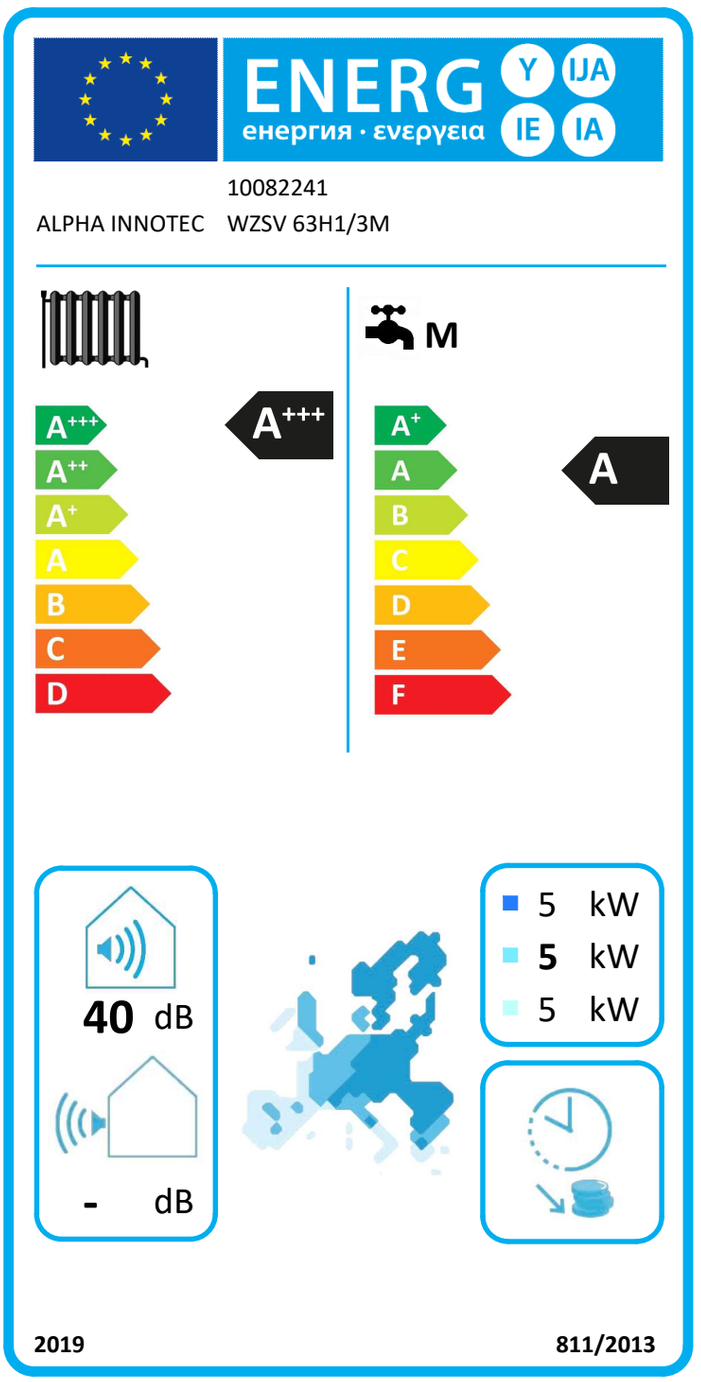
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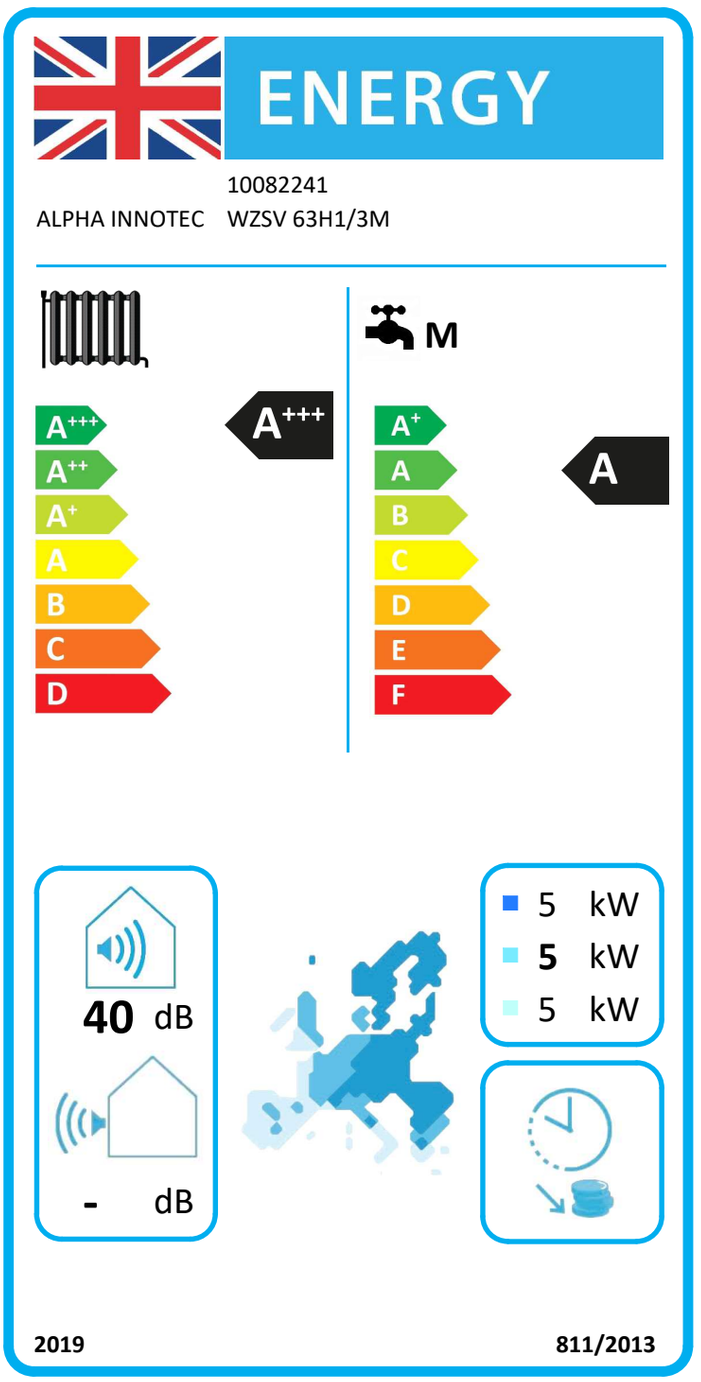
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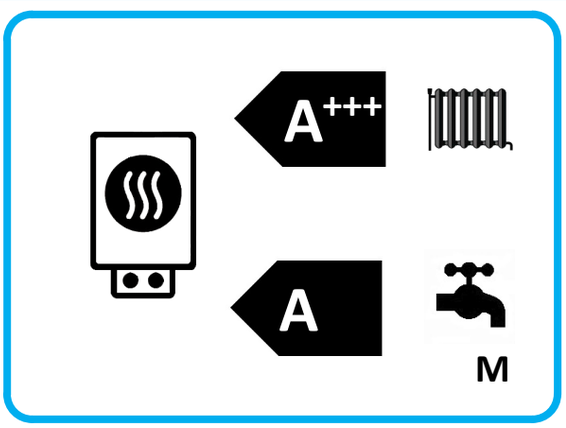
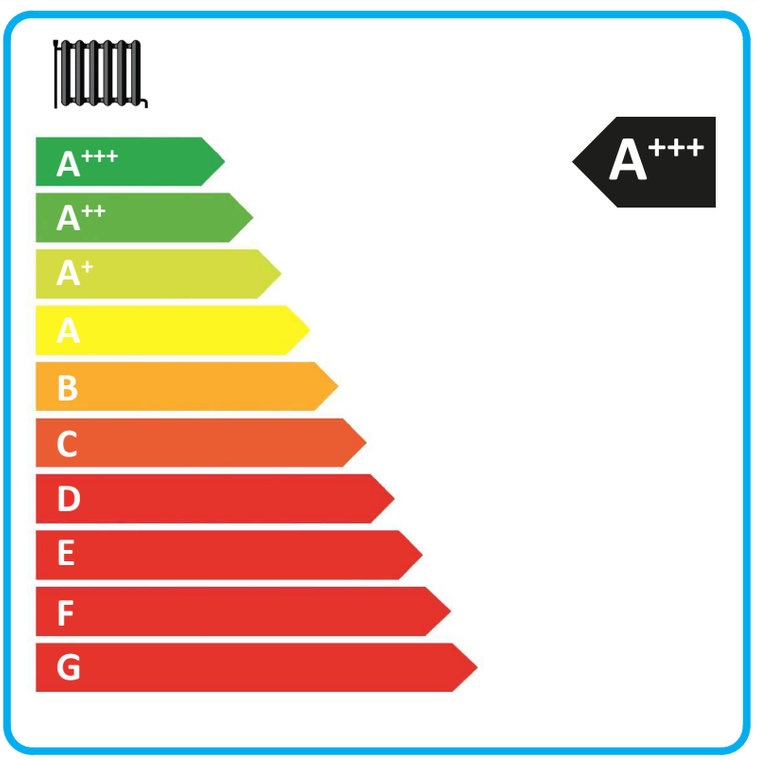
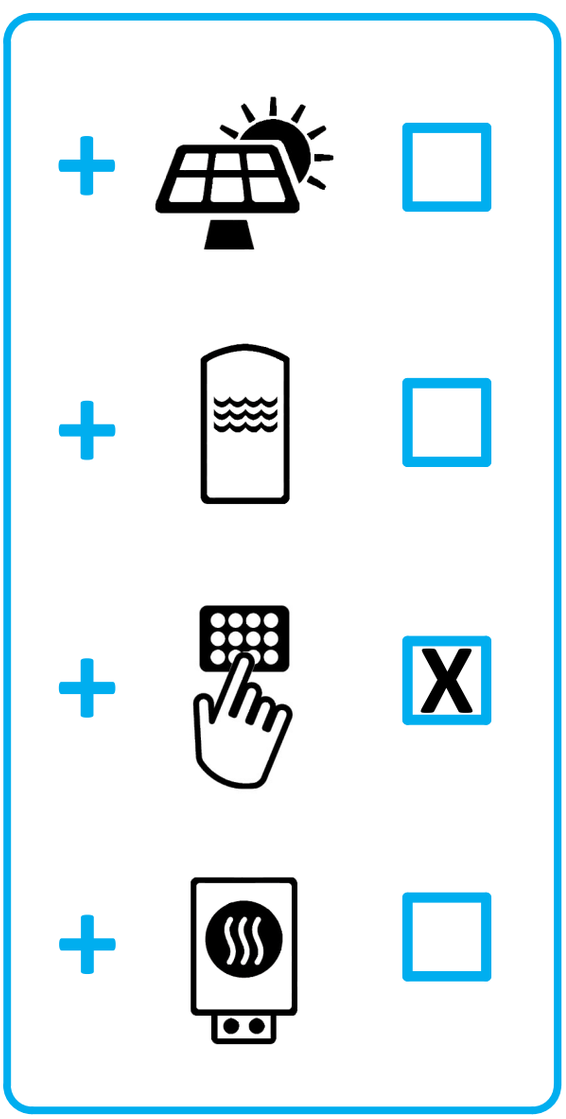
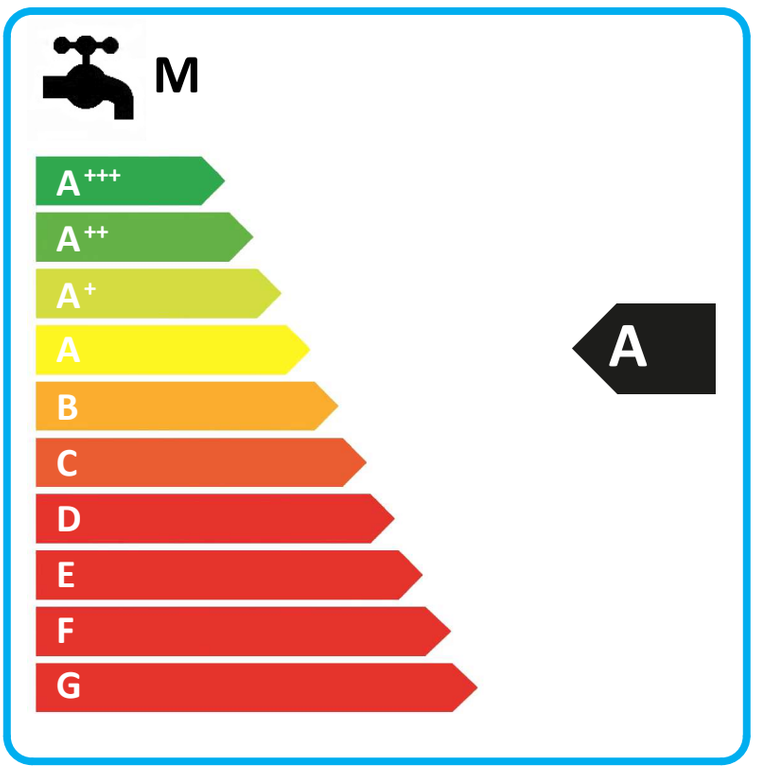
alpha innotec WZSV 63H1/3M + Luxtronik 2.1









2015 811/2013

package (heat pumps and combination heater with heat pump) - WZSV 63H1/3M + Luxtronik 2.1

Seasonal space heating energy efficiency of heat pump (ηs) — 1 — 150 %

Rated heat output of the heat pump (Prated kW) — 5

Temperature control — Class — VII — **(Table 1)** — 2 — 2,0 %

Supplementary boiler

package with hot water storage tank — no — Psup kW (rated heat output of supplementary heater)

ηs % (sup)

(ηs % **(sup)** - 1) x (α_{WP}) = - — 3 — %

(αWE: 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)**

(ηSp: Table 2)

((294/P_{rated} x11) x (A_{Koll} m²) + (115/P_{rated} x11) x (V_{Sp} m³)) x 0,45 x (η_{Koll} %) /100) x (η_{Sp}) = + — 4 — %

Seasonal space heating energy efficiency of package — 5 — 152 % (rounded to the nearest integer)

Seasonal space heating energy efficiency class of package

G	F	E	D	C	B	A	A⁺	A⁺⁺	A⁺⁺⁺
									X
< 30 %	≥ 30 %	≥ 34 %	≥ 36 %	≥ 75 %	≥ 82 %	≥ 90 %	≥ 98 %	≥ 125 %	≥ 150 %

Seasonal space heating energy efficiency under colder or warmer climate conditions

Seasonal space heating energy efficiency of the heat pump (ηs) under colder climate conditions — 145 %

Seasonal space heating energy efficiency of the heat pump (ηs) under warmer climate conditions — 140 %

colder — 5 — 152 — -V — 5 — = — 147

warmer — 5 — 152 — +VI — -11 — = — 141

heatpump datasheet:			
manufacturer:	**alpha innotec**		
model:	**WZSV 63H1/3M**		
Information concerning energy efficiency class and rated heat output:			
load profile water heating	M		
	average / low	average / medium	
energy efficiency class space heater:	A+++	A+++	
energy efficiency class water heating	A		
rated heat output:	6	5	kW
annual final energy consumption space heater	2409	2610	kWh
annual electricity consumption water heating	642		kWh
energy efficiency space heater:	198	150	%
energy efficiency water heating	80		%
sound power level indoors		40	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 under colder climate conditions	6	5	kW
rated heat output under warmer climate conditions	6	5	kW
annual energy consumption space heater under colder climate conditions	2803	3217	kWh
annual energy consumption space heater under warmer climate conditions	1630	1810	kWh
annual electricity consumption water heating under colder climate conditions	642		kWh
annual electricity consumption water heating under warmer climate conditions	642		kWh
energy effiency space heater under colder climate conditions	203	145	%
energy effiency space heater under warmer climate conditions	189	140	%
energy efficiency water heating under colder climate conditions	80		%
energy efficiency water heating under warmer climate conditions	80		%
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	2,0	%

Model	WZSV 63H1/3M
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
application: (low/medium)	medium
climate: (colder/average/warmer)	average

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output	Prated	5	kW	Seasonal space heating energy efficiency	ηS	150,3	%
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	4,5	kW	Tj = -7°C	COPd	3,04	-
Tj = +2°C	Pdh	2,7	kW	Tj = +2°C	COPd	4,01	-
Tj = +7°C	Pdh	1,8	kW	Tj = +7°C	COPd	4,57	-
Tj = +12°C	Pdh	0,9	kW	Tj = +12°C	COPd	4,83	-
Tj = bivalent temperature	Pdh	5,1	kW	Tj = bivalent temperature	COPd	2,75	-
Tj = operation limit temperature	Pdh	5,1	kW	Tj = operation limit temperature	COPd	2,75	-
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}	-10,0	°C	For air-to-water heat pumps: Operation limit temperature	TOL	-10,00	°C
Cycling interval capacity for heating	Pcych		kW	Cycling interval efficiency	COPcyc		-
Degradation co-efficient (**)	Cdh	1,0	-	Heating water operating limit temperature	WTOL	70,00	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P_{OFF}	0,009	kW	Rated heat output	Psup	0	kW
Thermostat-off mode	P_{TO}	0,008	kW				
Standby mode	P_{SB}	0,008	kW	Type of energy input		electrical	
Crankcase heater mode	P_{CK}	0,000	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}	40/-	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		M		Water heating energy efficiency	η_{wh}	80	%
Daily electricity consumption	Q_{elec}	3,078	kWh	Daily fuel consumption	Q_{fuel}	0	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 s

(**) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.

Model	WZSV 63H1/3M
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
application: (low/medium)	low
climate: (colder/average/warmer)	average

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output	Prated	6	kW	Seasonal space heating energy efficiency	ηS	197,8	%
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	5,4	kW	Tj = -7°C	COPd	4,03	-
Tj = +2°C	Pdh	3,3	kW	Tj = +2°C	COPd	5,20	-
Tj = +7°C	Pdh	2,0	kW	Tj = +7°C	COPd	5,95	-
Tj = +12°C	Pdh	1,0	kW	Tj = +12°C	COPd	6,04	-
Tj = bivalent temperature	Pdh	5,9	kW	Tj = bivalent temperature	COPd	3,79	-
Tj = operation limit temperature	Pdh	5,9	kW	Tj = operation limit temperature	COPd	3,79	-
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}	-10,0	°C	For air-to-water heat pumps: Operation limit temperature	TOL	-10,00	°C
Cycling interval capacity for heating	Pcych		kW	Cycling interval efficiency	COPcyc		-
Degradation co-efficient (**)	Cdh	1,0	-	Heating water operating limit temperature	WTOL	70,00	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P_{OFF}	0,009	kW	Rated heat output	Psup	0	kW
Thermostat-off mode	P_{TO}	0,008	kW				
Standby mode	P_{SB}	0,008	kW	Type of energy input	electrical		
Crankcase heater mode	P_{CK}	0,000	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}	40/-	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 s

(**) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.