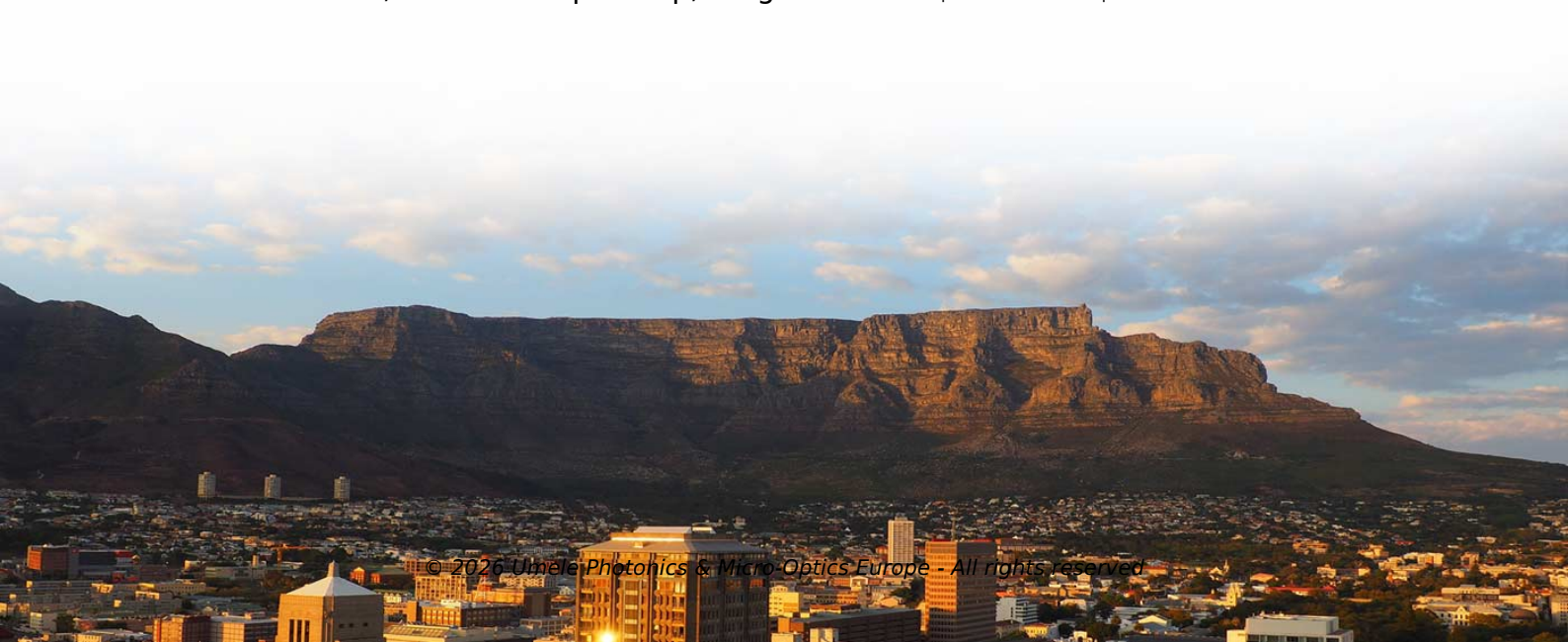


How much does an intelligent cold aisle immersion liquid cooling system cost



Overview

Capital costs range USD 1,800-3,200 per kW of cooling capacity including distribution infrastructure. Water-side economization (using cooling towers when ambient wet-bulb allows) reduces annual cooling energy by 40-65% in temperate climates versus mechanical chilling alone. Liquid immersion cooling achieves PUE of 1.10/kWh electricity — payback as low as 1.6 years at 80+ kW/rack. Water savings reach 95-98% vs evaporative. From OEMs and HVAC majors buying their way deeper into liquid-to-chip, to capital flowing into microfluidic cold plates and high-efficiency chillers, to immersion systems pushing out to the edge and even into battery storage, the thermal stack around AI is being rebuilt in real time. What's. Let's explore the fundamentals of immersion cooling and provide a cost-benefit analysis to help you decide if it's right for your data center. Immersion cooling is a technique in which electronic components, such as servers, are submerged in a thermally conductive liquid to dissipate heat. Unlike. The cost of direct-to-chip (D2C) liquid cooling systems for GPU servers, normalized per chip, ranges from US\$200 to US\$400.



Article Content

Immersion and liquid cooling for AI data centers | NorthC

AI workloads and HPC require efficient cooling. Discover how immersion and liquid cooling save energy, enhance performance, and future-proof data centers.

Liquid Cooling Solutions for AI, HPC & Hyperscale | LiquidStack

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Cost Analysis and Value Chain Analysis Data Center Cooling

While cold plates themselves are relatively low-cost, the value and expense of the cooling system lie in the complete assembly. This integrated system ensures efficient heat dissipation and

Immersion or Direct-to-Chip: A Comparison of the Most Common Liquid ...

However, while organizations understand the overarching benefits of liquid cooling (improved server performance, increased rack density, lower energy costs, reduced water consumption and more),

Data Center Liquid Cooling for AI Workloads (2026) · KAD

Liquid cooling is no longer optional—it is now a baseline requirement for modern AI data centers. By 2026, liquid cooling adoption in newly built facilities has climbed to approximately 22%,

The immersion cooling technology: Current and future development in ...

In more detail, this paper comprehensively compiles the latest findings of immersion cooling technology which includes an overview of the cooling system, history, implementation,

Immersion Cooling Is Ready for its Big Moment in the Data Center

Immersion cooling is more energy efficient than air cooling or many other forms of liquid cooling. This is true for a couple of reasons, primarily that liquid is better than heat absorption than air but also

The TCO of Data Center Liquid Cooling

One way to identify precisely how much savings can be realized is to look at TCO, or total cost of ownership, of a system. There are several factors to consider when calculating the TCO, and in this

Turn Up the Volume: Data Center Liquid Immersion Cooling

A Year for Data Center Liquid Immersion Cooling Technology Advancements This February, we noted how immersion cooling technology, long a niche player, this year seemed poised to claim a greater

CoolBitts Launches \$2450 PC Immersion Cooling Kit

Home > Gaming CoolBitts Launches \$2450 PC Immersion Cooling Kit Immersion cooling manufacturer CoolBitts thinks there might be a market for immersion cooling systems at the ultra

Immersion Cooling for data centers: An exotic inevitability?

However, while more advanced systems like immersion cooling exist, they see limited adoption despite claims of explosive benefits in performance density, overall cost, and efficiency.

Liquid vs Air Cooling for Data Centers 2026: Cost & Efficiency Analysis

How much does liquid immersion cooling cost per kW of IT load? Single-phase immersion cooling systems typically cost USD 4,500-6,800 per kW of IT load installed (2026 pricing), including

Understanding the Total Cost of Ownership (TCO) for a 10 MW AI

Understanding the Total Cost of Ownership (TCO) for a 10 MW AI Data Center: Air Cooling vs. Immersion Cooling In the rapidly evolving world of data centers, efficiency, scalability, and cost

Data Center Cooling Costs & How To Reduce Them | Enconnex

Data center cooling costs are rising. Learn how much it costs to cool a data center & get strategies for reducing expenditure from the experts at Enconnex.

Immersion cooling innovations and critical hurdles in Li-ion battery ...

A detailed discussion on the economics of battery immersion cooling as a cost-effective solution is included. This study offers an up-to-date review of battery immersion cooling, fostering an

Understanding the Total Cost of Ownership (TCO) for a 10 MW AI

The following data, validated for accuracy by industry leaders GRC, Vertiv, Schneider Electric, and others, provides a clear comparison of the costs associated with air cooling and immersion cooling

Understanding Immersion and Direct-to-Chip Liquid Cooling ...

Cost considerations can be a hurdle. Implementing liquid cooling typically requires added plumbing and specialized infrastructure within racks or during new building construction, potentially

Liquid Immersion Cooling: A Deep Dive into the Future of ...

Overall liquid immersion cooling has moved beyond a promising solution to the standard for future development as demand for efficient cooling in data centers not only grows but will be

Immersion Cooling Data Centers | Hyperscale Builds 2025

Immersion cooling involves submerging IT hardware in dielectric fluid that does not conduct electricity. Heat generated by the components is transferred directly into the liquid, which is

Contact Us

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