

AIR-COOLED ROOFTOP PACKAGED UNITS



# VECTIOS™

THE ALL-IN-ONE AIR  
CONDITIONING SOLUTION



**ErP  
READY  
2021**








# VECTIOS™: THE NEW STANDARD IN ROOFTOP PERFORMANCE

Vectios™ is a new generation of rooftop air conditioning packaged units, designed both to offer high levels of indoor air quality and full efficiency as well as to reduce the total cost of ownership during its lifetime.

## 5 REASONS TO CHOOSE VECTIOS™

-  **HIGH ENERGY EFFICIENCY & ENVIRONMENTAL RESPONSIBILITY**
-  **PACKAGED SYSTEM FLEXIBILITY**
-  **FULL RELIABILITY**
-  **EXTENSIVE SCOPE**
-  **ADVANCED SYSTEM CONTROL**

## VECTIOS™ SOLUTIONS FOR EVERY APPLICATION

-  SHOPPING CENTRES
-  LOGISTICS
-  CINEMAS
-  INDUSTRIES
-  OFFICES

# 5 KEY ADVANTAGES OF VECTIOS™



## HIGH ENERGY EFFICIENCY & ENVIRONMENTAL RESPONSIBILITY

CIAT concentrates its efforts on making its units more efficient and more environmentally friendly. Vectios™ goes beyond 2021 Ecodesign requirements: SEER > 3,53 and SCOP >3,20. Up to 20% savings compared to TIER1.



## PACKAGED SYSTEM FLEXIBILITY

Vectios™ offers a wide range of options to customize the unit according to any particular needs. With optimized weight and dimensions for a perfect fit in either new or renovation projects.



## FULL RELIABILITY

CIAT designs and manufactures reliable products that meet expectations and facilitate maintenance.



## EXTENSIVE SCOPE

More applications in a wider climate range to provide Indoor Air Quality. Reversible heat pump from 20 kW to 100 kW operating conditions: -15 °C and up to 48 °C outdoor air. Cooling-only version up to 52 °C outdoor air.



## ADVANCED SYSTEM CONTROL

VECTIC, the brand new control dedicated to optimizing performance at part load conditions, increases the seasonal efficiency and operational limits during all seasons.



## FULL ADAPTABILITY

### VECTIOS™ OFFERS A WIDE RANGE OF OPTIONS TO ADDRESS THE MOST SPECIFIC APPLICATIONS

#### VARIABLE AIR VOLUME

Special application for managing more than one volume at the same time. Control would manage:

- **Dampers for each independent room** based on temperature.
- **Airflow, to adjust to actual installation needs** (duct pressure).
- Blowing temperature to **maintain comfort** in the building.
- **Up to 4 zones.** Minimum airflow 35%.

#### LOW TEMPERATURE FOOD STOCKS

Low temperature have to be maintained for food conservation.

Unit have to adapt all its devices to manage this low return temperature (15°C).

This operation could be consider with or without free-cooling operation. It could be a **good solution for energy saving** but for some applications it is not allowed to introduce fresh air.

#### REFRIGERATION HEAT RECOVERY COIL

Energy recovery system to **use hot water coming from refrigeration systems.**

This coils are designed for **low water temperature applications.**

#### 100% FRESH AIR WITHOUT EXTRACTION AIR

**Special application** where it is necessary to **blow 100%** fresh air inside the volume and extraction air cannot be used: kitchens, bad smelling business (fish market), polluted extraction air business.

**Units have to adjust its own behavior** to each external conditions to keep running within the limits of operation.

#### DOMESTIC HOT WATER PRODUCTION

**Production of DHW is possible** for cooling-only units.

This operation is very **interesting for GYM**s where **cooling and DHW** is whole year needed.

#### DEHUMIDIFICATION ACTIVE CONDENSATION COIL

**Extra condensation coil** for dehumidification applications.

**Dehumidification process** is made in the main coil.

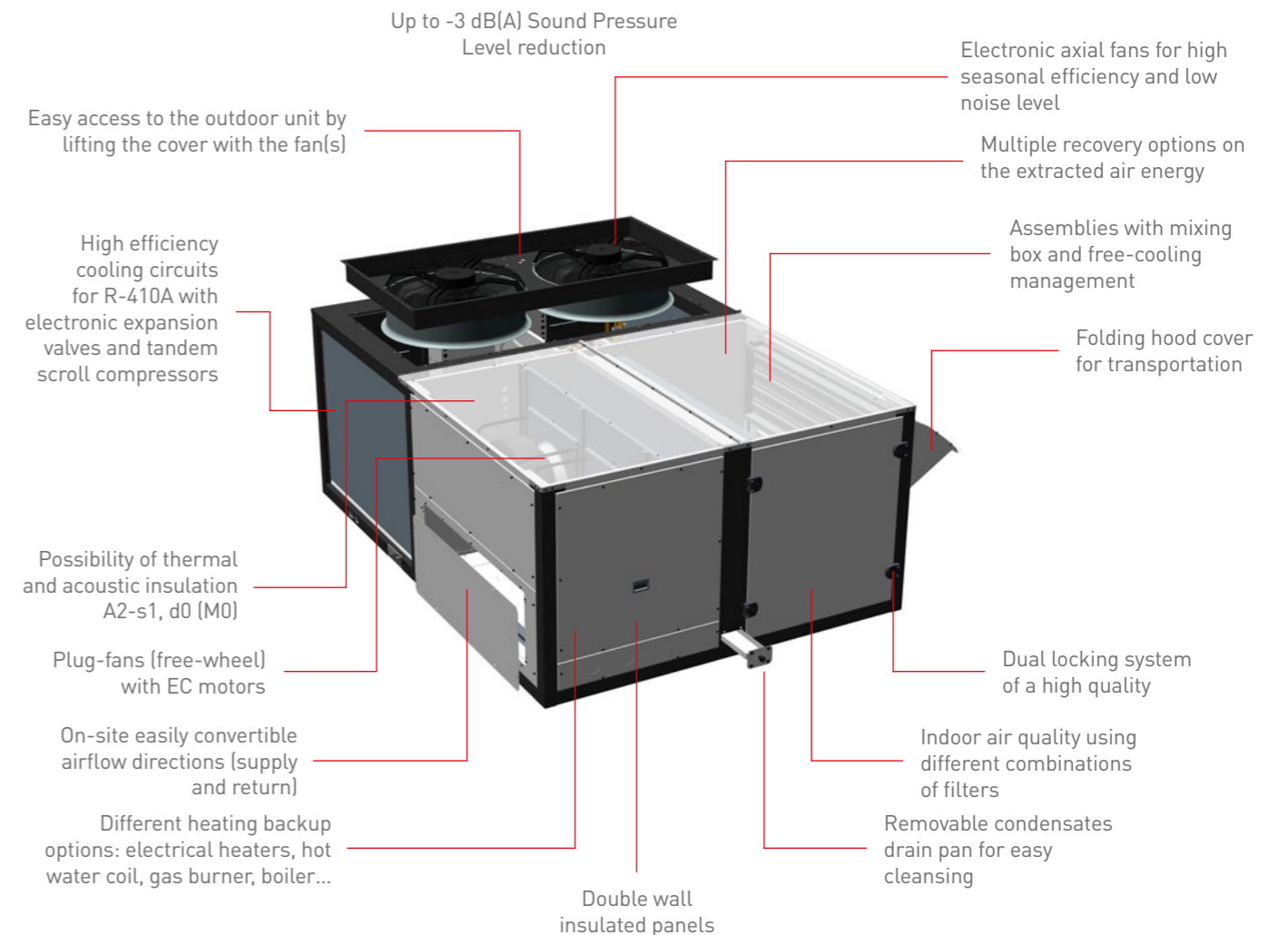
Hot gas recovery is **used to post-heating air.** Then blowing air is **low humidity at neutral conditions.**

**High humidity** ambient applications.

Climate food low temperature stocks **to avoid condensation** over the goods or fridge glass doors.



## A COMBINATION OF TECHNOLOGIES



### Key features

- Configurations for **new or renovation projects**
- **New gas fired** condensing boilers and burners for heating support
- **New defrosting** management
- **On-site adaptation** capabilities
- **Adaptation and renovation** roofcurbs
- **Increased Sensible Heat Factor (SHF)** and enhanced A class efficiency for EER and COP
- **Energy saving:** brand new CIAT's Active Recovery system, new heat recovery wheels, free-cooling

# MAXIMUM SEASONAL EFFICIENCY IN A COMPACT SOLUTION

The Vectios range offers 26 models of Rooftop units available in cooling only versions and cooling & heating versions.

## COOLING ONLY

VECTIOS						
Sizes RPJ	Cooling capacity kW <sup>(1)</sup>	SEER	Supply fan		Outdoor fan	
			Nominal air flow (m³/h)	Available static pressure mm WC	Nominal air flow (m³/h)	Available static pressure mm WC
0090	23,00	4,06	5.100	12	9.000	5
0120	29,01	4,08	6.500	12	14.500	5
0140	34,98	4,10	8.500	12	17.000	5
0160	38,96	4,04	8.750	15	17.000	5
0180	43,58	4,02	9.000	15	17.000	5
0190	45,21	4,03	9.000	15	17.750	5
0200	50,10	4,05	12.000	20	31.000	5
0220	54,50	4,03	12.500	20	31.000	5
0240	60,20	4,03	12.500	20	31.000	5
0280	69,06	4,11	15.500	20	33.000	5
0320	73,15	4,16	15.500	20	33.000	5
0360	81,26	4,03	16.000	20	34.500	5
0380	90,85	4,02	16.000	25	35.000	5

(1) Cooling capacity calculated in accordance with the EN-14511-2018 standard given for indoor temperature conditions 27°C, 19°C WB and 35°C outdoor temperature.

## HEATING AND COOLING

VECTIOS								
Sizes IPJ	Cooling capacity kW <sup>(1)</sup>	SEER	Heating capacity kW <sup>(2)</sup>	SCOP	Supply fan		Outdoor fan	
					Nominal air flow (m³/h)	Available static pressure mm WC	Nominal air flow (m³/h)	Available static pressure mm WC
0090	22,51	4,05	21,99	3,48	5.100	12	9.000	5
0120	28,04	4,10	27,86	3,45	6.500	12	14.500	5
0140	33,83	4,10	33,21	3,45	8.500	12	17.000	5
0160	37,32	4,04	36,79	3,45	8.750	15	17.000	5
0180	41,97	4,03	42,03	3,47	9.000	15	17.000	5
0190	44,42	4,06	44,78	3,45	9.000	15	17.750	5
0200	53,71	4,10	50,96	3,60	12.000	20	31.000	5
0220	58,34	4,16	56,07	3,68	12.500	20	31.000	5
0240	60,95	4,22	58,86	3,50	12.500	20	31.000	5
0280	69,04	4,07	68,01	3,43	15.500	20	33.000	5
0320	73,04	4,05	72,12	3,59	15.500	20	33.000	5
0360	81,58	4,05	80,77	3,56	16.000	20	34.500	5
0380	91,20	4,06	90,10	3,58	16.000	25	35.000	5

(1) Cooling capacity calculated in accordance with the EN-14511-2018 standard given for indoor temperature conditions 27°C, 19°C and 35°C outdoor temperature.

(2) Heating capacity calculated in accordance with the EN-14511-2018 standard given for indoor temperature conditions 30°C and 6°C WB outdoor temperature.

 CIAT participates in the ECP program for RT. Check ongoing validity of certificate: [www.eurovent-certification.com](http://www.eurovent-certification.com)

 Cooling  Heating

# EXPAND YOUR POSSIBILITIES WITH THE NEW *space*



## Complete your system with the space 3 rooftop

- Compliant with Ecodesign regulation EU 2016/2281 for Tier 1.
- Fully certified by Eurovent up to 200 kW.
- Vectios™ dual color scheme.
- Equipped with multi-scroll tandem compressors.
- Supply EC plug-fans for part load optimization.
- EC axial outdoor fans for high seasonal efficiency and low noise levels.
- Higher capacities and efficiency levels than the previous range.
- New options for low pressure supply fans for the less demanding applications.
- Options available are common to Vectios™.
- Available soon: new electrical layout for cabinet and wiring, for sizes 415 – 720.



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FEATURE	AVAILABILITY
EC supply plug-fan	✓
Supply flow rate controller	✓
High/low pressure supply fan	•
Ec outdoor axial fan	✓
2-speed outdoor axial fan	•
Cross flow assemblies	✓
Tunnel flow assemblies	•
Tandem compressors	✓
Electronic expansion valve	✓
High and low pressure transducers	✓
Multi-language controller	✓
Free-cooling [T, H, T+H]	•
Dynamic OAT control	✓
Fresh air management	✓
Advanced defrosting management	✓
Filters and stop-drop combinations	•
Freeze protection	•
Coils anti-corrosion protection	•
Active Recovery	•
Passive Recovery HRW	•
Hot water coil	•
Electrical strip heaters	•
Gas heater	•
Gas boiler	•
Double-wall m0 insulated side panels	✓
Full Euroclass A2-s1, d0 (M0) insulation	•
Removable condensates drain pan	✓
Outdoor coil protective grille	•
Adjustable roofcurb	•
Renovation roofcurb	•
Stackable design for transportation	✓
400 V / 3 pH / 50 [with neutral]	✓
400 V / 3 pH / 50 [with transformer]	•
Phase control relay	•
High-grade switching devices	•
Compressor soft starter	•
Clogged filter pressure switch	✓
Overpressure management	•
CO2 air quality sensor	•
Smoke detection as per NFS 61-961	•
Energy consumption measurement	•
Capacity measurement	•
BMC communication capabilities	•

✓ Supplied as standard  
• Option



# CIAT AT YOUR SERVICE

At CIAT, our objective is to develop partnerships with you and provide high quality service throughout the lifecycle of your HVAC system. We understand your changing needs, and develop smart services and energy solutions that optimise energy performance and enable savings.

We provide the support you need to get the most out of your solution:

- Preventive and corrective service maintenance.
- On-site inspection by experts close at hand.
- Online parts shop.
- Dedicated hotline for off-site technical support.

We also offer you a comprehensive range of smart services:

- Consulting on energy performance upgrade.
- Advanced monitoring and plant system management solutions.
- Equipment and system modernization.



[www.ciat.com](http://www.ciat.com)