



# ENERG

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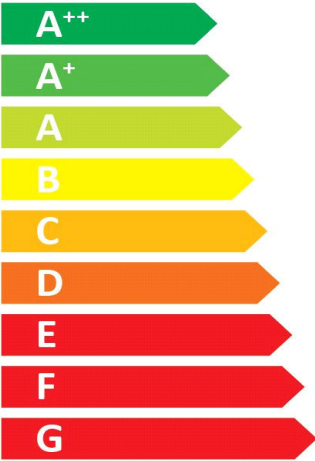
CTA

127583 Aeroheat CN 7ar-HM1R



55 °C

35 °C



A++

A++

**44 dB**

**57 dB**

■ 7	■ 7
■ 8	■ 9
■ 9	■ 9
kW	kW

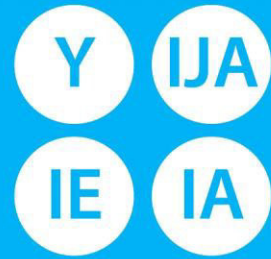
2015

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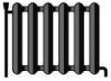




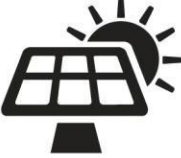



55°C

CTA

107606HMD02

127583 Aeroheat CN 7ar-HM1R

+		<input type="checkbox"/>
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**Package (heat pumps and combination heater with heat pump)**

Seasonal space heating energy efficiency of heat pump ( $\eta_S$ ) ① 126 %

Rated output of the heat pump ( $P_{rated}$  kW) 7.92

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

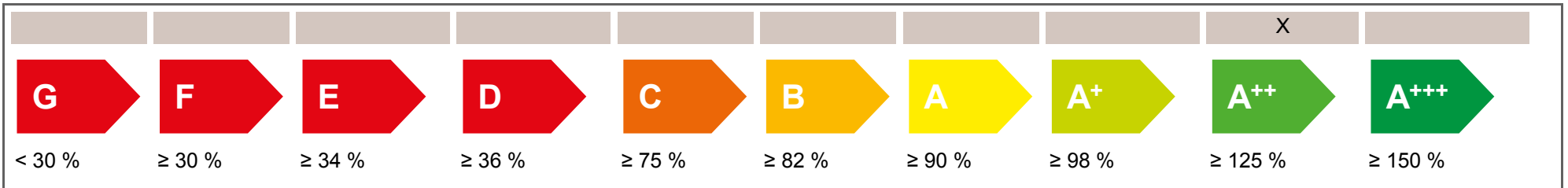
$(V_{Sp} m^3)$  **(standstill heat loss of the storage tank in W)**

$(\eta_{Sp})$

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

Seasonal space heating energy efficiency of package under average climate ⑤ 130 %  
*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	115 %	colder	⑤	130	-V	11	=	119 %
warmer	158 %	warmer	⑤	130	+VI	32	=	162 %

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 7ar 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	8.61	7.92	kW
Seasonal space heating energy efficiency	153	126	%
Annual final energy consumption space heating	4561	5077	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	7.21	6.70	kW
Rated heat output warmer climate	9.25	8.92	kW
Seasonal space heating energy efficiency colder climate	137	115	%
Seasonal space heating energy efficiency warmer climate	187	158	%
Annual final energy consumption colder climate	5070	5577	kWh
Annual final energy consumption warmer climate	2599	2969	kWh
Sound power level outdoors	57		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 7ar 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>			
Rated heat output	Prated	7.92	kW	Seasonal space heating energy efficiency	$\eta_S$	126	%			
<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	5.60	kW	Tj = -7°C	COPd	2.28	-			
Tj = +2°C	Pdh	7.10	kW	Tj = +2°C	COPd	3.18	-			
Tj = +7°C	Pdh	8.80	kW	Tj = +7°C	COPd	4.18	-			
Tj = +12°C	Pdh	10.30	kW	Tj = +12°C	COPd	5.43	-			
Tj = biv	Pdh	6.10	kW	Tj = biv	COPd	2.56	-			
Tj = TOL	Pdh	5.10	kW	Tj = TOL	COPd	2.04	-			
Tj = -15°C (if TOL < -20°C)	Pdh	4.30	kW	Tj = -15°C if TOL < -20°C)	COPd	1.68	-			
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>	0.015	kW	Rated heat output	P <sub>sup</sub>	2.9	kW			
Thermostat-off mode	P <sub>TO</sub>	0.015	kW	Type of energy input	electric					
Standby mode	P <sub>SB</sub>	0.015	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>	44/57	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 7ar 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	8.61	kW	<b>Seasonal space heating energy efficiency</b>	$\eta_S$	153	%			
<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	6.20	kW	Tj = -7°C	COPd	3.18	-			
Tj = +2°C	Pdh	7.50	kW	Tj = +2°C	COPd	3.94	-			
Tj = +7°C	Pdh	8.70	kW	Tj = +7°C	COPd	4.66	-			
Tj = +12°C	Pdh	10.30	kW	Tj = +12°C	COPd	5.58	-			
Tj = biv	Pdh	6.60	kW	Tj = biv	COPd	3.47	-			
Tj = TOL	Pdh	5.60	kW	Tj = TOL	COPd	2.90	-			
Tj = -15°C (if TOL < -20°C)	Pdh	4.70	kW	Tj = -15°C if TOL < -20°C)	COPd	2.45	-			
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>	0.015	kW	Rated heat output	P <sub>sup</sub>	3.0	kW			
Thermostat-off mode	P <sub>TO</sub>	0.015	kW	Type of energy input	electric					
Standby mode	P <sub>SB</sub>	0.015	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>	44/57	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									