



Modular HPC Data Centers

MODULAR | SCALABLE | FACTORY BUILT | HPC INFRASTRUCTURE

motivair[®]
COOLING SOLUTIONS

im data centers



MODULAR DATA CENTERS DESIGNED FOR HIGH-PERFORMANCE COMPUTING

Infrastructure that is purpose built for the HPC community, ensuring an environment where power, space, and cooling is available today and scalable into the future.

To accomplish this, Motivair partnered with IM Data Centers to create a truly first-of-its-kind solution for the HPC community.

Our Modular Data Center represents a total high-density environment where a client is free to use any IT, power, rack or security vendor to accomplish design, mission or budgetary needs.

Where traditional brick and mortar data centers are limited by preexisting/legacy design, our modular 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.



ABOUT OUR DATA CENTER

- Contiguous, user-friendly space
- Expandable with zero down time
- Enterprise-class
- Concurrently maintainable
- Tailored electrical architecture



IMPROVE BUSINESS RESULTS. MITIGATE RISK.

A purpose-built, modular HPC data center addresses the needs of both IT professionals and corporate leadership by compressing time to market, improving server performance, profitability and uptime while eliminating the risks associated with local jurisdictional code and compliance, schedule and cost creep.



THE MODULAR ADVANTAGE

EXPANDABLE FACILITIES

designed to add modules with zero operational downtime to create contiguous areas & unlimited footprints on demand

INNOVATIVE COOLING TECHNOLOGIES

Utilize Motivair's ChilledDoor® Rack Cooling System or Coolant Distribution Units for 100% heat removal of up to 150kW per rack. Advanced chiller plants feature high efficiency free cooling or heat recovery options.

MULTI-FLOOR CONFIGURATIONS

available, with contiguous space plans to maximize footprints & operational efficiencies

'EQUIPMENT AGNOSTICISM'

matching best-of breed manufacturers to each requirement without a particular gear manufacturer's 'tail wagging the dog'

CUSTOMIZED OPTIONS

with tailored power & cooling architectures & DCIM to match Client interface

TURNKEY SITE IMPROVEMENT

services available, for a one-stop data center creation resource

USER-FRIENDLY FACILITIES

with superior look, feel & function, contiguous support & administrative modules available

OPTIONAL SERVICES

1. PRE-CONSTRUCTION

site feasibility, survey, audit & selection | strategic IT system & network planning | power, cooling & security analysis | migration & relocation planning | DR & BC consulting | fiber & connectivity solving

3. DESIGN

conceptual & schematic design | architectural & engineering services | systems reliability analysis | jurisdictional approvals & permitting | lead-time item procurement | systems design including alternative mission-critical power & cooling

2. DEVELOPMENT

planning & zoning approvals | due diligence & related acquisition services | concept development & budget analysis | fee-based real estate development

4. CONSTRUCTION

prime/general contracting | construction management | value engineering | quantity survey | design/build | fast-track construction | aggressive project scheduling & delivery



WHY MODULAR?

- ✓ UNIQUELY DESIGNED FOR HPC
- ✓ CUSTOMIZE TO NEED
- ✓ SPEED TO MARKET
- ✓ REDUCED RISK
- ✓ SCALABLE
- ✓ LOWEST TCO
- ✓ DESIGNED WITH IT OPERATION STAFF IN MIND

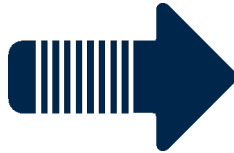
TURNKEY HIGH-DENSITY ENVIRONMENT



Modular Data Center Features Include:



MADE IN
THE USA



RAPID
DEPLOYMENT



SERVER AGNOSTIC
TECHNOLOGY



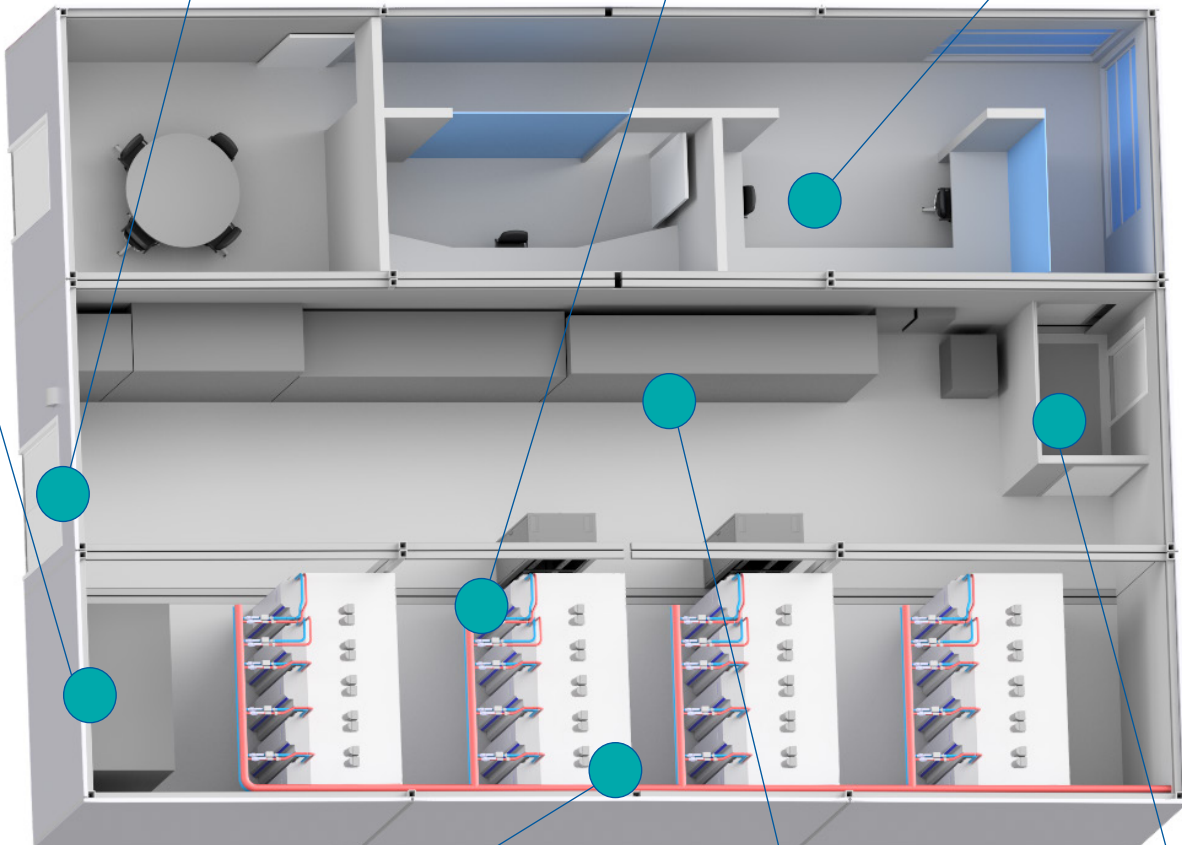
TURNKEY
DEVELOPMENT

POWER DISTRIBUTION FOR
RACK CIRCUIT DELIVERY

SECURE EQUIPMENT ENTRY

MOTIVAIR'S
CHILLED DOOR

FLEXIBLE OFFICE SPACE



20 EACH 48" DEEP, 50RU IT RACKS
WITH REAR DOOR HEAT
EXCHANGERS WITH REQUIRED
MANIFOLD & CHILLER SYSTEM

SWITCHGEAR, UPS & DCIM
INFRASTRUCTURE
- TAILORED TO CLIENT REQUIREMENTS
UP TO 75KW/RACK

MANTRAP
SECURITY ENTRY

COMPREHENSIVE COOLING FOR YOUR DIGITAL WORLD

Change the dynamic of how your data center is cooled



CUSTOMIZABLE MODELS

100% Heat removal



COOLING CAPACITY

Removes up to 75kW per rack

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



From Hyperscale to Exascale



MULTIPLE MODELS

UP TO 1.25MW



APPLICATION

ChilledDoor[®]
Rack Cooling System &
Liquid-Cooled Computer Systems

A Coolant Distribution Unit (CDU) is designed to separate facility water supplies from the IT cooling infrastructure and allows you to deploy higher density, load diverse IT equipment in a smaller footprint & improve efficiency.

The CDU accurately monitors and controls the flow and temperature of clean, cool fluid to all types of IT cooling systems, including Active and Rear Door Heat Exchangers and Liquid-Cooled Computer Systems (Direct-to-Chip or On-Chip). The CDU maintains a secondary loop water temperature above the dew point and ensures optimal server performance and efficiencies.



When downtime is not an option



CUSTOMIZABLE MODELS



LOWEST TCO

Motivair's innovative portfolio of customizable, enterprise grade chillers and cooling systems provides a wide range of solutions to support mission critical operations. Individual models offer capacities up to 450 tons with unique features such as free cooling and heat recovery.



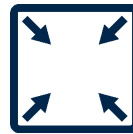
WHEN MAXIMUM UPTIME & LOWEST TCO MATTER MOST

Features and options



SIZES & WEIGHTS

Core Block Dimensions
48.5'L X 11.10'W X 11.9'H
Data Block Dimensions
48.5'L X 11.4'W X 11.9'H



ENVELOPE

Welded structural steel frames, 200 MPH rated wall assemblies, 173 MPH rated door assemblies



DCIM

Comprehensive customizable environmental monitoring



SECURITY

Role-based access control



FIRE SUPPRESSION

FM-200 (or equal) comprehensive fire suppression



TESTING

Factory acceptance for mission critical elements



COMMISSIONING

System operation verification & testing



TRAINING

On-site or web-based



WARRANTY

One-year parts and labor with extended services

Your solution providers



Motivair Cooling Solutions enables industry leaders to push the boundaries of what's possible by leveraging over 30 years of insights and innovations creating dependable mission critical cooling systems. Based in Buffalo, NY, Motivair creates, develops, and manufactures a portfolio of mission critical chillers and high-density computer cooling systems that power vital industries and impact the world's most complex and advanced technologies.

data centers

iM's ability to provide a one-stop shop for data center creation and site development is based on the completion of over 800 significant projects and thirty years of successful design/build. iM also owned and operated a large collection of colocation data centers and has created millions SF of data centers since focusing on its mission-critical practice in 1996.

The specialized experience gained by designing, engineering, building, owning and operating data centers inspired a new generation of intelligent, affordable, factory-built, fully-outfitted modular data centers, based on tried and true engineering typologies and rapid deployment principles.

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