



ENERG

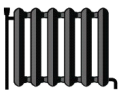
энергия · ενέργεια

Y IJA

IE IA

10081401

ALPHA INNOTEC Hybrox SE 11 3P



55°C

35°C



A+++

A+++



40 dB



53 dB

■ 9
■ 9
■ 9

kW

■ 10
■ 11
■ 11

kW

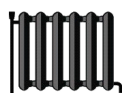




ENERGY

10081401

ALPHA INNOTECH Hybrox SE 11 3P



55°C

35°C



A+++

A+++



40 dB



53 dB

9
9
9
kW

10
11
11
kW



2019

811/2013

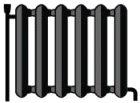


ENERG
енергия · ενεργεια



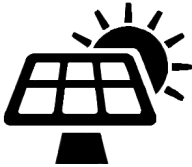
10081401

alpha innotec Hybrox SE 11 3P + HPC



A+++

+



+



+



+



A+++

A+++

A++

A+

A

B

C

D

E

F

G

package (heat pumps and combination heater with heat pump) - Hybrox SE 11 3P + HPC

Seasonal space heating energy efficiency of heat pump (η_s)

① 150 %

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

9

Temperature control

Class

II

(Table 1)

② 2 %

Supplementary boiler

package with hot water storage tank

no

P_{sup} kW (rated heat output of supplementary heater)

η_s % (sup)

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

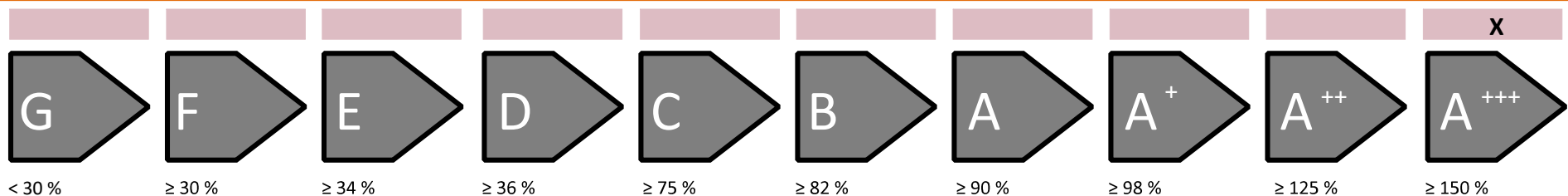
(η_{Sp} : Table 2)

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

Seasonal space heating energy efficiency of package

⑤ 152 %
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

134 %

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

195 %

colder

⑤

152

-V

16

=

136

warmer

⑤

152

+VI

45

=

197

heatpump datasheet:			
manufacturer:		alpha innotec	
model:		Hybrox SE 11 3P	
Information concerning energy efficiency class and rated heat output:			
	average / low	average / medium	
energy efficiency class space heater:	A+++	A+++	
rated heat output:	11	9	kW
energy efficiency space heater:	188	150	%
annual final energy consumption space heater	4540	4870	kWh
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	10	9	kW
rated heat output under warmer climate conditions	11	9	kW
energy efficiency space heater under colder climate conditions	169	134	%
energy efficiency space heater under warmer climate conditions	269	195	%
annual energy consumption space heater under colder climate conditions	5574	6636	kWh
annual energy consumption space heater under warmer climate conditions	2065	2290	kWh
sound power level outdoors		53	dB

technical data of the temperature controller		
manufacturer:	alpha innotec	
model:	HPC	
controller class	II	-
contribution of the controller to the energy efficiency space heater	2	%

Model				Hybrox SE 11 3P			
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)				no			
combination heater with				no			
application: (low/medium)				medium			
climate: (colder/average/warmer)				average			
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output	Prated	9	kW	Seasonal space heating energy efficiency	η_s	150	%
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	7,8	kW	Tj = -7°C	COPd	2,24	-
Tj = +2°C	Pdh	4,8	kW	Tj = +2°C	COPd	3,72	-
Tj = +7°C	Pdh	3,1	kW	Tj = +7°C	COPd	5,05	-
Tj = +12°C	Pdh	2,6	kW	Tj = +12°C	COPd	7,81	-
Tj = bivalent temperature	Pdh	7,8	kW	Tj = bivalent temperature	COPd	2,24	-
Tj = operation limit temperature	Pdh	7,4	kW	Tj = operation limit temperature	COPd	1,94	-
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}	-7,0	°C	For air-to-water heat pumps: Operation limit temperature	TOL	-10,00	°C
Cycling interval capacity for heating	P _{cyh}		kW	Cycling interval efficiency	COP _{cyh}		-
Degradation co-efficient (**)	Cdh	0,9	-	Heating water operating limit temperature	WTOL	75,00	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P _{OFF}	0,006	kW	Rated heat output	P _{sup}	1,6	kW
Thermostat-off mode	P _{TO}	0,006	kW	Type of energy input	electrical		
Standby mode	P _{SB}	0,006	kW				
Crankcase heater mode	P _{CK}	0,000	kW				
Other items				For air-to-water heat pumps: Rated air flow rate, outdoors			
Capacity control	variable			5600 m³/h			
sound power level, indoors/outdoors	L _{WA}	40/53	dB	For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger			
Emissions of nitrogen oxides	NO _x	-	mg/kWh	m³/h			
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}	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				Hybrox SE 11 3P			
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)				no			
combination heater with				no			
application: (low/medium)				low			
climate: (colder/average/warmer)				average			
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output	Prated	11	kW	Seasonal space heating energy efficiency	η_s	188	%
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	8,7	kW	Tj = -7°C	COPd	2,84	-
Tj = +2°C	Pdh	5,6	kW	Tj = +2°C	COPd	4,48	-
Tj = +7°C	Pdh	3,6	kW	Tj = +7°C	COPd	6,83	-
Tj = +12°C	Pdh	2,6	kW	Tj = +12°C	COPd	9,97	-
Tj = bivalent temperature	Pdh	8,7	kW	Tj = bivalent temperature	COPd	2,84	-
Tj = operation limit temperature	Pdh	8,2	kW	Tj = operation limit temperature	COPd	2,60	-
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	-7,0	°C	For air-to-water heat pumps: Operation limit temperature	TOL	-10,00	°C
Cycling interval capacity for heating	Pcyc		kW	Cycling interval efficiency	COPcyc		-
Degradation co-efficient (**)	Cdh	0,9	-	Heating water operating limit temperature	WTOL	75,00	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P OFF	0,006	kW	Rated heat output	Psup	2,3	kW
Thermostat-off mode	P TO	0,006	kW	Type of energy input	electrical		
Standby mode	P SB	0,006	kW				
Crankcase heater mode	P CK	0,000	kW				
Other items				For air-to-water heat pumps: Rated air flow rate, outdoors			
Capacity control	variable			For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	5600	m³/h	m³/h
sound power level, indoors/outdoors	L WA	40/53	dB				
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.							