107608HMD02

CTA   127587 Aeroheat AH CN 7ar-HM1R-230V

55 °C   35 °C
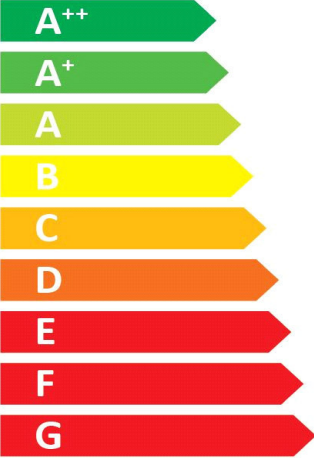
A++
A+
A
B
C
D
E
F
G
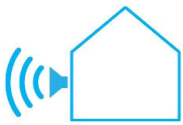
A+   A+

44 dB

58 dB

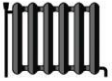| ■ 7 | ■ 8 |
| ■ 8 | ■ 9 |
| ■ 9 | ■ 10 |

kW   kW

2015   811/2013

55°C

107608HMD02
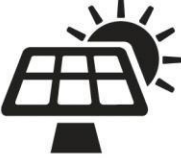
CTA 127587 Aeroheat AH CN 7ar-HM1R-230V

A⁺

A⁺⁺

+ ☐

+ ☐

+ ☒

+ ☐

A⁺⁺⁺
A⁺⁺
A⁺
A
B
C
D
E
F
G

2015

811/2013
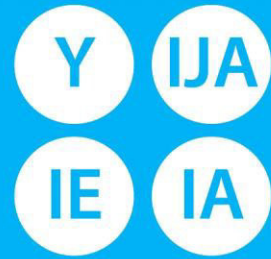
Package (heat pumps and combination heater with heat pump)

Seasonal space heating energy efficiency of heat pump (ηS)				❶	121 %
Rated output of the heat pump (Prated kW)		8.13			

Temperature control	Class	VII	*(Table 1)*	+	❷	3.5 %

Supplementary boiler

Package with hot water storage tank	no		*Psup kW (rated output of supplementary heater)*
		ηs % (sup)	

$$(\eta s \% \ (sup) - ❶) \ x \ (\alpha_{WE}) \quad = \quad - \quad ❸ \qquad \%$$

(α_{WE})

Solar contribution

	$(A_{Koll} \ m^2)$		$(\eta \ Koll \ \%)$
	$(V_{Sp} \ m^3)$		*(standstill heat loss of the storage tank in W)*
			$(\eta \ Sp)$

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

Seasonal space heating energy efficiency of package under average climate	❺	125 %
		rounded to the nearest integer

Seasonal space heating energy efficiency class of package under average climate

G	F	E	D	C	B	A	A⁺	A⁺⁺ (X)	A⁺⁺⁺
< 30 %	≥ 30 %	≥ 34 %	≥ 36 %	≥ 75 %	≥ 82 %	≥ 90 %	≥ 98 %	≥ 125 %	≥ 150 %

Seasonal space heating energy efficiency under colder and warmer climate conditions

colder	110 %		colder ❺	125	-V	11	=	114 %
warmer	149 %		warmer ❺	125	+VI	28	=	153 %

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.

CTA — AC ● Cooling ● Heating

Product fiche

Manufacturer	**CTA AG**	
Model	**AH CN 7ar 230V and HM**	

Information on energy efficiency class and rated output

	Average / Low temperature	Average / Medium temperature	
Space heating energy efficiency class	A+	A+	-
Rated heat output	8.64	8.13	kW
Seasonal space heating energy efficiency	145	121	%
Annual final energy consumption space heating	4837	5422	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	7.58	7.16	kW
Rated heat output warmer climate	9.63	8.87	kW
Seasonal space heating energy efficiency colder climate	128	110	%
Seasonal space heating energy efficiency warmer climate	176	149	%
Annual final energy consumption colder climate	5720	6260	kWh
Annual final energy consumption warmer climate	2879	3129	kWh
Sound power level outdoors		58	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 7ar 230V and HM			
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	8.13	kW	**Seasonal space heating energy efficiency**	ηS	121	%
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	2.15	-
Tj = +2°C	Pdh	7.20	kW	Tj = +2°C	COPd	3.05	-
Tj = +7°C	Pdh	9.30	kW	Tj = +7°C	COPd	4.12	-
Tj = +12°C	Pdh	10.90	kW	Tj = +12°C	COPd	4.84	-
Tj = biv	Pdh	6.30	kW	Tj = biv	COPd	2.40	-
Tj = TOL	Pdh	5.40	kW	Tj = TOL	COPd	1.97	-
Tj = -15°C (if TOL < -20°C)	Pdh	4.70	kW	Tj = -15°C if TOL < -20°C	COPd	1.70	-
Bivalent temperature	T_{biv}	-4	°C	Operation limit temperature	TOL	-20	°C
Cycling interval capacity for heating	Pcych	-	kW	Cycling interval efficiency	COPcyc	-	-
Degradation co-efficient	Cdh	1	-	Heating water operating limit temperature	WTOL	62	°C
Power consumption in modes other than active mode				**Supplementary heater**			
Off mode	P_{OFF}	0.01	kW	Rated heat output	Psup	2.8	kW
Thermostat-off mode	P_{TO}	0.01	kW	Type of energy input		electric	
Standby mode	P_{SB}	0.01	kW				
Crankcase heater mode	P_{CK}	0	kW				
Other items							
Capacity control		fixed		Rated air flow rate, outdoors	-	3000	m³/h
Sound power level, indoors/outdoors	L_{WA}	44/58	dB	Rated brine or water flow rate, outdoor heat exchanger	-	-	m³/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	Qfuel	-	kWh
Contact				CTA AG, Hunzigenstrasse 2, CH-3110 Münsingen			

Model				AH CN 7ar 230V and HM			
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	8.64	kW	**Seasonal space heating energy efficiency**	ηS	145	%
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	6.20	kW	Tj = -7°C	COPd	2.74	-
Tj = +2°C	Pdh	7.60	kW	Tj = +2°C	COPd	3.76	-
Tj = +7°C	Pdh	9.50	kW	Tj = +7°C	COPd	4.59	-
Tj = +12°C	Pdh	11.00	kW	Tj = +12°C	COPd	4.92	-
Tj = biv	Pdh	6.60	kW	Tj = biv	COPd	3.07	-
Tj = TOL	Pdh	5.80	kW	Tj = TOL	COPd	2.54	-
Tj = -15°C (if TOL < -20°C)	Pdh	5.10	kW	Tj = -15°C if TOL < -20°C	COPd	2.23	-
Bivalent temperature	T_{biv}	-4	°C	Operation limit temperature	TOL	-20	°C
Cycling interval capacity for heating	Pcych	-	kW	Cycling interval efficiency	COPcyc	-	-
Degradation co-efficient	Cdh	1	-	Heating water operating limit temperature	WTOL	62	°C
Power consumption in modes other than active mode				**Supplementary heater**			
Off mode	P_{OFF}	0.01	kW	Rated heat output	Psup	2.9	kW
Thermostat-off mode	P_{TO}	0.01	kW	Type of energy input		electric	
Standby mode	P_{SB}	0.01	kW				
Crankcase heater mode	P_{CK}	0	kW				
Other items							
Capacity control		fixed		Rated air flow rate, outdoors	-	3000	m³/h
Sound power level, indoors/outdoors	L_{WA}	44/58	dB	Rated brine or water flow rate, outdoor heat exchanger	-	-	m³/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	Qfuel	-	kWh
Contact	CTA AG, Hunzigenstrasse 2, CH-3110 Münsingen						