

Uniflair Liquid to Liquid CDU

e-Catalog 2025

The backbone of Data Center architecture

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Embracing Future

Introduction to next generation data centers



Global data center capacity is set to triple in size between 2022 and 2030. This growth is spurred by the build-out of accelerated computing for Artificial Intelligence (AI).

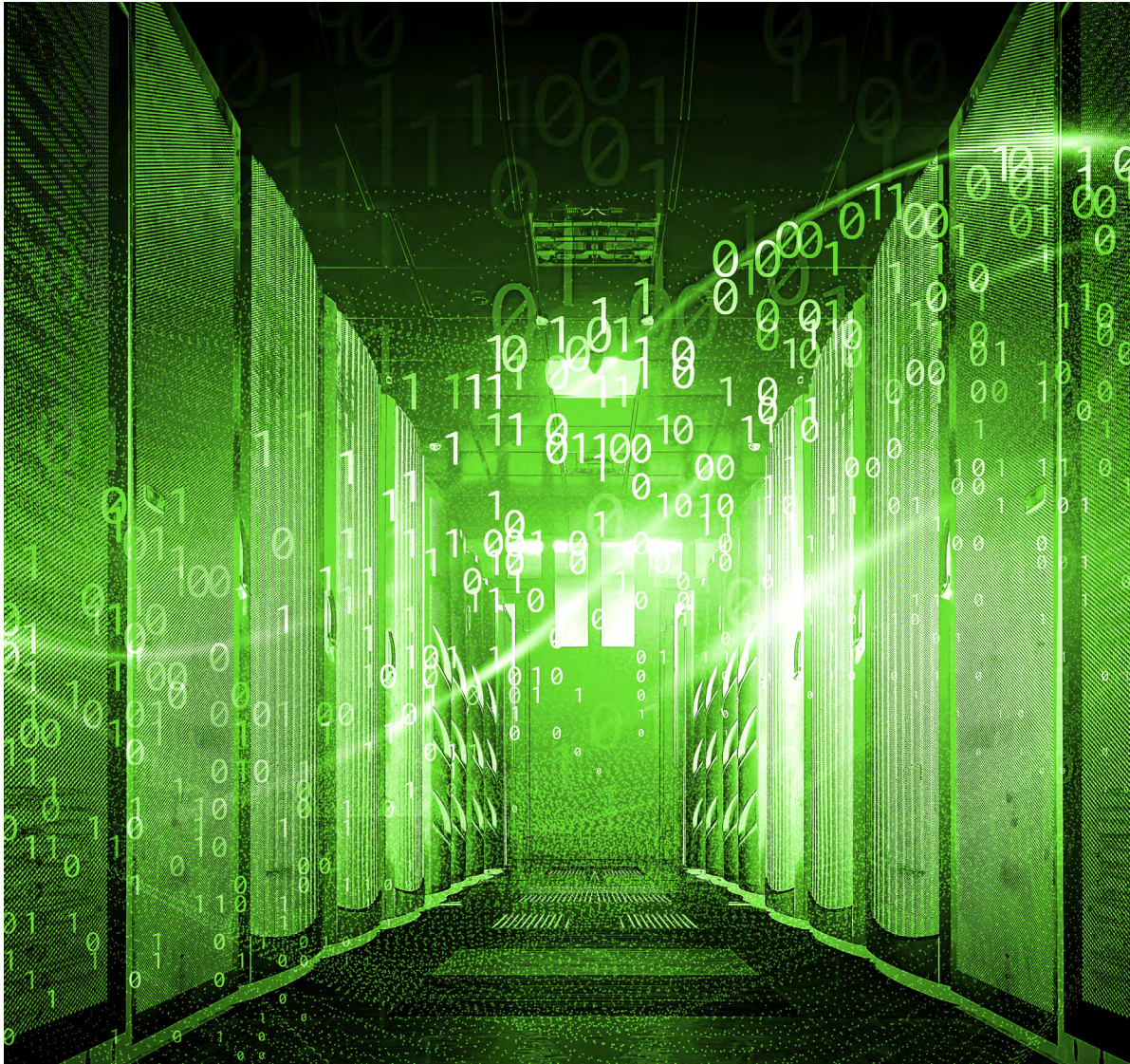
The race for AI use across all industries is on and that has catapulted the data center industry into hypergrowth. It has also created a race within the market to quickly build and deploy the AI-Ready infrastructure needed to secure leadership in the market.

The challenge is that next generation data centers are not traditional. They leverage Graphic Processor (GPU) accelerated servers that require much higher power, cooling and densification.

This from traditional designs has put multiple stressors on the industry, from the need for more utility power to the broader use of liquid-based cooling. Our mission is to empower the digital transformation and AI transition by ensuring critical cooling design and system are highly available, resilient and sustainable.

To be a leader in the next generation data center market you must deliver AI-Ready infrastructure at scale-sustainability.

Evolving Data Center Cooling



Liquid cooling is transforming the way data centers operate, especially in IT cooling. Our solutions are designed to support both the latest data centers and the shift from air to liquid cooling.

As processors and graphics cards become more powerful, traditional air cooling systems are reaching their limits. New trends suggest that air cooling is no longer sustainable for high-density setups, making liquid cooling the future of efficient data center management.

Why Customers Choose Schneider Electric

There's a reason we're the partner of choice when it comes to navigating accelerated computing AI data centers.

From our strategic expertise to end-to-end solutions, we have the largest and most global solution portfolio as well as the best local technical experts for data center power, cooling and sustainability.



- End-to-end solutions for all AI workload variations – training, inference/ augmentation.



- Our expertise ensures innovative solutions and unparalleled support.



- We advise 40% of Fortune 500 companies on sustainability.



- Investment in R&D, manufacturing capacity and solution architect coverage.



- The world's 10 leading cloud and service providers trust our solutions.



The way to transition

Schneider Electric Liquid to Liquid CDU



The innovative and energy efficient solution to separate the facility water system (FWS) from the technology cooling system (TCS).

Liquid cooling applied to low-density racks allows compressor-less solutions and a white space redesign compensate by a huge saving in CO² emissions and Operating Expenses (OpEx).

For high densities, there's no other way than liquid.

Why Customers Choose Schneider Electric Liquid to Liquid CDU



At Schneider Electric, we're trusted partners in planning, designing, building and operating data centers.

We deliver high-density physical infrastructure solutions and best-in-class energy strategies for sustainable deployment.

Combining sustainability consultancy and broad data center domain expertise, we're delivering future-ready flexible data centers.

Our solutions scale a range of needs, We're experts in ensuring any environment is ready for the demands of AI compute.

No matter the size of your deployment, from traditional densities to extra high densities (200kW+), we have solutions to enable your deployment.

The packaged all-in-one 1MW solution



Liquid Cooling adds some complexity challenges.

Schneider Electric complete solution simplify design and support in the transition to next generation data center.



Efficient

Up to 1MW capacity with 3°C approach temperature (ATD) and high prevalence Variable Frequency Drive (VFD) pumps.



Compact

Compact footprint solution for white space / grey space installation.



Adaptable

Suitable for **Direct to Chip** and **Immersion cooling**.

Our business is making yours more sustainable



Our goal is to help you set, meet and exceed your sustainability objectives.

Our unique combination of sustainability leadership, sustainability consulting expertise, and data center domain expertise means we can support you with a holistic environmental sustainability strategy, program execution and reporting.

We help data centers achieve the highest levels of sustainability and energy efficiency through consulting and providing sustainable, efficient products for their infrastructure.

By efficiently managing heat, liquid cooling reduces the need for energy-intensive traditional air conditioning systems leading to substantial energy savings and a smaller carbon footprint for data centers.

A man wearing glasses and a blue shirt is standing in a server room, looking at a laptop. The room is filled with server racks, and the lighting is dim with blue and green accents from the equipment. The text "Latest Technology" is overlaid on the image.

Latest Technology

Schneider Electric Liquid to Liquid CDU main features



High cooling capacity with 3°C approach temperature (ATD) and high prevalence VFD pumps.



Reliable to guarantee continuous operation with built-in redundancy.



Compact footprint solution for white space / grey space installation.



Suitable for **Direct to Chip** liquid cooling architectures.



Full packaged all-in-one solution fitting 2 VFD pumps and automatic refill system.



State-of-the-art cooling solutions set new benchmarks in the industry, offering the **essential advantage** required in this rapidly evolving environment.

Main components

CPOR1000A

Large touch screen **display** interface

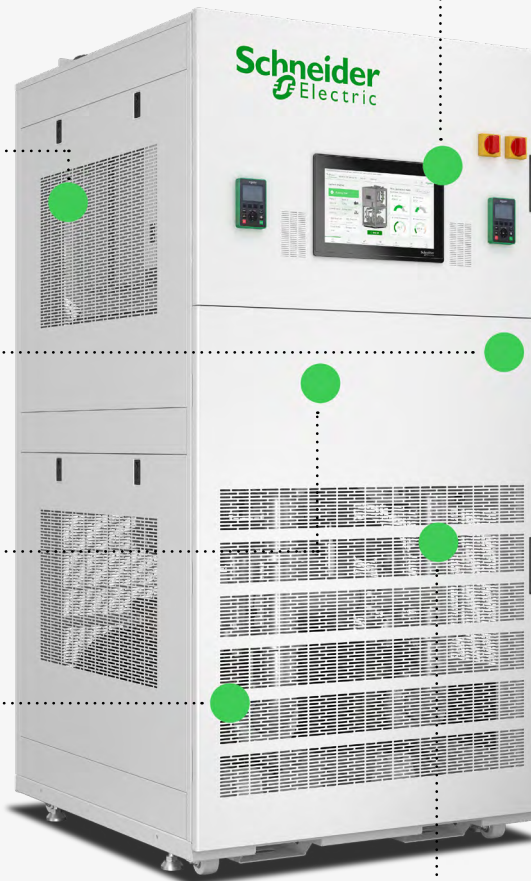
High performance and fully accessible **inverters**

Automatic **refill system**, to guarantee a continuous refilling of the TCS loop in case of small leakages with dedicated pump and tank.

High efficient stainless steel plate **heat exchanger** designed for 3K approach temperature

High prevalence **VFD pumps**

25 or 50 microns High filtration grade **filters** installed on Technology Cooling System (TCS) to ensure high purity and fluid quality



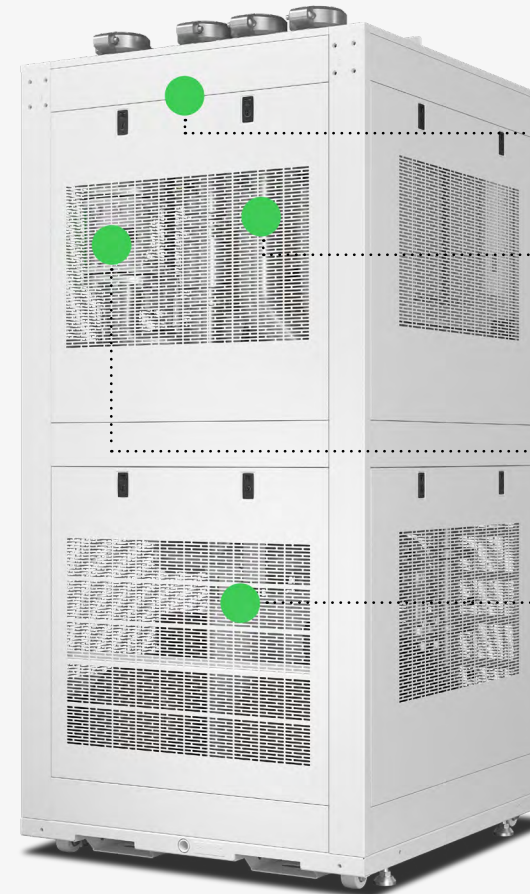
Isolation valves

Butterfly check valves in/out to isolate the unit on both TCS and FWS sides for a better and quicker maintenance

Flow meter on the Technology Cooling System (TCS)

2-way **regulation valve** installed on Facility Water System for a precised control of flow and temperature on IT side

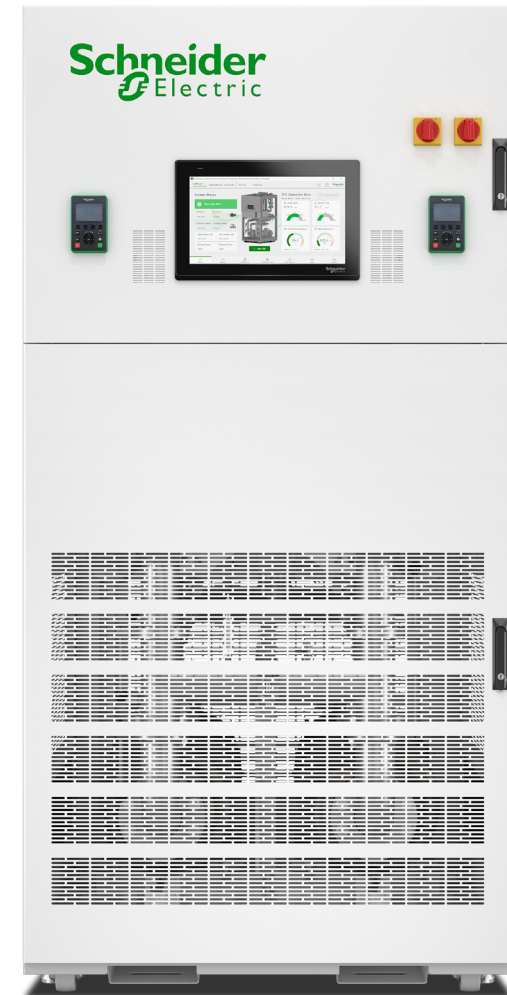
Full stainless steel **TCS circuit** with sanitary clamps internal connections



Technical data

CPOR1000A

Cooling capacity	1000 kW
Electrical power supply	400V/3ph/50Hz
Technology Coolant System (TCS) temperatures	34/24°C
Coolant type	PG25
Available head pressure (TCS side)	360kPa
Facility Water System (FWS) temperatures	21/29.6°C
Coolant type	water
Pumps in operation	1 on + 1 stand by
Total power consumption	20.6 kW
Specific TCS water flow	1.5 lpm/kW
Width	1100mm
Depth	1200mm
Height	2200mm



Schneider Electric integrated solution

As the rack density of AI workloads has increased, the physical infrastructure needed to support it has changed. Higher density means more power, more heat and more cooling. Infrastructure solutions scaled to your needs. The impact of high-density compute has fundamentally changed data center design. Schneider Electric offers full data center physical and digital infrastructure to support the global deployment of AI workloads. Our solution covers grid to chip and chip to chiller infrastructure, monitoring and management software, and services for optimization. With our ecosystem of partners, we deliver the integrated solutions, at the scale you need.



Expertise and Assistance for Your Cooling Technology

We handle all elements of cooling infrastructure, from the initial stages of planning and design to startup, commissioning, and post-sale performance.



Professional Services

Professional services across multiple disciplines ensures step by step support from initial design to final project commissioning.



Project Management

Complete control of all aspects of the project scope for a seamless turnkey implementation.



Commissioning

System commissioning support available as a standalone service or to be coordinated with client's specified commissioning agent.

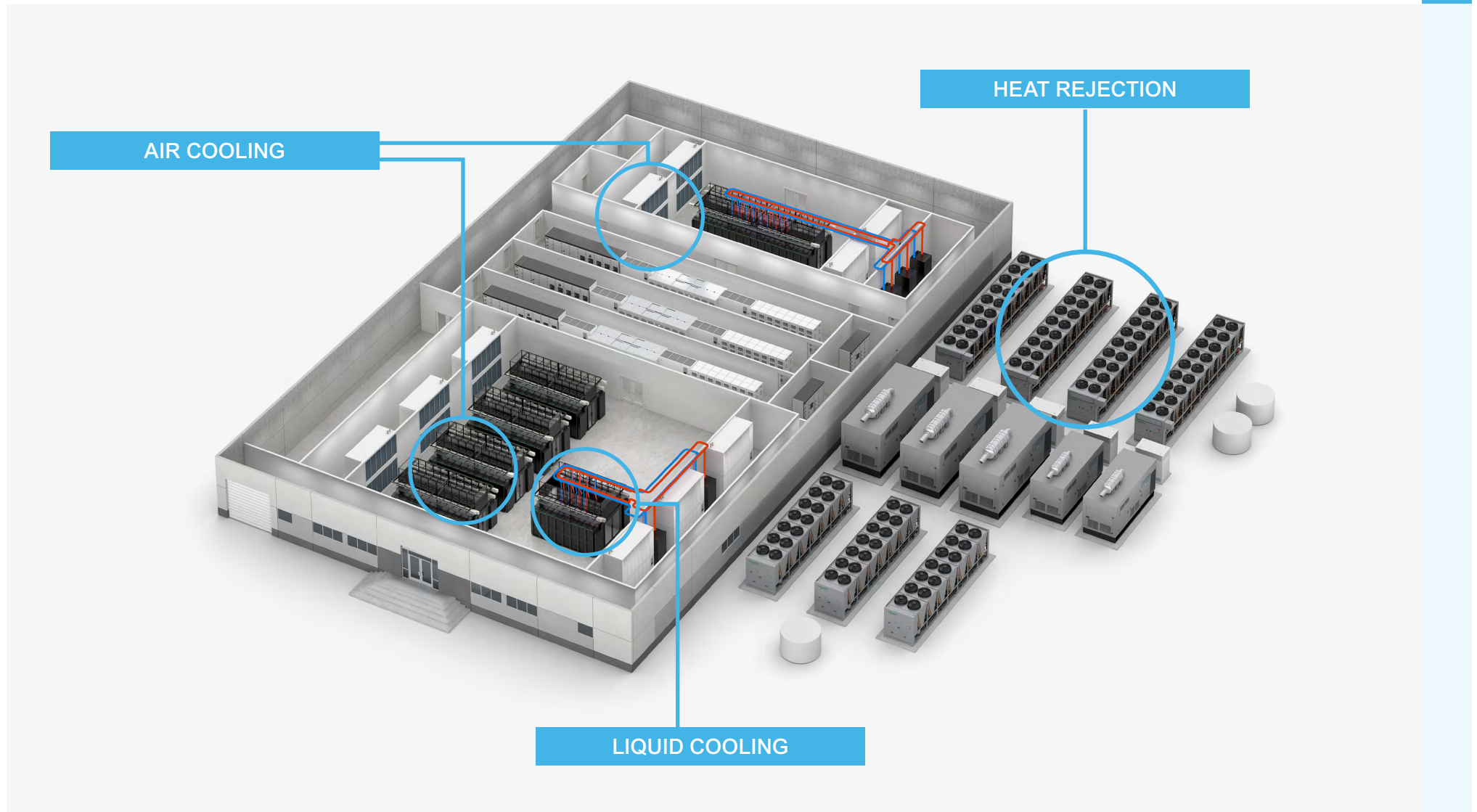


Ongoing Support and Maintenance

Benefit from our reliable post-sales services that keep your cooling infrastructure in top condition.

Hybrid & high efficiency cooling solutions

Schneider Electric is investing and developing high efficiency cooling solutions to adopt to high-compute AI needs.



Hybrid & High Efficiency cooling solutions to run ai loads continued



Liquid Cooling



Liquid cooling is an architecture in which Coolant Distribution Units (CDUs) are the backbone, between servers and heat rejection units.

- Liquid to Liquid CDUs ensure flow control, temperature control, and pressure control to the Technology Cooling System (TCS), as well as fluid treatment, filtration and quality
- Liquid to Air CDUs, are an alternative solution which allows liquid cooling servers to be used in an air based white space
- Manifolds distribute fluid throughout servers, ensuring a consistent flow of cooling
- Cold plates reject chip heat into the fluid distribution, maintaining the device's optimal operating temperature



High Temperature Chillers



Designed for flexibility and efficiency, using economization / free-cooling as primary heat rejection.

- Oil free centrifugal chillers as superefficient solution for AI GPUs
- Flexible Heat rejection units to be adaptable to uncertain case temperature requirements and to allow a smooth transition from air-cooled to liquid-cooled servers



Air Cooling



Chilled water and direct expansion solutions for supplementing liquid cooling systems or for auxiliary rooms, independently on the site's architecture.

- Downflow or underfloor solutions for traditional data centers with raised floors
- Frontal discharge fan walls for new and modern data centers without raised floors
- Rear door heat exchangers, connected directly to the racks complement liquid cooling and minimize impact on the white space

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