



PRODUCT OVERVIEW JANUARY 2017

*Working in partnership with **TOSHIBA** UK
to create the perfect environment*



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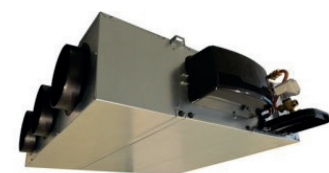
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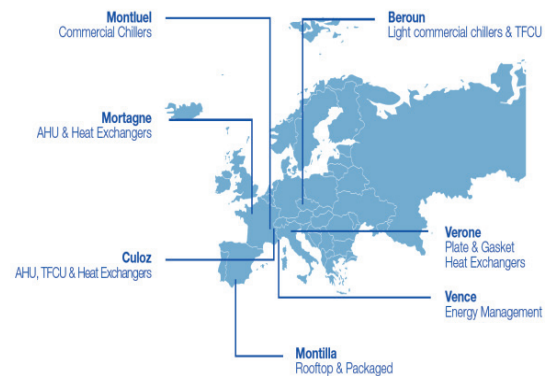
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CIAT GROUP is a leading European manufacturer of a wide range of climate control products. Founded in 1934 we now supply to over 50 countries worldwide. Following integration into United Technologies Corporation, CIAT UK operates alongside Toshiba Air Conditioning.

Together our vision is to be the UK's No. 1 supplier of technologically innovative, energy-efficient, environmentally-friendly HVAC equipment, combined with a first class level of customer support.



- Cutting-edge technology backed by a significant R&D programme.
- Industrial excellence utilising the latest manufacturing processes.
- Partnership programme to achieve excellence within our field.
- Huge investment in the AHU production Airside Excellence Centre.
- One of the largest HVAC innovation centres in Europe.
- Product performance levels are validated by experts in our own test rooms.



We offer our customers full support from our engineers to back our supply of exceptional products. From design and specification, through installation and commissioning, control integration and maintenance we work with you to form a real partnership.



CIAT Centre of Excellence



The new CIAT Centre of Excellence includes two research and development facilities and test laboratories, which focus on product innovation to shorten new product development time scales and improve energy performance and user comfort. The R&D investment is part of more than \$40m that UTC has invested at Culoz and Montluel, since the acquisition in 2015.

The factory in Montluel houses a Centre of Excellence for chillers and heat pumps. It supports chiller innovation and production, with a focus on new generation, environmentally-responsible refrigerants, with Culoz supporting further development of the new AHU range introduced during 2016.



The strategic move allows us to strengthen our heating, ventilating and air conditioning range, as well as our competitiveness and ability to innovate. The significant investment in the Culoz and Montluel sites complement each other and support production and design, allowing further improvement of our products and our ability to serve our customers.



Sustainability at the heart of what we do

Both Centre of Excellence sites recently underwent industrial transformations to support the company's focus on sustainable innovation.

"The environmental impact was an important consideration of the site transformation, as we no longer use fossil energy thanks to a biomass-boiler heating system with advanced filters. The site also reduced water consumption by 40% while achieving a waste recycling rate of 75%."



Domestic Heat Pump Applications



YUNA II



Heating capacity: 5 to 15 kW

Cooling capacity: 6 to 16 kW

- Split air/water heat pump inverter.
- Heating individual houses or small commercial premises.
- Yuna II can be connected to one or two networks of low- or medium-temperature emitters (underfloor heating and cooling systems, fan coil type terminal units) and supply a domestic hot water heater (option).



EREBA



Heating capacity: 4 to 21 kW

Cooling capacity: 5 to 20 kW

- Air/water packaged reversible heat pumps.
- R410A refrigerant.
- INVERTER twin rotary compressor.
- Domestic or small business premises.
- With a maximum heating temperature of 60°C.
- Compatible with all types of emitters: radiators, fan coil units or underfloor heating systems.
- Designed to be installed outdoors.



GEOCIAT



Heating capacity: 4.7 to 27 kW at 0/-3°C 30/35°C

Heating capacity: 6.12 to 38 kW at 10/7°C 30/35°C

- Water/water heat pumps.
- Designed for low-energy housing.
- Passive Geo-Cooling option.
- Compatible with all types of emitters: radiators, fan coil units or underfloor heating systems.
- Designed to be installed indoors.



Air-to-Water Heat Pumps and Chillers



AQUACIAT 3 (new)



Heating capacity: 42 to 162 kW

Cooling capacity: 38 to 160 kW

- One to four new-generation, high-efficiency scroll compressors.
- R410A refrigerant and scroll compressors.
- 19 mm insulated water-cooled brazed plate heat exchanger.
- With or without hydronic module.
- High energy efficiency.
- Pump and buffer vessel options.

AQUACIAT power (new)



Heating capacity: 190 to 500 kW

Cooling capacity: 190 to 640 kW

- R410A refrigerant and scroll compressors.
- Partial and total heat recovery.
- With or without hydronic module.
- Available as heat pump or cooling only.
- All-aluminium micro channel condenser (cooling only).
- Standard CIAT self-adjusting electronic control.
- High energy efficiency.

AQUACIAT free cooling OPTION FOR AQUACIAT power



Cooling capacity: 184 to 465 kW

- High energy efficiency with R410A.
- Easy start-up.
- Free cooling module.
- Optional extra facility for Aquaciat Power.



Air-to-Water Heat Pumps and Chillers

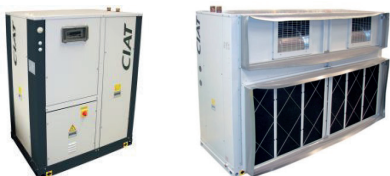
18-194 kW

190-650 kW

600-1350 kW

22-214 kW

CIATCOOLER



AQUACIAT power HE/HEE



POWERCIAT



CIATCOOLER - INTERNAL CHILLER/HEAT PUMP



Heating capacity: 22 to 214 kW

Cooling capacity: 18 to 194 kW

- Centrifugal fans.
- R410A refrigerant.
- High efficiency scroll compressors.
- Available as heat pump or cooling only.

AQUACIAT power HE/HEE

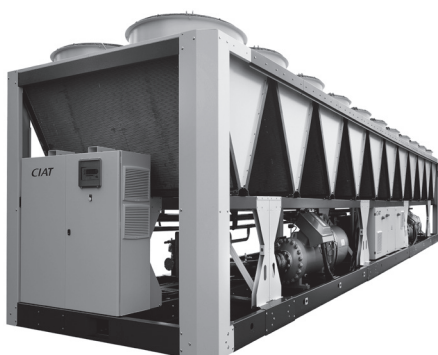


Cooling capacity: 190 to 650 kW

- 100% Class A range for efficiency.
- R410A refrigerant.
- Partial and total heat recovery.
- With or without hydronic module.
- All-aluminium micro channel condenser.
- Standard CIAT self-adjusting electronic control.
- Free cooling option.
- ESEER 4.15-4.45.



POWERCIAT AND POWERCIAT HEE



Cooling capacity: 600 to 1350 kW

- 100% Class A range for efficiency.
- R134A refrigerant.
- Available in 3 acoustic versions.
- With or without hydraulic systems.
- High-performance shell and tube dry expansion evaporator.
- Standard CIAT self-adjusting electronic control.
- Plug & Cool module versions.



Water-to-Water Heat Pumps and Chillers

35-180 kW

220-720 kW

370-1170 kW

40-210 kW

250-820 kW

500-1400 kW

DYNACIAT

DYNACIAT^{POWER}

HYDROCIAT



DYNACIAT



Heating capacity: 40 to 210 kW

Cooling capacity: 35 to 180 kW

- Chiller/heat pump connectable to groundwater dry cooler or cooling tower.
- May be connected to emitters such as underfloor heating and cooling systems, terminal units or air handling units.
- Designed as standard for installation in heated or insulated enclosed rooms.
- R410A scroll compressor technology.



DYNACIAT^{POWER}



Heating capacity: 250 to 820 kW

Cooling capacity: 220 to 720 kW

- Medium- to high-capacity chiller/heat pump.
- Connects to groundwater, dry cooler or cooling tower.
- High-efficiency, compact and quiet.
- Scroll compressors.
- Brazed plate heat exchangers.
- Internal installation.
- R410A refrigerant.



HYDROCIAT



Heating capacity: 500 to 1400 kW

Cooling capacity: 370 to 1170 kW

The new generation of HYDROCIAT water-cooled water chillers provides an optimal solution to all water-based air conditioning and process cooling applications in offices, healthcare facilities, commercial premises, industrial facilities and apartment buildings.





Specialist Equipment and Close-Control Units

EXPAIR PRECISION COOLING



Cooling capacity: 5 to 50 kW

Air flow rate: 0.28 to 3.35 m³/s

- DX condensing units or chilled water.
- Specially designed for the cooling needs in small and medium-sized data centres.
- R410A refrigerant.
- Steam humidifier option (1 to 8 kg/h).
- Heating provided by hot water coil or electric heater.
- Upflow or downflow ducting options.

MAGISTER PRECISION COOLING



Cooling capacity: 10 to 116 kW

Air flow rate: 0.83 to 7.63 m³/s

- DX condensing units or chilled water.
- Specially designed for spaces with high heat loads i.e. data centres.
- Energy saving EC motor.
- Steam humidifier or free cooling option.
- Heating provided by hot water coil or electric heater.

AQUACIAT CALEO HIGH TEMPERATURE



Heating capacity: 25 to 48 kW

- High temperature heating only; hydronic system without buffer tank.
- Medium capacity air-to-water heat pump for "high temperature" heating only. Serves large homes and multi-residential buildings as well as businesses, hotels and healthcare facilities.
- Can provide water up to 65°C.

AQUACIAT 2 HYBRID HEAT PUMP



Heating capacity: 50 to 85 kW

Cooling capacity: 45 to 80 kW

- Packaged unit with air/water heat pump and a high-efficiency natural gas condensing boiler.
- Self-adjusting electronic controls.
- Buffer tank available as an option.



Fan Coil Units

DIVIO SLIM RADIATOR



Heating capacity: 0.2 to 4 kW

Cooling capacity: 0.1 to 3 kW

- Wall-mounted (low level) unit.
- Feet available to hide the piping.
- Extremely quiet.



MAJOR LINE



Heating capacity: 1.4 to 11.5 kW

Cooling capacity: 0.7 to 11 kW

- Ceiling installation.
- Cased or uncased models.
- Stylish innovative design.
- Energy-efficient EC motors.
- Very low sound levels.
- Perfect for hotels and residential applications.



COMFORT LINE



Heating capacity: 1 to 12 kW

Cooling capacity: 0.6 to 9 kW

- Ducted unit designed for ceiling voids or in floor voids.
- Six models available.
- Four depth sizes from 215 mm.
- High static pressure.
- High-efficiency EC motors.
- Epure or G3 filtration.

COADIS 600 & 900



Heating capacity: 2 to 12 kW

Cooling capacity: 1 to 11 kW

- Comfort unit designed for ceiling integration.
- Two sizes, 600 x 600 mm and 900 x 900 mm.
- 2-pipe, 4-pipe and 2-pipe electric heat application.
- Epure or G3 filtration.
- "Visual" effect diffuser, 180° or 360° outlet.

MELODY CASSETTE



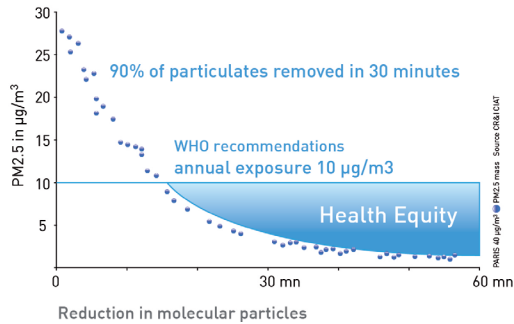
Heating capacity: 1.3 to 14.6 kW

Cooling capacity: 1.3 to 11.6 kW

- Comfort unit designed for ceiling integration.
- Six models available.
- Two sizes, 600 x 600 mm and 900 x 900 mm.
- 2-pipe, 4-pipe and 2-pipe electric heat applications.
- 4-way directional diffusers.
- Low pressure-loss filter.

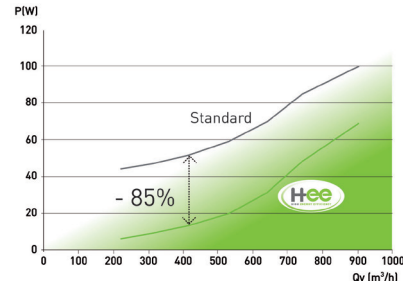
Fan Coil Unit Features and Controls

Epure Filter



Epure technology guarantees excellent indoor quality

HEE



- New brushless motor uses considerably less electricity.
- New high-efficiency fans with optimised airfoil blades.
- 85% electricity consumption saving.

V30 Stand-Alone Control



- Innovative design blends in with any interior.
- Electronic on/off control.
- Contact input for Economy or Frost Protection mode.
- Switch programmable functions adapted to your needs.
- Simultaneous control of a comfort unit as cooling only and a radiator.

Valves



CIAT offers fan coil units complete with valve sets and actuator options fitted at time of manufacture. These include: 2-port, 4-port and pressure independent control valves.



- Standard valves.
- Self-balancing valves.
- 3-point motors.
- Thermo motors.

V300 Network Control



- Master/slave function.
- A zone timer to manage comfort units in 6 independent zones.
- Optimised management of HEE motors with a 0-10 V signal.
- The Epure One function, with CIAT-patented particulate sensor.

Fitting of Free Issue Controls



As well as providing our own controls CIAT also offers the option to factory fit FCU controls provided by others to our units. CIAT also works with many UK controls suppliers to provide the correct FCU control solution for your project.

V3000 Network Control



- PID control with modulating valve.
- Designed and developed by CIAT.
- Management and optimisation of energy savings with CIAT's HEE concept.
- Many innovative and dedicated possibilities and features.
- Master/slave control possible without a BMS.
- Factory setting easily adjustable on site.

Easy Smart Control



- Automatic changeover.
- Optimal start and stop.
- Optimal water temperature.
- Remote access.
- Daily and weekly programming.
- BMS compatible.

Air Handling Units



AIR COMPACT



Air flow rate: up to 1.66 m³/s

- Entry level air handling unit which is particularly well-suited to the air conditioning of separate zones.
- Available in horizontal or vertical models with high static pressure.
- Options such as damper, filters, water or electric heating, chilled-water or direct-expansion cooling, ventilation, mixing, plenums, and heat recovery units.
- Plug & Play controls option.
- Heat recovery efficiency 80% plus.



FLOWAY/FLOWAY ACCESS



Air flow rate: 0.13 to 5 m³/s

- Standalone dual-flow air handling unit that is both compact and quiet.
- Plug & Play: factory-wired and programmed.
- State-of-the-art, high-efficiency heat recovery unit (efficiency of over 80% at nominal flow rate).
- High-performance plug fans driven by an electronically commutated motor.
- Available in horizontal or vertical configuration.
- Modbus/BACnet interface options.
- Extremely compact design.



CLIMACIAT AIR ACCESS



Air flow rate: 2.8 to 8.5 m³/s



- Bespoke air handling unit ideal for retail, office and administration.
- Heat recovery, mixing, filtration, heating, cooling, humidification, dehumidification, ventilation, sound attenuation.
- High heat recovery efficiencies 80% plus.
- Energy-efficient EC fan motors.
- Modular and flat packing.
- Resistance of casing: D2.
- Airtightness of casing: L1.
- Thermal transmittance: T2/T3.
- Thermal bridging: TB2/TB3.
- Optimal integrated controls.



Applications

Max. Air Flow Capacity m³/s



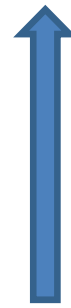
CLIMACIAT
airaccess



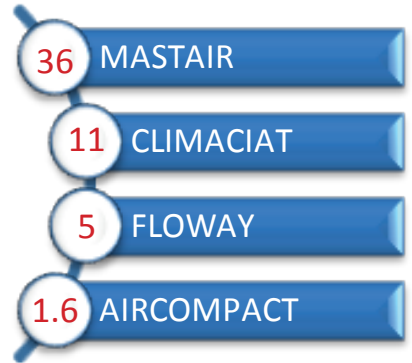
CLIMACIAT
airtech



CLIMACIAT
airclean



Up to



CLIMACIAT AIRTECH



Air flow rate: 2.8 to 11 m³/s



Bespoke air handling unit designed to meet a range of air handling requirements (mixing, filtration, heating, cooling, dehumidification, humidification, ventilation, recovery and sound attenuation) in commercial, industrial and healthcare applications.

- High heat recovery efficiencies 80% plus.
- Energy-efficient EC fan motors.
- Modular and flat packing available.
- Resistance of casing: D1.
- Airtightness of casing: L1.
- Thermal transmittance: T2.
- Thermal bridging: TB1.



CLIMACIAT AIRCLEAN



Air flow rate: 2.8 to 11 m³/s



Air handling unit designed for industrial applications and clean rooms (plastics processing, automobile and pharmaceutical industries, laboratories, hospital sector, microelectronics). This range covers all air handling needs and features the latest technological developments in terms of ultra-cleanliness.

- High heat recovery efficiencies.
- Energy-efficient EC fan motors.
- Modular and flat packing.
- Resistance of casing: D1.
- Airtightness of casing: L1.
- Thermal transmittance: T2.
- Thermal bridging: TB1.
- Healthcare ventilation: HTM-03-01 compliant.



MASTAIR

Air flow rate: 14 to 36 m³/s



- Bespoke air handling unit designed for large volumes at pressures reaching 3,600 Pa.
- Designed for industrial facilities (processes, cleanrooms, makeup air) or for precise air handling control in commercial spaces.
- Options including mixing, filtration, heating, cooling, dehumidification, humidification, ventilation, recovery and sound attenuation needs.



Packaged Systems

SPACE EXTERNAL UNITS



Heating capacity: 20 to 286 kW

Cooling capacity: 19 to 277 kW

Air flow rate: up to 12.8 m³/s

- Packaged units designed to condition larger areas.
- Three versions available: PF – Air-to-Air; PG – Integrated Gas Burner; Aqua XF – Water-to-Air.
- Free Cooling.
- R410A refrigerant.

COMPACT INTERNAL UNITS - AIR-TO-AIR



HA

The self-contained packaged air conditioner heats and cools businesses and industrial facilities. Designed for indoor installation. Ductable inside and out.

HA

Heating capacity: 7 to 36.8 kW

Cooling capacity: 8.7 to 40.1 kW

Air flow rate: 0.04 to 2 m³/s

V COMPACT

Heating capacity: 12 to 75 kW

Cooling capacity: 12 to 73 kW

Air flow rate: 0.75 to 3.9 m³/s

V COMPACT



COMPACT INTERNAL UNITS - WATER-TO-AIR



HX

Air-to-water heat pump or water-cooled air chiller for air-based heating and cooling of businesses. Connect to a water loop.

HX

Heating capacity: 7 to 36.8 kW

Cooling capacity: 8.7 to 40.1 kW

Air flow rate: 0.04 to 2 m³/s

NEPTUS XP

Heating capacity: 28 to 110 kW

Cooling capacity: 24 to 92 kW

Air flow rate: 1.3 to 4.7 m³/s



NEPTUS XP



Split Systems and Dehumidification Units

AIRDUO COMPACT AIR-TO-AIR



Heating capacity: 21 to 39 kW

Cooling capacity: 19 to 36 kW

- Internal ducted condensing unit.
- R410A refrigerant.
- Horizontal or vertical ductable indoor units which can be installed in mechanical/plant rooms or ceiling voids.

AIRDUO/NEXIA - AIR-TO-AIR



Heating capacity: 21 to 144.5 kW

Cooling capacity: 19 to 135 kW

- Internal ducted or external condensing unit.
- R410A refrigerant.
- Horizontal or vertical ductable indoor units which can be installed in mechanical/plant rooms.

JUNIOR/AQUAIR



Water removal capacity: 4 to 74 kg/h

- Packaged AHU dehumidifies damp air in indoor swimming pool areas.
- May be used to dehumidify the air in other indoor spaces.
- Designed for installation in the space to be air conditioned (optional external installation on certain models).
- Can be used to heat the air and swimming pool water as support.

AIRMASTER



Heating capacity: 69 to 148 kW

Cooling capacity: 92 to 148 kW

Air flow rate: 4.5 to 10 m³/s

Dehumidification capacity: 66 to 126.5 kg/h

- Six models available.
- Dehumidification units by cooling circuit, with total condensing heat recovery, specially designed for conventional covered pools and other dehumidification applications.
- These units have been designed for indoor or outdoor installations.



Sustainable Energy Solutions

OPERA DRY COOLER/CONDENSER



Capacity: Up to 1100 kW

- This dry cooler cools fluids and generators or provides free cooling.
- Energy-efficient EC fan motor assembly.
- May be used to replace a cooling tower.
- Commercial, industrial and healthcare applications.
- An extensive range of over 4,500 models.
- Reduction of energy, time and noise.
- Range consists of 1 to 14 fans.
- Rotation speeds of 330 to 1000 rpm.
- Adiabatic cooling option.

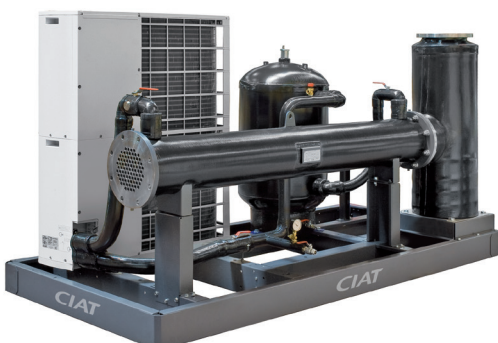
VEXTRA DRY COOLER/CONDENSER



Cooling capacity: 180 to 1350 kW

- Clean technology; zero risk of Legionella.
- Slim design, up to 40% smaller footprint.
- Acoustic comfort and energy efficiency ensured by the latest generation EC fan motor assemblies.
- Range of over 220 models available.
- Simplified maintenance.
- Excellent salt-spray and ageing-resistance of casing and hardware.
- Ideal replacement for cooling towers.
- Adiabatic cooling option.

DRYPACK



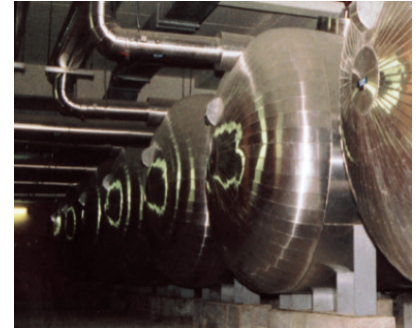
- Drypack is an efficient dehumidification solution that is easy to install and maintain for farmers, industrial plants, wastewater treatment plants, waste facilities, etc.
- Drypack One up to 800 Nm³/h.
- Drypack Flex up to 2,500 Nm³/h.
- Post-heater and economiser options.
- CIAT can optimise the skid for plug and dry operation.
- Agricultural biogas installations.



Energy Conservation/Heat Exchangers

CRISTOPIA

CRISTOPIA STL (STorage of Latent heat) technology is widely used in Europe, Asia and North America. It consists of nodules used to store the cooling energy produced by water chillers. The energy is primarily stored at night-time, when cooling demand is lower, and redelivered during the day when greater cooling capacity is needed.



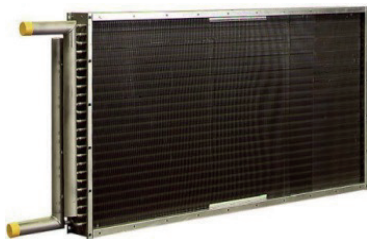
Reduce

- Chiller size by 30% to 70%
- The quantity of coolant
- The size of cooling towers or dry coolers
- The subscribed demand
- The floor area of technical rooms
- Chiller shutdown/restarts
- Running costs and CO₂ emissions

Increase

- The cooling capacity of your system
- The energy efficiency of the chiller
- The consistency of the electrical load profile
- System yield and dependability
- System service life
- System flexibility
- Energy management

Finned Heat Exchangers



Refrigerant Exchangers

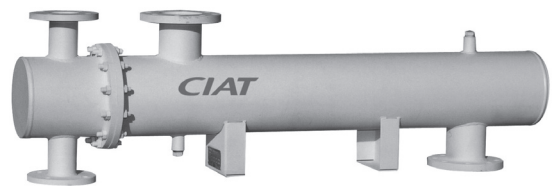


Plate Heat Exchangers



Shell and Tube Exchangers





Control Options

CIAT M2M



- Allows remote monitoring for all CIAT equipment on-site.
- Access current and logged activity.
- Receive e-mail alerts.
- Run diagnostic reports.

Plant Visor PRO



- Allows remote monitoring for all CIAT equipment on-site.
- Access current and logged activity.
- Receive e-mail alerts.
- Run diagnostic reports.

POWER Control



- Energy Centre Management.
- Free cooling and energy recovery optimisation.
- Operation, time schedules and system balancing.
- Up to 4 energy production units and 8 slaves.
- BACnet, LonWorks and Modbus compatible.

SMART Control



- Simplified BMS for medium-sized premises.
- Controls up to 60 fan coil units along with the serving chillers and ventilation unit.
- Remote access.
- 10-inch touch screen interface.
- BACnet via TCP connection.

CONNECT Touch



- Included with air-/water-to-water heat pumps and chillers.
- Up to 2 refrigerant circuits and 8 scroll compressors.
- Integrates into all major BMS protocols - BACnet, LonWorks and Modbus.
- 5-inch colour touch screen.

AVANT PRO



- Control of all packaged, split-type ventilation systems.
- Can be used with air-to-water and water-to-water units.
- Suitable for close control and swimming pool dehumidifiers.

CIAT RTC



- Included with ventilation and packaged units including heat pumps.
- Thermal enthalpy and free cooling.
- Gas burner and heat recovery.
- Ambient temperature sensor.
- Detection of smoke, dirty filters and leaks.

HOME Connect



- Management of residential heating systems.
- Turn-and-push dial wireless control.
- White backlit LCD.
- Doubles as a weather station.
- Can be placed on a desktop or mounted on a wall.
- Control terminal with room sensor.

This is just a sample of the CIAT control range. Many others are available to suit the customer's requirements, including bespoke panels ready for quick integration into BMS systems.



Engineering Services

WARRANTY AND MAINTENANCE



2-Year Enhanced

- CIAT Commission.
- CIAT Maintenance.



3-Year Enhanced

- CIAT Commission.
- CIAT Maintenance.



5-Year Comprehensive

- CIAT Commission.
- CIAT Maintenance.
- Remote Monitoring.
- Available on selected sites only.

Standard warranty is 12 months. Extended warranty must be activated within 30 days of system commissioning.

Thanks to CIAT M2M, you can monitor and control the correct operation of your installation remotely. This service improves the performance of your equipment, optimises its use and provides you with technical support from our experts in real time.



AHU FLAT PACK



- Restrictive site access solutions can be achieved with CIAT Ozonair's AHU flat pack service.
- Where access to a plant area is restricted CIAT Ozonair engineers can either off-load and build as required or build units placed in situ by others.
- This approach can help minimise disruption on site and to the customer.
- Flat pack installation of air handling units and other CIAT Ozonair products can also save costs on builders' work, crane hire and potential road closures.

AHU AND PACKAGED AC REFURBISHMENT

- Practical alternative to replacing with new equipment.
- Cost of refurbishment can save between 50 and 65% of system replacement cost, as well as offer savings in time and expense by obviating the need for lifting equipment and potential road closures.
- Itemised quotations, to enable essential works to be carried out first, followed by staged improvement works to the equipment.
- Staged and scheduled works to reduce disruption to the client and help with budgetary requirements.
- Reduce running costs by installing more efficient components.
- Services include replacement of casework, gas burners, cooling coils, heat recovery, higher grade filtration or upgrading fan performance.





UK Contacts



Head Office

United Technologies House,
Guildford Road,
Leatherhead,
Surrey, KT22 9UT

Northern Office

Parkfield House,
Manchester Old Road,
Middleton,
Manchester, M24 4DQ

Registered Office

Porsham Close,
Roborough,
Plymouth,
Devon, PL6 7DB



www.ciatozonair.co.uk

Sales & Design
sales@ciat.utc.com
01372 220151

Technical Support
technical@ciat.utc.com
0870 8430333

Service Department
service@ciat.utc.com
01372 220151

CIAT products are available from: