

Dehumidification of the hot aisle in the computer room



Overview

Install the dehumidifier intake on the return air path (hot aisle side) where moisture content is highest. Position condensate drainage with redundant paths. As computer room air conditioning units (CRACs) were controlled to relatively low supply air temperatures, it was not uncommon for a CRAC unit to dehumidify the room air while at the same time a different CRAC unit could be in humidification mode. Such a humidity-control strategy is like. This article explains practical approaches to air conditioning for computer rooms, focusing on maintaining stable temperatures and humidity, selecting suitable systems, and implementing maintenance practices that minimize downtime and energy use. Operating above 60% RH accelerates corrosion on copper and silver contacts inside servers. Data centers generate heat every second of every day. Servers, storage equipment, network switches, UPS systems, power distribution equipment, and high-density computing racks all produce heat that must be removed continuously.



Article Content

What is the Purpose of a Hot Aisle & Cold Aisle

The segmentation of data centers and server rooms into alternating cold and hot aisles has been embraced globally over recent years. The cold and hot aisle

Server Room Humidity Control: Best Practices

Symptoms of server room humidity too high include visible moisture, a musty smell, or frequent, unexplained electrical faults. Learning how to reduce

Data Center Cooling, Dehumidification, and Maintaining Safe Humidity ...

A condensation dehumidifier is considered the most appropriate, because it is relatively cheaper than a desiccant dehumidifier. Additionally, it is more effective at higher humidity and temperature levels.

Data Center Curtains | Hot & Cold Aisle Containment

Data Centers and Equipment Rooms Anti-Static Data Center Containment Curtains, Doors, and Partitions - The Ideal Solution for Data Centers Data center

Optimizing Data Center Cooling: The Power Of Hot And

Discover how to optimize your data center cooling system with hot and cold aisle containment. Learn about the assessment, design, installation,

Hot Aisle Containment in Data Centers | Subzero

Hot aisle containment (HAC) takes advantage of the natural properties of warm air rising. The HAC system directs the upward airflow to an AC return system such

Hot Aisle Containment: The Coolest Guide for 2025 [Data Centers]

In light of these advantages offered for thermal regulation within data centers, it becomes apparent that hot aisle containment

Move to a Hot Aisle/Cold Aisle Layout

A Time-tested Technique The hot aisle /cold aisle data center layout was originated by IBM in 1992 and it is one of the oldest ways to save energy in the data

Hot and Cold Aisle Containment Systems: How They

Hot aisle containment (HAC) and cold aisle containment (CAC) are the most efficient ways of preventing your servers from overheating and these

Humidity Control in Data Centers

As computer room air conditioning units (CRACs) were controlled to relatively low supply air temperatures, it was not uncommon for a CRAC unit to dehumidify the room air while at the same

The Energy Efficiency Benefits of Cold and Hot Aisle

Hot-aisle containment ensures that the open server room area is colder and provides a more acceptable working environment for technicians and

Impact of Hot and Cold Aisle Containment on Data Center

Both hot-aisle and cold-aisle containment provide significant energy savings over traditional uncontained configurations. This paper analyzes and quantifies the energy consumption of both containment

Data Centre Cooling: Hot Aisle and Cold Aisle Design

The hot aisle/cold aisle configuration ensures a consistent supply of cool air, reducing the likelihood of equipment failures due to overheating. Better airflow

Aisle Containment Systems for Hot & Cold Aisle Solutions

Cool Shield Aisle containment solutions reduces server row temperatures in active data centers. Learn more about the benefits of hot and cold containment.

The Advantages And Disadvantages Of Hot-Aisle, Cold

But there are some disadvantages to cold-aisle containment. Allowing the discharge air from the hot aisle to fill the room results in

Air Conditioning for Computer Rooms: Essential Guidance

This article explains practical approaches to air conditioning for computer rooms, focusing on maintaining stable temperatures and humidity, selecting suitable systems, and

FOCUSED COOLING USING COLD AISLE CONTAINMENT

While either hot aisle or cold aisle containment systems can be installed and are both capable of increasing efficiency and cooling today's high heat data centers, meaningful differences exist in how

Optimizing Data Center Cooling for Energy Efficiency

Typically, this involves installing doors at the ends of the aisles and a roof or panels above them, creating a sealed environment for the incoming

Explore hot and cold aisle containment for your data center

Hot aisle vs. cold aisle containment Hot aisle containment is easier to manage and puts the rest of the room at a more comfortable cold aisle temperature. Cold aisle containment, by

Reducing Bypass Airflow Is Essential for Eliminating Computer Room Hot ...

Bypass airflow occurs through unsealed cable cutout openings and mislocated perforated tiles placed in the hot aisle. Based on a 10,000 ft² (930 m²) computer room, bypass airflow averaged 80,000 cubic

Hot Aisle Containment Explained

Once the hot air is contained and isolated, it is either exhausted from the data center, or returned to the data center's Computer Room Air

Data Center Dehumidification: Preventing Equipment

Utilizing hot aisle/cold aisle confinement is another method for controlling humidity. Condensation is prevented in the data center by dividing

Hot Aisle Containment: The Coolest Guide for 2025 [Data Centers]

Hot aisle containment data centers are engineered to optimize cooling efficiency and minimize energy use by effectively

Does Your Data Centre Need a Dehumidifier? | Moisture Cure

Installation and Ducting for Data Centre Dehumidifiers A data centre dehumidifier should integrate with the existing airflow pattern, not fight it. Most facilities use a hot aisle/cold aisle configuration, with

CRAC vs CRAH Units Explained: Data Center Cooling

Learn the difference between CRAC & CRAH units, including DX cooling, chilled water systems, airflow, efficiency, & data center applications.

Data Center Cooling | Hot-Aisle/Cold-Aisle Systems

The goal of hot-aisle/cold-aisle systems is to move maximum heat away from the equipment using the minimum amount of energy. This arrangement optimizes

Hot Aisle Containment Systems | Server Room Environments

Hot aisle containment can consist of a vertical partition that runs over the top of the server cabinets to act as a ceiling return, or ducting can be used to route the hot exhaust air to computer room air

Best HVAC Systems for Data Centers and Server Rooms

Should I use hot aisle or cold aisle containment? How often should data center cooling systems be maintained? When should I consider liquid

Humidity Control in Data Centers

Controlling the humidification or dehumidification process based on dew point in a data center is ultimately the most reliable method of achieving stable and efficient control. The properly designed

Cold and hot aisle construction in computer room

Cold and hot aisle isolation and closure measures If the cold and heat isolation is not adopted in the equipment room, there will be a large temperature gradient.

Contact Us

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