



# ENERG

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10073741

alpha innotec

WZSV 122K3M



Two icons showing sound waves from a house. The top icon is labeled **44** dB. The bottom icon is labeled **-** dB.



- 12 kW
- 12 kW**
- 12 kW

Icon showing a clock face and a stack of coins with an arrow pointing down, representing energy consumption and cost.

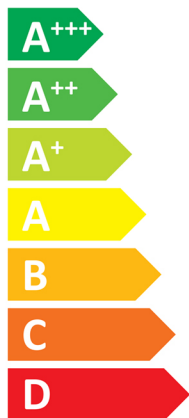


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WZSV 122K3M



A+++



A

44 dB

- dB



- 12 kW
- 12 kW**
- 12 kW



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Y

IJA

IE

IA

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WZSV 122K3M + Luxtronik 2.1

Energy label for heating system showing a radiator icon, an A+++ energy class arrow, a radiator icon, an A energy class arrow, and an XL icon.

Energy scale for heating system showing a radiator icon, a scale from A+++ to G, and an A+++ energy class arrow.

Energy label for water heating system showing a solar panel icon, a water tank icon, a hand icon, and a radiator icon, each with a plus sign and a checkbox.

Energy scale for water heating system showing a tap icon, a scale from A+++ to G, and an A energy class arrow.

package (heat pumps and combination heater with heat pump) WZSV 122K3M + Luxtronik 2.1

Seasonal space heating energy efficiency of heat pump ( $\eta_s$ )

① 157 %

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

12

Temperature control

Class

VII (Table 1)

+

② 3,5 %

Supplementary boiler

package with hot water storage tank

no

$P_{sup}$  kW (rated heat output of supplementary heater)

$\eta_s$  % ( $\sigma_{\pi}$ )

$(\eta_s \% (sup) - ①) \times (\alpha_{WP}) = -$  ③ %

( $\alpha_{WE}$ : see Table 3)

( $\alpha_{WE}$ )

solar contribution

( $A_{Koll}$  m<sup>2</sup>)

( $\eta_{Koll}$  %)

( $V_{Sp}$  m<sup>3</sup>)

(standstill heat loss of the hot water storage tank in W)

( $\eta_{Sp}$ : Table 2)

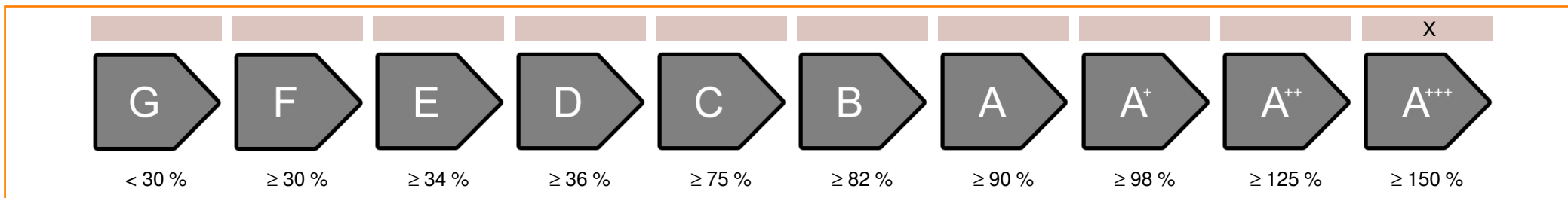
$((294/P_{rated} \times 11) \times (A_{Koll} \text{ m}^2) + (115/P_{rated} \times 11) \times (V_{Sp} \text{ m}^3)) \times 0,45 \times ((\eta_{Koll} \%)/100) \times (\eta_{Sp}) = +$  ④ %

Seasonal space heating energy efficiency of package

⑤ 160 %

rounded to the nearest integer

Seasonal space heating energy efficiency class of package



Seasonal space heating energy efficiency under colder or warmer climate conditions

**Seasonal space heating energy efficiency of the heat pump ( $\eta_s$ ) under colder climate conditions**

162 %

**Seasonal space heating energy efficiency of the heat pump ( $\eta_s$ ) under warmer climate conditions**

158 %

colder ⑤ 160 -V -6 = 166 warmer ⑤ 160 +VI 1 = 161

<b>heatpump datasheet:</b>			
<b>manufacturer:</b>	alpha innotec		
<b>model:</b>	WZSV 122K3M		
<b>Information concerning energy efficiency class and rated heat output:</b>			
load profile water heating	XL		-
	average / low	average / medium	
energy efficiency class space heater:	A+++	A+++	-
energy efficiency class waterheating	A		-
rated heat output:	12	12	kW
annual final energy consumption space heater	4588	6220	kWh
annual electricity consumption waterheating	1709		kWh
energy efficiency space heater:	201	157	%
energy efficiency waterheating	98		%
sound power level indoors	44		dB
<b>special precautions concerning assembly, installation or maintenance</b>			
All instructional work in this manual may only be carried out by qualified specialist personnel in compliance with local regulations.			
<b>additional information</b>	low	medium	
rated heat output colder climate	12	12	kW
rated heat output warmer climate	12	12	kW
annual energy consumption space heater colder climate	5293	7177	kWh
annual energy consumption space heater warmer climate	2924	3995	kWh
ann. Electricity consumption waterheating colder climate	1709		kWh
ann. Electricity consumption waterheating warmer climate	1709		kWh
energy efficiency space heater colder climate	208	162	%
energy efficiency space heater warmer climate	204	158	%
energy efficiency waterheating colder climate	98		%
energy efficiency DHWarmer climate	98		%
sound power level outdoors	-		dB

<b>technical data of the temperature controller</b>		
<b>manufacturer:</b>	<b>alpha innotec</b>	
<b>model:</b>	<b>Luxtronik 2.1</b>	
controller class	VII	-
contribution of the controller to the energy efficiency space heater	3,5	%

<b>Model</b>				<b>WZSV 122K3M</b>			
Air-to-water heat pump: (yes/no)				no			
Brine-to-water heat pump: (yes/no)				yes			
Water-to-water heat pump: (yes/no)				no			
Low-temperature heat pump: (yes/no)				no			
Equipped with supplementary heater: (yes/no)				yes			
combination heater with: (yes/no)				yes			
application: (low/medium)				medium			
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	12	kW	<b>Seasonal space heating energy efficiency</b>	$\eta_S$	156,7	%
<b>Declared coefficient of performance 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	11,1	kW	Tj = -7°C	COPd	3,18	-
Tj = +2°C	Pdh	6,8	kW	Tj = +2°C	COPd	4,12	-
Tj = +7°C	Pdh	4,4	kW	Tj = +7°C	COPd	4,67	-
Tj = +12°C	Pdh	2,6	kW	Tj = +12°C	COPd	5,06	-
Tj = bivalent temperature	Pdh	12,3	kW	Tj = bivalent temperature	COPd	2,91	-
Tj = operation limit temperature	Pdh	12,3	kW	Tj = operation limit temperature	COPd	2,91	-
For air-to-water heat pumps: Tj = -15°C (if TOL < -20°C)	Pdh	-	kW	For air-to-water heat pumps: Tj = -15°C (if TOL < -20°C)	COPd	-	-
Bivalent temperature	T <sub>biv</sub>	-10	°C	For air-to-water heat pumps: Operation limit temperature	TOL	-10	°C
Cycling interval capacity for heating	Pcyc	-	kW	Cycling interval efficiency	COPcyc	-	-
Degradation co-efficient (**)	Cdh	1,0	-	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>	0,005	kW	Rated heat output	P <sub>sup</sub>	-	kW
Thermostat-off mode	P <sub>TO</sub>	0,015	kW	Type of energy input	electrical		
Standby mode	P <sub>SB</sub>	0,007	kW				
Crankcase heater mode	P <sub>CK</sub>	-	kW				
<b>Other items</b>							
Capacity control	variable			For air-to-water heat pumps: Rated air flow rate, outdoors	-	-	m <sup>3</sup> /h
sound power level, indoors/outdoors	L <sub>WA</sub>	44 / -	dB	For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	1	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	XL			Water heating energy efficiency	$\eta_{wh}$	98	%
Daily electricity consumption	Q <sub>elec</sub>	7,784	kWh	Daily fuel consumption	Q <sub>fuel</sub>	-	kWh
<b>Contact details</b>	ait deutschland GmbH Industriestr. 3 95359 Kasendorf Germany						
(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).							
(**) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.							

<b>Model</b>				<b>WZSV 122K3M</b>			
Air-to-water heat pump: (yes/no)				no			
Brine-to-water heat pump: (yes/no)				yes			
Water-to-water heat pump: (yes/no)				no			
Low-temperature heat pump: (yes/no)				no			
Equipped with supplementary heater: (yes/no)				yes			
combination heater with: (yes/no)				yes			
application: (low/medium)				low			
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	12	kW	<b>Seasonal space heating energy efficiency</b>	$\eta_S$	200,9	%
<b>Declared coefficient of performance 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	10,3	kW	Tj = -7°C	COPd	4,52	-
Tj = +2°C	Pdh	6,3	kW	Tj = +2°C	COPd	5,27	-
Tj = +7°C	Pdh	4,1	kW	Tj = +7°C	COPd	5,60	-
Tj = +12°C	Pdh	2,7	kW	Tj = +12°C	COPd	5,78	-
Tj = bivalent temperature	Pdh	11,5	kW	Tj = bivalent temperature	COPd	4,26	-
Tj = operation limit temperature	Pdh	11,5	kW	Tj = operation limit temperature	COPd	4,26	-
For air-to-water heat pumps: Tj = -15°C (if TOL < -20°C)	Pdh	-	kW	For air-to-water heat pumps: Tj = -15°C (if TOL < -20°C)	COPd	-	-
Bivalent temperature	T <sub>biv</sub>	-10	°C	For air-to-water heat pumps: Operation limit temperature	TOL	-10	°C
Cycling interval capacity for heating	P <sub>cyh</sub>	-	kW	Cycling interval efficiency	COP <sub>cyh</sub>	-	-
Degradation co-efficient (**)	Cdh	1,0	-	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>	0,005	kW	Rated heat output	P <sub>sup</sub>	-	kW
Thermostat-off mode	P <sub>TO</sub>	0,015	kW	Type of energy input	electrical		
Standby mode	P <sub>SB</sub>	0,007	kW				
Crankcase heater mode	P <sub>CK</sub>	-	kW				
<b>Other items</b>							
Capacity control	variable			For air-to-water heat pumps: Rated air flow rate, outdoors	-	-	m <sup>3</sup> /h
sound power level, indoors/outdoors	L <sub>WA</sub>	44 / -	dB	For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	1	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 details</b>	ait deutschland GmbH Industriestr. 3 95359 Kasendorf Germany						
(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).							
(**) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.							