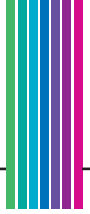


Rittal LCP High Density Cooling

RimatriX5 : Enclosures • Power • **Cooling** • Security • Monitoring+Remote Management



Safely bringing chilled liquids into the Data Center

Data center heat loads have increased dramatically as more components are squeezed tighter into densely packed rack space. Yet most mission critical servers are still being cooled using fans, air conditioners or a combination of the two. Frequent hot spots, rising cabinet temperatures and a patchwork of quick fixes are only band-aids that get around the obvious solution - high density cooling of the data center using chilled liquid.

A modern approach with roots in the past

Using chilled liquid in the data center is nothing new - water cooled mainframes were common into the 1990s - but the last decade has been dominated by fan and air conditioner solutions. As heat loads have risen the search for a better method for cooling the data center has led history to repeat itself with the use of chilled fluid systems.

Liquid cooling - super efficiency at your fingertips

Liquids have a very high thermal capacity (around 3,500 times greater than air) which makes them ideal for removing heat from a data center cabinet. Conveniently, many modern data centers already have a source of cooled liquid readily available. Rittal also offers a complete line of proven chiller products to circulate cold liquids if an on-site system is needed.



Rittal Chillers - compact, efficient



The Rittal Liquid Cooling Package (LCP) air/water heat exchanger line - multiple options, cooler cabinets

Piping chilled liquid through a Rittal LCP system protects your sensitive components by creating a carefully controlled cooling environment for maximum uptime. Much like an automobile radiator, a Rittal LCP system cools heated rack components with liquid cooled forced air. Rittal LCP systems are available in many configurations to tackle the exact heat load needs of your data center.

No worries about liquid in the data center (no added heat either) and unit servicing is made simple

Rittal LCP systems and chillers use only spill-proof fittings and include built-in overflow trays for added peace of mind. The liquid and air routes are closed loop systems that do not add any additional heat into your data center environment. The LCP components are also hot swappable so you don't have to take your critical data room servers down to service a unit.

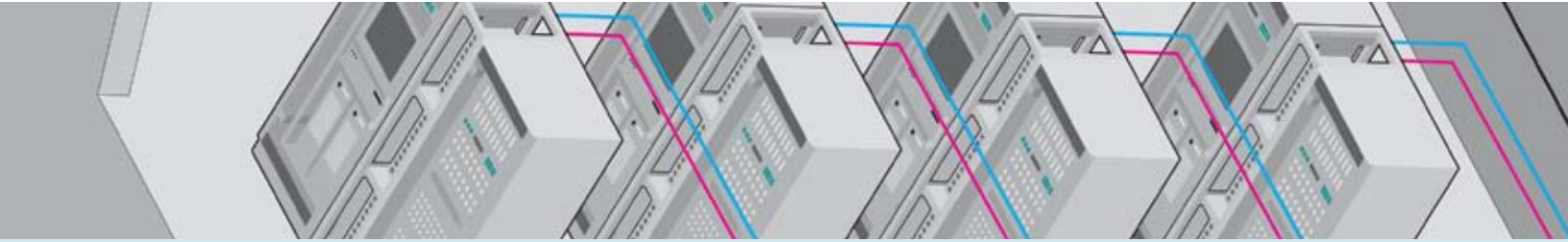
Rittal LCP Standard - intelligent directed air cooling

Part of the proven Rittal RimatriX5 family

RimatriX5 is Rittal's all inclusive data center product line - proven modular enclosures, power management systems, cooling solutions, security components and monitoring+remote management tools. See your Rittal representative to find out more.

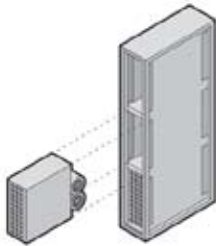
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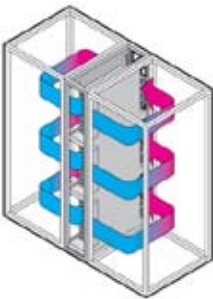
The LCP product line - different approaches, same result

Rittal LCP systems are available in three configurations to tackle the exact heat load needs of your particular data center:



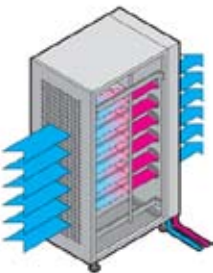
LCP Standard

Designed to be installed next to an 80" (2000 mm) high by 40"/48" (1000/1200 mm) deep TS8 server cabinet, the LCP Standard can accommodate up to three air/water exchanger modules that can be hot-swapped if needed. When fully loaded with three air/water exchanger modules the LCP Standard can provide up to 68,243 BTU (20KW) of useful cooling with a maximum air volume of 1766 cfm (3000 m³/hr). Don't have an immediate need for that much heat removal? Start with one exchanger module then add more as needed.



LCP Plus

Using the same footprint and basic design as the Standard, the LCP Plus includes six fan modules that work in concert with the included heat exchanger to increase the useful cooling capacity to 95,540 BTU (28 kW). The LCP Plus is designed for cabinets 80" (2000 mm) high by 48" (1200 mm) deep and has a maximum air volume of 2825 cfm (4800 m³/hr). The LCP Plus (and LCP Standard) can be bayed to a single cabinet or between two enclosures. It is also possible to put a pair of LCPs on either side of especially hot cabinets for applications where extreme heat loads are present.



LCP Extend

Ideal for retrofitting, the LCP Extend is installed on the rear door of problem racks. The LCP Extend can be ordered for use on cabinets from other manufacturers. Already using Rittal cabinets? The unit comes mounted into the proper replacement rear door - just swap it out.

Other Options - Chillers/Fans/Air Conditioners

Rittal is an industry leader in traditional climate control solutions too - be sure to inquire about our complete line of chillers, fans and air conditioners.

Rittal Corporation • One Rittal Place • Springfield, OH 45504, USA
Phone: 937.399.0500 • Fax: 937.390.5599 • Toll-free: 1.800.477.4000 • www.rittal-corp.com • Email: rittal@rittal-corp.com

Rittal Systems Ltd. • 7320 Pacific Circle • Mississauga, Ontario Canada L5T 1V1
Phone: 905.795.0777 • Fax: 905.795.9548 • Toll-free: 800.399.0748 • www.rittal.ca • Email: marketing@rittal.ca



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