**motivair**®
COOLING SOLUTIONS

ChilledDoor
Rack Cooling System

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# COMPREHENSIVE COOLING FOR YOUR DIGITAL WORLD

### CUSTOMIZABLE MODELS
100% Heat removal

### COOLING CAPACITY
Removes up to 75kW per rack

### MADE IN USA
Global HQ in Buffalo, NY

The Motivair ChilledDoor® Rack Cooling System targets the critical cooling requirements of today's modern server rack designs. As technology continues to advance, traditional methods of cooling racks such as CRAC/CRAH, containment, hot/cold aisles, and in-row systems have become less appealing as densities increase.

The Motivair ChilledDoor® Rack Cooling System is an active heat exchanger that is mounted directly to the rear panel of any standard server rack. It is capable of removing server densities up to 75kW per rack. A comprehensive set of environmental variables are constantly monitored to ensure that the ChilledDoor® is actively adjusting to conditions inside the data center.

By removing the heat load at its source, Motivair's ChilledDoor® system ensures that all heat being generated by the servers is neutralized before it leaves the cabinet. The result is a "Heat Neutral" white space. Traditional cooling methods are eliminated, the data center cooling footprint is reduced, raised flooring is no longer necessary, and overall data center efficiencies can be increased by up to 90%. Because the ChilledDoor® works in tandem with the IT hardware fans, the fan's power consumption and the internal operating temperature decreases, resulting in increased energy savings and longevity of the IT equipment.

The Motivair ChilledDoor® system operates above the ambient dew point, which eliminates the possibility of condensation near critical electrical equipment.

## HIGH-DENSITY RACK COOLING

- Up to 75kW per rack
- 100% heat removal
- Rack agnostic
- Built-in scalability

"We were in search of a cooling solution for high density computing in a 10,000 sq. ft. facility. The ChilledDoor's did not take up additional aisle space allowing us to place more equipment on the floor while keeping our cost per kW down."

– Dan Allen
**VP Facilities & Engineering, LightBound®**

LIGHTBOUND.

# Motivair® ChilledDoor®

## TECHNICAL SPECIFICATIONS:

| MODEL | M4 | M8 | M12 | M12-F | M14 | M14-6 | M15 | M15-E | M16 |
|---|---|---|---|---|---|---|---|---|---|
| Available Height (Range) | 42U - 60U | 42U - 60U | 42U - 60U | 42U - 60U | 42U - 60U | 48U - 60U | 48U - 60U | 48U - 60U | 48U - 60U |
| Available Width (Range) | 600MM - 800MM (24" - 32") | 600MM - 800MM (24" - 32") | 600MM - 800MM (24" - 32") | 600MM - 800MM (24" - 32") | 600MM - 800MM (24" - 32") | 600MM - 800MM (24" - 32") | 750MM - 800MM (30" - 32") | 750MM - 800MM (30" - 32") | 750MM - 800MM (30" - 32") |
| Depth | 13.3 | 13.3 | 13.3 | 13.3 | 15.7 | 15.7 | 15.7 | 16.8 | 17.5 |
| Nominal Cooling Capacity (kW)* | 12 | 30 | 45 | 55 | 65 | 70 | 70 | 70 | 75 |
| GPM (Range) | 0 - 23 | 0 - 23 | 0 - 23 | 0 - 23 | 0 - 23 | 0 - 23 | 0 - 23 | 0 - 23 | 0 - 23 |
| Max Watts | 840 | 840 | 840 | 840 | 2500 | 3000 | 2500 | 840 | 2500 |
| Fan Quantity | 2 - 5 | 5 | 5 | 5 | 5 | 6 | 5 | 5 | 5 |
| Power Supply: | | | | | | | | | |
| 230V/1PH/50-60HZ | S | S | S | S | S | S | S | S | S |
| 208V/1PH/60HZ | S | S | S | S | S | S | S | S | S |
| 277V/1PH/50-60HZ | NA | NA | NA | NA | O | O | O | NA | O |

*Calculated at 35% RH and 75F Room Temp; Supply Temperature Range 55F - 65F water; 100% water

| FEATURES: | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| PLC with local HMI screen | S | S | S | S | S | S | S | S | S |
| Variable "EC" fans | S | S | S | S | S | S | S | S | S |
| Dual power supply (A/B) | O | O | O | O | O | O | O | O | O |
| Network remote monitoring/control | O | O | O | O | O | O | O | O | O |
| Individual fan fail sensing | S | S | S | S | S | S | S | S | S |
| Local visual/audible alarm | S | S | S | S | S | S | S | S | S |
| Leak Prevention System/Detection | S | S | S | S | S | S | S | S | S |
| Modulating Two-Way Valve | S | S | S | S | S | S | S | S | S |
| Common Alarm Relay | S | S | S | S | S | S | S | S | S |
| Top or Bottom Connections | S | S | S | S | S | S | S | S | S |
| Differential Pressure Control | O | O | O | O | O | O | O | O | O |
| 100% Failover Mode | S | S | S | S | S | S | S | S | S |
| Overcool Mode | S | S | S | S | S | S | S | S | S |
| C14 Plug Type | S | S | S | S | S | S | S | S | S |
| Alternative Plug Types available | O | O | O | O | O | O | O | O | O |
| Rack Access (Key) | S | S | S | S | S | S | S | S | S |
| Rack Access (Code) | O | O | O | O | O | O | O | O | O |
| FACTORY CERTIFIED SERVICES: | | | | | | | | | |
| Installation | O | O | O | O | O | O | O | O | O |
| Start-Up | O | O | O | O | O | O | O | O | O |
| Commissioning Support | O | O | O | O | O | O | O | O | O |
| Extended Warranty | O | O | O | O | O | O | O | O | O |
| Preventative Maintenance | O | O | O | O | O | O | O | O | O |

Open19 and OCP compliant. S=Standard; O=Optional, NA= Not available; ETL, CSA, CE Certified
Manufactured in the USA

# motivair®
## COOLING SOLUTIONS

### COOLANT DISTRIBUTION UNIT (CDU)
A CDU provides the ability to deploy higher density, load diverse IT equipment in a smaller footprint while at the same time improving a facility's overall efficiency (PUE) and life expectancy. The CDU provides 100% sensible cooling up to 1.25MW, depending on the model. For use with the ChilledDoor® or other IT cooling systems.

### DYNAMIC COLD PLATE™
Motivair's Dynamic Cold Plate™ harnesses innovative fluid dynamics to redefine direct liquid cooling. Our patent pending technology enables robust performance without the use of skived microchannels. It allows CPUs and GPUs to operate at peak performance while reducing the possibility of cooling degradation and costly system failures.

### SERVICE & MAINTENANCE PROGRAM
Motivair® provides customer-focused service and support for your mission critical equipment. We offer site surveys, installation services, Level III Commissioning support, service agreements, and extended warranties on parts.

### HEAT DISSIPATION UNIT™
The Motivair HDU is connected directly to the computer cooling loop and sits adjacent to or proximate to the computer racks. Circulation pumps located inside the HDU move hot water from the computer system to the HDU's air-cooled heat exchanger. High-efficiency EC fans draw cool room air across the HDU's internal heat exchanger, removing heat from the computer cooling system. A high-powered PLC controls and monitors all aspects of HDU performance ensuring the HPC system can operate within thermal specifications and without dependence on a building water supply.

### MODULAR DATA CENTER
Backed by our ChilledDoor® and Coolant Distribution Unit (CDU) technology, our Modular HPC Data Center can accommodate power densities of up to 75 kw/rack in air cooled systems and 150 kw/rack for modern liquid-cooled supercomputers and HPC clusters. Each system can be equipped with Motivair's integrated Free-Cooling Chiller technology or warm water fluid cooling systems for maximum uptime and efficiency.


## JEM TECH
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## OUR BUSINESS IS COOLING YOURS™

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