

→ HIGH EFFICIENCY REVERSIBLE HEAT PUMP

# Aquaciat Grand Inverter

*For the sustainable-minded*



→ High efficiency reversible heat pump

# Aquaciat Grand Inverter

## Technology for an environmentally responsible future

→ **Environment:**  
meeting a challenge of the future today

We are faced with the unrelenting challenge of providing the world with ecological and cost effective solutions. To take up this challenge, CIAT, France's leading manufacturer of heat pumps, has innovated with the launch of the first CIAT-signed variable solution, Aquaciat Grand Inverter.



This new solution is perfectly suited to HQE approaches: greater capacity with lower power consumption, quieter operation and smaller footprint, greater comfort using less fluid, greater safety thanks to the use of less refrigerant. Achieve sustainable success by standing out from the crowd with the Aquaciat Grand Inverter heat pump!

→ **Water makes all the difference**

Ecodesign places economic and ecological considerations at the heart of CIAT's solutions. Aquaciat Grand Inverter illustrates this perfectly and gives a new lease of life to heating and cooling equipment. Only a system that runs on water, the best carrier of energy for air, is today able to provide so many guarantees. Completely safe for the environment, the production of water does not give off CO<sub>2</sub> and it is more efficient for shifting quickly from heating to cooling. More importantly, it significantly reduces the amounts of refrigerant needed, and eliminates the risk of pollution from potential refrigerant leaks.





→ **Applications:**  
the revolution  
you've been waiting for



Offices



Hotels &  
leisure



Shopping  
centres



Healthcare



Residential



Current standards, and especially those to come, make Aquaciat Grand Inverter a must for meeting the new demands of contractors looking to equip offices, hotels, businesses, healthcare establishments and residential buildings. Altogether, 60% of the heat pump market can benefit from the advantages of Aquaciat Grand Inverter and 100% of customers can be won over by the advantages of this exceptional solution.

## Aquaciat Grand Inverter *by CIAT* : integrated variability

Lower power consumption for greater capacity, more ecology and greater comfort... A true technological advance that only our engineers could create! These unique performance levels are based on CIAT's ecodesign at every level. From the high-quality and ultra-quiet new-generation compressor that adjusts its own power from 33 to 100%, to the variable-speed fan... CIAT unleashes variable-speed technology.



→ High efficiency reversible heat pump

# Aquaciat Grand Inverter

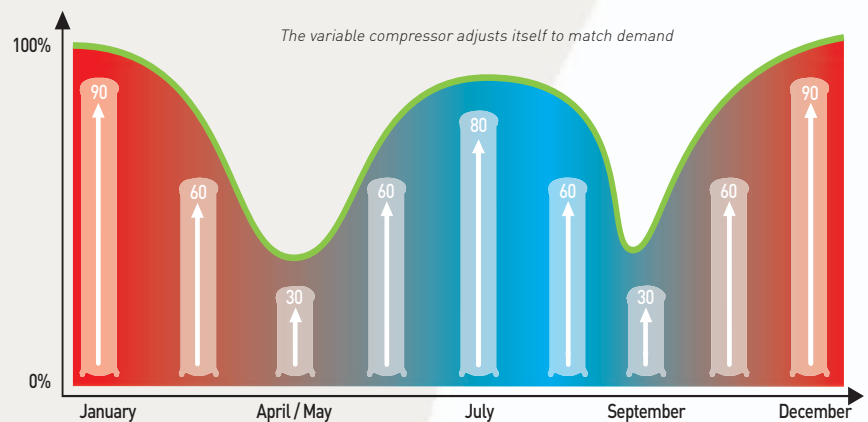
## High energy efficiency is gaining momentum

→ Optimised energy:  
an exceptional seasonal COP

Excellent  
EER/ESEER

As much as  
30% more  
energy  
efficient

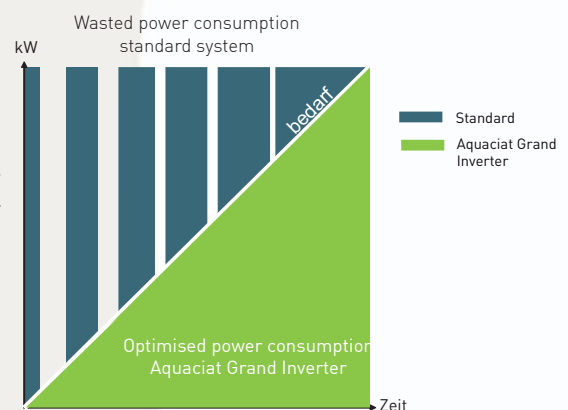
Heat pumps are the most economical solution on the market, yet Aquaciat Grand Inverter is as much as 30% more energy efficient! Not only does Aquaciat Grand Inverter boast exceptional efficiency, the new energy classes that take climatic and seasonal conditions into account make its performance even more outstanding! Never before has a CIAT heat pump in this capacity class achieved such a high EER (Energy Efficiency Ratio) and ESEER (European Seasonal Energy Efficiency Ratio).



The secret behind this optimisation of energy in all seasons lies in the variable-speed compressor, expansion valve and exclusive low power consumption fan with brushless motor and special blades. With such technological innovations, Aquaciat Grand Inverter is quite simply unique.

→ Energy savings:  
lower energy bills

Aquaciat Grand Inverter's High Efficiency is based on this overall variability. By adapting its operation over time, and by gently adjusting the amount of cooling or heating to overall needs, it limits wasted energy and significantly cuts running costs. What is more, the return on investment is unbelievably fast — less than two years!



ROI < 2 years



## → HQE: innovation down to the finest detail

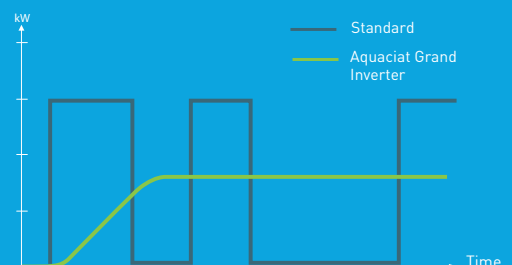
The High Quality Environmental standard (HQE) is the building standard everyone is aiming at. Because it easily meets the most stringent demands, Aquaciat Grand Inverter asserts itself as the indispensable solution.

- . More compact, low sound level, better integrated into immediate surroundings (HQE targets 1, 9 and 10)
- . Lower charge of high-efficiency, non-ozone depleting refrigerant (HQE target 4)
- . Fewer components, easy access for easy servicing (HQE target 7)
- . Heating and cooling comfort through inverter technology and individual control (HQE target 8)
- . Compliance with electromagnetic compatibility (EMC) standards (HQE target 12)



## Aquaciat Grand Inverter *by CIAT* : less electricity consumption

Aquaciat Grand Inverter runs at lower input currents, thus cutting its electricity consumption, particularly under partial load conditions. The fact that it starts up without any excess consumption makes the energy savings even more apparent. The compressor and fan adjust proportionally to the real needs of the system and avoid high energy-consuming short cycles. As a result, Aquaciat Grand Inverter can operate at lower power levels at outdoor temperatures of -20°C to +50°C.





→ High efficiency reversible heat pump

# Aquaciat Grand Inverter

## Technology that puts total comfort at your fingertips

→ Inverter comfort

With this new heat pump, CIAT enhances total comfort in both summer and winter and at outdoor temperatures of +50°C to -20°C. It achieves desired temperatures faster and ensures steady and constant operation. No more temperature swings in the water loop or laborious changeovers between heating and cooling. The exclusive Degipac system avoids overly frequent defrosting when heating during extremely cold weather. Aquaciat Grand Inverter adjusts itself to annual, seasonal or daily needs to gently provide an endless supply of low-cost, environmentally-friendly heating and cooling.



All climates  
from +50°C  
to -20°C

Exclusive  
Degipac  
system

→ **Control:**  
comfort to the nearest degree



Aquaciat Grand Inverter features integrated CONNECT 2 control for even higher performance. Designed specifically by CIAT, this high-tech control allows the manager to control selected operating priorities: thermal performance, reduced sound level, programming and overall installation control. It can also communicate with BMS. In addition, the V3000 control terminals allow occupants to adjust comfort levels in their areas (offices, hotel rooms, shops, etc.) within a general setpoint range.



CONNECT 2  
control



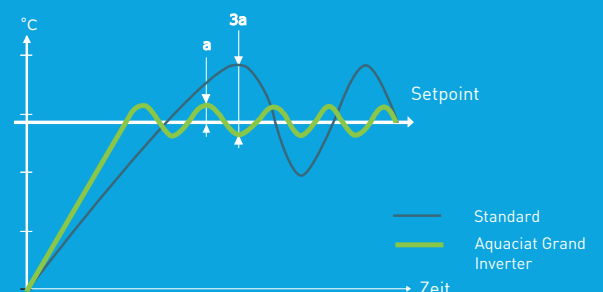
→ **Installation:**  
simple and safe

The absolute comfort offered by Aquaciat Grand Inverter is not just reserved for your customers. Aquaciat Grand Inverter units are quick and easy to install, even in urban environments and renovation projects. Knowledge of conventional piping is sufficient to connect it to the water system. Wiring is quick: simply connect it to a 400 V three phase network without neutral. Maintenance is made even easier thanks to the CONNECT 2 control, which displays clear messages and information in 7 languages.



**Aquaciat Grand Inverter** *by CIAT* : greater stability and higher precision

Aquaciat Grand Inverter reaches desired temperatures 20% faster and maintains this level without any sudden variations. What is more, the unit adjusts quickly to the demands of the system while sustaining the production of heating and cooling. The range of fluctuations is reduced by a factor of three, thereby substantially reducing power consumption levels needed to achieve and maintain a higher level of comfort.



→ High efficiency reversible heat pump

# Aquaciat Grand Inverter

## Discreetly the best

→ Golden silence



Only 43 dB(A)\*

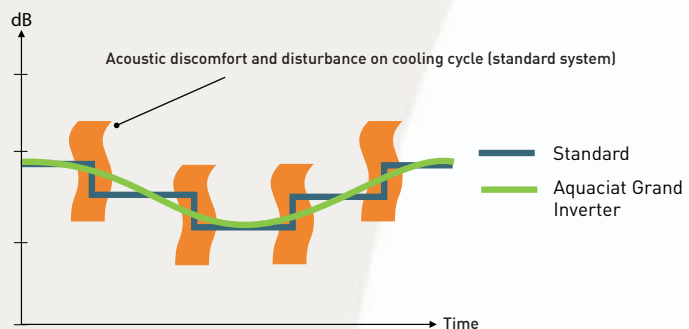
Contrary to the fan on a conventional heat pump which generates additional noise whenever it is turned on, **Aquaciat Grand Inverter**, features a variable-speed fan that continuously adjusts its rotation speed to outdoor conditions and the operation of the compressor.

As a result there are no unexpected and noisy start-ups and the sound level is reduced to the strict minimum at partial load (95% of the time) for an acoustic presence that is halved: just 43 dB(A) at 10 metres!

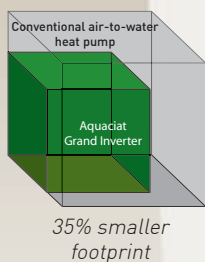
Quieter surroundings



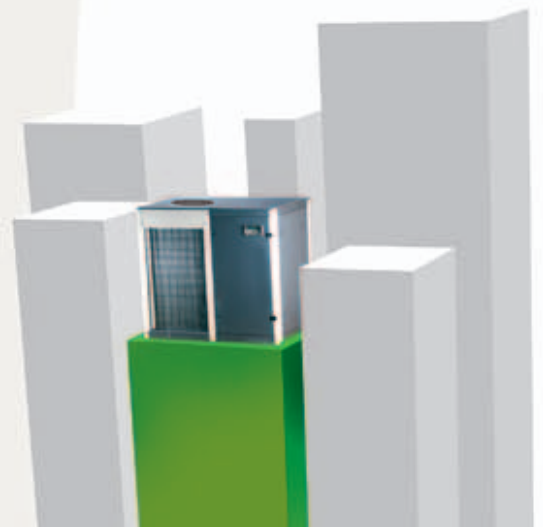
Fan with Inverter motor



→ Small in size but big in technology



Aquaciat Grand Inverter can be inconspicuously integrated into any urban project. Because it operates continuously, it does away with the need for a hot water tank which is a must for a conventional heat pump. As a result, it takes up 35% less floor space. **Aquaciat Grand Inverter** is even more compact thanks to its finned U-shaped tube heat exchanger and the use of just one compressor.



\*Sound pressure level at 10 metres for 50 kW of cooling *Aquaciat Grand Inverter blends in perfectly with urban landscapes*



## → Absolute safety

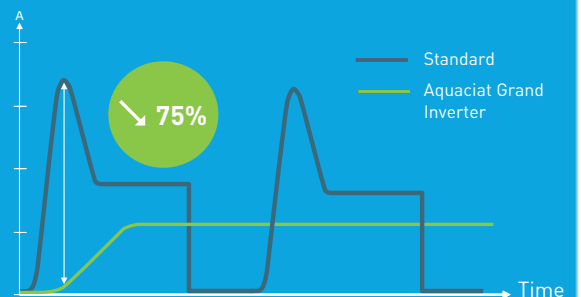
Like all other CIAT products, Aquaciat Grand Inverter meets the most stringent standards, such as the European PED and NF C 15-100 on inrush currents in residential applications. It also substantially reduces electromagnetic fields that are generated when conventional systems repetitively start and stop.



*Fewer unexpected start-ups  
= fewer disturbances on the electrical supply*

## Aquaciat Grand Inverter *by CIAT* : lower subscribed demand

CIAT has refined Inverter technology down to the finest detail: the electronic soft starter greatly reduces the starting current. The overheating temperature of the expansion valve, which is also electronic, adjusts itself to the operating situation to reduce the pressure on the refrigerant.



→ High efficiency reversible heat pump

# Aquaciat Grand Inverter

## The centrepiece of CIAT's high environmental efficiency

Aquaciat Grand Inverter is a prime example of CIAT's strategy of energy and ecological innovation. Boasting a high level of technology and optimal efficiency, it marks yet another addition to

a new generation of solutions CIAT is using to bring heating, cooling and air handling into the era of sustainable performance.



**AIR QUALITY**

CLEAN BLOC

AIRTECH

**COMFORT**

UTA COMPACT

COADIS 2

MAJOR LINE

MELODY

**ENERGY OPTIMISATION**

AQUACIAT GRAND INVERTER

ECOCIAT

The image displays a collection of CIAT HVAC products arranged in a circular pattern around the central CIAT logo. The products are categorized into three main areas: Air Quality (CLEAN BLOC and AIRTECH), Comfort (UTA COMPACT, COADIS 2, MAJOR LINE, and MELODY), and Energy Optimisation (AQUACIAT GRAND INVERTER and ECOCIAT). The background features a stylized graphic of a computer keyboard with a green and blue light effect.

# The Aquaciat Grand Inverter range: high efficiency, outstandingly well-equipped

Aquaciat Grand Inverter - IVDC series - High efficiency reversible heat pumps								
Size	Cooling		Heating		Dimensions			Weight
	Cooling capacity (1)	Power input (1)	Heating capacity (2)	Power input (2)	Length	Width	Height	
	kW	kW	kW	kW	mm	mm	mm	kg
150 V	36.9	13.7	41.1	13.8	1995	1055	1423	454
200 V	47.4	18.0	53.5	16.7	1995	1055	1773	625

(1) Standardised conditions in LOW-NOISE mode: 12°C/7°C (chilled water); 35°C (air)

(2) Standardised conditions in LOW-NOISE mode: 40°C/45°C (hot water); 7°C (air)

## STANDARD EQUIPMENT

LOW NOISE operation  
 Compressor technical compartment  
 Corrosion-resistant casing  
 Power supply: 400 V, 3 phase, 50 Hz, without neutral, with transformer  
 Coil protection grille  
 Resilient mounts  
 Main disconnect switch  
 Water flow regulator  
 Phase controller  
 SOFT START  
 Electronic expansion valve  
 All-season operation (-20°C min.)  
 Variable-speed condenser fan  
 Water filter

## OPTIONAL EQUIPMENT

Frost protection, Frame and flexible sleeve for connection on fan, Protective coil coating (Blygold - Polyurethane), Hydraulic adjustment kit (manifold, control valve, shut-off valve), Hydraulic hoses, Dual-motor pump, Control via remote control panel, Additional boards (dry contacts, LonWorks gateway), Partial heat recovery, Desuperheater, Electric auxiliary units kit with management card, MULTICONNECT multiple unit management

## Aquaciat Grand Inverter *by CIAT* : all-inclusive perfection

The best accepts no compromises! Aquaciat Grand Inverter features a host of functions and standard equipment to systematically guarantee the best performance possible.



**ALL INCLUSIVE**

# The CIAT Group

→ A promising success

In our 75 years of existence, the CIAT Group has become France's leading name in heat pumps, air conditioning and air handling. A major player on the European market and present in over 70 countries, we draw on our thermal expertise to innovate even further and create increasingly sustainable products.

This strategy is behind our success and that of our partners.

In addition to our range of unique solutions, high added-value services and an exclusive network of experts, we now offer Aquaciat Grand Inverter, the new envoy of our ambition: Universal Comfort.



CIAT Group headquarters  
Culoz - France

CIATESA  
Montilla - Spain

Customers the world over



NDR - Hamburg - Germany



IT Park Sigma - Bangalore - India



Astra - Jukkasjärvi - Sweden



Atlantic Palace - Agadir - Morocco



Pharos Palace - Lyon - France



B.P. 14 - 01350 Culoz - France  
info@ciat.fr - www.ciat.com  
Tel.: +33 (0)4 79 42 42 42