Rittal LCP+ Cooling Unit

■ **Up to 44 kW of cooling capacity.**

■ **Optimized cooling utilizing 59 degree water for maximum energy efficiency.**

■ **3,500 times higher thermal capacity than air.**

■ **Aisle containment prevents the mixing of cold and hot air.**

■ **Reduce energy consumption in data center cooling by 30- 45%**
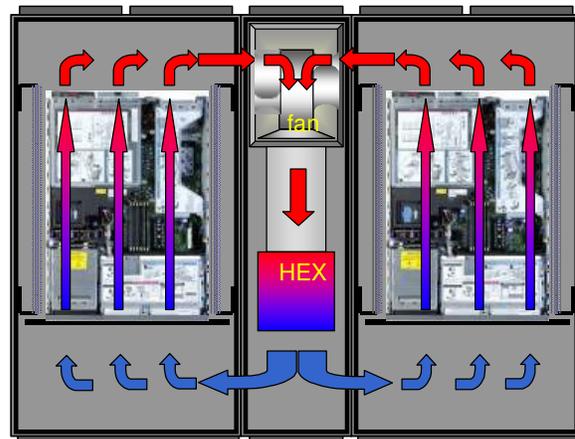
■ **Small 12" wide in-row footprint**

The powering and cooling of modern IT equipment have increasingly become the most difficult challenges faced in designing and operating data centers. With average rack load densities rising from 2- 3kW common only 5 years ago to upwards of 15kW per rack that are possible today – this challenge is only worsened. Unmanageable heat in data centers can lead to equipment failure and costly downtime, not to mention shortening the useful life of a data center. New methods are required to meet this challenge in an effective and efficient way.

The LCP+ is a highly efficient air to water heat exchanger designed to dissipate high heat loads while using elevated water temperatures resulting in significantly lower energy usage and increased free cooling potential. The special closed-loop design for airflow eliminates data center hot spots, maximizes heat transfer efficiency, provides uniform cold air distribution to the installed IT load, and eliminates the need for a hot aisle. The LCP+ allows for dynamic control of the cooling process ensuring proper operation and longevity of the installed hardware.

The Rittal Liquid Cooling Package Plus (LCP+) is a highly efficient data center cooling system field-proven to handle the intense demands of modern computing and network hardware. The LCP+ utilizes chilled water to provide cooling and heat removal directly at the rack level. The closed-loop configuration removes heat produced by computing hardware directly, without impact to the data center, eliminating hot spots and allowing for optimal operation.

The award winning design of LCP+ is at the forefront of emerging technologies for the data center, meeting the demands of today's technology while allowing for future growth. The system is scalable and designed to minimize the energy consumed in cooling high-performance computing hardware. It is ideal for today's energy conscious data center designers and operators – reducing cooling energy consumption by as much as 30% to 45% or greater.

The LCP+ allows for complete containment, guaranteeing consistent cold air delivery to the server installed in the rack, as well as complete removal of heat from the system and rejection into the chilled water system.

LCP+ Specifications

System characteristics

System Capacity	Typical: 30 kW Maximum: 44 kW LCP+ can support multiple cabinets with a variety of heat loads. Capacity is based on the following parameters: flow rate, ΔP, ΔT, Server ΔT, and desired air temperature.

Input specifications

AC input nominal voltage	208 V, single-phase, 4-wire, 60 Hz Frequency 50/60 Hz
Chilled water supply temperature	45ºF to 70ºF (Typical Range)
Maximum water flow rate	26 gpm

Physical characteristics

Dimensions (HxWxD)	80 x 12 x 48 inches 2000 x 300 x1200 mm
Weight	332 lb. / 150 kg

Additional parameters

Air flow volume	3000 cfm
Cold air supply temperature	70ºF to 85ºF (Typical Range)
Fans	Standard Fans: 9.3A/10.4A, 2.4 kW EC fan option: 1.2 kW
Water supply pressure	24.5 to 116 PSI
System noise	58 dBA (free filed on reflective floor)
Water system connections	1-inch external thread connection; bottom or rear connection points for both chilled water supply and warm water lines.
Water supply quality	Purified cooling water. No lime scale or loose debris. Low hardness and low conductivity

Software Connectivity

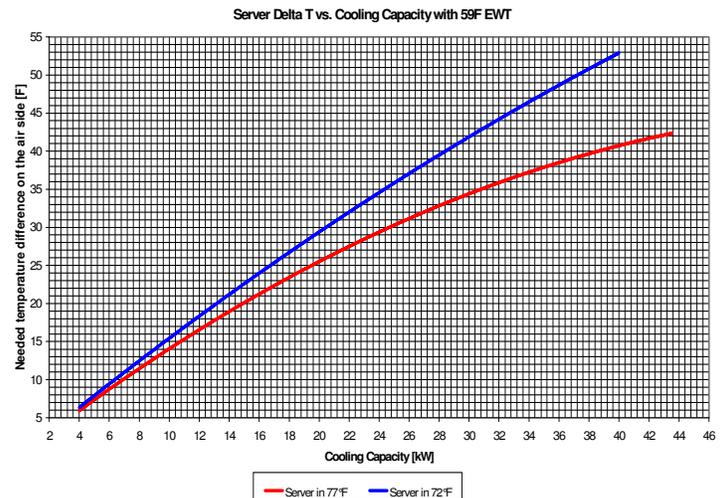|	
Software compatibility	Compatible with the following operating systems: Microsoft Windows 2000 (Server, Advanced Server, Professional) Windows XP Home, Windows XP Professional, Windows 2003 Server (Web, Small Business), Windows 2003 Server (Standard, Enterprise), Windows 2003 Server R2 (Standard Enterprise), Windows Vista (Ultimate, Home Premium, Business), Windows XP on 64-bit architecture.
Support for multiple system in the data center	Optional data center, Windows-based client/server software package (RiWatchIT) that provides real-time monitoring of critical conditions for the entire enterprise

Certifications

Certifications and Approvals	CE, CUL, TUEV, TUEV, UL
Country of Origin	Manufactured in U.S.A

The LCP+ will provide high-density cooling to one or multiple bayed cabinets

Server Delta T vs. Cooling Capacity with 59F EWT

Needed temperature difference on the air side [F]

Cooling Capacity [kW]

Server in 77ºF   Server in 72ºF

Order Information
Part Number: 3301485 Color: Sand Texture Black
Part Number: 3301480 Color: RAL 7035 Gray