

Information requirements for heat pump space heaters and heat pump combination heaters

Models				PASHW050S-PS			
Air to water heat pump				<input checked="" type="checkbox"/> Yes		<input type="checkbox"/> No	
Water to water heat pump				<input type="checkbox"/> Yes		<input checked="" type="checkbox"/> No	
Brine to water heat pump				<input type="checkbox"/> Yes		<input checked="" type="checkbox"/> No	
Low-temperature heat pump				<input type="checkbox"/> Yes		<input checked="" type="checkbox"/> No	
Equipped with a supplementary heater				<input checked="" type="checkbox"/> Yes		<input type="checkbox"/> No	
Heat pump combination heater				<input type="checkbox"/> Yes		<input checked="" type="checkbox"/> No	
Parameters shall be declared for medium-temperature application, except for low-temperature heat pumps. For low-temperature heat pumps, parameters shall be declared for low-temperature application.							
Parameters shall be declared for average climate conditions for low temperature application.							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output	Prated	13	kW	Seasonal space heating energy efficiency	η_s	151	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T_j				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature T_j			
$T_j = -7$ °C	Pdh	11.3	kW	$T_j = -7$ °C	COPd or PERd	3.12	-
$T_j = +2$ °C	Pdh	6.9	kW	$T_j = +2$ °C	COPd or PERd	3.59	-
$T_j = +7$ °C	Pdh	4.4	kW	$T_j = +7$ °C	COPd or PERd	5.03	-
$T_j = +12$ °C	Pdh	2.0	kW	$T_j = +12$ °C	COPd or PERd	5.88	-
$T_j =$ operation limit temperautre	Pdh	12.8	kW	$T_j =$ operation limit temperautre	COPd or PERd	2.84	-
$T_j =$ bivalent temperautre	Pdh	11.3	kW	$T_j =$ bivalent temperautre	COPd or PERd	3.12	-
For air to water heat pumps: $T_j = -15$ °C (if TOL < -20 °C)	Pdh	-	kW	For air to water heat pumps: $T_j = -15$ °C (if TOL < -20 °C)	COPd or PERd	-	-
Bivalent temperature	T_{biv}	-7	°C	For air to water heat pumps: Operation limit temperature	TOL	-10	°C

Cycling interval capacity for heating	P _{cyc}	-	kW	Cycling interval efficiency	COP _{cyc} or PER _{cyc}	-	-
Degradation coefficient	C _{dh}	0.98	-	Heating water operating limit temperature	WTOL	-	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P _{OFF}	0.051	kW	Rated heat output	P _{sup}	-	kW
Thermostat-off mode	P _{TO}	0.000	kW	Type of energy input	-		
Standby mode	P _{SB}	0.051	kW				
Crankcase heater mode	P _{CK}	0.000	kW				
Other items							
Capacity control	<input checked="" type="checkbox"/> fixed <input type="checkbox"/> variable			For air to water heat pumps: Rated air flow rate, outdoors	-	-	m ³ /h
Sound power level, indoors/outdoors	L _{WA}	58.3	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				
Contact details	GUANGDONG PHNIX ECO-ENERGY SOLUTION LTD. NO.3 TIANYUAN ROAD, DAGANG TOWN, NANSHA, GUANGZHOU 511470 P.R.China						

Parameters shall be declared for average climate conditions for medium temperature application.							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output	Prated	16	kW	Seasonal space heating energy efficiency	η _s	122	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T _j				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature T _j			
T _j = -7 °C	P _{dh}	13.8	kW	T _j = -7 °C	COP _d or PER _d	2.29	-

$T_j = +2\text{ °C}$	P _{dh}	8.4	kW	$T_j = +2\text{ °C}$	COP _d or PER _d	2.87	-
$T_j = +7\text{ °C}$	P _{dh}	5.4	kW	$T_j = +7\text{ °C}$	COP _d or PER _d	4.44	-
$T_j = +12\text{ °C}$	P _{dh}	2.4	kW	$T_j = +12\text{ °C}$	COP _d or PER _d	5.56	-
$T_j = \text{operation limit temperature}$	P _{dh}	15.7	kW	$T_j = \text{operation limit temperature}$	COP _d or PER _d	2.03	-
$T_j = \text{bivalent temperature}$	P _{dh}	12.0	kW	$T_j = \text{bivalent temperature}$	COP _d or PER _d	2.59	-
For air to water heat pumps: $T_j = -15\text{ °C}$ (if TOL < -20 °C)	P _{dh}	-	kW	For air to water heat pumps: $T_j = -15\text{ °C}$ (if TOL < -20 °C)	COP _d or PER _d	-	-
Bivalent temperature	T _{biv}	-4	°C	For air to water heat pumps: Operation limit temperature	TOL	-10	°C
Cycling interval capacity for heating	P _{psych}	-	kW	Cycling interval efficiency	COP _{cyc} or PER _{cyc}	-	-
Degradation coefficient	C _{dh}	0.99	-	Heating water operating limit temperature	WTOL	-	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P _{OFF}	0.051	kW	Rated heat output	P _{sup}	-	kW
Thermostat-off mode	P _{TO}	0.000	kW	Type of energy input	-		
Standby mode	P _{SB}	0.051	kW				
Crankcase heater mode	P _{CK}	0.000	kW				
Other items							
Capacity control	<input checked="" type="checkbox"/> fixed <input type="checkbox"/> variable			For air to water heat pumps: Rated air flow rate, outdoors	-	-	m ³ /h
Sound power level, indoors/outdoors	L _{WA}	60.5	dB	For water/brine to water heat	-	-	m ³ /h

Emissions of nitrogen oxides	NO _x	-	mg/kWh	pumps: Rated brine or water flow rate, outdoor heat exchanger			
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