

SynthCool Full-Stack Liquid Cooling Solutions

End-to-End AI Thermal Management from Chip and Server to Rack and Data Center

AI Intelligent Control & Optimization Layer



Facility-Level
Coordinated Control



Global AI
Optimization System



Accurate
Load Forecasting



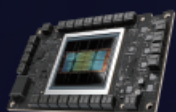
Multi-Parameter
Optimization



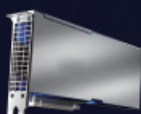
Dynamic
Intelligent Control

01 Heat Source Layer

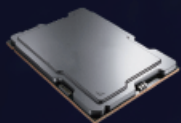
High-Power Chips / Modules



GPU



AI Accelerator



CPU



OAM

02 End Cooling Layer

Flexible Options for Diverse Applications



Landau™ 2PCP

- Per-Chip Cooling Capacity ≥3,000 W
- 1/3 the Flow Rate of Conventional Water Cold Plates
- Ultra-Low Thermal Resistance: 0.01°C/W



Landau™ 2PIC

- Rack Power Density: 200 kW+
- PUE as Low as 1.05
- 100% Liquid Cooling Coverage



Nusselt™ 1PCP

- Mature, Reliable & Widely Compatible
- Stable & Efficient Cooling
- Supports Multiple Chip Platforms



Onsager™ 2PIC

- Flexible Modular Deployment
- High-Reliability Redundant Design
- Year-Round Free Cooling Capability

03 Liquid Cooling Control Layer

RDU&CDU



RDU

- Working Fluid Circulation
- Pressure Control
- Phase-State Sensing
- Vapor Quality Control
- Liquid Storage & Recovery

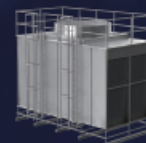


CDU

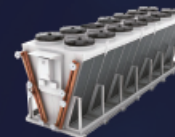
- Flow Control
- Temperature Control
- Pressure Regulation
- Filtration & Purification
- System Protection

04 Facility Cooling Layer

Primary-Side Cooling Infrastructure



Cooling Tower



Dry Cooler



AHU



Free Cooling

Customer Value

Efficient Cooling

Exceptional Performance

High Reliability

Intelligent O&M

Green & Sustainable

Flexible Adaptability

Application Scenarios



Why SynthCool?



Complete Liquid Cooling Product Portfolio

A comprehensive portfolio covering single-phase liquid cooling, two-phase liquid cooling, and closed-loop adaptive Coolant Distribution Units (CDUs), supporting multi-level deployment to meet the full range of liquid cooling requirements across diverse computing center scenarios.



Proprietary Core Technologies

Proprietary expertise in cold plate design, two-phase heat transfer, fluid control, and intelligent regulation, forming a full-stack liquid cooling technology portfolio spanning end cooling, system control, and integrated thermal management.



System-Level Control Capabilities

A full-loop sensing and closed-loop control architecture covering flow rate, temperature, differential pressure, and operating status, enabling intelligent regulation, efficient coordination, and long-term stable operation of liquid cooling systems.



Validation & Continuous Technology Evolution

Professional test and validation platforms enable rapid customization and reliable delivery, while supporting continuous technology evolution from single-phase to two-phase liquid cooling to protect long-term infrastructure investments.

Contact Us

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Learn more

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