



→ WATER-TO-WATER HEAT PUMP - WATER CHILLER

# Dynaciat *Power*

*Smart equipment that  
boosts performance*





# Dynaciat *Power*

The name in unsurpassed comfort, superior performance, and energy excellence

Cooling capacity of up to 720 kW  
Heating capacity of up to 820 kW

## → GREEN POWER: CIAT's energy label for equipment engineered to meet tomorrow's environmental challenges

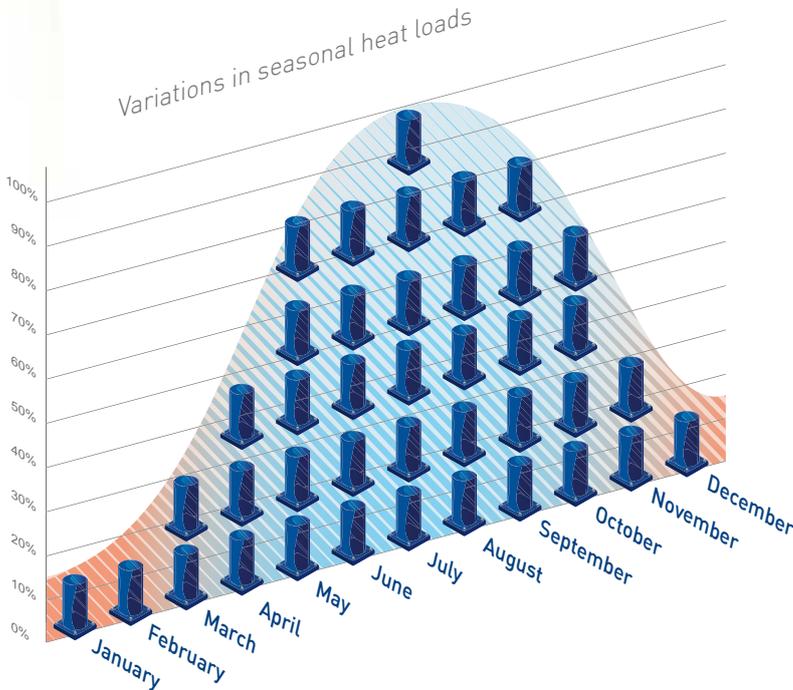


Dynaciat Power, CIAT's first water chiller to be given the GREEN POWER label, illustrates the tremendous potential of CIAT's Research and Innovation teams and their complete mastery of the technologies needed to engineer truly sustainable products. Created by CIAT, the GREEN POWER ecolabel is placed on CIAT products that consume less energy and, as a result, produce less CO<sub>2</sub>.

Dynaciat Power combines the best in CIAT technology with the latest innovations to achieve a superior level of performance. It delivers more power, greater savings, and more sustainable comfort:

With an ESEER of 6, Dynaciat Power guarantees a very high level of seasonal energy performance.

## → Smart equipment that adjusts its energy consumption to the right levels all year long



Dynaciat Power uses compressors that are connected in parallel on the same refrigeration circuit to easily and efficiently adjust its capacity to your specific needs.

The self-adjusting Connect2 control system anticipates variations in load and activates only the number of compressors needed.

Dynaciat Power's energy efficiency is increased throughout the year, the energy savings are noticeable throughout the life of the system, and indoor comfort levels are unsurpassed whatever the season.

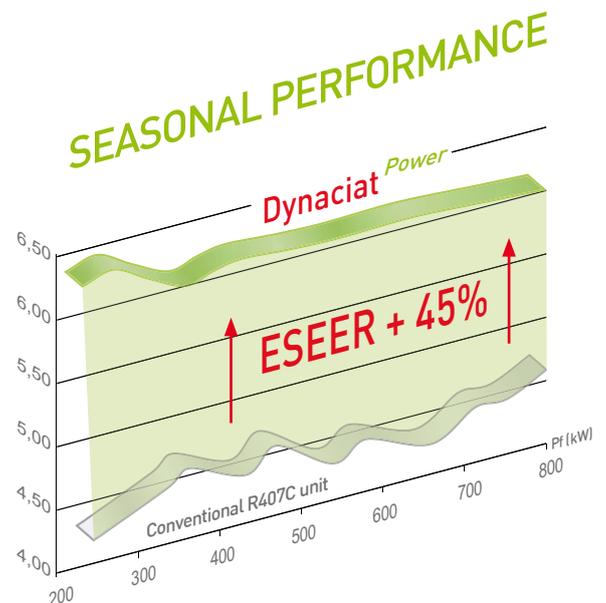
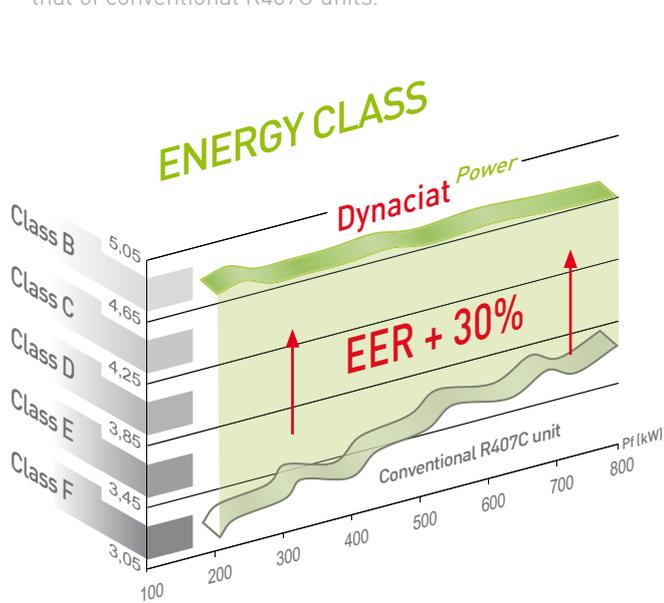


## → Proven performance, optimum savings



The **ESEER** characterisation allows better and more accurate assessment of the performance of cooling systems in terms of cooling capacity, energy efficiency and environmental-friendliness.

As further proof of its exceptional efficiency, the Dynaciat Power range boasts an **ESEER** of 6, namely 45% higher than that of conventional R407C units.



→ Dynaciat *Power* makes any green building project easy

BREEAM LEED  
PASSIVHAUS MINERGIE

With its proven high level of energy efficiency and ecolabel design, Dynaciat Power adds tremendous value to any current and future green building project:

- ☑ Be in tune with the environment and reduce noise.
- ☑ Place energy at the heart of innovation.
- ☑ Simplify servicing and maintenance.
- ☑ Ensure indoor comfort in winter as well as summer.
- ☑ Eliminate olfactory pollution and diffuse clean air.
- ☑ Help preserve the visual quality of areas.



When paired with a CIAT dry cooler, Dynaciat Power greatly increases all these green advantages by making **Free Cooling** and **Heat Recovery** possible. A considerable extra benefit for any sustainable building.





# Dynaciat *Power*

The multi-comfort  
& multi-purpose solution



## → The solution for heating and cooling

Dynaciat Power caters to all the heating and cooling needs of commercial buildings, from shopping centres and hotels to offices and healthcare facilities. Two versions are available to meet your needs: LG for cooling only and LGP for cooling and heating.

With a broad chilled water temperature range spanning from **+18°C to as low as -12°C**, and a hot water **outlet temperature as high as +55°C** for the heat pump version, Dynaciat Power is the solution for all your cooling and heating applications.

## → Make your industrial processes more efficient

Dynaciat Power is a range of 11 models that offer heating capacities from 220 to 720 kW and cooling capacities from 250 to 820 kW.

With an **EER** greater than 4.6, Dynaciat Power optimises the energy efficiency of demanding industrial processes.



Offices



Hotels



Shopping





## Advanced technologies condensed into a small package

### → Connect2: smart, total control

The compressors are rotated on and off in order to best balance their use during the life of the system. This greatly reduces fits and starts when starting and considerably increases the service life of the compressors.

The optional *Soft Starter* reduces the inrush current by 25%, thus decreasing disturbances on the network.

The Connect2 control takes into account the specific needs of each installation and manages setpoints remotely to increase comfort and energy savings. It also enables Dynaciat Power to remotely communicate with any type of BMS. Master/slave operation optimises the management of two parallel-connected machines.



### → Latest-generation, high-efficiency hermetic SCROLL compressors

Dynaciat Power optimises the operation of the latest-generation compressors that have been specially engineered for R410A and its outstanding thermodynamic properties. Its high volumetric capacity means that the compressors are smaller and, as a result, the overall noise level of the units is lower.

- Four compressors on two refrigeration circuits for the 700V to 1600V models.
- Six compressors on two refrigeration circuits for the 1800V to 2400V models.



### → Brazed plate heat exchanger with two refrigeration circuits

More compact thanks to the use of R410A refrigerant, the heat exchanger optimises heat transfer.

Centres



Healthcare



Industries





# Dynaciat *Power*

Protecting people  
and the environment

## → R410A refrigerant: an ecological, simple and safe choice



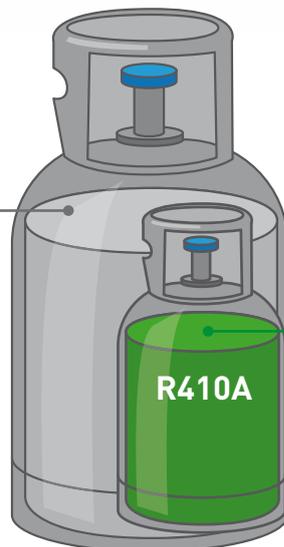
Dynaciat Power is CIAT's ecologically-conscious contribution to helping to preserve the environment, today and for future generations.

In designing Dynaciat Power, CIAT made the clear choice to use R410A, a non-ozone depleting HFC refrigerant that is not only easy to use, but also ensures a very high level of efficiency by reducing energy consumption and consequently CO<sub>2</sub> emissions.

The low pressure drop and high transfer coefficient of R410A allow considerably smaller pipes and heat exchangers to be used. In addition, R410A systems require only half the charge of refrigerant needed by systems that use other refrigerants.



Conventional  
R407C unit



R410A: 50%  
less refrigerant



## → So quiet you will forget that it's there



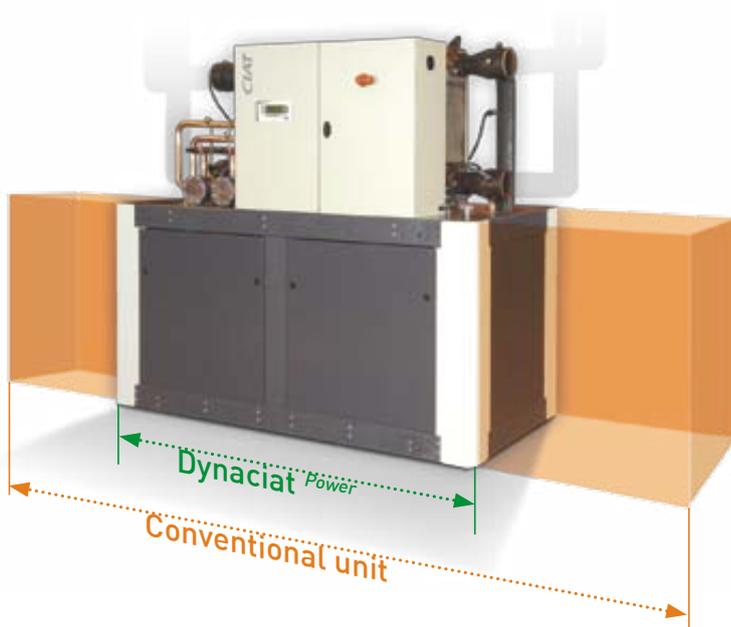
Noise has a detrimental effect on worker productivity. Dynaciat Power is available in three versions (Standard, Low Noise, or Xtra Low Noise) to meet even the most demanding noise attenuation requirements of all professions. The Xtra Low Noise version of Dynaciat Power offers a sound pressure level of 55 dB(A) for a cooling capacity of 720 kW.

**55 dB(A)**  
Xtra Low Noise  
Version

## → Increase performance and free-up space

Mechanical rooms take up valuable space and money. Dynaciat Power is small - nearly half the size of conventional units - but it has a release rate of up to 200 kW/m<sup>2</sup>. As a result, it takes up significantly less floor space without compromising on power.

Up to  
**200 kW/m<sup>2</sup>**



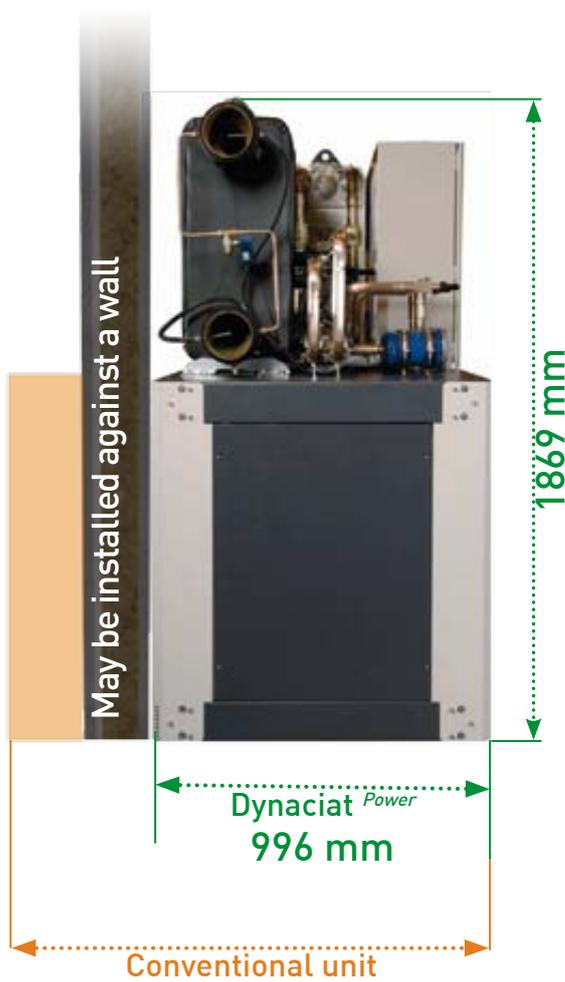
Up to 50% smaller footprint than conventional units



# Dynaciat *Power*

Installation and maintenance made simple

→ Compact for better integration



Less than 1 metre wide, Dynaciat Power is slim enough to fit through virtually all doorways. As a result, it can be installed without having to widen the doorways of mechanical rooms in buildings under renovation. Because Dynaciat Power takes up no more floor space than its actual footprint, all handling and installation operations in new buildings are simplified.



*Dynaciat Power, sized for easier installation*



## → Faster installation, lower cost



Dynaciat Power is designed for easy installation:

- The built-in control transformer reduces wiring to just one cable without a neutral wire.
- Two-circuit heat exchangers for simplified hydraulic connections.
- Because R410A uses lower currents, the power cables are smaller and the protection ratings are lower.

All these factory features reduce installation time and costs.

Users and professionals can count on the quality of the CIAT Group's commissioning and preventive maintenance services and on its extensive range of readily available spare parts.

## → Total accessibility for simplified maintenance

Dynaciat Power is designed to allow unobstructed, quick access to all components (compressors, evaporator, condenser, filter-dryer, electrical panel, etc.) to make all maintenance tasks easier. This results in lower annual maintenance costs and longer equipment life. The lower refrigerant charge means fewer mandatory leak checks.





# Dynaciat *Power*

## A range of high energy efficiency solutions

### → The heart of comfort solutions

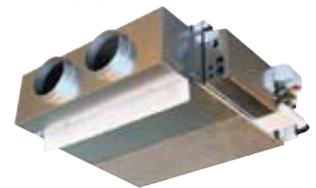
CIAT opens the door to energy excellence and offers you the possibility to benefit from Dynaciat Power's complete range of performance. From shopping centres and hotels, to offices, healthcare facilities and industries, all professional sectors that are looking for powerful, energy-efficient and environmentally-friendly comfort solutions will find exactly what they need with CIAT and Dynaciat Power.



Energy storage  
**Cristopia**



High capacity ductable comfort units  
**Major 2 NCH**



Slim ductable comfort units  
**Coadis Slim**



Comfort units  
Fan coil units  
**Major Line**



Gasketed-plate heat exchangers  
**Itex**



Coanda effect cassettes  
**Coadis 2**



Dry coolers  
**Opera**



Air handling units  
**Climaciat Air Access / Airtech**



# A range at the leading edge of innovation



## Dynaciat<sup>Power</sup> LG-LGP series



| Models | Cooling mode (1) |       |      |                |       | Heating mode (2) |       |      |                | Dimensions (mm) |       |        | Weight (kg) |
|--------|------------------|-------|------|----------------|-------|------------------|-------|------|----------------|-----------------|-------|--------|-------------|
|        | Cc kW            | Pi kW | EER  | Eurovent class | ESEER | Hc kW            | Pi kW | COP  | Eurovent class | Length          | Width | Height |             |
| 700V   | 218              | 46.6  | 4.68 | B              | 6.1   | 245              | 57.6  | 4.25 | B              | 2099            | 996   | 1869   | 1044        |
| 800V   | 252              | 53.3  | 4.73 | B              | 6.17  | 284              | 66.3  | 4.28 | B              | 2099            | 996   | 1869   | 1156        |
| 900V   | 289              | 62    | 4.66 | B              | 6.05  | 324              | 76    | 4.26 | B              | 2099            | 996   | 1869   | 1189        |
| 1000V  | 328              | 70.3  | 4.67 | B              | 5.94  | 366              | 85.6  | 4.28 | B              | 2099            | 996   | 1869   | 1312        |
| 1100V  | 357              | 76.5  | 4.67 | B              | 6     | 396              | 93.2  | 4.25 | B              | 2099            | 996   | 1869   | 1363        |
| 1200V  | 386              | 82.6  | 4.67 | B              | 6.04  | 428              | 100.3 | 4.27 | B              | 2099            | 996   | 1869   | 1425        |
| 1400V  | 444              | 94.4  | 4.70 | B              | 6.01  | 495              | 113   | 4.38 | B              | 2499            | 996   | 1887   | 1613        |
| 1600V  | 500              | 107   | 4.67 | B              | 5.9   | 555              | 127   | 4.37 | B              | 2499            | 996   | 1887   | 1708        |
| 1800V  | 584              | 120   | 4.86 | B              | 6.22  | 650              | 145   | 4.48 | A              | 3350            | 996   | 1970   | 2284        |
| 2100V  | 659              | 140   | 4.71 | B              | 6.04  | 735              | 167   | 4.40 | B              | 3350            | 996   | 1970   | 2376        |
| 2400V  | 716              | 161   | 4.45 | C              | 5.89  | 823              | 190   | 4.33 | B              | 3350            | 996   | 1970   | 2418        |

Cc: Cooling capacity

Pi: Input power

Eurovent standard conditions

(1) Chilled water: 12°C/7°C - Hot water: 30°C/35°C

(2) Chilled water inlet: 10°C - Water flow rate in cooling mode - Hot water: 40°C/45°C

| Dynaciat <sup>Power</sup> EQUIPMENT                                  | LG-LGP |
|--|--------|
| Safety switch  | ●      |
| Control circuit transformer  | ●      |
| Electrical cabinet wire numbers                                      | ●      |
| RS485 MODBUS/JBUS communication interface                            | ●      |
| Water flow controller  | ●      |
| Master/slave management of two machines                              | ●      |
| Electronic expansion valve (standard on 1800V-2400V)                 | ▲      |
| Low Noise version (encased compressors)                              | ▲      |
| Xtra Low Noise version (encased compressors with sound insulation)   | ▲      |
| Compressor intake shut-off valves                                    | ▲      |
| Low-temperature glycol/water mix (0°C to -12°C)                      | ▲      |
| Soft start   | ▲      |
| Phase controller (reversal, loss, asymmetry, over and under voltage) | ■      |
| Water filter (evaporator and condenser)                              | ■      |
| Anti-vibration mounts  | ■      |
| Flexible hydraulic couplings on evaporator and condenser             | ■      |
| Remote control unit (remote control console)                         | ■      |
| Relay board with dry contacts  | ■      |
| MultiCONNECT multi-unit management system                            | ■      |
| LonWorks gateway   | ■      |
| Ethernet gateway   | ■      |

● Supplied as standard ▲ Factory-mounted option ■ Option supplied as a kit

# The CIAT Group:

a leading European name in heat transfer

With 2300 employees and 9 production sites - including a vast industrial complex located at the foot of the French Alps - CIAT has been a leading name in sustainable thermal energy solutions for over 75 years. The CIAT Group's heating, cooling and air handling solutions are designed and manufactured exactly to your industry's requirements at its centres of expertise.

The innovative design and quality manufacturing of its equipment are complemented by a range of exclusive services with high added value, such as CIAT's international training centre.



## → Research and Innovation at CIAT



Since its creation, the CIAT Group has been drawing on the expertise and skills of its Research and Innovation centre to anticipate and design heat transfer technologies of the future. At this R&I centre which is one of the largest of its kind in Europe, 50 engineers and technicians elaborate, design and optimise increasingly efficient and environmentally-friendly comfort solutions.

## → GREEN POWER: CIAT's energy efficiency label



Conscious of the current and future impacts of climate change, the CIAT Group is developing a complete range of GREEN POWER certified equipment. This label, which already anticipates manufacturing standards of the future, is your guarantee of a common goal toward more environmentally-friendly comfort solutions that consume less and release less CO<sub>2</sub> into the atmosphere.

|                |                            |  |                             |
|----------------|----------------------------|--|-----------------------------|
| Water-to-Water | Dynaciat<br>35 to 180 kW   | Dynaciat <i>Power</i><br>220 to 720 kW | Hydrociat<br>420 to 1170 kW |
| Air-to-Water   | Aquaciat 2<br>20 to 300 kW | Aquaciat <i>Power</i><br>330 to 650 kW | Powerciat<br>380 to 1500 kW |

This document is non-contractual. As part of its policy of continual product improvement, CIAT reserves the right to make any technical modification it feels appropriate without prior notification.

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