



# ENERG

енергия · ενεργεια



I - Klima - Kälte - Wärme || OH 22e Duo HT - S/W Art.Nr.: B11243



55 °C

35 °C



**50** dB



--- dB

■ 20  
■ **20**  
■ 20  
kW

■ 21  
■ **21**  
■ 21  
kW



**Package (heat pumps and combination heater with heat pump)**

Seasonal space heating energy efficiency of heat pump ( $\eta_S$ ) ① 131 %

Rated output of the heat pump ( $P_{rated}$  kW) 19.30

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)

$\eta_S$  % (sup) = - ③ %

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

$(\alpha_{WE})$

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

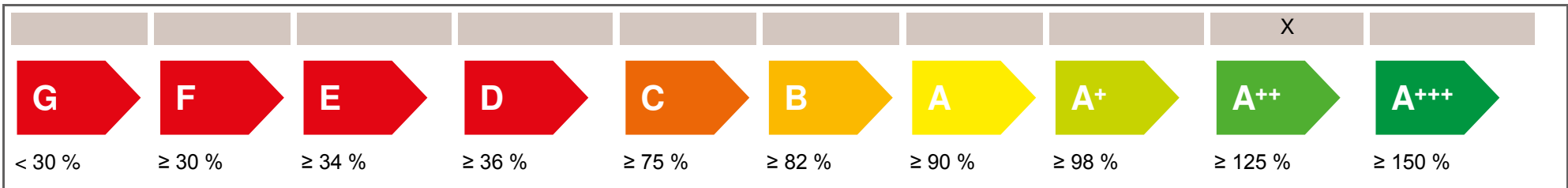
$(V_{Sp} m^3)$  *(standstill heat loss of the storage tank in W)*

$(\eta_{Sp})$

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

Seasonal space heating energy efficiency of package under average climate ⑤ 135 %  
*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	133 %		colder	⑤	135	-V	-2	=	137 %
warmer	131 %		warmer	⑤	135	+VI	0	=	135 %

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.

<b>Product fiche</b>		 <b>AC Cooling Heating</b>	
<b>Manufacturer</b>	CTA AG		
<b>Model</b>	OH 22e Duo HT B/W		
<b>Information on energy efficiency class and rated output</b>			
	Average / Low temperature	Average / Medium temperature	
Space heating energy efficiency class	A++	A++	-
Rated heat output	20.80	19.30	kW
Seasonal space heating energy efficiency	190	131	%
Annual final energy consumption space heating	8641	11457	kWh
Sound power level indoors	50		dB
<b>Special precautions during assembly, installation or maintenance</b>			
see installation and maintenance instructions			
<b>Additional information</b>			
	Low temperature	Medium temperature	
Rated heat output colder climate	20.80	19.30	kW
Rated heat output warmer climate	20.80	19.30	kW
Seasonal space heating energy efficiency colder climate	194	133	%
Seasonal space heating energy efficiency warmer climate	193	131	%
Annual final energy consumption colder climate	10122	13486	kWh
Annual final energy consumption warmer climate	5493	7362	kWh
Sound power level outdoors		-	dB
<b>Technical data of the temperature controller</b>			
<b>Manufacturer</b>	<b>Siemens</b>		
<b>Model</b>	<b>RVS 61</b>		
Class of the controller		VII	-
Contribution of the controller to seasonal space heating energy efficiency		3.5	%
<b>Contact</b>	CTA AG, Hunzigenstrasse 2, CH-3110 Münsingen		

<b>Model</b>				<b>OH 22e Duo HT B/W</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)				No						
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	19.30	kW	<b>Seasonal space heating energy efficiency</b>	$\eta_S$	131	%			
<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	19.50	kW	Tj = -7°C	COPd	3.04	-			
Tj = +2°C	Pdh	20.30	kW	Tj = +2°C	COPd	3.86	-			
Tj = +7°C	Pdh	20.80	kW	Tj = +7°C	COPd	4.57	-			
Tj = +12°C	Pdh	21.20	kW	Tj = +12°C	COPd	5.55	-			
Tj = biv	Pdh	19.30	kW	Tj = biv	COPd	2.86	-			
Tj = TOL	Pdh	19.30	kW	Tj = TOL	COPd	2.86	-			
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	P <sub>cy</sub>	-	kW	Cycling interval efficiency	COP <sub>cy</sub>	-	-			
Degradation co-efficient	Cdh	0.9	-	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>	0.003	kW	Rated heat output	P <sub>sup</sub>	-	kW			
Thermostat-off mode	P <sub>TO</sub>	0.012	kW	Type of energy input	-					
Standby mode	P <sub>SB</sub>	0.003	kW							
Crankcase heater mode	P <sub>CK</sub>	0.003	kW							
<b>Other items</b>										
Capacity control	staged			Rated air flow rate, outdoors	-	-	m <sup>3</sup> /h			
Sound power level, indoors/outdoors	L <sub>WA</sub>	50 / -	dB	Rated brine or water flow rate, outdoor heat exchanger	-	4.2	m <sup>3</sup> /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	$\eta_{wh}$	-	%			
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 22e Duo HT B/W</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)				No						
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	20.80	kW	<b>Seasonal space heating energy efficiency</b>	$\eta_S$	190	%			
<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	20.90	kW	Tj = -7°C	COPd	4.86	-			
Tj = +2°C	Pdh	21.20	kW	Tj = +2°C	COPd	5.55	-			
Tj = +7°C	Pdh	21.50	kW	Tj = +7°C	COPd	6.20	-			
Tj = +12°C	Pdh	21.70	kW	Tj = +12°C	COPd	6.70	-			
Tj = biv	Pdh	20.80	kW	Tj = biv	COPd	4.71	-			
Tj = TOL	Pdh	20.80	kW	Tj = TOL	COPd	4.71	-			
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	P <sub>cy</sub>	-	kW	Cycling interval efficiency	COP <sub>cy</sub>	-	-			
Degradation co-efficient	Cdh	0.9	-	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>	0.003	kW	Rated heat output	P <sub>sup</sub>	-	kW			
Thermostat-off mode	P <sub>TO</sub>	0.012	kW	Type of energy input	-					
Standby mode	P <sub>SB</sub>	0.003	kW							
Crankcase heater mode	P <sub>CK</sub>	0.003	kW							
<b>Other items</b>										
Capacity control	staged			Rated air flow rate, outdoors	-	-	m <sup>3</sup> /h			
Sound power level, indoors/outdoors	L <sub>WA</sub>	50 / -	dB	Rated brine or water flow rate, outdoor heat exchanger	-	4.2	m <sup>3</sup> /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	$\eta_{wh}$	-	%			
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									