

EF-Series EuroFrame™ Gen 2 Cabinet System

The new generation of EF-Series EuroFrame™ Cabinet is a reliable and economical cabinet solution that supports rack-mount server, storage and network equipment in data centers and enterprise facilities.

KEY FEATURES

- Cabinet solution adaptable to server, network and mixed-use applications
- Supports up to 1500 kg (3300 lb) of equipment
- Standard configuration includes perforated front and rear doors to support front-to-rear airflow
- Vertical Exhaust Duct configuration supports high-density applications
- Sized to match industry standards
- Thermal, power and cable management accessories available

USE WITH


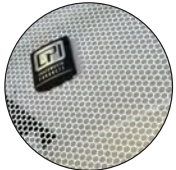



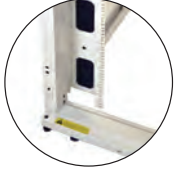


- PDU Mounting Brackets
- Bottom Panel
- Cable Lashing Bracket
- Klik-Nut® Hardware Kit

RELATED PRODUCTS

- Snap-In Filler Panels
- Rack-Mount Shelf
- eConnect® PDUs



ADVANTAGES

- 
Optimal Airflow Management
 Design includes airflow management features and accessories, such as the Vertical Exhaust Duct and 78% perforated doors.
 
- 
Cable Openings
 Brush-covered cable openings in the top panel provide easy access for overhead cabling.
 
- 
High Static Load Rating
 Robust design supports up to 1500 kg (3300 lb) static load.
 
- 
Lockable Side Panels
 Two-piece side panels allow easier handling, and provide quick access to equipment and cables.
 

SPECIFICATIONS

Description	Free-standing equipment cabinet provides front and rear support for 482.6 mm (19"W) EIA rack-mount equipment and shelves
Environment	For indoor use only, in environmentally controlled areas; do not use in harsh environments or in air-handling spaces
Includes	Welded and bolted steel four-post frame
	Equipment mounting rails, two pairs
	Factory installed grounding/bonding system
	Leveling feet and casters; baying kit
	Solid top panel with two or four brush-covered cable access ports
	Perforated metal front door; double perforated or solid metal rear door
	Solid metal side panels (optional)
Load Capacity	1500 kg (3300 lb), with 1.5x safety factor, stationary on leveling feet
Equipment Space	See Height, Width and Depth tables under ordering information
Material/Construction	Steel; welded/bolted frame, mounting rails screw to frame
Grounding/Bonding	Mounting rails, top panel, side panels and doors are electrically bonded to the cabinet frame; mounting location for a ground lug is provided on the cabinet frame
Finish	Powder coat paint

Availability: Europe

US & Canada
 +1-800-834-4969
 Toronto, Ontario, Canada
 +905-850-7770
 chatsworth.com
 techsupport@chatsworth.com

Latin America
 +52-55-5203-7525
 Toll Free within Mexico
 01-800-01-7592
 chatsworth.com.co

Europe
 +44-1628-524-834
 chatsworth.com

Middle East & Africa
 Dubai, UAE
 +971-4-2602125
 chatsworth.ae

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 +86 21 6880-0266
 chatsworth.com.cn



SPECIFICATIONS

Doors/Latches	Front door is flat, perforated metal
	Rear door is flat, perforated or solid metal
	Swing handle latch with keyed lock
	Easy to remove; reversible to open from the right or left
Side Panels	Order with cabinet or as an accessory
	Solid, two-piece interlocking panels (half-height, full-depth) with a single recessed lock located near the top, center of the panel, keyed to match the front/rear door
Top Panel	Solid top panel with four rectangular 100 mm x 225 mm (3.9"W x 8.9"D) brush-covered cable openings (one per corner) on the standard configuration
	Tool-less installation and removal (after removing shipping fasteners), spring-release pins secure the panel on the cabinet frame
Equipment Support	Two pairs of equipment mounting rails in the cabinet
	Adjustable depth; fixed 25 mm (1.0") increments, rails screw into frame
	Marks on frame for easy vertical alignment
	44.45 mm (1.75"H) rack-mount unit U spacing, marked and numbered bottom-to-top on all rails
	Universal, 19"W, 15.9 mm – 15.9 mm – 12.7 mm (5/8" - 5/8" - 1/2") vertical hole spacing complies with EIA/ECA-310-E
	Square-punched mounting holes accept Clik-Nut Hardware Kits and standard cage nuts
	Includes attachment points for accessory snap on Cable Ring Kits, order separately

The EF-Series EuroFrame Gen 2 Cabinet System is an easy-to-use, computer and network equipment storage cabinet that complies with data center, computer room and premise network equipment room requirements. The EF-Series EuroFrame Gen 2 Cabinet is available in 15 popular frame sizes.

The EF-Series EuroFrame Gen 2 Cabinet supports up to 1500 kg (3300 lb) of equipment load. Equipment mounting rails are adjustable in depth in fixed 25 mm (1") increments, and the markings on the frame provide easy vertical alignment during adjustment. The rails feature a Z-shaped design and have attachment points along the sides for accessory cable rings that create a vertical pathway for cables. Every cabinet includes a top panel, front and rear doors, transport casters and leveling feet.

The EF-Series EuroFrame Gen 2 Cabinet is configured standard with perforated metal front and rear doors to support front-to-rear airflow in traditional hot aisle/cold aisle applications. The standard configuration features a solid top panel with four brush-covered openings for cable access (one per corner) and a double (vertically split) rear door for easy access to equipment. The side panel is a two-piece panel (top half/bottom half) for easier handling. A high-density Vertical Exhaust Duct configuration is also available.

Create a cabinet solution that fits your needs by selecting specific thermal, cable and power management accessories. See inside for product details. Contact CPI Technical Support, or visit www.chatsworth.com for additional product information.

DIMENSION TABLES

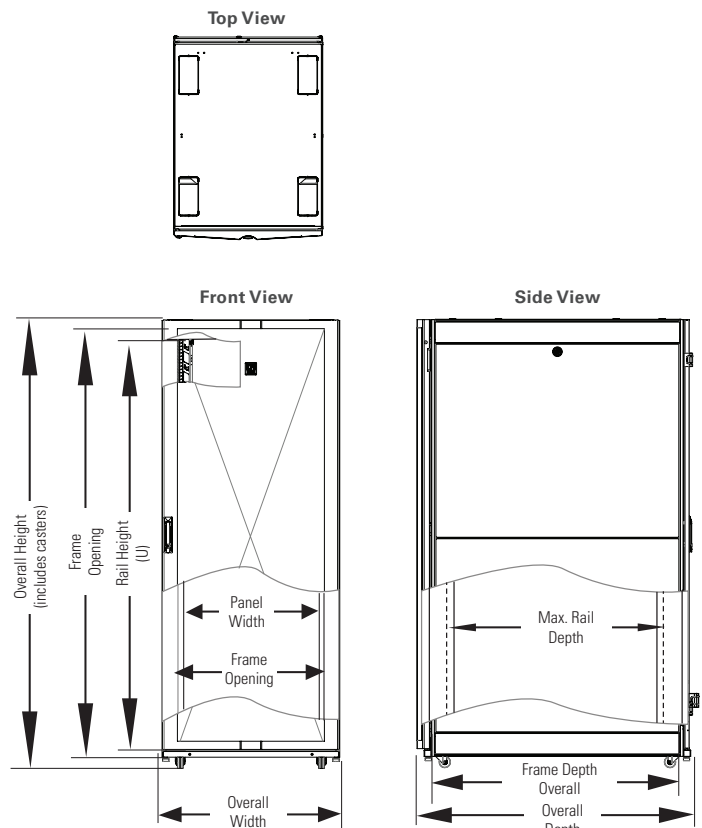
Height Dimensions – mm (in)			
Rail Height	42U	45U	47U
Overall Height, Casters included	2013 (79.3)	2147 (84.5)	2212 (87.1)
Frame Opening, Front	1876 (73.9)	2010 (79.1)	2075 (81.7)

Width Dimensions – mm (in)		
Nominal Width	600	800
Overall Width	600 (23.6)	800 (31.5)
Frame Opening, Front	508 (20.0)	708 (27.9)
Panel Width	482.6 (19" EIA)	482.6 (19" EIA)

Depth Dimensions – mm (in)			
Nominal Depth	800	1000	1200
Overall Depth with Doors	829 (32.6)	1029 (40.5)	1229 (48.4)
Frame Depth, At Base, No Doors	800 (31.5)	1000 (39.4)	1200 (47.2)
Min./Max. Rail Depth, 600 mm Cabinet ¹	N/A	183 (7.2)/879 (34.6)	183 (7.2)/1079 (42.5)
Min./Max. Rail Depth, 800 mm Cabinet ¹	173 (6.8)/668 (26.3)	173 (6.8)/868 (34.2)	173 (6.8)/1068 (42.2)

Dimension Notes:
 1. When adjusted to maximum depth, mounting rails wrap around the frame uprights (corner posts). Cable Ring Kits cannot be attached to the rails when they are set to maximum depth.

DIMENSIONAL DRAWINGS:



ORDERING INFORMATION

Use the part number matrix below to select a EF-Series EuroFrame Gen 2 Cabinet. Choose the Width, Depth and Side Panels to form a part number.

Example Part Number: **EF2-3C420-EA**.

- Standard Top Panel Configuration has perforated front/rear doors. Vertical Exhaust Duct configuration has perforated front/solid rear doors.
- Four frame sizes to choose from—two heights, four widths, two depths.
- Includes a cabinet frame, two pairs of 482.6 mm (19"W) EIA square-punched equipment mounting rails, a solid or Vertical Exhaust Duct top panel, a perforated front door, a double perforated or solid rear door, swing handle latches, keyed locks, casters, leveling feet and baying kit.
- Supports 1500 kg (3300 lb) static load on leveling feet. Casters are designed for moving an empty cabinet into position before loading equipment. The leveling feet should be extended prior to adding equipment to the cabinet.
- Color is Black.

EF2	-	H	W	D	S	C	-	C	F
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	1. Height				A	2. Width		2	3. Depth		0	4. Side Panels		0	5. Configuration		-	6. Color		7. Frame	
	U	mm	in			mm	in		mm	in		Description	Description		Description	Description					
EF2-	1	42	2013	79.3		600	23.6	2	1029	40.5	0	No Sides	0	Standard Top Panel/Standard Pallet	C	Black	A	4-Slide			
	2	45	2147	84.5				4	1229	48.4	1	One Side			E	Glacier White					
	3	47	2212	87.1							2	Two Sides									

	1. Height				C	2. Width		1	3. Depth		0	4. Side Panels		0	5. Configuration		-	6. Color		7. Frame	
	U	mm	in			mm	in		mm	in		Description	Description		Description	Description					
EF2-	1	42	2013	79.3		800	31.5	1	829	32.6	0	No Sides	0	Standard Top Panel/Standard Pallet	C	Black	A	4-Slide			
	2	45	2147	84.5				2	1029	40.5	1	One Side			E	Glacier White					
	3	47	2212	87.1				4	1229	48.4	2	Two Sides									

	1. Height				A	2. Width		4	3. Depth		0	4. Side Panels		1	5. Configuration		-	6. Color		7. Frame	
	U	mm	in			mm	in		mm	in		Description	Description		Description	Description					
EF2-	1	42	2013	79.3		600	23.6	4	1229	48.4	0	No Sides	1	Vertical Exhaust Duct, 500 - 850 mm (20" - 34")	C	Black	A	4-Slide			
	2	45	2147	84.5		800	31.5				1	One Side			E	Glacier White					
	3	47	2212	87.1							2	Two Sides									

Ordering Notes:

1. Height: Three heights are available: 42U, 45U and 47U. Height is listed as U. See DIMENSIONS for overall height dimension.
2. Width: Two widths are available: 600 mm and 800 mm (23.6" and 31.5"). The cabinet includes equipment mounting rails spaced for 482.6 mm (19" EIA) rack-mount equipment.
3. Depth: Three depths are available: 829 mm, 1029 mm and 1229 mm (32.6", 40.5" and 48.4"). Doors add approximately 25 mm (1") to overall depth. See DIMENSIONS for details.
4. Side Panels: Three configurations are available: no sides, one side or both sides.



EF2-3C420-EA



EF2-3C421-EA

THERMAL MANAGEMENT ACCESSORIES

Enhance thermal performance by controlling airflow through the cabinet using the following accessories.



Bottom Panel for EF-Series EuroFrame Gen 2

The Bottom Panel prevents airflow from entering the bottom of the cabinet.

- Solid panel with one brush-covered opening at the rear.
- Match to the width and depth of the cabinet



Side Panel for EF-Series EuroFrame Gen 2

One locking side panel with key, allowing easy installation.



EF-Series EuroFrame Gen 2 Air Dam Kit

Use in the 800 mm (31.5"W) cabinet to seal the space between the equipment mounting rails and the side panels within the cabinet. Includes eight cable pass ports and Equipment Rail Grommet Kit. (P/N 39133-001). Use with Snap-In Filler Panels.



Snap-In Filler Panels

Use Snap-In Filler Panels to seal any open U spaces in the cabinet. Snap-In Filler Panels combine with Air Dam Kit to create a one-way airflow pathway within the cabinet that separates hot and cold air. Snap-In Filler Panels are available in 1U and 2U versions.



Equipment Rail Grommet Kit

Equipment Rail Grommet Kit is a set of plastic grommets that cover cable openings in the equipment mounting rails in the 800 mm (31.5"W) cabinets to block airflow around equipment.

- Plastic, snap on
- Seal cable openings and can be cut to pass cables
- Includes: 8 grommets



EF-Series EuroFrame Gen 2 Four-Point Shelf

Fixed shelf with 445 mm x 653 mm (17.5"W x 25.7"D) surface that supports up to 100 kg (220 lb) of equipment. Mounting hardware included.



Raised Floor Grommet

Achieve an effective seal around cables with the dual-layer brush design with integrated membrane layer.

- 2-piece design doesn't capture cables
- Economical solution for any raised floor application
- Available in packs of 10 or in single units

Part Number	Description	Shipping Weight kg (lb)
Bottom Panel for EF-Series EuroFrame Gen 2		
68130-X08	For 800 mm x 829 mm (31.5"W x 32.6"D) Cabinets	9.9 (22)
68130-X11	For 800 mm x 1029 mm (31.5"W x 40.5"D) to 800 mm x 1229 mm (31.5"W x 48.4"D) Cabinets	15.0 (33)
68130-X03	For 600 mm x 1029 mm (23.6"W x 40.5"D) to 600 mm x 1229 mm (23.6"W x 48.4"D) Cabinets	13.2 (29)
Side Panel for EF-Series EuroFrame Gen 2		
68330-X00	For 42U x 829 mm (32.6"D) Cabinets	13.5 (30)
68330-X01	For 42U x 1029 mm (40.5"D) Cabinets	16.1 (35)
68330-X03	For 42U x 1229 mm (48.4"D) Cabinets	18.6 (41)
68330-X04	For 45U x 829 mm (32.6"D) Cabinets	14.9 (33)
68330-X05	For 45U x 1029 mm (40.5"D) Cabinets	17.4 (38)
68330-X07	For 45U x 1229 mm (48.4"D) Cabinets	20.0 (44)
68330-X08	For 47U x 829 mm (32.6"D) Cabinets	20.0 (44)
68330-X09	For 47U x 1029 mm (40.5"D) Cabinets	20.0 (44)
68330-X11	For 47U x 1229 mm (48.4"D) Cabinets	20.0 (44)
EF-Series EuroFrame Gen 2 Air Dam Kit		
68250-X00	For 42U x 800 mm (31.5"W) Cabinets	7.7 (17)
68250-X01	For 45U x 800 mm (31.5"W) Cabinets	7.9 (17)
68250-X02	For 47U x 800 mm (31.5"W) Cabinets	7.9 (17)
Snap-In Filler Panels		
34537-X01	1U x 19"EIA, Pack of 6	1.8 (4)
34538-X01	2U x 19"EIA, Pack of 6	1.8 (4)
Equipment Rail Grommet Kit		
39133-001	Equipment Rail Kit, Pack of 8	0.9 (2)
EF-Series EuroFrame Gen 2 Four-Point Shelf		
68573-X19	1U, Four-Point Shelf	8.1 (18)
Raised Floor Grommet		
13671-001	Raised Floor Grommet, 42 mm x 279 mm x 210 mm (1-5/8"H x 11"W x 8-1/4"D), Overall Size	0.9 (2)
13671-002	235 mm x 172 mm (9-1/4"W x 6-3/4"D) Hole in Floor (-001 = Each, -002= Pack of 10)	18 (8.2)
EF-Series EuroFrame™ Gen 2 Vertical Exhaust Duct Kit		
68251-X00	500 mm - 800 mm (19.7"H - 31.5"D) x 600 mm x 1229 mm (23.6"W x 48.4"D)	48 (21.8)
68252-X00	500 mm - 800 mm (19.7"H - 31.5"D) x 800 mm x 1229 mm (31.5"W x 48.4"D)	52 (23.6)

X=Color: 7=Black; E=Glacier White

EF-Series EuroFrame Gen 2 Vertical Exhaust Duct Kit

The Vertical Exhaust Duct attaches to the top of the cabinet to provide a sealed pathway for hot air from the top of the cabinet to an overhead drop ceiling as part of a closed hot air return.

- Upgrades installed cabinet in traditional hot aisle/cold aisle environment from front-to-rear airflow to front-to-top airflow
- Used with Solid Rear Door, Bottom Panel, Air Dam, Snap-In Filler Panels to completely contain hot exhaust air and remove it from the cabinet and room
- Fits cabinets that are 1229 mm (48.4"D)
- 2-piece duct adjusts in height to span the distance between the top of the cabinet and the overhead drop ceiling
- Features easy height adjustment, flexible seal at the top to accommodate variations in the drop ceiling
- U.S. patents apply to this product (For details visit www.chatsworth.com/patents)
- Includes: Vertical Exhaust Duct and installation hardware
- Material: Steel duct panels; top seal and duct corners are plastic
- Finish: Black or Glacier White; seal and corners are black
- Select part number to match the width and color of the cabinet

CABLE MANAGEMENT ACCESSORIES

Keep network, KVM and power cables separated and organized using the following cable management accessories.



EF-Series EuroFrame Gen 2 Cable Ring Kit

The Cable Ring Kit includes eight plastic D-rings that snap onto the equipment mounting rails inside the cabinet, creating a vertical pathway for cables. Select the kit to match cabinet width. Each rail can support seven rings. Mounting rails in the 600 mm (23.6" W) cabinet must be setback a minimum of 137.5 mm (5.4" W) to provide clearance for the cable rings. Mounting rails in the 800 mm (31.5" W) cabinet must be setback a minimum of 125 mm (4.9" W) to provide clearance for the large cable rings. Cable Ring Kit cannot be used with Vertical Cable Managers (P/Ns 68120 or 68110).

Part Number	Description	Shipping Weight kg (lb)
68106-X02	Short Cable Ring Kit For 600 mm Cabinets 43 x 127 (1.7 x 5.0), Outside, 25 x 112 (1.0 x 4.4), Inside	9.9 (22)
68106-X01	Long Cable Ring Kit For 800 mm Cabinets, 114 x 249 (4.5 x 9.8), Outside - 81 x 218 (3.2 x 8.6), Inside	13.2 (29)

X=Color: 7=Black; E=Glacier White



EF-Series EuroFrame Gen 2 Finger Cable Manager

The Finger Cable Manager attaches to the cabinet's equipment mounting rails, and provides vertical cable management with plastic T-shaped cable guides and openings that align with each U space in the cabinet to organize patch cords. The manager for the 600 mm (23.6" W) cabinet includes standard fingers only and can be used in either width cabinet. The manager for the 800 mm (31.5" W) cabinet is available with extended fingers and also includes a cover that partially encloses cables. Standard fingers require a 175 mm (6.9" W) rail setback, and the Extended fingers require a 237.5 mm (9.35" W) rail setback.

Part Number		Description	Shipping Weight kg (lb)
600 mm	800 mm		
68110-X00	68120-X00	For 42U Cabinets	6.8 (15)
68110-X01	68120-X01	For 45U Cabinets	8.6 (19)
68110-X02	68120-X02	For 47U Cabinets	8.6 (19)

X=Color: 7=Black; E=Glacier White.



EF-Series EuroFrame Gen 2 PDU Mounting Brackets

The PDU Mounting Brackets attach to the cabinet frame, and provides one or two attachment points for CPI vertical PDUs or power strips for cabinets, and multiple tie points for power cables. Secure cables to the bracket using Saf-T-Grip Straps® or cable ties. Tool-less PDU attachment points are located 1645 mm and 1556 mm (64.75" and 61.25") apart. The Single PDU Mounting Bracket is 89 mm (3.5" W). The double bracket supports two 56 mm (2.2" W) or narrower PDUs side-by-side. The Double PDU Mounting Bracket is 117 mm (4.6" W) and requires a minimum 200 mm (7.8" W) rail setback in 600 mm cabinets and a minimum 187.5 mm (7.4" W) rail setback in other cabinets.

Part Number	Description	Shipping Weight kg (lb)
68140-X00	Single PDU Mounting Bracket, 42U	6.4 (14)
68141-X00	Double PDU Mounting Bracket, 42U	6.9 (15)
68140-X01	Single PDU Mounting Bracket, 45U	6.5 (14.4)
68141-X01	Double PDU Mounting Bracket, 45U	7.1 (15.7)
68140-X02	Single PDU Mounting Bracket, 47U	6.5 (14.4)
68141-X02	Double PDU Mounting Bracket, 47U	7.1 (15.7)

X=Color: 7=Black; E=Glacier White.



EF-Series EuroFrame Gen 2 Cable Lashing Bracket

The Cable Lashing Bracket Kit attaches to the cabinet frame and provides multiple tie points for cables. Secure cables to the bracket using Saf-T-Grip Straps or cable ties. The kit includes one full height bracket with U-shaped cable tie points and installation hardware. The Cable Lashing Bracket is 124 mm (4.9" W) with two vertical columns of tie points for cables and has a 6500 mm² (10.0 in²) cable fill area. The bracket requires a 175 mm (6.9" W) rail setback in 600 mm (23.6" W) cabinets and a 125 mm (4.9" W) rail setback in 800 mm (31.5" W) cabinets.

Part Number	Description	Shipping Weight kg (lb)
68403-X00	For 42U Cabinets	12.6 (28)
68403-X01	For 45U Cabinets	13.6 (30)
68403-X02	For 47U Cabinets	13.6 (30)

X=Color: 7=Black; E=Glacier White



Clik-Nut Hardware Kit

The patent-pending design of the Clik-Nut cage nut eliminates the need for tools, resulting in easier and faster installation, while maintaining load-bearing strength.

- Easy, tool-less attachment and removal
- Fits 9.5 mm (.375") square hole
- Grip range 1.52 mm to 2.67 mm panel thickness (16 ga to 12 ga, .060" to .105")
- Includes mounting screws

Part Number	Description	Shipping Weight kg (lb)
76543-001	Clik-Nut Hardware Kit, Cage Nuts, Screws, M6, 25 Pack, Zinc	1 (0.5)
76544-001	Clik-Nut Hardware Kit, Cage Nuts, Screws, #12-24, 25 Pack, Zinc	1 (0.5)
76545-001	Clik-Nut Hardware Kit, Cage Nuts, Screws, #10-32, 25 Pack, Zinc	1 (0.5)

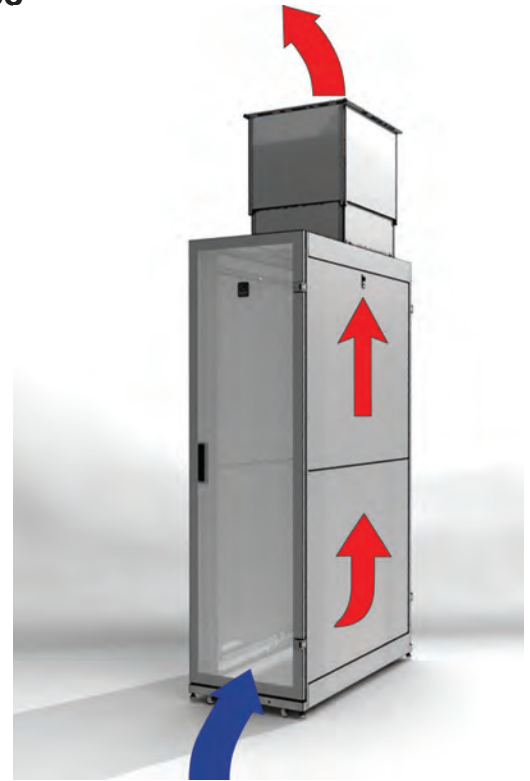
Note: Additional quantities available.

CPI Passive Cooling®, the Simply Efficient™ Choice

CPI Passive Cooling® Solutions offer innovative techniques that allow you to manage the flow of air throughout your data center without the need for added cooling system units, in-row air conditioners or risky liquid cooling solutions. From small applications with heat loads of 2 kW per cabinet, to large data centers with high heat densities up to 32 kW, CPI Passive Cooling Solutions offer smart, proven technology to reduce your data center cooling cost. As the Simply Efficient™ choice, CPI Passive Cooling Solutions allow you to meet tiered requirements for operation of your IT equipment and to deploy the latest servers, switches and blade servers from HP, IBM, Dell, Huawei, Cisco, Juniper Networks and Brocade with confidence.

How Passive Cooling Solutions work:

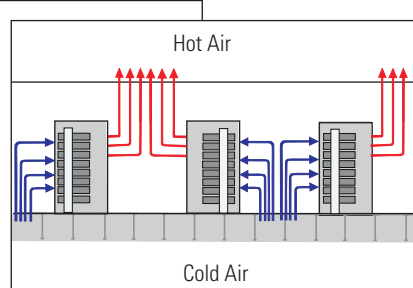
- Controls Airflow – CPI Passive Cooling Solutions control airflow through the cabinet using a specific combination of thermal management accessories. Solutions are available for traditional hot aisle/cold aisle environments and containment.
- Eliminates Re-circulation – CPI Passive Cooling Solutions create a one-way airflow pathway through the cabinet that eliminates the mixing of hot and cold air. The high-density solution, which includes a Vertical Exhaust Duct to isolate hot air from the room, guarantees heat transfer directly from equipment to the cooling unit.
- Increases Cabinet Density – With a Vertical Exhaust Duct, there is no hot aisle, so cabinet heat loads are not limited by the amount of air that can be delivered through the access floor tiles positioned directly in front of the cabinet.
- Uses Existing Standard Cooling Equipment – If the cooling capacity of your existing chilled water computer room air conditioners (CRACs) or air handlers (CRAHs) exceeds your heat load, there is no need to add expensive supplemental in-row cooling.



Low Heat Density

Combine:

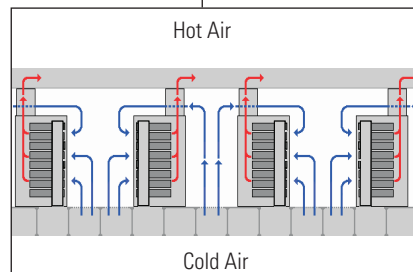
- EF-Series EuroFrame Gen 2 Cabinet with:
 - Perforated Front Door
 - Perforated Rear Door
 - Solid Side Panels
 - Solid Top Panel
- Bottom Panel
- Air Dam Kit
- Equipment Rail Grommet Kit
- Snap-In Filler Panels



High Heat Density

Combine:

- EF-Series EuroFrame Gen 2 Cabinet with:
 - Perforated Front Door
 - Solid Rear Door
 - Solid Side Panels
 - Solid Top Panel and Vertical Exhaust Duct
 - Bottom Panel
- Air Dam Kit
- Equipment Rail Grommet Kit
- Snap-In Filler Panels



Advantages of using CPI Passive Cooling Solutions – High Heat Density Solution with Vertical Exhaust Duct

- Eliminates hot spots – isolating and removing hot exhaust air creates a uniform temperature in the room.
- No additional power or redundancy requirements – include no active components.
- Improves cooling system utilization – capturing hot exhaust air means higher temperature return air, which improves utilization of chilled water CRACs and CRAHs.
- Increases chiller efficiency or “free cooling” hours – isolating hot air allows you to confidently raise the supply air temperature, which allows you to raise the chilled water temperature, and increase potential free cooling hours in most locations.
- Lowers your operating costs – the combined effect of better cooling system utilization and more free cooling hours provides lower operating costs.

