

Overview

HPE Rear Door Heat Exchanger

HPE Rear Door Heat Exchanger (RDHX) 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. RDHX are compatible with 42U or 48U racks with a range of IT capacity when used under certain load and site conditions.

RDHX are designed to complement any new or existing datacenter by enabling computing power growth without adding to the heat load in the datacenter.

Air flow of RDHX fully supports industry-standard front-to-back cooling designs and standard server dimensions. Hot air exiting the rear of the servers is neutralized as the air is cooled down via the coils in the RDHX. It can connect directly to facility water feed or to a CDU depending on the dewpoint temperature of the datacenter room. Top or bottom liquid feed options are supported. Mural graphics on the Doors are also supported. RDHX can also be deployed with Direct Liquid Cooling (DLC) to increase the percentage of heat capture to water, meeting room-neutral requirements.



RDHX with 42U or 48U Rack Options

Standard Features

Key Features

General Solution

- Liquid to air heat exchanger cooling system attached to back of a standard IT rack
- Hot air exhaust from the server moves through cooling coils to remove the heat

Cooling Capacity (kW per rack)*

- M12: 14-35kW
- M14: 35-55kW

Notes: *See RDHX Site Planning Guide for additional information and specifications

Water

- Accommodates facility water temperatures 2° C (4F) 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

Power

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

Flexibility

- HPE 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

Agency Certifications

- ETL, CSA, CE Certified
-



Configuration Information

Each RDHX SKU includes

- One external 2-way control valve & actuator assembly
- One external flow meter
- All cabling to connect external controls to door

For 42U 600mm HPE G2 Racks (P9K10A) and Heavy Racks (R4L97A)

HPE M12 42U 600mm G2 Rack 208-230V Top Feed Rear Door Heat Exchanger	S4M97A
HPE M14 42U 600mm G2 Rack 208-230V Top Feed Rear Door Heat Exchanger	S4M98A
HPE M12 42U 600mm G2 Rack 208-230V Bottom Feed Rear Door Heat Exchanger	S4M99A
HPE M14 42U 600mm G2 Rack 208-230V Bottom Feed Rear Door Heat Exchanger	S4N00A
HPE M14 42U 600mm G2 Rack 260-290V Top Feed Rear Door Heat Exchanger	S4N01A
HPE M14 42U 600mm G2 Rack 260-290V Bottom Feed Rear Door Heat Exchanger	S4N02A

For 42U 800mm HPE G2 Racks (P9K48A) and Heavy Rack (R4M95A)

HPE M12 42U 800mm G2 Rack 208-230V Top Feed Rear Door Heat Exchanger	S4N03A
HPE M14 42U 800mm G2 Rack 208-230V Top Feed Rear Door Heat Exchanger	S4N04A
HPE M12 42U 800mm G2 Rack 208-230V Bottom Feed Rear Door Heat Exchanger	S4N05A
HPE M14 42U 800mm G2 Rack 208-230V Bottom Feed Rear Door Heat Exchanger	S4N06A
HPE M14 42U 800mm G2 Rack 260-290V Top Feed Rear Door Heat Exchanger	S4N07A
HPE M14 42U 800mm G2 Rack 260-290V Bottom Feed Rear Door Heat Exchanger	S4N08A

For 48U 600mm HPE G2 Racks (Rack SKU P9K52A)

HPE M12 48U 600mm G2 Rack 208-230V Top Feed Rear Door Heat Exchanger	S4N09A
HPE M14 48U 600mm G2 Rack 208-230V Top Feed Rear Door Heat Exchanger	S4N10A
HPE M12 48U 600mm G2 Rack 208-230V Bottom Feed Rear Door Heat Exchanger	S4N11A
HPE M14 48U 600mm G2 Rack 208-230V Bottom Feed Rear Door Heat Exchanger	S4N12A
HPE M14 48U 600mm G2 Rack 260-290V Top Feed Rear Door Heat Exchanger	S4N13A
HPE M14 48U 600mm G2 Rack 260-290V Bottom Feed Rear Door Heat Exchanger	S4N14A

For 48U 800mm HPE G2 Racks (Rack SKU P9K58A)

HPE M12 48U 800mm G2 Rack 208-230V Top Feed Rear Door Heat Exchanger	S4N15A
HPE M14 48U 800mm G2 Rack 208-230V Top Feed Rear Door Heat Exchanger	S4N16A
HPE M12 48U 800mm G2 Rack 208-230V Bottom Feed Rear Door Heat Exchanger	S4N17A
HPE M14 48U 800mm G2 Rack 208-230V Bottom Feed Rear Door Heat Exchanger	S4N18A
HPE M14 48U 800mm G2 Rack 260-290V Top Feed Rear Door Heat Exchanger	S4N19A
HPE M14 48U 800mm G2 Rack 260-290V Bottom Feed Rear Door Heat Exchanger	S4N20A

Hose Kits for RDHX

HPE QD to TC 1.8m Hose Pair for Liquid Cooled Door	R4N58A
HPE QD to TC 2.4m Hose Pair for Liquid Cooled Door	R4N59A
HPE QD to TC 3m Hose Pair for Liquid Cooled Door	R4N60A
HPE QD to TC 3.7m Hose Pair for Liquid Cooled Door	R4N61A
HPE QD to TC 4.3m Hose Pair for Liquid Cooled Door	R4N62A



Configuration Information

USA Facility Adapter for RDHX (Only Sites That Require NPT Thread)

HPE Cray SC 25.4mm Water Adapter NPT Pair Assembly

R6W44A

International Facility Adapter for RDHX (Only International Sites That Require BSPT Thread)

HPE Cray Supercomputer 38.1mm Water Adapter BSPT Assembly

S0B10A

Notes: Need 1 Hose Kit SKU and 1 Facility Adapter SKU per door that is on order.

270kW CDU for RDHX - USA Voltage

HPE Cray Supercomputer 3-phase 270kW 208V 60Hz 63.5mm NA Floor Coolant Distribution Unit

R4N53A

HPE Cray Supercomputer 3-phase 270kW 480V 60Hz 63.5mm NA Floor Coolant Distribution Unit

R4N56A

270kW CDU for RDHX - EU Voltage

HPE Cray Supercomputer 3-phase 270kW 400V 50Hz 63.5mm EU Floor Coolant Distribution Unit

R9B19A

Underfloor Secondary Plumbing between 270kW CDU and 1-14 RDHX

HPE 270kW CDU 1-14 Rear Door Heat Exchanger Underfloor Manifold Kit

S5D78A

USA Facility Adapter RDHX CDU

HPE Cray SC 76.2mm Flange Water Adapter NPT Assembly

R6T83A

International Facility Adapter for RDHX CDU (Only International Sites That Require BSPT Thread)

HPE Cray Supercomputer 76.2mm Water Adapter BSPT Assembly

S0B12A

Notes:

- Need 1 Facility Adapter SKU (R6T83A or S0B12A) per CDU on order.
- A CDU is required for sites that have supply water temperature at or below dew point.
- The CDUs include a primary hose kit, secondary manifold, and treated water for the secondary cooling loop to the RDHX's.
- HPE provided secondary manifold is designed for raised floor data centers. If the data center is on a concrete slab, the customer is required to provide the overhead secondary manifold that feeds from the CDU to the RDHX's.
- Consult with Site Engineering when planning to use or don't know if you will need to use a CDU.



Service and Support

HPE Services Operational services

No matter where you are in your transformation journey, you can count on HPE Services to deliver the expertise you need when, where, and how you need it. From planning to deployment, ongoing operations and beyond, our experts can help you realize your digital ambitions.

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HPE Complete Care Service

HPE Complete Care Service is a modular, edge-to-cloud IT environment service designed to help optimize your entire IT environment and achieve agreed upon IT outcomes and business goals through a personalized experience. All delivered by an assigned team of HPE Services experts. HPE Complete Care Service provides:

- A complete coverage approach – solution support with end-to-end case resolution
- An assigned HPE support team
- Modular and fully personalized engagement
- Enhanced Incident Management experience with direct access to HPC experts
- Digitally enabled and AI driven customer experience

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HPE Tech Care Service

HPE Tech Care Service is the operational support service experience for HPE products. The service 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 Tech Care Service delivers a customer-centric, AI driven, and digitally enabled customer experience to move your business forward. HPE Tech Care Service 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/services/techcare>

Service and Installation SKUs

Installation SKU and Band number for RDHXs: HA114A1#V16

Installation SKU and Band numbers for CDUs

HPE Cray SC 270kW 208V 60Hz NA Floor CDU
HPE Cray SC 270kW 480V 60Hz NA Floor CDU
HPE Cray SC 270kW 400V 50Hz EU Floor CDU

Hardware SKU

R4N53A
R4N56A
R9B19A

Installation SKU & Band Number

HA114A1#V17
HA114A1#V17
HA114A1#V17

Support Band number for RDHXs and CDUs

Default RDHX
HPE M14 42U 600 G2 208-230V TF RDHX
HPE Cray SC 48Ux600x1200 AR3307 Rack
HPE Cray SC 270kW 208V 60Hz NA Floor CDU

Hardware SKU

-
R4M12A
R4M95A
R4N53A

Support Band Number

ZNK
Z85
ZNL
ZNM

Upfront Support SKUs

HPE 3Y Tech Care Basic Service
HPE 4Y Tech Care Basic Service
HPE 5Y Tech Care Basic Service
HPE 3Y Tech Care Basic with Defective Media Retention Service
HPE 4Y Tech Care Basic with Defective Media Retention Service
HPE 5Y Tech Care Basic with Defective Media Retention Service
HPE 3Y Tech Care Essential Service
HPE 4Y Tech Care Essential Service

HU4B2A3
HU4B2A4
HU4B2A5
HU4B3A3
HU4B3A4
HU4B3A5
HU4A6A3
HU4A6A4

Service and Support

HPE 5Y Tech Care Essential Service	HU4A6A5
HPE 3Y Tech Care Essential with Defective Media Retention Service	HU4A7A3
HPE 4Y Tech Care Essential with Defective Media Retention Service	HU4A7A4
HPE 5Y Tech Care Essential with Defective Media Retention Service	HU4A7A5
HPE 3Y Complete Care Addon Basic Service	HU4D8A3
HPE 4Y Complete Care Addon Basic Service	HU4D8A4
HPE 5Y Complete Care Addon Basic Service	HU4D8A5
HPE 3Y Complete Care Addon Basic with Defective Media Retention Service	HU4D9A3
HPE 4Y Complete Care Addon Basic with Defective Media Retention Service	HU4D9A4
HPE 5Y Complete Care Addon Basic with Defective Media Retention Service	HU4D9A5
HPE 3Y Complete Care Addon Essential Service	HU4D5A3
HPE 4Y Complete Care Addon Essential Service	HU4D5A4
HPE 5Y Complete Care Addon Essential Service	HU4D5A5
HPE 3Y Complete Care Addon Essential with Defective Media Retention Service	HU4D6A3
HPE 4Y Complete Care Addon Essential with Defective Media Retention Service	HU4D6A4
HPE 5Y Complete Care Addon Essential with Defective Media Retention Service	HU4D6A5

Notes:

- [Example of building a Support SKU for a HW SKU:](#)
- [5Y Tech Care Essential for R4M12A = HU4A6A5#Z85](#)
- [Learn more about HPE Tech Care](#)
- [Learn more about HPE Complete Care](#)



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.



Summary of Changes

Date	Version History	Action	Description of Change
14-Apr-2025	Version 2	Changed	Configuration Information section was updated
04-Nov-2024	Version 1	New	New QuickSpecs



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a00039574enw - 16140 - Worldwide - V2 - 14-April-2025