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# **GeociAT™ Power**

# **GeociAT™ Modular**

# **GeociAT™ Access**

Ecoconception (813/2013)

**MANUEL DES DONNEES TECHNIQUES**  
**TECHNICAL DATA MANUAL**





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# 1 - INTRODUCTION / INTRODUCTION

Ce manuel contient pour chaque pompe à chaleur les données Techniques définies selon les directives Ecodesign 813/2013 afin d' aider les consommateurs dans leur choix.

## **Ecodesign (Directive européenne 813/2013) et Energy Labelling Directive (Directive européenne 811/2013)**

L'Ecodesign prend en compte l'impact d'un produit sur l'environnement dans tout son cycle de vie et joue un rôle essentiel dans l'atteinte des objectifs 2020. Au sein de l'Union européenne, la Directive Ecodesign met des exigences de rendement énergétique obligatoires pour tous les produits liés à l'énergie (ERPs), dont les produits de climatisation. Cette directive pénalise la mise sur le marché de produits de basse performance, imposant aux fabricants de développer des produits consommant moins d'énergie. De plus, la directive européenne sur l'étiquetage énergétique classe selon leur efficacité les produits de A à G (pompes à chaleur de moins de 70kW). Cela tire le marché vers des produits plus économes en énergie tout en améliorant l'information des consommateurs.

**La conformité à l'Ecodesign et la directive européenne sur l'étiquetage énergétique est obligatoire pour les pompes à chaleur pour obtention de la certification CE.**

### **Nouveau rendement énergétique**

Le SCOP (Coefficient Saisonnier de Performance) est un nouveau paramètre européen évaluant le rendement énergétique de pompes à chaleur. Précédemment, le COP (Coefficient de Performance) a été utilisé pour mesurer le ratio puissance consommée sur la puissance produite en mode chauffage.

Le SCOP intègre la variation saisonnière dans l'évaluation de la performance.

Cela signifie que plusieurs points de mesure réalistes sont définis, déterminant la classe de rendement énergétique.

Les données de trois climats sont prises comme point de référence pour l'Europe :

- Strasbourg, France (climat moyen)
- Athènes, Grèce (climat chaud)
- Helsinki, Finlande (climat froid)

Ce manuel contient les données pour le climat moyen.

### **Les classes de rendement énergétique, selon la directive européenne sur l'étiquetage énergétique**

#### **Évaluation en énergie primaire**

Pour comparer le rendement énergétique des produits utilisant des sources différentes d'énergie, comme des chaudières (gaz, fioul) et des pompes à chaleur électriques, la Directive d'Ecodesign présente une nouvelle mesure exprimée en énergie primaire:  $\eta_s$  (eta s).

Énergie primaire :  $\eta_s = \text{SCOP}/2.5^* \times 100 - i^{**}$

\*2.5 est le coefficient de conversion pour des pompes à chaleur

Tel que : 2.5kW d'énergie primaire = 1kW

\*\* i = -3 pour les pompes à chaleur aérothermiques ou i = -3-5 pour les pompes à chaleur géothermiques

This manual contains for each heat pump Technical data's as define by the Ecodesign directives 813/2013 in order to help the consumers in their choice.

## **Ecodesign (European Directive 813/2013) and Energy Labelling Directive (European Directive 811/2013)**

Ecodesign takes into account a product's impact on the environment throughout its lifecycle and plays an essential role in meeting the 2020 targets. In the European Union, the Ecodesign Directive sets mandatory energy efficiency requirements for all energy-related products (ERPs), including air conditioning products. Therefore, this directive pushes the market away from low-performance products, requiring manufacturers to develop products that consume less energy. In addition, the European Energy Labelling Directive classifies products from G to A (on heat pump less than 70kW Prated), according to their efficiency. This pulls the market towards more energy-efficient products by improving consumer information.

**Conformity to the Ecodesign and Energy Labelling Directives is mandatory for heat pump products to obtain the CE marking.**

### **New energy efficiency metric**

The SCOP (Seasonal Coefficient of Performance) is a new European parameter to evaluate the energy efficiency of heat pumps. Previously, COP (Coefficient of Performance) was used to measure the ratio of power consumed to power produced in the heating mode. As these values focused on a single operating point, they were not representative of operation during the heating season. SCOP addresses this by including seasonal variation in the performance rating.

This means that several realistic measurement points are defined, which together contributes to classification in the correct energy efficiency class.

Data from three climates are taken as a single reference point for Europe :

- Strasbourg, France (average climate)
- Athens, Greece (hot climate)
- Helsinki, Finland (cold climate)

This manual contains data's for the average climate.

### **Energy efficiency classes, according to the European Energy Labelling Directive**

#### **Primary energy evaluation**

In order to compare the energy efficiency of products using different sources of energy, such as boilers (gas, fuel) and electric heat pumps, the Ecodesign Directive introduces a new measurement expressed in primary energy:  $\eta_s$  (eta s).

Primary energy:  $\eta_s = \text{SCOP}/2.5^* \times 100 - i^{**}$

\*2.5 is the conversion coefficient for heat pumps as 2.5kW primary energy = 1kW

\*\* i = -3 for air source heat pumps or i = -3-5 for water source heat pumps

## 2 - LEXIQUE

|  |   |
|--|---|
| <b>Model</b> [1]   |   |
| <b>Heat pump type</b> [2]  | Air to Water [3]  |
| <b>Equipped with supplementary heater</b> [7]  | Yes/No [8]  |
| <b>Heat pump combination heater</b> [9]  | Yes/No [8]  |
| <b>Rated heat output, kW</b> [10]  | Prated  |
| <b>Annual energy consumption, kWh</b> [11]   | Qhe   |
| <b>Seasonal space heating energy efficiency, %</b> [12]  | ns.heat   |
| <b>Sound power level indoor/outdoor, dB(A)</b> [13]  | LWA   |
| Declared capacity and coefficient of performance for heating at indoor conditions 20°C and outdoor temperature Tj [14] |   |
| <b>Climate:</b> [15]   | Average / Colder / Warmer [16]                                    |
| <b>Bivalent temperature, °C</b> [17]   |   |
| <b>Operating limit temperature, °C</b> [18]  |   |
| <b>Heating water operation limit temperature, °C</b> [19]  |   |
| <b>Tj, °C</b>  | <b>Capacity, kW</b> [20] <b>COPd</b> <b>Degradation coef</b> [21] |
|  |   |
|  |   |
|  |   |
| <b>Bivalent temperature</b> [17]   |   |
| <b>Operation limit temperature</b> [18]  |   |
| Power consumption in modes other than active mode [22]   |   |
| <b>Off mode, kW</b> [23]   |   |
| <b>Thermostat-off mode, kW</b> [24]  |   |
| <b>Standby mode, kW</b> [25]   |   |
| <b>Crankcase heater mode, kW</b> [26]  |   |
| Supplementary heater [27]  |   |
| <b>Rated heat output, kW</b> [28]  | Psup  |
| <b>Type of energy input</b> [29]   | Electric [30]   |
| Other items [31]   |   |
| <b>Capacity control</b> [32]   |   |
| <b>Outlet temperature capacity control</b> [33]  | Fixed / Variable [34]   |
| <b>Water flow rate capacity control</b> [35]   | Fixed / Variable [34]   |
| For air-to-water heat pumps [36]   |   |
| <b>Rated Air flow rate, outdoors, m3/h</b> [38]  |   |
| For water-to-water or brine to water heat pumps [37]   |   |
| <b>Rated water or brine flow rate, outdoors, m3/h</b> [39]   |   |
| <b>Contact details</b> [40]  |   |

### Accessories and Installed Options

No Accessories or Installed Options selected

## ENGLISH

- [1] Model
- [2] Heat pump type
- [3] Air to Water
- [4] Water-to-Water
- [5] Outdoor water type
- [6] Ground Water (10°C/-)/Brine to Water
- [7] Equipped with supplementary heater
- [8] Yes/No
- [9] Heat pump combination heater
- [10] Rated heat output, Kw
- [11] Annual energy consumption, kWh
- [12] Seasonal space heating energy efficiency, %
- [13] Sound power level indoor/outdoor, dB(A)
- [14] Declared capacity and coeffic of performance for heating at indoor conditions 20 °C and outdoor temperature Tj
- [15] Climate
- [16] Average (Strasbourg)/Colder (Helsinki)/Warmer (Athenes)
- [17] Bivalent temperature
- [18] Operating limit temperature
- [19] Heating water operation limit temperature
- [20] Capacity
- [21] Degradation coef
- [22] Power consumption in modes other than active mode
- [23] Of mode
- [24] Thermostat off-mod
- [25] Standby mode
- [26] Crankcase heater mode
- [27] Supplementary heater
- [28] Rated heat output
- [29] Type of energy input
- [30] Electric
- [31] Capacity control
- [32] Water flow rate capacity control
- [33] For air-to-water heat pumps
- [34] Rated air flow rate, outdoors
- [35] Contact details
- [36] For air-to-water heat pumps
- [37] For Water / brine-to-Water heat pumps
- [38] Rated Air flow rate, outdoors, m3/h
- [39] Rated Water flow rate outdoor exchanger, m3/h
- [40] Contact details

## FRANCAIS

- [1] Modèle
- [2] Type de pompe à chaleur
- [3] Pompes à chaleur air-eau
- [4] Pompes à chaleur eau-eau:
- [5] Type d'eau échangeur extérieur
- [6] Pompes à eau souterraines/ eau glycolée-eau
- [7] Equipé d'un chauffage supplémentaire
- [8] Oui/Non
- [9] Dispositif de chauffage mixte par pompe à chaleur
- [10] Puissance thermique nominale
- [11] Consommation annuelle d'énergie
- [12] L'efficaci énergétique saisonnière
- [13] Niveau de puissance acoustique à l'intérieur/à l'extérieur
- [14] Puissances et coefficient de performances déclarés en chauffage pour une température intérieure de 20 °C et pour une température extérieure Tj.
- [15] Climat :
- [16] Moyennes/ plus froid/ plus chaud
- [17] Température bivalente
- [18] Température maximale (de service...)
- [19] Température maximale de service de l'eau de chauffage
- [20] Capacité
- [21] Coefficient de dégradation
- [22] Consommation d'électricité dans les modes autres que le mode actif
- [23] Mode arrêt
- [24] Mode arrêté par thermostat
- [25] Mode veille
- [26] Mode résistance de carter active
- [27] Dispositif de chauffage d'appoint
- [28] Puissance thermique nominale
- [29] Type d'énergie utilisée
- [30] Electrique
- [31] Régulation de la puissance
- [32] Régulation de la puissance du débit nominal d'eau
- [33] Contrôle de capacité de température de sortie
- [34] Débit d'air nominal, à l'extérieur
- [35] Coordonnées de contact
- [36] Pour les pompes à chaleur air-eau
- [37] Pour pompe à chaleur eau/eau glycolée -eau
- [38] Débit d'air nominal, à l'extérieur
- [39] Débit d'eau nominal échangeur extérieur m3/h
- [40] Coordonnées de contact

## DEUTSCH

- [1] Modell(e)  
 [2] Wärmepumpe Typ  
 [3] Luft-Wasser-Wärmepumpe  
 [4] Wasser-Wasser-Wärmepumpe  
 [5] Wassertyp externer Wärmetauscher  
 [6] Grundwasser /Sole-Wasser  
 [7] Mit Zusatzheizgerät:  
 [8] (Ja/Nein)  
 [9] Kombiheizgerät mit Wärmepumpe:  
 [10] Wärmenennleistung  
 [11] Jährliche Energieverbrauch  
 [12] Jahreszeitbedingte Raumheizungs-Energieeffizienz  
 [13] Schalleistungspegel in Innenräumen und/oder im Freien  
 [14] Nennleistungen und -Leistungskoeffizienten im Heizbetrieb bei einer Innenraumtemperatur von 20 °C und einer Außentemperatur T<sub>j</sub>.  
 [15] Klima  
 [16] Durchschnittliche Klimaverhältnisse/ kälter/ wärmer  
 [17] Bivalenttemperatur  
 [18] Grenzwert der Betriebstemperatur  
 [19] Grenzwert der Betriebstemperatur des Heizwasser  
 [20] Die Leistung  
 [21] Minderungsfaktor  
 [22] Stromverbrauch in anderen Betriebsarten als dem Betriebszustand  
 [23] Aus-Zustand  
 [24] Thermostat-aus-Zustand  
 [25] Bereitschaftszustand  
 [26] Betriebszustand mit Kurbelgehäuseheizung  
 [27] Zusatzheizgerät  
 [28] Wärmenennleistung  
 [29] Art der Energiezufuhr  
 [30] Elektrik  
 [31] Sonstige Elemente  
 [32] Leistungssteuerung  
 [33] Outlet temperature capacity control  
 [34] Fix / variabel  
 [35] Nutzbarer Wasserdurchsatz  
 [36] Für Luft-Wasser-Wärmepumpen  
 [37] Bei Wasser-Glykolwasser-/Wasser-Wasser-Wärmepumpe  
 [38] Nenn-Luftdurchsatz, außen  
 [39] Nenn-Wasservolumenstrom externer Wärmetauscher m<sup>3</sup>/h  
 [40] Kontakt

## ITALIANO

- [1] Modelli  
 [2] Pompa di calore/ Tipo  
 [3] Aria acqua  
 [4] Acqua/acqua  
 [5] Tipo d'acqua scambiatore esterno  
 [6] Acque sotterranee/ salamoia-acqua  
 [7] Con riscaldatore supplementare  
 [8] (si/no)  
 [9] Apparecchio misto a pompa di calore  
 [10] Potenza termica nominale  
 [11] Il consumo energetico annuo  
 [12] Efficienza energetica stagionale del riscaldamento d'ambiente  
 [13] Il livello di potenza sonora ponderato A, all'interno e/o all'esterno, espresso in dB  
 [14] Potenze e coefficiente di prestazioni dichiarate in fase riscaldamento per una temperatura interna di 20 °C e per una temperatura esterna T<sub>j</sub>.  
 [15] Clima  
 [16] Climatiche medie/ clima più freddo/ clima caldo  
 [17] Temperatura bivalente  
 [18] Temperatura limite di esercizio  
 [19] Temperatura limite di esercizio di riscaldamento dell'acqua  
 [20] Capacità  
 [21] Coefficienti di degradazione  
 [22] Consumo energetico in modi diversi dal modo attivo  
 [23] Modo spento  
 [24] Modo termostato spento  
 [25] Modo stand-by  
 [26] Modo riscaldamento del carter  
 [27] Riscaldatore supplementare  
 [28] Potenza termica nominale  
 [29] Tipo di alimentazione energetica  
 [30] Specifiche elettriche  
 [31] Altri elementi  
 [32] Controllo della capacità  
 [33] Controllo della capacità della temperatura di uscita serbatoio  
 [34] Fisso/ variabile  
 [35] Flusso idrico utile  
 [36] Per le pompa di calore aria/ acqua  
 [37] Per PDC acqua/acqua glicolata  
 [38] Portata d'aria, all'esterno  
 [39] Portata d'acqua nominale scambiatore esterno m<sup>3</sup>/h  
 [40] Recapiti

## SVENSKA

- [1] Modell(er)  
 [2] Värmepump/ Typ  
 [3] Luft-till-vatten  
 [4] Vatten-till-vatten  
 [5] Utomhusvattentyp  
 [6] Ground Water (10 °C/-)/Brine to Water  
 [7] Ground water/ Saltlösning-till-vatten  
 [8] Ja/nej  
 [9] Pannor med inbyggd tappvarmvattenberedning och med värmepump  
 [10] Nominell avgiven värmeeffek  
 [11] Den årliga energiförbrukningen  
 [12] Säsongsmedelverkningsgrad för rumsuppvärmning  
 [13] ljudeffektivnivå inomhus och/eller utomhus, uttryckt i dB  
 [14] Deklareradkapacitetochvärmefaktorvidinomhusförhållanden 20 °C och utomhustemperatur T<sub>j</sub>.  
 [15] Klimat  
 [16] Genomsnittliga klimatförhållanden/ kallare klimat/ varmare klimatetWarmer (Athenes)  
 [17] Bivalenttemperatur  
 [18] Gränstemperatur för drift  
 [19] Uppvärmingsvattnets gränstemperatur för drift  
 [20] Kapacitet  
 [21] Degraderingskoefficie  
 [22] Effektförbrukning i andra lägen än aktivt lågeactive mode  
 [23] Frånläge  
 [24] Termostatfrånläge  
 [25] Standbyläge  
 [26] Vevhusvärmeläge  
 [27] Extra värmegenerator  
 [28] Nominell avgiven värmeeffek  
 [29] Typ av tillförd energi  
 [30] Elektrisk  
 [31] Övriga poster  
 [32] Kapacitetsreglering  
 [33] Kapacitetskontroll för utgående temperatur  
 [34] Fast/varierande  
 [35] Nyttiggjort vattenflöd  
 [36] För air-to-water heat pumps  
 [37] För värmepumpar med vatten/saltlösning till vatten  
 [38] Nominellt luftflöd, ute  
 [39] Klassificerat vattenflöde utomhusväxlare, m<sup>3</sup>/h  
 [40] Kontakt

## ESPAÑOL

- [1] Modelos  
 [2] Bomba de calor/ Tipo  
 [3] aire-agua  
 [4] agua-agua  
 [5] Tipo de agua del intercambiador exterior  
 [6] geotérmicas /salmuera-agua  
 [7] Equipado con un calefactor complementario  
 [8] [si/no]  
 [9] Calefactor combinado con bomba de calor  
 [10] Potencia calorífica nominal  
 [11] El consumo anual de energía  
 [12] Eficiencia energética estacional de calefacción  
 [13] nivel de potencia acústica ponderada A, en interiores o exteriores, expresado en dB  
 [14] Potencias y coeficiente de rendimiento declarados para una calefacción con una temperatura interior de 20 °C y una temperatura exterior Tj.  
 [15] Clima  
 [16] condiciones climáticas medias / clima más frío/clima más cálido  
 [17] Temperatura bivalente  
 [18] Temperatura límite  
 [19] Temperatura límite de calentamiento de agua  
 [20] Capacidad  
 [21] Coeficiente de degradación  
 [22] Consumo de electricidad en modos distintos del activo/active mode  
 [23] Modo desactivado  
 [24] Modo desactivado por termostato  
 [25] Modo de espera  
 [26] Modo de calentador del cárter  
 [27] Calefactor complementario  
 [28] Potencia calorífica nominal  
 [29] Tipo de insumo de energía  
 [30] Eléctrica  
 [31] Otros elementos  
 [32] Control de capacidad  
 [33] Comprobación de capacidad de la temperatura de salida  
 [34] Fija/variable  
 [35] caudal de agua útil  
 [36] Para bombas de calor aire- agua  
 [37] Para bomba de calor agua/agua glicolada - agua  
 [38] Caudal de aire nominal, exterior  
 [39] Caudal de agua nominal del intercambiador exterior (m3/h)  
 [40] Datos de contacto

## NEDERLANDS

- [1] Model(i)en  
 [2] warmtepomp/ soort  
 [3] Lucht/water  
 [4] water/water  
 [5] Type externe waterwarmtewisselaar  
 [6] grondwater/ Pekel-water  
 [7] Uitgerust met aanvullend verwarmingstoestel  
 [8] [ja/nee]  
 [9] Combinatieverwarmingstoestel met warmtepomp  
 [10] Nominale warmteafgifte  
 [11] Het jaarlijkse energieverbruik  
 [12] Seizoensgebonden energie-efficiënt van ruimteverwarming  
 [13] geluidsvermogensniveau, binnen en/of buiten, uitgedrukt in dB  
 [14] Nominale vermogens en warmteprestatie bij verwarming voor een binnentemperatuur van 20 °C en een buitentemperatuur Tj.  
 [15] Klimaat  
 [16] \*gemiddelde klimaatomstandigheden/ kouder(e) klimaat/warmer klimaat/Warmer (Athènes)  
 [17] bivalente temperatuur  
 [18] Uiterste bedrijfstemperatuur  
 [19] Uiterste bedrijfstemperatuur van sanitair water  
 [20] Vermogen  
 [21] Coëfficiënt de degradación  
 [22] Elektriciteitsverbruik in andere standen dan de actieve modus/active mode  
 [23] Uit-stand  
 [24] Thermostaat-uit-stand  
 [25] Stand-by-stand  
 [26] Carterverwarming-stand  
 [27] Aanvullend verwarmingstoestel  
 [28] Nominale warmteafgifte  
 [29] Soort energie-input  
 [30] Elektrisch  
 [31] Andere kenmerken  
 [32] Vermogenscontrole  
 [33] Capaciteitscontrole uittredetemperatuur  
 [34] Vast / variabel  
 [35] nuttige waterstroomsnelheid  
 [36] Voor lucht/water-warmtepompen  
 [37] Voor water/glycolwater warmtepomp -water  
 [38] nominaal luchtdebiet, buiten  
 [39] Nominaal waterdebiet externe warmtewisselaar m3/u  
 [40] Contactgegevens

## POLSKI

- [1] Model(-e)  
 [2] Pompa ciepła/ Rodzaj  
 [3] powietrze/woda  
 [4] woda/woda  
 [5] Rodzaj wody w wymienniku zewnętrznym  
 [6] solanka/woda  
 [7] Wyposażona w dodatkowy ogrzewacz  
 [8] [tak/nie]  
 [9] Wielofunkcyjny ogrzewacz z pompą ciepła  
 [10] Znamionowa moc cieplna  
 [11] Roczne zużycie energii  
 [12] Effienza energetica stagionale del riscaldamento d'ambiente  
 [13] poziom mocy akustycznej odniesionej do A, w pomieszczeniu lub na zewnątrz  
 [14] Deklarowana moc grzewcza i współczynnik wydajności grzewczej w przypadku temperatury poniżej 20 °C i dla temperatury zewnętrznej Tj.  
 [15] Klimatu  
 [16] warunki klimatu umiarkowanego/ Ciepłszy klimat/ chłodniejszy klimat  
 [17] temperatura dwuwartościowa  
 [18] Graniczna temperatura robocza  
 [19] Graniczna temperatura robocza dla podgrzewania wody  
 [20] Regulacja wydajności/ wydajności  
 [21] Współczynnik strat  
 [22] Pobór mocy w trybach innych niż aktywny  
 [23] Tryb wyłączenia  
 [24] Tryb wyłączonego termostatu  
 [25] Tryb czuwania  
 [26] Tryb włączonej grzałki karteru  
 [27] Ogrzewacz dodatkowy  
 [28] Znamionowa moc cieplna  
 [29] Rodzaj pobieranej energii  
 [30] Elektryczny/a  
 [31] Pozostałe parametry  
 [32] Regulacja wydajności  
 [33] Kontrola wydajności cieplnej na wyjściu  
 [34] Stała / zmienna  
 [35] natężenie przepływu wody użytkowej  
 [36] Pompy ciepła powietrze/ woda  
 [37] Dla pompy ciepła woda/woda glikol-woda  
 [38] znamionowy przepływ powietrza na zewnątrz  
 [39] Nominalny wydatek wody w wymienniku zewnętrznym m3/h  
 [40] Dane kontaktowe

### 3 - GeoCIAT™ Access

#### 3.1 - GeoCIAT™ Access 18H

|                                    |                     |  |
|------------------------------------|---------------------|--|
| Model                              | GeoCIAT™ Access 18H |  |
| Heat pump type                     | Water/Water         |  |
| Equipped with supplementary heater | NO                  |  |
| Heat pump combination heater       | NO                  |  |

|   |         |      |
|---|---------|------|
| Rated heat output, kW                       | Prated  | 4,2  |
| Annual energy consumption, kWh              | Qhe     | 2742 |
| Seasonal space heating energy efficiency, % | ηs,heat | 118  |
| Sound power level indoor/outdoor, dB(A)     | LwA     | 50   |

|   |              |      |                  |
|---|--------------|------|------------------|
| Declared capacity and coefficient of performance for heating at indoor conditions 20°C and outdoor temperature Tj |              |      |                  |
| Climate: Average  |              |      |                  |
| Bivalent temperature, °C  |              | -10  |                  |
| Operating limit temperature, °C   |              | -10  |                  |
| Heating water operation limit temperature, °C   |              |      |                  |
| 62  |              |      |                  |
| Tj, °C  | Capacity, kW | COPd | Degradation coef |
| -7  | 3,7          | 2,72 | 0,99             |
| 2   | 2,3          | 3,17 | 0,99             |
| 7   | 1,4          | 3,49 | 0,98             |
| 12  | 0,6          | 3,67 | 0,96             |
| Bivalent temperature  | 4,2          | 2,60 | 1,00             |
| Operation limit temperature   | 4,2          | 2,60 | 1,00             |

Power consumption in modes other than active mode

|                           |      |       |
|---------------------------|------|-------|
| Off mode, kW              | Poff | 0,005 |
| Thermostat-off mode, kW   | Pto  | 0,016 |
| Standby mode, kW          | Psb  | 0,005 |
| Crankcase heater mode, kW | Pck  | 0,005 |

|                       |          |
|-----------------------|----------|
| Supplementary heater  |          |
| Rated heat output, kW | Psup     |
| Type of energy input  | Electric |
|                       | 0,0      |

Other items

|   |          |
|---|----------|
| Capacity control                                | Fixed    |
| Outlet temperature capacity control             | Variable |
| Water flow rate capacity control                | Fixed    |
| For air-to-water heat pumps                     |          |
| Rated Air flow rate, outdoors, m3/h             | x        |
| For water-to-water or brine to water heat pumps |          |
| Rated water or brine flow rate, outdoors, m3/h  | 0,8      |

|                 |   |
|-----------------|---|
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|-----------------|---|

Accessories and Installed Options

No Accessories or Installed Options selected



## 4 - GeoCIAT™ Modular

### 4.1 - GeoCIAT™ Modular 20H

|   |                      |      |
|---|----------------------|------|
| Model                                       | GeoCIAT™ Modular 20H |      |
| Heat pump type                              | Water/Water          |      |
| Equipped with supplementary heater          | NO                   |      |
| Heat pump combination heater                | NO                   |      |
| Rated heat output, kW                       | Prated               | 5,2  |
| Annual energy consumption, kWh              | Qhe                  | 3108 |
| Seasonal space heating energy efficiency, % | ns,heat              | 130  |
| Sound power level indoor/outdoor, dB(A)     | LwA                  | 45   |

Declared capacity and coefficient of performance for heating at indoor conditions 20°C and outdoor temperature Tj

|   |              |                  |
|---|--------------|------------------|
| Climate:                                      | Average      |                  |
| Bivalent temperature, °C                      | -10          |                  |
| Operating limit temperature, °C               | -10          |                  |
| Heating water operation limit temperature, °C | 62           |                  |
| Tj, °C  | Capacity, kW | COPd             |
| -7  | 4,6          | 3,01             |
| 2   | 2,8          | 3,47             |
| 7   | 1,8          | 3,82             |
| 12  | 0,8          | 4,03             |
| Bivalent temperature                          | 5,2          | 2,89             |
| Operation limit temperature                   | 5,2          | 2,89             |
|   |              | Degradation coef |
|   |              | 1,00             |
|   |              | 0,99             |
|   |              | 0,98             |
|   |              | 0,96             |
|   |              | 1,00             |
|   |              | 1,00             |

Power consumption in modes other than active mode

|                           |      |       |
|---------------------------|------|-------|
| Off mode, kW              | Poff | 0,005 |
| Thermostat-off mode, kW   | Pto  | 0,022 |
| Standby mode, kW          | Psb  | 0,005 |
| Crankcase heater mode, kW | Pck  | 0,005 |

Supplementary heater

|                       |      |          |
|-----------------------|------|----------|
| Rated heat output, kW | Psup | 0,0      |
| Type of energy input  |      | Electric |

Other items

|   |          |
|---|----------|
| Capacity control                                | Fixed    |
| Outlet temperature capacity control             | Variable |
| Water flow rate capacity control                | Fixed    |
| For air-to-water heat pumps                     |          |
| Rated Air flow rate, outdoors, m3/h             | x        |
| For water-to-water or brine to water heat pumps |          |
| Rated water or brine flow rate, outdoors, m3/h  | 1,0      |

Contact details

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Accessories and Installed Options

No Accessories or Installed Options selected

### 4.2 - GeoCIAT™ Modular 33H

|   |                      |      |
|---|----------------------|------|
| Model                                       | GeoCIAT™ Modular 33H |      |
| Heat pump type                              | Water/Water          |      |
| Equipped with supplementary heater          | NO                   |      |
| Heat pump combination heater                | NO                   |      |
| Rated heat output, kW                       | Prated               | 6,7  |
| Annual energy consumption, kWh              | Qhe                  | 4077 |
| Seasonal space heating energy efficiency, % | ns,heat              | 128  |
| Sound power level indoor/outdoor, dB(A)     | LwA                  | 46   |

Declared capacity and coefficient of performance for heating at indoor conditions 20°C and outdoor temperature Tj

|   |              |                  |
|---|--------------|------------------|
| Climate:                                      | Average      |                  |
| Bivalent temperature, °C                      | -10          |                  |
| Operating limit temperature, °C               | -10          |                  |
| Heating water operation limit temperature, °C | 62           |                  |
| Tj, °C  | Capacity, kW | COPd             |
| -7  | 5,9          | 2,88             |
| 2   | 3,6          | 3,39             |
| 7   | 2,3          | 3,77             |
| 12  | 1,0          | 4,06             |
| Bivalent temperature                          | 6,7          | 2,75             |
| Operation limit temperature                   | 6,7          | 2,75             |
|   |              | Degradation coef |
|   |              | 1,00             |
|   |              | 0,99             |
|   |              | 0,97             |
|   |              | 1,00             |
|   |              | 1,00             |

Power consumption in modes other than active mode

|                           |      |       |
|---------------------------|------|-------|
| Off mode, kW              | Poff | 0,005 |
| Thermostat-off mode, kW   | Pto  | 0,022 |
| Standby mode, kW          | Psb  | 0,005 |
| Crankcase heater mode, kW | Pck  | 0,005 |

Supplementary heater

|                       |      |          |
|-----------------------|------|----------|
| Rated heat output, kW | Psup | 0,0      |
| Type of energy input  |      | Electric |

Other items

|   |          |
|---|----------|
| Capacity control                                | Fixed    |
| Outlet temperature capacity control             | Variable |
| Water flow rate capacity control                | Fixed    |
| For air-to-water heat pumps                     |          |
| Rated Air flow rate, outdoors, m3/h             | x        |
| For water-to-water or brine to water heat pumps |          |
| Rated water or brine flow rate, outdoors, m3/h  | 1,3      |

Contact details

Manufactured in France by CIAT – 01350 Culoz - FRANCE

Accessories and Installed Options

No Accessories or Installed Options selected

#### 4.3 - GeoCIAT™ Modular 45H

|   |                      |      |
|---|----------------------|------|
| Model                                       | GeoCIAT™ Modular 45H |      |
| Heat pump type                              | Water/Water          |      |
| Equipped with supplementary heater          | NO                   |      |
| Heat pump combination heater                | NO                   |      |
| Rated heat output, kW                       | Prated               | 9,1  |
| Annual energy consumption, kWh              | Qhe                  | 5570 |
| Seasonal space heating energy efficiency, % | ns.heat              | 127  |
| Sound power level indoor/outdoor, dB(A)     | LwA                  | 47   |

Declared capacity and coefficient of performance for heating at indoor conditions 20°C and outdoor temperature Tj

|   |              |                  |
|---|--------------|------------------|
| Climate:                                      | Average      |                  |
| Bivalent temperature, °C                      | -10          |                  |
| Operating limit temperature, °C               | -10          |                  |
| Heating water operation limit temperature, °C | 62           |                  |
| Tj, °C  | Capacity, kW | COPd             |
| -7  | 8,1          | 2,89             |
| 2   | 4,9          | 3,36             |
| 7   | 3,2          | 3,72             |
| 12  | 1,4          | 4,03             |
| Bivalent temperature                          | 9,1          | 2,77             |
| Operation limit temperature                   | 9,1          | 2,77             |
|   |              | Degradation coef |
|   |              | 1,00             |
|   |              | 0,99             |
|   |              | 0,99             |
|   |              | 0,98             |
|   |              | 1,00             |
|   |              | 1,00             |

Power consumption in modes other than active mode

|                           |      |       |
|---------------------------|------|-------|
| Off mode, kW              | Poff | 0,005 |
| Thermostat-off mode, kW   | Pto  | 0,022 |
| Standby mode, kW          | Psb  | 0,005 |
| Crankcase heater mode, kW | Pck  | 0,005 |

Supplementary heater

|                       |      |          |
|-----------------------|------|----------|
| Rated heat output, kW | Psup | 0,0      |
| Type of energy input  |      | Electric |

Other items

|   |          |
|---|----------|
| Capacity control                                | Fixed    |
| Outlet temperature capacity control             | Variable |
| Water flow rate capacity control                | Fixed    |
| For air-to-water heat pumps                     |          |
| Rated Air flow rate, outdoors, m3/h             | x        |
| For water-to-water or brine to water heat pumps |          |
| Rated water or brine flow rate, outdoors, m3/h  | 1,8      |

Contact details

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Accessories and Installed Options

No Accessories or Installed Options selected

#### 4.4 - GeoCIAT™ Modular 45HT

|   |                       |      |
|---|-----------------------|------|
| Model                                       | GeoCIAT™ Modular 45HT |      |
| Heat pump type                              | Water/Water           |      |
| Equipped with supplementary heater          | NO                    |      |
| Heat pump combination heater                | NO                    |      |
| Rated heat output, kW                       | Prated                | 9,1  |
| Annual energy consumption, kWh              | Qhe                   | 5159 |
| Seasonal space heating energy efficiency, % | ns.heat               | 138  |
| Sound power level indoor/outdoor, dB(A)     | LwA                   | 47   |

Declared capacity and coefficient of performance for heating at indoor conditions 20°C and outdoor temperature Tj

|   |              |                  |
|---|--------------|------------------|
| Climate:                                      | Average      |                  |
| Bivalent temperature, °C                      | -10          |                  |
| Operating limit temperature, °C               | -10          |                  |
| Heating water operation limit temperature, °C | 62           |                  |
| Tj, °C  | Capacity, kW | COPd             |
| -7  | 8,0          | 3,08             |
| 2   | 4,9          | 3,62             |
| 7   | 3,2          | 4,03             |
| 12  | 1,4          | 4,40             |
| Bivalent temperature                          | 9,1          | 2,94             |
| Operation limit temperature                   | 9,1          | 2,94             |
|   |              | Degradation coef |
|   |              | 1,00             |
|   |              | 0,99             |
|   |              | 0,99             |
|   |              | 0,98             |
|   |              | 1,00             |
|   |              | 1,00             |

Power consumption in modes other than active mode

|                           |      |       |
|---------------------------|------|-------|
| Off mode, kW              | Poff | 0,005 |
| Thermostat-off mode, kW   | Pto  | 0,022 |
| Standby mode, kW          | Psb  | 0,005 |
| Crankcase heater mode, kW | Pck  | 0,005 |

Supplementary heater

|                       |      |          |
|-----------------------|------|----------|
| Rated heat output, kW | Psup | 0,0      |
| Type of energy input  |      | Electric |

Other items

|   |          |
|---|----------|
| Capacity control                                | Fixed    |
| Outlet temperature capacity control             | Variable |
| Water flow rate capacity control                | Fixed    |
| For air-to-water heat pumps                     |          |
| Rated Air flow rate, outdoors, m3/h             | x        |
| For water-to-water or brine to water heat pumps |          |
| Rated water or brine flow rate, outdoors, m3/h  | 1,8      |

Contact details

Manufactured in France by CIAT – 01350 Culoz - FRANCE

Accessories and Installed Options

No Accessories or Installed Options selected

## 5 - GeoCIAT™ Power

### 5.1 - GeoCIAT™ Power 50H

|   |                    |      |
|---|--------------------|------|
| Model                                       | GeoCIAT™ Power 50H |      |
| Heat pump type                              | Water/Water        |      |
| Equipped with supplementary heater          | NO                 |      |
| Heat pump combination heater                | NO                 |      |
| Rated heat output, kW                       | Prated             | 11,4 |
| Annual energy consumption, kWh              | Qhe                | 7065 |
| Seasonal space heating energy efficiency, % | ns,heat            | 125  |
| Sound power level indoor/outdoor, dB(A)     | LwA                | 54   |

Declared capacity and coefficient of performance for heating at indoor conditions 20°C and outdoor temperature Tj

|   |              |                  |
|---|--------------|------------------|
| Climate:                                      | Average      |                  |
| Bivalent temperature, °C                      | -10          |                  |
| Operating limit temperature, °C               | -10          |                  |
| Heating water operation limit temperature, °C | 60           |                  |
| Tj, °C  | Capacity, kW | COPd             |
| -7  | 10,0         | 2,78             |
| 2   | 6,1          | 3,31             |
| 7   | 3,9          | 3,63             |
| 12  | 1,8          | 4,00             |
| Bivalent temperature                          | 11,4         | 2,66             |
| Operation limit temperature                   | 11,4         | 2,66             |
|   |              | Degradation coef |
|   |              | 1,00             |
|   |              | 1,00             |
|   |              | 1,00             |
|   |              | 1,00             |
|   |              | 1,00             |

Power consumption in modes other than active mode

|                           |      |       |
|---------------------------|------|-------|
| Off mode, kW              | Poff | 0,007 |
| Thermostat-off mode, kW   | Pto  | 0,031 |
| Standby mode, kW          | Psb  | 0,007 |
| Crankcase heater mode, kW | Pck  | 0,007 |

Supplementary heater

|                       |      |          |
|-----------------------|------|----------|
| Rated heat output, kW | Psup | 0,0      |
| Type of energy input  |      | Electric |

Other items

|   |          |
|---|----------|
| Capacity control                                | Fixed    |
| Outlet temperature capacity control             | Variable |
| Water flow rate capacity control                | Fixed    |
| For air-to-water heat pumps                     |          |
| Rated Air flow rate, outdoors, m3/h             | x        |
| For water-to-water or brine to water heat pumps |          |
| Rated water or brine flow rate, outdoors, m3/h  | 2,4      |

Contact details

Manufactured in France by CIAT – 01350 Culoz - FRANCE

Accessories and Installed Options

No Accessories or Installed Options selected

### 5.2 - GeoCIAT™ Power 50HT

|   |                     |      |
|---|---------------------|------|
| Model                                       | GeoCIAT™ Power 50HT |      |
| Heat pump type                              | Water/Water         |      |
| Equipped with supplementary heater          | NO                  |      |
| Heat pump combination heater                | NO                  |      |
| Rated heat output, kW                       | Prated              | 11,3 |
| Annual energy consumption, kWh              | Qhe                 | 6821 |
| Seasonal space heating energy efficiency, % | ns,heat             | 129  |
| Sound power level indoor/outdoor, dB(A)     | LwA                 | 54   |

Declared capacity and coefficient of performance for heating at indoor conditions 20°C and outdoor temperature Tj

|   |              |                  |
|---|--------------|------------------|
| Climate:                                      | Average      |                  |
| Bivalent temperature, °C                      | -10          |                  |
| Operating limit temperature, °C               | -10          |                  |
| Heating water operation limit temperature, °C | 60           |                  |
| Tj, °C  | Capacity, kW | COPd             |
| -7  | 10,0         | 2,89             |
| 2   | 6,1          | 3,41             |
| 7   | 3,9          | 3,77             |
| 12  | 1,7          | 4,14             |
| Bivalent temperature                          | 11,3         | 2,75             |
| Operation limit temperature                   | 11,3         | 2,75             |
|   |              | Degradation coef |
|   |              | 1,00             |
|   |              | 0,99             |
|   |              | 0,99             |
|   |              | 1,00             |
|   |              | 1,00             |

Power consumption in modes other than active mode

|                           |      |       |
|---------------------------|------|-------|
| Off mode, kW              | Poff | 0,007 |
| Thermostat-off mode, kW   | Pto  | 0,031 |
| Standby mode, kW          | Psb  | 0,007 |
| Crankcase heater mode, kW | Pck  | 0,007 |

Supplementary heater

|                       |      |          |
|-----------------------|------|----------|
| Rated heat output, kW | Psup | 0,0      |
| Type of energy input  |      | Electric |

Other items

|   |          |
|---|----------|
| Capacity control                                | Fixed    |
| Outlet temperature capacity control             | Variable |
| Water flow rate capacity control                | Fixed    |
| For air-to-water heat pumps                     |          |
| Rated Air flow rate, outdoors, m3/h             | x        |
| For water-to-water or brine to water heat pumps |          |
| Rated water or brine flow rate, outdoors, m3/h  | 2,3      |

Contact details

Manufactured in France by CIAT – 01350 Culoz - FRANCE

Accessories and Installed Options

No Accessories or Installed Options selected

### 5.3 - GeoCIAT™ Power 65HT

|   |                     |      |
|---|---------------------|------|
| Model                                       | GeoCIAT™ Power 65HT |      |
| Heat pump type                              | Water/Water         |      |
| Equipped with supplementary heater          | NO                  |      |
| Heat pump combination heater                | NO                  |      |
| Rated heat output, kW                       | Prated              | 14.4 |
| Annual energy consumption, kWh              | Qhe                 | 8967 |
| Seasonal space heating energy efficiency, % | ns,heat             | 124  |
| Sound power level indoor/outdoor, dB(A)     | LwA                 | 52   |

Declared capacity and coefficient of performance for heating at indoor conditions 20°C and outdoor temperature Tj

|   |              |                  |
|---|--------------|------------------|
| Climate:                                      | Average      |                  |
| Bivalent temperature, °C                      | -10          |                  |
| Operating limit temperature, °C               | -10          |                  |
| Heating water operation limit temperature, °C | 60           |                  |
| Tj, °C  | Capacity, kW | COPd             |
| -7  | 12.7         | 2.75             |
| 2   | 7.7          | 3.29             |
| 7   | 5.0          | 3.64             |
| 12  | 2.2          | 3.98             |
| Bivalent temperature                          | 14.4         | 2.63             |
| Operation limit temperature                   | 14.4         | 2.63             |
|   |              | Degradation coef |
|   |              | 1.00             |
|   |              | 1.00             |
|   |              | 0.99             |
|   |              | 1.00             |
|   |              | 1.00             |

Power consumption in modes other than active mode

|                           |      |       |
|---------------------------|------|-------|
| Off mode, kW              | Poff | 0.007 |
| Thermostat-off mode, kW   | Pto  | 0.031 |
| Standby mode, kW          | Psb  | 0.007 |
| Crankcase heater mode, kW | Pck  | 0.007 |

Supplementary heater

|                       |      |          |
|-----------------------|------|----------|
| Rated heat output, kW | Psup | 0.0      |
| Type of energy input  |      | Electric |

Other items

|   |          |
|---|----------|
| Capacity control                                | Fixed    |
| Outlet temperature capacity control             | Variable |
| Water flow rate capacity control                | Fixed    |
| For air-to-water heat pumps                     |          |
| Rated Air flow rate, outdoors, m3/h             | x        |
| For water-to-water or brine to water heat pumps |          |
| Rated water or brine flow rate, outdoors, m3/h  | 2.7      |

Contact details

Manufactured in France by CIAT – 01350 Culoz - FRANCE

Accessories and Installed Options

No Accessories or Installed Options selected

### 5.4 - GeoCIAT™ Power 90HT

|   |                     |       |
|---|---------------------|-------|
| Model                                       | GeoCIAT™ Power 90HT |       |
| Heat pump type                              | Water/Water         |       |
| Equipped with supplementary heater          | NO                  |       |
| Heat pump combination heater                | NO                  |       |
| Rated heat output, kW                       | Prated              | 19.8  |
| Annual energy consumption, kWh              | Qhe                 | 12226 |
| Seasonal space heating energy efficiency, % | ns,heat             | 126   |
| Sound power level indoor/outdoor, dB(A)     | LwA                 | 53    |

Declared capacity and coefficient of performance for heating at indoor conditions 20°C and outdoor temperature Tj

|   |              |                  |
|---|--------------|------------------|
| Climate:                                      | Average      |                  |
| Bivalent temperature, °C                      | -10          |                  |
| Operating limit temperature, °C               | -10          |                  |
| Heating water operation limit temperature, °C | 60           |                  |
| Tj, °C  | Capacity, kW | COPd             |
| -7  | 17.5         | 2.77             |
| 2   | 10.7         | 3.32             |
| 7   | 6.9          | 3.69             |
| 12  | 3.1          | 4.09             |
| Bivalent temperature                          | 19.8         | 2.63             |
| Operation limit temperature                   | 19.8         | 2.63             |
|   |              | Degradation coef |
|   |              | 1.00             |
|   |              | 1.00             |
|   |              | 0.99             |
|   |              | 1.00             |
|   |              | 1.00             |

Power consumption in modes other than active mode

|                           |      |       |
|---------------------------|------|-------|
| Off mode, kW              | Poff | 0.007 |
| Thermostat-off mode, kW   | Pto  | 0.04  |
| Standby mode, kW          | Psb  | 0.007 |
| Crankcase heater mode, kW | Pck  | 0.007 |

Supplementary heater

|                       |      |          |
|-----------------------|------|----------|
| Rated heat output, kW | Psup | 0.0      |
| Type of energy input  |      | Electric |

Other items

|   |          |
|---|----------|
| Capacity control                                | Fixed    |
| Outlet temperature capacity control             | Variable |
| Water flow rate capacity control                | Fixed    |
| For air-to-water heat pumps                     |          |
| Rated Air flow rate, outdoors, m3/h             | x        |
| For water-to-water or brine to water heat pumps |          |
| Rated water or brine flow rate, outdoors, m3/h  | 3.9      |

Contact details

Manufactured in France by CIAT – 01350 Culoz - FRANCE

Accessories and Installed Options

No Accessories or Installed Options selected

## 5.5 - GeoCIAT™ Power 120HT

|                                    |                      |  |
|------------------------------------|----------------------|--|
| Model                              | GeoCIAT™ Power 120HT |  |
| Heat pump type                     | Water/Water          |  |
| Equipped with supplementary heater | NO                   |  |
| Heat pump combination heater       | NO                   |  |

|   |         |       |
|---|---------|-------|
| Rated heat output, kW                       | Prated  | 25,1  |
| Annual energy consumption, kWh              | Qhe     | 15096 |
| Seasonal space heating energy efficiency, % | ηs,heat | 129   |
| Sound power level indoor/outdoor, dB(A)     | LwA     | 55    |

Declared capacity and coefficient of performance for heating at indoor conditions 20°C and outdoor temperature Tj

|   |              |      |                  |
|---|--------------|------|------------------|
| Climate:                                      | Average      |      |                  |
| Bivalent temperature, °C                      | -10          |      |                  |
| Operating limit temperature, °C               | -10          |      |                  |
| Heating water operation limit temperature, °C | 60           |      |                  |
| Tj, °C  | Capacity, kW | COPd | Degradation coef |
| -7  | 22,2         | 2,85 | 1,00             |
| 2   | 13,5         | 3,39 | 1,00             |
| 7   | 8,7          | 3,79 | 1,00             |
| 12  | 3,9          | 4,17 | 0,99             |
| Bivalent temperature                          | 25,1         | 2,69 | 1,00             |
| Operation limit temperature                   | 25,1         | 2,69 | 1,00             |

Power consumption in modes other than active mode

|                           |      |       |
|---------------------------|------|-------|
| Off mode, kW              | Poff | 0,007 |
| Thermostat-off mode, kW   | Pto  | 0,04  |
| Standby mode, kW          | Psb  | 0,007 |
| Crankcase heater mode, kW | Pck  | 0,007 |

Supplementary heater

|                       |          |     |
|-----------------------|----------|-----|
| Rated heat output, kW | Psup     | 0,0 |
| Type of energy input  | Electric |     |

Other items

|   |          |  |
|---|----------|--|
| Capacity control                                | Fixed    |  |
| Outlet temperature capacity control             | Variable |  |
| Water flow rate capacity control                | Fixed    |  |
| For air-to-water heat pumps                     |          |  |
| Rated Air flow rate, outdoors, m3/h             | x        |  |
| For water-to-water or brine to water heat pumps |          |  |
| Rated water or brine flow rate, outdoors, m3/h  | 5,0      |  |

Contact details

Manufactured in France by CIAT – 01350 Culoz - FRANCE

Accessories and Installed Options

No Accessories or Installed Options selected



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