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CTA Klima Kälte Wärme | B10992 OH 1-5es 230V S/W

	55 °C	35 °C
	A++	A+++

A+++
A++
A+
A
B
C
D

48 dB

--- dB

	5	5
	5	**5**
	5	5
	kW	kW

2019

811/2013

Package (heat pumps and combination heater with heat pump)

Seasonal space heating energy efficiency of heat pump (ηS)						❶ 126	%
Rated output of the heat pump (Prated kW)		4.50					
Temperature control	Class	VII	***(Table 1)***	+	❷ 3.5	%	
Supplementary boiler							
Package with hot water storage tank	no			*Psup kW (rated output of supplementary heater)*			
		ηs % (sup)					
		(ηs % ***(sup)*** - ❶) x (α_{WE})		=	-	❸	%
		(α_{WE})					
Solar contribution		***(A Koll m²)***	***(η Koll %)***				
		(V Sp m³)	***(standstill heat loss of the storage tank in W)***				
			(η Sp)				
((294/(P_{rated} x 11)) x **(A_{Koll} m²)** + (115/(P_{rated} x 11)) x **(V_{Sp} m³)**) x 0.45 x (**(η_{Koll} %)** /100) x **(η_{Sp})**				=	+	❹	%
Seasonal space heating energy efficiency of package under average climate						❺ 130	%
						rounded to the nearest integer	

Seasonal space heating energy efficiency class of package under average climate

G	F	E	D	C	B	A	A+	A++	A+++
								X	
< 30 %	≥ 30 %	≥ 34 %	≥ 36 %	≥ 75 %	≥ 82 %	≥ 90 %	≥ 98 %	≥ 125 %	≥ 150 %

Seasonal space heating energy efficiency under colder and warmer climate conditions

colder	129	%	colder ❺	130	-V	-3	=	133	%
warmer	124	%	warmer ❺	130	+VI	-2	=	128	%

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.

CTA AC Cooling Heating

Product fiche

Manufacturer	**CTA AG**
Model	**OH 1-5es 230V 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	5.00	4.50	kW
Seasonal space heating energy efficiency	179	126	%
Annual final energy consumption space heating	2152	2727	kWh
Sound power level indoors		48	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	5.00	4.50	kW
Rated heat output warmer climate	5.00	4.50	kW
Seasonal space heating energy efficiency colder climate	185	129	%
Seasonal space heating energy efficiency warmer climate	176	124	%
Annual final energy consumption colder climate	2525	3217	kWh
Annual final energy consumption warmer climate	1399	1779	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 1-5es 230V 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)				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	4.50	kW	**Seasonal space heating energy efficiency**	ηS	126	%
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	4.60	kW	Tj = -7°C	COPd	2.81	-
Tj = +2°C	Pdh	4.80	kW	Tj = +2°C	COPd	3.40	-
Tj = +7°C	Pdh	4.90	kW	Tj = +7°C	COPd	3.77	-
Tj = +12°C	Pdh	5.00	kW	Tj = +12°C	COPd	4.35	-
Tj = biv	Pdh	4.50	kW	Tj = biv	COPd	2.63	-
Tj = TOL	Pdh	4.50	kW	Tj = TOL	COPd	2.63	-
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	Pcych	-	kW	Cycling interval efficiency	COPcyc	-	-
Degradation co-efficient	Cdh	1	-	Heating water operating limit temperature	WTOL	65	°C
Power consumption in modes other than active mode				**Supplementary heater**			
Off mode	P_{OFF}	0.01	kW	Rated heat output	Psup	-	kW
Thermostat-off mode	P_{TO}	0.01	kW	Type of energy input	-		
Standby mode	P_{SB}	0.01	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}	48 / -	dB	Rated brine or water flow rate, outdoor heat exchanger	-	1.0	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	Qfuel	-	kWh
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Model				**OH 1-5es 230V 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)				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	5.00	kW	**Seasonal space heating energy efficiency**	ηS	179	%
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	5.00	kW	Tj = -7°C	COPd	4.49	-
Tj = +2°C	Pdh	5.10	kW	Tj = +2°C	COPd	4.78	-
Tj = +7°C	Pdh	5.10	kW	Tj = +7°C	COPd	5.10	-
Tj = +12°C	Pdh	5.20	kW	Tj = +12°C	COPd	5.46	-
Tj = biv	Pdh	5.00	kW	Tj = biv	COPd	4.35	-
Tj = TOL	Pdh	5.00	kW	Tj = TOL	COPd	4.35	-
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	Pcych	-	kW	Cycling interval efficiency	COPcyc	-	-
Degradation co-efficient	Cdh	1	-	Heating water operating limit temperature	WTOL	65	°C
Power consumption in modes other than active mode				**Supplementary heater**			
Off mode	P_{OFF}	0.01	kW	Rated heat output	Psup	-	kW
Thermostat-off mode	P_{TO}	0.01	kW	Type of energy input	-		
Standby mode	P_{SB}	0.01	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}	48 / -	dB	Rated brine or water flow rate, outdoor heat exchanger	-	1.0	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	Qfuel	-	kWh
Contact	CTA AG, Hunzigenstrasse 2, CH-3110 Münsingen						