Chilled Water Solutions for Non-raised floor applications

Uniflair front flow chilled water, fan wall FWCV
200-500kW

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Life Is On Schneider Electric

Sustainable Cooling

Technological excellence for efficient performance

Availability

Continuous operation to safeguard the Data Center operation

Flexibility

Modular and tailored solutions for any application

Cooling solutions no-raised floor design

Chilled water solutions for Hyperscale and Cloud Data Center with solid floor .

Raised floors do offer certain benefits, such as allowing for simpler cabling and cooling systems. At the same time, there are many reasons for avoiding raised floors in future designs:

Increase in capacity

Data centers need to be designed with expansiveness and scale in mind. Raised floors may not always be able to handle increase in heavy equipment than what they have been originally designed for. They need a specific and capable cooling systems to keep up with all the heat they produce.

Higher power densities

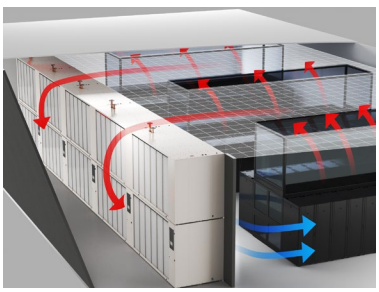
Power densities in the Hyperscale and Cloud Data Centre are rising and gather dense computational resources that produce more heat than traditional cooling system with raised floor is equipped to handle. Raised floor can prove to be a hindrance to the effectiveness of the cooling.

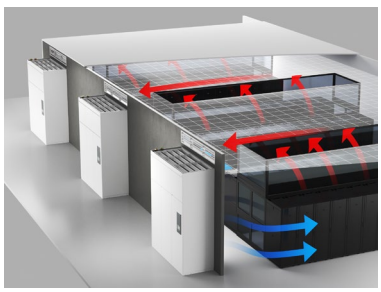
Fast facilities' deployment

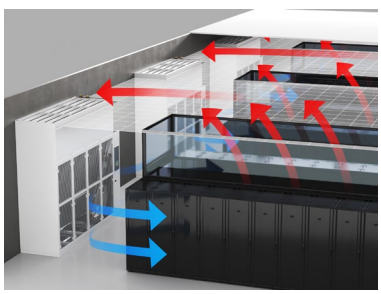
The rapid increase of the demand in Hyperscale and Cloud Data Center forces the providers to deploy and scale facilities faster than ever. Building Data Center without raised floor is one way to speed up the facility deployment.

Non-raised Floor Solutions

Because of the necessity for faster deployment and utilization, data centers are now simplifying their design and construction. The design based on hard floor is now considered a strategy to streamline data center utilization. Schneider Electric offers multiple solutions to win the challenges in modern and future Data Center where the design is moving away from raised floor preferring frontal flow solutions distributing the cold air directly the data hall with the minimum power consumption







Uniflair front flow, fan wall 200-500kW

Chilled water solutions for Data Center with solid floor and Hot Aisle Containment

SUSTAINABLE

Cooling systems are required to be active part of the reduction of environmental impact of Data Centre. The increase of operating temperatures leveraging in water economization systems is one of the strategies to increase the efficiency. The Uniflair™ Chilled Water FWCV units engineered for high temperature operations, and they are active part of an overall Schneider cooling solution that contribute to the reduction of the Data Center environmental footprint.

EFFICIENT

Optimized unit design to maximize the potential saving. Reduction in power consumption with latest generation EC fan technology to increase efficiency and noise performance, The internal layout of the components has been engineered to have minimal air pressure drop, which results in reduced unit power consumption

RELIABLE COOLING

The Uniflair front flow, fan wall 200-500kW units join the best practice of efficiency-oriented design with real-time analysis and monitoring for optimizing the cooling system and maintaining appropriate operating temperatures for IT assets, without fear of compromising performance and uptime.

TAILORED CONTROL SYSTEM STRATEGY

The Data Center design without raised floor requires even more tailored solutions to comply with cooling demand, airflow distribution and operating control logic. The Uniflair front flow, fan wall 200-500kW units operate with accurate control strategies, specific for applications' design without raised floor, based on the events prediction principle. Control strategy and logic of operation are easy to be adapted and tuned to specific custom requirements.

Effective Powerful Cooling

Uniflair front flow, fan wall 200-500kW units supply fails-safe high cooling while ensuring a reduction of environmental footprint

Minimized aerodynamic impact of the internal components and optimal airflow distribution in the large surface cooling coil with to achieve the maximum net Sensible Cooling capacity per footprint with low power consumption

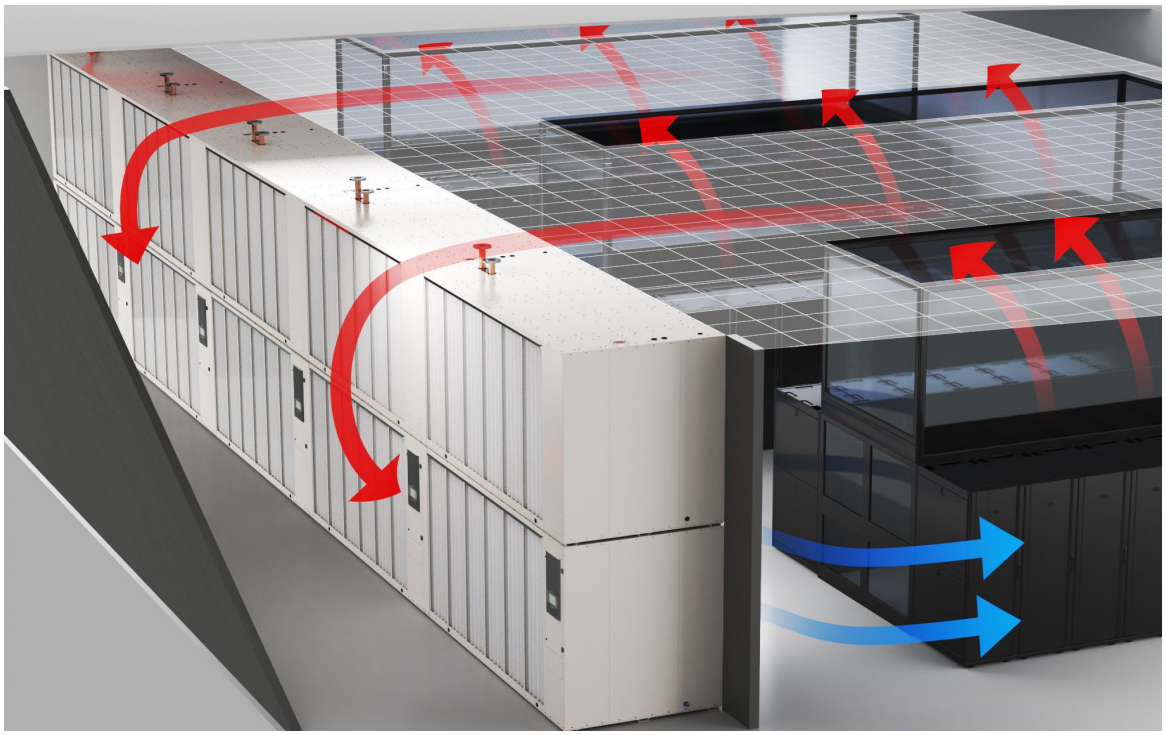
Team working with up to 30 units connected in the same group to ensure the optimization of the complete system with specific logic for no raised floor application and to incorporate an intrinsic redundancy with group emergency strategies.

Highest level of cybersecurity protection to avoid any cyber security breach. The safe maintenance operations, fully manageable from the service corridor, ensure the complete segregation and integrity, of data hosted

Easy serviceability with full frontal access ensures fast and effective maintenance operations, saving costs and reducing cooling unit downtime.

Powerful Airflow up to 140.000 m3/h to deliver more than 500kW Net Sensible cooling capacity

Team Power up to 30 units in the same Local Area Network



Uniflair front flow, fan wall 200-500kW

Main Features

EC fans

The Latest generation of EC fan technology , compliant with the ErP directive contributes to the efficient operation of the cooling unit.
Continuous fan speed regulation via Modbus communication.

Optimized Chilled water coil

Large surface finned tubes chilled water coils optimized for operations for high air and water temperatures. The optimal water distribution results in a maximization of the cooling capacity and of the thermal efficiency.

Air Filters

High efficiency synthetic air filters rated EU4 (ISO Coarse 50% - ISO16890) with hot electro-welded galvanized mesh guards and frame
Optional micro-pleated fiber filters with plastic frame rated EU5

Power source redundancy

Double power supply with automatic changeover with Electronic Power Transfer switch (ATS) and integrated Ultracapacitor to ensure cooling continuity and reliability

User Display

The 7” touchscreen display provides easy-to-read system status information and a simple user interface

Native integration with EcoStruxure™ IT Platform via SNMP

Electronic Pressure Independent Valve

The electronic pressure independent control Valve ensure consistent system’s performance despite the variation of the operating load. The integrated flow meter allow the reading of the operating water flow

Motorized damper

Motorized dampers on the air discharge side, controlled by ON/OFF actuator to avoid hot air bypass during stand-by or service operations.

Technical data

Technical features

- Power supply : 400V/3ph+N/ 50Hz, 380V/3ph+N/60Hz , 460V/3ph/ 60Hz
- Cooling unit composed by 1 or 2 modules : each module is equipped with chilled water coil, fans and chilled water valve
- Hot zinc plated sheet steel connected by rivets for the framework, electrical panel frame and internal parts of the unit frame
- Continuous monitoring with Integrated inlet and outlet water temperature sensors and Integrated return and supply air temperature sensor .
- Single IN/OUT water connections, flanged type
- Zinc free hydraulic circuit.

Options

- Discharge Motorized dampers with command and signal feedback directly form control board
- High efficiency air filters framed in a plastic support: EU5 filtration rate
- Remote air temperature sensors for controlling or only for monitoring.
- AFC kit (Automatic management of the fan speed based on pressurization set point)
- Lifting kit for units' installations

Large version – Two modules

MODEL		FWCV036L2*	FWCV040L2*
Net Sensible Cooling Capacity[1]	kW	384	475
Airflow	m3/h	100000	125000
Width	mm	3600	4000
Depth	mm	1600	1600
Height	mm	4000	4000

Large version – One module only

MODEL		FWCV036L1*	FWCV040L1*
Net Sensible Cooling Capacity[1]	kW	192	237
Airflow	m3/h	50000	62500
Width	mm	3600	4000
Depth	mm	1600	1600
Height	mm	2000	2000

[1] RAT: 37°C ,30% R.H ESP: 70 Pa; EWT/LVT 20/30°; EU4 filter

** A=400V/3+N/50Hz ; H=380V/3+N/60Hz ; F =460V/3ph/60Hz*

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To learn more about Uniflair Cooling contact your Schneider Electric representative or visit se.com/cooling

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