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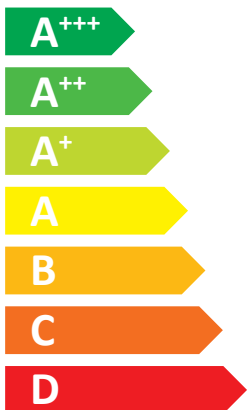


|| Klima · Kälte · Wärme || B11114 OH 1-50e Duo S/W



55 °C

35 °C



70 dB



--- dB

■ 45
■ **45**
■ 45
kW

■ 50
■ **50**
■ 50
kW



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) 45.00

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)

η_S % (sup) - ③

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

(α_{WE}) %

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

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

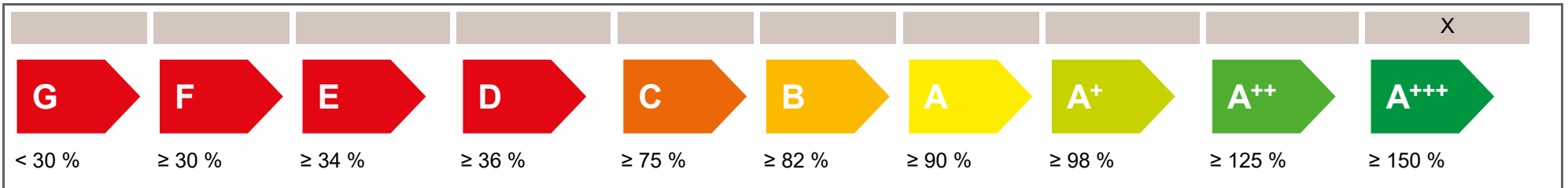
(η_{Sp})

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

Seasonal space heating energy efficiency of package under average climate ⑤ 152 %

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	148 %		colder	⑤	152	-V	0	=	152 %
warmer	143 %		warmer	⑤	152	+VI	-5	=	147 %

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			
Manufacturer	CTA AG		
Model	OH 1-50e Duo B/W		
Information on energy efficiency class and rated output			
	Average / Low temperature	Average / Medium temperature	
Space heating energy efficiency class	A+++	A++	-
Rated heat output	49.70	45.00	kW
Seasonal space heating energy efficiency	197	148	%
Annual final energy consumption space heating	19993	23820	kWh
Sound power level indoors	70		dB
Special precautions during assembly, installation or maintenance			
All instructional work in the installation and maintenance manual may only be carried out by qualified specialist personnel in compliance with local regulations. Any special precautions can be found in the manual on the website www.cta.ch			
Additional information			
	Low temperature	Medium temperature	
Rated heat output colder climate	49.70	45.00	kW
Rated heat output warmer climate	49.70	45.00	kW
Seasonal space heating energy efficiency colder climate	205	148	%
Seasonal space heating energy efficiency warmer climate	199	143	%
Annual final energy consumption colder climate	22959	28352	kWh
Annual final energy consumption warmer climate	12728	15839	kWh
Sound power level outdoors	-		dB
Technical data of the temperature controller			
Manufacturer	Siemens		
Model	RVS 61		
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				OH 1-50e Duo B/W						
Brine-to-water heat pump: (Yes/No)				Yes						
Water-to-water heat pump: (Yes/No)				No						
Air-to-water heat pump: (Yes/No)				No						
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	45.00	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	45.80	kW	Tj = -7°C	COPd	3.02	-			
Tj = +2°C	Pdh	24.00	kW	Tj = +2°C	COPd	3.87	-			
Tj = +7°C	Pdh	24.60	kW	Tj = +7°C	COPd	4.37	-			
Tj = +12°C	Pdh	25.10	kW	Tj = +12°C	COPd	4.98	-			
Tj = biv	Pdh	45.30	kW	Tj = biv	COPd	2.88	-			
Tj = TOL	Pdh	45.00	kW	Tj = TOL	COPd	2.88	-			
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	0.9	-	Heating water operating limit temperature	WTOL	60	°C			
Power consumption in modes other than active mode				Supplementary heater						
Off mode	P _{OFF}	0.015	kW	Rated heat output	P _{sup}	-	kW			
Thermostat-off mode	P _{TO}	0.015	kW	Type of energy input	-					
Standby mode	P _{SB}	0.015	kW							
Crankcase heater mode	P _{CK}	0	kW							
Other items										
Capacity control	fixed			Rated air flow rate, outdoors	-	-	m ³ /h			
Sound power level, indoors/outdoors	L _{WA}	70 / -	dB	Rated brine or water flow rate, outdoor heat exchanger	-	10.2	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									

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Air-to-water heat pump: (Yes/No)				No						
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	49.70	kW	Seasonal space heating energy efficiency	η_S	197	%			
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	50.00	kW	Tj = -7°C	COPd	4.85	-			
Tj = +2°C	Pdh	25.10	kW	Tj = +2°C	COPd	4.99	-			
Tj = +7°C	Pdh	25.50	kW	Tj = +7°C	COPd	5.50	-			
Tj = +12°C	Pdh	25.50	kW	Tj = +12°C	COPd	5.50	-			
Tj = biv	Pdh	49.70	kW	Tj = biv	COPd	4.70	-			
Tj = TOL	Pdh	49.70	kW	Tj = TOL	COPd	4.70	-			
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	0.9	-	Heating water operating limit temperature	WTOL	60	°C			
Power consumption in modes other than active mode				Supplementary heater						
Off mode	P _{OFF}	0.015	kW	Rated heat output	P _{sup}	-	kW			
Thermostat-off mode	P _{TO}	0.015	kW	Type of energy input	-					
Standby mode	P _{SB}	0.015	kW							
Crankcase heater mode	P _{CK}	0	kW							
Other items										
Capacity control	fixed			Rated air flow rate, outdoors	-	-	m ³ /h			
Sound power level, indoors/outdoors	L _{WA}	70 / -	dB	Rated brine or water flow rate, outdoor heat exchanger	-	10.2	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									