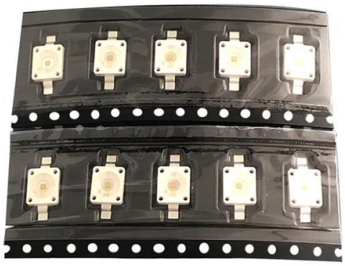
The hot aisle width in the computer room should be greater than 800mm



Overview

With over 150 server rooms under our belt, we''ve refined airflow into a repeatable blueprint that works for any space under 1,500 square feet.

Key Takeaways

The hot aisle width in a computer room should ideally be at least 1. 2 meters (1200mm), which is significantly greater than 800mm to ensure proper airflow, safety, and serviceability.

Recommended Width

While a width of 800mm may allow minimal access, industry guidelines recommend a hot aisle width of around 1. 2 meters (4 feet) or more to facilitate unobstructed airflow and safe personnel movement. This width allows for adequate space between the backs of server racks, ensuring that hot exhaust air can be efficiently removed and does not recirculate into the cold aisle.

Wider aisles also accommodate maintenance activities, cable management, and access to overhead systems such as lighting, fire detection, and suppression equipment.

Importance of Proper Hot Aisle Width

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Airflow Efficiency: Adequate spacing prevents hot air from mixing with cold air, improving cooling efficiency and reducing energy consumption. Safety and Accessibility: Wider aisles allow personnel to safely navigate the room, perform maintenance, and evacuate in emergencies. Containment Compatibility: Hot aisle containment systems, which include doors and overhead panels, require sufficient aisle width to function effectively and direct hot air back to cooling units.

Practical Considerations

Raised Floors and Ceiling Height: For rooms with raised floors or ceiling heights exceeding 3. 7 meters, additional aisle width may be necessary to accommodate lifts and overhead infrastructure. Rack Configuration: Uniform rack heights and proper cable management are essential to maintain airflow and prevent obstructions in the hot aisle.

Containment Systems: Hot aisle containment is often preferred for thermal efficiency and easier implementation, but the aisle width must support the containment structure. In summary, while 800mm may be a minimal clearance, a hot aisle width of at least 1. 2 meters is recommended to optimize cooling performance, operational safety, and maintenance access in computer rooms and data centers.

Article Content

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rategies orient the IT racks in what is called a hot aisle/cold aisle layout. Cold aisles are ormed by the space between the front faces of two rows of IT equipment rac

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These solutions provide good hot aisle/cold aisle isolation. They can receive cooling air from the data center room cooling system or can be cooled by In-Row cooling units that are built into the modular

Containment Strategies in High Density Data Centers

One of the benefits to consider is increasing the cold aisle width to 3 tiles. This requires less under floor pressure per tile, for the same total required CFM. This reduced pressure, in turn

Hot and Cold Aisle Containment: A Practical Primer

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Learn how to implement hot and cold aisle containment in existing data centers — HAC vs CAC comparison, PUE optimization, compliance standards, and cost analysis.

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vironmental areas: ballroom spaces, hot aisles, cold aisles, and grey areas. Many data center designs have computer rooms where cold air is distributed through a raised floor system tha

Hot and Cold Aisle Containment: What You Need to Know

Hot aisle containment systems isolate the hot aisle using a similar enclosure system to that of a cold aisle with a sealed door for access. This arrangement is preferred in newer systems and

Cold Aisle Containment & Hot Aisle Containment

Executive Summary of Aisle Containment This article examines cold aisle containment and hot aisle containment (also known as cold or hot air containment) from a neutral perspective. Cross-Guard, as

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Explore hot and cold aisle containment for your data center

Hot and cold aisle containment can help you maintain the best air flow, temperature and humidity in the data center to keep servers running efficiently.

IMPROVING DATA CENTER EFFICIENCY AND CAPACITY WITH AISLE

The fundamental difference between Hot Aisle Containment and Cold Aisle Containment is their respective abilities to increase efficiency and capacity in a particular type of data center.

What is the Purpose of a Hot Aisle & Cold Aisle Arrangement?

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 arrangements in data centers are part of

Hot and Cold Aisle Containment: What You Need to Know

How aisle containment works Aisle containment is a physical means of separating hot (exhaust) and cold (supply) air. It can be accomplished via thoughtful room design, cabinet layout,

Cold and hot aisle construction in computer room

Cabinets are interconnected through horizontal bridges (not visible in the computer room), and are connected to strong electrical bridges in external corridors; (4) The cabinet adopts a cabinet with a

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