PRODUCT FICHE ACCORDING TO COMMISSION DELEGATED REGULATIONS (EU) 811/2013 OF 18TH FEBRUARY 2013 AND (EU) 813/2013 OF 2ND AUGUST 2013

Model	Firebird Enviroair Heat Pump R290 16kW
Sales Code	ASH16NFHP
Type of heat source	Air-to-water
Low-temperature heat pump	No
Equipped with supplementary heater	No
Heat pump combination heater	Yes
Climate condition	Average
Temperature application	Low temperature (35°C)
Applied standards EN14511, EN14825 (Space Heating), EN16147 (DHW), EN12102	

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated Heat Output (1)	**P_{rated}**	**14.7**	**kW**	**Seasonal space heating energy efficiency**	**η_s**	**180**	**%**
Declared capacity for heating for part load at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20°C and outdoor temperature Tj			
Tj = -7°C (A Condition)	Pdh	13.04	kW	Tj = -7°C (A Condition)	COPd	2.54	-
Tj = +2°C (B Condition)	Pdh	8.0	kW	Tj = +2°C (B Condition)	COPd	4.4	-
Tj = +7°C (C Condition)	Pdh	5.26	kW	Tj = +7°C (C Condition)	COPd	7.12	-
Tj = +12°C (D Condition)	Pdh	5.28	kW	Tj = +12°C (D Condition)	COPd	7.56	-
Tj = bivalent temperature	Pdh	13.04	kW	Tj = bivalent temperature	COPd	2.54	-
Tj = TOL (E Condition)	Pdh	12.81	kW	Tj = TOL (E Condition)	COPd	2.37	-
Tj = -15°C (if TOL < -20°C)	Pdh	-	kW	Tj = -15°C (if TOL < -20°C)	COPd	-	-
Bivalent temperature	T_{biv}	-7	°C	Operation limit temperature	TOL	-10	°C
Cycling interval capacity for heating	P_{cych}	-	kW	Cycling interval efficiency	COP_{cyc}		-
Degradation co-efficient (2)	Cdh	0.90	-	Heating water operating limit	WTOL	75	°C
Power consumption in modes other than active mode				**Supplementary heater**			
Off mode	P_{OFF}	0.009	kW	Rated heat output	Psup	-	kW
Thermostat-off mode	P_{TO}	0.014	kW				
Standby mode	P_{SB}	0.009	kW	Type of energy input		Electric	
Crankcase heater mode	P_{CK}	0.000	kW				
Other items							
Capacity control	Variable/ Invertor			Rated air flow rate, outdoors			m^3/h
Sound power level, indoors/outdoors	L_{WA}	69	dB	Rated water flow rate, indoor heat exchanger		-	m^3/h
Annual energy consumption	Q_{HE}	6617	kWh	Rated brine or water flow rate, outdoor heat exchanger		-	m^3/h
For heat pump combination heater							
Declared load profile	-			Water heating energy efficiency	ηwh	-	%
Capacity of heat pump	P_{rated}	-	kW	Reference hot water temperature	Θ_{WH}	-	°C
Daily electricity consumption	Q_{elec}	-	kWh	Vol. of DHW accounted for in test		-	Litres
Annual electricity consumption	AEC	-	kWh	Standby heat loss / day		-	kWh
Contact Details:	Firebird Heating Solutions Ltd., Údarás Industrial Estate, Baile Mhic Íre, Co. Cork, P12 HK51						

(1) For heat pumps 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).

(2) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0.9.

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Model	Firebird Enviroair Heat Pump R290 16kW
Sales Code	ASH16NFHP
Type of heat source	Air-to-water
Low-temperature heat pump	No
Equipped with supplementary heater	No
Heat pump combination heater	Yes
Climate condition	Average
Temperature application	Medium Temperature (55°C)
Applied standards EN14511, EN14825 (Space Heating), EN16147 (DHW), EN12102	

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated Heat Output (1)	**P_{rated}**	**14.4**	**kW**	**Seasonal space heating energy efficiency**	**η_s**	**139**	**%**
Declared capacity for heating for part load at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20°C and outdoor temperature Tj			
Tj = -7°C (A Condition)	Pdh	12.78	kW	Tj = -7°C (A Condition)	COPd	2.05	-
Tj = +2°C (B Condition)	Pdh	7.96	kW	Tj = +2°C (B Condition)	COPd	3.44	-
Tj = +7°C (C Condition)	Pdh	4.78	kW	Tj = +7°C (C Condition)	COPd	5.13	-
Tj = +12°C (D Condition)	Pdh	5.72	kW	Tj = +12°C (D Condition)	COPd	6.58	-
Tj = bivalent temperature	Pdh	12.78	kW	Tj = bivalent temperature	COPd	2.05	-
Tj = TOL (E Condition)	Pdh	12.54	kW	Tj = TOL (E Condition)	COPd	1.98	-
Tj = -15°C (if TOL < -20°C)	Pdh	-	kW	Tj = -15°C (if TOL < -20°C)	COPd	-	-
Bivalent temperature	T_{biv}	-7	°C	Operation limit temperature	TOL	-10	°C
Cycling interval capacity for heating	P_{cych}	-	kW	Cycling interval efficiency	COP_{cyc}		-
Degradation co-efficient (2)	Cdh	0.90	-	Heating water operating limit	WTOL	75	°C
Power consumption in modes other than active mode				**Supplementary heater**			
Off mode	P_{OFF}	0.009	kW	Rated heat output	Psup	-	kW
Thermostat-off mode	P_{TO}	0.014	kW				
Standby mode	P_{SB}	0.009	kW	Type of energy input	Electric		
Crankcase heater mode	P_{CK}	0.000	kW				
Other items							
Capacity control	Variable / Invertor			Rated air flow rate, outdoors			m^3/h
Sound power level, indoors/outdoors	L_{WA}	69	dB	Rated water flow rate, indoor heat exchanger		-	m^3/h
Annual energy consumption	Q_{HE}	8349	kWh	Rated brine or water flow rate, outdoor heat exchanger		-	m^3/h
For heat pump combination heater							
Declared load profile	XL			Water heating energy efficiency	ηwh	127.1	%
Capacity of heat pump	P_{rated}	6.54	kW	Reference hot water temperature	Θ_{WH}	49.16	°C
Daily electricity consumption	Q_{elec}	9.199	kWh	Vol. of DHW accounted for in test		305	Litres
Annual electricity consumption	AEC	1318	kWh	Standby heat loss / day		1.75	kWh
Contact Details:	Firebird Heating Solutions Ltd., Údarás Industrial Estate, Baile Mhic Íre, Co. Cork, P12 HK51						

(1) For heat pumps 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).
(2) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0.9.