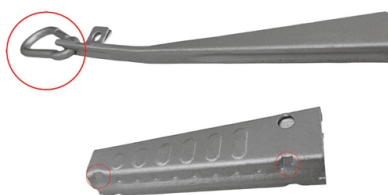


RIVO MULTITRADE OPTICAL SYSTEMS

Relay Protection Intelligent Cold Aisle Energy-Saving OEM



Overview

Cold Aisle Containment in Data Centers | Subzero The energy savings alone has saved hundreds of millions of dollars and has greatly decreased data Cold Ais.

Key Takeaways

Intelligent cold aisle containment systems with energy-saving features optimize data center cooling, improve equipment reliability, and can be sourced from OEM suppliers like SunIn, Vertiv, and APC. Overview of Intelligent Cold Aisle Containment

Cold aisle containment (CAC) creates an enclosed corridor in front of server racks, directing the coldest air to equipment intakes while preventing mixing with hot exhaust air. This improves airflow efficiency, reduces energy waste, and maintains uniform temperatures across racks, which enhances server reliability and extends equipment lifespan (Legrand) .

Energy-Saving and Intelligent Control

Integrating intelligent environmental controls with cold aisle containment, such as Vertiv's SmartAisle system, allows dynamic optimization of cooling parameters. This can reduce energy consumption by over 30% and increase cooling capacity by 25%, while supporting high-density racks of 10kW to 30kW per rack (Vertiv) . Intelligent control systems, like Liebert iCOM, adjust fan speeds and cooling output in real time, minimizing unnecessary energy use and improving overall efficiency.

OEM and Modular Solutions

Several OEMs provide customizable and modular cold aisle solutions:

- Sunpln SMARTDC Series offers integrated cold aisle containment with modular design for flexible deployment and OEM/ODM customization (Sunpln) .
- APC Thermal Containment by Schneider Electric provides intelligent hot/cold aisle solutions that prevent hot air recirculation, increase rack power density, and improve cooling delta T for higher efficiency (APC) .
- Alibaba-listed Intelligent Micro Module Cold Aisle Containment offers modular cabinets designed for energy savings and indoor network integration (Alibaba) . These systems are designed for raised-floor or slab data centers, can be retrofitted into existing facilities, and support scalable deployment as IT demands grow.

Benefits

- Energy Efficiency: Focused airflow reduces cooling energy consumption and lowers operational costs.
- Equipment Reliability: Consistent temperatures prevent hotspots and thermal stress.
- Scalability: Modular designs allow easy expansion or reconfiguration.
- High-Density Support: Enables higher rack power densities without overheating.
- OEM Customization: Tailored solutions for specific data center layouts and operational requirements. Intelligent cold aisle containment with energy-saving features represents a win-win solution for data centers, combining cost reduction, environmental benefits, and improved IT infrastructure performance.

Article Content

OPTIMIZED ENERGY EFFICIENCY WITH CONTROLLED

Many have already implemented the basic separation of cold air from warm air with dummy (blanking) panels, bushings for cable

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

