ENERGY
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100608HMD02

alpha innotec LWD 70A/RSX-HMD

	55 °C	35 °C
	A+	A+

A+++
A++
A+
A
B
C
D

44 dB

58 dB

	6	6
	8	**9**
	9	10
	kW	kW

2019 811/2013

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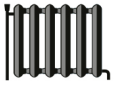
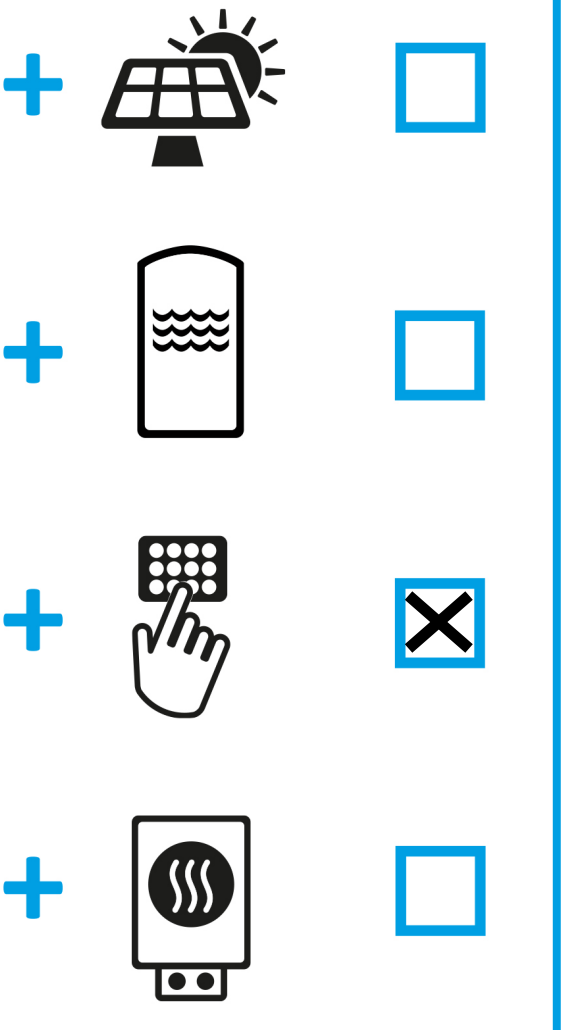
alpha innotec

LWD 70A/RSX-HMD + Luxtronik 2.1



A+



A+++
A++
A+
A
B
C
D
E
F
G

A+

2015

811/2013

package (heat pumps and combination heater with heat pump) - LWD 70A/RSX-HMD + Luxtronik 2.1

Seasonal space heating energy efficiency of heat pump (ηs)				❶ 120	%
Rated heat output of the heat pump (Prated kW)		8			
Temperature control	Class	VII	***(Table 1)*** +	❷ 3,5	%
Supplementary boiler					
package with hot water storage tank	no			*Psup kW (rated heat output of supplementary heater)*	
		ησ % (συπ)			
			(ηs % ***(sup)*** - ❶) x (α_{WP}) = -	❸	%
(αWE: see Table 3)		***(α_{WE})***			
solar contribution	***(A_{Koll} m²)***	***(ηKoll %)***			
	(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}**) = +				❹	%
Seasonal space heating energy efficiency of package				❺ 124	%
				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										110	%
Seasonal space heating energy efficiency of the heat pump (ηs) under warmer climate conditions										147	%
colder ❺	124	-V	10	=	114	warmer ❺	124	+VI	27	=	151

heatpump datasheet:			
manufacturer:	**alpha innotec**		
model:	**LWD 70A/RSX-HMD**		
Information concerning energy efficiency class and rated heat output:			
	average / low	average / medium	
energy efficiency class space heater:	A+	A+	-
rated heat output:	9	8	kW
energy efficiency space heater:	144	120	%
annual final energy consumption space heater	4867	5440	kWh
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	6	6	kW
rated heat output warmer climate	10	9	kW
energy effiency space heater colder climate	128	110	%
energy effiency space heater warmer climate	175	147	%
annual energy consumption space heater colder climate	4508	4893	kWh
annual energy consumption space heater warmer climate	2896	3152	kWh
sound power level outdoors		58	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				**LWD 70A/RSX-HMD**			
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)				no			
application: (low/medium)				medium			
climate: (colder/average/warmer)				average			
Item	**Symbol**	**Value**	**Unit**	**Item**	**Symbol**	**Value**	**Unit**
Rated heat output	Prated	8	kW	**Seasonal space heating energy efficiency**	ηS	120,5	%
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	5,8	kW	Tj = -7°C	COPd	2,15	-
Tj = +2°C	Pdh	7,2	kW	Tj = +2°C	COPd	3,05	-
Tj = +7°C	Pdh	9,3	kW	Tj = +7°C	COPd	4,12	-
Tj = +12°C	Pdh	10,9	kW	Tj = +12°C	COPd	4,84	-
Tj = bivalent temperature	Pdh	6,3	kW	Tj = bivalent temperature	COPd	2,40	-
Tj = operation limit temperature	Pdh	5,4	kW	Tj = operation limit temperature	COPd	1,97	-
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}	-4	°C	For air-to-water heat pumps: Operation limit temperature	TOL	-10	°C
Cycling interval capacity for heating	Pcych	-	kW	Cycling interval efficiency	COPcyc	-	-
Degradation co-efficient (**)	Cdh	1,0	-	Heating water operating limit temperature	WTOL	62	°C
Power consumption in modes other than active mode				**Supplementary heater**			
Off mode	P_{OFF}	0,010	kW	Rated heat output	Psup	2,8	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	-	3.000	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	Qfuel	-	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				**LWD 70A/RSX-HMD**			
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)				no			
application: (low/medium)				low			
climate: (colder/average/warmer)				average			
Item	**Symbol**	**Value**	**Unit**	**Item**	**Symbol**	**Value**	**Unit**
Rated heat output	Prated	9	kW	**Seasonal space heating energy efficiency**	ηS	143,7	%
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	6,2	kW	Tj = -7°C	COPd	2,74	-
Tj = +2°C	Pdh	7,6	kW	Tj = +2°C	COPd	3,76	-
Tj = +7°C	Pdh	9,5	kW	Tj = +7°C	COPd	4,59	-
Tj = +12°C	Pdh	11,0	kW	Tj = +12°C	COPd	4,92	-
Tj = bivalent temperature	Pdh	6,6	kW	Tj = bivalent temperature	COPd	3,07	-
Tj = operation limit temperature	Pdh	5,8	kW	Tj = operation limit temperature	COPd	2,54	-
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}	-4	°C	For air-to-water heat pumps: Operation limit temperature	TOL	-10	°C
Cycling interval capacity for heating	Pcych	-	kW	Cycling interval efficiency	COPcyc	-	-
Degradation co-efficient (**)	Cdh	1,0	-	Heating water operating limit temperature	WTOL	62	°C
Power consumption in modes other than active mode				**Supplementary heater**			
Off mode	P_{OFF}	0,010	kW	Rated heat output	Psup	2,9	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	-	3.000	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	Qfuel	-	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.