

Top 5 Innovations Formulated by EXTRACOOL, a China Leading Data Center Liquid Cooling System Supplier

FOSHAN, GUANGDONG, CHINA, August 6, 2026 /EINPresswire.com/ -- High-density graphics processing units in artificial intelligence clusters now generate thermal loads that require conventional air conditioning systems to consume up to 40 percent of a facility's total electricity for climate control. As computing racks surpass 50 kilowatts per cabinet, facilities teams are pivoting toward liquid cooling architectures to maintain operational stability and manage power consumption. [Extracool Industry Limited](#), a China leading [data center liquid cooling system](#) supplier, manufactures modular liquid cooling hardware designed to stabilize rack temperatures and improve overall facility efficiency. By replacing conventional air conditioning with direct-to-chip and secondary loop thermal management, these cooling platforms remove heat directly at the chip level to support continuous operational uptime and stable computing performance under heavy computational loads.



Corporate Overview & Global Delivery Infrastructure Headquartered in Guangdong, China, with an international financial branch office in Singapore, Extracool Industry Limited operates as an engineering enterprise specializing in advanced thermal management hardware solutions. The company focuses on the research, development, engineering, and production of liquid cooling

devices, including air-to-liquid Coolant Distribution Units (CDUs), liquid-to-liquid CDUs, rear door liquid cooling heat exchangers, specialized cooling manifolds, and secondary cooling loop pipe assemblies. Alongside its high-density data center cooling portfolio, the firm manufactures commercial refrigeration equipment for cold storage facilities, delivering freezers and chillers to commercial catering, food logistics operations, and industrial cold storage systems worldwide. With over 4 million liquid cooling devices deployed across more than 100 countries and regions, EXTRCOOL has accumulated an installed project capacity exceeding 10 gigawatts. These deployments achieve operational Power Usage Effectiveness (PUE) metrics below 1.05 and energy savings of over 40 percent compared to traditional air-cooled facilities. Manufacturing processes conform to international standards, with products holding RoHS, CE, UL, and CCS certifications alongside proprietary engineering patents.

Comprehensive Fluid Management & Liquid Cooling Product Portfolio Extracool Industry Limited produces a thermal management hardware matrix designed to support primary and secondary fluid loops across diverse server room architectures. The core product lineup spans several key hardware categories:

□Coolant Distribution Units (CDUs): Available in air-to-liquid and liquid-to-liquid configurations, these units come in cabinet-style, rack-mounted, and stainless steel chassis options. They regulate fluid flow rates, control loop pressure, and isolate primary facility water circuits from secondary dielectric fluid loops.

□Rear Door Liquid Cooling Heat Exchangers: Mounted directly onto standard server rack rear frames, these heat exchangers capture exhaust heat at the rack boundary, preventing hot air recirculation within hot-aisle containment systems and maintaining room ambient temperatures.

□Liquid Cooling Manifolds: Designed for ceiling, raised floor, or rack-internal installation, these stainless steel manifolds distribute cooling fluid across individual server blades with hydraulic balance and reduced pressure drop.

□Secondary Liquid Cooling Pipe Systems: Engineered with leak-proof quick-disconnect couplings and anti-corrosive piping materials, these secondary loop assemblies facilitate fluid transport directly to cold plates mounted on high-density graphics processing units and central processing units.

This hardware coverage allows facility operators to integrate a complete data center liquid cooling system without sourcing components from multiple separate vendor supply chains.

Top 5 Innovations Shaping Next-Generation Cooling To address changing thermal requirements across modern server facilities, Extracool Industry Limited has developed five engineering innovations spanning its product design, thermal technology, manufacturing network, application coverage, and global service structure.

1. Modular and Customized Hardware Architecture Extracool Industry Limited designs its CDUs, rear door heat exchangers, and liquid manifolds around a modular architecture. Rather than requiring facilities to adapt to rigid factory dimensions, hardware components feature customizable frame sizes, flexible fluid connection layouts, and variable pumping capacities. Rack-level manifolds can be tailored to specific server rack heights, pipe diameters, and port

counts. This modular approach simplifies retrofits in existing server rooms while accommodating custom rack configurations in new hyperscale builds.

2. High-Efficiency Energy Management and Phase-Change R&D Thermal efficiency translates directly into lower operational expenditure. By optimizing internal fluid dynamics and heat exchanger surface areas, liquid cooling systems reduce facility power consumption by more than 40 percent compared to traditional air cooling setups. Building on these baseline savings, EXTRCOOL is advancing two-phase immersion liquid cooling systems. By utilizing the phase-change transition of specialized working fluids from liquid to vapor at specific boiling points, two-phase liquid cooling achieves higher heat flux dissipation than single-phase liquid loops, supporting high-density computing hubs designed for multi-hundred-watt processor architectures.

3. Standardized Manufacturing Across Global Facilities To maintain supply chain delivery, EXTRCOOL operates manufacturing capacity across facilities in Asia and North America. Production processes adhere to ISO quality management standards and UL safety guidelines. To verify component integrity, EXTRCOOL subjects manifolds, heat exchangers, and CDU cabinets to automated pressure testing and helium leak detection before dispatch. This quality framework ensures structural integrity, pressure resistance, and material compatibility across operational lifecycles.

4. Broad Compatibility Across Computational and Storage Environments The thermal management solutions developed by Extrcool Industry Limited extend beyond conventional cloud server rooms. The company adapts its cooling manifolds and secondary piping loops for high-density AI clusters, edge computing nodes, industrial temperature control systems, and battery energy storage power stations. In energy storage installations, uniform liquid cooling prevents thermal runaway in lithium battery banks, maintaining operational safety and stability across fluctuating load cycles.

5. Worldwide Engineering Delivery and Custom ODM Support Recognizing that thermal infrastructure requires localized technical support, EXTRCOOL offers engineering services and original design manufacturing (ODM) capabilities. Technical engineering teams support clients from initial CFD thermal modeling and pipe layout design through on-site installation, system commissioning, and long-term maintenance services. This service framework enables facility operators to deploy customized data center liquid cooling systems.

Building Sustainable Infrastructure for High-Density Computing With over 10 gigawatts of installed project capacity worldwide, EXTRCOOL provides hardware solutions for energy-efficient computing infrastructure. As server power consumption increases, selecting a reliable data center liquid cooling system supplier is critical for facility managers seeking to meet strict PUE targets, protect IT assets, and control long-term operational overhead. Through hardware customization, manufacturing quality control, and ongoing research into phase-change thermal management, Extrcool Industry Limited supports high-density data center operations across the global digital economy.

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