

Modular Data Center Liquid Cooling Concept



Overview

It is a system and an ecosystem comprising various components such as Coolant Distribution Units (CDUs), cold plates, manifolds, liquid-cooled servers, heat rejection units, and complementary air-cooling components. Most vendors are unveiling product roadmaps that include hybrid (liquid-air). Drawing from its vast portfolio of technologies and expertise, CoolIT produces industry-leading products that deliver superior reliability and performance. CoolIT's modular design approach and deep liquid-cooling experience enables rapid engineering of high-performance, highly reliable custom. New innovations in data center cooling, from sustainable solutions to modular cooling systems, are transforming energy efficiency in the industry – and data centers that only deploy traditional air cooling may struggle to stay competitive and meet the demands of next-generation IT equipment. Liquid. Liquid cooling has moved from a specialized solution to a core architectural consideration in modern data centers. As computational densities rise and workload profiles shift toward sustained, high power operation, traditional air based approaches increasingly struggle to deliver sufficient thermal. Direct-to-Chip Cooling (D2C) – Coolant flows through cold plates mounted directly on processors and GPUs. This method is highly efficient and compatible with standard rack formats. Immersion Cooling – Entire servers are submerged in dielectric fluids.



Article Content

Deploying liquid cooling in the data center

Adopting Liquid Cooling at Existing Data Centers The future of IT thermal management has arrived, and it's a hybrid of air and liquid cooling technologies. Enterprises are adopting high-performance

Liquid immersion cooling for modular and Edge data

Liquid immersion cooling is the answer Whether you need to increase the compute density in the same footprint, add computing density in new

What is liquid cooling? A future-ready guide for data

Explore the benefits of liquid cooling in modern data centres. Learn how direct-to-chip systems enhance efficiency, scalability, and sustainability in high

Liquid cooling of data centers: A necessity facing challenges

It covers four major liquid cooling techniques: indirect water cooling with rear door heat exchangers, direct liquid cooling using water blocks or evaporators, single-phase, and two-phase

Latest News | Our News & Cooling Technology Updates | Iceotope

Stay updated with our latest company news at Iceotope. Explore updates, technology and insightful information on data center cooling solutions. Learn more.

An introduction to liquid cooling in the data center

Various forms of liquid cooling have been around since the late 1800s when they were used to insulate and cool extra high voltage transformers.

Deploying liquid cooling in the data center

Liquid-to-air CDUs do not require a chilled water supply to provide liquid cooling to the rack, but rather provide an independent secondary fluid loop to the rack and reject heat to the data center.

Data Center Liquid Cooling: Efficiency, Evolution, and

Many operators are integrating or planning to deploy liquid cooling systems in new data centers to handle higher-density workloads and meet increasingly stringent

Oklo Accelerates Aurora SMR Deployment with Nuclear

Oklo is moving quickly toward commercializing its Aurora small modular reactor (SMR) with major partnerships and regulatory milestones that signal a new era of

Data Center World 2026: Innovation Spotlight

At Data Center World 2026, company representatives from Belden and OptiCool described a joint push into integrated rack-level infrastructure—pairing connectivity, power, and

AWS rolls out liquid cooling in data centers

Last year AWS announced it would be rolling out new data center components designed to support the next generation of artificial intelligence

Data center liquid cooling solutions by Munters | Munters

With front-facing service access for side-by-side installation with just 1" (25mm) spacing, it delivers scalable, future-proof liquid cooling for next-generation data

Data Center Liquid Cooling: Deep Dive | Flexential

The importance of cooling in data centers The heart of a data center's efficiency is its ability to manage heat. Considered a critical factor in data center tier

Liquid cooling architecture for data centers | Eaton

Liquid cooling architectures are reshaping how data centers handle rising rack densities. Explore core design models, efficiency considerations, and distribution fundamentals that support scalable, high

Data Center Liquid Cooling: Efficiency, Evolution, and

By 2025, liquid cooling has become a mature and reliable technology in modern data centers — especially in AI training, high-performance computing (HPC), and

Cooling Solutions for HPC, AI & Data Centers | CoolIT Systems

Engineered for tomorrow's workloads, CoolIT liquid cooling powers HPC, AI, and enterprise systems with efficient CDUs, cold plates and heat exchangers.

GigaModular™ | Data Center Scalable & Modular CDU

From 2.5 to 10MW, GigaModular™ CDU-10MW delivers right-sized cooling for any data hall. Its modular, drop-in design and pay-as-you-grow model make scaling

A Guide to Data Center Liquid Cooling

For data center operators, the decision isn't about finding the single “best” technology, but identifying which liquid cooling solution aligns with their

Liquid cooling: the future of data center architecture and

Their ability to leverage free cooling further enhances energy savings. Overall, liquid cooling combines energy efficiency, heat recovery, and water

Tier Classification System

Tier IV data centers also require continuous cooling to make the environment stable. Contact Uptime Institute to Learn More About Our Data Center Tier Classification The data center Tier classifications

Liquid Cooling for Data Centers: What You Need To Know

Explore how liquid cooling for data centers is becoming a strategic necessity to meet the demands of AI and high-density computing. Learn about

Data center trends 2026: Shifting up a gear

Top 10 data center trends for 2026: from accelerated builds & modular design to sustainability, edge growth, & quantum readiness. Future-proof your

MacroModular™ | Compact Modular Liquid Cooling

Engineered for optimal thermal control, MacroModular™ by LiquidStack provides powerful liquid cooling in a compact modular design. Get a quote today.

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

Pre-Fabricated Modular Data Center Cooling | LiquidStack

DataTank Modular represents the most advanced technology in pre-fabricated, 2-phase immersion-cooled data centers. Offering massive compute scale in the

MicroModular™ Liquid Cooling Solution | LiquidStack

MicroModular™ by LiquidStack offers efficient liquid cooling in a compact modular container, ideal for scalable infrastructure and flexible data center needs.

Direct Liquid Cooling in Hyperscale Data Centers | Rittal

With direct liquid cooling, the cooling liquid passes directly over the chip, where most of the heat is generated. A hyperscale infrastructure is designed for scalability,

Contact Us

For more information, pricing, or custom solutions, please contact us:

Website: <https://gmarkconstruction.co.za>

Email: sales@gmarkconstruction.co.za

Phone: +31-6-15-38-72-94

Address: Herengracht 456, 1017 BS Amsterdam, Netherlands

This document is for informational purposes only. Specifications subject to change without notice.

