

### Overview

#### Motivair Liquid Cooled Doors

Motivair Liquid Cooled Doors is a liquid to air heat exchanger cooling system that removes the high levels of heat generated by today's servers, mass storage, and core networking hardware. It is mounted directly to the rear panel of HPE racks. The Motivair Liquid Cooled Doors allows for one 42U or 48U rack and up to 75KW of IT capacity when used under certain load and site conditions.

Motivair Liquid Cooled Doors is designed to complement any new or existing datacenter by enabling computing power growth without adding to the heat load in the datacenter. In addition, by allowing equivalent cooling capacity as commodity DLC, the Motivair Liquid Cooled Doors will extend, considerably, the life of your datacenter.

Air flow of Motivair Liquid Cooled Doors fully supports industry-standard front-to-back cooling designs and standard server dimensions. Hot air exhaust in the back of the rack goes through cooling coils and heat is removed from air to water. It can connect directly to facility water feed or to CDU depending on dewpoint temperature of the datacenter room. Top or bottom liquid feed options are supported and also mural graphics on the Doors are supported. Motivair Liquid Cooled Doors can also be deployed with Apollo Direct Liquid Cooling to increase percentage of heat capture to water, meeting room-neutral requirements.



Motivair Liquid Cooled Doors with 42u or 48u Rack Options

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## Standard Features

### Key Features

#### General Solution

- Liquid to air heat exchanger cooling system attached to back of standard IT rack
- Hot air exhaust in back of IT rack go through cooling coils and heat removed from air to water

#### Cooling Capacity

- Up to 75KW cooling capacity per rack

#### Water

- Accommodates up to 2C (4F) water supply temperature above maximum anticipated dew point
- Accommodates water pressure between 25 and 100 psi (172 – 689 kpa)
- For water temperatures at or below the dewpoint, a Cooling Distribution Unit (CDU) will be required to create a secondary, warmer water loop to supply the doors

#### Efficiency

- Warm water cooling ready; support IT loads up to 75 KW at 30°C inlet water with 23 gallons per minute (GPM) and a server supply air temperature of 35°C
- As RDHX supply water temperature directly impact datacenter ambient temperature, 30°C inlet may create uncomfortably warm data center

#### Power

- Input power support for 208V / 230V / 277V (1-phase)

#### Flexibility

- HPE Apollo 42U or 48U racks for IT equipment are supporting shipping of fully integrated rack solutions (HPE Factory Express or Partner rack integration) as these are delivered on shock pallet
- Underfloor and overhead plumbing capabilities
- Full services offering available, including planning, deployment and maintenance

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### Agency Certifications

- ETL, CSA, CE Certified
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## Service and Support

### Protect your business beyond warranty with HPE Support Services

HPE Pointnext provides a comprehensive portfolio including Advisory and Transformational, Professional, and Operational Services to help accelerate your digital transformation. From the onset of your transformation journey, Advisory and Transformational Services focus on designing the transformation and creating a solution roadmap. Professional Services specializes in creative configurations with flawless and on-time implementation, and on-budget execution. Finally, operational services provides innovative new approaches like Flexible Capacity and Datacenter Care, to keep your business at peak performance. HPE is ready to bring together all the pieces of the puzzle for you, with an eye on the future, and make the complex simple.

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### HPE Pointnext - Service and Support

**Get the most from your HPE Products.** Get the expertise you need at every step of your IT journey with **HPE Pointnext Services**. We help you lower your risks and overall costs using automation and methodologies that have been tested and refined by HPE experts through thousands of deployments globally. HPE Pointnext **Advisory Services** focus on your business outcomes and goals, partnering with you to design your transformation and build a roadmap tuned to your unique challenges. Our **Professional** and **Operational Services** can be leveraged to speed up time-to-production, boost performance and accelerate your business. HPE Pointnext specializes in flawless and on-time implementation, on-budget execution, and creative configurations that get the most out of software and hardware alike.

### Consume IT on your terms

**HPE GreenLake** brings the cloud experience directly to your apps and data wherever they are—the edge, colocations, or your data center. It delivers cloud services for on-premises IT infrastructure specifically tailored to your most demanding workloads. With a pay-per-use, scalable, point-and-click self-service experience that is managed for you, HPE GreenLake accelerates digital transformation in a distributed, edge-to-cloud world.

- Get Faster time to market
  - Save on TCO, align costs to business
  - Scale quickly, meet unpredictable demand
  - Simplify IT operations across your data centers and clouds
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### Recommended Services

#### HPE Pointnext Tech Care.

HPE Pointnext Tech Care is the new operational service experience for HPE products. Tech Care goes beyond traditional support by providing access to product specific experts, an AI driven digital experience, and general technical guidance to not only reduce risk but constantly search for ways to do things better. HPE Pointnext Tech Care has been reimaged from the ground up to support a customer-centric, AI driven, and digitally enabled customer experience to move your business forward. HPE Pointnext Tech Care is available in three response levels. Basic, which provides 9x5 business hour availability and a 2 hour response time. Essential which provides a 15 minute response time 24x7 for most enterprise level customers, and Critical which includes a 6 hour repair commitment where available and outage management response for severity 1 incidents.

<https://www.hpe.com/h20195/v2/Getdocument.aspx?docname=a00108652enw>

#### HPE Datacenter Care

HPE Datacenter Care helps customers address the pressing needs of IT today and smoothly transform to a more agile cloud-like IT operations model. We help run and monitor your IT by offloading the day to day routine tasks, helping customers be more predictive and proactive, and saving time with one place to call with for all of their IT.

Partner with an assigned account team backed by local and global experts, access HPE enhanced call experience with priority access, use specialized support for complex, technologies, choose hardware and software support for your devices, implement proactive monitoring to stay ahead of issues, and access HPE IT best practices and IP. HPE Datacenter Care advantage options are available to add to your agreement to give you specialized expertise for performance, security, back up analysis, and much more. Datacenter Care is available as both tailored statement of work and as a packaged service for 3, 4, and 5 year terms.

<https://www.hpe.com/us/en/services/datacenter-hybrid-services.html>

For more information: <http://www.hpe.com/services>

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## Service and Support

### Parts and Materials

Hewlett Packard Enterprise will provide HPE-supported replacement parts and materials necessary to maintain the covered hardware product in operating condition, including parts and materials for available and recommended engineering improvements.

Parts and components that have reached their maximum supported lifetime and/or the maximum usage limitations as set forth in the manufacturer's operating manual, product QuickSpecs, or the technical product data sheet will not be provided, repaired, or replaced as part of these services.

The defective media retention service feature option applies only to Disk or eligible SSD/Flash Drives replaced by Hewlett Packard Enterprise due to malfunction.

More Information <http://www.hpe.com/services>

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## Configuration Information

### Each Motivair door SKU includes

- One 2-way control valve & actuator assembly
- Valve is manufactured by Honeywell
- Valve material is brass
- 2.5cm/1" sanitary fitting on end
- Control cable is 4.9M / 16 feet long

### For 42U HPE G2 Racks

Motivair M8 42U 600mm 20-29kW Top Feed NA Liquid Cooled Door	20-29kW Top Feed	R7N53A
Motivair M8 42U 600mm 20-29kW Top Feed EU Liquid Cooled Door	20-29kW Top Feed	R7N56A
Motivair M8 42U 600mm 20-29kW Bottom Feed NA Liquid Cooled Door	20-29kW Bottom Feed	R7S23A
Motivair M8 42U 600mm 20-29kW Bottom Feed EU Liquid Cooled Door	20-29kW Bottom Feed	R7S24A
Motivair M12 42U 600mm 30-45kW Top Feed NA Liquid Cooled Door	30-45kW Top Feed	R7N59A
Motivair M12 42U 600mm 30-45kW Top Feed EU Liquid Cooled Door	30-45kW Top Feed	R7N62A
Motivair M12 42U 600mm 30-45kW Bottom Feed NA Liquid Cooled Door	30-45kW Bottom Feed	R7S25A
Motivair M12 42U 600mm 30-45kW Bottom Feed EU Liquid Cooled Door	30-45kW Bottom Feed	R7S26A
Motivair M14 42U 600 55KW Top Feed Liquid Cooled Door	42U 600 Top Feed	R4M98A
Motivair M14 42U 600 55KW 277V Bottom Feed Liquid Cooled Door	42U 600 Bottom Feed	R4N05A
Motivair M14 42U 600 55KW 277V Top Feed Liquid Cooled Door	42U 600 Top Feed	R4N06A
Motivair M8 42U 800mm 20-29kW Top Feed NA Liquid Cooled Door	20-29kW Top Feed	R7N55A
Motivair M8 42U 800mm 20-29kW Top Feed EU Liquid Cooled Door	20-29kW Top Feed	R7N58A
Motivair M8 42U 800mm 20-29kW Bottom Feed NA Liquid Cooled Door	20-29kW Bottom Feed	R7N54A
Motivair M8 42U 800mm 20-29kW Bottom Feed EU Liquid Cooled Door	20-29kW Bottom Feed	R7N57A
Motivair M12 42U 800mm 30-45kW Top Feed NA Liquid Cooled Door	30-45kW Top Feed	R7N61A
Motivair M12 42U 800mm 30-45kW Top Feed EU Liquid Cooled Door	30-45kW Top Feed	R7N64A
Motivair M12 42U 800mm 30-45kW Bottom Feed NA Liquid Cooled Door	30-45kW Bottom Feed	R7N60A
Motivair M12 42U 800mm 30-45kW Bottom Feed EU Liquid Cooled Door	30-45kW Bottom Feed	R7N63A
Motivair M14 42U 800 55KW Top Feed Liquid Cooled Door	42U 800 Top Feed	R4N00A
Motivair M14 42U 800 55KW Bottom Feed Liquid Cooled Door	42U 800 Bottom Feed	R4M99A
Motivair M14 42U 800 55KW 277V Bottom Feed Liquid Cooled Door	42U 800 Bottom Feed	R4N07A
Motivair M14 42U 800 55KW 277V Top Feed Liquid Cooled Door	42U 800 277V Top Feed	R4N08A

#### Notes:

- [R7N53A, R7S23A, R7N56A, R7S24A, R7N59A, R7S25A, R7N62A, R7S26A](#) fits HPE G2 Racks [P9K37A, P9K38A, P9K39A, P9K40A](#)
- [R7N55A, R7N54A, R7N57A, R7N58A, R7N60A, R7N61A, R7N64A, R7N63A](#) fits HPE G2 Racks [P9K41A, P9K42A, P9K45A, P9K46A](#)

### For 48U HPE G2 Rack

Motivair M8 48U 800mm 20-29kW Top Feed NA Liquid Cooled Door	20-29kW Top Feed	R8D54A
Motivair M8 48U 800mm 20-29kW Top Feed EU Liquid Cooled Door	20-29kW Top Feed	R8D56A
Motivair M8 48U 800mm 20-29kW Bottom Feed NA Liquid Cooled Door	20-29kW Bottom Feed	R8D55A
Motivair M8 48U 800mm 20-29kW Bottom Feed EU Liquid Cooled Door	20-29kW Bottom Feed	R8D57A

#### Notes:

- [R8D54A, R8D55A, R8D56A, R8D57A](#) fits HPE G2 Racks [P9K54A, P9K58A](#)



## Configuration Information

### For 48U APC Rack

Motivair M14 48U600 55KW Top Feed Liquid Cooled Door 48U600Top Feed	R4N02A
Motivair M14 48U600 55KW Bottom Feed Liquid Cooled Door48U600Bottom Feed	R4N01A
Motivair M14 48U600 55KW 277V Top Feed Liquid Cooled Door48U600277V Top Feed	R4N10A
Motivair M14 48U600 55KW 277V Bottom Feed Liquid Cooled Door48U600277V Bottom Feed	R4N09A
Motivair M14 48U750 55KW Top Feed Liquid Cooled Door48U750Top Feed	R4N04A
Motivair M14 48U750 55KW Bottom Feed Liquid Cooled Door48U750Bottom Feed	R4N03A
Motivair M14 48U750 55KW 277V Top Feed Liquid Cooled Door48U750277V Top Feed	R4N12A
Motivair M14 48U750 55KW 277V Bottom Feed Liquid Cooled Door 48U750277V Bottom Feed	R4N11A
Motivair M14 SP 48U750 55KW Top Feed Liquid Cooled DoorM14 SP 48U750Top Feed	R4N14A
Motivair M14 SP 48U750 55KW Bottom Feed Liquid Cooled DoorM14 SP 48U750Bottom Feed	R4N13A
Motivair M14SP 48U750 55 277V Top Feed Liquid Cooled Door48U750 55 277V Top Feed	R4N16A
Motivair M14SP 48U750 55 277V Bottom Feed Liquid Cooled Door48U750 55 277V Bottom Feed	R4N15A
Motivair M16 48U750 75KW Top Feed Liquid Cooled Door48U750Top Feed	R4M92A
Motivair M16 48U750 75KW Bottom Feed Liquid Cooled Door48U750Bottom Feed	R4M91A
Motivair M16 48U750 75KW 277V Top Feed Liquid Cooled Door48U750Top Feed	R4M94A
Motivair M16 48U750 75KW 277V Bottom Feed Liquid Cooled Door48U750Bottom Feed	R4M93A

### For 48U ClusterStor “Heavy” Rack

Motivair M12 48U 600mm x 1300mm 30-45kW Top Feed NA Liquid Cooled DoorMotivair M12 48U 600mm x 1300mm 30-45kW Top Feed NA Liquid Cooled Door	R7S28A
Motivair M12 48U 600mm x 1300mm 30-45kW Bottom Feed EU Liquid Cooled Door600mm x 30-45kW Bottom FeedLiquid Cooled	R7S29A
Motivair M12 48U 600mm x 1300mm 30-45kW Top Feed EU Liquid Cooled DoorMotivair M12 48U 600mm x 1300mm 30-45kW Top Feed EU Liquid Cooled Door	R7S30A
Motivair M14 48U600 55KW Bottom Feed Liquid Cooled Door 48U600Bottom Feed	R4N01A
Motivair M14 48U600 55KW Top Feed Liquid Cooled Door 48U600Top Feed	R4N02A
Motivair M14 48U600 55KW 277V Bottom Feed Liquid Cooled Door 48U600277V Bottom Feed	R4N09A

### Graphics

Graphics HPE Cray Liquid Cooled Door Build FIO Kit	R7E79A
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### Hoses, Fitting, Control Extension Cable

HPE QD to TC 1.8m Hose Pair for Liquid Cooled Door to	R4N58A
HPE QD to TC 2.4m Hose Pair for Liquid Cooled Door to	R4N59A
HPE QD to TC 3m Hose Pair for Liquid Cooled Door to	R4N60A
HPE QD to TC 3.7m Hose Pair for Liquid Cooled Door to	R4N61A
HPE QD to TC 4.3m Hose Pair for Liquid Cooled Door to	R4N62A
HPE Cray 3.3m Extension Cable for Motivair Doors	R8G82A

### Notes:

- Hose kit is required for water connection and each hose has 1” QD on the door, TC on the facility end.
- Extension cable: extend valve actuator cable, if necessary for a site





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## Configuration Information

### CDU for Motivair Rear Doors

HPE Cray Supercomputer Top Feed 270KW 208V Coolant Distribution UnitUnit	R4N53A
HPE Cray Supercomputer Top Feed 270KW 208V Coolant Distribution UnitUnit	R4N54A
HPE Cray Supercomputer Bottom Feed 270KW 230V Coolant Distribution UnitUnit	R4N55A
HPE Cray Supercomputer Top Feed 270KW 460V Coolant Distribution UnitUnit	R4N56A
HPE Cray Supercomputer Bottom Feed 270KW 575V Coolant Distribution UnitUnit	R4N57A

#### Notes:

- CDU is optional and secondary loop is needed with CDU.
  - Consult Site Engineering for CDU configuration and secondary loop.
  - 270KW CDUs include hose kit, manifold, and treated water.
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## Technical Specifications

### Environment-friendly Products and Approach End-of-life Management and Recycling

Hewlett Packard Enterprise offers end-of-life **product return, trade-in, and recycling programs**, in many geographic areas, for our products. Products returned to Hewlett Packard Enterprise will be recycled, recovered or disposed of in a responsible manner.

The EU WEEE Directive (2012/19/EU) requires manufacturers to provide treatment information for each product type for use by treatment facilities. This information (product disassembly instructions) is posted on the **[Hewlett Packard Enterprise web site](#)**.

These instructions may be used by recyclers and other WEEE treatment facilities as well as Hewlett Packard Enterprise OEM customers who integrate and re-sell Hewlett Packard Enterprise equipment.

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## Summary of Changes

Date	Version History	Action	Description of Change
02-Aug-2021	Version 1	New	New QuickSpecs



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