

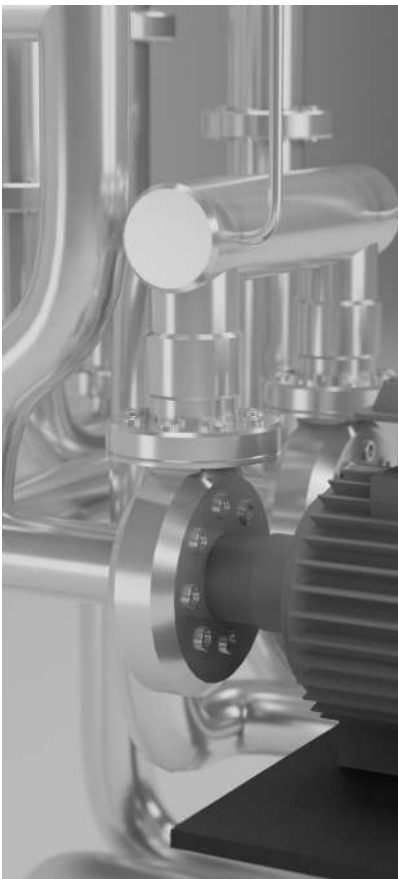
# Superior thermal management

## Evolving with technology

### Next generation cooling

The Coolant Distribution Unit (CDU) is a critical component in liquid cooling systems, designed to manage and distribute coolant efficiently based on real-time demands.

Liquid cooling is more effective in removing heat, supporting higher rack densities, and improving overall energy efficiency. CDUs are widely used in data centers, AI and HPC computing clusters, cloud environments, and telecom facilities, where heat dissipation is a crucial to operations.



## Sustainable performance

### Flow & Temperature Control

Our CDUs are equipped with efficient variable-speed pumps that alter coolant flow based on real-time IT workload conditions. Precision sensors regulate valves to maintain coolant temperature at optimal performance and prevent fluctuations that cause hardware degradation.

### Sustainable Operations

Through optimized liquid cooling technology, CDUs significantly lower HVAC load and overall energy consumption, contributing to an improved Power Usage Effectiveness (PUE). CDUs also support higher rack densities (30kW+ per rack) without increasing cooling costs.

### Superior Thermal Management

Plate heat exchanger facilitates heat transfer between facility water loop and IT equipment, ensuring optimal coolant temperatures by continuously regulating heat dissipation even under high computational loads.

### Redundancy & Leak Detection

Dual power supply options and redundant pumps ensure uninterrupted operation and fault tolerance, maintaining uptime in mission-critical environments. Integrated leak detection with automatic shut-off mechanisms enhances safety by minimizing risks associated with liquid cooling systems.

## Inside our CDU

### Innovative features to ensure optimum performance

The Coolant Distribution Unit (CDU) consists of several key components that enable efficient heat transfer, coolant flow regulation, and system monitoring. Each component plays a crucial role in ensuring the CDU operates reliably and integrates smoothly with both the chilled water system (primary loop) and the server rack liquid cooling system (secondary loop).



#### 1 Temperature Sensors

Provides real-time temperature feedback to the CDU's control system for dynamic adjustments.

#### 2 Auto Air-Vent

Prevents air pockets that could disrupt coolant flow and reduce heat exchanger efficiency.

#### 3 Valves & Isolation Points

Used for system isolation, flow control, and emergency shutdown. Allows for safe maintenance and servicing of the CDU.

#### 4 Flow Meters (Primary & Secondary Loop)

Ensures optimal cooling by preventing underflow or overflow.

#### 5 Plate Type Heat Exchanger

Isolates primary and secondary circuits, to prevent contamination or flow disturbances.

#### 6 Filtration System

25µm filter removes impurities to ensure optimum liquid quality.