NAUTILUS®
DATA TECHNOLOGIES

NAUTILUS PRODUCT DATA SHEET

EcoCore COOL

Data Hall Cooling Distribution Unit for AI-Driven Data Centers

EcoCore COOL is a scalable, facility-wide CDU designed to handle the high-performance cooling demands of AI and high-density environments.

- First CDU engineered for entire data halls, not just in-row cooling.
- Supports parallel CDU operation in high-capacity cooling blocks without infrastructure upgrades.
- Delivers up to 4,000kW of heat rejection capacity per unit.

Flexible Liquid Cooling Methods

EcoCore COOL supports a wide range of liquid cooling methods, ensuring adaptability to different facility needs.

- Supports direct-to-chip, immersion, rear-door, and traditional hot aisle cooling.
- Compatible with freshwater, saltwater, graywater, and industrial systems.
- Zero water consumption when connected to natural water sources.

Patented Leak Prevention System

EcoCore COOL eliminates leak risk with patented sub-atmospheric operation.

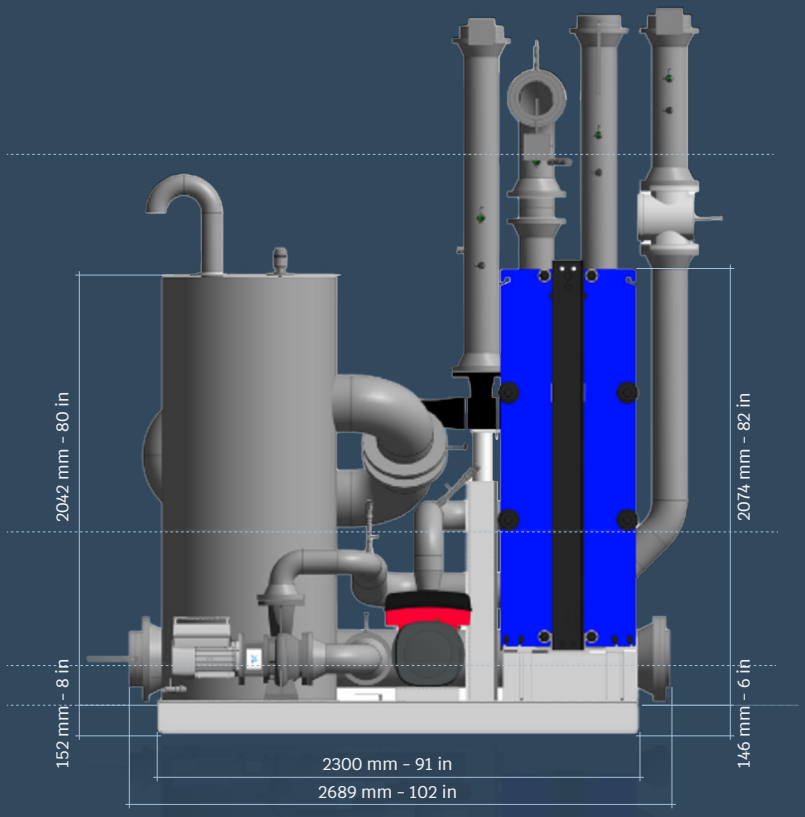
- Patented leak prevention system operates at below-atmospheric pressure (-0.6 Bar).
- In case of a leak, air is drawn into the closed loop instead of releasing water.
- Air is separated and released safely via a buffer tank, ensuring system integrity.

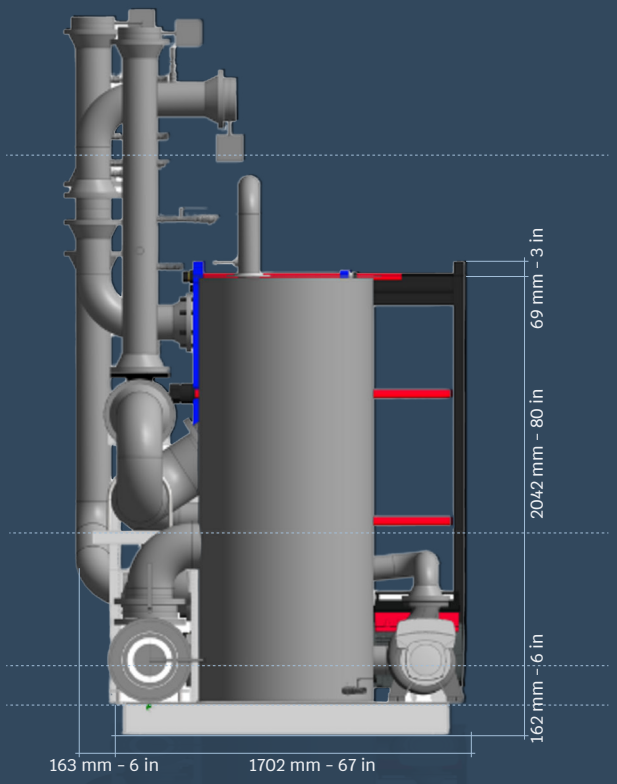
Built for Reliability and Scalability

EcoCore COOL is designed to scale and evolve alongside data center growth.

- Configure-to-order options, including higher-pressure capabilities, side-stream and full-stream filtration, and factory-integrated modules with parallel CDUs for scalable, high-capacity cooling.
- Supports both legacy systems and next-generation cooling technologies.
- Regional integrators help bypass supply chain delays, ensuring fast deployments.
- Vendor-agnostic design enables integration with a range of infrastructure and systems.

EcoCore COOL Unit





Parameter	Specification
Nominal Cooling Capacity (LPS Mode)	2484 kW @ 33.8°F to 35.6°F [1°C to 2°C] ATD, light vacuum across supply and return
Maximum Cooling Capacity (2°C ATD)	3250 kW @ 33.8°F to 35.6°F [1°C to 2°C ATD] positive pressure supply, vacuum return
Maximum Cool Capacity (4°C ATD)	4000 kW @ 39.2°F to 59°F [4°C to 15°C] ATD Hybrid Pressure Mode
Nominal Flow	475 gpm [1800 l/m] @ -8.7 psi [-0.6 Bar Vacuum]
Maximum Flow (2°C ATD Hybrid)	622 gpm [2355 l/m] @ 23.2 psi [1.6 Bar] Differential Pressure
Maximum Flow (4°C ATD Hybrid)	792 gpm [3000 l/m] @ 16.2 psi [1.1 Bar] Differential Pressure
Secondary Coolant Type (TCS)	Water, Water-Glycol Mix [1-25%]
Primary Coolant Type (FWS)	Water, Sea Water, Water-Glycol Mix [1-25%]
Redundancy	Up to N+2 unit redundancy
Primary Pressure Drop - Water	8.7 psi [0.6 bar] at 819 gpm [3100 l/m]
Primary Pressure Drop - Glycol	9.9 psi [0.68 bar] at 933 gpm [3532 l/m]
Secondary Coolant Temperature Range	35°F to 140°F [2°C to 60°C]
Nominal Power Consumption	12.4 kW [Nominal Flow and Pressure]
Maximum Power Consumption	29.6 kW [Maximum Flow and Pressure]
Dimensions (H x W x D) and Dry Weight	89.1 in. x 67 in. x 102 in. [2263 mm x 1702 mm x 2589 mm]
Noise Level 1m (3ft)	< 80 dB(A) at 1m
Power Supply Europe, Asia and ROW	400V 50-60Hz, 63/60A, 3-phase dual feeds
Power Supply US - 480V	480V 60Hz, 60A, 3-phase dual feeds
Dual Power Feeds (ATS)	Standard
Primary Connection	6 inch [150mm] Sanitary Connections
Primary Filtration	100µ to 1000µ, In-Line Filtration Available
Secondary Connection	6 inch [150mm] Sanitary Connections
Secondary Filtration	25µ to 50µ, Side-Stream Filtration Available
Secondary Circuit Volume	Depends on system loop size and interface requirements
Flow Meters	One per primary (FWS) connection (at CDU)
Pressure Sensors Primary Circuit	2 [FWS Supply (1), FWS Return (1)]
Pressure Sensors Secondary Circuit	6 [TCS Supply (1), TCS Return (1), Lift Pump Inlet (1), Lift Pump Outlet (1), Motive Pump Inlet (1), Motive Pump Outlet (1)]
Temperature Sensors	5 [FWS Supply (1), FWS Return (1), TCS Supply (1), TCS Return (1), Lift Pump Outlet (1)]
Other Sensors	White Space Temperature and RH Available
Air Venting and Removal	EcoCore - Air Detection and Remediation System Available
Fill Pumps	Automatic - via System
Expansion Vessels	Not Needed - Buffer tank for coolant reserve and air separation
Communication	Modbus RT, Modbus TCP, OPC UA, HMI (Local & Remote)