

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

Model		Hitachi RASM-3VRE/Firebird Enviroair 8 kW					
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							
Rated Heat Output ⁽¹⁾	P _{rated}	7.0	kW	Seasonal space heating energy efficiency	η _s	177	%
Declared capacity for part load at outdoor temperature T_j				Declared coefficient of performance for part load at outdoor temperature T_j			
T _j = -7°C (A Condition)	P _{dh}	5.90	kW	T _j = -7°C (A Condition)	COP _d	2.65	kW
T _j = +2°C (B Condition)	P _{dh}	3.59	kW	T _j = +2°C (B Condition)	COP _d	4.30	kW
T _j = +7°C (C Condition)	P _{dh}	3.20	kW	T _j = +7°C (C Condition)	COP _d	7.0	kW
T _j = +12°C (D Condition)	P _{dh}	3.50	kW	T _j = +12°C (D Condition)	COP _d	9.70	kW
T _j = biv	P _{dh}	5.90	kW	T _j = biv	COP _d	2.65	kW
T _j = TOL (E Condition)	P _{dh}	6.40	kW	T _j = TOL (E Condition)	COP _d	2.30	kW
T _j = -15°C (if TOL < -20°C)	P _{dh}		kW	T _j = -15°C (if TOL < -20°C)	COP _d		kW
Bivalent temperature				Operation limit temperature			
	T _{biv}	-7	°C		TOL	-10	°C
Cycling interval capacity for heating				Cycling interval efficiency			
	P _{cych}		kW		COP _{cyc}		-
Degradation co-efficient ⁽²⁾				Heating water operating limit			
	C _{dh}	0.90	-		WTOL	55	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P _{OFF}	0.012	kW	Rated heat output			
Thermostat-off mode	P _{TO}	0.000	kW				
Standby mode	P _{SB}	0.012	kW	Type of energy input			
Crankcase heater mode	P _{CK}	0.000	kW				
Other items							
Capacity control	Variable			Rated air flow rate, outdoors			
Sound power level, indoors/outdoors	L _{WA}	37/67	dB	Rated water flow rate, indoor heat exchanger			
Annual energy consumption	Q _{HE}	3068	kWh	Rated brine or water flow rate, outdoor heat exchanger			
For heat pump combination heater							
Declared load profile	L			Water heating energy efficiency		h _{WH}	105.9 %
Capacity of heat pump	P _{rated}	4.156	kW	Reference hot water temperature		Θ _{WH}	49 °C
Daily electricity consumption	Q _{elec}		kWh	Vol. of DHW accounted for in test			232.30 Litres
Annual electricity consumption	AEC		kWh	Standby heat loss / day			1.61 kWhr
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 P_{rated} is equal to the design load for heating P_{designh}, and the rated heat output of a supplementary heater P_{sup} is equal to the supplementary capacity for heating sup(T_j).

(2) If C_{dh} is not determined by measurement then the default degradation coefficient is C_{dh} = 0.9.

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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							
Rated Heat Output ⁽¹⁾	P_{rated}	6.0	kW		Seasonal space heating energy efficiency	η_s	125 %
Declared capacity for part load at outdoor temperature T_j					Declared coefficient of performance for part load at outdoor temperature T_j		
T _j = -7°C (A Condition)	P _{dh}	5.10	kW		T _j = -7°C (A Condition)	COP _d	1.84 kW
T _j = +2°C (B Condition)	P _{dh}	3.10	kW		T _j = +2°C (B Condition)	COP _d	3.10 kW
T _j = +7°C (C Condition)	P _{dh}	2.00	kW		T _j = +7°C (C Condition)	COP _d	4.65 kW
T _j = +12°C (D Condition)	P _{dh}	2.20	kW		T _j = +12°C (D Condition)	COP _d	6.55 kW
T _j = biv	P _{dh}	5.10	kW		T _j = biv	COP _d	1.84 kW
T _j = TOL (E Condition)	P _{dh}	5.00	kW		T _j = TOL (E Condition)	COP _d	1.50 kW
T _j = -15°C (if TOL < -20°C)	P _{dh}		kW		T _j = -15°C (if TOL < -20°C)	COP _d	kW
Bivalent temperature				T _{biv}	-7	°C	
Cycling interval capacity for heating				P _{cych}		kW	
Degradation co-efficient				C _{dh}	0.9	-	
Power consumption in modes other than active mode					Supplementary heater		
Off mode	P _{OFF}	0.012	kW		Rated heat output		
Thermostat-off mode	P _{TO}	0.000	kW				
Standby mode	P _{SB}	0.012	kW		Type of energy input		
Crankcase heater mode	P _{CK}	0.000	kW				
Other items							
Capacity control	Variable				Rated air flow rate, outdoors		
Sound power level, indoors/outdoors	L _{WA}	37/69	dB		Rated water flow rate, indoor heat exchanger		
Annual energy consumption	Q _{HE}	3724	kWh		Rated brine or water flow rate, outdoor heat exchanger		
For heat pump combination heater							
Declared load profile	L				Water heating energy efficiency	h _{WH}	112.38 %
Capacity of heat pump	P _{rated}	4.156	kW		Reference hot water temperature	Θ _{WH}	49 °C
Daily electricity consumption	Q _{elec}		kWh		Vol. of DHW accounted for in test		232.30 Litres
Annual electricity consumption	AEC		kWh		Standby heat loss / day		1.61 kWhr
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(2) If C_{dh} is not determined by measurement then the default degradation coefficient is C_{dh} = 0.9.