

CyberCool CMU

Coolant Distribution Unit for seamless heat transfer in liquid cooling solutions

As the heat density of server racks continues to increase at a rapid pace, liquid cooling systems have gained widespread acceptance as an effective method of heat dissipation. The STULZ Coolant Distribution Unit CyberCool CMU is a central component in both direct liquid-to-chip cooling and immersion cooling solutions to maximize heat exchange within a limited footprint. This unit completely isolates the facility water system (FWS) and technology cooling system (TCS) sides of the liquid cooling system and accurately controls the supply temperature and flow rate of the coolant while consuming minimal power.

Engineered to precision, this unit houses essential components including water pumps, brazed plate heat exchangers, water valves, stainless steel pipes and controllers, providing a reliable and efficient liquid supply for your liquid cooling systems.



ADVANTAGES +

Maximum energy efficiency

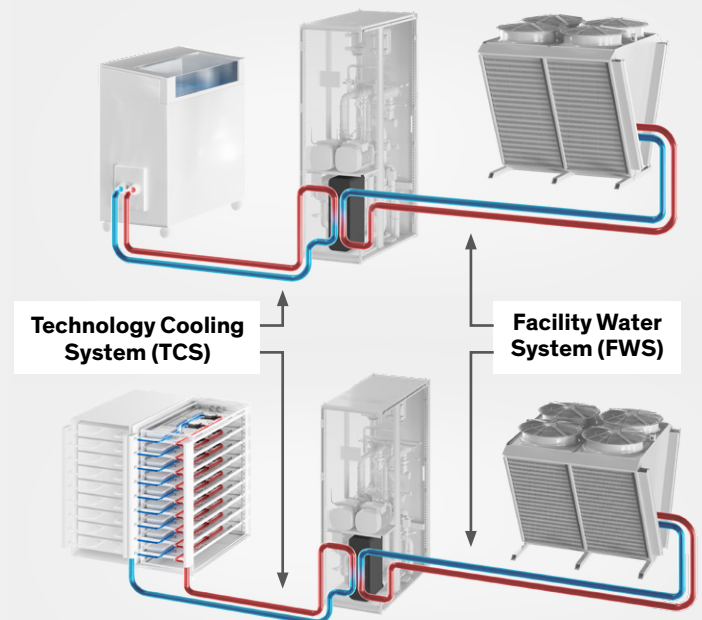
- Supports Free Cooling throughout the year (ASHRAE W32 - W+ warm water cooling)
- Slightly oversized pipe diameter to increase water volume and reduce pump power consumption
- Variable-speed pumps ensure enhanced energy efficiency, especially under low loads, eliminating the need for liquid bypass
- Optimized heat exchanger for the low temperature difference between the FWS and TCS circuits
- Low water-side pressure drops thanks to large heat exchanger surfaces

Increased flexibility

- To enhance system compatibility, the unit offers a range of structural, electrical, and control options, including the flexibility to accommodate different liquids, power loads, and optional THDi filter
- Compact design with different sizes for easy integration into existing server rack structures

High reliability

- High liquid quality is ensured by employing sanitary-grade all-stainless steel pipes, while the built-in filter on the TCS side preserves a 50 µm degree of water cleanliness.
- Integrated anti-condensation function
- Optional redundant configuration of key components such as controller, power supply and pumps
- Optional leakage detection



Optimized heat transfer

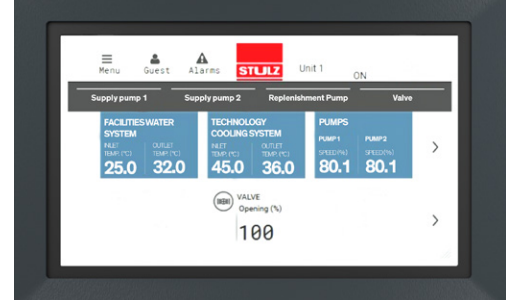
By isolating the FWS and TCS circuits, the risk of cross-contamination and leaks is significantly reduced, thereby enhancing the overall reliability of the cooling system. Furthermore, it allows for more precise control over each side of the cooling system, enabling better management of coolant flow rates, temperatures, and pressure, which in turn improves overall system efficiency.

Precise control for greater reliability

Thanks to its flexible and precise control, CyberCool CMU ensures maximum reliability during continuous operation. In addition, to achieve the highest standards of reliability and usability, STULZ develops the controller in-house, ensuring that software, hardware and liquid cooling units are perfectly harmonized. The touch display provides clear menu navigation and intuitive operation of the controller.

Other advantages:

- Regulation of pressure difference, flow rate, and temperature difference
- Operation of coolant pumps in both cold standby and hot standby modes
- Various control options including single machine control, group control, as well as local and remote control methods
- RS485 serial port or RJ45 connections
- Support for various protocols such as Modbus RTU, Modbus TCP/IP, BACnet IP, SNMP, HTTP, and others



Service and maintenance

- All components can be accessed from the front or rear for maintenance purposes
- Coolant pump, water valve, and other components feature shut-off valves at both front and rear for easy maintenance
- Remote maintenance of FWS and TCS side filters
- Remote automatic rehydration on the TCS side
- Main components are connected with sanitary-grade quick-release coupling for effortless disassembly



Technical Data

Model		SCR4402 W		SCR14103 W	
Pump operation mode	N/N+1	1+1	2	2+1	3
Rated heat exchange	kW	345	404	830	1,380
Rated water supply temperature (facility water system)	°C	32			
Rated liquid supply temperature (technology cooling system)	°C	36			
Net weight	kg	460		900	
Dimensions (width x depth x height)	mm	600 x 1,200 x 2,090		900 x 1,200 x 2,090	

Remarks:
 All data apply at 400 VAC/3 Ph/50 Hz+N+PE.
 CyberCool CMU technical parameters can be selected and verified according to the customer's actual operating conditions.
 If you require higher heat exchange, please contact STULZ.

Learn more about
 Liquid Cooling solutions
 from STULZ:

