DECACLIMA

Innovation in air treatment units

ROOFTOP AIR CONDITIONERS FOR LARGE SURFACES

Direct expansion air treatment units

GC ROOFTOP VRF

TB1

EUROVENT CERTIFIED PERFORMANCE
AHU N° 23.09.009
Range: GC
www.eurovent-certification.com

GC Range with Eurovent TB1 certification
– Thickness 50 –

VRF

Energy efficiency

Plug&Play units

Savings in installation time

Built-in Control

DECACLIMA

Reliable and efficient **air-conditioning solutions** for very demanding sectors, such as hospital, pharmaceutical, food and other industrial areas and service sector applications

Request a no-obligation **quote** with no obligation

Our technical team will advise you to find the solution best suited to your needs.

DECACLIMA is specialised in air-conditioning equipment and solutions, offering optimised air treatment units with smart controls for projects that need custom solutions with high technical requirements.

It stands out for its customer orientation, providing value, innovation and efficiency in every design and unit it develops.

The quality procedures used by DECACLIMA are certified by BUREAU VERITAS according to ISO 9001.

CERTIFIED
ISO 9001

Air treatment units with built-in VRF units

The GC ROOFTOP VRF series consists of direct expansion air conditioners that have built-in Variable Refrigerant flow (VRF) units. It is one of the most efficient systems for air conditioning with air recirculation and with 100% outdoor air.

These solutions are equipped with high-precision control systems for regulating temperature and humidity. They also allow maintaining a monitored, optimal and comfortable environment that allows constant adjustment of the ambient conditions.

Sustainability

Unlike other systems, they have the advantage of being able to regulate the flow of the supplied refrigerant, consequently adjusting the capacity of the equipment to the thermal need at any given time, thereby providing the consequent energy savings.

They are high-efficiency units due to their compatibility with any VRF system. The selected outdoor units use R410A or R32 refrigerant, which offer greater efficiency. To guarantee more effective operation, they are supplied pre-charged from the factory.

- **Energy efficiency**
- **Plug&Play units**
- **Savings in installation time**
- **Built-in Control**

VRF systems are notable for their high energy efficiency, at both full load and partial load, thereby making consumption and losses minimal compared to a traditional system.

Easy to install

Its adaptability to the structures of installations with more demanding health requirements is also outstanding thanks to its compact design, hygienic finish and easy installation, either on a roof or on the ground.

BMS

The control solutions of CG ROOFTOP units can be integrated with BMS systems and can work with the MODBUS IP, MODBUS RTU, BACNET IP and BACNET MSTP protocols, as well as with other standard solutions on the market.

Cooling, heating and air quality

GC ROOFTOP VRF equipment can cover all the necessary functions of an air conditioning process: Filtration, air renewal, thermal conditioning, hygrometric conditioning and pressure control.

Modulation

With air conditioning by direct expansion, the delivered power can be very quickly adapted according to the demand of the system, thereby allowing high thermal and hygrometric stability, regardless of the variation of the internal loads.

Compatible with the VRF systems of leading brands

Various models of the main brands of outdoor VRF units can be integrated, thereby ensuring the best quality and reliability of the system.

Simplified installation

The outdoor VRF unit and the UTA are supplied connected, which avoids having to do welding work on the cooling pipes and the expansion valves during installation of the equipment.

Built-in control

The units already come with the control programmed, which manages not only the operation of the Air Treatment Unit but also the demand from the exterior VRF unit through the AHU kit connection interface.

Recovery units

Optionally, cross-flow, counterflow, rotary heat recovery units can be added to the equipment to reduce the energy cost of the installation, thereby contributing to the already-high efficiency of VRF systems.

Construction aspects

Reinforced walls for fans

Reinforced walls designed specifically to withstand the higher levels of vibrations and provide exceptional strength. This characteristic ensures the durability and optimum performance of the fans, even under intensive operating conditions.

Single or double-sided pull-out and hinged doors

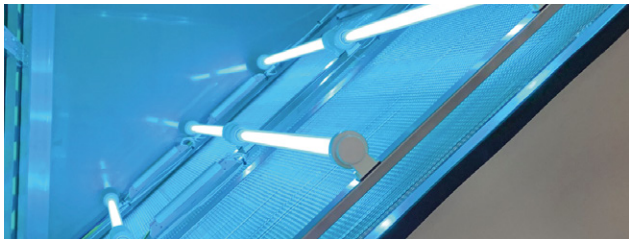
Single or double-sided pull-out and hinged doors allow quick and convenient access for maintenance and inspection, showing how user-friendly this equipment is.

Sanitation baseboard

Built-in sanitation baseboard, designed to facilitate cleaning and maintenance. This sanitation baseboard ensures a surface without joints or corners, thereby reducing the accumulation of dirt and microorganisms and guaranteeing a safer and cleaner environment.

Coils

Multi-stage coils, designed to offer more precise temperature control. This configuration allows minute and gradual adjustments, thereby ensuring optimal performance and greater energy efficiency in regulating the indoor climate.



UVC modules

Built-in UVC modules on the coils, condensate trays and heat recovery units. These UVC modules provide continuous and effective disinfection by eliminating microorganisms and guaranteeing a more hygienic environment. This advanced technology improves air quality and contributes to the health and safety of users.

Filters

Equipped with a wide range of filters, which include HEPA and carbon filters. These high-efficiency filters guarantee superior air purification due to capturing ultra-fine particles, allergens and pollutants. The activated carbon filters eliminate odours and volatile organic compounds, thereby assuring cleaner and healthier air in any environment.

Plug&Play units

Built-in control

DECACLIMA's **smart air-conditioning systems** ensure complete control of the environment, providing an area of comfort for occupants

DECACLIMA's air conditioners are designed to features an optimised control for each application. These control systems with advanced technology allow humidity, temperatures and pressures to be adjusted precisely to ensure the optimum environment.

Savings in installation time

Web server option

Built-in web server to access all detailed information for the air conditioners and monitor and adjust the settings from anywhere via a user-friendly interface.

BMS connectivity. *Building Management System*

Building management system to integrate air-conditioning solutions and obtain centralised monitoring, optimising efficiency and responding to the needs of environmental conditions.

Multidimensional control

Free programming of temperature, humidity and pressure parameters, giving you full control over the microclimate of spaces in order to meet the specific needs of users and processes.

Remote control

Option of controlling air conditioners when you are outside the installation from anywhere. With remote control, it is possible to manage and adapt the environment of each area according to your needs.

Unit or project monitor

A step forwards in **managing air treatment units**

Advanced project visualisation allows **units to be controlled and monitored** visually and intuitively

Benefits of Advanced Visualisation

Operating efficiency: control the performance of each air treatment unit easily and adjust settings in real time from a central location.

Predictive maintenance: anticipate possible issues so as to prevent them with alarms and detailed visualisations.

Easy to manage: control and monitor all units from a central location, facilitating decision-taking.

How to integrate **Advanced Visualisation** in your project

To make the most of this tool, DECACLIMA's team of experts is on hand to guide you through the process of integrating advanced project visualisation.

Complete project integration

Unified information from the design to the implementation of your project.

Dynamic animations

Visual understanding of the unit's key performance parameters.

Real-time alarms

Instantaneous visual notifications in the event of any anomaly.

Status visualisations

Detailed status visualisations for one or several units.

Emergency contact

The units can be stopped via an external signal in case of emergency or fire.

Efficient equipment for demanding projects

DECACLIMA has certifications that are recognised worldwide within its sector, so clients can be assured of the performance of its units through evaluations carried out by independent laboratories. The GC range units have been assessed extensively, obtaining the **Eurovent certification**, which is recognised and respected worldwide by the sector.

GC RANGE FEATURES	DIN EN 1886:2009 CLASS
Thermal bridging	TB1
Thermal transmittance	T2
Casing air leakage	L1 (M)
Filter bypass leakage	F9
Mechanical resistance	D1 (M)

The high performance of DECACLIMA's GC air treatment units in all Eurovent-evaluated criteria demonstrates the company's ongoing commitment to quality, efficiency, and excellence in HVAC equipment production.

TB Thermal bridging

DECACLIMA GC UTAs offer maximum performance in breaking thermal bridges.

Thermal bridging factor class UNE-EN 1886		
Kb factor	**Class**	
1.00 > kb > 0.75	TB1	✓
0.75 ≥ kb > 0.6	TB2	
0.6 ≥ kb > 0.45	TB3	
0.45 ≥ kb > 0.3	TB4	
Without requirements	TB5	

T Thermal transmittance

The thermal transmittance limits of the casing emphasise the degree of thermal insulation of the unit and, consequently, the thermal losses between the inside and outside of the unit throughout the structure, not just at the critical points.

Thermal transmittance class UNE-EN 1886		
Thermal transmission W x m^{-2} x K^{-1}	**Class**	
U ≤ 0.5	T1	
0.5 < U ≤ 1.0	T2	✓
1.0 < U ≤ 1.4	T3	
1.4 < U ≤ 2.0	T4	
Without requirements	T5	

L Air leakage

Air leakage measures air leaks through the unit casing, both from the inside of the unit to the outside, and vice versa.

Casing air leakage UNE-EN 1886			
Maximum leakage flow (f400) l x s^{-1} x m^{-2}	**Maximum leakage flow (f700) l x s^{-1} x m^{-2}**	**Class**	
0.15	0.22	L1	✓
0.44	0.63	L2	
1.32	1.9	L3	

F Filter bypass leakage

The bypass in filters provides a clear indication of whether the entire airflow passing through the filters is being correctly filtered.

As with the air leakage factor of the casing, this is of greater importance in applications with high Indoor Air Quality (IAQ) requirements.

Filter bypass leakage class UNE-EN 1886		
0.5 %	F9	✓
1 %	F8	
2 %	F7	
4 %	F6	
5 %	G1 to F5	

D Casing strength

The mechanical strength of the casing refers to the structural strength of an air treatment unit to withstand mechanical stresses, such as compression, torsion, or bending forces, without suffering deformation or damage

Casing strength class UNE-EN 1886		
Deformation mm x m^{-1}	**Class**	
4	D1	✓
10	D2	
Greater than 10	D3	

Air treatment units with built-in VRF units

Direct expansion air conditioners with a compact design.

Outdoor unit and AHU connected as standard to save pipe work.

High efficiency
VRF outdoor units.

Direct expansion air treatment units

Air conditioners for large surfaces

Air conditioners 100% outside air or with recirculation.

GC ROOFTOP VRF
Series

GC ROOFTOP VRF Series

Direct expansion air conditioners, with the advantages of VRF

GC ROOFTOP VRF Series

Compact design for installation on the roof or at ground level. Both the outdoor and indoor units come connected, saving the work of connecting pipes.

The performance of DECACLIMA's GC units is guaranteed by the **Eurovent certification**

EUROVENT CERTIFIED PERFORMANCE TB1

Main characteristics

- Compatible with any VRF system.
- High efficiency units.
- Flow rates from 3,800 m^3/h to 15,000 m^3/h.
- EC Plug Fan fans.
- Extruded aluminium profile with thermal bridge break.
- Rubber seal for water-tightness with the panels.
- 50 mm thick sandwich-type panels, with a lacquered outer panel.
- Support frame adapted to the needs of the installation.
- Plug&Play built-in control.

Standard finishes

- Galvanised steel interior.
- Lacquered sheet exterior.
- Modular aluminium structure with thermal bridge break.

Options

- Hygienic construction.
- Dehumidification stage.
- Stainless steel interior finish.
- UVc germicidal chamber.
- Different filtration stages and characteristics.
- Hatches module with heat recovery unit.
- Communication for connection to a BMS.
- Option of dividing the coil into modules.
- Option of heat recovery coils.

Operation

The GC ROOFTOP VRF series is composed of high-efficiency units thanks to their compatibility with any VRF system. The outdoor units selected offer high efficiency, adjusting to demand at all times.

Technical characteristics

Model		GC 1.5 RT 2.1 12 1 DX T	GC 3.0 RT 2.2 14 1 DX T	GC 3.0 RT 3.4 16 1 DX T	GC 4.5 RT 4.8 18 1 DX T	GC 4.5 RT 4.9 20 1 DX T	GC 4.5 RT 4.9 26 1 DX T
COOLING CAPACITY	kW	12.3	14	15.5	17.5	20	26
	Tr	3.5	4.0	4.4	5.0	5.7	7.4
HEATING CAPACITY	W	13.2	15.5	17	19	22	28.5
	Tr	3.8	4.4	4.8	5.4	6.3	8.1
FLOW RATE	m^3/h	2050	2200	3400	4800	4850	4900
	cfm	1211	1300	2009	2836	2866	2895
COOLING CONSUMPTION	W	3413	4148	4746	5565	6405	7980
	A	5.5	6.7	7.6	8.9	10.3	12.8
EER	-	3.60	3.38	3.27	3.14	3.12	3.26
HEATING CONSUMPTION	W	3570	4260	5009	5775	6615	8190
	A	5.7	6.8	8	9.3	10.6	13.1
COP	-	3.70	3.64	3.39	3.29	3.33	3.48
NOISE LEVEL	dB(A)	57	57	57	59	59	60
STATIC PRESSURE	Pa	250	250	250	250	250	250
POWER SUPPLY	V	380-415 V 3 Phases + neutral 50 Hz	380-415 V 3 Phases + neutral 50 Hz	380-415 V 3 Phases + neutral 50 Hz	380-415 V 3 Phases + neutral 50 Hz	380-415 V 3 Phases + neutral 50 Hz	380-415 V 3 Phases + neutral 50 Hz
REFRIGERANT	-	R410A	R410A	R410A	R410A	R410A	R410A
LOAD	kg	3.9	4.5	4.9	5.2	5.8	7.2
CONTROL	Type	By return temperature	By return temperature	By return temperature	By return temperature	By return temperature	By return temperature
	Type	Constant flow rate	Constant flow rate	Constant flow rate	Constant flow rate	Constant flow rate	Constant flow rate
FAN	Type	EC Plug Fan	EC Plug Fan	EC Plug Fan	EC Plug Fan	EC Plug Fan	EC Plug Fan
COMPRESSORS	Type	DC Inverter	DC Inverter	DC Inverter	DC Inverter	DC Inverter	DC Inverter
OUTDOOR FLOW RATE	m^3/h	6,000	6,000	6,000	6,800	11,000	11,000

Model		GC 6.0 RT 6.0 32 1 DX T	GC 7.5 RT 7.5 40 1 DX T	GC 7.5 RT 8.0 45 1 DX T	GC 9.0 RT 9.5 54 1 DX T	GC 12.0 RT 14.0 80 1 DX T	GC 15.0 RT 15.0 90 1 DX T
COOLING CAPACITY	kW	31	40	45	54	80	90
	Tr	8.87	11.4	12.8	15.4	22.8	25.6
HEATING CAPACITY	kW	34	45	50	57	90	100
	Tr	9.7	12.8	14.2	16.2	25.6	28.4
FLOW RATE	m^3/h	6000	7500	8000	9500	14000	15500
	cfm	3545	4432	4727	5614	8273	9159
COOLING CONSUMPTION	W	9492	12257	14008	15960	24514	28016
	A	15.2	19.7	22.5	25.6	39.3	44.9
EER	-	3.27	3.26	3.21	3.38	3.26	3.21
HEATING CONSUMPTION	W	10017	12463	14111	16380	24926	28222
	A	16.1	20	22.6	26.3	40	45.3
COP	-	3.39	3.61	3.54	3.48	3.61	3.54
NOISE LEVEL	dB(A)	60	62	62	63	63	63
STATIC PRESSURE	Pa	400	400	400	400	400	400
POWER SUPPLY	V	380-415 V 3 Phases + neutral 50 Hz	380-415 V 3 Phases + neutral 50 Hz	380-415 V 3 Phases + neutral 50 Hz	380-415 V 3 Phases + neutral 50 Hz	380-415 V 3 Phases + neutral 50 Hz	380-415 V 3 Phases + neutral 50 Hz
REFRIGERANT	-	R410A	R410A	R410A	R410A	R410A	R410A
LOAD	kg	9.8	10.5	13.2	14.4	21	26.4
CONTROL	Type	By return temperature	By return temperature	By return temperature	By return temperature	By return temperature	By return temperature
	Type	Constant flow rate	Constant flow rate	Constant flow rate	Constant flow rate	Constant flow rate	Constant flow rate
FAN	Type	EC Plug Fan	EC Plug Fan	EC Plug Fan	EC Plug Fan	EC Plug Fan	EC Plug Fan
COMPRESSORS	Type	DC Inverter	DC Inverter	DC Inverter	DC Inverter	DC Inverter	DC Inverter
OUTDOOR FLOW RATE	m^3/h	12000	16600	16600	22000	33200	33200

The nominal cooling capacities under conditions: Return 27 °CBS/19 °CBH, outdoor temperature 35 °CBS. / The nominal heating capacities under conditions: Return 20 °CBS, outdoor temperature 7 °CBS/6 °CBH.
Range in indoor operating conditions: Cooling 17 °CBS to 32 °CBS Heating 10 °CBS to 28 °CBS. / Range in outdoor operating conditions: Cooling 10 °C to 45 °C, heat -7 °C to 24 °C.
Data subject to modifications due to adjustments to the designs without prior notice.

Ref. 02/2024

Innovación en unidades
de tratamiento de aire

DECACLIMA COMFORT SOLUTIONS, S.L.

Avda. del Castell, 31
08570 Torelló (Barcelona)
Tel. +34 930 130 703
info@decaclima.com

www.decaclima.com

SODECA Group

CERTIFIED
ISO 9001