CDU (Coolant Distribution Unit)

General Features

- Coolant distribution unit for high-density cooling systems.
- Enables efficient heat transfer between rack-based cooling equipment and the building's chilled water circuit.
- Provides physical separation between primary and secondary loops via a high-efficiency heat exchanger.
- Equipped with stainless steel piping and automatic air venting system in the secondary loop.
- Ensures energy efficiency with variable frequency drive (VFD) pumps.
- Available in N+1 redundant pump configurations.
- Advanced HMI display for monitoring temperature, pressure, and flow rate.
- Compatible with BMS systems via protocols such as Modbus, SNMP, and BACnet.
- Multiple and redundant sensors for temperature, pressure, humidity, and flow monitoring.
- Flow rate measured accurately via electromagnetic flow meter.
- Includes temperature- and flow-controlled automatic bypass valves.
- Integrated leak detection and liquid level sensors for safe and reliable operation.
- Compact and service-friendly design enables fast and easy maintenance.
- Compatible with water, ethylene glycol, and specialized coolant fluids.
- Supports remote monitoring and alarm notifications.
- Features automatic air purging and system filling functions.
- Redundant dual heat exchanger model options available.
- Offers top or bottom piping connection options for flexible installation.

Cooling high-density IT systems and mission-critical environments requires precision, flexibility, and reliability. **Boreas' advanced CDU (Coolant Distribution Unit**) series is specifically engineered to meet these evolving demands by acting as a highly efficient intermediary between building-level chilled water and rack-level liquid cooling systems.

As cooling requirements in data centers increase with rising computational densities, choosing the right coolant distribution system becomes a strategic decision. Boreas CDUs, with models supporting up to 1.3 MW of cooling capacity, ensure seamless and energy-efficient thermal transfer between primary and secondary loops. By stabilizing inlet temperatures and managing flow precisely through redundant pump configurations and advanced controls, the CDU plays a critical role in extending the lifetime and performance of IT equipment.

Delivering continuous operation with system safety at its core, Boreas CDUs help prevent overheating-related failures and support the long-term sustainability of data center infrastructure.

Boreas CDU (Coolant Distribution Unit)T	CDU1000
Nominal Cooling Capacity	1 MW
Maximum Cooling Capacity	1.3 MW
Pressure Drop	50 kPa
Coolant Type	Water, water/glycol, or special coolant fluids
Secondary Temperature Range	10–52°C
Pump Configuration	2 (N or N+1) / redundant
Nominal Flow Rate	966.67 l/min @ 2.80 bar
Maximum Flow Rate	1,111.16 l/min @ 1.90 bar
Power Consumption (2 Pumps)	6 kW
Dimensions (H x W x D)	2100 mm x 900 mm x 1200 mm
Weight	1000 kg
Primary/Secondary Circuit Volume	104.65 L
Piping Type	304–316 Stainless Steel Pipe
Inlet/Outlet Sensors	Pressure and Temperature/Humidity
Communication Protocols	Modbus RTU/TCP, SNMP

CDU (Coolant Distribution Unit)

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