

AMAX Introduces Turnkey Compact Data Center Solution with Advanced Liquid Cooling for High-Density AI Workloads

AMAX launches compact data center solution with advanced liquid cooling for efficient and sustainable high-density deployments

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EINPresswire.com/ -- AMAX, a global leader in GPU cluster solutions and advanced cooling technologies, announces the launch of its latest innovation, the AMAX Compact Data Center Solution (CDCS). Designed to address the evolving needs of modern AI-driven data centers, the CDCS integrates high-density compute, advanced liquid cooling, and intelligent management systems into a unified, scalable solution.



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With the launch of the Compact Data Center Solution, AMAX is committed to helping data centers meet the increasing computational demands of AI with high efficiency, performance, and sustainability.”

*Rene Meyer, Chief Technology
Officer of AMAX*

Modern data centers face increasing demands for high density GPU compute, often encountering bottlenecks due to the power, space, and cooling limitations of traditional infrastructure. The AMAX Compact Data Center Solution transforms these limitations with Direct-to-Chip (D2C) liquid-cooled racks, a closed-circuit cooling system, and real-time monitoring to enhance performance for AI and other high-density computing workloads. This approach enables enterprises to meet the challenges of high-power consumption and heat generation in modern data centers while maintaining efficiency and reducing operational costs.

[Learn More About The AMAX Compact Data Center](#)

[Solution](#)

"With the launch of the Compact Data Center Solution, AMAX is committed to helping data centers meet the increasing computational demands of AI with high efficiency, performance, and sustainability," said Rene Meyer, Chief Technology Officer of AMAX. "Our advanced liquid cooling technology ensures that our customers can run their workloads at peak performance, minimizing energy consumption and environmental impact."

Key Features of the AMAX Compact Data Center Solution

Direct-to-Chip Liquid Cooling: The CDCS incorporates advanced D2C cooling technology, allowing for efficient heat dissipation directly from high-performance components, including CPUs and GPUs. This ensures low operating temperatures even under peak loads, enabling the infrastructure to handle demanding AI workloads.

Liquid-Cooled Rack Solution: The liquid-cooled rack solution within the CDCS utilizes a distributed Coolant Distribution Unit (CDU) and is suitable for small and medium-sized on-premises (non-CoLo) deployments. This solution serves as a powerful alternative to traditional RDHx (Rear-Door Heat Exchanger) solutions, providing a fully enclosed rack design that maintains stable ambient room temperatures without impacting surrounding conditions.

The rack also features a Smart Liquid Cooling Module that provides precision cooling with energy-saving frequency conversion and multiple modes (performance, mixed, and energy-saving). It includes essential safety features such as leakage detection, an anti-condensation system, and constant pressure rehydration for reliable operation. Primarily supporting liquid-cooled servers, this rack is optimized for high-density compute tasks, offering a sustainable and efficient cooling solution.

Closed-Circuit Cooling Tower System: This cooling system uses a heat exchange coil to transfer heat from the internal process fluid to the outside air, maintaining a clean, closed-loop system. This design features an external circuit where spray water circulates over the coil and mixes with the outside air, and an internal circuit where the process fluid circulates within the coil. During operation, heat is transferred from the internal circuit, through the coil to the spray water, and then to the atmosphere as a portion of the water evaporates.

Intelligent Monitoring and Management: The integrated Smart LC management system provides real-time insights into system performance, Power Usage Effectiveness (PUE), environmental health, and system alerts. This advanced monitoring capability enables proactive maintenance and highly efficient, streamlined operations, maximizing energy savings and operational sustainability.

High Performance and Low PUE: The CDCS features a compact design, concealed plumbing, and hybrid cooling capabilities, supporting power densities of up to 63 kW per rack while delivering remarkably low PUE. These capabilities ensure both efficiency and sustainability, making it well

suited for small and medium-scale on-premises deployments.

The AMAX Compact Data Center Solution represents a significant advancement in cooling technology for high-density computing environments. By integrating intelligent liquid-cooling modules, customizable cooling setups, and a real-time monitoring platform, AMAX delivers a solution that addresses the most pressing challenges faced by data centers today—enabling them to optimize performance, reduce costs, and support future scalability.

Visit AMAX at SC24

See the AMAX Compact Data Center Solution (CDCS) in action at Supercomputing Conference 2024 in Atlanta, GA, from November 17 to 22.

Visit us at Booth #4714 to view a live model of the CDCS and learn how its advanced liquid cooling technology supports high-density AI workloads. Speak to our team and discover how AMAX solutions can help optimize your data center for performance and efficiency.

About AMAX

Founded in 1979, AMAX is a globally recognized leader in GPU-accelerated IT infrastructure design, specializing in transforming standard IT components into comprehensive, accelerated computing solutions. AMAX serves a range of industries, including AI, cloud providers, autonomous vehicles, and high-performance computing. As a pioneer in advanced cooling technologies, AMAX was the first to engineer liquid-cooled HPC equipment for the semiconductor industry. With a strong global presence across North America, Europe, and Asia, and offering end-to-end services that include design, manufacturing, and deployment, AMAX is dedicated to delivering innovative solutions to meet the growing demands of AI and other emerging technologies. Visit [amax.com](https://www.amax.com) for more information.

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