Products

Reseller Products & Capabilities Guide

CoolShield™

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The **Cool Shield** aisle containment system is the most versatile solution in the industry. Several unique framing channels are designed to provide maximum airflow management while minimizing installation time. Since every data center and project is unique, components are custom cut and often pre-assembled in our factory. Thistailored approach allows **Cool Shield** customers to get themost out of their aisle containment investment.

In addition to being highly functional and customizable, **Cool Shield** is extremely cost competitive. We stock price significant quantities of our proprietary multi-functional frames and components. This volume allows **Cool Shield** to meet nearly any design requirement at a favorable price point.

Containment
Doors

Cool Shield sliding and hinged aisle containment doors are attractive and resilient solutions for closing the entry to your hot or cold aisle. Door posts and headers are are constructed of robust 2" x 2" tubular aluminum high strength and durability. 3" door fames provide rock solid feel to both hinged and sliding doors. Each door features a generous clear insert to provide light and visibility into the aisle. Standard inserts are UL94 rated but inserts are also available in FM Global and ASTM E84 ratings. Headers and side extensions can adapt our standard door sizes to function with nearly any aisle size.

Doors ship from our factory nearly fully assembled to minimize installation time and effort on-site.

Effectively seal the entries to hot or cold aisles with Cool Shield doors. Double, single, hinged, sliding and strip configurations make building your aisle easy.

SINGLE SLIDING DOORS
Optional Self-closing
- 84" and 90" Height
- 40" and 50" Width
- Custom sizes available
- Black or Silver Frame

SINGLE HINGED DOOR
Self-closing Hinges
- 84" and 90" Height
- 40" Width
- Custom sizes available
- Black or Silver Frame

DOUBLE SLIDING DOORS
 Optional Self-closing
- 84" and 90" Height
- 54", 64" and 74" Width
- Custom sizes available
- Black or Silver Frame

DOUBLE HINGED DOORS
Self-closing Hinges
- 84" and 90" Height
- 52" and 62" Width
- Custom sizes available
- Black or Silver Frame

OVERLAPPING STRIP CURTAIN DOORS
Overlapping vertical strips provide effective and efficient approach to sealing aisle entry way.

Single Sliding Doors

COOL SHIELD ™

The **Cool Shield Single Sliding Door** is both highly functional and visually appealing for aisles up to 48" width. The doors feature a smooth operating slide rail easy opening and closing. Option self-closing piston prevent air leakage from doors being left open. Doors will hold in the fully opened position to allow for bringing equipment into the aisles.

FEATURES

- Easy glide slide rails for smooth opening
- Holds In fully opened position for equipment loading
- Heavy-duty door frame for sturdy feel
- Threaded channels on post and header allow numerous securing options
- Metal or panel based side light options to extend doors for larger aisles.
- Optional piston based self-closer prevents inadvertently leaving doors open

SPECIFICATIONS

- Standard door heights of 84" and 90"
- Standard door widths of 40" and 50"
- Custom sizes available
- UL 94, ASTM E 84 Class 1 and FM Global fire ratings available for clear insert
- Door designed to comply with ADA requirements
- Integrated hold open feature
- Optional hydraulic self-closing mechanism
- Available in Black and Silver colors

Double Sliding Doors

COOLSHIELD™

The **Cool Shield Double Sliding Door** system is highly functional and cost-efficient for aisles up to 72" wide. The double sliding door system is designed for efficiency with a low-profile and smooth operation. Most importantly, it seals the end of aisle entryways to prevent supply and exhaust air from mixing. Doors arrive fully assembled for quick and on-site installation.

FEATURES
- Easy glide slide rails for smooth opening
- Holds In fully opened position for equipment loading
- Heavy-duty door frame for sturdy feel
- Threaded channels on post and header allow numerous securing options
- Metal or panel based side light options to extend doors for larger aisles.
- Optional piston based self-closer prevents inadvertently leaving doors open

SPECIFICATIONS
- Standard door heights of 84" and 90"
- Standard door widths of 54", 64" and 74"
- Custom sizes available
- UL 94, ASTM E 84 Class 1 and FM Global fire ratings available
- Door designed to comply with ADA requirements
- Integrated hold open feature
- Optional hydraulic self-closing mechnisim
- Available in Black and Silver colors

Single Hinged
Doors

COOLSHIELD ™

The **Cool Shield Single Hinged Door** solution is ideal for smaller aisle ways which have adjacent obstructions such as cable trays or power cabinets. The single hinged doors feature self-closing hinges so that they will close behind you automatically after you enter the aisle. Robust aluminum post and frames provide high strength and durability. Doors close tightly to the frame and feature a magnetic catch to keep door in closed position even with high air pressure.

FEATURES
- Self-closing hinges ensures doors are not left in open position
- Heavy-duty door frame for sturdy feel
- Threaded channels on post and header allow numerous securing options
- Metal or panel based side light options to extend doors for larger aisles
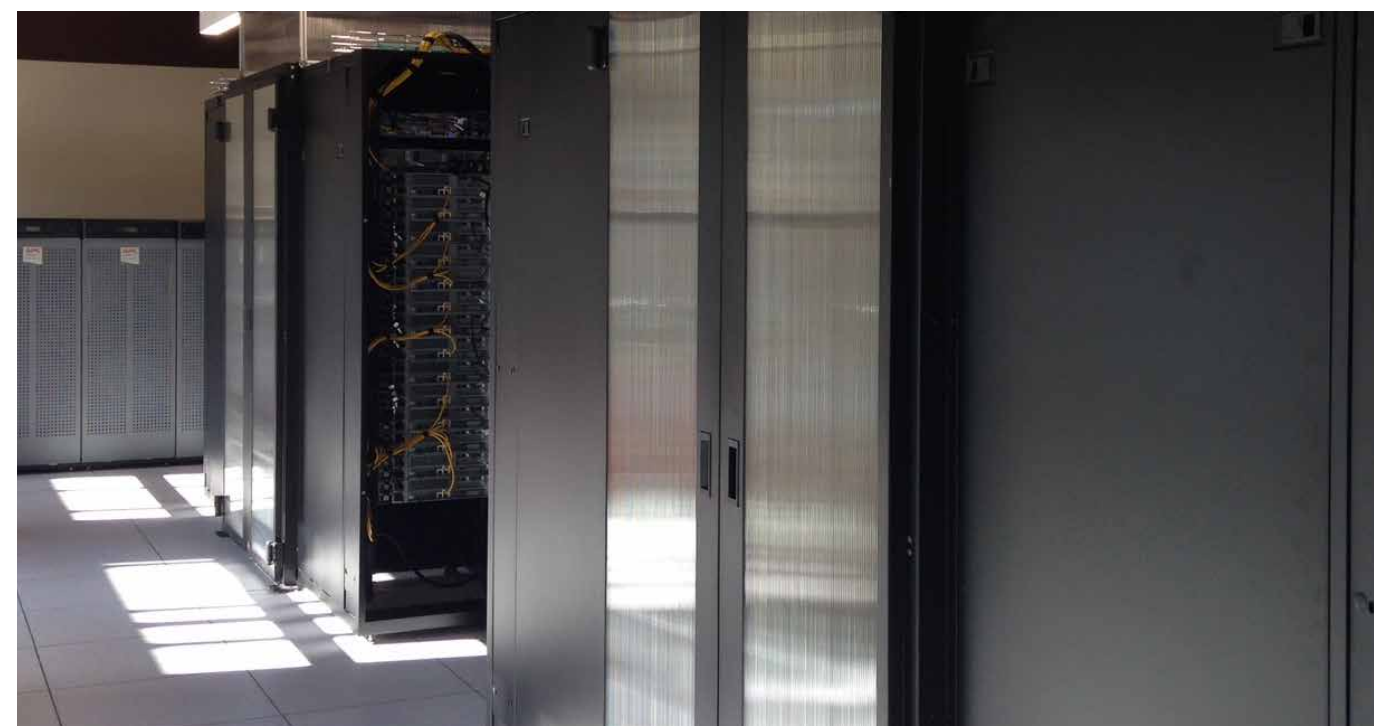- Magnetic catch holds door in the closed position

SPECIFICATIONS
- Standard door heights of 84" and 90"
- Standard door width of 40"
- Custom sizes available
- UL 94, ASTM E 84 Class 1 and FM Global fire ratings available for clear insert
- Door designed to comply with ADA requirements
- Adjustable tension self-closing hinges
- Available in Black and Silver colors

Double Hinged
Doors

COOL SHIELD ™

The **Cool Shield Double Hinged Doors** are a great option for 48" and wider doors where there are obstructions or access requirements next to the doors. Doors are equipped with heavy-duty self-closing hinges which help ensure doors will not be accidentally left open. Robust door posts and full 3" door frames provide a solid feel with high strength and durability. Posts have integrated threaded channels to allow for multiple mounting options including the floor, cabinets and overhead. Magnetic catch provides a solid seal in the closed position.

FEATURES

• Self-closing hinges ensures doors are not left in open position
• Heavy-duty door frame for sturdy feel
• Threaded channels on post and header allow numerous securing options
• Metal or panel based side light options to extend doors for larger aisles
• Seal between doors to prevent gap resulting in air loss

SPECIFICATIONS

• Standard door heights of 84" and 90"
• Standard door width of 54" and 64"
• Custom sizes available
• UL 94, ASTM E 84 Class 1 and FM Global fire ratings available for clear insert
• Door designed to comply with ADA requirements
• Adjustable tension self-closing hinges
• Available in Black and Silver colors

Strip
Doors

CoolShield ™

Overlapping vertical strips are the most cost effective approach for aisle containment doors. The problem is that, if not properly configured, they can be very ineffective. The thin, lightweight strips approved for use in data centers can separate and flap due to air pressure. However, the Cool Shield Strip Doors are designed to minimize separation for an efficient and effective aisle door solution. Cool Shield Strip Doors use wider strips than the competition to allow for a full 3" overlap. This extra overlap does not prohibit entering the aisle but does help prevent separation.

FEATURES
- Very cost-effective solution for aisle ways
- Extra wide strips provide increased overlap to prevent separation
- Optional strip weights prevent curling and flapping
- Clear flexible strip material meets NFPA 75 standards
- Stand alone door or integrate with upper aisle containment solution

SPECIFICATIONS
- ASTM E84 class A rated strip material
- Unique channel bar allows navigating around cable trays, pipes, etc..
- Lightweight, clear material with low out gassing
- Mounting kits for ceiling grid, unistrut, cabinet tops and threaded rod
- Optional fusible links allow strips (not bar) to fall before fire suppression releases
- 12", 14", 26" and 48" strip standard widths
- Magnetic dots prevent strip separation above cabinets
- Curtain weights prevent long curtains from flapping due to air pressure

Containment
Solutions

The Cool Shield aisle containment system consists of uniquely designed standard components which have evolved over the course of helping hundreds of customers get the most out of their cooling infrastructure. As a result, every containment project is unique and presents new challenges which enable us to improve our design to extend the capabilities of the product line. Above all, the Cool Shield proprietary extrusions are the heart of the system. Each of our more than a dozen aluminum profiles features combinations of threaded and slotted sides which allows for maximum versatility and ease of installation. Accordingly, Cool Shield optimizes HAC (Hot Aisle Containment) or CAC (Cold Aisle Containment) systems for the unique specifications and site conditions of any data center.
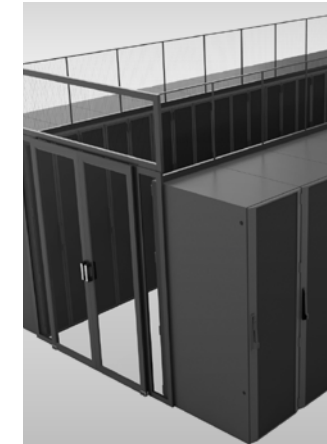
COOL SHIELD STRUCTURE
An effective support structure for all of your server cabinet infrastructure. Unlimited configurability allows for systems customized for your unique application.

Aisle containment is an important environmental control standard in the data center industry, minimizing the risk of overheating servers and sensitive electronics and reducing energy costs.

VERTICAL FIXED PANELS
Fixed Framed panels are factory installed to minimize onsite installation. Our panel frames are designed to allow for multiple methods of attachment and sealing in every direction.

CONTAINMENT CAP
Vertical containment solution with sturdy cabinet supported channel allows for full or partial height panels. Channels can be sized ot cabinet width for customized containment that is simple and effective.

VERTICAL SLIDING PANELS
Factory assembled panels utilize our slide frame channel to accommodate overlapping panels. Slide panels allow access to cable trays and busbars.

BARRIER PANELS
Framed panels keep aisles contained when missing cabinets/rows. Specifically made to size cabinets, swap out as you add to rows.

HORIZONTAL THERMAL CEILING PANELS
Factory assembled framed panels with UL approved temperature activated drop away panels. Perfect for cold aisle containment.

STRIP CURTAINS
Effective and efficient vertical strip curtains overlap, to separate data center aisle supply and exhaust air. Optional fusible links allow strips to fall out of way of suppression in a fire event.

Fixed Vertical
Panels

COOLSHIELD ™

Solid fixed vertical partitions to seal airflow in the hot aisle or cold aisle of a data center. Cool Shield aisle containment fixed vertical panels are a very attractive and efficient method for managing the airflow in hot aisle or cold aisle containment applications. Our proprietary Cool Shield channel is designed to tightly frame the panels for a very effective seal. Panel options (and fire ratings) for our channel include twin-wall polycarbonate (E84 Class 1), solid polycarbonate (UL94), CPVC (FM Global) and metal. Most are offered in clear, translucent or opaque. Panels are made to size and pre-assembled at our factory for fast on-site installation.

FEATURES

- Pre-assembled at factory to minimize installation time
- Multiple panel materials to meet budget or fire-rating requirements
- Panels framed by proprietary Cool Shield channel for maximum rigidity and seal
- Solutions for mounting to strut, channel, beams, ceiling grid, cabinets or floor
- Clear panels for high light transmission
- Integrated threaded and slotted channels allow for numerous brackets, brush strips, gaskets and strip curtains for optimizing air seal

SPECIFICATIONS

- UL 94, ASTM E 84 Class 1 and FM Global fire ratings available
- Proprietary channel features threaded and slotted sides for maximum flexibility
- Gasket, brush or strip curtains to cabinet tops
- Vertical foam gasket between panels for airtight seal
- Containment panel system can seal in excess of 98% of airflow

Vertical Sliding
Panels

COOL SHIELD ™

Proprietary slide frame channel accepts overlapping solid panels with thermal release for top panel to slide down to allow for fire suppression discharge. The Cool Shield Sliding Vertical Panels is designed to provide the exceptional sealing capabilities and high aesthetics of a solid panel solution without restricting access to the cables or other items behind the containment panels. In certain areas, it is required to have unrestricted access to overhead power busway. Our sliding panel solution eliminates that issue. Technician can simply slide one of the panels over to reach through the containment area. Once work is complete, the panel can be returned to the closed position for full containment. Sliding panel sections are pre-installed at our factory for easy onsite installation.

FEATURES

- Two-overlapping panels in one frame
- Pre-installed sliding panel sections installed at factory
- Outside edge of frame can integrate brush strips, rubber gaskets or strip curtains.
- Integrated stiffener keeps overlapping panels from bowing to minimize airloss
- Low friction "skis" at bottom of channel promote easy sliding of panels

SPECIFICATIONS

- Panel inserts with UL 94, ASTM E 84 class A and FM global fire ratings available
- Integrated threaded channel allows for numerous mounting methods
- Rubberized gasket, brush strip or strip curtain seals against cabinet tops and/or ceiling
- Cool Shield slide frame available with in standard black or silver

Thermal Ceiling
Panels

CoolShield ™

The Cool Shield contract and release thermal drop panels are UL listed be used under fire suppression sprinkler heads. Panels are supported by a 2" x 2" support frame placed on top of server cabinets. Framed panels feature a gasket between panels for airtight seal. Retaining brackets keep panels in place but allow for removal to access lights or cables above the containment ceiling. The panels are heat sensitive and shrink away falling harmlessly out of the way once the temperature hits 135 degrees Fahrenheit.

FEATURES

- Clear lightweight panels for high light transmission
- Panels can be individually lifted to access lights or cables
- Panel will not prevent installed fire suppression system from dispersing as designed
- Optional 'Top Hat' frame allows for additonal head room
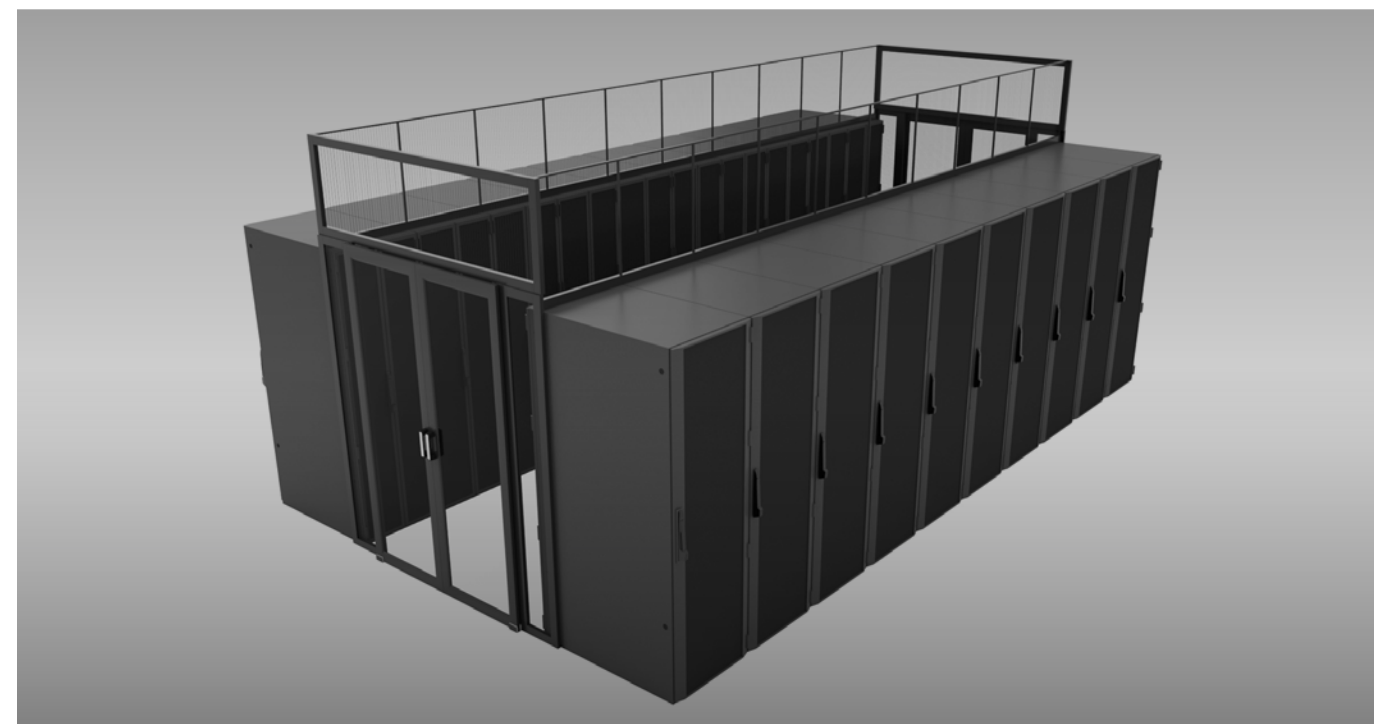- Framed panels are pre-assembled at factory for easy installation

SPECIFICATIONS

- UL listed and FM approved for installation beneath fire sprinklers
- Class A fire rated ASTM E84-11a
- **Weight:** 0.75 lbs
- **Color:** Clear also available: white, sand, latte, merlot, black
- **Material:** Feather-light, recyclable, 0.013" thick rigid vinyl

Containment
Cap

CoolShield ™

The Cool Shield Containment Cap solution provides cost-effective modular vertical containment to individual cabinets or entire rows. A robust aluminum extrusion features an integrated rubber strip to tightly hold a panel in the vertical position. The unframed panels can but butted together or connected with an h-channel for a more air tight seal. The containment cap can be used for partial or full containment to prevent recirculation of supply or exhaust air over cabinet tops. Containment caps are designed for simple self-install in minutes. Channel secured to cabinet without screwing into cabinets.

FEATURES
- Self-installs in minutes without tools
- Panels pre-cut to size based on rack height
- Ideal for sites with high ceilings
- Partial height can be sized to be 18' below fire suppression to avoid Fire Marshal issues
- Rubber strip inside channel ensures panels are tightly secured to stand fully upright

SPECIFICATIONS
- Accepts heavy-duty 8mm panel for excellent rigidity
- 1/2" thick foam strip below channels allows channel to set level on cabinet over bolts or cables
- Mounting channel secured to cabinets with magnetic discs or industrial hook and loop fastener
- Channel available in black or silver finish
- Integrate with Cool Shield door system for full aisle containment

Cool Shield
Structure

COOLSHIELD ™

Heavy-Duty Aisle Containment Structure Designed To Support Critical Infrastructure Including Cable Trays, Bus Bars And More. Cool Shield Structure is more than just an effective aisle containment system, it is a support structure for all of your server cabinet infrastructure. Unlimited configurability allows for systems customized for your unique application.

FEATURES

- Heavy-duty 2" or 4" posts provide strength to support weight without deflection
- All four sides feature multiple threaded channels for brackets and mounting
- One side of 4" post features an opening which accepts hardware for standard 1 5/8" strut
- Vertical support posts double as door frame for both sliding and hinged door systems
- Extrusion profile provides frame for fixed or sliding containment panels above servers

SPECIFICATIONS

- 4" x 4" Frame System Made From 6063-T6 Aluminum Extrusion
- Available in Silver, Black or White Painted Finishes
- Integrated Strut Profile Accepts Standard 1 5/8" (P1000) Strut Hardware Fittings
- Optional Pre-Assembly of Some Framing Components
- Frame Accepts Fixed 6mm Panels or Overlapping 8mm Sliding Panels

Barrier
Panels

COOLSHIELD ™

Framed panels keep aisles contained when missing cabinets/rows. Made to size of cabinets, swap out as you add to rows. Most existing data centers are not perfect and have spaces between cabinets, different size rows and other challenges to proper containment. Cool Shield Barrier Panels fill gaps in server rows to allow full containment of aisles which have missing cabinets, uneven rows, columns or other openings. The barrier panels can square up rows so that hinged or sliding aisle end doors may be used. They can also be used as a low-cost opposing wall for single or "orphan rows". Panels are constructed with the Cool Shield channel creating a frame for a clear or opaque insert panel. Specially designed feet allow the panels to be self standing.

FEATURES
- Custom sized to fill gaps between cabinets
- Create opposing wall for single row aisles
- Can be place holders for future row expansion
- Ideal for aligning opposing rows for use with aisle doors or ceiling panels
- Can be self-standing or attached to floor, cabinets or containment system

SPECIFICATIONS
- Fills gaps in uneven rows
- Sized to be stand-in for server cabinets
- Multiple insert options very high fire ratings ASTM E84 Class A and/or UL 94.

Strip
Curtains

Create a cost effective floor to ceiling partition wall to separate active from inactive spaces in the data center. Thick PVC strips were the first material used for aisle containment in the data center. They were inexpensive, easily to cut to adjust to obstacles and were quite effective at preventing air mixing. However, fire rating and out gassing concerns have forced a shift to thinner, higher rated strip. The problem was that these lighter strips were less effective because they easily separated when faced with air pressure. The Cool Shield Flexible Strip solution maintains all the benefits of using vertical strips but improves the effectiveness with a two-tier design.

FEATURES

- ASTM E84 Class A and UL94 V0 rated strip material
- Unique channel bar allows navigating around cable trays, pipes, etc.
- Lightweight, clear material with low out-gassing
- Mounting kits for ceiling grid, unistrut, cabinet tops and threaded rod
- Optional fusible links allow strips (not bar) to fall before fire suppression releases

SPECIFICATIONS

- ASTM E84 Class A and UL94 V0 rated strip material
- Lightweight, clear material with low out-gassing
- 12", 14", 26" and 48" strip standard widths
- Multiple channel mounting methods including drop ceiling, strut and beams
- Re-closable fasteners prevent strip separation
- Can be used for hot aisle and cold aisle, dependent on system design

COOLSHIELD ™

Containment
Accessories

Increasing server densities and power consumption are driving up utility bills. Data Center Resources slashes cooling costs with proven solutions to improve your energy efficiency. Managing the airflow around server cabinets is critical to prevent hardware from overheating. Our solutions to manage airflow include blanking panels, magseal floor barriers, CRAC hoods and Floor Grommets.

Aisle containment **accessories** help get the most capacity, efficiency and performance out of existing data center cooling infrastructures.

RACKFILL
Specially formulated fire-rated panels seal empty rack spaces quickly and economically. Fire-rated blanking panels quick install to fill empty rack spaces in server cabinets

MAGSEAL
Effectively seal the space under server cabinets

CRAC HOODS
Increase efficiency and capacity of cooling units by channeling warm exhaust air directly to the top return.

FLOOR GROMMETS
Seal openings in raised floor and prevent cool supply air from escaping where it is not needed.

Data Center Resources has several proprietary solutions to maximize cooling efficiency.
In addition, we have relationships with several leading manufacturers to offer the best products on the market.

Rackfill Blanking Panels

RackFill blanking panels combine performance, versatility and low cost in one innovative solution. Panels can ship with your choice of three mounting options: 1) Push-in clips for round hole (telecom) mounting rails 2) Push-in clips for industry standard square hole mounting rails 3) Ultra-thin high-performance magnetic discs which will adhere to any steel mounting rails. All options allow data center managers to quickly install lightweight yet rigid panels to fill empty rack spaces in literally seconds. RackFill panels are available in 1U to 27U sizes. All panels feature perforated scores in 1U increments to allow the panels to be quickly and accurately cut to any size needed as hardware is added. Panels can be cut in seconds with a common utility knife or scissors.

FEATURES

- Multiple mounting options including magnets and push-in clips for round and square hole rails
- Rigid, lightweight material does not sag to maintain tight seal between panels
- Perforated in 1U increment to allow easy cutting to size when new hardware is added
- Specially formulated resins achieve exceptional fire rating exceeding NFPA data center standards
- Available for both 19" and 23" rackmount widths

SPECIFICATIONS

- E84 Class A fire rating exceeds NFPA 75 and 76 data center standards
- Available in 42U, 44U, 45U, 46U, 47U, 48U, 51U and 54U kits for sealing empty cabinets
- Standard panels are for 19" rackmount. 23" rackmount available upon request
- Standard colors are black and white, custom colors upon request
- Each 1/32" thick magnetic disc has pull force of 2.1 lbs

Magseal
Panels

CoolShield ™

Data center managers who are serious about maximizing their cooling efficiency know that using blanking panels in unused rack spaces is critical for aisle containment. An overlooked final step in efficiency is sealing the space under server cabinets. Data centers that incorporate hot and cold aisle containment have pressure differentials between the aisles. This pressure can cause the gap below server cabinets, which is often 2" or more, to become an air stream between hot and cold aisles. The resulting mix of air reduces the effectiveness of a containment solution.

BEFORE

AFTER

FEATURES

- Block hot exhaust air from flowing under server cabinets to the cold aisle
- Maximize effectiveness of aisle containment investment
- Magnetic panels install in seconds
- Scored to easily adjust to gap size without cutting
- Low-power magnets provide no threat to hard drives or other hardware

SPECIFICATIONS

- Magnetic strips are ultra-thin at only .72mm thickness
- High performance magnet with 150 lbs/sq. ft. hold
- Max Gauss Rating of 220 pose no danger to servers and hard drives
- Material has fire rating of UL94-V0
- Available in black or white to match most server cabinets
- Custom size and color options available

CRAC Hoods

COOLSHIELD ™

The Cool Shield CRAC Extension is designed to be a highly effective, customizable and cost-effective solution for extending your cooling unit return up to the return plenum. Creating this direct connection allows the cooling unit to receive warmer air which provides significant benefits for your data center cooling. Higher return temperatures can improve cooling capacity and efficiency. The capacity of a cooling unit can vary significantly based on the return temperature. For example, the actual capacity of a 50-ton cooling unit can range from 20-tons to 70-tons based on the return temperature provided. Studies have shown a 10-degree increase return air temperature to cooling unit can result in up to 30% capacity increase.

FEATURES

- Increase capacity of cooling units by up to 25%
- Achieve higher Delta T of supply and return air for high efficiency
- Modular design allows for customized size
- Sliding panels allow for accessing and replacing air filters
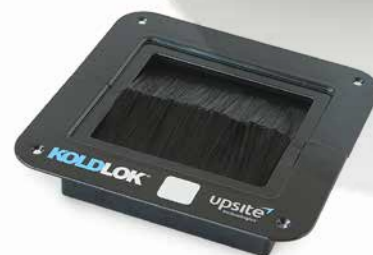- Significant cost advantage

SPECIFICATIONS

- Can be configured for any Liebert, Stulz, DataAire or other CRAC/CRAH manufacturer
- Lightweight aluminum frame with high thermal performance inserts
- Inserts have E84 Class A fire-rating and exceed NFPA 75/76 specifications
- Sliding panel access area exceeds vendor size requirements
- Gaskets at top and bottom seal air and allow for variable site conditions

Floor
Grommets

CoolShield™

Designed to seal openings in new or existing raised floor cutouts used for communications or power cabling. Based on measurements at multiple data centers, on average 48% of valuable conditioned air is not reaching the air intake of IT equipment due to unsealed floor openings. This lost air, known as bypass airflow, contributes to IT equipment hot spots, cooling unit inefficiencies, and increasing infrastructure costs. KoldLok® products specifically address bypass airflow and its detrimental effects on data center cooling.
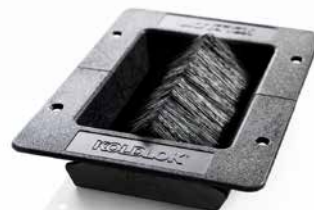
Split Brush Grommets

Grommet Covers

Split Round Grommets

Split Raised Grommets

Extended Brush Grommets

Mini Brush Grommets

FEATURES

- Increased ability to remove and replace tiles with edge cuts
- Reduced installation labor
- Ability to custom label grid location or cabinet identification
- Improved lifespan due to higher impact material
- Quick removal under low height cabinets due to interlocking design
- Easier to clean

SPECIFICATIONS

- Supports increased cabinet density
- Increases existing cooling unit capacity
- Reduces the need to purchase additional cooling units
- Improves IT equipment reliability and extends equipment life Increases static pressure under the raised floor and improves cool air delivery through perforated tiles and floor grates
- Compliance with best practices for all raised floor cooling configuration (Hot and Cold Aisle, Hot Aisle containment, Cold Aisle containment, etc.)

COOLSHIELD ™

VISIT WWW.COOL-SHIELD.COM

COOL SHIELD CONTAINMENT PRODUCTS OFFERED BY **dcr**