



ENERG
енергия · ενεργεια



|| Klima Kälte Wärme || B10995 OH 1-11es 230V S/W



55 °C

35 °C



A⁺⁺

A⁺⁺⁺



50 dB



--- dB


■ 10
■ 10
■ 10
kW

■ 10
■ 10
■ 10
kW




Package (heat pumps and combination heater with heat pump)									
Seasonal space heating energy efficiency of heat pump (η_S)				❶	133	%			
Rated output of the heat pump (P_{rated} kW)				9.50					
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)				
		η_S % (sup)							
		$(\eta_S \text{ % (sup)} - \text{❶}) \times (\alpha_{WE})$			=	-	❸		%
		(α_{WE})							
Solar contribution			$(A_{Koll} \text{ m}^2)$		$(\eta_{Koll} \text{ %})$				
			$(V_{Sp} \text{ m}^3)$		$(standstill \text{ heat loss of the storage tank in W})$				
						(η_{Sp})			
$((294/(P_{rated} \times 11)) \times (A_{Koll} \text{ m}^2) + (115/(P_{rated} \times 11)) \times (V_{Sp} \text{ m}^3)) \times 0.45 \times ((\eta_{Koll} \text{ %}) / 100) \times (\eta_{Sp})$					=	+	❹		%
Seasonal space heating energy efficiency of package under average climate							❺	137	%
<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: #808080; width: 40px; height: 20px; margin: 0 auto;"></div> <div style="background-color: #808080; width: 40px; height: 20px; margin: 0 auto;"></div> <div style="background-color: #808080; width: 40px; height: 20px; margin: 0 auto;"></div> <div style="background-color: #808080; width: 40px; height: 20px; margin: 0 auto;"></div> <div style="background-color: #808080; width: 40px; height: 20px; margin: 0 auto;"></div> <div style="background-color: #808080; width: 40px; height: 20px; margin: 0 auto;"></div> <div style="background-color: #808080; width: 40px; height: 20px; margin: 0 auto;"></div> <div style="background-color: #808080; width: 40px; height: 20px; margin: 0 auto;"></div> <div style="background-color: #808080; width: 40px; height: 20px; margin: 0 auto;"></div> <div style="background-color: #808080; width: 40px; height: 20px; margin: 0 auto;"></div> </div> <div style="display: flex; justify-content: space-around; align-items: center; margin-top: 10px;"> <div style="text-align: center;"> <div style="background-color: #ff0000; width: 60px; height: 40px; 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;">< 30 %</div> </div> <div style="text-align: center;"> <div style="background-color: #ff0000; width: 60px; height: 40px; 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: 40px; 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: 40px; 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: #ffa500; width: 60px; height: 40px; 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: 40px; 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: #ffff00; width: 60px; height: 40px; 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: #90ee90; width: 60px; height: 40px; 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;">≥ 98 %</div> </div> <div style="text-align: center;"> <div style="background-color: #32cd32; width: 60px; height: 40px; 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;">≥ 125 %</div> </div> <div style="text-align: center;"> <div style="background-color: #008000; width: 60px; height: 40px; 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;">≥ 150 %</div> </div> </div> </div>									

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 1-11es 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	10.40	9.50	kW					
Seasonal space heating energy efficiency	190	133	%					
Annual final energy consumption space heating	4273	5523	kWh					
Sound power level indoors				50	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						10.40	9.50	kW
Rated heat output warmer climate						10.40	9.50	kW
Seasonal space heating energy efficiency colder climate						215	149	%
Seasonal space heating energy efficiency warmer climate						186	131	%
Annual final energy consumption colder climate						4566	5954	kWh
Annual final energy consumption warmer climate						2814	3603	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 1-11es 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	
Rated heat output				Prated	9.50	kW	
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	9.60	kW	
Tj = +2°C				Pdh	10.00	kW	
Tj = +7°C				Pdh	10.10	kW	
Tj = +12°C				Pdh	10.40	kW	
Tj = biv				Pdh	9.50	kW	
Tj = TOL				Pdh	9.50	kW	
Tj = -15°C (if TOL < -20°C)				Pdh	-	kW	
Bivalent temperature				T _{biv}	-10	°C	
Cycling interval capacity for heating				P _{psych}	-	kW	
Degradation co-efficient				Cdh	1	-	
Power consumption in modes other than active mode				Supplementary heater			
Off mode				P _{OFF}	0.01	kW	
Thermostat-off mode				P _{TO}	0.01	kW	
Standby mode				P _{SB}	0.01	kW	
Crankcase heater mode				P _{CK}	0	kW	
Other items							
Capacity control				fixed		Rated air flow rate, outdoors	
						-	-
Sound power level, indoors/outdoors				L _{WA}	50 / -	dB	
						-	2.1
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	
						Q _{fuel}	-
Contact				CTA AG, Hunzigenstrasse 2, CH-3110 Münsingen			

Model				OH 1-11es 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	10.40	kW	Seasonal space heating energy efficiency	ηS	190	%	
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	10.40	kW	Tj = -7°C	COPd	4.66	-	
Tj = +2°C	Pdh	10.50	kW	Tj = +2°C	COPd	4.97	-	
Tj = +7°C	Pdh	10.60	kW	Tj = +7°C	COPd	5.31	-	
Tj = +12°C	Pdh	10.70	kW	Tj = +12°C	COPd	5.70	-	
Tj = biv	Pdh	10.40	kW	Tj = biv	COPd	4.52	-	
Tj = TOL	Pdh	10.40	kW	Tj = TOL	COPd	4.52	-	
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 _{psych}	-	kW	Cycling interval efficiency	COP _{cyc}	-	-	
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	P _{sup}	-	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	-	-	m³/h	
Sound power level, indoors/outdoors	L _{WA}	50 / -	dB	Rated brine or water flow rate, outdoor heat exchanger	-	2.1	m³/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							