

HIGH CAPACITY Coolant Distribution Unit

For use with ChilledDoor[®] and Other IT Cooling Systems



The Motivair[®] CDU creates an isolated water loop and pumps this through the cooling system to operate at maximum efficiency. It automatically adjusts the coolant flow and temperature to provide 100% sensible cooling up to 1.25MW, depending on the model. The CDU maintains a secondary loop water temperature above the dew point in the data center to eliminate the possibility of condensation.

Each CDU uses a stainless-steel heat exchanger, which transfers the heat removed from the IT equipment in the secondary loop to the primary (building) chilled water supply. The primary chilled water supply can be a chiller, cooling tower, or natural resource. The redundant dual pumps deliver a secondary coolant loop with water supply temperatures ranging from 55F - 113F+ (W1 - W5), which removes up to 1.25MW of IT equipment waste heat. Each CDU precisely controls required coolant flow based on IT cooling system needs. A complete range of CDUs with varying capacities allow for flexibility in design to best fit your application.

A modulating 2-way valve constantly adjusts the CDU cooling capacity based on IT demand. Operation is completely automatic with adjustable water temperature set points, dew point control and alarm thresholds that are easily accessible through the PLC control system mounted on the front of the CDU. A powerful PLC controls the entire CDU operation and provides remote control and communication via BACnet MS/TP, BACnet IP, Modbus, or LON.

Larger CDU models are completely packaged in a high-quality, powder-coated enclosure and come complete with casters and leveling feet.

Key Reasons to Use a Motivair[®] CDU:

- Isolates a clean water supply for IT cooling system
- Maintains water temperature above data center dew point eliminating the possibility of condensation
- Automatically adjusts water flow and temperature for scale-on-demand IT loads
- Offers inherent redundancies for maximized uptime
- Ideal for W1 – W5 cooling systems
- Made in USA

New – Motivair[®] MCDU-4U

Motivair's latest MCDU-4U provides all the benefits of a CDU, but can be mounted within a standard 19" rack enclosure. With a cooling capacity of 80kW (with ChilledDoor[®]) and 105kW (with other IT computer cooling systems), the MCDU-4U is ideal for smaller IT deployments, areas with space constraints, or to address hot spots in air-cooled data centers. The flexible design allows for placement anywhere in the server rack and offers scalability for future server upgrades without major retrofit or upgrade work.



Model: MCDU-4U

MOTIVAIR® Coolant Distribution Unit

Technical Specifications:

Models:	MCDU - 4U	MCDU 15	MCDU 25	MCDU 40
Rated Cooling Capacities (kw)*:				
Primary (Building) Supply @ 90F Secondary Supply/Return @ 113F/149F	105	310	625	1250
Primary (Building) Supply @ 45F Secondary Supply/Return @ 65F/80F	45 / 80**	130	260	525
Coolant Fluids Available (Type):	Water, Glycol	Water, Glycol	Water, Glycol	Water, Glycol
Rated [Primary Secondary] Flowrate (GPM GPM):	25 20	90 60	185 120	420 240
Rated [Primary Secondary] Pressure Loss through CDU (Psi Psi):	6 7	16 16	14 11	30 14
Primary & Secondary Connections (Inch)***:	1"	1-1/2"	2-1/2"	4"
Primary & Secondary Connection Locations (Type):	Rear	Top or Bottom	Top or Bottom	Top or Bottom
Available Pump Head Pressure External through MCDU (Psi):	12	6	32	38
Pump Motor Power (HP kW):	0.4 0.3	3.0 2.2	7.5 5.6	15.0 11.2
Number of Pumps (Qty.):	2	2	2	2
Integrated Variable Speed Drives (VFD's):		√	√	√
Number of Power Feeds (Qty.):	2	1 (2 Optional)	1 (2 Optional)	1 (2 Optional)
Typical Range of Motivaair ChilledDoors® Supported (Qty.):	1	4 - 12	8 - 24	16 - 48
MCDU Dimensions (Inch):				
Height :	7-3/4"	72"	72"	80-1/4"
Length:	36"	42-1/2"	42-1/2"	42-1/2"
Width:	17-3/4"	31-1/2"	31-1/2"	35-1/8"
Electrical Power Supply Options Available (V/Ph/Hz):				
230V/1PH/50 - 60HZ	√			
208V, 230V, 460V, 575V/3PH/60HZ		√	√	√
400V/3PH/50HZ		√	√	√
Full Load Amps (FLA) (460V/3PH/60HZ):	2.4****	4.8	11	21
PLC Controls Available:	√	√	√	√
Communication Platforms Available (Type):	BACnet, LON, Modbus	BACnet, LON, Modbus	BACnet, LON, Modbus	BACnet, LON, Modbus
Sound Data Rated at 10 ft [3m] (dBa):	<55	<55	<55	<55
Safety Approvals	UL/CSA/CE	UL/CSA/CE	UL/CSA/CE	UL/CSA/CE

* Capacities are rated with 100% Water - Capacities will vary depending on application

** Primary (Building) Supply @ 45F; Secondary Supply/Return @ 60F/84F

*** Consult factory for optional connection types

**** Full Load Amps (FLA) at 230V/1PH/50 - 60HZ



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