

# Immersion Liquid Cooling for Server Racks in Intelligent Buildings



## Overview

Chris Carreiro, CTO at Park Place Technologies, explains the specifics of liquid immersion cooling, as well as the challenges – and benefits – of its adoption. Immersion cooling is a type of liquid cooling used to moderate data centre equipment temperature by submerging it in a. Immersion cooling (see Figure 2) is a liquid cooling method in which servers and other rack components are submerged in a thermally conductive dielectric liquid or fluid within a sealed tank. This liquid, known for its excellent thermal transfer properties, absorbs heat from IT equipment for. The Cisco-GRC partnership enables organizations to dramatically reduce environmental impact while supporting demanding AI and high-performance workloads from enterprise data centers to edge locations. With strong heat dissipation capacities of up to 100kW/rack, it is ideal for high-density AI data centers—a solution that NADDOD is fully committed to delivering. What is Immersion Cooling? Immersion cooling. LiquidCool Solutions is the only company combining Total Liquid Immersion with Directed Flow (direct-to-chip) in a standard 19" rack. Because liquid cools 1,000x better than air, we can provide high density computing – up to 4kW per server. Our products are easy to install and suited for. At Energy Solutions Intelligence, we analyze operational data from hyperscale operators, colocation providers, and enterprise deployments to benchmark liquid immersion cooling economics against advanced air-cooling architectures across power densities from 15 kW/rack to 100+ kW/rack.



## Article Content

### Data Center Liquid Cooling Market Size & Forecast, 2033

The global data center liquid cooling market size is projected to rise from US\$5.7 Bn in 2026 to US\$29.2 Bn by 2033. It is anticipated to witness a CAGR of 26.4%

### 5 Liquid Cooling Data Center Projects in 2026

Each server is submerged in a sealed bath of boiling dielectric coolant, which vaporizes at low temperature and condenses on integrated heat-exchanger coils, enabling extremely stable

### Understanding liquid immersion cooling

Immersion cooling is a type of liquid cooling used to moderate data centre equipment temperature by submerging it in a cooling fluid. Server

### LiquidCool Solutions: Immersion-Cooled Rack Servers

Meet soaring compute demands efficiently with LiquidCool Solutions' versatile, immersion cooling for high-performance GPU dense servers. Perfect for data

### Optimizing AI Performance with Immersion Cooled Data Centers

The solution's elegance is its simplicity: servers and switching infrastructure are immersed in coolant-filled horizontal racks while a small pump circulates fluid through a heat exchanger.

### Disrupting Data Centre Design

This report examines the transformative potential of liquid cooling, an emerging technology that is poised to become a cornerstone of modern data centre design. We will explore the diverse approaches to

### Data Center Cooling 2026: Liquid Immersion vs Air Economics

At Energy Solutions Intelligence, we analyze operational data from hyperscale operators, colocation providers, and enterprise deployments to benchmark liquid immersion cooling economics

### Liquid Cooling for Data Centers 2026: Energy Savings & Thermal Risk ...

Liquid Cooling Architectures Compared Liquid cooling is not a single technology. Operators can choose between rear-door heat exchangers, direct-to-chip cold plates, and various

### Liquid and Immersion Cooling Options for Data Centers

Long proven for mainframe and gaming applications, liquid cooling is expanding to protect rack-mounted servers in data centers worldwide. Vertiv has created a

## Data Center Liquid Cooling: The AI Heat Solution

In two-phase immersion cooling, a server is dunked into a vat of liquid. The liquid actively boils next to the heat-producing components, cooling them in

Shell immersion cooling fluids | Shell Global

Find out how Shell's gas-to-liquids (GTL) technology is enabling the latest immersion cooling solutions for data centres.

Data centers take the plunge

Data centers are beginning to switch from air to liquid cooling. Liquid cooling is more effective at drawing heat away from sophisticated chips and could

A review of the immersion liquid cooling technology for high ...

This paper provides a comprehensive analysis of ILC technology, examining coolant classification and selection criteria, the operating principles and performance of various liquid-cooling

What is Coolant Distribution Units (CDU) for Data Center Cooling

For those new to liquid cooling, a Coolant Distribution Unit (CDU) is essential. It regulates flow and heat transfer, prevents leaks, and ensures safe separation between building

Server Immersion Cooling System Market Size, Trends, 2026

The Server Immersion Cooling System Market is positioned for robust growth driven by technological innovation, regulatory mandates, and the expanding digital economy.

Server Immersion Cooling Systems

Supports ultrahigh rack power densities required for AI and HPC workloads. Controlled dielectric environment isolates components from humidity and

Vertiv Liquid Cooling: Dominating AI Data Centers in 2025

Analyze Vertiv's 2025 liquid cooling strategy. Explore how key partnerships fuel its dominance in the AI data center thermal management market. Discover their plan now.

Microsoft Liquid Cooling: A \$100B AI Bet in 2025

Microsoft's Liquid Cooling Revolution: How a \$100B AI Bet is Reshaping Data Center Strategy in 2025 Industry Adoption: Microsoft's Strategic Pivot to Liquid Cooling for AI Data Centers Between 2021

Immersion Cooling Solution for Sustainable AI Data

Immersion cooling stands out as the most efficient solution in liquid cooling technology. With strong heat dissipation capacities of up to 100kW/rack, it is ideal

Building the Thermal Backbone of AI: Tracking the

As rack densities surge and grid headroom tightens, liquid cooling is becoming the backbone of AI data centers. Here we unpack the strategic moves—Trane's

Immersion cooling systems: Advantages and

Immersion cooling (see Figure 2) is a liquid cooling method in which servers and other rack components are submerged in a thermally conductive

Immersion Liquid Cooling System

OceanCool R Series Immersion Cooling OceanCool R Series immersion liquid cooling solutions consist of a modular immersion liquid cooling basin, in-rack coolant manifold, and an intelligent monitoring

Cooling the AI Boom: Innovative Strategies for Water-Efficient and ...

AI data centers can evaporate local water, so here are zero-water cooling fixes, liquid and immersion upgrades, heat reuse,

Immersion cooling systems: Advantages and

Data center infrastructure is rapidly expanding, fueled by the ongoing rise of artificial intelligence (AI) and high-performance computing (HPC) workloads. As rack

Top 10: Liquid Cooling Companies | Data Centre Magazine

In association with Mitsubishi Electric, Data Centre Magazine spotlights top liquid cooling companies developing sustainability-led solutions

Rack-Scale Liquid Cooling Solutions | Supermicro

Dive into Liquid Cooling Server solutions, providing efficient thermal management. Ideal for high-performance computing, ensuring optimal operation.

AI Data Center Power: 415 TWh in 2024, 945 TWh by 2030

Global data centers consumed 415 TWh in 2024 and will reach 945 TWh by 2030. AI rack power density, PUE explained, and what the energy surge means.

Liquid and Immersion Cooling Options for Data Centers

Immersion cooling – Single-phase and two-phase immersion cooling systems submerge servers and other components in the rack in a thermally conductive

Data center cooling systems and technologies and how

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

## Contact Us

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