

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

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

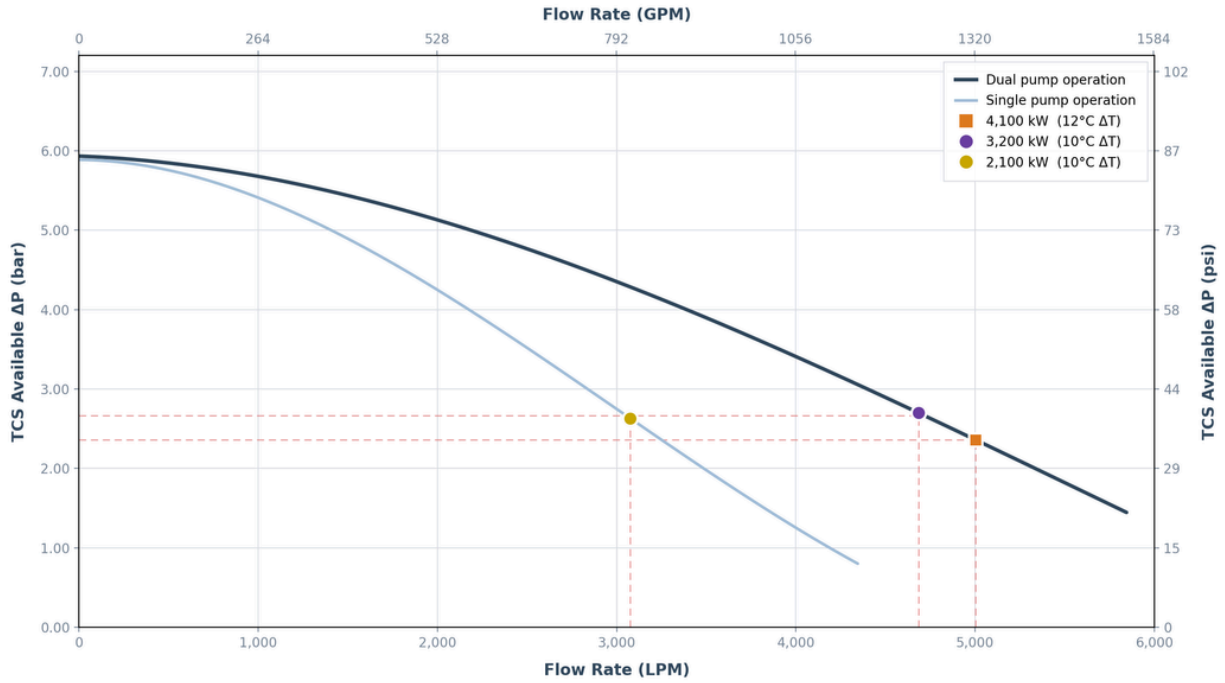
Suitable for greenfield or retrofit environments. Deployable at the perimeter or within the data hall to match site constraints and distribution strategy.

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.

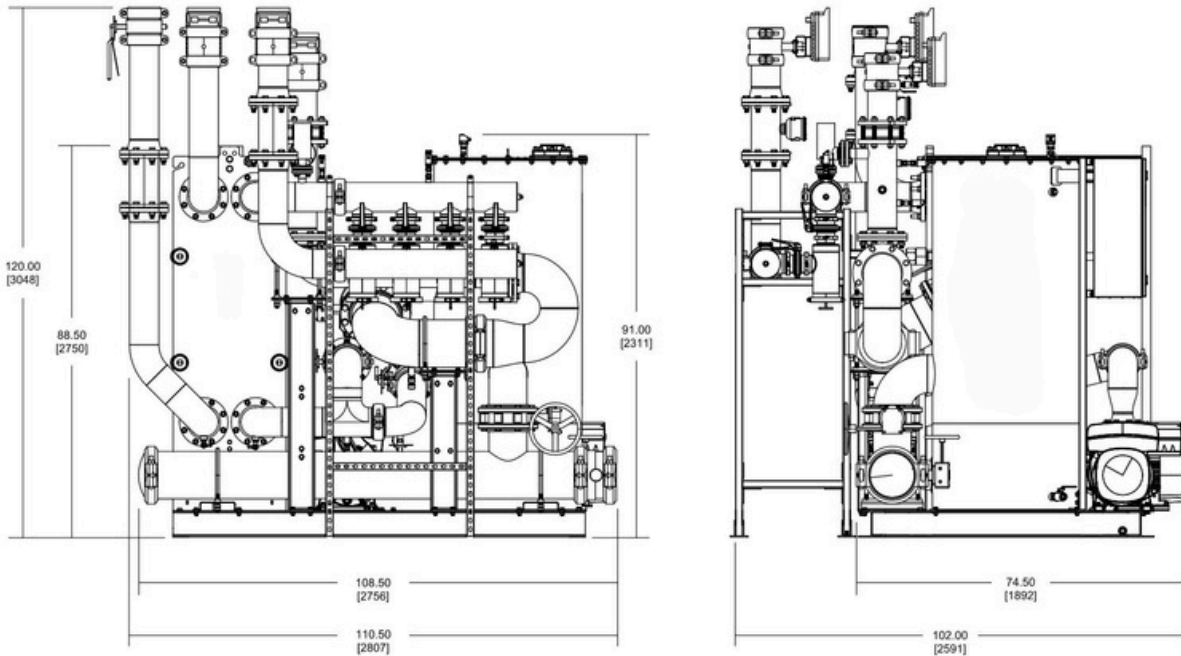


Fig. 1 — Available TCS Differential Pressure vs. Flow Rate



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.

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



For specifications, quoting, and regional integrator contacts:
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