**Brush strip models allow routing of cables through the panel (ETN-CMBPBRSH1U).**

**Vertical blanking panels seal open spaces and prevent bypass airflow in areas that are traditionally difficult to seal. They can also be adapted for cable management.**

**Features and benefits**

- Significantly reduces re-circulation of hot exhaust air to the equipment inlet
- Adds to the overall aesthetics of the data center
- 1U, 2U, 3U, 4U, 5U, 6U, 7U, 8U and 20U (depending on style)
- EIA-310-D compliant for 19" equipment
- Color: black steel, black plastic
- Available in tool-less, mechanically fastened and cable pass through styles

**Adjustable blanking panels, offered in two sizes (7-12U, 12-22U) easily adapt to your hardware requirements (SBP7112USQ, SBP1222USQ).**



# Airflow management accessories

## Paramount conversion kits for Cisco switches

Standard Paramount configurations 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

Compatible

** Cisco Compatible*

**CONVERSION KITS FOR CISCO SWITCHES**

| Part number | Cisco model | Converts Paramount model |
|---|---|---|
| 6509CVK42UPM | Catalyst 6509-E | PMT423042H and PMT423048H |
| 6509CVK44UPM | Catalyst 6509-E | PMT443042H and PMT443048H |
| 6509CVK48UPM | Catalyst 6509-E | PMT483042H and PMT423048H |
| 6509CVK51UPM | Catalyst 6509-E | PMT513042H and PMT513048H |
| 6513CVK42UPM | Catalyst 6513 | PMT423042H and PMT423048H |
| 6513CVK44UPM | Catalyst 6513 | PMT443042H and PMT443048H |
| 6513CVK48UPM | Catalyst 6513 | PMT483042H and PMT423048H |
| 6513CVK51UPM | Catalyst 6513 | PMT513042H and PMT513048H |
| *7010CVK42UPM | Nexus 7010 | PMT423048H |
| *7010CVK44UPM | Nexus 7010 | PMT443048H |
| *7010CVK48UPM | Nexus 7010 | PMT483048H |
| *7010CVK51UPM | Nexus 7010 | PMT513048H |
| 9513CVK42UPM | MDS 9513 | PMT423042H and PMT423048H |
| 9513CVK44UPM | MDS 9513 | PMT443042H and PMT443048H |
| 9513CVK48UPM | MDS 9513 | PMT483042H and PMT483048H |
| 9513CVK51UPM | MDS 9513 | PMT513042H and PMT513048H |

** Cisco Compatible*

## Cisco 7018 switch enclosure

Eaton's Cisco 7018 switch enclosure is designed specifically to store, cool and power the Cisco Nexus 7018 switch. Based on Eaton's Paramount PMT frame, our turnkey enclosure has a 40" or 42" wide footprint. This consists of a standard 24" wide frame with 6" or 8" side extensions which support the 7018 airflow requirements and also provides additional cable management.

**Features**

- Specialized airflow containment design that is compliant with the Cisco switch support chassis brackets
- Integrated cable management
- Available in two heights: 44U and 51U

**PARAMOUNT FOR CISCO NEXUS 7018 SWITCH**

| Part number | RU | Height (in) | Width (in) | Depth (in) |
|---|---|---|---|---|
| *PMT7018SW444048 | 44U | 84 | 40 | 48 |
| *PMT7018SW444248 | 44U | 84 | 42 | 48 |
| *PMT7018SW514048 | 51U | 96 | 40 | 48 |

**Note:** The 44U version is available in two widths to support enhanced cable management options

** Cisco Compatible*

# Airflow management accessories

## Paramount high flow doors

Eaton's high flow doors offer exceptional airflow with 75% perforation, a 19% increase over the industry standard.

- Unique perforation pattern results in a reduction of raw material consumption by over 60% which means less waste in the manufacturing process—a great "green" benefit
- Doors are available as left or right hinged and are also field reversible
- High flow perforation is also available for the rear door and can be ordered as full or split. The doors feature tool-less door removal, a brushed aluminum door pull and a variety of locks


**Non-permeable material allows maximum pressure to be maintained in the sub-floor plenum when cables are installed; minimizing bypass airflow (FG118, FG76).**

## Raised floor grommets

By installing Eaton's raised floor grommets, you can optimize the effectiveness of existing cooling equipment and manage increasing heat loads. The raised floor sealing system specifically addresses bypass airflow and its detrimental effect on data center cooling.

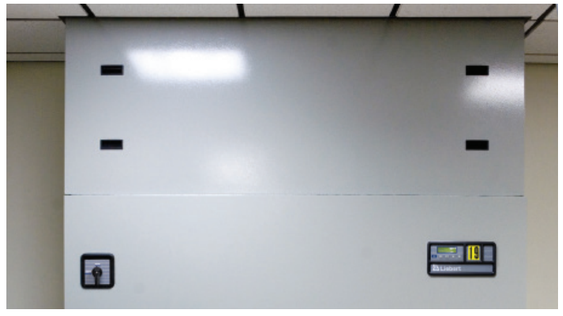
**Features and benefits**

- Increased energy efficiency and predictability—eliminates bypass airflow while maintaining a consistent subfloor plenum pressure
- Flexible, thoughtful design—overlapping serrated fingers and optional elastomer ties adapt to any size or shape cable bundle. Ties ensure a complete and lasting seal by providing tension against the cabling
- Superior performance—delivers a faster and greater ROI than any other solution on the market

## CRAC collars

The CRAC collar for downflow systems, used in conjunction with data center containment strategies, is integral to Eaton's total containment solution. By containing and directing the warm plenum air to your air conditioning system, you increase efficiency and equipment performance while reducing overall energy consumption

- Features an integrated design, comprised of steel panels that mount easily to the top of any CRAC unit with simple installation
- Collars allow front filter installation and service and completely integrate with optional airflow dampening devices
- Closed-loop integration of the air conditioning supply or exhaust completes the modular airflow containment strategy in the data center, resulting in a more energy-efficient operation



**Tool-less access panels allow quick and easy installation on your existing CRAC units.**



# Data center cooling services

Eaton's Data Center Services provide the information necessary to make cost-effective decisions about improving data center cooling infrastructure performance.

## Data center cooling assessment service

Eaton's service team will develop an assessment plan ranging from basic site observation and temperature profiling to comprehensive airflow measurement and analysis.

- Cooling infrastructure characterization and review
- High temperature problem areas and root cause analysis
- Recommendations to improve cooling distribution and heat rejection capabilities
- Infrared thermography indicating excessive temperatures and sources of air leakage
- Room scale cooling capacity vs. power utilization analysis
- Airflow measurement and bypass air analysis
- Air distribution and heat rejection effectiveness

## Aisle containment testing

Eaton's experienced team is trained in providing state-of-the-art containment strategies. We will provide comprehensive testing to analyze data center energy performance and make suggestions for potential improvements.

- Measurement of leakage gaps as a ratio to the overall surface area of the rack inlets
- Pressurization of sealed containment pods using a fan to test whether the environment can maintain 3% or less leakage of air
- Tracing and detecting leakage areas within the pod region using a fog generator
- Determination of the effects of supply air velocity impact on containment integrity

## Blanking panel service

The Eaton Blanking Panel Service provides customers with a quick, easy and cost-effective solution for optimizing air circulation within an enclosure while maintaining a high level of aesthetic appeal. Eaton certified and trained installation service teams will go from enclosure to enclosure and install the correct size and style panels as needed.

GSA

**Contract No: GS-29F-0100G**

Schedule 71 I:
Office Furniture

SIN 711-2:
Workstations, Computer Furniture & Accessories

SIN 711-3:
Filing & Storage Cabinets

SIN 711-94:
Design & Layout Services

**Contract No: GS-07F-0546T**

Schedule 66:
Scientific Equipment and Services

SIN 566-1:
Modular Laboratory Furniture Systems

SIN 566-2:
Individual Non-Modular Laboratory Tables, Cabinets, Benches & Carts

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