LCP Inline Protruding CW

a technical overview

Data center row view

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The LCP Inline Protruding CW (Cold Water) can provide up to 30kW of cooling output onto components housed inside adjacent enclosures and racks. Reducing air temperature via an air-to-water heat exchanger, while protruding into the aisle — taking just 8 inches of aisle space — the unit's fans direct the airflow at a 90-degree angle so it is no longer just released into the space, it is blasted directly across the front of the servers. This configuration reduces air deflection losses and makes cool air dispersal more efficient because it is directed specifically toward the source of the heat — a "curtain" of cool air forms in front of the enclosures.

Server air temperature is moderated 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 three fan modules may be installed in this configuration to adapt the system's capacity to a unit's precise requirements – providing for more efficient cooling and energy use. The increased capacity is available within the same footprint as existing models — you can get 30kW cooling from a unit that's still just 12-inches wide.

While the standard base unit is equipped with one high-efficiency fan, these units will accept as many as six EC fans. Although maximum cooling capacity of 30kW is attained with three fans, the installation of three additional fans provides more efficient energy use – more fans running less often – and more efficient cooling.

The Rittal Advantage:

High Performance Cooling	• Up to 30kW using water as warm as 59°F water • 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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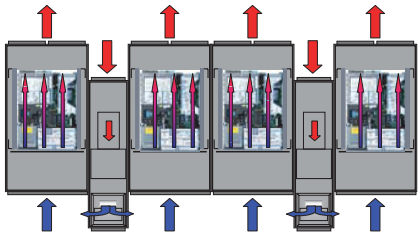
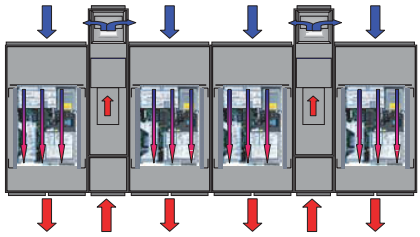
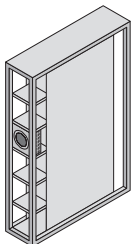
Part No.	**3311.538**
Height inches (mm)	78.7 (2000)
Width inches (mm)	11.8 (300)
Depth inches (mm)	47.2 (1200)
Door Configuration	Solid Front/Perforated Rear
Color	RAL 9005 Jet Black
Weight lb (kg)	441 (200)
System Characteristics	
System capacity kW	10kW (1 fan) / 20kW (2 fans) / 30kW (3 fans) The LCP Inline Protruding CW 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 temp.	59°F
Maximum water flow rate	26.4 GPM
Additional Parameters	
Air flow volume	2825 CFM (3 fans)
EC Fans	1 fan (can add 2 more), electronically commutated, N+1, hot swappable
Max. power consumption	7.6A at 208V / 6.9A at 230V (3 fans)
Water supply pressure	29 to 85 PSI
System noise	74.5 dBA (open air above reflective floor, distance 1m)
Operating temperature	43ºF to 95ºF
Water system connections	1½" BSP ext. thread supply/return connection, ⅜" ID condensate drain hose
Network connection	RJ45
Fill quantity	2.1 gallons (8 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, or 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 connecton 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
9967.529	LCP Inline rear adapter, black

Top view showing air flow through cabinets

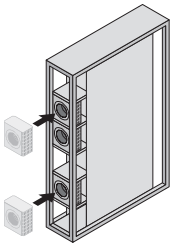




Data center row with optional rear adaptor



The LCP Inline Protruding CW ships with one fan module.



Adding two fans can increase cooling capacity to 30kw. A low energy configuration - using a total of six fans - provides the same cooling at a lower cost.

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Rittal Corporation
1 Rittal Place • Urbana Ohio 43078 • USA
Woodfield Corporate Center • 425 North Martingale Road, Suite 400 • Schaumburg Illinois 60173 • USA
Phone: 937-399-0500 • Fax: 800-477-4003 • Toll-free: 800-477-4000
Email: rittal@rittal.us • Online: www.rittal.us