



DATA CENTER & IT COOLING

# The ChilledDoor®





# Meet the demand of every data center

Cool up to 75kW per rack & deliver 100% heat removal

**The Motivair ChilledDoor® Rack Cooling System targets the critical cooling requirements of modern server rack designs.**

**MEET GROWING THERMAL DEMAND**

As technology continues to advance, traditional methods of cooling racks such as CRAC/CRAH, containment, hot/cold aisles, and in-row systems 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's capable of removing server densities up to 75kW per rack. A comprehensive set of environmental variables are constantly monitored to ensure the ChilledDoor® is actively adjusting to conditions inside the data center.

**HEAT NEUTRAL**

By removing the heat load at its source, Motivair's ChilledDoor® system ensures 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%.

**INCREASED ENERGY SAVINGS**

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.

**KEY BENEFITS**

- 1 CUSTOMIZABLE MODELS**  
100% Heat removal
- 2 COOLING CAPACITY**  
Removes up to 75kW per rack
- 3 MADE IN THE USA**  
Global HQ in Buffalo, NY
- 4 RACK AGNOSTIC**  
Fits any industry standard server rack
- 5 BUILT-IN SCALABILITY**  
Allows for future growth.

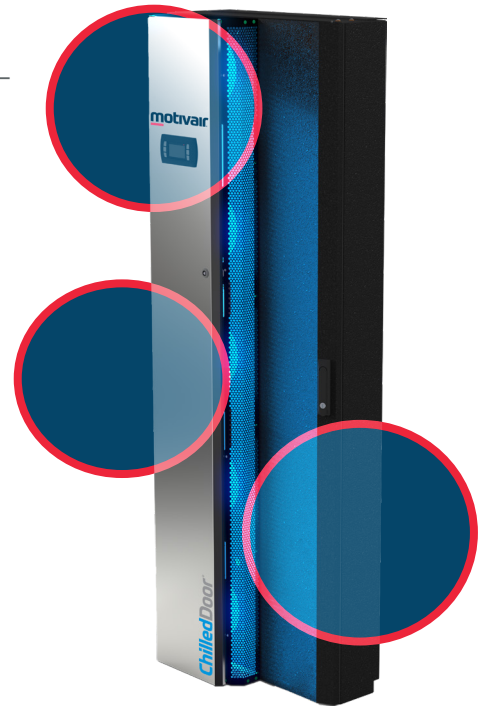


## Turn growing data demands into new levels of productivity & performance

Designed for and used by enterprise data centers and supercomputer owners and operators, our cooling technology is engineered to help you leap forward in scale, quality, and speed.

### AVAILABLE ON ALL MODELS

- 0-75kW cooling capacity with 100% Heat Removal
- Designed to fit any industry standard server rack – Open 19 and OCP compliant
- High powered adjustable PLC control system for active cooling of server rack.
- Available remote monitoring interface
- High quality sheet metal casing with 95-degree door swing
- High efficiency integrated heat exchanger
- Up to 5 hot swappable centrifugal fans allow for quick replacement & scalability
- EC Motor design with low energy consumption
- Interface Frame Mounting System - Seamless integration with your server rack
- Mission critical redundancy
- Leak Prevention System/detection
- Optional Quick connect hoses for fast and simple installation
- UL/CSA/CE



## Accelerate Competitive Advantage with Transformative Solutions

Motivair ChilledDoors<sup>®</sup> can be fitted to the back of any standard or OEM server rack.

ChilledDoors<sup>®</sup> have been designed to remove heat generated by the IT equipment directly at its source, preventing hot air from entering the white space.

This ensures optimal thermal and energy performance.

### HOW IT WORKS

Room air is pulled into the cabinet via the ChilledDoor's<sup>®</sup> EC fans.

The room air picks up heat as it passes through the servers and then enters the ChilledDoor's<sup>®</sup> high efficiency heat exchanger.

The heat is transferred to the coolant inside the heat exchanger and sent out to the chilled water source. The ChilledDoor<sup>®</sup> then exhausts cool air back to the room at a predetermined set point.

The ChilledDoor<sup>®</sup> monitors the server air temperature or pressure, ambient room temperature, entering water temperature, and leaving air temperature, allowing it to actively adjust to changes at the rack level.

By doing this it creates a "heat neutral" environment requiring only humidity control.

### SCALABLE COOLING

Motivair ChilledDoors<sup>®</sup> are available with 2-6 fans providing maximum scalability and flexibility for future growth.

The ChilledDoor<sup>®</sup> comes in multiple models, with varying heights and sizes, including the M4, M8, M12, M12-F, M14, M14-6, M15, M15-E, and M16.

"Active" ChilledDoors<sup>®</sup> can be leveraged for greenfield or retrofit applications, including hot spots or efficiency upgrades.

They are designed for high-efficiency cooling of complete data centers in an every-rack or every-other-rack configuration (please consult Motivair for every-other-rack designs).

Because the ChilledDoor<sup>®</sup> is able to control an entire room, the user no longer has a need for traditional supplemental cooling solutions.

# Technical Specifications

Motivair's ChilledDoor® is available with 2-6 fans providing maximum scalability and flexibility for future growth. The ChilledDoor® comes in multiple models, with varying heights and sizes,

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 (in MM/Range)	600 - 800 (24" - 32")	600 - 800 (24" - 32")	600 - 800 (24" - 32")	600 - 800 (24" - 32")	600 - 800 (24" - 32")	600 - 800 (24" - 32")	750 - 800 (30" - 32")	750 - 800 (30" - 32")	750 - 800 (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

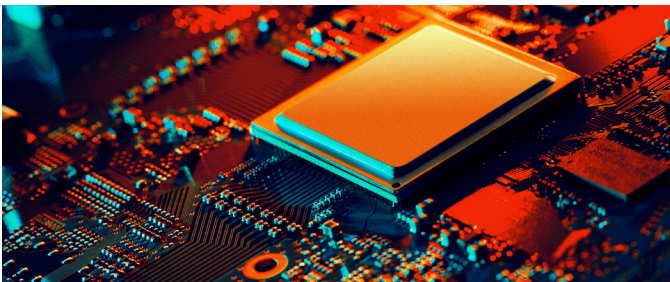
# We cool the most advanced technology on the planet

We discover, design, and develop resilient thermal technologies and strategies, and convert that into actionable insights and unparalleled value for our clients.

From climate research to finance, cloud to artificial intelligence, customers trust Motivair's cooling technologies so they can break new boundaries and help deliver tomorrow's innovations faster.

We're helping our clients discover cures for diseases, combat climate change, and make tomorrow's data-driven services more reliable and accessible.

We are touching millions of lives each day by providing the critical cooling technology to support productivity and innovation that is changing our world.



## DIRECT-TO-CHIP COOLING

Supercomputing isn't just in the lab anymore. The power of high-performance computing is scaling out as more enterprises and corporations look to utilize artificial intelligence for advanced decision-making and accelerate digital transformation.



## DATA CENTER & IT COOLING

Designed for and used by the enterprise data center and supercomputer owners and operators, our cooling technology is engineered to help you leap forward in scale, quality, and speed.



## THERMAL MANAGEMENT

When it comes to cooling your critical infrastructure, we work to customize specialty chiller technology for you, rather than selecting from a catalog



## CLIENT SERVICES GROUP

Manage every aspect of your cooling infrastructure, from planning and design to start up, commissioning and post-sale performance. Your business depends not only on our products but also our ability to respond when you need us.