



ENERG

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10075441

alpha innotec

PWZSV 122H3S



Two icons showing sound power level: a speaker icon with sound waves and a house icon with sound waves.

44 dB

- dB



- 12 kW
- **12 kW**
- 12 kW

Icon showing a clock and a coin with an arrow pointing to it, representing energy saving or cost.

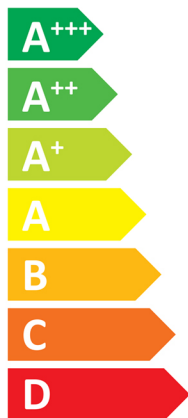


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44 dB

- dB



- 12 kW
- 12 kW**
- 12 kW



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Y

IJA

IE

IA

10075441

alpha innotec

PWZSV 122H3S + Luxtronik 2.1

A+++

A

XL

A+++

A++

A+

A

B

C

D

E

F

G

A+++

+

+

+

+

XL

A+++

A++

A+

A

B

C

D

E

F

G

A

package (heat pumps and combination heater with heat pump) PWZSV 122H3S + Luxtronik 2.1

Seasonal space heating energy efficiency of heat pump (η_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)

η_s % (σ_{π})

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

(α_{WE} : see Table 3)

(α_{WE})

solar contribution

(A_{Koll} m²)

(η_{Koll} %)

(V_{Sp} m³)

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

(η_{Sp} : Table 2)

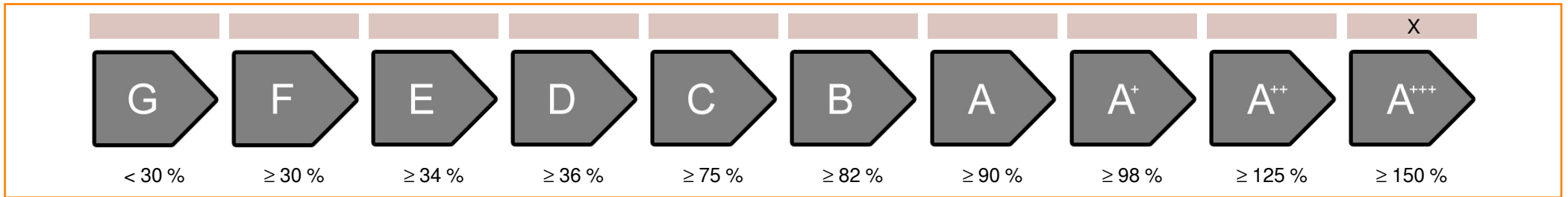
$((294/P_{rated} \times 11) \times (A_{Koll} \text{ m}^2) + (115/P_{rated} \times 11) \times (V_{Sp} \text{ m}^3)) \times 0,45 \times ((\eta_{Koll} \%)/100) \times (\eta_{Sp}) = +$ ④ %

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 (η_s) under colder climate conditions

162 %

Seasonal space heating energy efficiency of the heat pump (η_s) under warmer climate conditions

158 %

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

heatpump datasheet:			
manufacturer:	alpha innotec		
model:	PWZSV 122H3S		
Information concerning energy efficiency class and rated heat output:			
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	1745		kWh
energy efficiency space heater:	201	157	%
energy efficiency waterheating	96		%
sound power level indoors	44		dB
special precautions concerning assembly, installation or maintenance			
All instructional work in this manual may only be carried out by qualified specialist personnel in compliance with local regulations.			
additional information	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	1745		kWh
ann. Electricity consumption waterheating warmer climate	1745		kWh
energy efficiency space heater colder climate	208	162	%
energy efficiency space heater warmer climate	204	158	%
energy efficiency waterheating colder climate	96		%
energy efficiency DHWarmer climate	96		%
sound power level outdoors	-		dB

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

Model				PWZSV 122H3S			
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			
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output	Prated	12	kW	Seasonal space heating energy efficiency	η_S	156,7	%
Declared coefficient of performance 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	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 _{biv}	-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
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P _{OFF}	0,005	kW	Rated heat output	P _{sup}	-	kW
Thermostat-off mode	P _{TO}	0,015	kW	Type of energy input	electrical		
Standby mode	P _{SB}	0,007	kW				
Crankcase heater mode	P _{CK}	-	kW				
Other items							
Capacity control	variable			For air-to-water heat pumps: Rated air flow rate, outdoors	-	-	m ³ /h
sound power level, indoors/outdoors	L _{WA}	44 / -	dB	For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	1	m ³ /h
Emissions of nitrogen oxides	NO _x	-	mg/kWh				
For heat pump combination heater:							
Declared load profile	XL			Water heating energy efficiency	η_{wh}	96	%
Daily electricity consumption	Q _{elec}	7,946	kWh	Daily fuel consumption	Q _{fuel}	-	kWh
Contact details	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.							

Model				PWZSV 122H3S			
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			
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output	Prated	12	kW	Seasonal space heating energy efficiency	η_S	200,9	%
Declared coefficient of performance 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	10,3	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 _{biv}	-10	°C	For air-to-water heat pumps: Operation limit temperature	TOL	-10	°C
Cycling interval capacity for heating	P _{cyh}	-	kW	Cycling interval efficiency	COP _{cyh}	-	-
Degradation co-efficient (**)	Cdh	1,0	-	Heating water operating limit temperature	WTOL	65	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P _{OFF}	0,005	kW	Rated heat output	P _{sup}	-	kW
Thermostat-off mode	P _{TO}	0,015	kW	Type of energy input	electrical		
Standby mode	P _{SB}	0,007	kW				
Crankcase heater mode	P _{CK}	-	kW				
Other items							
Capacity control	variable			For air-to-water heat pumps: Rated air flow rate, outdoors	-	-	m ³ /h
sound power level, indoors/outdoors	L _{WA}	44 / -	dB	For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	1	m ³ /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 details	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.							