LCP Rack CW HD

a technical overview

Installation example

LCP Rack CW HD

The LCP Rack CW HD (Cold Water/High Density) can provide up to 60kW of cooling output onto components housed inside adjacent enclosures and racks. Hot air is drawn from the rear of the servers into the side of the LCP by high-efficiency fans. Cooling the air via an air-to-water heat exchanger, the unit then blasts cold air back to the front of the servers where operating temperatures are reduced and the cycle continues. The capacity of each unit is scalable from 40kW to 60kW simply by adding fans — 40kW equals four fans with 60kW achieved with six fans. An added benefit of the new technology records increased energy savings when fans are added.

Servers are cooled independently from ambient air within the data center so cooling can be adapted to the needs of individual servers or enclosures in a modular fashion. Up to six fan modules may be installed in this configuration to adapt the cooling capacity to a unit's precise requirements — providing for more efficient cooling and energy use. Operating fans above the data center's dew point increases energy savings while eliminating condensation. The increased capacity is available within the same footprint as existing models — you can get 60kW cooling from a unit that's still just 12-inches wide. That's double the cooling from the same floor space — or you can reduce the number of units to free up floor space for additional hardware.

Not only are Rittal's next generation LCP units scalable by adding fans to the system, the high-efficiency fans have been moved to the front of the units — on the cool side away from the heat generated by components — which will extend the life of the fans themselves. This unique design and ability to use the same floor space is exclusive to Rittal — making the price per unit even more competitive.

The Rittal Advantage:

High Performance Cooling	• Up to 60kW using 59°F water • Operation above dew point increases energy efficiency and eliminates condensation • Increased use of "free" cooling
High-efficiency Monitoring	• Server-friendly temperature monitoring • Communication via SNMP over Ethernet • Touch screen available
High-tech Fans	• EC fans inside cold area • Economy and Facility modes boost energy efficiency • Cooling capacity varies with number of fans • Box-type, plug-in fans can provide N+1 redundancy
Installation-friendly	• 12-inch wide footprint • Mechanical connections available from top or bottom • Top or bottom feed water connections • Low weight for low load on raised floor • Free access to 19-inch equipment • Raised floor or slab installation
Operational Efficiencies	• Equal temperature distribution throughout the rack • High Energy Efficient Ratio (EER) at the chiller

Note: Imperial measurements are approximate, metric measurements are exact.

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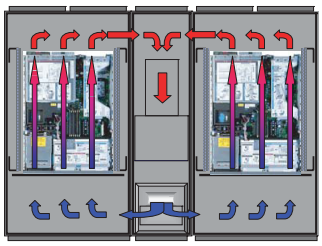
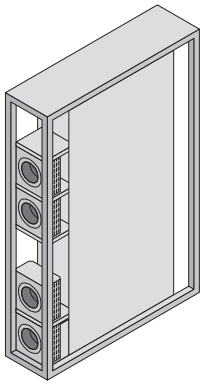
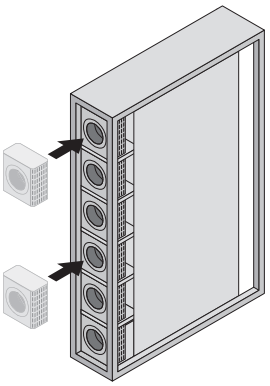
Part No.	**3311.268**
Height inches (mm)	78.7(2000)
Width inches (mm)	11.8 (300)
Depth inches (mm)	47.2 (1200)
Door Configuration	Solid Front/Solid Rear
Color	RAL 9005 Jet Black
Weight lb (kg)	463 (210)
System Characteristics	
System capacity kW	40kW (4 fans) / 50kW (5 fans) / 60kW (6 fans) The LCP Rack CW HD is capable of supporting multiple cabinets with a variety of heat loads. Capacity is based on the following parameters: flow rate, ΔT, and glycol percentage.
Input Specifications	
AC input voltage	208V, 2~, 60 Hz / 230V, 1~, 50/60 Hz
Chilled water supply temperature	59°F
Maximum water flow rate	37 GPM
Additional Parameters	
Max. air flow volume	4708 CFM (6 fans)
EC Fans	4 fans (can add 2 more), electronically commutated, N+1, hot swappable
Max. power consumption	13.5A at 208V / 12.3A at 230V (6 fans)
Water supply pressure	29 to 85 PSI
System noise	77 dBA (open air above reflective floor, distance 1m)
Operating temperature	43°F to 95°F
Water system connections	1½" BSP ext. thread supply/return connection, ⅜" ID condensate drain hose
Network connection	RJ45
Fill quantity	2.9 gallons (11 liters)
Water supply quality	Purified cooling water. Recommend use of a fine mesh filter. No lime scale or loose debris. Low hardness and low conductivity. Recommended pH 7 - 8.5.
Software Connectivity	
Software compatibility	Internet Browser: IE 10, Safari 6.0.5, Firefox 24, Google Chrome 30.0.1599.69 (31), Opera 16, for browser-based configuration. PC: Network-enabled PC running Windows XP SP3, Windows Vista SP1, or Windows 7, Windows 8.
Support for multiple systems in the data center	Optional data center client/server based software package (RiZone) that provides real-time monitoring of the entire data center.
Certifications	
Certifications/Approvals	UL, cUL, CE, RoHS, ISO 9001/14001 certified
Accessories	
3311.030	LCP display
9977.379	LCP water connection hose kit, 1.5" BSP to 1.5" NPT
9971.173 / 9971.174 / 9971.175	LCP 1.5" ID hose lengths - 10ft / 15ft / 25ft
3311.016	Fan module



Top view showing cooled air going through cabinets; the LCP Rack CW HD has solid doors front and rear to maximize the air flow.



The LCP Rack CW HD ships with four fan modules



Adding two fans can increase energy efficiency in 40kW heat load applications while raising the potential cooling capacity to 60kW

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