



ENERG

енергия · ενεργεια

Y IJA
IE IA

107602HMD02

CTA

127580 Aeroheat CN 7a-HM1

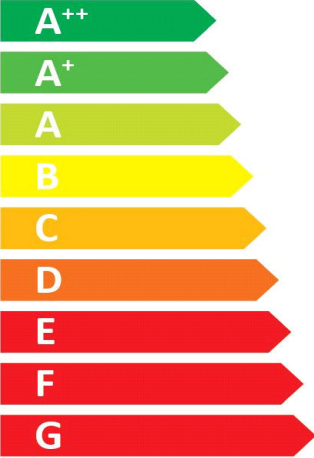


55 °C

35 °C

A++

A++



44 dB

57 dB

| | |
|-----|-----|
| ■ 5 | ■ 6 |
| ■ 8 | ■ 9 |
| ■ 9 | ■ 9 |

kW kW

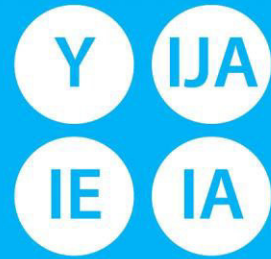
2015

811/2013



ENERG

енергия · ενεργεια

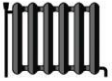




55°C

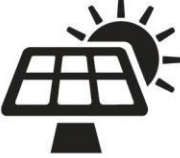



CTA

107602HMD02

127580 Aeroheat CN 7a-HM1



| | | |
|---|---|-------------------------------------|
| + |  | <input type="checkbox"/> |
| + |  | <input type="checkbox"/> |
| + |  | <input checked="" type="checkbox"/> |
| + |  | <input type="checkbox"/> |

Package (heat pumps and combination heater with heat pump)

Seasonal space heating energy efficiency of heat pump (η_S) ① 127 %

Rated output of the heat pump (P_{rated} kW) 8.00

Temperature control Class VII (Table 1) + ② 3.5 %

Supplementary boiler

Package with hot water storage tank no P_{sup} kW (rated output of supplementary heater)

η_S % (sup) = - ③ %

$(\eta_S \% (sup) - ①) \times (\alpha_{WE})$

(α_{WE})

Solar contribution $(A_{Koll} m^2)$ $(\eta_{Koll} \%)$

$(V_{Sp} m^3)$ $(standstill\ heat\ loss\ of\ the\ storage\ tank\ in\ W)$

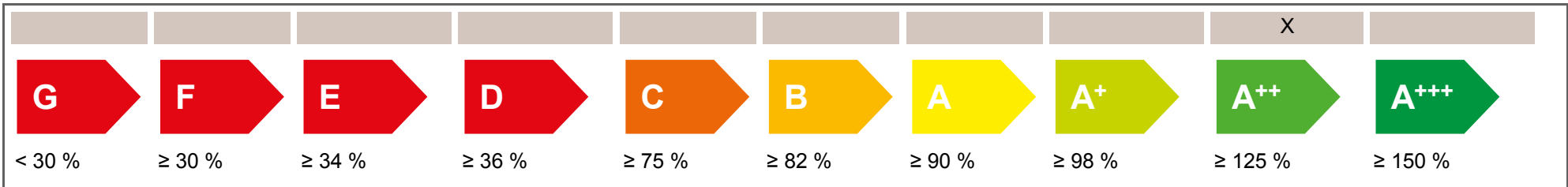
(η_{Sp})

$((294/(P_{rated} \times 11)) \times (A_{Koll} m^2) + (115/(P_{rated} \times 11)) \times (V_{Sp} m^3)) \times 0.45 \times ((\eta_{Koll} \%) / 100) \times (\eta_{Sp})$ = + ④ %

Seasonal space heating energy efficiency of package under average climate ⑤ 131 %

rounded to the nearest integer


Seasonal space heating energy efficiency class of package under average climate





Seasonal space heating energy efficiency under colder and warmer climate conditions

| | | | | | | | | | |
|--------|-------|--|--------|---|-----|-----|----|---|-------|
| colder | 116 % | | colder | ⑤ | 131 | -V | 11 | = | 120 % |
| warmer | 159 % | | warmer | ⑤ | 131 | +VI | 32 | = | 163 % |

The energy efficiency of the package of products provided for in this fiche may not correspond to its actual energy efficiency once installed in a building, as the efficiency is influenced by further factors such as heat loss in the distribution system and the dimensioning of the products in relation to building size and characteristics.

| | | | |
|--|--|--|-----|
| Product fiche | |  AC Cooling Heating | |
| Manufacturer | CTA AG | | |
| Model | AH CN 7a and HM1 | | |
| Information on energy efficiency class and rated output | | | |
| | Average / Low temperature | Average / Medium temperature | |
| Space heating energy efficiency class | A++ | A++ | - |
| Rated heat output | 9.00 | 8.00 | kW |
| Seasonal space heating energy efficiency | 158 | 127 | % |
| Annual final energy consumption space heating | 4626 | 5097 | kWh |
| Sound power level indoors | 44 | | dB |
| Special precautions during assembly, installation or maintenance | | | |
| see installation and maintenance instructions | | | |
| Additional information | | | |
| | Low temperature | Medium temperature | |
| Rated heat output colder climate | 6.00 | 5.00 | kW |
| Rated heat output warmer climate | 9.00 | 9.00 | kW |
| Seasonal space heating energy efficiency colder climate | 144 | 116 | % |
| Seasonal space heating energy efficiency warmer climate | 193 | 159 | % |
| Annual final energy consumption colder climate | 4032 | 4143 | kWh |
| Annual final energy consumption warmer climate | 2457 | 2974 | kWh |
| Sound power level outdoors | 57 | | dB |
| Technical data of the temperature controller | | | |
| Manufacturer | ait | | |
| Model | Aeroplus 2.1 | | |
| Class of the controller | VII | | - |
| Contribution of the controller to seasonal space heating energy efficiency | 3.5 | | % |
| Contact | CTA AG, Hunzigenstrasse 2, CH-3110 Münsingen | | |

| | | | | | | | | | | |
|--|--|--------------|-------------|--|-------------------|--------------|-------------------|---|--|--|
| Model | | | | AH CN 7a and HM1 | | | |  | | |
| Brine-to-water heat pump: (Yes/No) | | | | No | | | | | | |
| Water-to-water heat pump: (Yes/No) | | | | No | | | | | | |
| Air-to-water heat pump: (Yes/No) | | | | Yes | | | | | | |
| Low temperature heat pump: (Yes/No) | | | | No | | | | | | |
| Equipped with supplementary heater: (Yes/No) | | | | Yes | | | | | | |
| Heat pump combination heater: (Yes/No) | | | | No | | | | | | |
| Application: (Low temperature/Medium temperature) | | | | Medium temperature | | | | | | |
| Climate: (Colder/Average/Warmer) | | | | Average | | | | | | |
| Item | Symbol | Value | Unit | Item | Symbol | Value | Unit | | | |
| Rated heat output | Prated | 8.00 | kW | Seasonal space heating energy efficiency | η_S | 127 | % | | | |
| Declared capacity for heating for part load at indoor temperature 20°C and outdoor temperature Tj | | | | Declared coefficient of performance for part load at indoor temperature 20°C and outdoor temperature Tj | | | | | | |
| Tj = -7°C | Pdh | 5.80 | kW | Tj = -7°C | COPd | 2.21 | - | | | |
| Tj = +2°C | Pdh | 7.50 | kW | Tj = +2°C | COPd | 3.25 | - | | | |
| Tj = +7°C | Pdh | 8.50 | kW | Tj = +7°C | COPd | 4.20 | - | | | |
| Tj = +12°C | Pdh | 11.50 | kW | Tj = +12°C | COPd | 6.21 | - | | | |
| Tj = biv | Pdh | 6.40 | kW | Tj = biv | COPd | 2.52 | - | | | |
| Tj = TOL | Pdh | 5.20 | kW | Tj = TOL | COPd | 1.92 | - | | | |
| Tj = -15°C (if TOL < -20°C) | Pdh | 4.10 | kW | Tj = -15°C if TOL < -20°C) | COPd | 1.48 | - | | | |
| Bivalent temperature | T _{biv} | -4 | °C | Operation limit temperature | TOL | -20 | °C | | | |
| Cycling interval capacity for heating | P _{cy} | - | kW | Cycling interval efficiency | COP _{cy} | - | - | | | |
| Degradation co-efficient | Cdh | 1 | - | Heating water operating limit temperature | WTOL | 70 | °C | | | |
| Power consumption in modes other than active mode | | | | Supplementary heater | | | | | | |
| Off mode | P _{OFF} | 0.015 | kW | Rated heat output | P _{sup} | 3.1 | kW | | | |
| Thermostat-off mode | P _{TO} | 0.015 | kW | Type of energy input | electric | | | | | |
| Standby mode | P _{SB} | 0.015 | kW | | | | | | | |
| Crankcase heater mode | P _{CK} | 0 | kW | | | | | | | |
| Other items | | | | | | | | | | |
| Capacity control | fixed | | | Rated air flow rate, outdoors | - | 3000 | m ³ /h | | | |
| Sound power level, indoors/outdoors | L _{WA} | 44/57 | dB | Rated brine or water flow rate, outdoor heat exchanger | - | - | m ³ /h | | | |
| Emissions of nitrogen oxides | NO _x | - | mg/kWh | | | | | | | |
| For heat pump combination heater | | | | | | | | | | |
| Declared load profile | - | | | Water heating energy efficiency | η_{wh} | - | % | | | |
| Daily electricity consumption | Q _{elec} | - | kWh | Daily fuel consumption | Q _{fuel} | - | kWh | | | |
| Contact | CTA AG, Hunzigenstrasse 2, CH-3110 Münsingen | | | | | | | | | |

| | | | | | | | | | | |
|--|--|--------------|-------------|--|-------------------|--------------|-------------------|---|--|--|
| Model | | | | AH CN 7a and HM1 | | | |  | | |
| Brine-to-water heat pump: (Yes/No) | | | | No | | | | | | |
| Water-to-water heat pump: (Yes/No) | | | | No | | | | | | |
| Air-to-water heat pump: (Yes/No) | | | | Yes | | | | | | |
| Low temperature heat pump: (Yes/No) | | | | No | | | | | | |
| Equipped with supplementary heater: (Yes/No) | | | | Yes | | | | | | |
| Heat pump combination heater: (Yes/No) | | | | No | | | | | | |
| Application: (Low temperature/Medium temperature) | | | | Low temperature | | | | | | |
| Climate: (Colder/Average/Warmer) | | | | Average | | | | | | |
| Item | Symbol | Value | Unit | Item | Symbol | Value | Unit | | | |
| Rated heat output | Prated | 9.00 | kW | Seasonal space heating energy efficiency | η_S | 158 | % | | | |
| Declared capacity for heating for part load at indoor temperature 20°C and outdoor temperature Tj | | | | Declared coefficient of performance for part load at indoor temperature 20°C and outdoor temperature Tj | | | | | | |
| Tj = -7°C | Pdh | 6.30 | kW | Tj = -7°C | COPd | 3.28 | - | | | |
| Tj = +2°C | Pdh | 7.80 | kW | Tj = +2°C | COPd | 4.09 | - | | | |
| Tj = +7°C | Pdh | 8.50 | kW | Tj = +7°C | COPd | 4.81 | - | | | |
| Tj = +12°C | Pdh | 11.50 | kW | Tj = +12°C | COPd | 6.21 | - | | | |
| Tj = biv | Pdh | 6.80 | kW | Tj = biv | COPd | 3.60 | - | | | |
| Tj = TOL | Pdh | 5.70 | kW | Tj = TOL | COPd | 2.95 | - | | | |
| Tj = -15°C (if TOL < -20°C) | Pdh | 4.80 | kW | Tj = -15°C if TOL < -20°C) | COPd | 2.43 | - | | | |
| Bivalent temperature | T _{biv} | -4 | °C | Operation limit temperature | TOL | -20 | °C | | | |
| Cycling interval capacity for heating | P _{cy} | - | kW | Cycling interval efficiency | COP _{cy} | - | - | | | |
| Degradation co-efficient | Cdh | 1 | - | Heating water operating limit temperature | WTOL | 70 | °C | | | |
| Power consumption in modes other than active mode | | | | Supplementary heater | | | | | | |
| Off mode | P _{OFF} | 0.015 | kW | Rated heat output | P _{sup} | 3.2 | kW | | | |
| Thermostat-off mode | P _{TO} | 0.015 | kW | Type of energy input | electric | | | | | |
| Standby mode | P _{SB} | 0.015 | kW | | | | | | | |
| Crankcase heater mode | P _{CK} | 0 | kW | | | | | | | |
| Other items | | | | | | | | | | |
| Capacity control | fixed | | | Rated air flow rate, outdoors | - | 3000 | m ³ /h | | | |
| Sound power level, indoors/outdoors | L _{WA} | 44/57 | dB | Rated brine or water flow rate, outdoor heat exchanger | - | - | m ³ /h | | | |
| Emissions of nitrogen oxides | NO _x | - | mg/kWh | | | | | | | |
| For heat pump combination heater | | | | | | | | | | |
| Declared load profile | - | | | Water heating energy efficiency | η_{wh} | - | % | | | |
| Daily electricity consumption | Q _{elec} | - | kWh | Daily fuel consumption | Q _{fuel} | - | kWh | | | |
| Contact | CTA AG, Hunzigenstrasse 2, CH-3110 Münsingen | | | | | | | | | |