

Low humidity in the hot aisle of the computer room



Article Overview

Low humidity in the hot aisle increases the risk of electrostatic discharge (ESD), which can damage sensitive IT equipment.

Risks of Low Humidity

In computer rooms and data centers, relative humidity (RH) below 40% can create excessively dry air, which allows static electricity to build up more easily. This is particularly dangerous in the hot aisle, where high temperatures from server exhaust can exacerbate dryness and increase the likelihood of ESD events. Even small discharges can damage circuits, memory modules, and other critical components, potentially leading to system failures or data loss .

Recommended Humidity Levels

Industry standards, such as ASHRAE TC9.9, recommend maintaining 40%–60% RH in IT environments, with a dew point between 5.5°C and 15°C (41°F–59°F). This range balances the need to prevent static electricity at low humidity while avoiding condensation and corrosion at high humidity . For high-density racks, tighter control may be necessary to ensure equipment reliability .

Monitoring and Control

- Install multiple sensors in each rack or aisle to measure both temperature and hu...

Article Content

Ideal temperature and humidity for computers and data

Therefore, in data centers, it is recommended to measure temperatures in aisles at various heights, as well

Server Room Humidity & Dew Point levels

Server Room Humidity & Dew Point levels - how low is too low? For those that manage the server room environmental systems (e.g.

What is a Safe Data Center Humidity Range?

At low humidity, static electricity can build up and discharge across circuit boards, causing component failure. At high

An Updated Look at Data Center Temperature and Humidity

In a data center or computer room, maintaining ambient relative humidity levels between 45% and 55% is recommended for optimal

General guidelines for data centers

Equipment layout and air delivery paths The hot-aisle, cold-aisle arrangement that is explained in the ASHRAE publication, "Thermal

Data center cooling systems and technologies and how they work

Explore the various ways data center cooling systems can maintain optimal temperature and humidity levels to protect

Humidity In Computer Rooms: What You Should Know

To recap, too much humidity may cause corrosion and component failure in computers. On the other hand, too little humidity may

Humidity Control in IT: Why It Matters & How to Manage

This prevents microclimates within the server room where humidity might be too high or too low, even if the overall

Data center temperature and humidity guidelines

If the humidity is too high, condensation can occur, potentially shortening the life of various components. Ideally,

ASHRAE Recommended Data Center Temperature & Humidity

Data centers that are operating outside of ASHRAE recommended temperature and humidity ranges are at direct risk for potential

Data Center Temperature & Humidity Best Practices: A Complete

Data center temperature and humidity best practices so you can meet device guidelines while saving money and optimizing

ASHRAE Data Center Temperature & Humidity Guidelines

They house computer systems and associated components such as telecommunications and storage systems.

What is a Safe Data Center Humidity Range?

A safe data center humidity range is more than a number on a chart—it's a key component of uptime, performance,

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

Humidity Control in IT: Why It Matters & How to Manage

Poor humidity control harms IT systems. Learn expert tips to manage humidity and prevent data loss, downtime, and

Server Room Humidity Range: Best Practices for Safe Operations

Learn the ideal server room humidity range—avoid static or moisture damage by maintaining proper levels for safe,

Server Room HVAC System Design and Best Practices

Relative humidity is commonly maintained between 45% and 55% to avoid static discharge and condensation.

Data Center Temperature & Humidity Best Practices: A Complete

High humidity can lead to moisture build-up, corrosion, and shorts, but low humidity can lead to electrostatic discharge. That's why

HVAC and Humidity Control in Server Rooms: The Complete Guide

Maintaining proper humidity levels in server rooms is critical for protecting expensive IT equipment. Both high and low

Data center temperature and humidity guidelines

ASHRAE's data center temperature and humidity standards help admins determine what the environment of the

How Humidity Levels Affect Server Operations

In a server or computer room environment, high humidity can lead to moisture (air water content) from the air

Humidity In Computer Rooms: What You Should Know

Learn the role of humidity control in computer rooms. Smart Fog talks about humidity levels, improper

Server room humidity level : r/networking

"In Prineville's first summer of operation, a problem in the facility's building-management system led to high temperature and low

Make Humidification Adjustments

Make Humidification Adjustments Until very recently, most data center managers tightly controlled humidity, keeping it between 45

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

Server Room % Humidity is very low

I recently added a temperature and humidity probe in our server room. It's consistently reporting that humidity is about

Managing Humidity In The Data Center Or Server Room

Much is said about temperature control in either a data center or server room, but what about the humidity factor? I

Temperature and humidity control in data centres

In Part 1, we look at data centre energy efficiency In Part 2, we look at temperature & humidity control In Part 3, we

Air Conditioning for Computer Rooms: Essential Guidance

This article explains practical approaches to air conditioning for computer rooms, focusing on maintaining stable

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