



ADVANCED COOLING TECHNOLOGIES

1 MW CDU

# 1 MEGAWATT TWO-PHASE COOLING HAS ARRIVED



## Next-Gen Technology Engineered for the Future of AI Data Centers

The hum is no longer just a sound—it's the pulse of power, precision, and performance coming to life.

Introducing the source: the industry's first 1 MW Two-Phase, Direct-to-Chip CDU engineered for the AI era.

Purpose-built for the next generation of high-density computing. This isn't evolution. It's innovation ignited.

## TALK TO AN EXPERT

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# SPECIFICATIONS\*

\*Capacity based on R515B, consistent with recent NVIDIA CDU specifications:  
Evaporating temperature of 54°C, leaving vapor quality of 60%, 490 GPM of 41°C facility water.

## PERFORMANCE

|                                    |                |
|------------------------------------|----------------|
| Cooling Capacity                   | 1 MW           |
| Method/Medium to Cool Refrigerant  | Facility water |
| Maximum Inlet Temperature (Water)  | ≥45°C          |
| Minimum Inlet Temperature (Water)  | 7°C            |
| Maximum Refrigerant Pressure       | 300 PSIG       |
| Maximum Pump Differential Pressure | 100 PSID       |
| Maximum Refrigerant Temperature    | 60°C           |
| Minimum Refrigerant Temperature    | 20°C           |

## ELECTRICAL

|                  |                                                        |
|------------------|--------------------------------------------------------|
| Power Supply     | 460 V, 60 Hz, 3-phase, 60 A                            |
| Pump Capacity    | 180 GPM at 100 PSI differential pressure               |
| Pump Reliability | Minimum 61,500 hours continuous operation at full load |

## TECHNICAL

|                           |                                    |
|---------------------------|------------------------------------|
| Dimensions (W x H x D)    | 50" x 81" x 48"                    |
| Weight (Dry/Wet)          | 3200 lb/3500 lb                    |
| Display                   | Color touchscreen HMI              |
| Pumps                     | 3 with N+1 redundancy              |
| Condenser                 | Liquid-to-liquid                   |
| Accumulator               | Accommodates up to 8 racks         |
| Hot Swappable Connections | Yes                                |
| Refrigerant               | Dielectric, low GWP, non-corrosive |

# PERFORMANCE & DESIGN INSIGHTS

## Two-Phase Cooling Advantage

Ultra-high heat flux, minimal flow. Two-phase cooling outperforms single-phase to cut thermal resistance—and cuts operating expenses and total cost of ownership.

## Passive Fluid Control

Precision-engineered flow management minimizes pressure drops, ensuring balanced control and uniform chip temperatures under all loads.

## Smart, Connected, Adaptive

Integrated monitoring enables predictive maintenance, dynamic load balancing, and seamless BMS/DCIM integration for optimized operation.

## Engineered for Reliability

High-reliability components (pump ≥61,500 hrs), N+1 redundancy, and dielectric refrigerant ensure safe, continuous uptime and simplified service.

## High-Density Footprint

ACT's 1 MW Two-Phase CDU delivers *five times* the cooling capacity in just *two times* the volume—maximizing performance while minimizing footprint.

