



# ENERG

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10066541

alpha innotec

WZS 42K3M



A++



A

43 dB

- dB



- 5 kW
- 5 kW
- 5 kW

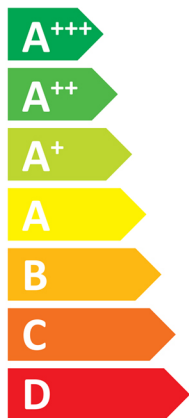


# ENERGY

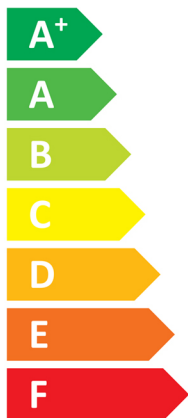
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A++



A

Two icons showing sound power level: a speaker inside a house with the value 43 dB, and a speaker outside a house with the value - dB.



- 5 kW
- 5 kW
- 5 kW

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



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Y

IJA

IE

IA

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WZS 42K3M + Luxtronik 2.1

Energy label for heating system components. It shows a boiler icon with an **A<sup>++</sup>** rating, a radiator icon with an **A<sup>++</sup>** rating, and a tap icon with an **A** rating and the label **XL**.

Energy scale for heating system components. The scale ranges from **A<sup>+++</sup>** (green) to **G** (red). A large black arrow on the right points to the **A<sup>++</sup>** rating.

Energy label for system features. It shows four features, each with a plus sign and a checkbox:

- Solar panel icon:
- Water tank icon:
- Control panel icon:
- Boiler icon:

Energy scale for system features. The scale ranges from **A<sup>+++</sup>** (green) to **G** (red). A large black arrow on the right points to the **A** rating.

package (heat pumps and combination heater with heat pump) WZS 42K3M + Luxtronik 2.1

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

① 127 %

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

5

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)

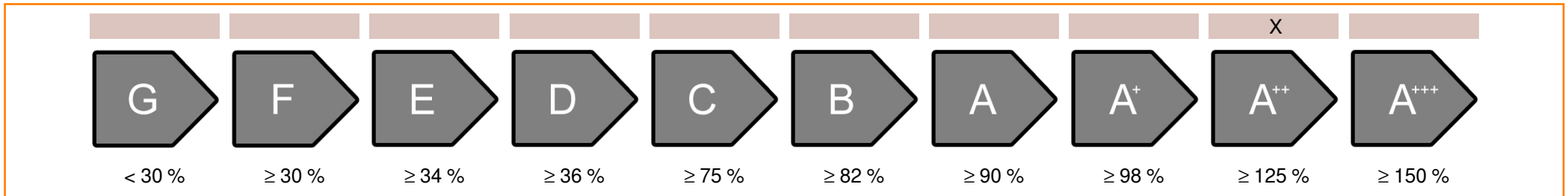
$((294/P_{rated} \times 11) \times (A_{Koll} \text{ m}^2) + (115/P_{rated} \times 11) \times (V_{Sp} \text{ m}^3)) \times 0,45 \times ((\eta_{Koll} \%)/100) \times (\eta_{Sp}) = +$  ④ %

Seasonal space heating energy efficiency of package

⑤ 130 %

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**

132 %

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

126 %

colder ⑤ 130 -V -5 = 135 warmer ⑤ 130 +VI -1 = 129

<b>heatpump datasheet:</b>			
<b>manufacturer:</b>	alpha innotec		
<b>model:</b>	WZS 42K3M		
<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:	6	5	kW
annual final energy consumption space heater	2304	2954	kWh
annual electricity consumption waterheating	1782		kWh
energy efficiency space heater:	191	127	%
energy efficiency waterheating	94		%
sound power level indoors	43		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	6	5	kW
rated heat output warmer climate	6	5	kW
annual energy consumption space heater colder climate	2634	3382	kWh
annual energy consumption space heater warmer climate	1556	1993	kWh
ann. Electricity consumption waterheating colder climate	1782		kWh
ann. Electricity consumption waterheating warmer climate	1782		kWh
energy efficiency space heater colder climate	198	132	%
energy efficiency space heater warmer climate	190	126	%
energy efficiency waterheating colder climate	94		%
energy efficiency DHWwarmer climate	94		%
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>WZS 42K3M</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	5	kW	<b>Seasonal space heating energy efficiency</b>	$\eta_S$	126,8	%
<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	4,3	kW	Tj = -7°C	COPd	2,79	-
Tj = +2°C	Pdh	4,5	kW	Tj = +2°C	COPd	3,45	-
Tj = +7°C	Pdh	4,7	kW	Tj = +7°C	COPd	3,93	-
Tj = +12°C	Pdh	4,9	kW	Tj = +12°C	COPd	4,35	-
Tj = bivalent temperature	Pdh	4,3	kW	Tj = bivalent temperature	COPd	2,79	-
Tj = operation limit temperature	Pdh	4,2	kW	Tj = operation limit temperature	COPd	2,58	-
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>	-7	°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	60	°C
<b>Power consumption in modes other than active mode</b>				<b>Supplementary heater</b>			
Off mode	P <sub>OFF</sub>	0,015	kW	Rated heat output	P <sub>sup</sub>	0,7	kW
Thermostat-off mode	P <sub>TO</sub>	0,015	kW	Type of energy input	electrical		
Standby mode	P <sub>SB</sub>	0,015	kW				
Crankcase heater mode	P <sub>CK</sub>	-	kW				
<b>Other items</b>							
Capacity control	fixed			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>	43 / -	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	$\eta_{wh}$	94	%
Daily electricity consumption	Q <sub>elec</sub>	8,115	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>WZS 42K3M</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	6	kW	<b>Seasonal space heating energy efficiency</b>	$\eta_S$	190,7	%
<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	4,9	kW	Tj = -7°C	COPd	4,87	-
Tj = +2°C	Pdh	5,0	kW	Tj = +2°C	COPd	5,17	-
Tj = +7°C	Pdh	5,0	kW	Tj = +7°C	COPd	5,46	-
Tj = +12°C	Pdh	5,1	kW	Tj = +12°C	COPd	5,54	-
Tj = bivalent temperature	Pdh	4,9	kW	Tj = bivalent temperature	COPd	4,87	-
Tj = operation limit temperature	Pdh	4,9	kW	Tj = operation limit temperature	COPd	4,70	-
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>	-7	°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	60	°C
<b>Power consumption in modes other than active mode</b>				<b>Supplementary heater</b>			
Off mode	P <sub>OFF</sub>	0,015	kW	Rated heat output	P <sub>sup</sub>	0,7	kW
Thermostat-off mode	P <sub>TO</sub>	0,015	kW	Type of energy input	electrical		
Standby mode	P <sub>SB</sub>	0,015	kW				
Crankcase heater mode	P <sub>CK</sub>	-	kW				
<b>Other items</b>							
Capacity control	fixed			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>	43 / -	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).							
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