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10753402

CTA

121351 Aeroheat CS 1-18i



55 °C

35 °C



A+

A++



59 dB



54 dB

■ 15
■ 19
■ 16
kW

■ 17
■ 20
■ 17
kW



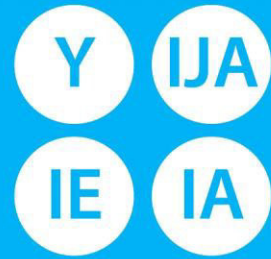
2015

811/2013



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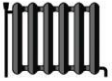




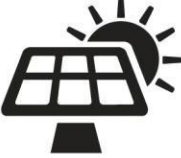



55°C

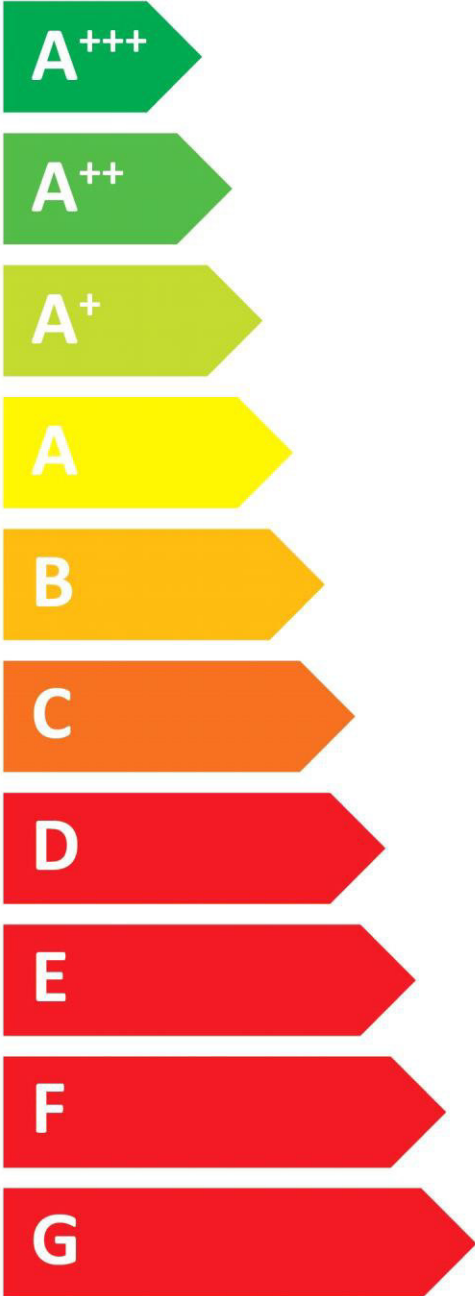
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121351 Aeroheat CS 1-18i

+		<input type="checkbox"/>
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The energy scale bar shows classes from A+++ (green) to G (red). A black arrow points to the A+ class.

Package (heat pumps and combination heater with heat pump)

Seasonal space heating energy efficiency of heat pump (η_S) ① 118 %

Rated output of the heat pump (P_{rated} kW) 18.50

Temperature control Class III (Table 1) + ② 1.5 %

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

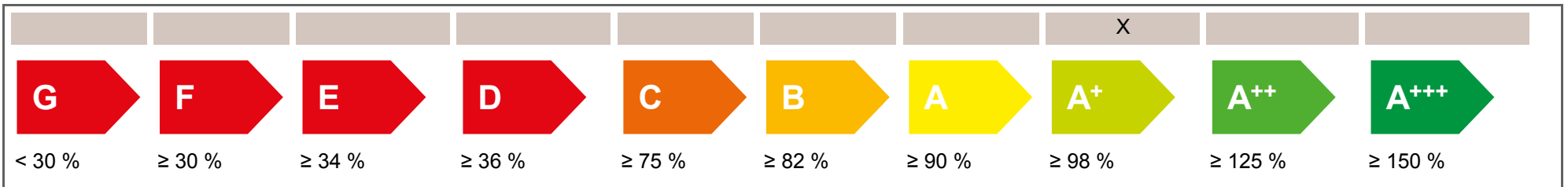
$(V_{Sp} m^3)$ **(standstill heat loss of the storage tank in W)**

(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 ⑤ 120 %
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	106 %		colder	⑤	120	-V	12	=	108 %
warmer	149 %		warmer	⑤	120	+VI	31	=	151 %

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 CS 1-18i		
Information on energy efficiency class and rated output			
	Average / Low temperature	Average / Medium temperature	
Space heating energy efficiency class	A++	A+	-
Rated heat output	20.03	18.50	kW
Seasonal space heating energy efficiency	159	118	%
Annual final energy consumption space heating	10900	12821	kWh
Sound power level indoors	59		dB
Special precautions during assembly, installation or maintenance			
see installation and maintenance instructions			
Additional information			
	Low temperature	Medium temperature	
Rated heat output colder climate	17.39	15.21	kW
Rated heat output warmer climate	16.88	16.20	kW
Seasonal space heating energy efficiency colder climate	139	106	%
Seasonal space heating energy efficiency warmer climate	194	149	%
Annual final energy consumption colder climate	5332	13413	kWh
Annual final energy consumption warmer climate	5332	6417	kWh
Sound power level outdoors	54		dB
Technical data of the temperature controller			
Manufacturer	ait		
Model	Aeroplus 2.0		
Class of the controller	III		-
Contribution of the controller to seasonal space heating energy efficiency	1.5		%
Contact	CTA AG, Hunzigenstrasse 2, CH-3110 Münsingen		

Model				AH CS 1-18i						
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	18.50	kW	Seasonal space heating energy efficiency	η_S	118	%			
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	12.80	kW	Tj = -7°C	COPd	1.94	-			
Tj = +2°C	Pdh	16.90	kW	Tj = +2°C	COPd	2.93	-			
Tj = +7°C	Pdh	10.10	kW	Tj = +7°C	COPd	4.21	-			
Tj = +12°C	Pdh	12.90	kW	Tj = +12°C	COPd	5.39	-			
Tj = biv	Pdh	14.20	kW	Tj = biv	COPd	2.23	-			
Tj = TOL	Pdh	11.30	kW	Tj = TOL	COPd	1.68	-			
Tj = -15°C (if TOL < -20°C)	Pdh	8.70	kW	Tj = -15°C if TOL < -20°C)	COPd	1.29	-			
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	60	°C			
Power consumption in modes other than active mode				Supplementary heater						
Off mode	P _{OFF}	0.01	kW	Rated heat output	P _{sup}	7.2	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	-	5600	m ³ /h			
Sound power level, indoors/outdoors	L _{WA}	59/54	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 CS 1-18i						
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	20.03	kW	Seasonal space heating energy efficiency	η_S	159	%			
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	14.30	kW	Tj = -7°C	COPd	2.94	-			
Tj = +2°C	Pdh	17.50	kW	Tj = +2°C	COPd	3.94	-			
Tj = +7°C	Pdh	10.10	kW	Tj = +7°C	COPd	5.38	-			
Tj = +12°C	Pdh	12.90	kW	Tj = +12°C	COPd	5.96	-			
Tj = biv	Pdh	15.40	kW	Tj = biv	COPd	3.30	-			
Tj = TOL	Pdh	13.20	kW	Tj = TOL	COPd	2.65	-			
Tj = -15°C (if TOL < -20°C)	Pdh	11.30	kW	Tj = -15°C if TOL < -20°C)	COPd	2.19	-			
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	60	°C			
Power consumption in modes other than active mode				Supplementary heater						
Off mode	P _{OFF}	0.01	kW	Rated heat output	P _{sup}	6.9	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	-	5600	m ³ /h			
Sound power level, indoors/outdoors	L _{WA}	59/54	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									