



ENERG

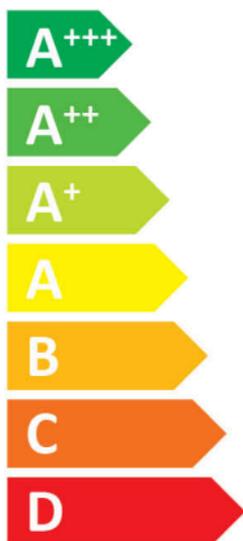
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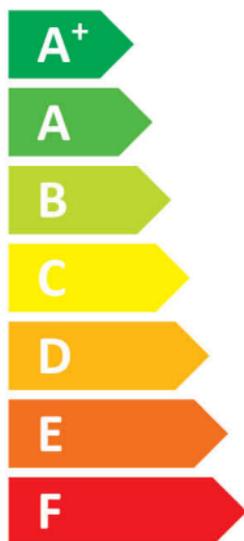
100544HT202

alpha innotec

LW 140A-HT 2



A++



A

Two icons showing sound power levels. The top icon shows a speaker inside a house with the text "44 dB". The bottom icon shows a speaker outside a house with the text "58 dB".



- 13 kW
- 14 kW**
- 16 kW

An icon showing a clock and a stack of coins with an arrow pointing to it, symbolizing energy savings.



ENERGY

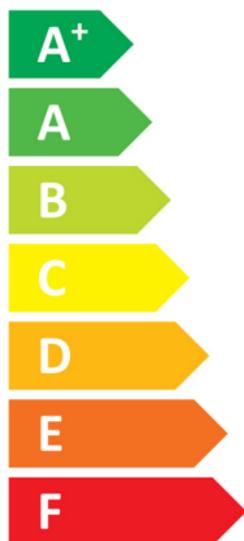
100544HT202

alpha innotec

LW 140A-HT 2



A++



A



44 dB



58 dB



13 kW

14 kW

16 kW





ENERG

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Y

IJA

IE

IA

100544HT202

alpha innotec

LW 140A-HT 2 + Luxtronik 2.0

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

Energy scale for heating system with a radiator icon at the top. The scale shows energy classes from A+++ (green) to G (red). An A++ energy class arrow is shown on the right.

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

Energy scale for hot water system with a tap icon and 'XL' label. The scale shows energy classes from A+++ (green) to G (red). An A energy class arrow is shown on the right.

package (heat pumps and combination heater with heat pump) LW 140A-HT 2 + Luxtronik 2.0

Seasonal space heating energy efficiency of heat pump (η_s) ① 125 %

Rated heat output of the heat pump (P_{rated} kW) 14

Temperature control Class III (Table 1) + ② 1,5 %

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})

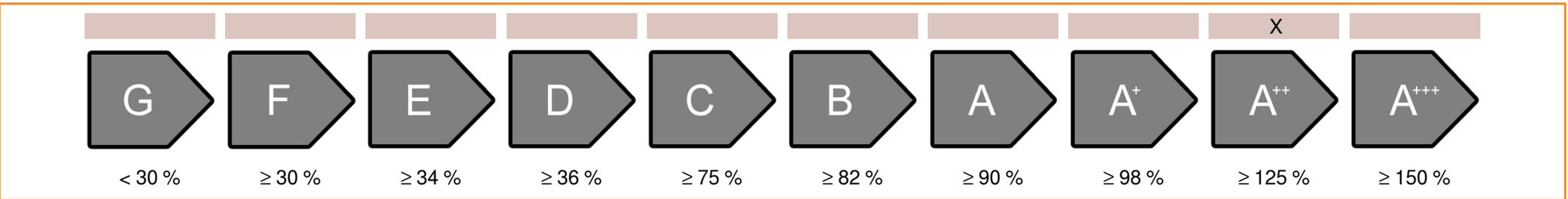
solar contribution $(A_{Koll} m^2)$ $(\eta_{Koll} \%)$
 $(V_{Sp} m^3)$ $(standstill\ heat\ loss\ of\ the\ hot\ water\ storage\ tank\ in\ W)$
 $(\eta_{Sp}: Table\ 2)$

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

Seasonal space heating energy efficiency of package ⑤ 127 %

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 115 %

Seasonal space heating energy efficiency of the heat pump (η_s) under warmer climate conditions 152 %

colder ⑤ 127 -V 10 = 117 warmer ⑤ 127 +VI 27 = 154

heatpump datasheet:			
manufacturer:	alpha innotec		
model:	LW 140A-HT 2		
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:	14	14	kW
annual final energy consumption space heater	7447	8842	kWh
annual electricity consumption waterheating	1821		kWh
energy efficiency space heater:	157	125	%
energy efficiency waterheating	92		%
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	13	13	kW
rated heat output warmer climate	16	16	kW
annual energy consumption space heater colder climate	9044	10533	kWh
annual energy consumption space heater warmer climate	4553	5391	kWh
ann. Electricity consumption waterheating colder climate	1994		kWh
ann. Electricity consumption waterheating warmer climate	1580		kWh
energy efficiency space heater colder climate	140	115	%
energy efficiency space heater warmer climate	190	152	%
energy efficiency waterheating colder climate	84		%
energy efficiency DHWarmer climate	106		%
sound power level outdoors	58		dB

technical data of the temperature controller		
manufacturer:	alpha innotec	
model:	Luxtronik 2.0	
controller class	III	-
contribution of the controller to the energy efficiency space heater	1,5	%

Model				LW 140A-HT 2			
Air-to-water heat pump: (yes/no)				yes			
Brine-to-water heat pump: (yes/no)				no			
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	14	kW	Seasonal space heating energy efficiency	η_S	125,1	%
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	10,4	kW	Tj = -7°C	COPd	2,16	-
Tj = +2°C	Pdh	13,5	kW	Tj = +2°C	COPd	3,10	-
Tj = +7°C	Pdh	14,4	kW	Tj = +7°C	COPd	4,28	-
Tj = +12°C	Pdh	16,3	kW	Tj = +12°C	COPd	5,27	-
Tj = bivalent temperature	Pdh	11,1	kW	Tj = bivalent temperature	COPd	2,34	-
Tj = operation limit temperature	Pdh	9,6	kW	Tj = operation limit temperature	COPd	1,96	-
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}	-5	°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	50	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P _{OFF}	0,010	kW	Rated heat output	P _{sup}	4,1	kW
Thermostat-off mode	P _{TO}	0,010	kW	Type of energy input	electrical		
Standby mode	P _{SB}	0,010	kW				
Crankcase heater mode	P _{CK}	-	kW				
Other items							
Capacity control	fixed			For air-to-water heat pumps: Rated air flow rate, outdoors	-	5.600	m ³ /h
sound power level, indoors/outdoors	L _{WA}	44 / 58	dB	For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	-	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}	92	%
Daily electricity consumption	Q _{elec}	8,291	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				LW 140A-HT 2			
Air-to-water heat pump: (yes/no)				yes			
Brine-to-water heat pump: (yes/no)				no			
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	14	kW	Seasonal space heating energy efficiency	η_S	157,1	%
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	11,0	kW	Tj = -7°C	COPd	3,13	-
Tj = +2°C	Pdh	13,9	kW	Tj = +2°C	COPd	3,94	-
Tj = +7°C	Pdh	14,5	kW	Tj = +7°C	COPd	4,94	-
Tj = +12°C	Pdh	16,4	kW	Tj = +12°C	COPd	5,43	-
Tj = bivalent temperature	Pdh	11,7	kW	Tj = bivalent temperature	COPd	3,34	-
Tj = operation limit temperature	Pdh	10,2	kW	Tj = operation limit temperature	COPd	2,87	-
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}	-5	°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	50	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P _{OFF}	0,010	kW	Rated heat output	P _{sup}	4,3	kW
Thermostat-off mode	P _{TO}	0,010	kW	Type of energy input	electrical		
Standby mode	P _{SB}	0,010	kW				
Crankcase heater mode	P _{CK}	-	kW				
Other items							
Capacity control	fixed			For air-to-water heat pumps: Rated air flow rate, outdoors	-	5.600	m ³ /h
sound power level, indoors/outdoors	L _{WA}	44 / 58	dB	For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	-	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.							