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енергия · ενεργεια

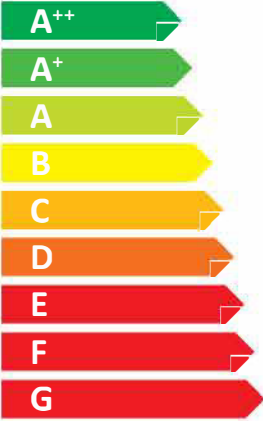


CTA Aeroheat CM 18a



55 °C

35 °C



— dB

55 dB

■ 12	■ 13
■ 9	■ 9
■ 13	■ 13
kW	kW

2015

811/2013



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Y

IJA

IE

IA



CTA Aeroheat CM 18a, CTA Aeroheat CM Wandregler



A⁺⁺

A⁺⁺⁺

A⁺⁺⁺

A⁺⁺

A⁺

A

B

C

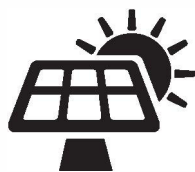
D

E

F

G

+



+



+





+




Package (heat pumps and combination heater with heat pump)																																							
Seasonal space heating energy efficiency of heat pump (η_S)							1	148	%																														
Rated output of the heat pump (P_{rated} kW)							9.00																																
Temperature control		Class		VI	(Table 1)	+	2	4	%																														
Supplementary boiler		Package with hot water storage tank		no																																			
				η_S % (sup)				P_{sup} kW (rated output of supplementary heater)																															
				$(\eta_S \text{ % (sup)} - 1) \times (\alpha_{WE})$		=	-	3	%																														
				(α_{WE})																																			
Solar contribution				$(A_{Koll} \text{ m}^2)$				$(\eta_{Koll} \text{ %})$																															
				$(V_{Sp} \text{ m}^3)$				(standstill heat loss of the storage tank in W)																															
								(η_{Sp})																															
				$((294/(P_{rated} \times 11)) \times (A_{Koll} \text{ m}^2) + (115/(P_{rated} \times 11)) \times (V_{Sp} \text{ m}^3)) \times 0.45 \times ((\eta_{Koll} \text{ %}) / 100) \times (\eta_{Sp})$		=	+	4	%																														
Seasonal space heating energy efficiency of package under average climate							5	152	%																														
									rounded to the nearest integer																														
Seasonal space heating energy efficiency class of package under average climate																																							
<table border="1"> <tr> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>X</td> </tr> <tr> <td>G</td><td>F</td><td>E</td><td>D</td><td>C</td><td>B</td><td>A</td><td>A+</td><td>A++</td><td>A+++</td> </tr> <tr> <td>< 30 %</td><td>≥ 30 %</td><td>≥ 34 %</td><td>≥ 36 %</td><td>≥ 75 %</td><td>≥ 82 %</td><td>≥ 90 %</td><td>≥ 98 %</td><td>≥ 125 %</td><td>≥ 150 %</td> </tr> </table>																			X	G	F	E	D	C	B	A	A+	A++	A+++	< 30 %	≥ 30 %	≥ 34 %	≥ 36 %	≥ 75 %	≥ 82 %	≥ 90 %	≥ 98 %	≥ 125 %	≥ 150 %
									X																														
G	F	E	D	C	B	A	A+	A++	A+++																														
< 30 %	≥ 30 %	≥ 34 %	≥ 36 %	≥ 75 %	≥ 82 %	≥ 90 %	≥ 98 %	≥ 125 %	≥ 150 %																														
Seasonal space heating energy efficiency under colder and warmer climate conditions																																							
colder	136	%		colder	5	152	-V	12	=	140	%																												
warmer	183	%		warmer	5	152	+VI	35	=	187	%																												

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 CM 18a and CM WR		
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	9.00	kW
Seasonal space heating energy efficiency	194	148	%
Annual final energy consumption space heating	3567	4656	kWh
Sound power level indoors	-		dB
Special precautions during assembly, installation or maintenance			
see installation and maintenance instructions			
Additional information			
	Low temperature	Medium temperature	
Rated heat output colder climate	13.00	12.00	kW
Rated heat output warmer climate	13.00	13.00	kW
Seasonal space heating energy efficiency colder climate	168	136	%
Seasonal space heating energy efficiency warmer climate	245	183	%
Annual final energy consumption colder climate	7225	8159	kWh
Annual final energy consumption warmer climate	2804	3746	kWh
Sound power level outdoors		55	dB
Technical data of the temperature controller			
Manufacturer	CTC		
Model	CM WR		
Class of the controller	VI		-
Contribution of the controller to seasonal space heating energy efficiency	4		%
Contact	CTA AG, Hunzigenstrasse 2, CH-3110 Münsingen		

Model				AH CM 18a and CM WR						
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)				No						
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	9.00	kW	Seasonal space heating energy efficiency	η_S	148	%			
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	7.50	kW	Tj = -7°C	COPd	2.41	-			
Tj = +2°C	Pdh	4.60	kW	Tj = +2°C	COPd	3.81	-			
Tj = +7°C	Pdh	4.70	kW	Tj = +7°C	COPd	4.76	-			
Tj = +12°C	Pdh	5.60	kW	Tj = +12°C	COPd	6.15	-			
Tj = biv	Pdh	8.70	kW	Tj = biv	COPd	1.99	-			
Tj = TOL	Pdh	8.70	kW	Tj = TOL	COPd	1.99	-			
Tj = -15°C (if TOL < -20°C)	Pdh	-	kW	Tj = -15°C if TOL < -20°C)	COPd	-	-			
Bivalent temperature	T _{biv}	-10	°C	Operation limit temperature	TOL	-10	°C			
Cycling interval capacity for heating	P _{cy}	-	kW	Cycling interval efficiency	COP _{cy}	-	-			
Degradation co-efficient	Cdh	0.98	-	Heating water operating limit temperature	WTOL	55	°C			
Power consumption in modes other than active mode				Supplementary heater						
Off mode	P _{OFF}	0.012	kW	Rated heat output	P _{sup}	-	kW			
Thermostat-off mode	P _{TO}	0.012	kW	Type of energy input	electric					
Standby mode	P _{SB}	0.012	kW							
Crankcase heater mode	P _{CK}	0	kW							
Other items										
Capacity control	variable			Rated air flow rate, outdoors	-	4200	m ³ /h			
Sound power level, indoors/outdoors	L _{WA}	-/55	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 CM 18a and CM WR						
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)				No						
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	194	%			
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	7.80	kW	Tj = -7°C	COPd	3.53	-			
Tj = +2°C	Pdh	4.50	kW	Tj = +2°C	COPd	4.97	-			
Tj = +7°C	Pdh	4.80	kW	Tj = +7°C	COPd	5.94	-			
Tj = +12°C	Pdh	5.60	kW	Tj = +12°C	COPd	7.35	-			
Tj = biv	Pdh	8.80	kW	Tj = biv	COPd	3.04	-			
Tj = TOL	Pdh	8.80	kW	Tj = TOL	COPd	3.04	-			
Tj = -15°C (if TOL < -20°C)	Pdh	-	kW	Tj = -15°C if TOL < -20°C)	COPd	-	-			
Bivalent temperature	T _{biv}	-10	°C	Operation limit temperature	TOL	-10	°C			
Cycling interval capacity for heating	P _{cy}	-	kW	Cycling interval efficiency	COP _{cy}	-	-			
Degradation co-efficient	Cdh	0.98	-	Heating water operating limit temperature	WTOL	55	°C			
Power consumption in modes other than active mode				Supplementary heater						
Off mode	P _{OFF}	0.012	kW	Rated heat output	P _{sup}	-	kW			
Thermostat-off mode	P _{TO}	0.012	kW	Type of energy input	electric					
Standby mode	P _{SB}	0.012	kW							
Crankcase heater mode	P _{CK}	0	kW							
Other items										
Capacity control	variable			Rated air flow rate, outdoors	-	4200	m ³ /h			
Sound power level, indoors/outdoors	L _{WA}	-/55	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									