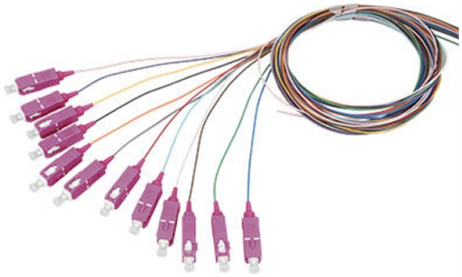
El Salvadoran Computer Room Cold Aisle Explosion-proof Type



Overview

Specify complete aisle containment systems for data centers, edge facilities and high-density compute rooms. Compare configurations, build a shortlist and send one project-ready enquiry.

Key Takeaways

Explosion-proof computer rooms and cold aisles in hazardous environments require C1D2/C2D2 or ATEX-certified equipment, spark-proof materials, and specialized ventilation to ensure safety and regulatory compliance. Key Certifications and StandardsC1D2 (Class I, Division 2): Required for areas where flammable gases or vapors may be present under abnormal conditions, such as chemical plants or oil refineries. Equipment must prevent ignition even in the presence of these gases.

C2D2 (Class II, Division 2): Designed for environments with combustible dust, like grain storage or pharmaceutical facilities, ensuring that dust cannot ignite from electrical components.

ATE

X / IECEx: European and international standards for explosive atmospheres, defining zones, equipment groups, and protection methods to prevent sparks or flames.

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Explosion-

Proof Computer and HMI SolutionsIndustrial Panel PCs and HMIs: Devices certified for C1D2, ATEX Zone 2, or IECEx Zone 2 are suitable for hazardous computer rooms. They often feature fully sealed stainless steel enclosures (Type 4/4X, IP65/66) to protect against dust, moisture, and sparks. Operating Range: Many explosion-proof computers operate in extreme temperatures, typically from -20°C to +60°C, making them compatible with cold aisle or refrigerated environments.

Modular Design: Some systems allow customization of processors (Intel Atom, Celeron, or Core i5) and pre-installed operating systems (Windows IoT, Linux) for integration into industrial workflows.

Explosion-

Proof Cold Aisle and Storage DesignElectrical Components: Use certified explosion-proof wiring, lighting, motors, and control panels to prevent ignition of flammable vapors or dust. Materials and Flooring: Non-sparking floors and tools reduce the risk of accidental ignition. Spark-proof materials are essential for all surfaces and equipment in the cold aisle.

Ventilation and Gas Detection: Specialized ventilation systems and gas detection alarms provide immediate alerts for hazardous conditions, maintaining safe air quality and temperature control. Compliance: Designs adhere to national and international safety standards, including the National Electrical Code (NEC) in the US and ATEX directives in Europe, ensuring full regulatory compliance. Applications in El SalvadorExplosion-proof cold aisles and computer rooms are particularly relevant for: Chemical and petrochemical plantsPharmaceutical facilities handling flammable solventsFood processing or grain storage facilities with combustible dustData centers in hazardous industrial zones By implementing C1D2/C2D2 or ATEX-certified equipment, along with spark-proof construction, specialized ventilation, and monitoring systems, El Salvadoran facilities can safely operate computers and cold storage in hazardous environments while meeting international safety standards.

Article Content

Cold Aisle Containment in Data Centers | Subzero

With cooling provided through a raised floor, this cold aisle containment project uses rigid wall panels in conjunction with the Polar Cap 2 roof system to provide

Explosion Proof Ratings: NEC, ATEX & IECEx Guide

“Explosion-proof” specifically means the equipment enclosure is designed to contain any internal explosion and cool hot gases before they exit —

Data Center Aisle Containment Systems | Profile IT Solutions

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Specify complete aisle containment systems for data centers, edge facilities and high-density compute rooms. Compare configurations, build a shortlist and send one project-ready enquiry.

Explosion-Protected Computer

Advantech provides ruggedized gateways with C1D2, ATEX, and IECEx certifications, ensuring safe operation for hazardous environments. As industries advances, hazardous working environments are

C1D2, C2D2 Explosion Proof Computers

C1D2 (Class I, Division 2), C2D2 (Class II, Division 2), and ATEX certified computers are designed to operate safely in these conditions, reducing the risk

AISLE CONTAINMENT

Hot aisle containment is made from light duty aluminum profile and thermal insulation PC board, has better heat dissipation performance than cold aisle containment in high density data centers, to

ATEX Panel PC

Winmate''s ATEX panel PC makes them suitable for nearly any oil and gas application. Our explosion-proof rugged computing solutions are designed to

Aisle Containment Systems for Hot & Cold Aisle Solutions

Cold aisle containment (CAC) provides excellent control over supply temperatures to optimize CRAC set points. Hot aisle containment (HAC) returns warmer air to

Data Center Server Rooms

PortaFab''s containment partition walls can be arranged in a variety of configurations in order to maximize energy efficiency when designing hot and cool aisle

Aisle Containment Systems Physical Containment Systems ...

Door Options A choice of door options is available for use with the aisle containment system to provide the right combination of safety and security. Dual sliding doors or Vertical doors can be chosen for

How Cold Aisle Containment Works for Data Centers

Are you interested in cold aisle containment for your data center? C&C explains how these containment systems can help your data center.

FOCUSED COOLING USING COLD AISLE CONTAINMENT

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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

Explosion Proof vs. Flammable Storage: Cold Storage Built for Safety

This means they''re built for areas where a single spark could lead to a major incident. These units are the top-tier choice when safety requirements are stringent, and the work

Explosion-Proof & Hazardous Location Cold Room Construction

Certified construction of explosion-proof cold rooms for hazardous locations. We are your expert builder for safe, compliant chemical and industrial cold storage.

Cold Aisle Containment in Data Centers | Subzero

Minimize your data center''s footprint, establish optimal operating efficiencies and save money with cold aisle containment. Learn more here!

Aisle Containment Systems Physical Containment Systems ...

Hot aisle/cold aisle configuration is a best practice solution that separates hot and cold air streams. This method raises the temperature of the air returning to a Computer Room Air Conditioner (CRAC) unit,

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

Explosion-Proof & Hazardous Location Cold Storage | LengdiCold

Certified explosion-proof cold storage construction for chemical and hazardous locations. Our designs ensure the highest levels of safety and compliance.

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

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