In-Rack CW

CHILLED WATER COOLING DOOR FOR SERVER RACKS

30-45kW

- SUITABLE FOR HIGH-DENSITY DATA CENTER APPLICATIONS
- 42U AND 48U RACKS COMPATIBLE
- HOT-SWAPPABLE FANS
- LOW WEIGHT

EC-FANS MICROCHANNEL CHILLED WATER FREECOOLING

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Hot-swappable fans

Minimized downtime, optimized efficiency

The In-Rack features hot-swap fan assembly that allows fan replacement on running units minimizing the downtime. When a single fan goes offline, the remaining fans will compensate for a lack of airflow by increasing rotation speed.

350mm axial fans mounted in bellmouth housings and equipped with EC motors allow In-Rack to effectively operate at part-load and optimize the overall energy efficiency.

Rack compatibility

Universal rack adapter

The In-Rack cooling door can be easily attached to any standard server rack (42U to 48U) and does not impact on the access to IT equipment installed in the rack. An adapter for 800mm racks available as an option.

With low weight only by 1/3 compared to competitors, the In-Rack unit does not create significant rack/-floor load, thus giving the customers a highly flexible installation solution. The slim design of In-Rack unit ensures minimal impact into the hot aisle.

Dewpoint control

Reliable IT equipment protection

The control hub of In-Rack cooling unit constantly monitors the air temperature and humidity to avoid condensate build-up by regulating water flow through the evaporator. The system eliminates the possibility of water entry into the rack by means of dewpoint control and automatic condensate discharge system.

Redundancy

High-availability solution

The key challenge of the rack-level cooling systems is the lack of redundancy. In-Rack eliminates this drawback with redundant configuration which includes a dual power supply with an automatic transfer switch for instant switching to an alternative power source in the event of failure, how-swappable fans, controller power backup, and 2-pass heat exchanger which remains operational even in case of water leakage.

In-Rack unit designed for continuous 24/7 operation and allowed easy access to the hardware installed inside the rack without disconnecting any services and disrupting cooling. Equipped with redundancy options, In-Rack unit ensures the highest possible availability for mission-critical IT equipment.

Evaporator

Lightweight, high-capacity microchannel coil

The microchannel evaporator used in the In-Rack design provides a number of advantages: low fan power, high cooling duty, and noticeably less weight. The cooling door depth of just 210mm - thanks to thin microchannel coil core - requires minimum space for installation.

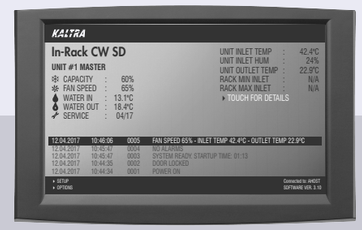
Low weight removes limitations of the previous generations of rack-mounted cooling doors and enables the use of In-Rack cooling solution for both greenfield and retrofit applications.

Water circuit

Flow control capabilities

In-Rack units are suitable for use in both constant and variable flow chilled water systems. The customer may select appropriate regulating valves for the systems pumped at the constant flow rate, typically a three-way control valve, or configure In-Rack unit for variable flow rate with a two-way control valve and low-flow valve on the bypass to maintain minimum flow on chiller at low loads.

In-Rack connected to the chilled water pipework via flexible, stainless steel braided hoses supplied with the unit. Solenoid-controlled isolation valves are available as an option.



Energy savings with the aim of free cooling system

When coupled to the chiller system with a free cooling circuit, In-Rack unit able to run up to 98% of the time in free cooling mode, thus saving a significant amount of energy. In-Rack takes advantage of high air temperature streamed from the rack, hence raising the potential of a free cooling system.

Easy installation and start-up

The unit terminal with a large touchscreen display provides advanced control and detailed run statistics and analysis for the operator. Android-based software allows configuring multiple In-Rack simultaneously by replicating the configuration and parameters onto a group of networked units, thus reducing commissioning time.

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Technical Specifications

SD (standard density)	Width mm	Depth mm	Height mm	Cooling capacity kW	Fan quantity	Fan power input kW	EER kW/kW	Airflow m^3/h	Water flow m^3/h	Discharge air temperature °C	Waterside pressure drop kPa
Water inlet/outlet temperature: 13/19°C; Air inlet temperature: 45°C											
In-Rack CW SD	600	210	2000	29.3	4	0.060	488	5000	4.26	26.1	57.8
Water inlet/outlet temperature: 13/19°C; Air inlet temperature: 40°C											
In-Rack CW SD	600	210	2000	26.2	4	0.064	409	6000	3.72	26.2	51.1
Water inlet/outlet temperature: 13/19°C; Air inlet temperature: 35°C											
In-Rack CW SD	600	210	2000	23.7	4	0.152	156	8500	3.42	26.3(11)	46.9
Water inlet/outlet temperature: 15/20°C; Air inlet temperature: 45°C											
In-Rack CW SD	600	210	2000	28.0	4	0.060	467	5000	4.80	27.0(6)	62.6
Water inlet/outlet temperature: 15/20°C; Air inlet temperature: 40°C											
In-Rack CW SD	600	210	2000	24.6	4	0.064	384	6000	4.26	27.0(7)	55.5
Water inlet/outlet temperature: 15/20°C; Air inlet temperature: 35°C											
In-Rack CW SD	600	210	2000	21.9	4	0.152	144	8500	3.78	27.0	49.1

HD (high density)	Width mm	Depth mm	Height mm	Cooling capacity kW	Fan quantity	Fan power input kW	EER kW/kW	Airflow m^3/h	Water flow m^3/h	Discharge air temperature °C	Waterside pressure drop kPa
Water inlet/outlet temperature: 13/19°C; Air inlet temperature: 45°C											
In-Rack CW HD	600	210	2000	41.3	4	0.176	235	5000	5.94	18.4	82.4
Water inlet/outlet temperature: 13/19°C; Air inlet temperature: 40°C											
In-Rack CW HD	600	210	2000	41.0	4	0.256	160	6000	5.88	18.4	81.5
Water inlet/outlet temperature: 13/19°C; Air inlet temperature: 35°C											
In-Rack CW HD	600	210	2000	43.1	4	0.552	78	8500	6.18	19.2(78)	85.8
Water inlet/outlet temperature: 15/20°C; Air inlet temperature: 45°C											
In-Rack CW HD	600	210	2000	38.3	4	0.176	218	5000	6.60	20.4(36)	86.7
Water inlet/outlet temperature: 15/20°C; Air inlet temperature: 40°C											
In-Rack CW HD	600	210	2000	38.9	4	0.256	150	6000	6.72	19.5(47)	88.4
Water inlet/outlet temperature: 15/20°C; Air inlet temperature: 35°C											
In-Rack CW HD	600	210	2000	40.3	4	0.552	73	8500	6.90	20.2	90.8

Package, options and accessories					
General					
Water leak detection	■	Condensate discharge system	■	Thermal insulation	■
Heat exchanger guard	□	Fan redundancy (N+1)	■	800mm rack adapter	□
Waterside					
2-way regulating valve (loose)	■	Water temperature sensor	■	Threaded water connections	■
3-way regulating valve (loose)	□	Bleed valve	■	Flexible hoses (stainless steel braided, loose)	■
Bypass valve	□	Drain valve	□	Isolation solenoid valves on water inlet/outlet	□
Airside					
Hot-swappable EC fans	■	Temperature probe (loose)	■	Humidity probe	■
Electric and controls					
Touch screen HMI	■	Uninterruptible power supply w/ ATS	□	BMS connectivity	■
Dew point control	■	Remote monitoring software	□	SNMP connectivity	□

■ Standard feature
□ Optional feature

EER UP TO
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