

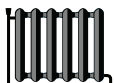


# ENERG

енергия · ενεργεια



I - Klima - Kälte - Wärme || B10993 OH 1-6es 230V S/W



55 °C

35 °C



A<sup>++</sup>

A<sup>+++</sup>



48 dB



--- dB


■ 5  
■ 5  
■ 5  
kW


■ 6  
■ 6  
■ 6  
kW




Package (heat pumps and combination heater with heat pump)										
Seasonal space heating energy efficiency of heat pump ( $\eta_S$ )				❶	126	%				
Rated output of the heat pump ( $P_{rated}$ kW)				5.40						
Temperature control		Class	VII	(Table 1)	+	❷	3.5	%		
Supplementary boiler										
Package with hot water storage tank		no			$P_{sup}$ kW (rated output of supplementary heater)					
		$\eta_S$ % (sup)								
		$(\eta_S \text{ % (sup)} - \text{❶}) \times (\alpha_{WE})$			=	-	❸		%	
		$(\alpha_{WE})$								
Solar contribution			$(A_{Koll} \text{ m}^2)$		$(\eta_{Koll} \text{ %})$					
			$(V_{Sp} \text{ m}^3)$		(standstill heat loss of the storage tank in W)					
						$(\eta_{Sp})$				
$((294/(P_{rated} \times 11)) \times (A_{Koll} \text{ m}^2) + (115/(P_{rated} \times 11)) \times (V_{Sp} \text{ m}^3)) \times 0.45 \times ((\eta_{Koll} \text{ %}) / 100) \times (\eta_{Sp})$					=	+	❹		%	
Seasonal space heating energy efficiency of package under average climate							❺	130	%	
							<i>rounded to the nearest integer</i>			
Seasonal space heating energy efficiency class of package under average climate										
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> <div style="background-color: #a0a0a0; width: 60px; height: 20px; margin: 0 auto;"></div> <div style="background-color: #ff0000; width: 60px; height: 60px; margin: 0 auto; display: flex; align-items: center; justify-content: center; color: white; font-weight: bold; font-size: 20px;">G</div> <div style="text-align: left; font-size: 10px;">&lt; 30 %</div> </div> <div style="text-align: center;"> <div style="background-color: #ff0000; width: 60px; height: 20px; margin: 0 auto;"></div> <div style="background-color: #ff0000; width: 60px; height: 60px; margin: 0 auto; display: flex; align-items: center; justify-content: center; color: white; font-weight: bold; font-size: 20px;">F</div> <div style="text-align: left; font-size: 10px;">≥ 30 %</div> </div> <div style="text-align: center;"> <div style="background-color: #ff0000; width: 60px; height: 20px; margin: 0 auto;"></div> <div style="background-color: #ff0000; width: 60px; height: 60px; margin: 0 auto; display: flex; align-items: center; justify-content: center; color: white; font-weight: bold; font-size: 20px;">E</div> <div style="text-align: left; font-size: 10px;">≥ 34 %</div> </div> <div style="text-align: center;"> <div style="background-color: #ff0000; width: 60px; height: 20px; margin: 0 auto;"></div> <div style="background-color: #ff0000; width: 60px; height: 60px; margin: 0 auto; display: flex; align-items: center; justify-content: center; color: white; font-weight: bold; font-size: 20px;">D</div> <div style="text-align: left; font-size: 10px;">≥ 36 %</div> </div> <div style="text-align: center;"> <div style="background-color: #ff0000; width: 60px; height: 20px; margin: 0 auto;"></div> <div style="background-color: #ffa500; width: 60px; height: 60px; margin: 0 auto; display: flex; align-items: center; justify-content: center; color: white; font-weight: bold; font-size: 20px;">C</div> <div style="text-align: left; font-size: 10px;">≥ 75 %</div> </div> <div style="text-align: center;"> <div style="background-color: #ffa500; width: 60px; height: 20px; margin: 0 auto;"></div> <div style="background-color: #ffa500; width: 60px; height: 60px; margin: 0 auto; display: flex; align-items: center; justify-content: center; color: white; font-weight: bold; font-size: 20px;">B</div> <div style="text-align: left; font-size: 10px;">≥ 82 %</div> </div> <div style="text-align: center;"> <div style="background-color: #ffa500; width: 60px; height: 20px; margin: 0 auto;"></div> <div style="background-color: #ffff00; width: 60px; height: 60px; margin: 0 auto; display: flex; align-items: center; justify-content: center; color: white; font-weight: bold; font-size: 20px;">A</div> <div style="text-align: left; font-size: 10px;">≥ 90 %</div> </div> <div style="text-align: center;"> <div style="background-color: #ffff00; width: 60px; height: 20px; margin: 0 auto;"></div> <div style="background-color: #90ee90; width: 60px; height: 60px; margin: 0 auto; display: flex; align-items: center; justify-content: center; color: white; font-weight: bold; font-size: 20px;">A<sup>+</sup></div> <div style="text-align: left; font-size: 10px;">≥ 98 %</div> </div> <div style="text-align: center;"> <div style="background-color: #90ee90; width: 60px; height: 20px; margin: 0 auto;"></div> <div style="background-color: #32cd32; width: 60px; height: 60px; margin: 0 auto; display: flex; align-items: center; justify-content: center; color: white; font-weight: bold; font-size: 20px;">A<sup>++</sup></div> <div style="text-align: left; font-size: 10px;">≥ 125 %</div> </div> <div style="text-align: center;"> <div style="background-color: #32cd32; width: 60px; height: 20px; margin: 0 auto;"></div> <div style="background-color: #008000; width: 60px; height: 60px; margin: 0 auto; display: flex; align-items: center; justify-content: center; color: white; font-weight: bold; font-size: 20px;">A<sup>+++</sup></div> <div style="text-align: left; font-size: 10px;">≥ 150 %</div> </div> </div>										
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.

Product fiche		 - AC - Cooling - Heating	
Manufacturer	CTA AG		
Model	OH 1-6es 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	6.00	5.40	kW
Seasonal space heating energy efficiency	180	126	%
Annual final energy consumption space heating	2585	3275	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 <a href="http://www.cta.ch">www.cta.ch</a>			
Additional information	Low temperature	Medium temperature	
Rated heat output colder climate	6.00	5.40	kW
Rated heat output warmer climate	6.00	5.40	kW
Seasonal space heating energy efficiency colder climate	185	129	%
Seasonal space heating energy efficiency warmer climate	175	124	%
Annual final energy consumption colder climate	3030	3863	kWh
Annual final energy consumption warmer climate	1701	2137	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		

<b>Model</b>				<b>OH 1-6es 230V B/W</b>				 <b>- AC - Cooling - Heating</b>
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				
<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	5.40	kW	<b>Seasonal space heating energy efficiency</b>	ηS	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	5.50	kW	Tj = -7°C	COPd	2.80	-	
Tj = +2°C	Pdh	5.70	kW	Tj = +2°C	COPd	3.39	-	
Tj = +7°C	Pdh	5.80	kW	Tj = +7°C	COPd	3.76	-	
Tj = +12°C	Pdh	6.00	kW	Tj = +12°C	COPd	4.34	-	
Tj = biv	Pdh	5.40	kW	Tj = biv	COPd	2.62	-	
Tj = TOL	Pdh	5.40	kW	Tj = TOL	COPd	2.62	-	
Tj = -15°C (if TOL < -20°C)	Pdh	-	kW	Tj = -15°C if TOL < -20°C)	COPd	-	-	
Bivalent temperature	T <sub>biv</sub>	-10	°C	Operation limit temperature	TOL	-10	°C	
Cycling interval capacity for heating	Ppsych	-	kW	Cycling interval efficiency	COPcyc	-	-	
Degradation co-efficient	Cdh	1	-	Heating water operating limit temperature	WTOL	65	°C	
<b>Power consumption in modes other than active mode</b>				<b>Supplementary heater</b>				
Off mode	P <sub>OFF</sub>	0.01	kW	Rated heat output	Psup	-	kW	
Thermostat-off mode	P <sub>TO</sub>	0.01	kW	Type of energy input	-			
Standby mode	P <sub>SB</sub>	0.01	kW					
Crankcase heater mode	P <sub>CK</sub>	0	kW					
<b>Other items</b>								
Capacity control	fixed			Rated air flow rate, outdoors	-	-	m³/h	
Sound power level, indoors/outdoors	L <sub>WA</sub>	48 / -	dB	Rated brine or water flow rate, outdoor heat exchanger	-	1.2	m³/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	η <sub>wh</sub>	-	%	
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>OH 1-6es 230V B/W</b>				<div> - AC - Cooling - Heating</div>				
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								
<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	6.00	kW	<b>Seasonal space heating energy efficiency</b>	ηS	180	%					
<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	6.00	kW	Tj = -7°C	COPd	4.47	-					
Tj = +2°C	Pdh	6.00	kW	Tj = +2°C	COPd	4.76	-					
Tj = +7°C	Pdh	6.10	kW	Tj = +7°C	COPd	5.09	-					
Tj = +12°C	Pdh	6.10	kW	Tj = +12°C	COPd	5.45	-					
Tj = biv	Pdh	6.00	kW	Tj = biv	COPd	4.34	-					
Tj = TOL	Pdh	6.00	kW	Tj = TOL	COPd	4.34	-					
Tj = -15°C (if TOL < -20°C)	Pdh	-	kW	Tj = -15°C if TOL < -20°C)	COPd	-	-					
Bivalent temperature	T <sub>biv</sub>	-10	°C	Operation limit temperature	TOL	-10	°C					
Cycling interval capacity for heating	Ppsych	-	kW	Cycling interval efficiency	COPcyc	-	-					
Degradation co-efficient	Cdh	1	-	Heating water operating limit temperature	WTOL	65	°C					
<b>Power consumption in modes other than active mode</b>				<b>Supplementary heater</b>								
Off mode	P <sub>OFF</sub>	0.01	kW	Rated heat output	Psup	-	kW					
Thermostat-off mode	P <sub>TO</sub>	0.01	kW	Type of energy input	-							
Standby mode	P <sub>SB</sub>	0.01	kW									
Crankcase heater mode	P <sub>CK</sub>	0	kW									
<b>Other items</b>												
Capacity control	fixed			Rated air flow rate, outdoors	-	-	m³/h					
Sound power level, indoors/outdoors	L <sub>WA</sub>	48 / -	dB	Rated brine or water flow rate, outdoor heat exchanger	-	1.2	m³/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	η <sub>wh</sub>	-	%					
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											