High-efficiency Room Air Conditioners

Uniflair and EcoBreeze

Air conditioners designed for precision environmental control of mission-critical applications

Schneider Electric

Room Air Conditioners

Combining cutting-edge technology with energy efficiency and environmental sustainability is the basis of Schneider Electric™ Room Air Conditioners, designed to offer a complete cooling solution for any IT environment. High energy efficiency, complete reliability, and total flexibility guarantee TCO reduction and the integration in Tier III and IV data centres and mission-critical installations.

All the units are all-in-one for easy design and installation, and completely configurable to guarantee use in multiple applications and environmental conditions for a continuous and quiet operation.

Table of Contents

Schneider Electric policy is one of continuous technological innovation and the Company therefore reserves the right to amend any data herein without prior notice. The images shown in this catalogue are for descriptive purposes only. They may therefore differ from specific models which are selected. Some of the features described may be available only for some models or configurations. Please refer to the specific technical literature for further details.

> Flexibility

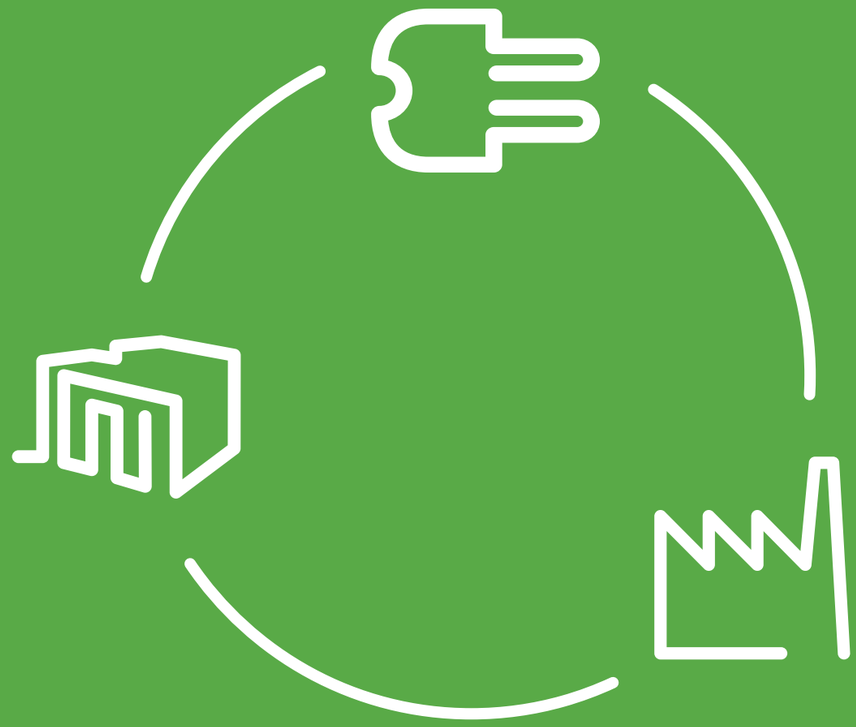
Modular and tailored solutions for any application

> Availability

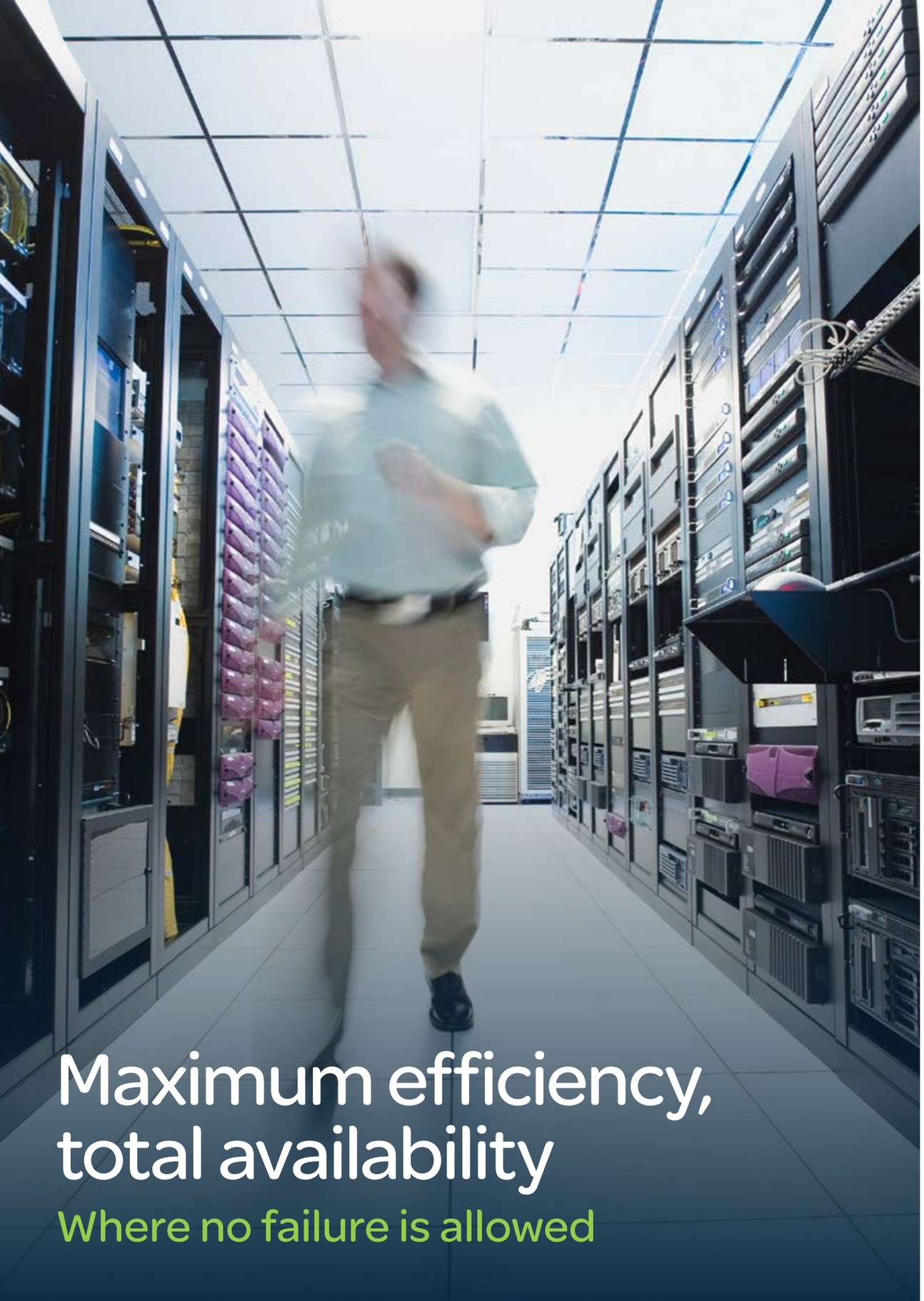
Continuous operation to safeguard the customer’s business

> Energy Saving

Technological excellence for efficient performance



Make the most of your energy[SM] >



Maximum efficiency, total availability

Where no failure is allowed

Data Centre Needs

Efficiency and Sustainability

Data centres represent one of the highest energy-consuming elements within the electrical chain.

The objective is — therefore —to optimize the operation of this infrastructure, reduce energy consumption, maximize efficiency, and minimize CO_2 emissions.

For the cooling system to provide increased flexibility and significant improvement in energy consumption metrics (e.g. PUE), it is important that the structure presents a significant level of efficiency not only at nominal loads, but also at partial loads.

Indirect free cooling solutions should be proposed whenever possible, as well as optimization systems according to the heat load in the room.

Modularity and Flexibility

New server technology has introduced an increased level of modularity in infrastructure growth, adapting to the needs of the client and facilitating upgrades which are difficult to predict long term.

Cooling solutions must therefore allow for modular planning and integration and adapt automatically to the new load conditions of the room.

A simple infrastructure creates significant advantage in terms of management costs. This can be achieved by using cooling systems which can be implemented over time. Another important element that influences operating costs and system reliability is system maintenance. A structure which allows simple maintenance is based on consolidated, tested, and reliable systems and represents an indisputable advantage of simplified system management.

Infrastructure Management

Data centres are complex environments; providing complete systems composed of integrated elements guarantees compatibility, a single source of responsibility, and strategic integration of a regulated system.

This is a departure from the traditional logic of single elements and a move towards a situation where all of the operating parameters can be optimized (both energy and operational) through integrated logics (internal units, distribution systems, and external units). The cooling system must then be able to communicate with the various building management systems.

Reliability

A fundamental requirement for each data centre is to guarantee continuous operation and total reliability. This is achieved thanks to the design and implementation of cooling systems which are intrinsically reliable and incorporate an appropriate level of redundancy.

System reliability is based on several basic considerations such as a dual source of cooling and electrical power.

Cost of Ownership

Reduced management and operating costs is a competitive advantage in the data centre market.

The cooling system accounts for about 40% of the total on-site energy consumption. In addition to reducing energy consumption, it is also important to reduce the costs of maintenance and reconfiguration due to inevitable changes in the IT system.

To improve data centre efficiency in terms of cost, it is necessary to reduce the initial investment in the system with an infrastructure that grows in line with real needs over time.

An increase in the effectiveness of a cooling system allows auxiliary systems to be precisely “sized” without extra cost due to the excess power installed. Such CapEx optimization can be achieved by using a cooling system that is simply implemented and adapted to changing site requirements.

Keeping up with growing heat densities while reducing operating costs is today’s challenge.

Schneider Electric Room Air Conditioners rise to this challenge because energy efficiency, availability, and flexibility are the priorities.

Our wide range of products allows to meet the ooling requirements of every size data centre, from small (below 200 kW) to large (1MW+), and to apply the right technology according to the IT equipments and environmenal infrastructure.

30%*

* average value in a medium data centre in Europe

of annual energy consumption is reduced thanks to innovative components like RadiCal EC fans, tandem compressors, EEV valves, R-410A refrigerant, and AFPS systems.

99,99%

is the reliability of Tier III and Tier IV Data Centres according to Uptime Institute certification standards.

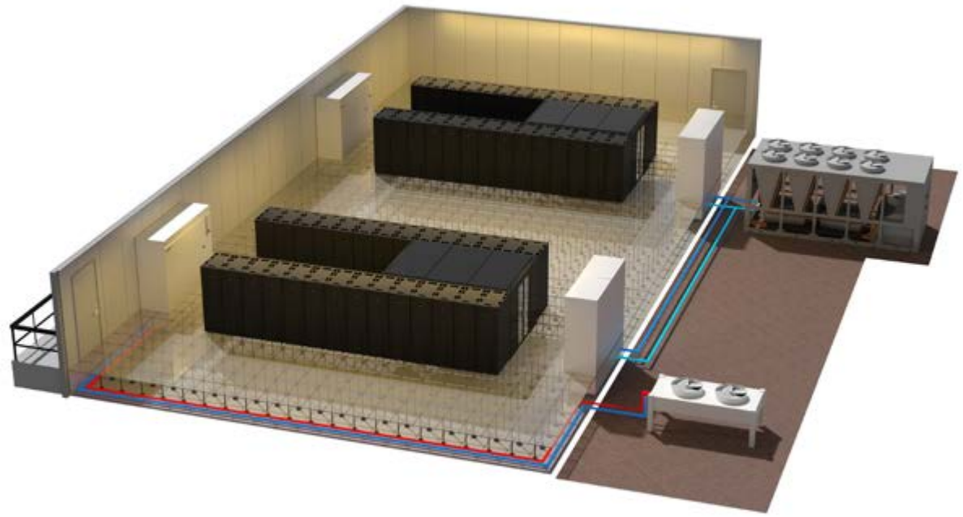
*Uniflair CRACs are Tier III and Tier IV ready design.

Room Air Conditioners

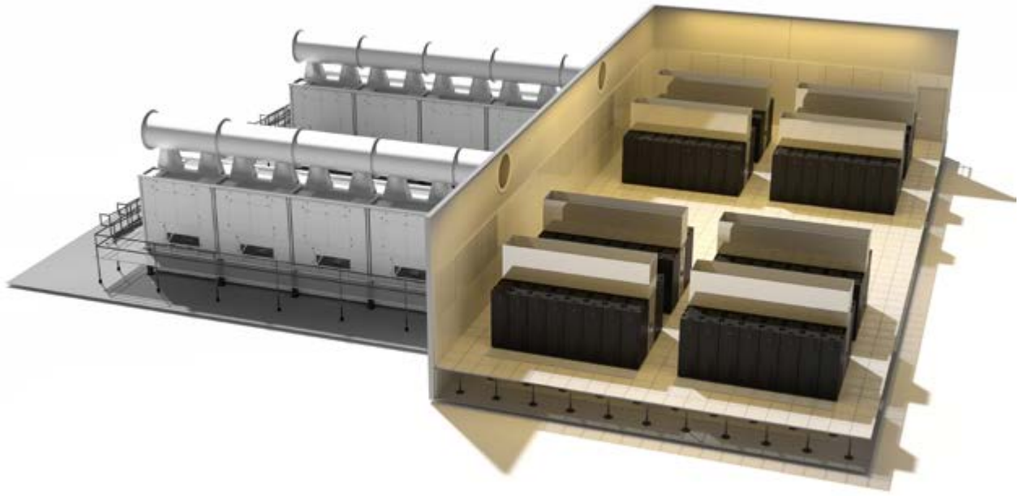
Schneider Electric offers a comprehensive portfolio of solutions for virtually any cooling need in critical IT environments, from network closets and server rooms to data centres of all sizes.

The room air conditioners portfolio includes solutions that can be integrated a room or building level. A wide range of options is available to enhance infrastructure efficiency in any working conditions.

Uniflair™ solution



EcoBreeze™ solution



Uniflair

Perimeter cooling for any data centre environments, with a low cost of ownership

Uniflair AM and Uniflair LE are leading-edge precision cooling solutions specifically designed to maintain temperature and humidity within extremely tight tolerances.

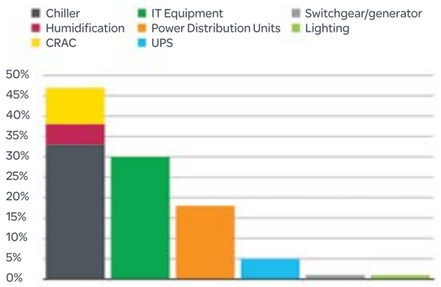
Perfect for racked and non-racked IT loads, these products meet the diverse requirements of any data centre environment. These intelligent units monitor the status of components and environmental parameters to ensure correct functionality during all modes of operation. When combined with hot-or-cold-aisle containment solutions, Uniflair products can further improve efficiency and achieve higher densities.

Uniflair Benefits

High Energy Efficiency

Minimizing operating costs in high-tech installations is becoming more essential than ever in the competitive marketplace and emphasis on environmental sustainability is increasing. This means that high energy efficiency is now a key factor in precision air conditioning and Schneider Electric units have been designed with a major focus on this objective.

Low energy consumption is the result of an exhaustive analysis — from the choice of components to the constant refinement of design solutions.



Versatile Configurations

A wide range of configurations has been developed to give building services engineers maximum design freedom without the need for expensive solutions.

Versatility is at the heart of the Schneider Electric units, including:

- Different fan configurations to cover a wide range of requirements
- A range of filter types and grades
- Different acoustic linings for the panels of the unit casing
- Adaptability to a variety of plant configurations
- Versions available with one or two independent refrigerant circuits
- Minimal footprint with frontal access for all maintenance
- Minimal service clearance
- Adaptability to a wide range of supervision and network languages and protocols
- Simple on-site implementation of a variety of configurations

SHR (Sensible Heat Ratio) Close to 1

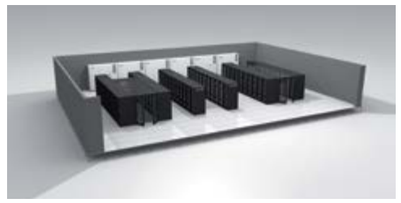
The primary objective of precision air conditioning must be to dissipate the real heat load in the space.

Electronic equipment produces only sensible heat. Any unwanted latent cooling (dehumidification) provides no useful service to the equipment being cooled and is a considerable waste of energy in itself and in the extra energy that may need to be expended to put humidity back into the space.

For this reason Schneider Electric units have been designed to provide a very high ratio of sensible to total cooling (Sensible Heat Ratio).

Net Sensible Cooling Capacity

Efficiency is a philosophy that is expressed through clear choices within which the real contributions to the equipment cooling capacity must be clearly identified. Schneider Electric has made technical choices aimed at solutions that optimize the real contribution of removing heat from the space — the net sensible capacity (sensible cooling minus fan motor heat gains).



Compact Dimensions and Simple Handling/Installation

Uniflair LE units are designed with special attention to equipment dimensions and to the logistics of handling, installation, and accessibility. Given the very high cost of space in high-tech environments, it is vital not only that precision air conditioning has the smallest possible footprint, but also that there is full frontal component access to enable units to be installed next to each other or next to other equipment. Uniflair units represent the industry benchmark — particularly compact, low weight, quick and simple to install, and easy to maneuver, even in confined spaces.

Maintenance

The ease of maintenance of Uniflair units is a fundamental factor in reducing operating costs and avoiding downtime. The front panels can be opened without the need for special tools and all normal maintenance operations can be carried out from the front of the unit. A push-button catch ensures easy access to the controls compartment while the cover of the electrical panel inside is fitted with a safety interlocked mains isolator in compliance with safety regulations. What is more, the units can be carried out while in operation and without disrupting the airflow.

Reliability

Units ensure reliability through:

- Monitoring of all components
- Precise and clear display of any malfunctions or abnormal operating conditions, including a record of the last 100 events
- Management of emergency conditions with ability to deactivate the operation of heaters and humidifiers in predetermined emergency situations while still maintaining basic cooling needs

Flexibility

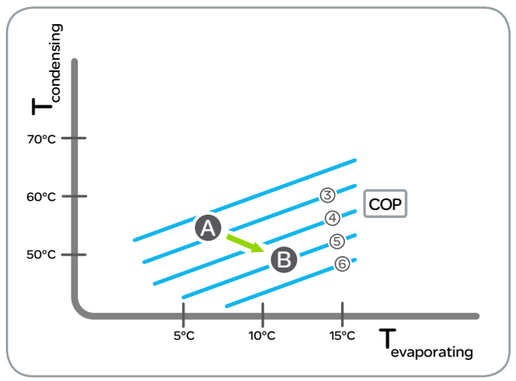
The control software enables the operation of the unit to be adapted to every type of installation thanks to:

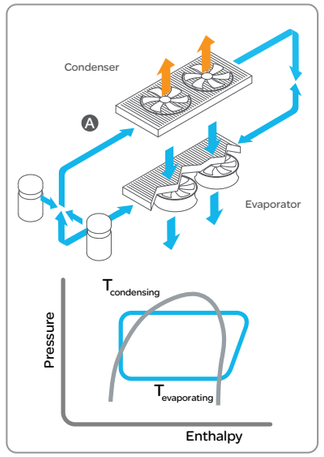
- The facility to input a double set-point for both temperature and humidity
- The facility to change fan speed directly from the user terminal (units with EC fans)
- Flexible configurability of alarm outputs
- The facility to calibrate temperature and humidity sensors
- The facility to interface with a wide range of BMS systems

Tandem

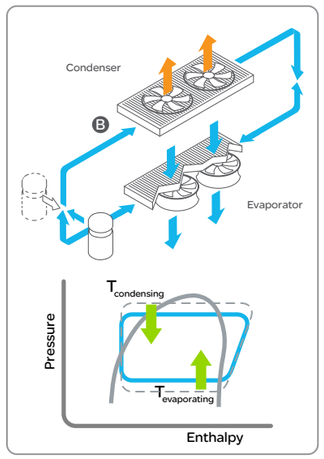
In many applications the room load can vary enormously during the course of a single day or from season to season. This will cause wide variations in the amount of cooling required at any given moment. In these circumstances it is very important to use precision air conditioning units that are highly energy efficient at part-load. Uniflair LE models (with suffix **21, **42) are specifically designed with part-load environments in mind; fitted with two compressors operating in parallel on the same circuit, these models offer two stages of cooling on a single circuit of refrigeration. As the evaporator coil surface area (designed for the capacity of two compressors) is fixed, one single compressor in operation (fig. B) benefits from the availability of a “double sized” evaporator coil. This maximization of the cooling effect leads to increases in part load efficiencies and a rise in the part-load COP (Coefficient of Performance). To compare part-load efficiencies of different units, a number of parameters have been developed which take into account the COP at 25, 50, 75, and 100 per cent load and calculate a weighted mean. These parameters (IPLV: Integrated Partial Load Value, EMPE: Efficienza Media Ponderata in Regime Estivo, and SEER: Seasonal Energy Efficiency Ratio) differ in their weightings and the operating conditions at which the different COPs are calculated, but they all follow the same formula.

$$\frac{(W_{100\%} x\ COP_{100\%}) + (W_{75\%} x\ COP_{75\%}) + (W_{50\%} x\ COP_{50\%}) + (W_{25\%} x\ COP_{25\%})}{100}$$





A. 100% Operation



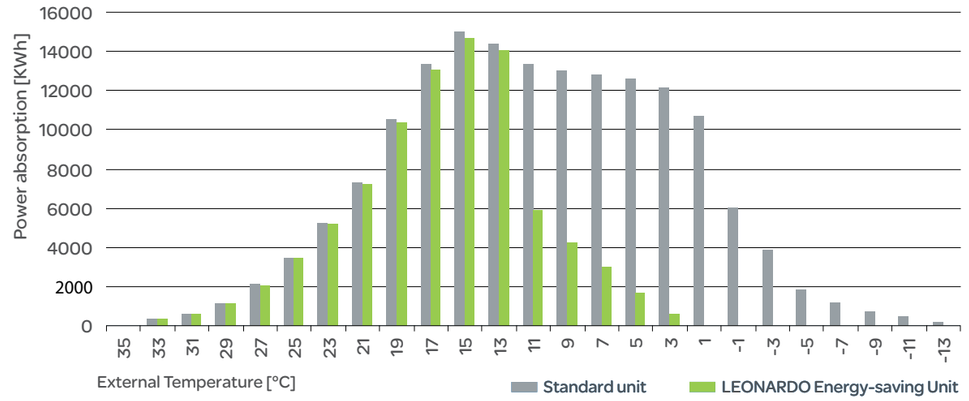
B. Part-load Operation

Energy-saving Units (Free-cooling)

Energy consumption continues to be a major constituent in the operating costs of modern systems. Guaranteeing maximum reliability in operation at the same time as reducing energy consumption to the minimum is the result of technical product choices.

The energy-saving versions have been designed to apply this concept to the best effect. The operating principle is based on the ability to provide free cooling for a space when the outdoor temperature is below that of the space itself; the lower the outdoor temperature, the greater the energy saving.

Free-cooling is provided without the need to operate compressors and does not depend upon pulling outside air into the space (indirect free-cooling). This guarantees stable humidity and air quality in the space.



Comparison of annual power consumption between a standard unit and a unit without a free-cooling system (Space conditions 24°C, 50% RH at costant load, TDER1822A + 2 x RAL3600 - Frankfurt).

Total Control

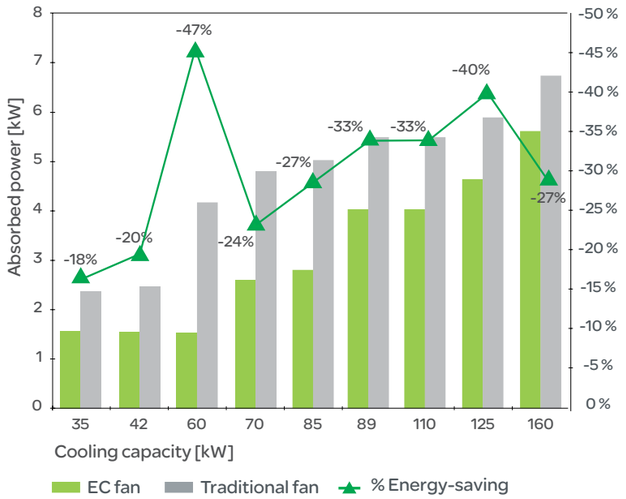
Uniflair AM-LE units are equipped with sophisticated controls and management software conceived, developed, implemented, and tested by Schneider Electric. In addition to guaranteeing maximum flexibility in application to any specific project, every control solution is designed to maximize the performance and reliability of the type of unit to which it is fitted. Every component of the unit is monitored in real time, its performance optimized and kept within design parameters. As sophisticated as the control algorithms may be, the interface is user friendly and intuitive with an easy-to-read backlit display. The result is a control system that is reliable, flexible, and high performing.

Uniflair Benefits

EC Fans

Every component of Uniflair AM and LE ranges has been chosen in accordance with the design criteria of energy saving for maximum efficiency. Just one example is the selection of EC (Electronically Commutated) direct current motors. This new type of fan-motor combination offers a number of advantages over traditional types:

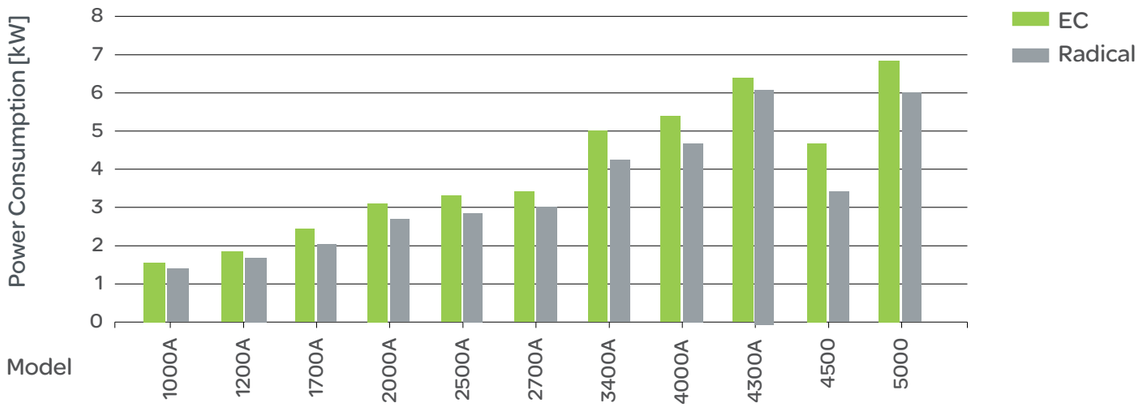
- Lower power consumption on the fan side
- High part-load efficiency
- Fan speed adjustment via the microprocessor control while the unit is running
- Ability to regulate airflow depending on the actual thermal load



Comparison of power consumption between a unit fitted with EC fans and one with traditional fans (space conditions 24°C, 50% RH at constant load, series TDCR and TDCV).

Radical Fans

Uniflair LE Chilled Water units are equipped with the latest generation Radical EC Fans for maximum efficiency. Impellers are made of high-tech compound material with optimized flow control and high-efficiency GreenTech EC motors.



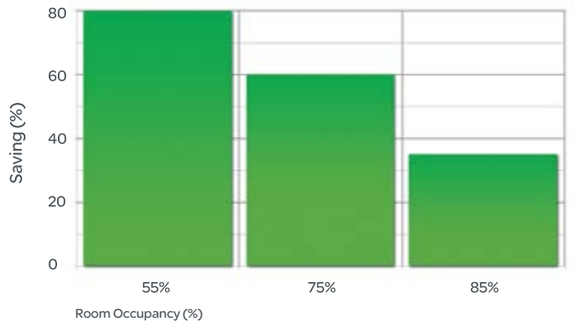
Automatic Floor Pressurization System (AFPS)

Maintaining correct pressurization of the floor space is a key factor to ensure that the cooling system operates with maximum efficiency and that cool air is available where needed. This process must be guaranteed for the entire lifetime of a server room that may be upgraded and changed over time.

The AFPS, developed and tested by Schneider Electric, enables structural flexibility through automatic adjustment of the airflow according to the servers which have been installed. AFPS automatically adjusts the airflow of the perimeter units that are fitted with EC fans during standard and emergency maintenance, maintaining a constant pressure under the raised floor and avoiding the creation of hot spots.

R-410A

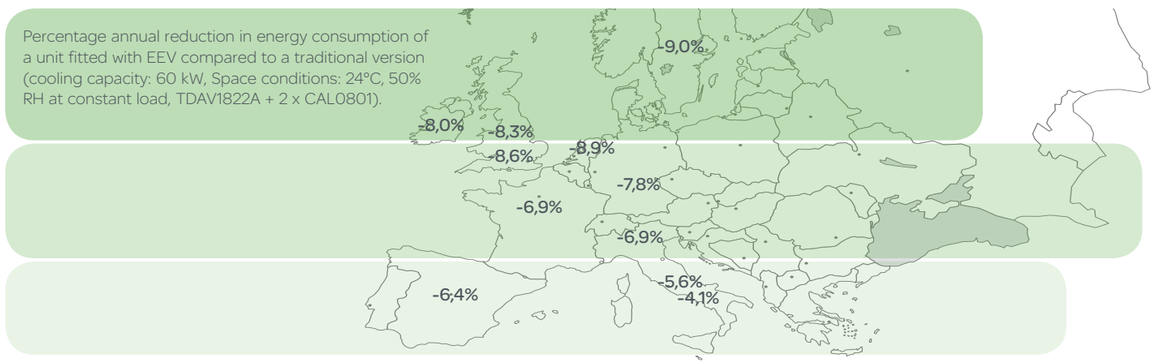
R-410A is similar to a mono-component refrigerant (which is near azeotropic), as it is characterized by the absence of glide during the change of state, which occurs at a constant temperature without energy losses. Thanks to a greater heat exchange capacity and a notable decrease in pressure drops, it is possible to maximize the size of the exchangers while increasing efficiency. Moreover, performance is not affected by separation of the gas components over time. In fact, any refrigerant leaks and subsequent integrations do not affect performance and can be managed quickly and effectively without replacing the whole refrigerant charge and without changing the initial composition.



% Savings with AFPS

Electronic Expansion Valve (EEV)

EEVs can be integrated with the microprocessor range in all Uniflair models. This innovation provides highly-efficient electronic control of the flow of refrigerant that is unmatched by any traditional mechanical expansion valve. Under the control of the Schneider Electric Control System, the EEV provides accurate control of the refrigerant superheat to ensure an increase in the COP at low external temperatures; it enables the unit to operate at much lower condensing pressures than would be possible with a traditional mechanical valve. The dehumidification function is also controlled through the operation of the EEV. In this way dehumidification is achieved without a reduction in the airflow rate, ensuring continuous and uniform air distribution in the space and avoiding any sudden variations in discharge air temperature.



Uniflair AM-LE Configurations

Upflow Units

Upflow units (with air discharge from the top) are designed to distribute the conditioned air by means of a plenum, through a system of ducts, or via a suspended ceiling. Air intake is normally through the front of the unit, but versions are also available with air return through the rear or via the base.

Downflow Units

Downflow units are designed to distribute the conditioned air by means of a raised floor, through a system of ducts, or via a discharge plenum beneath the unit.

DXA Series Air-cooled Direct Expansion Units

Air-cooled direct expansion units extract heat from the room and transfer it to the outside air using air-cooled refrigerant heat exchangers (condensers). Once installed, the room unit and external condenser form an autonomous sealed circuit.

The remote condensers used with DX units include precise electronic fan-speed condensing pressure control to ensure trouble-free operation of the unit throughout the year under a very wide range of external air temperatures. Special attention has been paid to the acoustic design of the condensers to minimize noise levels. A wide range of combinations is available to meet different site requirements.

DXW Series Water-cooled Direct Expansion Units

In water-cooled units the heat extracted from the room is transferred to water via stainless steel brazed-plate heat exchangers within the unit.

The cooling water may be fed from the mains supply (where permitted), a cooling tower or a well (i.e. open circuit), or circulated in a closed loop cooled by external dry-coolers.

In the latter case, an anti-freeze mixture of water and ethylene glycol is normally used. Water-cooled units have the advantage that the refrigerant circuits are pre-charged and sealed in the factory.

This makes system installation extremely simple, eliminating the need for any site-installed refrigerant pipework.

Twin-cool Units

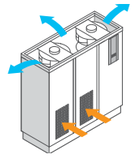
Twin-Cool units, available only on Uniflair LE range, are fitted with two independent cooling circuits:

- Chilled water
- Air-cooled or water-cooled direct expansion

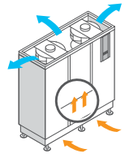
This unit is usually used where an installation has a chilled water source which cannot be relied on to guarantee continuous service. In this case function priority is given to the chilled water circuit, with the microprocessor control automatically starting direct expansion operation if the chilled water supply fails or if the water is not cold enough to dissipate the entire heat load.

Alternatively, the unit controls can be set to prioritize direct expansion cooling, activating chilled water operation only in the event of a compressor malfunction.

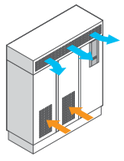
Twin-Cool units therefore provide a very high level of security, ensuring continuous system operation at all times and with the flexibility to manage the cooling resources in the best way for the particular installation.



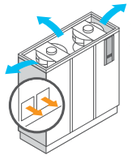
Upflow unit with suction from the front.



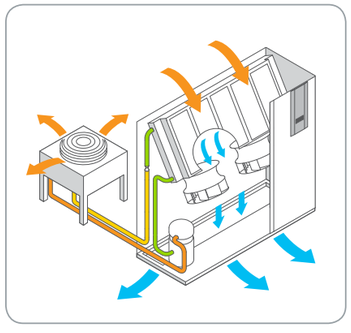
Upflow unit with suction from the base.

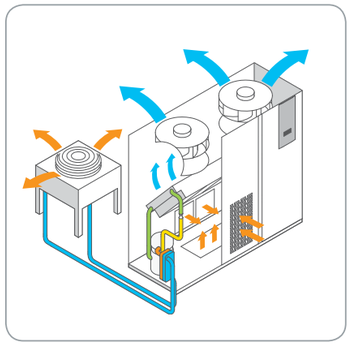


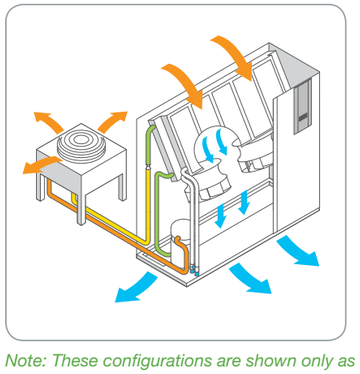
Upflow unit with front discharge plenum and suction from the front.



Upflow unit with suction from the rear.







Note: These configurations are shown only as an example.

Energy-saving Units

Energy-saving units, available only on Uniflair LE range, represent the ultimate energy-efficient solution in cool or temperate climates.

The operating principle exploits the free-cooling effect available when the outside air temperature is lower than that in the conditioned space — the lower the outside temperature, the greater the energy saving. The sophisticated microprocessor control manages operation of the unit automatically in three different situations.

In summer the unit operates as a normal closed circuit glycol-cooled system (Fig. A). As the external temperature falls, the coolant can be used directly for the free-cooling of the air. In this case the coolant is circulated in the coil inside the unit (Fig. B) and both the refrigerant circuit and the glycol circuit contribute to cooling, reducing the energy used by the compressor. If the outside temperature falls further to a level where the coolant can dissipate the entire heat load from the room, then the refrigerant circuit is shut down completely and the unit functions as a traditional chilled water unit with a modulating valve (Fig. C). With this technology, Energy-saving units provide significant reductions in operating costs and payback periods.

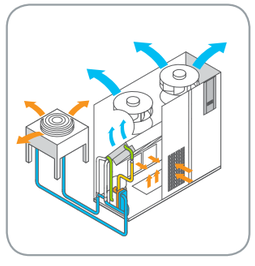


Fig. A: Mechanical cooling operation

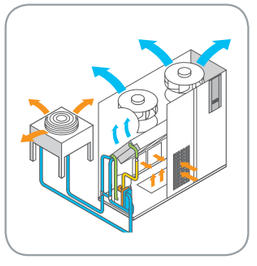


Fig. B: Mixed cooling operation

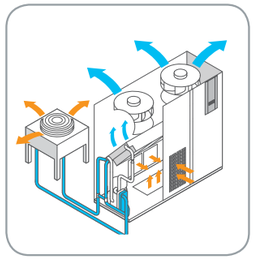
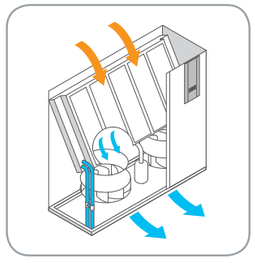
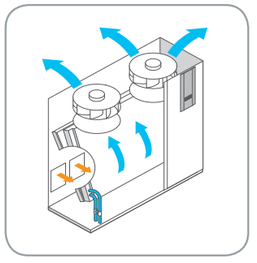


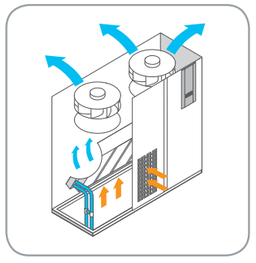
Fig. C: Free-cooling operation

CW Chilled Water Units

CW units use the availability of chilled water to control room conditions. CW units have a relatively simple construction and provide outstanding reliability. The microprocessor controls the modulating action of the 3-way (or optional 2-way) chilled water valve to give accurate capacity control. Careful sizing of the heat exchanger coils yields a high sensible-to-total cooling ratio under most operating conditions at the appropriate chilled water temperatures.

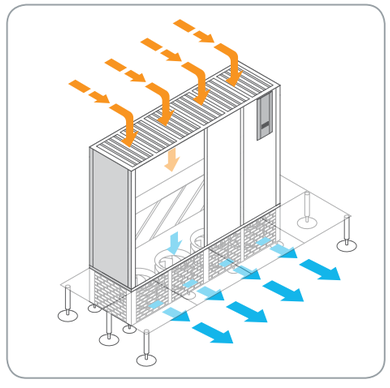




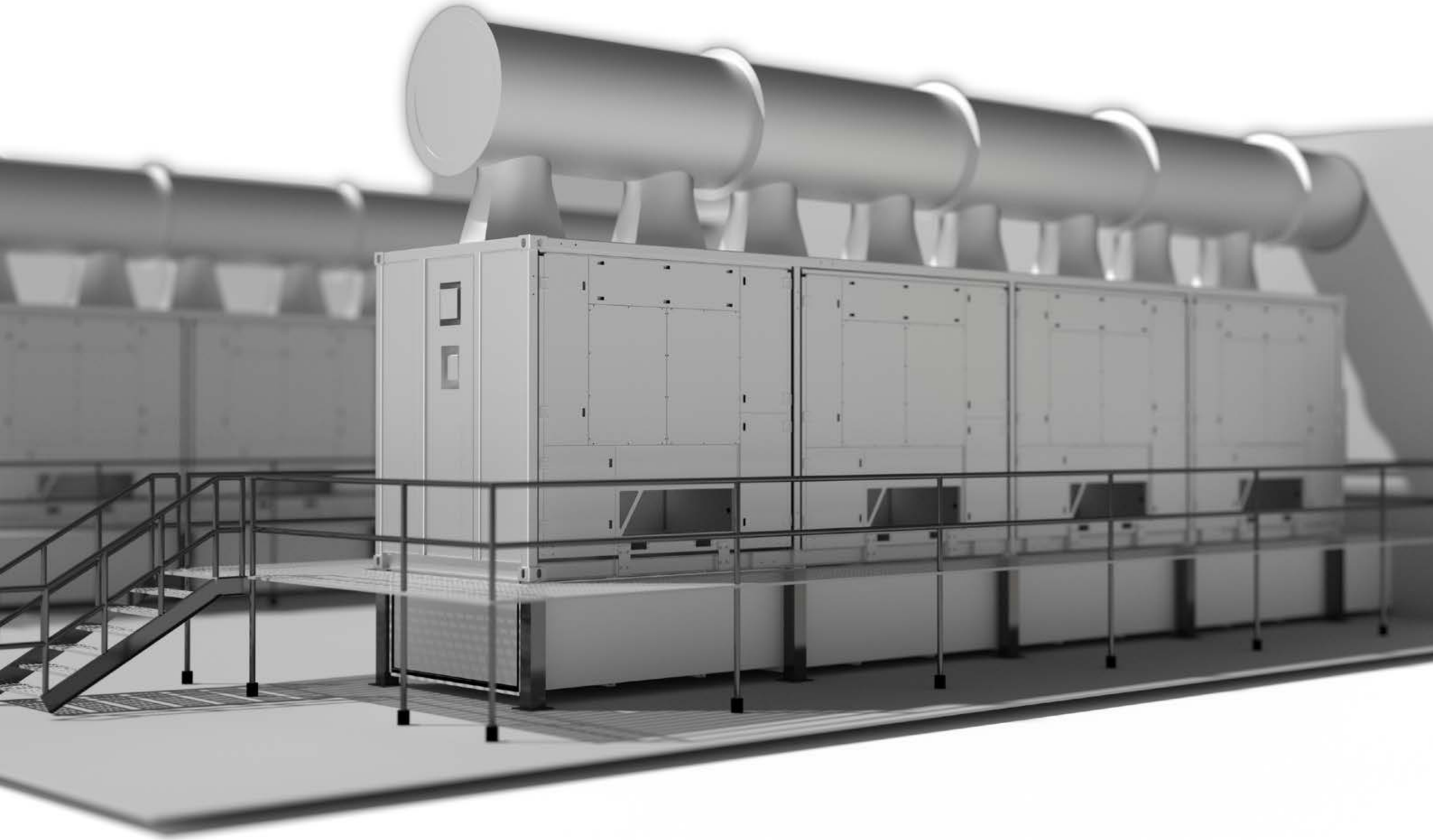


Chilled Water Units with Underfloor Fans

CW units with fans located underneath the floor allow for more coil area in the unit and less internal air-side pressure drop. The fan module beneath the unit can be configured in many different airflow patterns as well as be placed beneath or above the raised floor for total flexibility. More heat exchanger coil and less pressure drop equals less power consumption and more capacity inside a compact footprint.



EcoBreeze



EcoBreeze

The industry's only modular, indirect economizer, EcoBreeze, is one of several Schneider Electric data centre facility modules, which help make large data centre deployment fast and easy.

• EcoBreeze provides indirect evaporative cooling or air-to-air heat exchange in one footprint.

• Right-sized cooling is made possible by individual modules that can be scaled to capacity as needed.

The IT airstream is isolated from the outdoor ambient airstream.

• Deployment is flexible and cost effective since the unit is modular and uses no data centre space.

• The pre-engineered modules can be deployed according to the data centre's specific redundancy needs.

EcoBreeze Features and Benefits

Innovative Answer to Cooling Challenges

Today's data centres face unprecedented cooling challenges brought on by high-density computing. Blade servers, for example, generate risky hot spots and require a highly efficient, cost-effective cooling solution to safeguard availability while also streamlining cooling costs. Cooling also presents environmental challenges. With local, regional, and federal standards and regulations related to energy efficiency, now is the time for data centres to adopt economization (free-cooling) as an innovative way to reduce energy consumption. EcoBreeze is the Schneider Electric answer to meeting the latest cooling and energy efficiency requirements facing today's Data Centres. This innovative cooling approach employs a modular design for capacity, redundancy, and service flexibility. The efficiency of the system is rationalized in three forms of cooling to maximize localized climate conditions and ensure the most efficient and effective form of cooling year round. EcoBreeze employs the fully adaptable cooling of electronically commutated (EC) fan technology, along with an ozone-friendly proportional refrigerant circuit, making it one of the most efficient forms of cooling on the market today.

Efficient and Effective Cooling

• Right-sized cooling made possible by individual 50 kW modules that can be grouped up to a maximum of 200 kW and 400 kW of sensible cooling per frame

• Fully adaptable cooling via EC fan technology

• Efficient and effective cooling via total internal isolation of the IT airstream from the outdoor ambient airstream

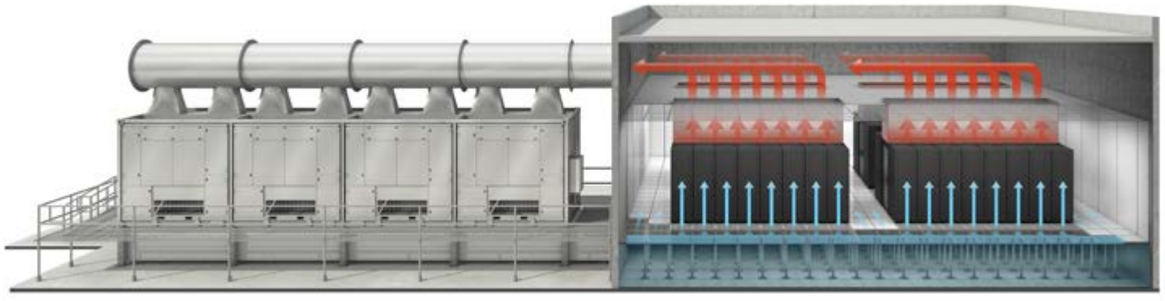
• Regulatory compliance with recommendations and requirements for economization and efficiency (e.g. ASHRAE 90.1 in North America)

Adaptability

• Ability to address any cooling requirement worldwide via multiple module and frame voltages/frequencies

• Adaptability via the integration of multiple cooling options in one module footprint (indirect evaporative, air-to-air heat exchange, and proportional direct expansion)

• Ability to control redundancy from the frame down to the individual module level



Modularity

• Reduction in CapEx results from right-sizing your cooling capacity based on current load with the flexibility to expand later.

• Built-in redundancy from modular form factor allows extra capacity to be incorporated into the system from the module level to ensure availability at the system level.

• Modular design reduces single point of failure issues from the component to the control level.

• The modular design prevents routine maintenance or break/fix repairs from interfering with system operation.

Flexible, Easy Installation and Servicing

• Flexible and cost-effective deployment since the unit uses zero white space within the data centre

• Easy installation because of a single point of connection for water, power, and communications

• Adaptable installation because it can be deployed with raised or non-raised floor applications

• Safe and easy capacity expansion and servicing via individual isolation of air, power, and communications between the frame and modules

Environmentally Friendly

• No chemical treatment required due to on-board water treatment system

• Zero ozone-depleting proportional R-410A refrigerant system

Internal Isolation of IT Airstream

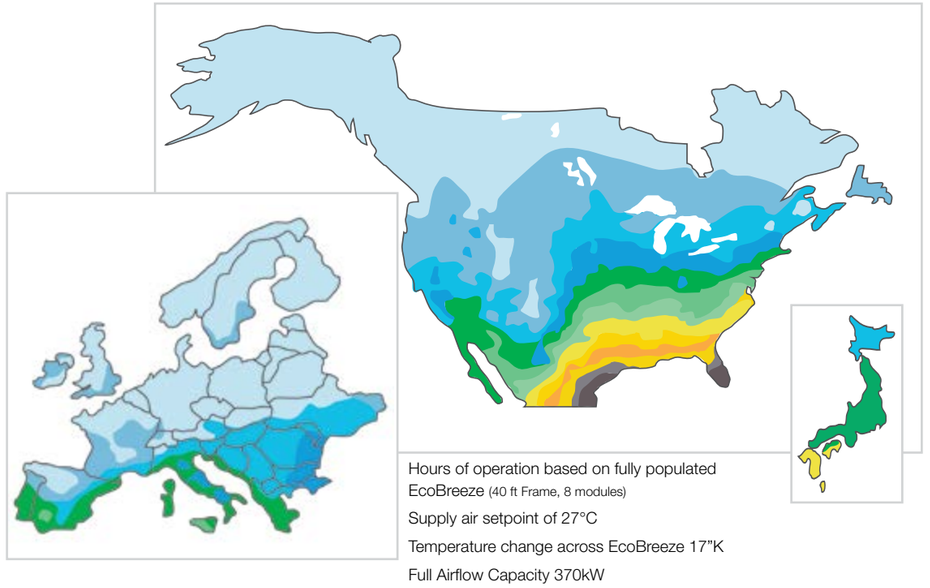
• Isolation of the airstreams prevents airborne pollutants from entering the data centre environment.

• Maintenance costs are reduced since enhanced filtration requirements aren't necessary when outside air is not being introduced into the data centre environment.

• Operating costs are less from not needing to pretreat the Data Centre air due to variations in outside air dew points associated with 100 per cent outside air.

Air-side Free-cooling Map

Estimate of full air-side economizer hours for data centres



Hours of operation based on fully populated EcoBreeze (40 ft Frame, 8 modules)

Supply air setpoint of 27°C

Temperature change across EcoBreeze 17"K

Full Airflow Capacity 370kW

Operating Load of 247 kW (2/3 Full Airflow)

Uniflair Mobile Telecom Air Conditioners

Modern telephone technology uses equipment that is usually housed in shelters or in small- to medium-sized rooms. These sites form effective technological rooms, with common needs from which a series of particular requirements arise.

Round the clock operation every day of the year
- Highly-reliable equipment
- Reduced running costs

High breakdown costs
- Rapid intervention
- Avoidance of critical conditions

Expensive equipment
- Guaranteed control of the environmental conditions
- Management of critical situations
- Long life for the system

Unmanned sites
- Autonomous control of emergencies
- Elimination only of the sensible heat

Reduced space
- High density of thermal loads
- Protection of the space dedicated to the instruments

Applications in various environments
- Easy installation
- Adaptable for any site

To satisfy these needs, Schneider Electric has designed various product families to ensure:
- Operational accuracy
- Continuous service
- Flexibility
- Low running costs

Uniflair Mobile telecom air conditioners provide the features of the most advanced cooling units.

Connection to Supervision Systems

All the units can be connected to a RS485 serial line by using an additional card, ensuring complete monitoring of system. This allows for:
- Control through the Uniflair Netvisor supervision system or
- Connection to a centralised supervision system.

Furthermore, all the units are fitted with digital alarm outputs (between three and six depending on the model), which makes it easier to control the status of the cooling unit and the connection to the external control PLC.

Intelligent Free-cooling

The microprocessor control continuously monitors the room temperature and the outside environmental conditions: if these conditions allow the dissipation of the thermal load, free-cooling is then activated.

Unlike traditional systems, the free-cooling start-up temperature varies as the thermal load in the conditioned room varies.

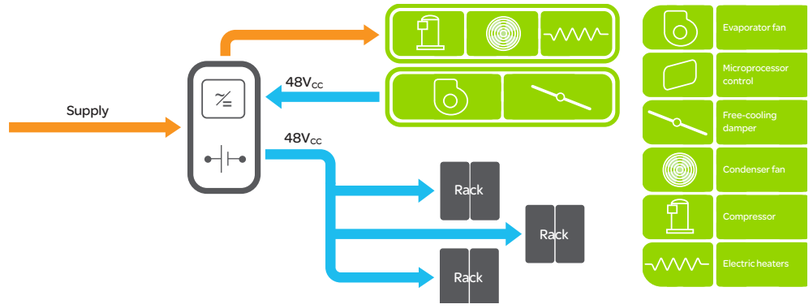
Cooling	Mechanical	Free-cooling	Mixed
Compressor	ON	OFF	OFF
Evaporator fan	ON	ON	ON
Condenser fan	ON	OFF	ON
Damper	Closed	Open	Modulating

Minimal discharge air temperature with modulating damper

Continuous Operation During Emergencies

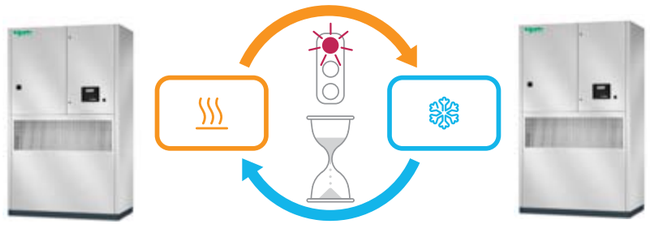
Telephone shelters are constructed to guarantee continuous operation even during power failures.

The free-cooling damper, microprocessor control and evaporator fan can also be powered by the UPS in the shelter. During power failures the room is cooled by the outside air through the free-cooling damper. Without air conditioning, the temperature in the racks rises from 45°C to 70°C in less than 15 minutes.



Stand-By Control

Up to 10 units can be installed in each shelter, which are linked to each other through the local LAN network, offering the following benefits:
- Equal wear to the units that are rotated on a timed basis
- 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
- Control of the combined operating phases with excellent energy savings



Stand-by operation

Room Air Conditioners Portfolio

	Chilled Water Units		Air-cooled Units		Water-cooled Units		Twin Cool Units		Energy-saving Units		Monoblock Wall Mounted External Installation Units		Monoblock External Installation Units		Splitted Units		Economizers
	Upflow	Downflow	Upflow	Downflow	Upflow	Downflow	Upflow	Downflow	Upflow	Downflow	Upflow	Downflow	Upflow	Downflow	Ceiling Mounted	Wall Mounted	
Small	 Uniflair AM SUC(C-V) Page 28, 30	 Uniflair AM SDC(C-V) Page 28, 30	 Uniflair AM SUA(C-V) Page 20, 22	 Uniflair AM SDA(C-V) Page 20, 22	 Uniflair AM SUW(C-V) Page 32, 34	 Uniflair AM SDW(C-V)Page 24, 26					 Uniflair WM WMA-WDF Page 59	 Uniflair WM WDA-WDF- Page 58	 Uniflair MB XMA-XMF Page 60	 Uniflair MB XDA-XDF Page ...	 Uniflair SP UCA-UCF Page 62	 Uniflair SP UWA-UWF Page 62	
Medium	 Uniflair LE TUC(R-V) Page 40, 42	 Uniflair LE TDC(R-V) Page 40, 42	 Uniflair LE TUA(R-V) Page 32, 34	 Uniflair LE TDA(R-V) Page 32, 34	 Uniflair LE TUW(R-V)Page 36, 38	 Uniflair LE TDW(R-V) Page 36, 38	 Uniflair LE TUT(R-V) [Air-cooled] TUD(R-V) Water-cooled] Page 50, 48, 52, 54	 Uniflair LE TDT(R-V) [air-cooled] TDD(R-V) [Water-cooled] Page 50, 48, 52, 54	 Uniflair LE TUE(R-V) Page 44, 46	 Uniflair LE TDE(R-V) Page 44, 46							
Large																	
Extra-large	 Uniflair LE HDCV Page 56																 EcoBreeze Page 65

Uniflair AM

SDAC – SUAC

Range

Cooling capacity: 5 ÷ 20 kW

Refrigerant R-410A

Available Versions:

- Downflow (SDAC)
- Upflow (SUAC) with bottom, front and rear suction

TECHNICAL DATA									
SDAC –SUAC MODEL		**0151B**	**0251B**	**0151A**	**0251A**	**0331A**	**0351A**	**0501A**	**0601A**
Fan type		Forward-curved centrifugal motor fan							
Power supply	V/ph/Hz	230/1/50Hz		400/3/50Hz					
Fans	Nr.	1	1	1	1	2	2	2	2
Airflow	m3/h	1600	1750	1600	1750	3000	3300	4500	4500
N° of compressors		1	1	1	1	1	1	1	1
Refrigerating Circuits		1	1	1	1	1	1	1	1
Gross Total Cooling Capacity(1) (2)	kW	6,6	8,0	6,4	7,9	10,0	13,3	16,9	18,8
Gross Sensible Cooling Capacity(1) (2)	kW	5,3	6,1	5,2	6,0	9,1	10,6	14,4	15,4
DIMENSIONS									
Height	mm	1740	1740	1740	1740	1740	1740	1740	1740
Length	mm	550	550	550	550	850	850	1200	1200
Depth	mm	450	450	450	450	450	450	450	450

1. Gross Cooling capacities; fans must be deduced to obtain net cooling data.

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

Standard Features

• Advanced microprocessor control system is included local or remote user terminal.
• The units are equipped with forward-curved fans and directly-coupled asynchronuos motor.
• The structure of the unit is characterized by a self-supporting frame in galvanized steel with panels. The external panels are coated with RAL9003 epoxy-polyester paint* and internally lined with heat and sound-proofing insulation.
• The cooling coil is designed for an elevated SHR and reduced pressure drops in the air section. The coil is made from copper tubes mechanically expanded on aluminum fins, complete with a hydrophilic treatment.
• Uniflair AM units are in conformity with the following directives: 2006/42/EC, 2004/108/EC, 2006/95/EC, 97/23/EC, 842/2006/EC F-GAS regulation.
• 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.
• Total front access is available for unit maintenance.
• Electrical panel is situated in a compartment separatedfrom the air flow and complies with the 2006/95/EC directive and related standards.
• Microprocessor control system includes:
- Local user terminal with external accessibility
- Integrated LAN card for local network connection of a group of CRACs
- Rotation and active stand-by managementt
- Free contact for general alarm and two for addressable alarms
- Remote on/off switch
- Ability to interface with Modbus protocol directly on RS485 serial card
- Ability to interface with main external communication protocols: Bacnet, Lonworks, Trend, Metasys, TCP/IP, SNMP, and StruxureWare™ platform

*RAL5013 may be used during transition period.

Construction Options

• Immersed electrode humidifier (D/U versions)
• Low surface temperature electrical heaters with extended fans, complete with safety thermostat and manual resetting (T/H versions)
• Hot gas and hot water reheating
• Electronic expansion valve is controlled by the microprocessor and a dedicated software that increases the precision of the cooling and the energy efficiency of the cooling cycle

Accessories

The units can be supplied with the following external accessories:
• Remote, semi-graphic user terminal
• RS485 serial adaptor to communicate with external BMS
• LON FTT10 serial adaptor to communicate with external BMS managed with LON protocol
• TCP/IP serial adaptor to communicate with external BMS managed with SNMP protocol
• AFPS (Automatic Floor Pressurization System) that permits to adapt its availability as a kit with installation instructions
• Motorized damper
• Condensate drain pump
• Suction from the top or front discharge plenums
• Adjustable floor stands

Uniflair AM

SDAV – SUAV

Range

Cooling capacity: 5 ÷ 20 kW

Refrigerant R-410A

EC Fans

Available Versions:

- Downflow (SDAV)
- Upflow (SUAV) with bottom, front, and rear suction

Standard Features

• Advanced microprocessor control system is included local or remote user terminal.
• The units are equipped with EC fans for efficiency maximization.
• The structure of the unit is characterized by a self-supporting frame in galvanized steel with panels. The external panels are coated with RAL9003 epoxy-polyester paint* and internally lined with heat and sound-proofing insulation.
• The cooling coil is designed for an elevated SHR and reduced pressure drops in the air section. The coil is made from copper tubes mechanically expanded on aluminum fins, complete with a hydrophilic treatment.
• Uniflair AM units are in conformity with the following directives: 2006/42/EC, 2004/108/EC, 2006/95/EC, 97/23/EC, 842/2006/EC F-GAS regulation.
• 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.
• Total front access is available for unit maintenance.
• Electrical panel is situated in a compartment separate from the air flow and in compliance with the 2006/95/EC directive and related standards.
• Microprocessor control system includes:
- Local user terminal with external accessibility
- Integrated LAN card for local network connection of a group of CRACs
- Rotation and active stand-by management
- Free contact for general alarm and two for addressable alarms
- Remote on/off switch
- Ability to interface with Modbus protocol directly on RS485 serial card
- Ability to interface with main external communication protocols: Bacnet, Lonworks, Trend, Metasys, TCP/IP, SNMP, and StruxureWare™ platform

*RAL5013 may be used during transition period.

TECHNICAL DATA									
SDAV –SUAV MODEL		**0151B**	**0251B**	**0151A**	**0251A**	**0331A**	**0351A**	**0501A**	**0601A**
Fan type		EC Backward-curved centrifugal motor fan							
Power supply	V/ph/Hz	230/1/50Hz		400/3/50Hz					
Fans	Nr.	1	1	1	1	2	2	2	2
Airflow	m3/h	1600	1750	1600	1750	3000	3300	4500	4500
N° of compressors		1	1	1	1	1	1	1	1
Refrigerating Circuits		1	1	1	1	1	1	1	1
Gross Total Cooling Capacity(1) (2)	kW	6,4	8,0	6,4	7,9	10,0	13,3	16,9	18,8
Gross Sensible Cooling Capacity(1) (2)	kW	5,2	6,1	5,2	6,0	9,1	10,6	14,4	15,4
DIMENSIONS									
Height	mm	1740	1740	1740	1740	1740	1740	1740	1740
Length	mm	550	550	550	550	850	850	1200	1200
Depth	mm	450	450	450	450	450	450	450	450

1. Gross Cooling capacities; fans must be deduced to obtain net cooling data.

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

Construction Options

• Immersed electrode humidifier (D/U versions)
• Low surface temperature electrical heaters with extended fans, complete with safety thermostat and manual resetting (T/H versions)
• Hot gas and hot water reheating
• Electronic expansion valve is controlled by the microprocessor and a dedicated software that increases the precision of the cooling and the energy efficiency of the cooling cycle

Accessories

The units can be supplied with the following external accessories:
• Remote, semi-graphic user terminal
• RS485 serial adaptor to communicate with external BMS
• LON FTT10 serial adaptor to communicate with external BMS managed with LON protocol
• TCP/IP serial adaptor to communicate with external BMS managed with SNMP protocol
• AFPS (Automatic Floor Pressurization System) that permits to adapt its availability as a kit with installation instructions
• Motorized damper
• Condensate drain pump
• Suction from the top or front discharge plenums
• Adjustable floor stands

Uniflair AM

SDWC – SUWC

Range

Cooling capacity: 5 ÷ 20 kW

Refrigerant R-410A

Available Versions:

- Downflow (SDWC)
- Upflow (SUWC) with bottom, front, and rear suction

TECHNICAL DATA									
SDWC –SUWC MODEL		**0151B**	**0251B**	**0151A**	**0251A**	**0331A**	**0351A**	**0501A**	**0601A**
Fan type		Forward-curved centrifugal motor fan							
Power supply	V/ph/Hz	230/1/50Hz		400/3/50Hz					
Fans	Nr.	1	1	1	1	2	2	2	2
Airflow	m3/h	1600	1750	1600	1750	3000	3300	4500	4500
N° of compressors		1	1	1	1	1	1	1	1
Refrigerating Circuits		1	1	1	1	1	1	1	1
Gross Total Cooling Capacity(1) (2)	kW	6,9	8,3	6,9	8,3	9,8	13,6	17,7	19,4
Gross Sensible Cooling Capacity(1) (2)	kW	5,4	6,2	5,4	6,2	8,7	10,6	14,7	15,6
DIMENSIONS									
Height	mm	1740	1740	1740	1740	1740	1740	1740	1740
Length	mm	550	550	550	550	850	850	1200	1200
Depth	mm	450	450	450	450	450	450	450	450

1. Gross Cooling capacities; fans must be deduced to obtain net cooling data.

2. Data refers to nominal conditions : room at 24°C° -50% RH, water temperatures 30-35°C, And ESP = 20Pa.

Standard Features

• Advanced microprocessor control system is included with local or remote user terminal.
• The units are equipped with forward-curved fans and directly-coupled asynchronuos motor.
• The structure of the unit is characterized by a self-supporting frame in galvanized steel with panels. The external panels are coated with RAL9003 epoxy-polyester paint* and internally lined with heat and sound-proofing insulation.
• The cooling coil is designed for an elevated SHR and reduced pressure drops in the air section. The coil is made from copper tubes mechanically expanded on aluminum fins, complete with a hydrophilic treatment.
• Uniflair AM units are in conformity with the following directives: 2006/42/EC, 2004/108/EC, 2006/95/EC, 97/23/EC, 842/2006/EC F-GAS regulation.
• 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.
• Total front access is available for unit maintenance.
• The electrical panel is situated in a compartment separated from the air flow and complies with the 2006/95/EC directive and related standards.
• Microprocessor control system includes:
- Local user terminal with external accessibility
- Integrated LAN card for local network connection of a group of CRACs
- Rotation and active stand-by management
- Free contact for general and two for addressable alarms
- Remote on/off switch
- Ability to interface with Modbus protocol directly on RS485 serial card
- Ability to interface with main external communication protocols: Bacnet, Lonworks, Trend, Metasys, TCP/IP, SNMP, and StruxureWare™ platform

*RAL5013 may be used during transition period.

Construction Options

• Immersed electrode humidifier (D/U versions)
• Low surface temperature electrical heaters with extended fans, complete with safety thermostat and manual resetting (T/H versions)
• Hot gas and hot water reheating
• Electronic expansion valve is controlled by the microprocessor and a dedicated software that increase sthe precision of the cooling and the energy efficiency of the cooling cycle

Accessories

The units can be supplied with the following external accessories:
• Remote, semi-graphic user terminal
• RS485 serial adaptor to communicate with external BMS
• LON FTT10 serial adaptor to communicate with external BMS managed with LON protocol
• TCP/IP serial adaptor to communicate with external BMS managed with SNMP protocol
• Motorized damper
• Condensate drain pump
• Suction from the top or front discharge plenums
• Adjustable floor stands

Uniflair AM

SDWV – SUWV

Range

Cooling capacity: 5 ÷ 20 kW

Refrigerant R-410A

EC Fans

Available Versions:

- Downflow (SDWV)
- Upflow (SUWV) with bottom, front, and rear suction

TECHNICAL DATA									
SDWV –SUWV MODEL		**0151B**	**0251B**	**0151A**	**0251A**	**0331A**	**0351A**	**0501A**	**0601A**
Fan type		EC Backward-curved centrifugal motor fan							
Power supply	V/ph/Hz	230/1/50Hz		400/3/50Hz					
Fans	Nr.	1	1	1	1	2	2	2	2
Airflow	m3/h	1600	1750	1600	1750	3000	3300	4500	4500
N° of compressors		1	1	1	1	1	1	1	1
Refrigerating Circuits		1	1	1	1	1	1	1	1
Gross Total Cooling Capacity(1) (2)	kW	6,9	8,4	6,9	8,3	9,8	13,6	17,7	19,4
Gross Sensible Cooling Capacity(1) (2)	kW	5,4	6,2	5,4	6,2	8,7	10,6	14,7	15,6
DIMENSIONS									
Height	mm	1740	1740	1740	1740	1740	1740	1740	1740
Length	mm	550	550	550	550	850	850	1200	1200
Depth	mm	450	450	450	450	450	450	450	450

1. Gross Cooling capacities; fans must be deduced to obtain net cooling data.

2. Data refers to nominal conditions: room at 24°C° -50% RH, water temperatures 30-35°C, and ESP = 20Pa.

Standard Features

• Advanced microprocessor control system is included with local or remote user terminal.
• The units are equipped with EC Fans for efficiency maximization.
• The structure of the unit is characterized by a self-supporting frame in galvanized steel with panels. The external panels are coated with RAL9003 epoxy-polyester paint* and internally lined with heat and sound-proofing insulation.
• The cooling coil is designed for an elevated SHR and reduced pressure drops in the air section. The coil is made from copper tubes mechanically expanded on aluminum fins, complete with a hydrophilic treatment.
• Uniflair AM units are in conformity with the following directives: 2006/42/EC, 2004/108/EC, 2006/95/EC, 97/23/EC, 842/2006/EC F-GAS regulation
• 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
• Total front access is available for unit maintenance
• The electrical panel is situated in a compartment separated from the air flow and complies with the 2006/95/EC directive and related standards.
• Microprocessor control system includes:
- Local user terminal with external accessibility
- Integrated LAN card for local network connection of a group of CRACs
- Rotation and active stand-by management
- Free contact for general and two for addressable alarms
- Remote on/off switch
- Ability to interface with Modbus protocol directly on RS485 serial card
- Ability to interface with main external communication protocols: Bacnet, Lonworks, Trend, Metasys, TCP/IP, SNMP, and StruxureWare™ platform

*RAL5013 may be used during transition period.

Construction Options

• Immersed electrode humidifier (D/U versions)
• Low surface temperature electrical heaters with extended fans, complete with safety thermostat and manual resetting (T/H versions)
• Hot gas and hot water reheating
• Electronic expansion valve is controlled by the microprocessor and a dedicated software that increases the precision of the cooling and the energy efficiency of the cooling cycle

Accessories

The units can be supplied with the following external accessories:
• Remote, semi-graphic user terminal
• RS485 serial adaptor to communicate with external BMS
• LON FTT10 serial adaptor to communicate with external BMS managed with LON protocol
• TCP/IP serial adaptor to communicate with external BMS managed with SNMP protocol
• Motorized damper
• Condensate drain pump
• Suction from the top or front discharge plenums
• Adjustable floor stands

Uniflair AM

SDCC – SUCC

Range

Cooling capacity: 5 ÷ 20 kW

Refrigerant Chilled Water

Available Versions:

- Downflow (SDCC)
- Upflow (SUCC) with bottom, front, and rear suction

Standard Features

• Advanced microprocessor control system is available with local or remote user terminal.
• The units are equipped with forward-curved fans With directly-coupled asynchronuos motor.
• The structure of the unit is characterized by a self-supporting frame in galvanized steel with panels. The external panels are coated with RAL9003 epoxy-polyester paint* and internally lined with heat and sound-proofing insulation.
• The unit can be selected with a two-way or three-way valve and an actuator integrated with the microprocessor
• The cooling coil is designed for an elevated SHR and reduced pressure drops in the air section. The coil is made from copper tubes mechanically expanded on aluminum fins, complete with a hydrophilic treatment.
• 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.
• Total front access is available for unit maintenance.
• The electrical panel is situated in a compartment separated from the air flow and complies with the 2006/95/EC directive and related standards
• Microprocessor control system includes:
- Local user terminal with external accessibility
- Integrated LAN card for local network connection of a group of CRACs
- Rotation and active stand-by management
- Free contact for general and two for addressable alarms
- Remote on/off switch
- Ability to interface with Modbus protocol directly on RS485 serial card
- Ability to interface with main external communication protocols: Bacnet, Lonworks, Trend, Metasys, TCP/IP, SNMP, and StruxureWare™ platform

*RAL5013 may be used during transition period.

TECHNICAL DATA						
SDCC–SUCC MODEL		**0200A(3)**	**0250A(3)**	**0300A(3)**	**0400A(3)**	**0600A(3)**
Fan type		Forward-curved centrifugal motor fan				
Power supply	V/ph/Hz	400/3/50Hz				
Fans	Nr.	1	1	1	2	2
Airflow	m3/h	1600	2300	2300	3350	4500
Gross Total Cooling Capacity(1) (2)	kW	7,2	10,0	11,3	14,1	20,6
Gross Sensible Cooling Capacity(1) (2)	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
SDCC–SUCC MODEL		**0200B**	**0250B**	**0300B**	**0400B**	**0600B**
Fan type		Forward-curved centrifugal motor fan				
Power supply	V/ph/Hz	230/1/50Hz				
Fans		1	1	1	2	2
Airflow	m3/h	1600	2300	2300	3350	4500
Gross Total Cooling Capacity(1) (2)	kW	7,2	10,0	11,3	14,1	20,6
Gross Sensible Cooling Capacity(1) (2)	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

1. Data refers to nominal conditions: room at 24°C-50% RH,water temperature 7/12°C, and glycol 0%, and ESP = 20Pa.
2. Gross Cooling capacities; fans must be deduced to obtain net cooling data.
3. Equipped with standard electrical heaters.

Construction Options

• Double power supply with automatic, integrated management on the active line
• Immersed electrode humidifier (D/U versions)
• Low surface temperature electrical heaters with extended fans, complete with double safety thermostat and manual resetting (T/H versions)
• Discharge temperature sensor integrated with the microprocessor to grant discharge temperature control; in combination with D and U version, moisture control can be selected

Accessories

The units can be supplied with the following external accessories:
• Remote, semi-graphic user terminal
• RS485 serial adaptor to communicate with external BMS
• LON FTT10 serial adaptor to communicate with external BMS managed with LON protocol
• TCP/IP serial adaptor to communicate with external BMS managed with SNMP protocol
• Motorized damper
• Suction from the top or front discharge plenums
• Adjustable floor stands

Uniflair AM

SDCV – SUCV

Range

Cooling capacity: 5 ÷ 20 kW

Refrigerant Chilled Water

EC Fans

Available Versions:

- Downflow (SDCV)
- Upflow (SUCV) with bottom, front, and rear suction

Standard Features

• Advanced microprocessor control system is available with local or remote user terminal.
• The units are equipped with EC fans for efficiency maximization.
• The structure of the unit is characterized by a self-supporting frame in galvanized steel with panels. The external panels are coated with RAL9003 epoxy-polyester paint* and internally lined with heat and sound-proofing insulation.
• The unit can be selected with a two-way or three-way valve and an actuator integrated with the microprocessor.
• The cooling coil is designed for an elevated SHR and reduced pressure drops in the air section. The coil is made from copper tubes mechanically expanded on aluminum fins, complete with a hydrophilic treatment.
• 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.
• Total front access is included for unit maintenance.
• The electrical panel is situated in a compartment separated from the air flow and complies with the 2006/95/EC directive and related standards.

• Microprocessor control system includes:
- Local user terminal with external accessibility
- Integrated LAN card for local network connection of a group of CRACs
- Rotation and active stand-by management
- Free contact for general and two for addressable alarms
- Remote on/off switch
- Ability to interface with Modbus protocol directly on RS485 serial card
- Ability to interface with main external communication protocols: Bacnet, Lonworks, Trend, Metasys, TCP/IP, SNMP, and StruxureWare™ platform

*RAL5013 may be used during transition period.

TECHNICAL DATA						
SDCV -SUCV MODEL		**0200A(3)**	**0250A(3)**	**0300A(3)**	**0400A(3)**	**0600A(3)**
Fan type		EC Backward-curved centrifugal motor fan				
Power supply	V/ph/Hz	400/3/50Hz				
Fans	Nr.	1	1	1	2	2
Airflow	m3/h	1600	2100	2100	3350	5000
Gross Total Cooling Capacity(1) (2)	kW	7,2	9,4	10,6	14,1	22,1
Gross Sensible Cooling Capacity(1) (2)	kW	6,4	8,3	9,2	12,9	19,7
DIMENSIONS						
Height	mm	1740	1740	1740	1740	1740
Length	mm	550	850	850	850	1200
Depth	mm	450	450	450	450	450
SDCV -SUCV MODEL		**0200B**	**0250B**	**0300B**	**0400B**	**0600B**
Fan type		EC Backward-curved centrifugal motor fan				
Power supply	V/ph/Hz	230/1/50Hz				
Fans		1	1	1	2	2
Airflow	m3/h	1600	2100	2100	3350	5000
Gross Total Cooling Capacity(1) (2)	kW	7,2	9,4	10,6	14,1	22,1
Gross Sensible Cooling Capacity(1) (2)	kW	6,4	8,3	9,2	12,9	19,7
DIMENSIONS						
Height	mm	1740	1740	1740	1740	1740
Length	mm	550	850	850	850	1200
Depth	mm	450	450	450	450	450

1. Data refer to nominal conditions: Room at 24°C-50% RH,water temperature 7/12°C, and glycol 0%, and ESP = 20Pa.
2. Gross Cooling capacities; fans must be deduced to obtain net cooling datas.
3. Equipped with standard electrical heaters.

Construction Options

• Double power supply with automatic, integrated management on the active line
• Immersed electrode humidifier (D/U versions)
• Low surface temperature electrical heaters with extended fans, complete with double safety thermostat and manual resetting (T/H versions)
• Discharge temperature sensor integrated with the microprocessor to allow discharge temperature control; in combination with D and U version can be selected moisture control

Accessories

The units can be supplied with the following external accessories:
• Remote, semi-graphic user terminal
• RS485 serial adaptor to communicate with external BMS
• LON FTT10 serial adaptor to communicate with external BMS managed with LON protocol
• TCP/IP serial adaptor to communicate with external BMS managed with SNMP protocol
• AFPS (Automatic Floor Pressurization System) that permits to adapt its availability as a kit with installation instructions
• Motorized damper
• Suction from the top or front discharge plenums
• Adjustable floor stands

Uniflair LE

TDAR – TUAR

Range

Cooling capacity: 20 ÷ 100 kW

Refrigerant R-410A

Available Versions:

- Downflow (TDAR)
- Upflow (TUAR)

Standard Features

• Advanced microprocessor control system is included with local or remote user terminal.
• The units are equipped with backward-curved fans with directly-coupled asynchronous motor.
• The structure of the unit is characterized by a self-supporting frame in galvanized steel with panels. The external panels are coated with RAL9003 epoxy-polyester paint* and internally lined with heat and sound-proofing insulation.
• Electronic expansion valve is controlled by the microprocessor with a dedicated software that increases the precision of the cooling and the energy efficiency of the cooling cycle.
• The cooling coil is designed for an elevated SHR and reduced pressure drops in the air section. The coil is made from copper tubes mechanically expanded on aluminum fins, complete with a hydrophilic treatment.
• 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.
• Total front access is included for unit maintenance
• The electrical panel is situated in a compartment separated from the air flow and complies with the 2006/95/EC directive and related standards.
• Microprocessor control system includes:
- Regulation logic of cooling capacity and airlow integration
- Local user terminal with external accessibility
- Integrated LAN card for local network connection of a group of CRACs
- Rotation and active stand-by management
- Free contact for general and two for addressable alarms
- Remote on/off switch
- Ability to interface with Modbus protocol directly on RS485 serial card (adding this option)
- Ability to interface with main external communication protocols: Bacnet, Lonworks, Trend, Metasys, TCP/IP, SNMP, and StruxureWare™ platform

*RAL5013 may be used during transition period.

Construction Options

• Immersed electrode humidifier (D/U versions)
• Low surface temperature electrical heaters with extended fans, complete with double safety thermostat and manual resetting (T/H versions)
• Hot gas and hot water reheating

Accessories

The units can be supplied with the following external accessories:
• Remote, semi-graphic user terminal
• RS485 serial adaptor to communicate with external BMS
• LON FTT10 serial adaptor to communicate with external BMS managed with LON protocol
• TCP/IP serial adaptor to communicate with external BMS managed with SNMP protocol
• AFPS (Automatic Floor Pressurization System) that permits to adapt its availability as a kit with installation instructions
• Motorized damper
• Suction from the top or front discharge plenums
• Adjustable floor stands

TECHNICAL DATA								
TDAR –TUAR MODEL		**0511A**	**0611A**	**0721A**	**0722A**	**0921A**	**0922A**	**1021A**
Fan type		Backward-curved centrifugal motor fan						
Power supply	V/ph/Hz	400/3/50Hz						
Fans	Nr.	1	1	1	1	1	1	1
Airflow	m3/h	5833	5833	7933	7933	7933	7933	7933
N° of compressors		1	1	2	2	2	2	2
Refrigerating Circuits		1	1	1	2	1	2	1
Gross Total Cooling Capacity(1) (2)	kW	20,4	25,0	25,8	25,6	34,1	33,9	37,1
Gross Sensible Cooling Capacity(1) (2)	kW	19,8	22,2	25,2	23,9	28,1	27,2	28,7
DIMENSIONS								
Height	mm	1960	1960	1960	1960	1960	1960	1960
Length	mm	1010	1010	1310	1310	1310	1310	1310
Depth	mm	750	750	865	865	865	865	865
TDAR –TUAR MODEL		**1022A**	**1121A**	**1122A**	**1321A**	**1322A**	**1422A**	**1622A**
Fans	Nr.	1	1	2	2	2	2	2
Airflow	m3/h	7933	12267	12267	12267	12267	16406	16406
N° of compressors		2	2	2	2	2	2	2
Refrigerating Circuits		2	1	2	1	2	2	2
Gross Total Cooling Capacity(1) (2)	kW	36,9	37,8	37,9	48,0	47,7	51,6	57,5
Gross Sensible Cooling Capacity(1) (2)	kW	28,0	36,8	36,2	39,3	38,0	51,0	56,8
DIMENSIONS								
Height	mm	1960	1960	1960	1960	1960	1960	1960
Length	mm	1010	1720	1720	1720	1720	2170	2170
Depth	mm	865	865	865	865	865	865	865
TDAR –TUAR MODEL		**1822A**	**2222A(3)**	**2242A(3)**	**2522A(3)**	**2542A(3)**	**2842A(3)**	**3342A(3)**
Fans	Nr.	2	3	3	3	3	3	3
Airflow	m3/h	16406	21656	21656	21656	22046	22055	22055
N° of compressors		2	2	4	2	4	4	4
Refrigerating Circuits		2	2	2	2	2	2	2
Gross Total Cooling Capacity(1) (2)	kW	63,9	75,1	81,2	86,7	88,1	97,4	107,6
Gross Sensible Cooling Capacity(1) (2)	kW	57,3	75,1	80,3	83,3	84,5	90,8	92,9
DIMENSIONS								
Height	mm	1960	2150	2150	2150	2150	2150	2150
Length	mm	2170	2580	2580	2580	2580	2580	2580
Depth	mm	865	865	865	865	865	865	865
TUAR MODEL		**2222A**	**2242A**	**2522A**	**2542A**	**2842A**	**3342A**	
Fans	Nr.	3	3	3	3	3	3	
Airflow	m3/h	22154	22154	23467	23467	23068	23068	
N° of compressors		2	4	2	4	4	4	
Refrigerating Circuits		2	2	2	2	2	2	
Gross Total Cooling Capacity(1) (2)	kW	75,4	82,7	86,5	87,5	97,9	108,2	
Gross Sensible Cooling Capacity(1) (2)	kW	75,4	81,8	85,5	86,4	93,8	95,6	
DIMENSIONS								
Height	mm	1960	1960	1960	1960	1960	1960	
Length	mm	2580	2580	2580	2580	2580	2580	
Depth	mm	865	865	865	865	865	865	

1. Gross Cooling capacities; fans must be deduced to obtain net cooling data.

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

3. Data refers to downflow unit.

[Direct Expansion air-cooled units with backward-curved fans equipped with EC motor]

Uniflair LE

TDAV – TUAV

Range

Cooling capacity: 20 ÷ 100 kW

Refrigerant R-410A

EC Fans

Available Versions:

- Downflow (TDAV)
- Upflow (TUAV)

Standard Features

• Advanced microprocessor control system is available with local or remote user terminal.
• The units are equipped with EC fans for efficiency maximization.
• The structure of the unit is characterized by a self-supporting frame in galvanized steel with panels. The external panels are coated with RAL9003 epoxy-polyester paint* and internally lined with heat and sound-proofing insulation.
• Electronic expansion valve is controlled by the microprocessor and a dedicated software that increases the cooling precision and the energy efficiency of the cooling cycle.
• The cooling coil is designed for an elevated SHR and reduced pressure drops in the air section. The coil is made from copper tubes mechanically expanded on aluminum fins, complete with a hydrophilic treatment.
• Uniflair LE units meet the following directives: 2006/42/EC, 2004/108/EC, 2006/95/EC, 97/23/EC, 842/2006/EC F-GAS regulation.
• 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.
• The Uniflair LE range offers the possibility to select units equipped with two compressors (tandem) for each circuit,, granting better efficiency and regulation capacity at partial loads (models with the **21 or **42 suffix).
• Total front access is available for unit maintenance.
• The electrical panel is situated in a compartment separated from the air flow and complies with the 2006/95/EC directive and related standards.
• Microprocessor control system includes:
- Integrated management of the EEV and refrigerating circuit parameters
- Local user terminal with external accessibility
- Integrated LAN card for local network connection of a group of CRACs
- Rotation and active stand-by management
- Free contact for general and two for addressable alarms
- Remote on/off switch
- Ability to interface with Modbus protocol directly on RS485 serial card
- Ability to interface with main external communication protocols: Bacnet, Lonworks, Trend, Metasys, TCP/IP, SNMP, and StruxureWare™ platform

*RAL5013 may be used during transition period.

Construction Options

• Immersed electrode humidifier (D/U versions)
• Low surface temperature electrical heaters with extended fans, complete with double safety thermostat and manual resetting (T/H versions)
• Hot gas and hot water reheating

Accessories

The units can be supplied with the following external accessories:
• Remote, semi-graphic user terminal
• RS485 serial adaptor to communicate with external BMS
• LON FTT10 serial adaptor to communicate with external BMS managed with LON protocol
• TCP/IP serial adaptor to communicate with external BMS managed with SNMP protocol
• AFPS (Automatic Floor Pressurization System) that permits to adapt its availability as a kit with installation instructions
• Motorized damper
• Condensate drain pump
• Suction from the top or front discharge plenums
• Adjustable floor stands

TECHNICAL DATA								
TDAV –TUAV MODEL		**0511A**	**0611A**	**0721A**	**0722A**	**0921A**	**0922A**	**1021A**
Fan type		EC Backward-curved centrifugal motor fan						
Power supply	V/ph/Hz	400/3/50Hz						
Fans	Nr.	1	1	1	1	1	1	1
Airflow	m3/h	5700	5700	8600	8600	8600	8600	8600
N° of compressors		1	1	2	2	2	2	2
Refrigerating Circuits		1	1	1	2	1	2	1
Gross Total Cooling Capacity(1) (2)	kW	20,3	24,9	25,6	25,8	34,5	34,2	37,6
Gross Sensible Cooling Capacity(1) (2)	kW	19,7	21,9	25,4	25,3	29,6	28,4	30,1
DIMENSIONS								
Height	mm	1960	1960	1960	1960	1960	1960	1960
Length	mm	1010	1010	1310	1310	1310	1310	1310
Depth	mm	750	750	865	865	865	865	865
TDAV –TUAV MODEL		**1022A**	**1121A**	**1122A**	**1321A**	**1322A**	**1422A**	**1622A**
Fans	Nr.	1	1	2	2	2	2	2
Airflow	m3/h	8600	12320	12320	12320	12320	16300	16500
N° of compressors		2	2	2	2	2	2	2
Refrigerating Circuits		2	1	2	1	2	2	2
Gross Total Cooling Capacity(1) (2)	kW	37,3	37,6	37,9	48,1	47,7	51,5	41,3
Gross Sensible Cooling Capacity(1) (2)	kW	29,2	36,7	36,3	39,4	38,0	50,9	40,1
DIMENSIONS								
Height	mm	1960	1960	1960	1960	1960	1960	1960
Length	mm	1010	1720	1720	1720	1720	2170	2170
Depth	mm	865	865	865	865	865	865	865
TDAV –TUAV MODEL		**1822A**	**2222A(3)**	**2242A(3)**	**2522A(3)**	**2542A(3)**	**2842A(3)**	**3342A(3)**
Fans	Nr.	2	3	3	3	3	3	3
Airflow	m3/h	16500	21500	21500	21500	21500	21500	21500
N° of compressors		2	2	4	2	4	4	4
Refrigerating Circuits		2	2	2	2	2	2	2
Gross Total Cooling Capacity(1) (2)	kW	64,0	75,0	82,7	86,6	87,8	94,8	104,8
Gross Sensible Cooling Capacity(1) (2)	kW	57,5	75,0	81,8	82,8	83,0	87,5	89,6
DIMENSIONS								
Height	mm	1960	2175	2175	2175	2175	2175	2175
Length	mm	2170	2580	2580	2580	2580	2580	2580
Depth	mm	865	865	865	865	865	865	865
TUAV MODEL		**2222A**	**2242A**	**2522A**	**2542A**	**2842A**	**3342A**	
Fans	Nr.	3	3	3	3	3	3	
Airflow	m3/h	22000	22000	22500	22500	23000	23000	
N° of compressors		2	4	2	4	4	4	
Refrigerating Circuits		2	2	2	2	2	2	
Gross Total Cooling Capacity(1) (2)	kW	75,3	82,6	86,8	88,3	95,6	105,6	
Gross Sensible Cooling Capacity(1) (2)	kW	75,3	81,7	85,8	85,7	91,8	93,6	
DIMENSIONS								
Height	mm	1960	1960	1960	1960	1960	1960	
Length	mm	2580	2580	2580	2580	2580	2580	
Depth	mm	865	865	865	865	865	865	

1. Gross Cooling capacities; fans must be deduced to obtain net cooling data.

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

3. Data refers to downflow unit.

Uniflair LE

TDWR – TUWR

Range

Cooling capacity: 20 ÷ 100 kW

Refrigerant R-410A

Available Versions:

- Downflow (TDWR)
- Upflow (TUWR)

Standard Features

• Advanced microprocessor control system is available with local or remote user terminal.
• The units are equipped with backward-curved fans and directly-coupled asynchronuos motor.
• The structure of the unit is characterized by a self-supporting frame in galvanized steel with panels. The external panels are coated with RAL9003 epoxy-polyester paint* and internally lined with heat and sound-proofing insulation.
• Electronic expansion valve is controlled by the microprocessor and a dedicated software that increases the precision of the cooling and the energy efficiency of the cooling cycle.
• The cooling coil is designed for an elevated SHR and reduced pressure drops in the air section. The coil is made from copper tubes mechanically expanded on aluminum fins, complete with a hydrophilic treatment.
• Internal water-cooled condenser braze is welded and made of AISI 304 stainless steel.
• Uniflair LE units meet the following directives: 2006/42/EC, 2004/108/EC, 2006/95/EC, 97/23/EC, 842/2006/EC F-GAS regulation.
• 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.
• The Uniflair LE range offers the possibility to select units equipped with two compressors (tandem) for each circuit, which grants better efficiency and regulation capacity at partial loads (models with the **21 or **42 suffix).
• Total front access is available for unit maintenance.
• The electrical panel is situated in a compartment separated from the air flow and complies with the 2006/95/EC directive and related standards.
• Microprocessor control system includes:
- Integrated management of the EEV and refrigerating circuit parameters
- Local user terminal with external accessibility
- Integrated LAN card for local network connection of a group of CRACs
- Rotation and ctive stand-by management
- Free contact for general and two for addressable alarms
- Remote on/off switch
- Ability to interface with Modbus protocol directly on RS485 serial card
- Ability to interface with main external communication protocols: Bacnet, Lonworks, Trend, Metasys, TCP/IP, SNMP, and StruxureWare™ platform

*RAL5013 may be used during transition period.

TECHNICAL DATA						
TDWR-TUWR MODEL		**0611A**	**0921A**	**1321A**	**1622A**	**1822A**
Fan type		Backward-curved centrifugal motor fan				
Power supply	V/ph/Hz	400/3/50Hz				
Fans	Nr.	1	1	2	2	2
Airflow	m3/h	5833	7933	12267	16406	16406
N° of compressors		1	2	2	2	2
Refrigerating Circuits		1	1	1	2	2
Gross Total Cooling Capacity(1) (2)	kW	24,1	32,1	45,5	56,8	62,5
Gross Sensible Cooling Capacity(1) (2)	kW	21,7	27,2	38,0	55,2	56,1
DIMENSIONS						
Height	mm	1960	1960	1960	1960	1960
Length	mm	1010	1310	1720	2170	2170
Depth	mm	750	865	865	865	750
TDWR MODEL		**2242A**	**2542A**	**2842A**	**3342A**	
Fans	Nr.	3	3	3	3	
Airflow	m3/h	21656	22046	22055	22055	
N° of compressors		4	4	4	4	
Refrigerating Circuits		2	2	2	2	
Gross Total Cooling Capacity(1) (2)	kW	85,7	92,6	99,9	111,1	
Gross Sensible Cooling Capacity(1) (2)	kW	82,1	84,2	90,3	92,2	
DIMENSIONS						
Height	mm	2150	2150	2150	2150	
Length	mm	2580	2580	2580	2580	
Depth	mm	865	865	865	865	
TUWR MODEL		**2242A**	**2542A**	**2842A**	**3342A**	
Fans	Nr.	3	3	3	3	
Airflow	m3/h	22154	23467	23068	23069	
N° of compressors		4	4	4	4	
Refrigerating Circuits		2	2	2	2	
Gross Total Cooling Capacity(1) (2)	kW	86,0	93,4	100,5	111,7	
Gross Sensible Cooling Capacity(1) (2)	kW	83,4	87,9	93,1	94,7	
DIMENSIONS						
Height	mm	1960	1960	1960	1960	
Length	mm	2580	2580	2580	2580	
Depth	mm	865	865	865	865	

1. Gross Cooling capacities; fans must be deduced to obtain net cooling data.

2. Data refers to nominal conditions : room at 24°C° -50% RH, water temperatures 30-35°C, and ESP = 20Pa.

Construction Options

• Immersed electrode humidifier (D/U versions)
• Low surface temperature electrical heaters with extended fans, complete with double safety thermostat and manual resetting (T/H versions)
• Hot gas and hot water reheating
• Condensation control on refrigerant side with constant water flow
• RS485 serial adaptor to communicate with external BMS
• LON FTT10 serial adaptor to communicate with external BMS managed with LON protocol
• TCP/IP serial adaptor to communicate with external BMS managed with SNMP protocol
• AFPS (Automatic Floor Pressurization System) that permits to adapt its availability as a kit with installation instructions
• Motorized damper
• Condensate drain pump
• Suction from the top or front discharge plenums
• Adjustable floor stands

Accessories

The units can be supplied with the following external accessories:
• Remote, semi-graphic user terminal

Uniflair LE

TDWV – TUWV

Range

Cooling capacity: 20 ÷ 100 kW

Refrigerant R-410A

EC Fans

Available Versions:

- Downflow (TDWV)
- Upflow (TUWV)

Standard Features

• Advanced microprocessor control system with a local or remote user terminal.
• The units are equipped with EC fans for efficiency maximization.
• The structure of the unit is characterized by a self-supporting frame in galvanized steel with panels. The external panels are coated with RAL9003 epoxy-polyester paint* and internally lined with heat and sound-proofing insulation.
• Electronic expansion valve is controlled by the microprocessor and a dedicated software that increases the precision of the cooling and the energy efficiency of the cooling cycle.
• The cooling coil is designed for an elevated SHR and reduced pressure drops in the air section. The coil is made from copper tubes mechanically expanded on aluminum fins, complete with a hydrophilic treatment.
• Internal water-cooled condenser braze is welded and made of AISI 304 stainless steel.
• Uniflair LE units meet the following directives: 2006/42/EC, 2004/108/EC, 2006/95/EC, 97/23/EC, 842/2006/EC F-GAS regulation.
• 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.
• The Uniflair LE range offers the possibility to select units equipped with two compressors (tandem) for each circuit, which grants better efficiency and regulation capacity at partial loads (models with the **21 or **42 suffix).
• Total front access is available for unit maintenance.
• The electrical panel is situated in a compartment separated from the air flow and complies with the 2006/95/EC directive and related standards.
• Microprocessor control system includes:
- Integrated management of the EEV and refrigerating circuit parameters
- Local user terminal with external accessibility
- Integrated LAN card for local network connection of a group of CRACs
- Rotation and active stand-by management
- Free contact for general and two for addressable alarms
- Remote on/off switch
- Ability to interface with Modbus protocol directly on RS485 serial card
- Ability to interface with main external communication protocols: Bacnet, Lonworks, Trend, Metasys, TCP/IP, SNMP, and StruxureWare™ platform

*RAL5013 may be used during transition period.

TECHNICAL DATA						
TDWV –TUWV MODEL		**0611A**	**0921A**	**1321A**	**1622A**	**1822A**
Fan type		EC Backward-curved centrifugal motor fan				
Power supply	V/ph/Hz	400/3/50Hz				
Fans	Nr.	1	1	2	2	2
Airflow	m3/h	5700	8600	12320	16000	16000
N° of compressors		1	2	2	2	2
Refrigerating Circuits		1	1	1	2	2
Gross Total Cooling Capacity(1) (2)	kW	24,0	32,5	45,6	56,7	62,3
Gross Sensible Cooling Capacity(1) (2)	kW	21,3	28,6	38,1	54,3	55,2
DIMENSIONS						
Height	mm	1960	1960	1960	1960	1960
Length	mm	1010	1310	1720	2170	2170
Depth	mm	750	865	865	865	750
TDWV MODEL		**2242A**	**2542A**	**2842A**	**3342A**	
Fans	Nr.	3	3	3	3	
Airflow	m3/h	21500	21500	21500	21500	
N° of compressors		4	4	4	4	
Refrigerating Circuits		2	2	2	2	
Gross Total Cooling Capacity(1) (2)	kW	85,7	92,3	99,5	110,7	
Gross Sensible Cooling Capacity(1) (2)	kW	81,6	82,8	88,8	90,8	
DIMENSIONS						
Height	mm	1960	2150	2150	2150	
Length	mm	2580	2580	2580	2580	
Depth	mm	865	865	865	865	
TUWV MODEL		**2242A**	**2542A**	**2842A**	**3342A**	
Fans	Nr.	3	3	3	3	
Airflow	m3/h	22000	22500	23000	23000	
N° of compressors		4	4	4	4	
Refrigerating Circuits		2	2	2	2	
Gross Total Cooling Capacity(1) (2)	kW	85,9	92,9	100,4	111,7	
Gross Sensible Cooling Capacity(1) (2)	kW	83,0	85,4	92,9	94,6	
DIMENSIONS						
Height	mm	1960	1960	1960	1960	
Length	mm	2580	2580	2580	2580	
Depth	mm	865	865	865	865	

1. Gross Cooling capacities; fans must be deduced to obtain net cooling data.

2. Data refers to nominal conditions : room at 24°C° -50% RH, water temperatures 30-35°C, and ESP = 20Pa.

Construction Options

• Immersed electrode humidifier (D/U versions)
• Low surface temperature electrical heaters with extended fans, complete with double safety thermostat and manual resetting (T/H versions)
• Hot gas and hot water reheating
• Condensation control on refrigerant side with constant water flow

Accessories

The units can be supplied with the following external accessories:
• Remote, semi-graphic user terminal
• RS485 serial adaptor to communicate with external BMS
• LON FTT10 serial adaptor to communicate with external BMS managed with LON protocol
• TCP/IP serial adaptor to communicate with external BMS managed with SNMP protocol
• AFPS (Automatic Floor Pressurization System) that permits to adapt its availability as a kit with installation instructions
• Motorized damper
• Condensate drain pump
• Suction from the top or front discharge plenums
• Adjustable floor stands

Uniflair LE

TDCR – TUCR

Range

Cooling capacity: 20 ÷ 160 kW

Refrigerant Chilled Water

Available Versions:

- Downflow (TDCR)
- Upflow (TUCR)

Standard Features

• Advanced microprocessor control system is available with a local or remote user terminal.
• The units are equipped with backward-curved fans and directly-coupled asynchronuos motor.
• The structure of the unit is characterized by a self-supporting frame in galvanized steel with panels. The external panels are coated with RAL9003 epoxy-polyester paint* and internally lined with heat and sound-proofing insulation.
• The unit can be selected with a two-way or three-way valve and an actuator integrated with the microprocessor.
• The cooling coil is designed for an elevated SHR and reduced pressure drops in the air section. The coil is made from copper tubes mechanically expanded on aluminum fins, complete with a hydrophilic treatment.
• 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.
• Total front access is available for unit maintenance.
• The electrical panel is situated in a compartment separated from the air flow and complies with the 2006/95/EC directive and related standards.
• Microprocessor control system includes:
- Local user terminal with external accessibility
- Integrated LAN card for local network connection of a group of CRACs
- Rotation and active stand-by management
- Free contact for general and two for addressable alarms
- Remote on/off switch
- Ability to interface with Modbus protocol directly on RS485 serial card
- Ability to interface with main external communication protocols: Bacnet, Lonworks, Trend, Metasys, TCP/IP, SNMP, and StruxureWare™ platform

*RAL5013 may be used during transition period.

TECHNICAL DATA								
TDCR –TUCR MODEL		**0600B**	**0700B**	**0600A**	**0700A**	**1000A**	**1200A**	**1700A**
Fan type		Backward-curved centrifugal motor fan						
Power supply	V/ph/Hz	230/1/50Hz		400/3/50Hz				
Fans	Nr.	1	1	1	1	1	1	2
Airflow	m3/h	5936	6193	5936	6193	10148	10723	14297
Gross Total Cooling Capacity(1) (2)	kW	23,7	26,7	23,7	26,7	33,8	42,7	56,7
Gross Sensible Cooling Capacity(1) (2)	kW	21,6	24,0	21,6	24,0	32,5	39,3	51,5
DIMENSIONS								
Height	mm	1960	1960	1960	1960	1960	1960	1960
Length	mm	1010	1010	1010	1010	1310	1310	1720
Depth	mm	750	750	750	750	865	865	865
TDCR –TUCR MODEL		**2000A**	**2500A**	**2700A**	**3400A**	**4000A**	**4300A(3)**	
Fan type		Backward-curved centrifugal motor fan						
Power supply	V/ph/Hz	400/3/50Hz						
Fans	Nr.	2	2	2	3	3	3	
Airflow	m3/h	18498	18615	19052	24422	25834	27984	
Gross Total Cooling Capacity(1) (2)	kW	70,2	86,4	90,4	110,9	126,0	161,8	
Gross Sensible Cooling Capacity(1) (2)	kW	63,5	76,1	82,7	100,4	112,6	131,9	
DIMENSIONS								
Height	mm	1960	1960	1960	1960	1960	2170	
Length	mm	2170	2170	2170	2582	2582	2582	
Depth	mm	865	865	865	865	865	865	
TDCR –TUCR DUAL COIL		**0700A**	**1000A**	**1700A**	**2000A**	**4000A**	**4300A(3)**	
Fans	Nr.	1	1	2	2	3	3	
Airflow	m3/h	5817	10073	14619	19834	26463	28226	
Gross Total Cooling Capacity(1) (2)	kW	22,3	37,9	58,8	74,3	103,3	109,0	
Gross Sensible Cooling Capacity(1) (2)	kW	22,1	37,6	56,5	72,7	98,9	103,7	
DIMENSIONS								
Height	mm	1960	1960	1960	1960	1960	2170	
Length	mm	1010	1310	1720	2170	2582	2582	
Depth	mm	865	865	865	865	865	865	

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

2. Gross Cooling capacities; fans must be deduced to obtain net cooling data.

3. Only Downflow version is available.

Construction Options

• Double power supply with automatic integrated management on the active line
• Immersed electrode humidifier (D/U versions)
• Low surface temperature electrical heaters with extended fans, complete with double safety thermostat and manual resetting (T/H versions)
• Discharge temperature sensor integrated with the microprocessor to allow discharge temperature control; in combination with D and U version, moisture control can be selected

Options

The units can be supplied with the following external accessories:
• Remote, semi-graphic user terminal
• RS485 serial adaptor to communicate with external BMS
• LON FTT10 serial adaptor to communicate with external BMS managed with LON protocol
• TCP/IP serial adaptor to communicate with external BMS managed with SNMP protocol
• Motorized damper
• Suction from the top or front discharge plenums
• Adjustable floor stands

Uniflair LE

TDCV – TUCV

Range

Cooling capacity: 20 ÷ 160 kW

Refrigerant Chilled Water

EC Fans

Available Versions:

- Downflow (TDCV)
- Upflow (TUCV)

Standard Features

• Advanced microprocessor control system is included with local or remote user terminal.
• The units are equipped with the latest generation Radical EC Fans for efficiency maximization. Impellers are made of high-tech compound material with optimized flow control, combined with or highly efficient GreenTech EC motors.
• The structure of the unit is characterized by a self-supporting frame in galvanized steel with panels. The external panels are coated with RAL9003 epoxy-polyester paint* and internally lined with heat and sound-proofing insulation.
• The unit can be selected with a two-way or three-way valve and an actuator integrated with the microprocessor.
• The cooling coil is designed for an elevated SHR and reduced pressure drops in the air section. The coil is made from copper tubes mechanically expanded on aluminum fins, complete with a hydrophilic treatment.
• 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.
• Total front access is available for unit maintenance.
• The electrical panel is situated in a compartment separated from the air flow and complies with the 2006/95/EC directive and related standards.
• Microprocessor control system includes:
- Regulation logic of cooling capacity and airlow integration
- Regulation logic of cooling capacity and airflow integration
- Local user terminal with external accessibility
- Integrated LAN card for local network connection of a group of CRACs
- Rotation and active stand-by management
- Free contact for general and two for addressable alarms
- Remote on/off switch
- Ability to interface with Modbus protocol directly on RS485 serial card
- Ability to interface with main external communication protocols: Bacnet, Lonworks, Trend, Metasys, TCP/IP, SNMP, and StruxureWare™ platform

*RAL5013 may be used during transition period.

TECHNICAL DATA							
TDCV –TUCV MODEL		**0600A**	**0700A**	**1000A**	**1200A**	**1700A**	**2000A**
Fan type		EC Backward-curved centrifugal motor fan					
Power supply	V/ph/Hz	400/3/50Hz					
Fans	Nr.	1	1	1	1	2	2
Airflow	m3/h	5950	6200	10200	10700	15000	18800
Gross Total Cooling Capacity(1) (2)	kW	23,7	26,7	33,9	42,7	58,5	70,9
Gross Sensible Cooling Capacity(1) (2)	kW	21,6	24,0	32,6	39,3	53,3	64,2
DIMENSIONS							
Height	mm	1960	1960	1960	1960	1960	1960
Length	mm	1010	1010	1310	1310	1720	2170
Depth	mm	750	750	865	865	865	865
TDCR –TUCR MODEL		**2500A**	**2700A**	**3400A**	**4000A**	**4300A(3)**	
Fans	Nr.	2	2	3	3	3	
Airflow	m3/h	18800	18800	24800	25200	29500	
Gross Total Cooling Capacity(1) (2)	kW	86,9	89,5	112,1	123,7	168,5	
Gross Sensible Cooling Capacity(1) (2)	kW	76,7	81,8	101,6	110,4	138,0	
DIMENSIONS							
Height	mm	1960	1960	1960	1960	2170	
Length	mm	2170	2170	2582	2582	2582	
Depth	mm	865	865	865	865	865	
TDCV –TUCV DUAL COIL		**0700A**	**1000A**	**1700A**	**2000A**	**4000A**	**4300A(3)**
Fans	Nr.	1	1	2	2	3	3
Airflow	m3/h	5875	10000	14400	19000	27500	29500
Gross Total Cooling Capacity(1) (2)	kW	22,5	37,7	58,2	72,3	105,8	112,2
Gross Sensible Cooling Capacity(1) (2)	kW	22,3	37,4	55,9	70,6	101,5	107,0
DIMENSIONS							
Height	mm	1960	1960	1960	1960	1960	2170
Length	mm	1010	1310	1720	2170	2582	2582
Depth	mm	865	865	865	865	865	865

1. Data refers to nominal conditions: Room at 24°C-50% RH,water temperature 7/12°C, glycol 0%, and ESP = 20Pa
2. Gross Cooling capacities; fans must be deduced to obtain net cooling data.
3. Only Downflow version is available.

Construction Options

• Double power supply with automatic integrated management on the active line
• Immersed electrode humidifier (D/U versions)
• Low surface temperature electrical heaters with extended fans, complete with double safety thermostat and manual resetting (T/H versions)
• Discharge temperature sensor integrated with the microprocessor to allow discharge temperature control; in combination with D and U version moisture control can be selected

Accessories

The units can be supplied with the following external accessories:
• Remote, semi-graphic user terminal
• RS485 serial adaptor to communicate with external BMS
• LON FTT10 serial adaptor to communicate with external BMS managed with LON protocol
• TCP/IP serial adaptor to communicate with external BMS managed with SNMP protocol
• AFPS (Automatic Floor Pressurization System) that permits to adapt its availability as a kit with installation instructions
• Motorized damper
• Suction from the top or front discharge plenums
• Adjustable floor stands

[Energy-saving units with backward-curved fans]

Uniflair LE

TDER – TUER

Range

Cooling capacity: 20 ÷ 100 kW

Refrigerant R-410A

Available Versions:

- Downflow (TDER)
- Upflow (TUER)

Standard Features

• Advanced microprocessor control system is available with local or remote user terminal.
• The units are equipped with backward-curved fans with directly-coupled asynchronous motor.
• The structure of the unit is characterized by a self-supporting frame in galvanized steel with panels. The external panels are coated with RAL9003 epoxy-polyester paint* and internally lined with heat and sound-proofing insulation.
• Electronic expansion valve is controlled by the microprocessor and a dedicated software that increases the precision of the cooling and the energy efficiency of the cooling cycle.
• The cooling coil is designed for an elevated SHR and reduced pressure drops in the air section. The coil is made from copper tubes mechanically expanded on aluminum fins, complete with a hydrophilic treatment.
• The cooling coil is characterized by chilled water and direct expansion circuits interlaced to increase the efficiency of the unit in all running conditions.
• Unit is equipped with an indirect free cooling system that provides the required cooling capacity when the external temperature is lower than the internal ambient. Compressor power consumption is minimized while internal and external environments are kept separate.
• Internal water-cooled condenser braze is welded and made of AISI 304 stainless steel.
• Uniflair LE units meet the following directives: 2006/42/EC, 2004/108/EC, 2006/95/EC, 97/23/EC, 842/2006/EC F-GAS regulation.
• 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.
• The Uniflair LE range offers the possibility to select units equipped with two compressors (tandem) for each circuit, which grants better efficiency and regulation capacity at partial loads (models with the **21 or **42 suffix).
• Total front access is available for unit maintenance.
• The electrical panel is situated in a compartment separated from the air flow and complies with the 2006/95/EC directive and related standards.

• Microprocessor control system includes:
- Integrated management of the EEV and refrigerating circuit parameters
- Local user terminal with external accessibility
- Integrated LAN card for local network connection of a group of CRACs
- Rotation and active stand-by management
- Free contact for general and two for addressable alarms
- Remote on/off switch
- Ability to interface with Modbus protocol directly on RS485 serial card
- Ability to interface with main external communication protocols: Bacnet, Lonworks, Trend, Metasys, TCP/IP, SNMP, and StruxureWare™ platform

*RAL5013 may be used during transition period.

Construction Options

• Immersed electrode humidifier (D/U versions)
• Low surface temperature electrical heaters with extended fans, complete with double safety thermostat and manual resetting (T/H versions)
• Hot gas and hot water reheating
• Condensation control on refrigerant side with constant water flow

Accessories

The units can be supplied with the following external accessories:
• Remote, semi-graphic user terminal
• RS485 serial adaptor to communicate with external BMS
• LON FTT10 serial adaptor to communicate with external BMS managed with LON protocol
• TCP/IP serial adaptor to communicate with external BMS managed with SNMP protocol
• AFPS (Automatic Floor Pressurization System) that permits to adapt its availability as a kit with installation instructions
• Motorized damper
• Condensate drain pump
• Suction from the top or front discharge plenums
• Adjustable floor stands

TECHNICAL DATA								
	TDER –TUER MODEL		**0511A**	**0611A**	**0721A**	**0722A**	**0921A**	**0922A**	**1021A**
	Fan type		Backward-curved centrifugal motor fan						
	Power supply	V/ph/Hz	400/3/50Hz						
	Fans	Nr.	1	1	1	1	1	1	1
	Airflow	m3/h	5827	5827	8541	8541	8541	8541	8541
	N° of compressors		1	1	2	2	2	2	2
	Refrigerating Circuits		1	1	1	2	1	2	1
DX MODE	Gross Total Cooling Capacity(1) (2)	kW	19,2	23,8	27,0	28,5	30,4	32,1	34,6
DX MODE	Gross Sensible Cooling Capacity(1) (2)	kW	19,2	21,1	27,0	28,5	28,5	27,9	30,3
CW MODE	Gross Total Cooling Capacity(1) (3)	kW	20,5	20,5	28,3	28,3	28,3	28,3	28,3
CW MODE	Gross Sensible Cooling Capacity(1) (3)	kW	20,4	20,4	28,2	28,2	28,2	28,2	28,2
	DIMENSIONS								
	Height	mm	1960	1960	1960	1960	1960	1960	1960
	Length	mm	1010	1010	1310	1310	1310	1310	1310
	Depth	mm	750	750	865	865	865	865	865
	TDER –TUER MODEL		**1022A**	**1121A**	**1122A**	**1321A**	**1322A**	**1422A**	**1622A**
	Fans	Nr.	1	1	2	2	2	2	2
	Airflow	m3/h	8541	13277	13277	13277	13277	15906	15906
	N° of compressors		2	2	2	2	2	2	2
	Refrigerating Circuits		2	1	2	1	2	2	2
DX MODE	Gross Total Cooling Capacity(1) (2)	kW	37,1	37,3	39,3	47,0	50,2	49,6	55,9
DX MODE	Gross Sensible Cooling Capacity(1) (2)	kW	30,3	37,3	39,3	42,3	41,5	49,6	55,9
CW MODE	Gross Total Cooling Capacity(1) (3)	kW	28,3	41,9	41,9	41,9	41,9	54,0	54,0
CW MODE	Gross Sensible Cooling Capacity(1) (3)	kW	28,2	41,7	41,7	41,7	41,7	53,7	53,7
	DIMENSIONS								
	Height	mm	1960	1960	1960	1960	1960	1960	1960
	Length	mm	1010	1720	1720	1720	1720	2170	2170
	Depth	mm	750	750	865	865	865	865	865
	TDER MODEL		**1822A**	**2222A(4)**	**2242A(4)**	**2522A(4)**	**2542A(4)**	**2842A(4)**	
	Fans	Nr.	2	3	3	3	3	3	
	Airflow	m3/h	15906	21809	21809	21809	21809	21809	
	N° of compressors		2	2	4	2	4	4	
	Refrigerating Circuits		2	2	2	2	2	2	
DX MODE	Gross Total Cooling Capacity(1) (2)	kW	60,5	78,4	83,6	86,2	87,9	96,0	
DX MODE	Gross Sensible Cooling Capacity(1) (2)	kW	55,8	72,0	78,3	75,0	75,5	77,7	
CW MODE	Gross Total Cooling Capacity(1) (3)	kW	54,0	97,6	97,6	97,6	97,6	97,6	
CW MODE	Gross Sensible Cooling Capacity(1) (3)	kW	53,7	96,7	96,7	96,7	96,7	96,7	
	DIMENSIONS								
	Height	mm	1960	2150	2150	2150	2150	2150	
	Length	mm	2170	2580	2580	2580	2580	2580	
	Depth	mm	750	750	865	865	865	865	
	TUER MODEL		**2222A**	**2242A**	**2522A**	**2542A**	**2842A**		
	Fans	Nr.	3	3	3	3	3		
	Airflow	m3/h	22160	22160	23194	23194	23194		
	N° of compressors		2	4	2	4	4		
	Refrigerating Circuits		2	2	2	2	2		
DX MODE	Gross Total Cooling Capacity(1) (2)	kW	78,5	83,8	86,8	88,7	96,8		
DX MODE	Gross Sensible Cooling Capacity(1) (2)	kW	72,7	79,2	77,8	78,3	80,4		
CW MODE	Gross Total Cooling Capacity(1) (3)	kW	98,8	98,8	102,3	102,3	102,3		
CW MODE	Gross Sensible Cooling Capacity(1) (3)	kW	97,9	97,9	101,3	101,3	101,3		
	DIMENSIONS								
	Height	mm	1960	1960	1960	1960	1960		
	Length	mm	2580	2580	2580	2580	2580		
	Depth	mm	750	865	865	865	865		

1. Gross Cooling capacities; fans must be deduced to obtain net cooling data.

2. Data refers to nominal conditions : room at 24°C° -50% RH, water temperatures 30-35°C, and ESP = 20Pa.

3. Data refers to nominal conditions: room at 24°C-50% RH,water temperature 7/12°C; glycol 0%, and ESP = 20Pa.

4. Data refers to Downflow unit.

[Energy-saving units with backward-curved fans equipped with EC motor]

Uniflair LE

TDEV – TUEV

Range

Cooling capacity: 20 ÷ 100 kW

Refrigerant R-410A

EC Fans

Available Versions:

- Downflow (TDEV)
- Upflow (TUEV)

Standard Features

• Evoluted microprocessor control system is available with local or remote user terminal.
• The units are equipped with EC fans for efficiency maximization.
• The structure of the unit is characterized by a self-supporting frame in galvanized steel with panels. The external panels are coated with RAL9003 epoxy-polyester paint* and internally lined with heat and sound-proofing insulation.
• Electronic expansion valve is controlled by the microprocessor and a dedicated software that increases the precision of the cooling and the energy efficiency of the cooling cycle.
• Unit is equipped with an indirect free cooling system that provides the required cooling capacity when the external temperature is lower than the internal ambient. Compressor power consumption is minimized while internal and external environments are kept separate.
• The cooling coil is designed for an elevated SHR and reduced pressure drops in the air section. The coil is made from copper tubes mechanically expanded on aluminum fins, complete with a hydrophilic treatment.
• The cooling coil is characterized by chilled water and direct expansion circuits interlaced to increase the efficiency of the unit in all running conditions.
• Internal water-cooled condenser braze is welded and made of AISI 304 stainless steel
• Uniflair LE units meet the following directives: 2006/42/EC, 2004/108/EC, 2006/95/EC, 97/23/EC, 842/2006/EC F-GAS regulation
• 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
• The Uniflair LE range offers the possibility to select units equipped with two compressors (tandem) for each circuit, which grants better efficiency and regulation capacity at partial loads (models with the **21 or **42 suffix)
• Total front access is available for unit maintenance
• The electrical panel is situated in a compartment separated from the air flow and complies with the 2006/95/EC directive and related standards

• Microprocessor control system includes:
- Integrated management of the cooling modes monitoring room temperature, external temperature and glycol circuit temperature;
- Integrated management of the EEV and refrigerating circuit parameters
- Local user terminal with external accessibility
- Integrated LAN card for local network connection of a group of CRACs
- Rotation and active stand-by management
- Free contact for general and two for addressable alarms
- Remote on/off switch
- Ability to interface with Modbus protocol directly on RS485 serial card
- Ability to interface with main external communication protocols: Bacnet, Lonworks, Trend, Metasys, TCP/IP, SNMP, and StruxureWare™ platform

*RAL5013 may be used during transition period.

Construction Options

• Immersed electrode humidifier (D/U versions)
• Low surface temperature electrical heaters with extended fans, complete with double safety thermostat and manual resetting (T/H versions)
• Hot gas and hot water reheating

Accessories

The units can be supplied with the following external accessories:
• Remote, semi-graphic user terminal
• RS485 serial adaptor to communicate with external BMS
• LON FTT10 serial adaptor to communicate with external BMS managed with LON protocol
• TCP/IP serial adaptor to communicate with external BMS managed with SNMP protocol
• AFPS (Automatic Floor Pressurization System) that permits to adapt its availability as a kit with installation instructions
• Motorized damper
• Condensate drain pump
• Suction from the top or front discharge plenums
• Adjustable floor stands

TECHNICAL DATA								
	TDEV –TUEV MODEL		**0511A**	**0611A**	**0721A**	**0722A**	**0921A**	**0922A**	**1021A**
	Fan type		EC Backward-curved centrifugal motor fan						
	Power supply	V/ph/Hz	400/3/50Hz						
	Fans	Nr.	1	1	1	1	1	1	1
	Airflow	m3/h	5700	5700	8600	8600	8600	8600	8600
	N° of compressors		1	1	2	2	2	2	2
	Refrigerating Circuits		1	1	1	2	1	2	1
DX MODE	Gross Total Cooling Capacity(1) (2)	kW	19,1	23,7	27,0	28,4	30,4	32,2	34,6
DX MODE	Gross Sensible Cooling Capacity(1) (2)	kW	19,1	20,8	27,0	28,4	28,7	28,0	30,5
CW MODE	Gross Total Cooling Capacity(1) (3)	kW	20,2	20,2	28,5	28,5	28,5	28,5	28,5
CW MODE	Gross Sensible Cooling Capacity(1) (3)	kW	20,1	20,1	28,3	28,3	28,3	28,3	28,3
	DIMENSIONS								
	Height	mm	1960	1960	1960	1960	1960	1960	1960
	Length	mm	1010	1010	1310	1310	1310	1310	1310
	Depth	mm	750	750	865	865	865	865	865
	TDEV –TUEV MODEL		**1022A**	**1121A**	**1122A**	**1321A**	**1322A**	**1422A**	**1622A**
	Fans	Nr.	1	1	2	2	2	2	2
	Airflow	m3/h	8600	12320	12320	12320	12320	16000	16000
	N° of compressors		2	2	2	2	2	2	2
	Refrigerating Circuits		2	1	2	1	2	2	2
DX MODE	Gross Total Cooling Capacity(1) (2)	kW	37,1	36,9	39,2	46,6	49,7	49,7	55,9
DX MODE	Gross Sensible Cooling Capacity(1) (2)	kW	30,4	36,9	37,4	40,3	39,9	49,7	55,9
CW MODE	Gross Total Cooling Capacity(1) (3)	kW	28,5	40,1	40,1	40,1	40,1	54,1	54,1
CW MODE	Gross Sensible Cooling Capacity(1) (3)	kW	28,3	39,9	39,9	39,9	39,9	53,9	53,9
	DIMENSIONS								
	Height	mm	1960	1960	1960	1960	1960	1960	1960
	Length	mm	1010	1720	1720	1720	1720	2170	2170
	Depth	mm	750	750	865	865	865	865	865
	TDEV MODEL		**1822A**	**2222A(4)**	**2242A(4)**	**2522A(4)**	**2542A(4)**	**2842A(4)**	
	Fans	Nr.	2	3	3	3	3	3	
	Airflow	m3/h	16000	21500	21500	21500	21500	21500	
	N° of compressors		2	2	4	2	4	4	
	Refrigerating Circuits		2	2	2	2	2	2	
DX MODE	Gross Total Cooling Capacity(1) (2)	kW	60,5	78,2	83,5	86,1	87,7	95,8	
DX MODE	Gross Sensible Cooling Capacity(1) (2)	kW	56,0	71,3	77,6	74,4	74,9	77,1	
CW MODE	Gross Total Cooling Capacity(1) (3)	kW	54,1	96,6	96,6	96,6	96,6	96,6	
CW MODE	Gross Sensible Cooling Capacity(1) (3)	kW	53,9	95,7	95,7	95,7	95,7	95,7	
	DIMENSIONS								
	Height	mm	1960	2150	2150	2150	2150	2150	
	Length	mm	2170	2580	2580	2580	2580	2580	
	Depth	mm	750	750	865	865	865	865	
	TUEV MODEL		**2222A**	**2242A**	**2522A**	**2542A**	**2842A**		
	Fans	Nr.	3	3	3	3	3		
	Airflow	m3/h	22000	22000	22000	22500	22500		
	N° of compressors		2	4	2	4	4		
	Refrigerating Circuits		2	2	2	2	2		
DX MODE	Gross Total Cooling Capacity(1) (2)	kW	78,4	83,7	86,3	88,3	96,4		
DX MODE	Gross Sensible Cooling Capacity(1) (2)	kW	72,4	78,8	75,4	76,9	79,0		
CW MODE	Gross Total Cooling Capacity(1) (3)	kW	98,3	98,3	98,3	100,0	100,0		
CW MODE	Gross Sensible Cooling Capacity(1) (3)	kW	97,4	97,4	97,4	99,0	99,0		
	DIMENSIONS								
	Height	mm	1960	1960	1960	1960	1960		
	Length	mm	2580	2580	2580	2580	2580		
	Depth	mm	750	865	865	865	865		

1. Gross Cooling capacities; fans must be deduced to obtain net cooling data.

2. Data refers to nominal conditions : room at 24°C° -50% RH, water temperatures 30-35°C, and ESP = 20Pa.

3. Data refers to nominal conditions: room at 24°C-50% RH,water temperature 7/12°C; glycol 0%, and ESP = 20Pa.

4. Data refers to Downflow unit.

Uniflair LE

TDTR – TUTR

Range

Cooling capacity: 20 ÷ 100 kW

Refrigerant R-410A

Available Versions:

- Downflow (TDTR)
- Upflow (TUTR)

Standard Features

• Advanced microprocessor control system is available with local or remote user terminal.
• The units are equipped with Backward-curved fans and directly-coupled asynchronuos motor.
• The structure of the unit is characterized by a self-supporting frame in galvanized steel with panels. The external panels are coated with RAL9003(*)epoxy-polyester paint* and internally lined with heat and sound-proofing insulation.
• Unit is characterized by two independent cooling sources - one chilled water with related circuit and one direct expansion air cooled.
• Electronic expansion valve is controlled by the microprocessor and a dedicated software that increases the cooling precision and the energy efficiency of the cooling cycle.
• The cooling coil is designed for an elevated SHR and reduced pressure drops in the air section. The coil is made from copper tubes mechanically expanded on aluminum fins, complete with a hydrophilic treatment.
• Uniflair LE units meet the following directives: 2006/42/EC, 2004/108/EC, 2006/95/EC, 97/23/EC, 842/2006/EC F-GAS regulation.
• 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.
• The Uniflair LE range offers the possibility to select units equipped with two compressors (tandem) for each circuit, which grants better efficiency and regulation capacity at partial loads (models with the **21 or **42 suffix).
• Total front access is included for unit maintenance.
• The electrical panel is situated in a compartment separated from the air flow and complies with the 2006/95/EC directive and related standards.
• Microprocessor control system includes:
- Integrated management of the EEV and refrigerating circuit parameters
- Local user terminal with external accessibility
- Integrated LAN card for local network connection of a group of CRACs
- Rotation and active stand-by management
- Free contact for general and two for addressable alarms
- Remote on/off switch
- Ability to interface with Modbus protocol directly on RS485 serial card
- Ability to interface with main external communication protocols: Bacnet, Lonworks, Trend, Metasys, TCP/IP, SNMP, and StruxureWare™ platform

*RAL5013 may be used during transition period.

TECHNICAL DATA									
TDTR MODEL		**0611A**	**0921A**	**1321A**	**1622A**	**1822A**	**2242A(4)**	**2542A(4)**	**2842A(4)**
Fan type		Backward-curved centrifugal motor fan							
Power supply	V/ph/Hz	400/3/50Hz							
Fans	Nr.	1	1	2	2	2	3	3	3
Airflow	m3/h	5827	8541	11574	15905	15905	21809	21709	21809
N° of compressors		1	2	2	2	2	4	4	4
Refrigerating Circuits		1	1	1	2	2	2	2	2
DX MODE									
Gross Total Cooling Capacity(1) (2)	kW	23,6	30,3	46,1	58,5	63,4	82,5	81,7	91,2
Gross Sensible Cooling Capacity(1) (2)	kW	20,9	28,5	38,3	55,3	55,3	78,1	73,8	76,3
CW MODE									
Gross Total Cooling Capacity(1) (3)	kW	20,5	28,3	38,6	53,9	53,9	97,6	97,3	97,6
Gross Sensible Cooling Capacity(1) (3)	kW	20,4	28,2	38,4	53,7	53,7	96,7	96,4	96,7
DIMENSIONS									
Height	mm	1960	1960	1960	1960	1960	2150	2150	2150
Length	mm	1010	1310	1720	2170	2170	2580	2580	2580
Depth	mm	750	865	865	865	750	865	865	865
TUTR MODEL		**2242A**	**2542A**	**2842A**					
Fans	Nr.	3	3	3					
Airflow	m3/h	22160	23194	23194					
N° of compressors		4	4	4					
Refrigerating Circuits		2	2	2					
DX MODE									
Gross Total Cooling Capacity(1) (2)	kW	82,7	82,5	91,9					
Gross Sensible Cooling Capacity(1) (2)	kW	79,0	77,1	79,0					
CW MODE									
Gross Total Cooling Capacity(1) (3)	kW	98,8	102,3	102,3					
Gross Sensible Cooling Capacity(1) (3)	kW	97,9	101,3	101,3					
DIMENSIONS									
Height	mm	1960	1960	1960					
Length	mm	2580	2580	2580					
Depth	mm	865	865	865					

1. Gross Cooling capacities; fans must be deduced to obtain net cooling data.

2. Data refers to nominal conditions : room at 24°C° -50% RH, water temperatures 30-35°C, and ESP = 20Pa.

3. Data refers to nominal conditions: room at 24°C-50% RH,water temperature 7/12°C; glycol 0%, and ESP = 20Pa.

4. Data refers to Downflow unit.

Construction Options

• Immersed electrode humidifier (D/U versions)
• Low surface temperature electrical heaters with extended fans, complete with double safety thermostat and manual resetting (T/H versions)
• Hot gas and hot water reheating

Accessories

The units can be supplied with the following external accessories:
• Remote, semi-graphic user terminal
• RS485 serial adaptor to communicate with external BMS
• LON FTT10 serial adaptor to communicate with external BMS managed with LON protocol
• TCP/IP serial adaptor to communicate with external BMS managed with SNMP protocol
• AFPS (Automatic Floor Pressurization System) that permits to adapt its availability as a kit with installation instructions
• Motorized damper
• Condensate drain pump
• Suction from the top or front discharge plenums
• Adjustable floor stands

Uniflair LE

TDTV – TUTV

Range

Cooling capacity: 20 ÷ 100 kW

Refrigerant R-410A

EC Fans

Available Versions:

- Downflow (TDTV)
- Upflow (TUTV)

Standard Features

• Advanced microprocessor control system is available with local or remote user terminal.
• The units are equipped with EC fans for efficiency maximization.
• The structure of the unit is characterized by a self-supporting frame in galvanized steel with panels. The external panels are coated with RAL9003(*)epoxy-polyester paint* and internally lined with heat and sound-proofing insulation.
• Electronic expansion valve is controlled by the microprocessor and a dedicated software that increases the cooling precision and the energy efficiency of the cooling cycle.
• Unit is characterized by two independent cooling sources-one chilled water with related circuit and one direct expansion air cooled.
• The cooling coil is designed for an elevated SHR and reduced pressure drops in the air section. The coil is made from copper tubes mechanically expanded on aluminum fins, complete with a hydrophilic treatment.
• The cooling coil is characterized by chilled water and direct expansion circuits interlaced to increase the efficiency of the unit in all running conditions.
• The chilled water circuit is equipped with a three-way valve and an actuator integrated with the microprocessor
• Uniflair LE units meet the following directives: 2006/42/EC, 2004/108/EC, 2006/95/EC, 97/23/EC, 842/2006/EC F-GAS regulation.
• 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.
• The Uniflair LE range offers the possibility to select units equipped with two compressors (tandem) for each circuit, which grants better efficiency and regulation capacity at partial loads (models with the **21 or **42 suffix).
• Total front access is included for unit maintenance.
• The electrical panel is situated in a compartment separated from the air flow and complies with the 2006/95/EC directive and related standards.
• Microprocessor control system includes:
- Integrated management of the EEV and refrigerating circuit parameters
- Local user terminal with external accessibility
- Integrated LAN card for local network connection of a group of CRACs
- Rotation and active stand-by management
- Free contact for general and two for addressable alarms
- Remote on/off switch
- Ability to interface with Modbus protocol directly on RS485 serial card
- Ability to interface with main external communication protocols: Bacnet, Lonworks, Trend, Metasys, TCP/IP, SNMP, and StruxureWare™ platform

*RAL5013 may be used during transition period.

TECHNICAL DATA									
	TDTV MODEL		**0611A**	**0921A**	**1321A**	**1622A**	**1822A**	**2242A**	**2542A**	**2842A**
	Fan type		EC Backward-curved centrifugal motor fan							
	Power supply	V/ph/Hz	400/3/50Hz							
	Fans	Nr.	1	1	2	2	2	3	3	3
	Airflow	m3/h	5700	8600	12320	16000	16000	21500	21500	21500
	N° of compressors		1	2	2	2	2	4	4	4
	Refrigerating Circuits		1	1	1	2	2	2	2	2
DX MODE	Gross Total Cooling Capacity(1) (2)	kW	23,5	30,3	46,5	58,5	63,4	82,4	81,6	91,0
DX MODE	Gross Sensible Cooling Capacity(1) (2)	kW	20,6	28,7	39,8	55,6	55,5	77,4	73,4	75,7
CW MODE	Gross Total Cooling Capacity(1) (3)	kW	20,2	28,5	40,1	54,1	54,1	96,6	96,6	96,6
CW MODE	Gross Sensible Cooling Capacity(1) (3)	kW	20,1	28,3	39,9	53,9	53,9	95,7	95,7	95,7
	DIMENSIONS									
	Height	mm	1960	1960	1960	1960	1960	2150	2150	2150
	Length	mm	1010	1310	1720	2170	2170	2580	2580	2580
	Depth	mm	750	865	865	865	750	865	865	865
	TUTV MODEL		**2242A**	**2542A**	**2842A**					
	Fans	Nr.	3	3	3					
	Airflow	m3/h	22000	22500	22500					
	N° of compressors		4	4	4					
	Refrigerating Circuits		2	2	2					
DX MODE	Gross Total Cooling Capacity(1) (2)	kW	82,6	82,1	91,5					
DX MODE	Gross Sensible Cooling Capacity(1) (2)	kW	78,6	75,5	77,6					
CW MODE	Gross Total Cooling Capacity(1) (3)	kW	98,3	100,0	100,0					
CW MODE	Gross Sensible Cooling Capacity(1) (3)	kW	97,4	99,0	99,0					
	DIMENSIONS									
	Height	mm	1960	1960	1960					
	Length	mm	2580	2580	2580					
	Depth	mm	865	865	865					

1. Gross Cooling capacities; fans must be deduced to obtain net cooling data.

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

3. Data refer to nominal conditions: Room at 24°C-50% RH,water temperature 7/12°C; glycol 0%, and ESP = 20Pa.

Construction Options

• Immersed electrode humidifier (D/U versions)
• Low surface temperature electrical heaters with extended fans, complete with double safety thermostat and manual resetting (T/H versions)
• Hot gas and hot water reheating

Accessories

The units can be supplied with the following external accessories:
• Remote, semi-graphic user terminal
• RS485 serial adaptor to communicate with external BMS
• LON FTT10 serial adaptor to communicate with external BMS managed with LON protocol
• TCP/IP serial adaptor to communicate with external BMS managed with SNMP protocol
• AFPS (Automatic Floor Pressurization System) that permits to adapt its availability as a kit with installation instructions
• Motorized damper
• Condensate drain pump
• Suction from the top or front discharge plenums
• Adjustable floor stands

Uniflair LE

TDDR – TUDR

Range

Cooling capacity: 20 ÷ 100 kW

Refrigerant R-410A

Available Versions:

- Downflow (TDDR)
- Upflow (TUDR)

Standard Features

• Advanced microprocessor control system is available with local or remote user terminal.
• The units are equipped with Backward-curved fans and directly-coupled asynchronuos motor.
• The structure of the unit is characterized by a self-supporting frame in galvanized steel with panels. The external panels are coated with RAL9003(*)epoxy-polyester paint* and internally lined with heat and sound-proofing insulation.
• Electronic expansion valve is controlled by the microprocessor and a dedicated software that increases the precision of the cooling and the energy efficiency of the cooling cycle.
• The cooling coil is designed for an elevated SHR and reduced pressure drops in the air section. The coil is made from copper tubes mechanically expanded on aluminum fins, complete with a hydrophilic treatment.
• Internal water-cooled condenser braze is welded and made of AISI 304 stainless steel.
• Uniflair LE units meet the following directives: 2006/42/EC, 2004/108/EC, 2006/95/EC, 97/23/EC, 842/2006/EC F-GAS regulation.
• 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.
• The Uniflair LE range offers the possibility to select units equipped with two compressors (tandem) for each circuit, which grants better efficiency and regulation capacity at partial loads (models with the **21 or **42 suffix).
• Total front access is included for unit maintenance.
• The electrical panel is situated in a compartment separated from the air flow and complies with the 2006/95/EC directive and related standards.
• Microprocessor control system includes:
- Integrated management of the EEV and refrigerating circuit parameters
- Local user terminal with external accessibility
- Integrated LAN card for local network connection of a group of CRACs
- Rotation and active stand-by management
- Free contact for general and two for addressable alarms
- Remote on/off switch
- Ability to interface with Modbus protocol directly on RS485 serial card
- Ability to interface with main external communication protocols: Bacnet, Lonworks, Trend, Metasys, TCP/IP, SNMP, and StruxureWare™ platform

*RAL5013 may be used during transition period.

TECHNICAL DATA									
TDDR MODELS		**611**	**921**	**1321**	**1622**	**1822**	**2242(4)**	**2542(4)**	**2842(4)**
Fan type		Backward-curved centrifugal motor fan							
Power supply	V/ph/Hz	400/3/50Hz							
Fans	Nr.	1	1	2	2	2	3	3	3
Airflow	m3/h	5827	8541	11574	15905	15905	21809	21709	21809
N° of compressors		1	2	2	2	2	4	4	4
Refrigerating Circuits		1	1	1	2	2	2	2	2
DX MODE Gross Total Cooling Capacity(1) (2)	kW	23,8	30,4	46,2	55,9	60,5	90,5	87,8	96,0
DX MODE Gross Sensible Cooling Capacity(1) (2)	kW	21,1	28,5	38,8	55,9	55,8	79,7	75,3	77,7
CW MODE Gross Total Cooling Capacity(1) (3)	kW	20,5	28,3	38,6	53,9	53,9	97,6	97,3	97,6
CW MODE Gross Sensible Cooling Capacity(1) (3)	kW	20,4	28,2	38,4	53,7	53,7	96,7	96,4	96,7
DIMENSIONS									
Height	mm	1960	1960	1960	1960	1960	2150	2150	2150
Length	mm	1010	1310	1720	2170	2170	2580	2580	2580
Depth	mm	750	865	865	865	750	865	865	865
TUDR MODELS		**2242A**	**2542A**	**2842A**					
Fans	Nr.	3	3	3					
Airflow	m3/h	22160	23194	23194					
N° of compressors		4	4	4					
Refrigerating Circuits		2	2	2					
DX MODE Gross Total Cooling Capacity(1) (2)	kW	90,6	88,7	96,8					
DX MODE Gross Sensible Cooling Capacity(1) (2)	kW	80,5	78,3	80,4					
CW MODE Gross Total Cooling Capacity(1) (3)	kW	98,8	102,3	102,3					
CW MODE Gross Sensible Cooling Capacity(1) (3)	kW	97,9	101,3	101,3					
DIMENSIONS									
Height	mm	1960	1960	1960					
Length	mm	2580	2580	2580					
Depth	mm	865	865	865					

1. Gross Cooling capacities; fans must be deduced to obtain net cooling data.

2. Data refers to nominal conditions : room at 24°C° -50% RH, water temperatures 30-35°C, and ESP = 20Pa.

3. Data refers to nominal conditions: room at 24°C-50% RH,water temperature 7/12°C; glycol 0%, and ESP = 20Pa.

4. Data refers to Downflow unit.

Construction Options

• Immersed electrode humidifier (D/U versions)
• Low surface temperature electrical heaters with extended fans, complete with double safety thermostat and manual resetting (T/H versions)
• Hot gas and hot water reheating
• Condensation control on refrigerant side with constant water flow

Accessories

The units can be supplied with the following external accessories:
• Remote, semi-graphic user terminal
• RS485 serial adaptor to communicate with external BMS
• LON FTT10 serial adaptor to communicate with external BMS managed with LON protocol
• TCP/IP serial adaptor to communicate with external BMS managed with SNMP protocol
• AFPS (Automatic Floor Pressurization System) that permits to adapt its availability as a kit with installation instructions
• Motorized damper
• Condensate drain pump
• Suction from the top or front discharge plenums
• Adjustable floor stands

Uniflair LE

TDDV – TUDV

Range

Cooling capacity: 20 ÷ 100 kW

Refrigerant R-410A

EC Fans

Available Versions:

- Downflow (TDDV)
- Upflow (TUDV)

Standard Features

• Advanced microprocessor control system is available with local or remote user terminal.
• The units are equipped with EC fans for efficiency maximization.
• The structure of the unit is characterized by a self-supporting frame in galvanized steel with panels. The external panels are coated with RAL9003(*)epoxy-polyester paint* and internally lined with heat and sound-proofing insulation.
• Electronic expansion valve is controlled by the microprocessor and a dedicated software that increases the precision of the cooling and the energy efficiency of the cooling cycle.
• Unit is characterized by two independent cooling sources- one chilled water with related circuit and one direct expansion air cooled.
• The cooling coil is designed for an elevated SHR and reduced pressure drops in the air section. The coil is made from copper tubes mechanically expanded on aluminum fins, complete with a hydrophilic treatment.
• The cooling coil is characterized by chilled water and direct expansion circuits interlaced to increase the efficiency of the unit in all running conditions.
• Internal water-cooled condenser braze is welded and made of AISI 304 stainless steel.
• The chilled water circuit is equipped with a three-way valve and an actuator integrated with the microprocessor
• Uniflair LE units meet the following directives: 2006/42/EC, 2004/108/EC, 2006/95/EC, 97/23/EC, 842/2006/EC F-GAS regulation.
• 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.
• The Uniflair LE range offers the possibility to select units equipped with two compressors (tandem) for each circuit, which grants better efficiency and regulation capacity at partial loads (models with the **21 or **42 suffix).
• Total front access is included for unit maintenance
• The electrical panel is situated in a compartment separated from the air flow and complies with the 2006/95/EC directive and related standards.
• Microprocessor control system includes:
- Integrated management of the EEV and refrigerating circuit parameters
- Local user terminal with external accessibility
- Integrated LAN card for local network connection of a group of CRACs
- Rotation and active stand-by management
- Free contact for general and two for addressable alarms
- Remote on/off switch
- Ability to interface with Modbus protocol directly on RS485 serial card
- Ability to interface with main external communication protocols: Bacnet, Lonworks, Trend, Metasys, TCP/IP, SNMP, and StruxureWare™ platform

*RAL5013 may be used during transition period.

TECHNICAL DATA									
TDDV MODEL		**0611A**	**0921A**	**1321A**	**1622A**	**1822A**	**2242A(4)**	**2542A(4)**	**2842A(4)**
Fan type		EC Backward-curved centrifugal motor fan							
Power supply	V/ph/Hz	400/3/50Hz							
Fans	Nr.	1	1	2	2	2	3	3	3
Airflow	m3/h	5700	8600	12320	16000	16000	21500	21500	21500
N° of compressors		1	2	2	2	2	4	4	4
Refrigerating Circuits		1	1	1	2	2	2	2	2
DX MODE	Gross Total Cooling Capacity(1) (2)	kW	23,7	30,4	46,6	55,9	60,5	90,3	87,7	95,8
DX MODE	Gross Sensible Cooling Capacity(1) (2)	kW	20,8	28,7	40,3	55,9	56,0	79,0	74,9	77,1
CW MODE	Gross Total Cooling Capacity(1) (3)	kW	20,2	28,5	40,1	54,1	54,1	96,6	96,6	96,6
CW MODE	Gross Sensible Cooling Capacity(1) (3)	kW	20,1	28,3	39,9	53,9	53,9	95,7	95,7	95,7
DIMENSIONS									
Height	mm	1960	1960	1960	1960	1960	2150	2150	2150
Length	mm	1010	1310	1720	2170	2170	2580	2580	2580
Depth	mm	750	865	865	865	750	865	865	865
TUDV MODEL		**2242A**	**2542A**	**2842A**					
Fans	Nr.	3	3	3					
Airflow	m3/h	22000	22500	22500					
N° of compressors		4	4	4					
Refrigerating Circuits		2	2	2					
DX MODE	Gross Total Cooling Capacity(1) (2)	kW	90,6	88,3	96,4					
DX MODE	Gross Sensible Cooling Capacity(1) (2)	kW	80,1	76,9	79,0					
CW MODE	Gross Total Cooling Capacity(1) (3)	kW	98,3	100,0	100,0					
CW MODE	Gross Sensible Cooling Capacity(1) (3)	kW	97,4	99,0	99,0					
DIMENSIONS									
Height	mm	1960	2580	2580					
Length	mm	1960	2580	2580					
Depth	mm	865	865	865					

1. Gross Cooling capacities; fans must be deduced to obtain net cooling data.

2. Data refers to nominal conditions : room at 24°C° -50% RH, water temperatures 30-35°C, and ESP = 20Pa.

3. Data refers to nominal conditions: room at 24°C-50% RH,water temperature 7/12°C; glycol 0%, and ESP = 20Pa.

4. Data refers to Downflow unit.

Construction Options

• Immersed electrode humidifier (D/U versions)
• Low surface temperature electrical heaters with extended fans, complete with double safety thermostat and manual resetting (T/H versions)
• Hot gas and hot water reheating
• Condensation control on refrigerant side with constant water flow

Accessories

The units can be supplied with the following external accessories:
• Remote, semi-graphic user terminal
• RS485 serial adaptor to communicate with external BMS
• LON FTT10 serial adaptor to communicate with external BMS managed with LON protocol
• TCP/IP serial adaptor to communicate with external BMS managed with SNMP protocol
• AFPS (Automatic Floor Pressurization System) that permits to adapt its availability as a kit with installation instructions
• Motorized damper
• Condensate drain pump
• Suction from the top or front discharge plenums
• Adjustable floor stands

[Chilled water units with backward-curved fans equipped with EC motor; fan module can be installed under or above raised floor]

Uniflair LE

HDCV

Range

Cooling Capacity: 160 ÷ 200 kW

Refrigerant Chilled Water

EC Fans

Available Versions:

- Downflow Single Coil
- Downflow Dual Coil

TECHNICAL DATA					
HDCV MODEL		**4500A**	**5000A**	**4500A**	**5000A**
Fan type		EC Backward-curved centrifugal motor fan			
Version		Single Coil		Dual Coil	
Power Supply	V/ph/Hz	400/3/50Hz		400/3/50Hz	
Fans	Nr.	3	4	3	4
Airflow	m3/h	30,000	40,000	30,000	40,000
Net Sensible Cooling	kW	136,1	166,5	109,6 (1)(3)	128,9 (1)(3)
DIMENSIONS					
Height (2)	mm	2510	2510	2510	2510
Length	mm	2582	3110	2582	3110
Depth	mm	865	865	865	865

1. Data refer to nominal conditions: Room at 36°C-25%RH water temperature 18/24°C, fan module installed under a 900mm raised floor, and glycol 0%.

2. Includes fan module.

3. Cooling performance refers to one running chilled water circuit.

Standard Features

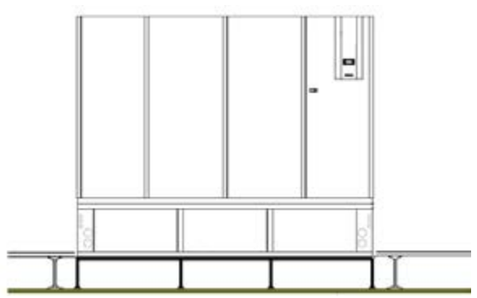
• Unit is made of two sections for installation of fan module under the raised floor and increase the coil surface for energy efficiency maximization.
• Advanced microprocessor control system UG50 is included.
• The units are equipped with the latest generation Radical EC fans for efficiency maximization. Impellers are made of high-tech compound material with optimized flow control, combined with highly efficient GreenTech EC motors.
• Large surface copper and aluminum cooling coil is provided for pressure drop minimization.
• EC fan module is equipped with a circular plug in connectors for quick and failure-free installation; the module is supplied with safety protection grills on the sides in case of underfloor installation.
• Adjustable fan speed meets energy-saving and load-sharing logics.
• Electric panel conforms to EC standards (2006/95/EC and EMC 2004/108/EC directives) .
• High-efficiency, pleated air filters are housed in a metal frame and filter differential pressure switch.
• A low airflow differential pressure alarm switch is included.
• Full frontal accessibility is available for maintenance
• Chilled water inlet temperature measurement is integrated in the microprocessor.
• Integrated Discharge Temperature Control and Room Moisture Control.
• Immersed electrode humidifier is included.
• Electrical heaters included with aluminum finned heating elements.
• Phase sequence control.
• Microprocessor control system in addition allows:
- Integration with Uniflair Chillers for optimized management logics
- Free contact for general and two for addressable alarms
- Remote on/off switch
- Integrated RS485 serial card for direct connection to external BMS (Modbus)
- Second slot for additional serial card for BMS connection (optional)
- Clock card integrated in the unit

Accessories

The units can be supplied with the following external accessories:
• Double power supply with automatic changeover and manual selection with integrated ultra capacitor
• Intelligent dehumidification with cooling capacity limiting device
• Automatic floor pressurization system
• Chilled water outlet temperature measurement integrated in the microprocessor
• Energy meter and CO_2 emissions calculator integrated in the unit
• Ultra capacitor for single power supply units

Construction Options

Unit with fan plenum installed under the raised floor



Unit with fan plenum installed above the raised floor

[Monoblock wall-mounted units for external installation with downflow air discharge]

Uniflair WM

WDA - WDF

Range

Cooling capacity: 6 ÷ 15 kW

Refrigerant R407C

Available Versions:

- Without direct free-cooling (WDA)
- With direct free-cooling (WDF)

Standard Features

• Monoblock conditioning units can be installed on the outside wall of the air conditioned room.
• Built-in air condenser is included. The units can be supplied completely assembled and filled with refrigerant; all the components are set in the factory for normal working conditions and the electrical and cooling functions are tested. Installation only requires simple electrical wiring and mechanical fixing to the shelter, even by non-specialized personnel.
• The direct free-cooling units (WMF) are supplied with a motorized damper. During free-cooling the excess air is expelled from the room through the condenser section without using any extra over-pressure dampers.
• Complete access to all the components allows servicing entirely from the outside, without having to enter the room which is normally protected by controlled access.
• The external screws are stainless steel, anti-tamper and can only be removed using special tools.
• The double external paneling is available in galvanized, painted sheet steel and gives separate access to the fan compartment and electric board compartments. This enables maintenance and regulation to be carried out without having to turn the unit off.
• Power Supply:
- 400V/3+N/50Hz standard on Request
- 230V/1/50Hz on 221 and 341 models
- Main power supply + UPS 48VDC (evaporator DC-fan/s)
• Microprocessor control
• Scroll compressor
• EU4 filter (optional)
• Modulating condenser fan/s speed control
• Free-cooling metal pre-filter

TECHNICAL DATA					
WDA-WDF MODEL		**WDF0221A**	**WDF0341A**	**WDF0481A**	**WDF0501A**
Power supply	V/ph/Hz	400/3 +N/50Hz			
Mechanical Cooling (1)					
Sensible Cooling Capacity	kW	6,0/6,0	9,0/9,0	12,0/12,0	15,0/15,0
Air flow	m³ / h	1650	2350	2900	4200
COMPONENT FEATURES					
N° of evaporator fans		1	2	2	2
N° of condenser fans		1	1	1	1
Compressor power consumption (1)	kW	1,25	1,94	3,56	3,78
DIMENSIONS					
Height	mm	1800	1800	1800	1800
Width	mm	950	950	950	1120
Depth	mm	650	650	650	650

1. Data refers to mechanical operation: ambient temperature: 27°C / 40%rH, external temperature 35°C / R407C (data consider inlet and outlet evaporating coil), and Maximum external temperature 45°C.

[Monoblock wall-mounted units for external installation with upflow air discharge]

Uniflair WM

WMA – WMF

Range

Cooling capacity: 3.9 ÷ 16.9 kW

Refrigerant R407C

Available Versions:

- Without direct free-cooling (WMA)
- With direct free-cooling (WMF)

Standard Features

• Monoblock conditioning units are installed on the outside wall of the air conditioned room
• Air condenser is built in. The units can be supplied completely assembled and filled with refrigerant
• All the components are set in the factory for normal working conditions. Electrical and cooling functions are all tested. Installation only requires simple electrical wiring and mechanical fixing to the shelter, even by non-specialized personnel
• The direct free-cooling units (WMF) are supplied with a motorized damper. During free-cooling the excess of air is expelled from the room through the condenser section without using extra over-pressure dampers
• Complete access to all the components so that servicing can be entirely done from the outside, without having to enter the room which is normally protected by controlled access
• The external screws are stainless steel, anti-tamper and can only be removed using special tools.
• The double external paneling is available in galvanized, painted sheet steel and gives separate access to the fan compartment and electric board compartments. This enables maintenance and regulation to be carried out without having to turn the unit off.
• Power Supply:
- 230V/1/50Hz or 400V/3+N/50Hz (standard, according to the model)
- Main power supply + UPS 230V
- Main power supply + UPS
- 48VDC (evaporator DC-fan/s)
• Microprocessor control
• Scroll compressor (rotary for 0121 model) housed in compartment isolated from the airflow
• EU4 filter (optional)
• Modulating condenser fan/s speed control
• Free-cooling metal pre-filter

TECHNICAL DATA								
WMA-WMF MODELS		**0121**	**0181**	**0251**	**0281**	**0331**	**0551**	**0661**
Power supply	V/ph/Hz	230/1/50Hz				400/3+N/50Hz		
Mechanical Cooling (1)								
Sensible Cooling Capacity	kW	3,9/3,9	5,4/5,4	7,4/7,4	8,2/8,2	9,6/9,6	15,2/15,2	16,9/16,9
Air flow	m³ / h	1240	1460	2240	2240	2670	4580	4580
WMF MODEL								
Free-cooling (2)								
Sensible Cooling Capacity	kW	5,0	5,8	8,5	8,5	9,2	17,4	17,4
Air Flow	m³ / h	1230	1430	2100	2100	2280	4310	4310
COMPONENT FEATURES								
N° of evaporator fans		1	1	2	2	2	1	1
N° of condenser fans		1	1	1	1	2	1	1
Air filter efficiency		EU2	EU2	EU2	EU2	EU2	EU2	EU2
Nominal compressor power (3)	kW	1,2	1,8	2,2	2,5	3,0	4,4	5,2
Electric heating (4)	kW	2,6	4,0	4,0	4,0	6,0	6,0	6,0
Noise pressure level (5)	dB(A)	40,5	44,0	45,5	45,5	49,0	50,0	54,0
DIMENSIONS								
Height	mm	1790	1790	1940	1940	1940	2250	2250
Width	mm	650	650	930	930	930	1050	1050
Depth	mm	400	400	450	450	450	625	625

1. Room: 26°C / 40% r.h.; external temperature: 35°C; R407C.

2. Room: 26°C; external temperature: 14°C; R407C.

3. ARI standard.

4. Optional.

5. Measurements taken at 1 metre above the floor and at a distance of 5 metres from the unit in free field, mechanical cooling.

Uniflair MB

XMA - XMF – XDA - XDF

Range

Cooling capacity: XM* 5.7 ÷ 12.3 kW XD* 6.3-15.0 kW

Refrigerant R407C

Available Versions:

- Upflow (XMA)
- Upflow with free-cooling (XMF)
- Downflow (XDA)
- Downflow with free-cooling (XDF)

Standard Features

• Monoblock conditioning units are installed inside the installation. These units are ideal when the required solution is easy to install with all the refrigerant components already installed.
• The unit has a self-supporting steel structure finished in epoxy powder and external panels in steel finished in epoxy powder; it's lined internally with abrasion-resistant, self-extinguishing material for noise and heat insulation.
• Units are supplied ready for installation, completely assembled and filled with refrigerant in the factory, where they are calibrated and the electric and cooling systems are tested.
• Easy installation and connection to the outside is provided using rigid or flexible pipes that are fitted to the window.
• The air filtration is provided with an EU2-efficiency air filter in self-extinguishing material and a rigid metal frame; the free-cooling version is available with an additional free-cooling metal pre-filter. EU4 filters are available as an option.
• The evaporating and condensing fans are made of in galvanized steel. Double-inlet centrifugal fan(s) with forward-curved blower are keyed directly to motor shaft.
• The electrical panel is housed in a compartment isolated from the airflow, complying with 73/23/CEE Norm. Separate power supply for fans and microprocessor is available as an option.
• Cooling circuit includes:
- Filter and flow sight glass
- Thermostatic expansion valve
- High- and low-pressure pressostats
- Scroll compressor with thermal protection
- Ecological refrigerant R407C
- Modulating condenser fan speed regulation.

• The microprocessor control manages the unit autonomously and the free-cooling function and can be integrated with the most common BMSs. The control includes:
- Microprocessor control board and user terminal
- Room temperature sensor
- Mixed air temperature sensor (X*F version only)
- External temperature sensor (X*F version only)

• Power Supply:
- 230V/ 1/ 50 Hz or 400V/3+N/50Hz (Standard, according to the model)
- Main power supply + UPS 230V
- Main power supply + UPS 48VDC (evaporator DC-fan/s, available only for XMF)
• Microprocessor control
• Scroll compressor with low noise level
• EU4 filter (optional)
• Modulating condenser fan/s speed control
• Free-cooling metal pre-filter

TECHNICAL DATA							
XDA-XDF MODELS		**0221**	**0281**	**0341**	**0481**	**0501**	
Power supply	V/ph/Hz	230/1/50Hz		400/3+N/50Hz			
Mechanical Cooling (1)							
Total/Sensible Cooling Capacity	kW	6,3/5,8	7,0/6,4	9,0/9,0	12,0/12,0	14,9/14,9	
Air flow	m³ / h	2230	2230	2900	3920	3920	
Free-cooling (2)							
Sensible Cooling Capacity	kW	9	9	11,7	15,8	15,8	
COMPONENT FEATURES							
N° of evaporator fans		1	1	1	1	1	
N° of condenser fans		1	1	2	2	2	
Air filter efficiency		EU2	EU2	EU2	EU2	EU2	
Electric heating (3)	kW	2	2	4	4	4	
DIMENSIONS							
Height	mm	1970	1970	2130	2130	2130	
Width	mm	850	850	1160	1160	1160	
Depth	mm	450	450	650	650	650	
XMF MODELS		**0221**	**0281**	**0341**	**0401**	**0491**	**0555**
Power supply	V/ph/Hz	230/1/50Hz			400/3+N/50Hz		
Mechanical Cooling (1)							
Total/Sensible Cooling Capacity	kW	5,7/5,7	7,1/7,1	8,4/8,4	10,8/10,8	12,3/12,3	16,5/16,5
Air flow	m³ / h	1500	2000	2200	3700	3700	3710
Free-cooling (2)							
Sensible Cooling Capacity	kW	6,1	8,1	8,9	15	15	15
COMPONENT FEATURES							
N° of evaporator fans		1	1	1	2	2	2
N° of condenser fans		1	1	1	2	2	2
Air filter efficiency		EU2	EU2	EU2	EU2	EU2	EU2
Electric heating (3)	kW	2	2	4	4	4	4
DIMENSIONS							
Height	mm	1960	1960	1960	1960	1960	1960
Width	mm	1200	1200	1200	1200	1200	1200
Depth	mm	600	600	600	600	600	600

1. Room: 26°C / 40% r.h.; external temperature: 35°C; R407C.
2. Room: 26°C; external temperature: 14°C; R407C.
3. Optional.

Uniflair SP

UCA – UCF – UWA - UWF

Range

Cooling capacity: 5,9 ÷ 14,5 kW

Refrigerant R407C

Available Versions:

- Ceiling mounted (UCA)
- Ceiling mounted with direct free-cooling (UCF)
- Wall-mounted (UWA)
- Wall-mounted with direct free-cooling (UWF)

Standard Features

• Units are made of two separate sections: the evaporation section which is installed inside the conditioned room (UCA-UCF - UWA-UWF), and the condensation section (MRA), which is installed on the outside.
• The evaporator is designed to be fixed to the ceiling or a wall and, with advanced microprocessor control, it is very precise in maintaining the set parameters inside the conditioned room.
• Servicing is very simple as different access is given to the electrical board, the technical compartment, and the servomotor for the free-cooling damper.
• There is a special panel for the fan compartment, which means calibration and servicing can be carried out safely without having to turn the unit off.
• UCF units have free-cooling which intakes air from the back of the unit through a connection that can be made using either rigged ducting or flexible piping.
• The user terminal (on request) is fitted to the wall for the ceiling units and onboard for the wall fitted units, and gives complete control for the unit regarding changing and displaying the operating parameters.
• Internal and external units are powered separately.
• Power Supply:
- 230V/ 1/ 50 Hz or 400V/3+N/50Hz (Standard, according to the model)
• Main power supply + UPS
- 48VDC (evaporator DC-fan/s)
• Evaporator sections are equipped with:
- Microprocessor control
- EU4 filter (optional)
- Scroll compressor
- Modulating condenser fan/s speed control

TECHNICAL DATA											
MODELS		**CEILING UCA-UCF**					**WALL UWA - UWF**				
		0341		**0401**	**0481**		**0341**		**0401**	**0481**	
Power supply	V/ph/Hz	230/1/50Hz					230/1/50Hz				
Mechanical Cooling (1)											
Sensible Cooling Cap.	kW	5,9/5,9	7,1/7,1	8,1/8,1	10,4/10,4	14,5/14,5	5,9/5,9	7,1/7,1	8,1/8,1	10,4/10,4	14,5/14,5
Air flow	m³ / h	1850	1850	220	2600	3900	1850	1850	2200	2600	3900
UCF-UWF		**0341**		**0401**	**0481**		**0341**		**0401**	**0481**	
Free-cooling (2)											
Sensible Cooling Cap.	kW	6,7	6,7	6,9	9,5	14	6,7	6,7	6,9	9,5	14
Air flow	m³ / h	1850	1850	220	2600	3900	1850	1850	2200	2600	3900
DIMENSIONS											
Height	mm	330	330	330	410	410	1200	1200	1200	1300	1300
Width	mm	950	950	950	1150	1150	980	980	980	1150	1150
Depth	mm	1050	1050	1050	1300	1300	330	330	330	410	410
EXTERNAL UNIT MRA		**0221**	**0281**	**0341**	**0401**	**0611**	**0211**	**0281**	**0341**	**0401**	**0611**
Power supply	V/ph/Hz	230/1/50Hz			400/3 + N/50Hz		230/1/50Hz			400/3 + N/50Hz	
Nominal compressor power (3)	kW	1,7	2,1	2,6	3,1	4,6	1,7	2,1	2,6	3,1	4,6
Air flow	m³ / h	1800	2990	2990	6290	6290	1800	2990	2990	6290	6290
DIMENSIONS											
Height	mm	610	610	610	1230	1230	610	610	610	1230	1230
Width	mm	850	850	850	1200	1200	850	850	850	1200	1200
Depth	mm	345	345	345	80	80	345	345	345	480	480

1. Room: 26°C / 45% r.h.; external temperature: 35°C; R407C.
2. Room: 26°C; external temperature: 14°C; R407C.
3. ARI standard.

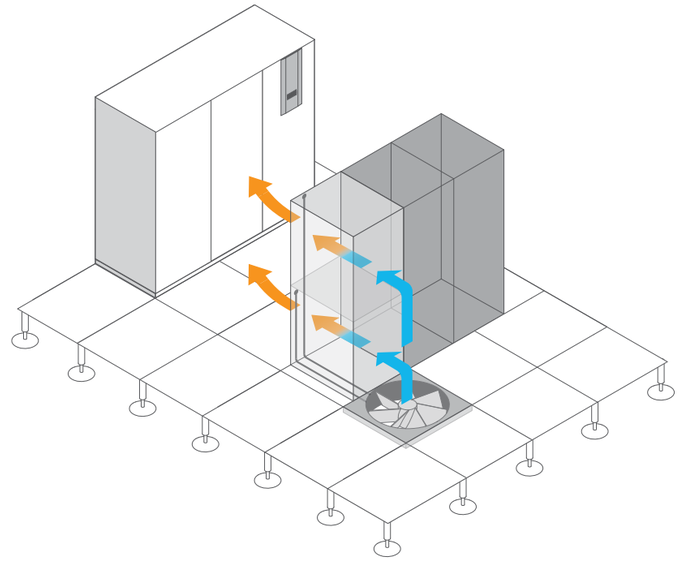
Active Floor

Range

Cooling capacity: 6 ÷ 15 kW

Standard Features

• Active Floor is a flexible and modular system for cooling Data Centres with medium- and high-density loads. Integrated within a modular access floor in front of the intake section of the rack, the Active Floor fits exactly into a modular access floor panel measuring 600 mm x 600 mm. The cold air produced by the Close Control perimeter units is directly channeled to the source of the thermal load thanks to the advanced adjustment of the direction of the airflow. The Active Floor creates a high-density bubble of air, which is maintained at a constant temperature along the whole intake section of the rack, guaranteeing operation at the nominal design conditions. The air flow varies according to the actual thermal load and is detected by two sensors placed on the discharge section of the servers.
• Active Floor employs variable speed EC, motor-driven fans to minimize energy consumption.
• This solution may be used in stand-alone applications as well as with perimeter Close Control units equipped with underfloor pressure control.
• The Active Floor guarantees optimum operation of high-density equipment for loads installed in each module of 25 kW and 40 kW with solutions featuring the two modules certified by TUV.



TECHNICAL DATA		
ACTIVE FLOOR		
Power supply	V/ph/Hz	220/1 + N/60
N° of condenser fans		1 / E.C
Max air flow	m³/h/CFM	4988/2936
Nominal air flow	m³/h/CFM	2880/1650
Min air flow	m³/h/CFM	1698/999
DIMENSIONS		
Height	mm/inch	230 / 9.1
Width	mm/inch	600 / 23.6
Depth	mm/inch	600 / 23.6

[Air-cooled remote condensers]

Uniflair CAP

Range

Cooling capacity: 7 ÷ 160 kW

Refrigerant R-410A

Standard Features

- R-410A refrigerant.
- Low noise axial fans with IP54 class F electric motor.
- Fan speed pressure switch regulator with protection grade IP55.
- Safety protection grills.
- Copper and aluminum condensing coil.
- Low noise levels.
- Outdoor installation.
- High-efficiency, EU4-pleated air filter housed in a metal frame and filter differential pressure switch.
- Vertical or horizontal installation.
- Welded refrigeration connections for rapid and safe connection.
- Condensers are powered by the internal unit to grant operation at 208V - 230V with a tolerance of +/-10%.

Accessories

- Shut off valves
- Leg support kit
- Manifold kit to make the unit single circuit
- Coil protection treatment for use in aggressive environments
- Low temperature versions down to -40°C with high-resilience steel liquid receiver and flooding valve to control the condensing temperature

TECHNICAL DATA									
CAP MODEL		**251**	**331**	**361**	**511**	**611**	**801**	**1011**	**1301**
Fan type		Axial							
Power supply	V/ph/Hz	208-230/1/50Hz							
Performance capacity (1)	kW	8,2	9,8	12,8	16,6	20,2	27,6	33,7	44,5
Air flow rate at 0.08in.w (20Pa)	m^3/h	3050	2750	3300	6100	9150	9150	8250	10980
Number of circuits		1	1	1	1	1	1	1	1
Noise level (2)	dB(A)	51	50,5	51,5	53,2	52,6	54,6	54,1	54,6
DIMENSIONS									
Height	mm	732	732	1067	1227	1227	1877	1877	2277
Width	mm	350	350	350	350	350	350	350	350
Depth	mm	700	700	700	700	700	700	700	700
CAP MODEL		**1802**	**2002**	**3002**	**4002**	**5002**	**6002**	**7002**	
Fan type		Axial							
Power supply	V/ph/Hz	208-230/1/50Hz							
Performance capacity (1)	kW	61,3	67	88,7	96,4	127,9	145,8	166,7	
Air flow rate at 0.08in.w (20Pa)	m^3/h	17500	16900	27500	26250	35000	45000	42250	
Number of circuits		2	2	2	2	2	2	2	
Noise level (2)	dB(A)	61	61	63	63	64	65	65	
DIMENSIONS									
Height	mm	2217	2217	3217	3217	4217	5217	5217	
Width	mm	400	400	400	400	400	400	400	
Depth	mm	700	700	700	700	700	700	700	

1. With external temperature 35°C and 50°C R-410A condensing temperature

2. Measured in free field conditions at 5 meters from the unit

[Economizers]

EcoBreeze

Range

50÷400 kW

Indirect Econimization

Standard Features

- A modular economizer that meets the future cooling and energy efficiency requirements of Data Centres today and tomorrow

TECHNICAL DATA			
MODELS	**MODULE**	**200KW FRAME**	**400 KW FRAME**
Weight	1247 kg	7704 kg*	14261 kg*
Length	2,8 m	6,1 m	12,2 m
Height	2,5 m	2,9 m	2,9 m
Width	1 m	2,4 m	2,4 m
IT airflow	5,000 CFM (2360 l/s)	20,000 CFM (9439 l/s)	40,000 CFM (18878 l/s)
Outside airflow	7,000 CFM (3304 l/s)	28,000 CFM (13215 l/s)	56,000 CFM (26429 l/s)
Nominal cooling capacity	50 kW	200 kW	400 kW

*Approximate operating weight with ducting

ECONIMIZATION COMPARISONS			
SYSTEM ARCHITECTURE	**PARTIAL PUE**	**KW-HR/YR**	**RELATIVE POWER**
EcoBreeze	1,09	466,518	45%
Air econ w/heat wheel	1,1	503,999	48%
Water cooled chiller with econ	1,14	728,195	70%
Air cooled chiller with econ	1,16	846,039	81%
Fresh air econ	1,14	718,159	69%
DX fluid cooled CRAC w/econ	1,2	1,044,073	100%
Nominal cooling capacity	50 kW	200 kW	400 kW

1. Hot aisle containment 38.6C° return to A/C

2. Supply air/cold aisle 25C°

3. Bin weather data Saint Louis, MO, USA

4. Does not reflect humidification losses

5. Fan control proportional to IT load of design

Data center infrastructure management (DCIM)

Good design and quality construction alone do not ensure a highly available and efficient data center. Data centers require ongoing monitoring and management to ensure the facility lives up to its design intent. StruxureWare™ for Data Centers is a software management suite designed to collect and manage data about a data center's assets, resource use, and operational status throughout the life cycle of the facility. This information is then distributed, integrated, and applied in ways that help managers optimize the data center's performance and meet IT, business, and service-oriented goals. From IT assets to racks, rows, rooms, and buildings, StruxureWare for Data Centers delivers the right information to the right users at the right time.

StruxureWare

Control level

Experts, on-site or remotely, can control process performance and ensure business continuity in real time, while tracking energy consumption in a highly critical and secure environment.

Operations level

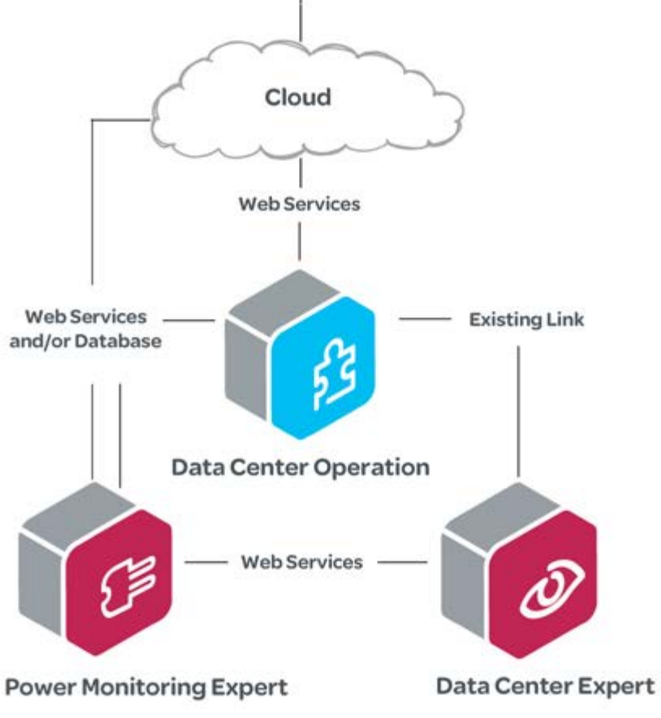
Functional managers can optimize operations, energy, and assets through smart analytical tools, often spanning multiple sites.

Enterprise level

C-level executives can drive their sustainability strategy efficiently, choosing the best scenario that meets their business objective to conserve enterprise-wide resources.

StruxureWare for Data Centers allows for flexibility when requirements and implementation strategies change over time. StruxureWare software applications and suites simplify integration time, improve reliability, enhance visibility to energy information, and streamline operational efficiency.

> Visit www.apc.com/software to learn more about StruxureWare for Data Centers!



To learn more about Schneider Electric cooling solution visit ***www.uniflair.co.uk***

Make the most of your energy℠

Uniflair Ltd
33 Star Lane Estate
Southend-on-Sea
Essex
SS3 0PJ
Tel.: +44 (0)1702 219494
www.uniflair.co.uk

©2014 Schneider Electric. All Rights Reserved. Schneider Electric, Uniflair, EcoBreeze, StruxureWare, NetBotz, EcoStruxure, and InfraStruxure are trademarks owned by Schneider Electric Industries SAS or its affiliated companies. All other trademarks are the property of their respective owners. • Design: Global Marketing, Communications Strategy and Design. • 998-1235392_GMA-US