

STULZ

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CyberRack Active Rear Door

Rack-based CW cooling for high density applications

Efficient and targeted rack cooling

The CyberRack Active Rear Door is a heat exchanger door with EC fans for installing on the rear door of server racks. The space-saving CW units remove heat directly at the source, preventing hot air from entering the room, and can also serve as a supplement in Liquid Cooling applications.

CyberRack Active Rear Door units take up virtually no footprint and therefore ensure optimum use of available space in the data center. When there are high heat loads, hot spots and no raised floor, these units are the ideal solution.



Advantages at a glance

Flexibility

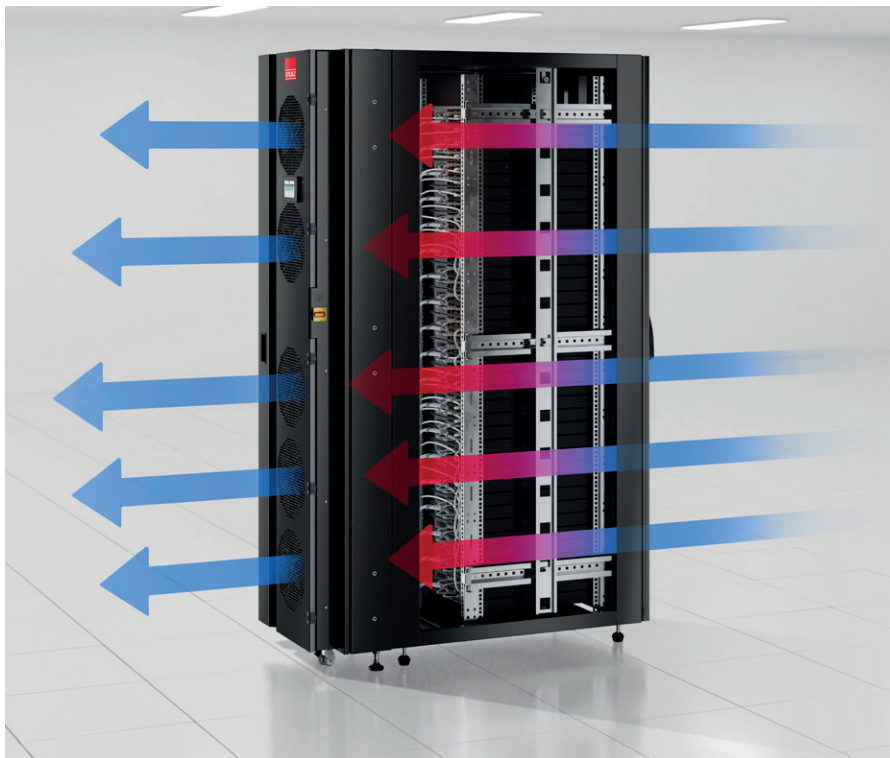
- Individual adapter frames for adaptation to any rack
- For cooling entire IT rooms and data centers without additional CW air conditioning systems
- Also suitable for supplementing existing precision air conditioning units as well as Liquid Cooling applications
- For server racks both with and without integrated fans
- Space-saving installation as a rack door with no changes to the data center structure
- Top and bottom water connections

Efficiency

- Optimum operating conditions: No mixing of server outlet air with the room air, because no hot return air gets into the room
- As the servers are cooled directly in the server rack, high water temperatures are possible, considerably increasing the number of operating hours with Free Cooling
- In combination with the CyberCool Explorer WS including Free Cooling function, operating costs are dramatically reduced

Operational reliability

- To protect the server's own fans from excess pressure, the optional differential pressure control from STULZ adapts the speed of the CyberRack fans in line with the server airflow
- Hot Swap fans allow quick replacement during operation — ensuring uninterrupted performance when maintenance is needed.
- Worldwide service



The rear door of the server rack is replaced by the CyberRack Active Rear Door. With the aid of the integrated heat exchanger, the unit cools your servers right there where the heat is produced, without discharging return air into the room. The IT room therefore has no additional heat at all.

The sensors in the CyberRack measure the return and supply air temperatures in the server rack, to ensure optimum cooling. The temperatures are adapted to the heat load of the servers, and guarantee efficient cooling whatever the server load.

Application 1: Autonomous CW cooling

- Delivers the entire cooling capacity for the rack without the need for additional precision air conditioners
- Reliable cooling even without a raised floor
- No hot return air in the IT room
- No need to separate hot and cold aisles

Application 2: Supplementing the precision air conditioning

- Targeted cooling of high-density racks
- For preventing hot spots
- No discharge of hot return air in the IT room

Application 3: Efficient supplement to Liquid Cooling applications

The CyberRack Active Rear Door is the ideal solution to complement Direct-to-Chip Liquid Cooling (DCLC). While DCLC removes the main heat load directly via liquid, some residual heat – for example, from RAM, voltage regulators, or other components – remains. This remaining heat is directed through the CyberRack units and cooled before the air flows back into the room, ensuring a stable and optimized environment for your data center.

- Significantly reduced thermal load in the data center
- Increased server density (more performance per rack)
- Lower operating costs due to reduced energy consumption
- Improved sustainability through more efficient resource utilisation



Easy installation

Once the rack rear door has been replaced by the adapter frame, the CyberRack can be fitted quickly and easily.

The rack-specific adapter frames are available in different heights and widths – ideal for individual rack specifications.



+ Compact design

- Less than 300 mm additional rack depth
- No need to reposition the server racks
- The servers can retain all the height units in the rack
- Maintenance-friendly: door opens more than 90° for easy accessibility

Service worldwide



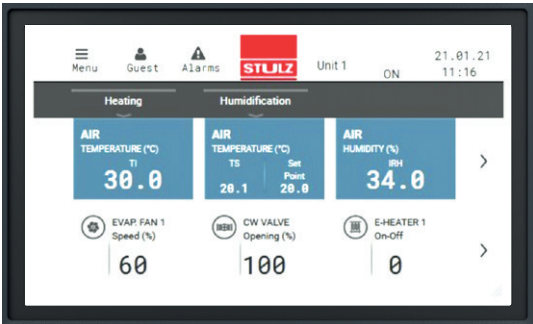
For 50 years, the STULZ service organization has provided preventive and corrective services for mission-critical applications. With 10 branches, 35 subsidiaries, and sales and service partners in more than 140 countries, we make sure we are close to our customers all over the world, ensuring perfect operation of their CyberRack systems.

Maximum reliability thanks to precise control

Thanks to its flexible and precise control, CyberRack Active Rear Door ensures maximum reliability during continuous operation. To meet the highest standards of reliability and usability, STULZ develops the control system in-house, ensuring that software, hardware and air conditioning units are perfectly harmonized. A touch display provides a clear menu navigation and intuitive operation of the controller.

Further benefits:

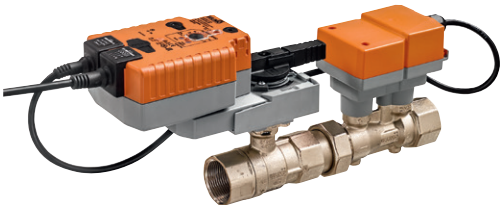
- Maximum reliability: Differentiated warning and alarm system
- Energy management: Helps to optimize the energy demand of interconnected systems and enables the operation of several air conditioning units in parallel across more than one machine
- Very easy to service: Plug-and-play installation and optimized control parameters for simplified servicing
- Monitoring: Start-up is simplified by direct BMS interfaces on the controller, support for all relevant BMS protocols, and a compact data point list.



Optional pressure independent control valve (PICV)

The PICV combines the functions of control, hydraulic compensation and flow rate measurement. The water flow rate required for cooling is set directly by the CyberRack control system.

- Low water-side pressure drops cut pump energy costs
- Automatic hydraulic compensation means lower investment and installation costs and faster start-up
- The defined water flow rate ensures stable and precise control in all load states
- The cooling capacity of each individual server rack is recorded



Technical data

Model		ARDD7
Cooling capacity ¹⁾	kW	49
Airflow	m³/h	6,200
Power consumption	kW	0.6
Number of fans ²⁾		5
Weight	kg	150
Power supply	V/ph/Hz	230/1/50-60
Dimensions (height × width × depth)	mm	2000 × 600 × 274

¹⁾ Air inlet temperature: 50 °C; r.h. 20 % Water temperature: supply 18 °C, return 28 °C

²⁾ External static fan pressure: 20 Pa

CLOSE TO YOU AROUND THE WORLD

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