

# High-efficiency room air conditioners 5-20 kW

## Uniflair Room Cooling

Small air conditioners designed for mission critical and edge cooling applications





# Innovative, adaptable, efficient, cool

## 5-20 kW Uniflair Room Cooling

If you are looking for a compact Precision Air Conditioner with a restrained cost but you don't want to forgo high levels of efficiency and reliability, Uniflair Room Cooling is the right choice. You can also choose different versions and configurations of these units, depending on your needs.

The Uniflair Room Cooling units require very little floor space and they are the perfect solution to provide cooling for new server rooms, network closets, and other small IT spaces. Unlike comfort air conditioners that are designed for seasonal use, Uniflair Room Cooling range is designed to provide precise cooling with close tolerance 24 hours a day all year round. The high specific cooling capacity and compact dimensions make Uniflair Room Cooling units perfect for mission critical and leading edge applications.



### Save white space and maximize the IT load

In mission critical and edge applications the cooling system must reduce the amount of power consumed to cool the IT load. This cooling happens by minimizing the floor space to preserve the maximum amount of power for the IT load and the maximum space for the IT racks.

Thanks to the last technological modernization, Uniflair Room Cooling units ensure precise control of server environmental conditions and minimize the power usage, leaving most of the power available for IT.

The accessibility to Uniflair Room Cooling units is fully frontal, no lateral clearance is required. Units can be installed close to each other so you can minimize the space dedicated to the cooling system and increase the space available for your IT equipment.



### Configurability and effectiveness

Don't worry if the available space for the cooling system is very limited in your data center or if the patterns for cold air are complex.

Uniflair Room Cooling offers you a wide range of configurations in terms of air intake and delivery. If you have raised floors, you can choose the most common downflow configuration that allows the distribution of cold air directly in the floor void, then select between hot air intake from above or front.

In case of server rooms without raised floors, Uniflair Room Cooling upflow version is the right solution: the hot air enters from in front and sends the cold air upwards, directly into the room or through the false ceiling.

These are just some examples of the many possible solutions offered by Uniflair. We are sure that by consulting the technical documentation or by asking your Schneider representative, you will surely find the right solution for your needs.

Uniflair Room Cooling units guarantee precise and effective cooling and the cold air will go where it is supposed to go.

# 24

hours a day, all year round

## The right way to cool your IT space

Are you deciding how to cool your IT space?

Surely, the most common solution is to use a direct expansion system that uses refrigerant gas to cool the hot air.

If you are looking for an efficient, reliable, and low-investment product, Uniflair Air Cooled Room Cooling direct expansion units are the ideal solution. Coupled with the wide range of remote air-cooled condensers and thanks to the latest generation of compressors, they represent the most efficient mechanical cooling system for small and medium data centers.

Air-cooled direct expansion units require outdoor space available not so far from the indoor unit to install the remote condenser. If you do not have it and you don't want to increase installation costs for long and complex refrigeration lines, Uniflair Water Cooled Room Cooling can solve your problem. Only the space to install an air-cooled dry cooler is necessary and so far there are no distance constraints.

Uniflair Room Cooling units condensed with water are an excellent solution even if medium temperature water is available coming from cooling towers, large dry coolers, or even city water.

The outdoor space allows you to install an external chiller or if it is already on site you can use water to cool your IT space. Uniflair Chilled Water Room Cooling units are ideal for an efficient, simple, and reliable cooling system.

Uniflair Room Cooling units can precisely control the operating conditions of your IT space.

If a humidity control system is already present in the server room and only the temperature control is requested, Uniflair Room Cooling offers the "cooling only" configuration. It is designed to precisely control the temperature and to give you a solution tailored for your precise needs.

Uniflair Room Cooling units equipped with a humidifier and with an innovative logic are available if the air conditioner has to maintain an optimal value of humidity. By choosing Uniflair Room Cooling units you can decide what to control and spend money only for what you really need.

## Save maintenance and shutdown time

Continuous availability of data is the main target that all data processing companies aim to achieve. Frequent maintenance operations result in not only direct cost but also in variable duration shutdown time of the cooling system — this has an undesired impact on the operation of the IT equipment.

Uniflair Room Cooling units are designed and tested to avoid system failure and the full frontal access ensures simple and effective maintenance operations.

The time for maintenance is limited and the Uniflair Room Cooling internal layout is studied to allow many interventions without stopping the unit in a limited time of unit shutdown.

If maintenance operations are undesired inside the IT room and the air conditioner has to be installed outside the IT space, Uniflair Room Cooling units can be installed in technical corridors: the hot air enters the units from the back and cold air is directly blown in the IT space using dedicated discharge plenums.

## Easy to use

Uniflair Room Cooling units are equipped with sophisticated controls and management software conceived, developed, implemented, and tested by Schneider Electric.

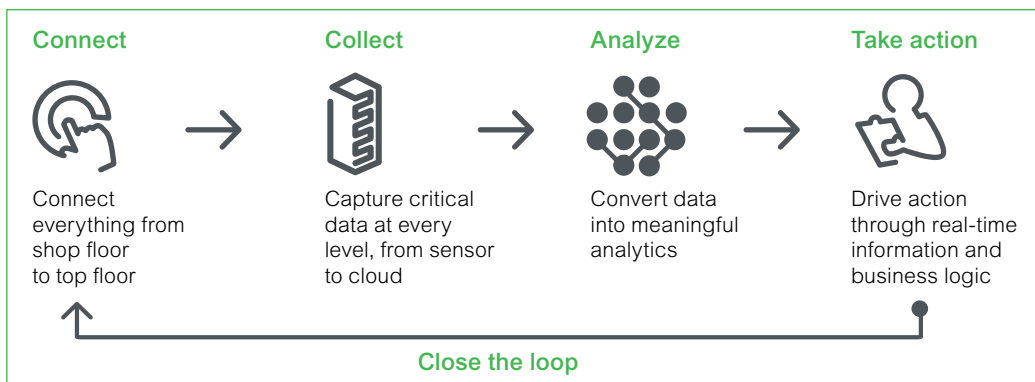
Every component of the unit is monitored in real time, and its performance optimized and kept within design parameters.

Uniflair Room Cooling units are easy to use thanks to extremely user-friendly touch screen display to manage complex operations with very simple actions.

The ability to monitor and manage your critical equipment is essential to healthcare provider revenue. Schneider Electric's EcoStruxure™ continually monitors the status and health of the cooling system.

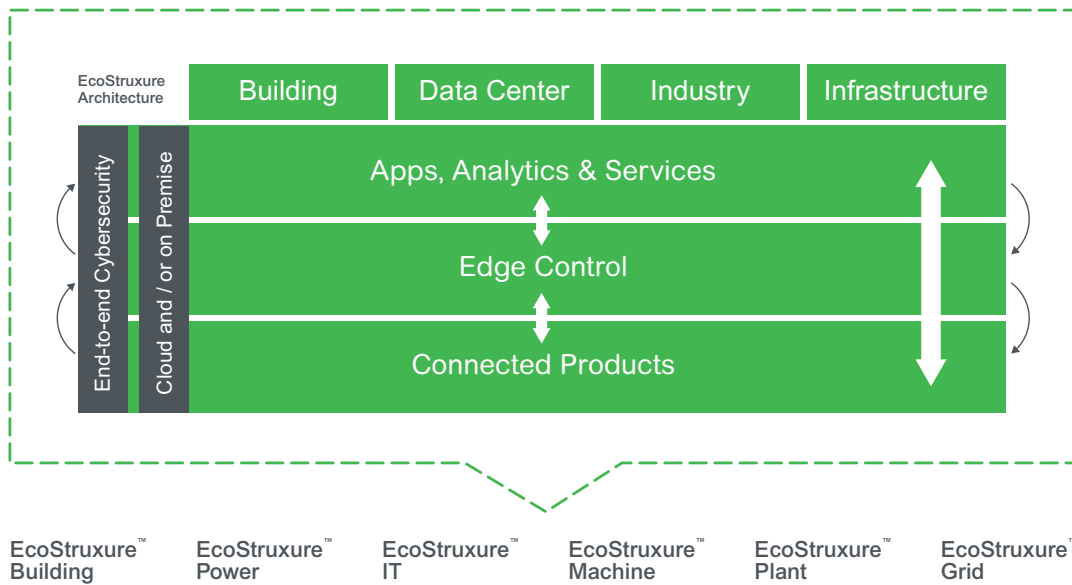
Predictive algorithms enables proactive service scheduling to drive up availability:

- Continuous monitoring of the system status
- Remote problem solving
- Analytics for preventive maintenance
- Downtime reduced to zero



# EcoStruxure integration

One EcoStruxure architecture, serving 4 End Markets with 6 Domains of Expertise



## Connected Products

The Internet of Things starts with the best things. Our IoT-enabled best-in-class connected products include breakers, drives, UPSs, relays, sensors, and more. Devices with embedded intelligence drive better decision-making throughout operations.

Instant visibility to critical infrastructure health

**EcoStruxure IT Expert:** efficient use of your time with cloud-based monitoring

- 24/7 visibility directly to your smartphone
- Proactive recommendations with performance and alarm data
- Secure monitoring and control whenever you are

## Edge Control

Mission-critical scenarios can be unpredictable, so control of devices at the edge of the IoT network is a must. This essential capability provides real-time solutions that enable local control at the edge, protecting safety and uptime.

Business continuity with cloud-enabled remote monitoring service

**EcoStruxure Asset Advisor:** we monitor, we troubleshoot, you relax!

- Increases resiliency and transparency
- Equips service personnel real-time data to quickly dispatch and resolve
- One tap access to incident tracking and online chat

## Apps, Analytics & Services

Interoperability is imperative to supporting the diverse hardware and systems in building, data center, industry, and grid-end markets. EcoStruxure enables a breadth of agnostic applications, analytics & services for seamless enterprise integration.

Instant overview of your data center operations

**EcoStruxure IT Advisor:** a new level of business intelligence for your data center

- Asset management and planning tool
- Reduce OpEx and plan for uptime
- Optimize capacity, analyze business impact, automate workflows



## Technical features

### Technical features common to all units in 5-20 kW Uniflair Room Cooling range

- The structure of the unit is characterized metal framework and internal parts made from hot zinc plated sheet steel. The external panels are coated with RAL9003 epoxy-polyester paint and internally lined with heat and sound-proofing insulation
- Cooling coil with copper tubes mechanically expanded on aluminum fins. The cooling coil is designed for an elevated SHR and reduced pressure drops in the air section
- High-efficiency, EU4-pleated air filters are housed in a metal frame and equipped with a dirty filter differential pressure switch and low airflow differential pressure switch
- Electrical panel is situated in a compartment separated from the airflow and complies with the Low Voltage Directive (LVD – 2014/35/EU), and related standards
- Latest generation of Electronically Commutated (EC) fans with new impeller design to improve efficiency and minimize the noise or AC Direct driven centrifugal fans range with forward curved impeller

### Control and connectivity

- Integrated card (LAN) to perform grouping logic. Up to 15 units can be linked to each other through the local LAN network, optimizing the operation of the units that are rotated on a timed basis
- Rotation and active stand-by management

The stand-by unit turns on if there is an alarm in the working unit. Automatic power turns on if there is an exceptional thermal load.

- Free contact for general and two for addressable alarms
- Remote on/off switch
- Integrated TCP/IP serial card for BMS connection (SNMP or Modbus TCP/IP or BACNet over IP)
- Integrated clock card

- USB integrated through 4,3 inch Touch Screen Display
- Native integration with EcoStruxure IT platform that allows simplification of the connectivity to customer assets. Full compatibility with Schneider EcoStruxure system through integrated SNMP connection
- Ability to interface with two separate BMSs. In addition to the TCP/IP integrate it is possible to select one of the two modules below reported:
  - LonWorks Module
  - RS485 Module to target Modbus RTU or BACnet MS/TP

### Configuration options

- Immersed electrode humidifier (D/U versions) for modulating steam production managed by the unit's microprocessor
- Low surface temperature electrical heaters with extended fans, complete with safety thermostat and manual resetting (T/H versions). Electrical heaters available in standard capacity and modulated enhanced capacity (only for units with 400V/3ph power supply)
- Hot water reheating options with copper/aluminum coil and two-way valve control valve
- Native integration with EcoStruxure IT platform that allows simplification of the connectivity to customer assets

### Accessories

- Automatic Flow Pressurization System (AFPS) provided as a kit to adjust airflow and power consumption to actual IT load and cooling requirement
- Suction/discharge plenums to make the airflow pattern suitable with different site configurations
- Adjustable base frame for installation with raised floor

# 4,3

inch Touch Screen Display



# Uniflair Direct Expansion Air Cooled Room Cooling units

## SDAC – SUAC

## SDAV – SUAV

### Range

Cooling capacity: 5 ÷ 20 kW

Refrigerant R410A

### > Available versions

- Downflow (SDA\*)
- Upflow (SUA\*) with bottom, front, and rear suction

### Features

- Fixed speed scroll compressor designed for high efficiency and reliability and to significantly reduce the sound produced during operation
- Basic unit with mechanical expansion valve
- Electronic Expansion Valve (EEV) integrated with the micro processor as standard option. EEV provides highly efficient electronic control of the refrigerant flow and increases COP at low external temperatures
- A wide range of cooling configurations to give maximum design freedom and precise control of temperature and humidity
- Electrical heaters for a tight control of temperature during the dehumidification cycle or to bring air temperature up to set point
- Immersed electrode humidifier for a precise control of humidity

Technical data							
MODEL		0151A*	0251A*	0331A	0351A	0501A	0601A
Power supply	V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
Fans	nr.	1	1	2	2	2	2
Airflow	m <sup>3</sup> /h	1600	1750	3000	3300	4500	4500
Gross total cooling capacity <sup>1,2</sup>	kW	6,4	7,9	10,0	13,3	16,9	18,8
Gross sensible cooling <sup>1,2</sup>	kW	5,2	6,0	9,1	10,6	14,4	15,4
Dimensions							
Height	mm	1740	1740	1740	1740	1740	1740
Length	mm	550	550	850	850	1200	1200
Depth	mm	450	450	450	450	450	450

\* Available also with 230V/1ph/50Hz

<sup>1</sup> Gross cooling capacities; fans must be deduced to obtain net cooling data.

<sup>2</sup> Data refers to nominal conditions: Room at 24 °C-50% RH, 45 °C condensing temperature, and ESP = 20 Pa.

# Uniflair Direct Expansion Water Cooled Room Cooling units

## SDWC – SUWC

## SDWV – SUWV

### Range

Cooling capacity: 5 ÷ 20 kW

Refrigerant R410A

### > Available versions

- Downflow (SDW\*)
- Upflow (SUW\*) with bottom, front, and rear suction

### Features

- Fixed speed scroll compressor designed for high efficiency and reliability and to significantly reduce the sound produced during operation
- Basic unit with mechanical expansion valve
- Electronic Expansion Valve (EEV) integrated with the micro processor as standard option. EEV provides highly efficient electronic control of the refrigerant flow and increases COP at low external temperatures
- A wide range of cooling configurations to give maximum design freedom and precise control of temperature and humidity
- Electrical heaters for a tight control of temperature during the dehumidification cycle or to bring air temperature up to set point
- Immersed electrode humidifier for a precise control of humidity

Technical data							
MODEL		0151A*	0251A*	0331A	0351A	0501A	0601A
Power supply	V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
Fans	nr.	1	1	2	2	2	2
Airflow	m <sup>3</sup> /h	1600	1750	3000	3300	4500	4500
Gross total cooling capacity <sup>1,2</sup>	kW	6,9	8,3	9,8	13,6	17,7	19,4
Gross sensible cooling <sup>1,2</sup>	kW	5,4	6,2	8,7	10,6	14,7	15,6
Dimensions							
Height	mm	1740	1740	1740	1740	1740	1740
Length	mm	550	550	850	850	1200	1200
Depth	mm	450	450	450	450	450	450

\* Available also with 230V/1ph/50Hz

<sup>1</sup> Gross cooling capacities; fans must be deduced to obtain net cooling data.

<sup>2</sup> Data refers to nominal conditions: Room at 24 °C-50% RH, water temperatures 30 – 35 °C, and ESP = 20 Pa.



# Uniflair Chilled Water Room Cooling units with asynchronous motor fans

## SDCC – SUCC

## SDCV – SUCV

### Range

Cooling capacity: 5 ÷ 20 kW

Refrigerant CW

### > Available versions

- Downflow (SDC\*)
- Upflow (SUCw\*) with bottom, front, and rear suction

### Features

- Two-way or three-way control valve with actuator integrated with a microprocessor to allow precise cooling control based on room or delivery temperature
- Discharge temperature sensor integrated with the microprocessor to grant discharge temperature control; in combination with D and U version, moisture control can be selected
- A wide range of cooling configurations to give maximum design freedom and precise control of temperature and humidity
- Electrical heaters for a tight control of temperature during the dehumidification cycle or to bring air temperature up to set point
- Immersed electrode humidifier for a precise control of humidity

Technical data						
MODEL		0200A* <sup>3</sup>	0250A* <sup>3</sup>	0330A <sup>3</sup>	0400A <sup>3</sup>	0600A <sup>3</sup>
Power supply	V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
Fans	nr.	1	1	1	2	2
Airflow	m <sup>3</sup> /h	1600	2300	2300	3350	4500
Gross total cooling capacity <sup>1,2</sup>	kW	7,2	10,0	11,3	14,1	20,6
Gross sensible cooling <sup>1,2</sup>	kW	6,4	8,9	9,9	12,9	18,2
Dimensions						
Height	mm	1740	1740	1740	1740	1740
Length	mm	550	850	850	850	1200
Depth	mm	450	450	450	450	450

\* Available also with 230V/1ph/50Hz power supply only without electrical heaters

<sup>1</sup> Gross cooling capacities; fans must be deduced to obtain net cooling data.

<sup>2</sup> Data refers to nominal conditions: Room at 24 °C-50% RH, water temperature 7/12 °C, glycol 0%, and ESP = 20 Pa.

<sup>3</sup> Equipped with standard electrical heaters.

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