



ENERG

енергия · ενεργεια



10068742

alpha innotec

SWC 192H3



55 °C

35 °C



A++

A+++



50 dB



- dB

■ 19
■ **19**
■ 20
kW

■ 21
■ **21**
■ 22
kW





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SWC 192H3



55 °C

35 °C



A⁺⁺

A⁺⁺⁺



50 dB



- dB

■ 19
■ **19**
■ 20
kW

■ 21
■ **21**
■ 22
kW





ENERG

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Y

IJA

IE

IA

10068742

alpha innotec

SWC 192H3 + Luxtronik 2.1



A⁺⁺

A⁺⁺⁺

A⁺⁺

A⁺⁺

A⁺

A

B

C

D

E

F

G

+



+



+



+



package (heat pumps and combination heater with heat pump) - SWC 192H3 + Luxtronik 2.1

Seasonal space heating energy efficiency of heat pump (η_s)

① 143 %

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

19

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)

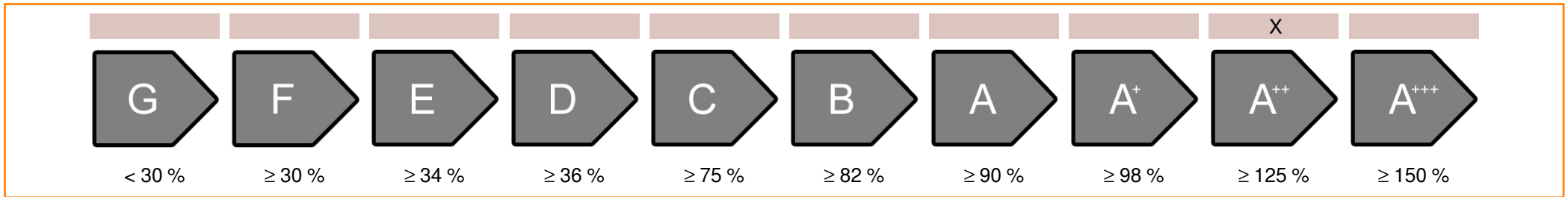
$((294/P_{rated} \times 11) \times (A_{Koll} \text{ m}^2) + (115/P_{rated} \times 11) \times (V_{Sp} \text{ m}^3)) \times 0,45 \times ((\eta_{Koll} \%) / 100) \times (\eta_{Sp}) = +$ ④ %

Seasonal space heating energy efficiency of package

⑤ 146 %

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

148 %

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

144 %

colder ⑤ 146 -V -5 = 151 warmer ⑤ 146 +VI 1 = 147

heatpump datasheet:			
manufacturer:	alpha innotec		
model:	SWC 192H3		
Information concerning energy efficiency class and rated heat output:			
	average / low	average / medium	
energy efficiency class space heater:	A+++	A++	-
rated heat output:	21	19	kW
energy efficiency space heater:	205	143	%
annual final energy consumption space heater	8139	10328	kWh
sound power level indoors		50	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	21	19	kW
rated heat output warmer climate	22	20	kW
energy efficiency space heater colder climate	212	148	%
energy efficiency space heater warmer climate	207	144	%
annual energy consumption space heater colder climate	9334	11851	kWh
annual energy consumption space heater warmer climate	5394	6864	kWh
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				SWC 192H3			
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)				no			
application: (low/medium)				medium			
climate: (colder/average/warmer)				average			
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output	Prated	19	kW	Seasonal space heating energy efficiency	η_S	142,8	%
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	16,7	kW	Tj = -7°C	COPd	3,09	-
Tj = +2°C	Pdh	17,5	kW	Tj = +2°C	COPd	3,75	-
Tj = +7°C	Pdh	18,0	kW	Tj = +7°C	COPd	4,25	-
Tj = +12°C	Pdh	18,5	kW	Tj = +12°C	COPd	4,81	-
Tj = bivalent temperature	Pdh	16,7	kW	Tj = bivalent temperature	COPd	3,09	-
Tj = operation limit temperature	Pdh	16,4	kW	Tj = operation limit temperature	COPd	2,88	-
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}	-7	°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	60	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P _{OFF}	0,015	kW	Rated heat output	P _{sup}	2,5	kW
Thermostat-off mode	P _{TO}	0,015	kW	Type of energy input	electrical		
Standby mode	P _{SB}	0,015	kW				
Crankcase heater mode	P _{CK}	-	kW				
Other items							
Capacity control	fixed			For air-to-water heat pumps: Rated air flow rate, outdoors	-	-	m ³ /h
sound power level, indoors/outdoors	L _{WA}	50 / -	dB	For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	4	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.							

Model				SWC 192H3			
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)				no			
application: (low/medium)				low			
climate: (colder/average/warmer)				average			
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output	Prated	21	kW	Seasonal space heating energy efficiency	η_S	205,1	%
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	18,6	kW	Tj = -7°C	COPd	5,04	-
Tj = +2°C	Pdh	18,8	kW	Tj = +2°C	COPd	5,35	-
Tj = +7°C	Pdh	19,0	kW	Tj = +7°C	COPd	5,67	-
Tj = +12°C	Pdh	19,2	kW	Tj = +12°C	COPd	5,95	-
Tj = bivalent temperature	Pdh	18,6	kW	Tj = bivalent temperature	COPd	5,04	-
Tj = operation limit temperature	Pdh	18,5	kW	Tj = operation limit temperature	COPd	4,88	-
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}	-7	°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	60	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P _{OFF}	0,015	kW	Rated heat output	P _{sup}	2,5	kW
Thermostat-off mode	P _{TO}	0,015	kW	Type of energy input	electrical		
Standby mode	P _{SB}	0,015	kW				
Crankcase heater mode	P _{CK}	-	kW				
Other items							
Capacity control	fixed			For air-to-water heat pumps: Rated air flow rate, outdoors	-	-	m ³ /h
sound power level, indoors/outdoors	L _{WA}	50 / -	dB	For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	4	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.							