NAUTILUS® DATA TECHNOLOGIES

NVIDIA AI Factory Infrastructure Partner

NAUTILUS DATA TECHNOLOGIES
EcoCore FCD
Facility Cooling Distribution Unit

UP TO
4.1 MW
Heat Rejection per FCD

DOWN TO
2°C ATD
Industry-Leading Efficiency

PROVEN
600K+ hrs
Field-Validated Runtime

SCALABLE
2-8 Units
Linked System Operation

PERFORMANCE SPECIFICATIONS

Cooling Capacity	
Nominal Capacity	3,200 kW dual pump / 2,100 kW single pump
Nominal Flow Basis	1.5 LPM per kW
Nominal ATD	3°C [5.4°F] dual pump / 2°C [3.6°F] single pump
Hydraulic	
Nominal TCS External ΔP	2.7 bar [39 PSI]
Total Available Head	6 bar [87 PSI]
FWS Pressure Drop	1.0 bar [14.5 psi] dual pump / 0.6 bar [8.7 psi] single pump
TCS Operating Pressure Range	Sub-Atmospheric (LPS Configuration) to 6 bar [87 psi]
Electrical	
Power Supply	400 to 480 V, 50/60 Hz, 3-phase
Max Power Consumption	60 kW
Service Amps	80 A

Note: ATD = TCS supply temperature minus FWS supply temperature.

KEY CAPABILITIES

NVIDIA Certified
Successfully completed testing against NVIDIA's 100+ technical requirements for cooling the latest GPUs. Now listed on NVIDIA's DSX Infrastructure Marketplace,

Data Hall-Scale CDU
Engineered to cool entire data halls, not just individual rows. Supports up to 4,100 kW per unit and links 2 to 8 modules for scalable capacity and system level redundancy.

Modular Configuration
Factory configurable for standard positive pressure operation or LPS mode, with integrated degassing, leak prevention, and adaptable pump control modes.

Water Source Flexibility
Low ATD heat exchanger design and configurable materials support a wide range of facility water sources, including treated water, high TDS water, and seawater. EcoCore FCD enables flexible cooling plant strategies, including once through natural water systems with negligible consumptive water use.

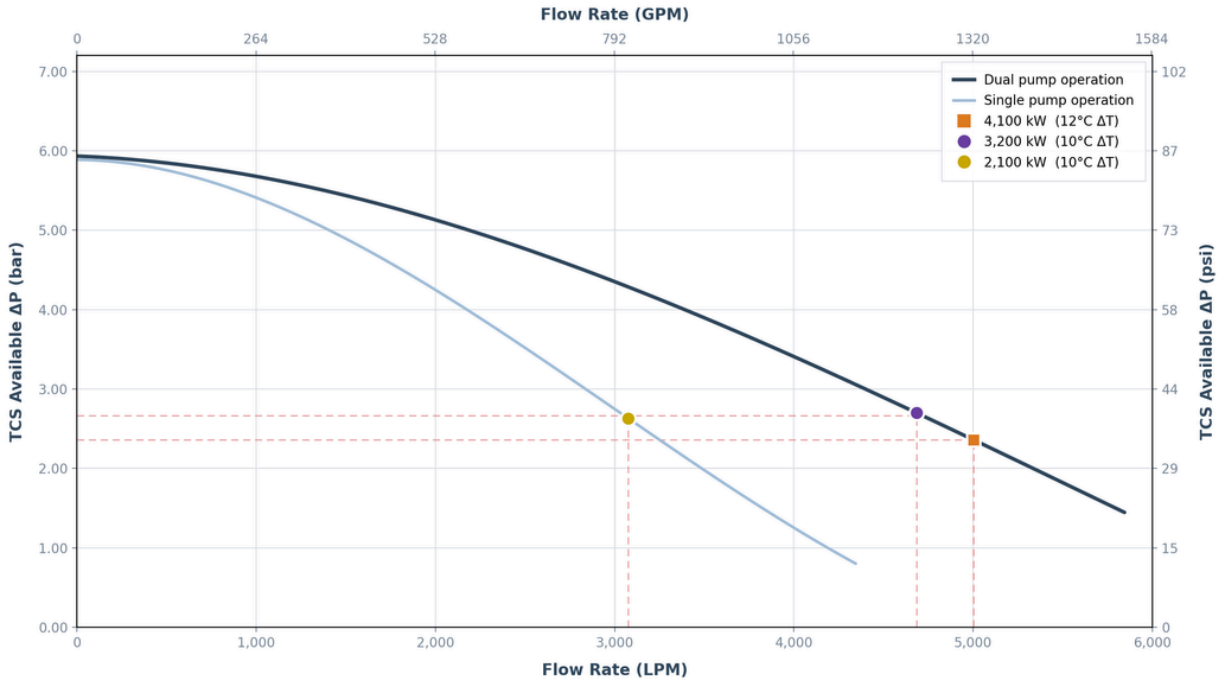
Flexible Deployment
Suitable for greenfield or retrofit environments. Deployable at the perimeter or within the data hall to match site constraints and distribution strategy.

Intelligent Controls
Native BMS and DCIM integration via Modbus, OPC UA, SNMP, and Redfish, with local and remote HMI for full visibility. Advanced control logic supports dynamic TCS flow and pressure control based on system operating conditions.
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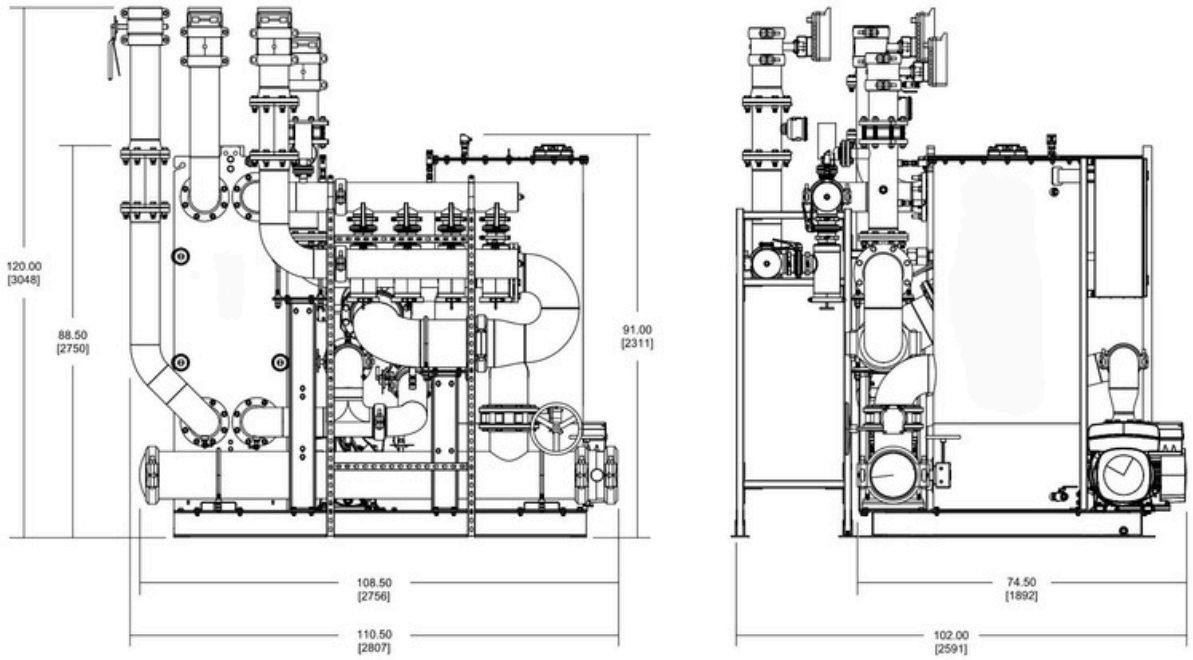
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Fig. 1 — Available TCS Differential Pressure vs. Flow Rate



Capacity shown assumes 25 percent propylene glycol, full stream 25 µm filtration, and stated TCS external differential pressure at the FCD flanges. Standard configuration shown.

Fig. 2 — General DImensions



Note: General dimensions shown for standard configuration. Takeoff and filter assemblies ship loose and are field adaptable.

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EcoCore FCD | Technical Specifications

GENERAL SPECIFICATIONS

Connections & Coolant

FWS Connection	DN150 [6 in.] SS316 flanged
TCS Connection	DN150 [6 in.] SS316 flanged
FWS Coolant Type	Water, seawater, water-glycol mix
TCS Coolant Type	Water, water-glycol mix
TCS Filtration	25 µm full stream; optional 1 to 25 µm side stream
FWS Filtration	Optional 500 µm full stream

System

Leak Detection	Continuous monitored leak detection with alarm output
Pump Redundancy	Dual pump operation with active active or standby redundant modes
Linked System Operation	2 to 8 CDU modules
Communication	Modbus TCP, OPC UA, SNMP, Redfish
HMI	Local touchscreen HMI; web-based remote HMI

Physical

Dimensions (W×D×H)	2,756 × 1,892 × 2,311 mm [109 × 75 × 91 in.]
Dry Weight	4,044 kg [8,916 lb]
Wet Weight	5,860 kg [12,919 lb]
Noise Level	< 80 dBA at 1 m [3 ft]

AVAILABLE OPTIONS

- **Titanium Heat Exchanger Plates**
- **Water Quality Monitoring**
- **Harmonic Filter**
- **Expansion Vessel and Fill Pump**
- **Automatic Transfer Switch**

FLUID SYSTEMS & MONITORING

Fill & Air Removal

System Fill	TCS fill and service ports; optional fill pump; automatic air venting
Integrated Degasser	ADRS continuous air and dissolved gas removal
Expansion Vessel	Available as factory option

Sensors & Monitoring

Temperature Sensors	TCS supply and return; FWS supply and return
Pressure Sensors	TCS, FWS, heat exchanger, and Filter Differential Pressure
Flow Meters	TCS and FWS flow
Leak Detection	Continuous monitoring and alarming
Fluid Quality	Optional conductivity, turbidity, and pH monitoring

APPLICATIONS & COMPATIBILITY

Rack Cooling	FWS Coolant	Deployment	Protocols
Direct-to-chip, immersion, rear door HX, hot aisle	Freshwater, RO / DI, seawater, grey water, glycol mix	Greenfield, retrofit / upgrade, perimeter deployment, data hall interior	Modbus TCP OPC UA SNMP Redfish



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