

Intelligent Cold Aisle Wall-Mounted Type for Local Area Networks



Overview

ASM's cold aisle containment system directs cold air into the server aisles, optimizing data center airflow.

Key Takeaways

Intelligent Cold Aisle Wall-Mounted systems optimize airflow, reduce energy consumption, and protect LAN equipment by directing cold air precisely to server inlets while isolating hot exhaust air.

Intelligent cold aisle containment systems create a controlled corridor of cold air in front of server racks, ensuring that the coldest air reaches the equipment intakes while preventing mixing with hot exhaust air. Wall-mounted variants are particularly suitable for LAN environments with limited floor space, allowing containment to be installed along walls or rack lines without requiring extensive overhead structures.

Key Features

- **Intelligent Airflow Management:** Sensors and control interfaces monitor temperature, pressure, and airflow, dynamically adjusting fans or dampers to maintain optimal cooling and prevent hotspots.
- **Energy Efficiency:** By focusing cold air directly to rack inlets, these systems reduce wasted cooling, lower energy consumption, and improve overall HVAC efficiency.



- **Modular and Scalable Design:** Wall-mounted containment panels can be easily expanded or reconfigured as LAN requirements grow, supporting single racks or multiple rows .
- **Integration with Existing Infrastructure:** These systems are compatible with standard racks, cabling, and in-row cooling units, allowing seamless deployment in existing LAN setups .
- **Enhanced Equipment Reliability:** Maintaining consistent temperatures reduces thermal stress on servers and networking equipment, extending lifespan and minimizing downtime .

Installation and Types

- **Wall-Mounted Panels:** Attach directly to walls or rack sides, ideal for small server rooms or edge LAN deployments.
- **Door-and-Partition Systems:** Include transparent doors and partitions to enclose cold aisles while allowing easy access for maintenance .
- **Flexible Curtain Systems:** Lightweight, adjustable curtains for temporary or irregular containment needs, suitable for retrofits .
- **Integrated Sensors and Controls:** Intelligent systems can include temperature, humidity, and airflow sensors that communicate with building management systems for automated adjustments .

Benefits for LANs

- **Optimized Cooling:** Directs cold air efficiently to network switches, servers, and storage devices.
- **Reduced Energy Costs:** Focused airflow reduces the load on air conditioning units.
- **Scalable Deployment:** Modular wall-mounted panels allow incremental expansion as LAN grows.
- **Improved Equipment Lifespan:** Consistent temperatures prevent overheating and thermal cycling.
- **Simplified Maintenance:** Transparent panels and modular design allow easy access to racks without compromising containment .

Conclusion

Intelligent Cold Aisle Wall-Mounted systems are an effective solution for LAN environments, combining energy-efficient cooling, modular scalability, and intelligent monitoring. They are particularly valuable in edge data centers, server rooms, and high-density LAN setups, ensuring reliable operation while minimizing operational costs and thermal risks .

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The aisle containment system is a modular rowbased thermal containment solution, which separates cold and hot data center air

Aisle containment system buying guide

Discover the key factors to consider when choosing a hot aisle/cold aisle containment system. This buying guide will help you

Hot Aisle vs Cold Aisle in Data Centers: Technical Impact, ROI, and ...

The system simply aligns server fronts (air intakes) toward a shared cold aisle, and backs (exhausts) toward a shared

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What are hot and cold aisles in the data center?

In its simplest form, hot/cold aisle data center design involves lining up server racks in alternating rows, with cold air

Cold aisle containment system incorporates intelligent control system ...

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Superior Cooling Efficiency: By sealing the cold aisle so that only cool supply air reaches server inlets, cold aisle containment

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Cold Aisle Containment – inexpensively supports capacity increases by separating hot and cold air for increased efficiency Flexible

SmartAisle™ from Emerson Network Power®

The SmartAisle from Emerson Network Power is an intelligent row-based system that integrates data center racks, power, row

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The Elevate cold aisle control host is a robust solution designed to integrate data collection, storage, and local display for effective

Data Centre Cooling: Hot Aisle and Cold Aisle Design

Data Centre Cooling: Hot Aisle and Cold Aisle Design Data centres have become an integral part of today's technological landscape,

FS Community

We would like to show you a description here but the site won't allow us.

IT cooling I

Aisle containment as a simple means by which to improve the efficiency of cooling decisively. Hot spots make the IT equip

SmartAisle

SmartAisle is Ideally Suited For: Hot aisle/cold aisle applications Raised floor data centers with perimeter cooling Non-raised floor

Lepin Network | Cold Aisle Containment system

The aisle containment system is a modular rowbased thermal containment solution, which separates cold and hot data center air

CONTAINMENT SYSTEM

Accommodates aisle widths from 36" wide to 96" wide. Can be mounted cabinet-to-cabinet or cabinet-to-wall Customization of

42U Server Rack Enclosure | Cold Aisle Containment | Data Center IT ...

The aisle containment system improves cooling efficiency in hot aisle/cold aisle rack configurations by essentially creating a room

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Cold Aisle Containment in Data Centers | Subzero Engineering

The area at the top of the rack is typically affected by hot exhaust air recirculation. Cold aisle containment systems are designed to

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Data Center Containment System

A hot-aisle containment system (HACS) encloses the hot aisle to collect the IT equipment's hot exhaust air, allowing

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This document is for preliminary research. Verify specifications against current standards, product documentation and project requirements.

