



# ENERG

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107603HMD02

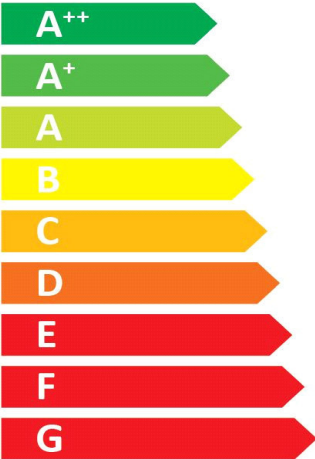
CTA

127584 Aeroheat AH CN 5a-HM1R-230V



55 °C

35 °C



**44 dB**

**58 dB**

■ 5	■ 5
■ 6	■ 6
■ 7	■ 7
kW	kW

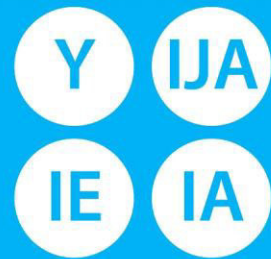
2015

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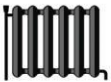




55°C


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127584 Aeroheat AH CN 5a-HM1R-230V








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**Package (heat pumps and combination heater with heat pump)**

Seasonal space heating energy efficiency of heat pump ( $\eta_S$ ) ① 128 %

Rated output of the heat pump ( $P_{rated}$  kW) 5.91

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)

$\eta_S$  % (sup) = - ③ %

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

$(\alpha_{WE})$

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

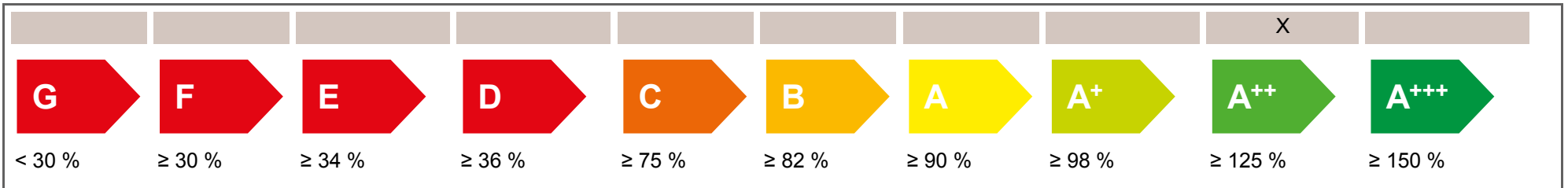
$(V_{Sp} m^3)$  **(standstill heat loss of the storage tank in W)**

$(\eta_{Sp})$

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

Seasonal space heating energy efficiency of package under average climate ⑤ 132 %  
*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	132	-V	12	=	120 %
warmer	157 %		warmer	⑤	132	+VI	29	=	161 %

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.

<b>Product fiche</b>		 <b>AC Cooling Heating</b>	
<b>Manufacturer</b>	CTA AG		
<b>Model</b>	AH CN 5a 230V and HM		
<b>Information on energy efficiency class and rated output</b>			
	Average / Low temperature	Average / Medium temperature	
Space heating energy efficiency class	A++	A++	-
Rated heat output	6.37	5.91	kW
Seasonal space heating energy efficiency	154	128	%
Annual final energy consumption space heating	3353	3727	kWh
Sound power level indoors	44		dB
<b>Special precautions during assembly, installation or maintenance</b>			
see installation and maintenance instructions			
<b>Additional information</b>			
	Low temperature	Medium temperature	
Rated heat output colder climate	5.43	4.98	kW
Rated heat output warmer climate	7.07	6.54	kW
Seasonal space heating energy efficiency colder climate	136	116	%
Seasonal space heating energy efficiency warmer climate	190	157	%
Annual final energy consumption colder climate	3847	4143	kWh
Annual final energy consumption warmer climate	1952	2182	kWh
Sound power level outdoors	58		dB
<b>Technical data of the temperature controller</b>			
<b>Manufacturer</b>	ait		
<b>Model</b>	Aeroplus 2.1		
Class of the controller	VII		-
Contribution of the controller to seasonal space heating energy efficiency	3.5		%
<b>Contact</b>	CTA AG, Hunzigenstrasse 2, CH-3110 Münsingen		

<b>Model</b>				<b>AH CN 5a 230V and HM</b>						
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						
<b>Item</b>	<b>Symbol</b>	<b>Value</b>	<b>Unit</b>	<b>Item</b>	<b>Symbol</b>	<b>Value</b>	<b>Unit</b>			
<b>Rated heat output</b>	Prated	5.91	kW	<b>Seasonal space heating energy efficiency</b>	$\eta_S$	128	%			
<b>Declared capacity for heating for part load at indoor temperature 20°C and outdoor temperature Tj</b>				<b>Declared coefficient of performance for part load at indoor temperature 20°C and outdoor temperature Tj</b>						
Tj = -7°C	Pdh	4.10	kW	Tj = -7°C	COPd	2.28	-			
Tj = +2°C	Pdh	5.40	kW	Tj = +2°C	COPd	3.23	-			
Tj = +7°C	Pdh	6.80	kW	Tj = +7°C	COPd	4.32	-			
Tj = +12°C	Pdh	7.50	kW	Tj = +12°C	COPd	5.36	-			
Tj = biv	Pdh	4.60	kW	Tj = biv	COPd	2.57	-			
Tj = TOL	Pdh	3.70	kW	Tj = TOL	COPd	2.05	-			
Tj = -15°C (if TOL < -20°C)	Pdh	3.10	kW	Tj = -15°C if TOL < -20°C)	COPd	1.69	-			
Bivalent temperature	T <sub>biv</sub>	-4	°C	Operation limit temperature	TOL	-20	°C			
Cycling interval capacity for heating	P <sub>cy</sub>	-	kW	Cycling interval efficiency	COP <sub>cy</sub>	-	-			
Degradation co-efficient	Cdh	1	-	Heating water operating limit temperature	WTOL	62	°C			
<b>Power consumption in modes other than active mode</b>				<b>Supplementary heater</b>						
Off mode	P <sub>OFF</sub>	0.01	kW	Rated heat output	P <sub>sup</sub>	2.2	kW			
Thermostat-off mode	P <sub>TO</sub>	0.01	kW	Type of energy input	electric					
Standby mode	P <sub>SB</sub>	0.01	kW							
Crankcase heater mode	P <sub>CK</sub>	0	kW							
<b>Other items</b>										
Capacity control	fixed			Rated air flow rate, outdoors	-	3000	m <sup>3</sup> /h			
Sound power level, indoors/outdoors	L <sub>WA</sub>	44/58	dB	Rated brine or water flow rate, outdoor heat exchanger	-	-	m <sup>3</sup> /h			
Emissions of nitrogen oxides	NO <sub>x</sub>	-	mg/kWh							
<b>For heat pump combination heater</b>										
Declared load profile	-			Water heating energy efficiency	$\eta_{wh}$	-	%			
Daily electricity consumption	Q <sub>elec</sub>	-	kWh	Daily fuel consumption	Q <sub>fuel</sub>	-	kWh			
<b>Contact</b>	CTA AG, Hunzigenstrasse 2, CH-3110 Münsingen									

<b>Model</b>				<b>AH CN 5a 230V and HM</b>						
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						
<b>Item</b>	<b>Symbol</b>	<b>Value</b>	<b>Unit</b>	<b>Item</b>	<b>Symbol</b>	<b>Value</b>	<b>Unit</b>			
<b>Rated heat output</b>	Prated	6.37	kW	<b>Seasonal space heating energy efficiency</b>	$\eta_S$	154	%			
<b>Declared capacity for heating for part load at indoor temperature 20°C and outdoor temperature Tj</b>				<b>Declared coefficient of performance for part load at indoor temperature 20°C and outdoor temperature Tj</b>						
Tj = -7°C	Pdh	4.60	kW	Tj = -7°C	COPd	3.04	-			
Tj = +2°C	Pdh	5.50	kW	Tj = +2°C	COPd	3.94	-			
Tj = +7°C	Pdh	7.00	kW	Tj = +7°C	COPd	4.87	-			
Tj = +12°C	Pdh	7.50	kW	Tj = +12°C	COPd	5.54	-			
Tj = biv	Pdh	4.90	kW	Tj = biv	COPd	3.35	-			
Tj = TOL	Pdh	4.20	kW	Tj = TOL	COPd	2.81	-			
Tj = -15°C (if TOL < -20°C)	Pdh	3.50	kW	Tj = -15°C if TOL < -20°C)	COPd	2.43	-			
Bivalent temperature	T <sub>biv</sub>	-4	°C	Operation limit temperature	TOL	-20	°C			
Cycling interval capacity for heating	P <sub>cy</sub>	-	kW	Cycling interval efficiency	COP <sub>cy</sub>	-	-			
Degradation co-efficient	Cdh	1	-	Heating water operating limit temperature	WTOL	62	°C			
<b>Power consumption in modes other than active mode</b>				<b>Supplementary heater</b>						
Off mode	P <sub>OFF</sub>	0.01	kW	Rated heat output	P <sub>sup</sub>	2.2	kW			
Thermostat-off mode	P <sub>TO</sub>	0.01	kW	Type of energy input	electric					
Standby mode	P <sub>SB</sub>	0.01	kW							
Crankcase heater mode	P <sub>CK</sub>	0	kW							
<b>Other items</b>										
Capacity control	fixed			Rated air flow rate, outdoors	-	3000	m <sup>3</sup> /h			
Sound power level, indoors/outdoors	L <sub>WA</sub>	44/58	dB	Rated brine or water flow rate, outdoor heat exchanger	-	-	m <sup>3</sup> /h			
Emissions of nitrogen oxides	NO <sub>x</sub>	-	mg/kWh							
<b>For heat pump combination heater</b>										
Declared load profile	-			Water heating energy efficiency	$\eta_{wh}$	-	%			
Daily electricity consumption	Q <sub>elec</sub>	-	kWh	Daily fuel consumption	Q <sub>fuel</sub>	-	kWh			
<b>Contact</b>	CTA AG, Hunzigenstrasse 2, CH-3110 Münsingen									