

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

MAKE		Hitachi YUTAKI M 2HP (R32)					
Model		RASM-2VRE					
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}	4.0	kW	Seasonal space heating energy efficiency		η _s	181 %
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}	3.54	kW	T _j = -7°C (A Condition)		COP _d	3.20 kW
T _j = +2°C (B Condition)	P _{dh}	2.35	kW	T _j = +2°C (B Condition)		COP _d	4.80 kW
T _j = +7°C (C Condition)	P _{dh}	3.00	kW	T _j = +7°C (C Condition)		COP _d	6.20 kW
T _j = +12°C (D Condition)	P _{dh}	3.05	kW	T _j = +12°C (D Condition)		COP _d	8.30 kW
T _j = biv	P _{dh}	3.54	kW	T _j = biv		COP _d	3.20 kW
T _j = TOL (E Condition)	P _{dh}	4.0	kW	T _j = TOL (E Condition)		COP _d	2.75 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	Operation limit temperature		TOL	-10 °C
Cycling interval capacity for heating	P _{cych}		kW	Cycling interval efficiency		COP _{cyc}	-
Degradation co-efficient ⁽²⁾	C _{dh}	0.90	-	Heating water operating limit		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			m ³ /h
Sound power level, indoors/outdoors	L _{WA}	37/61	dB	Rated water flow rate, indoor heat exchanger			m ³ /h
Annual energy consumption	Q _{HE}	1798	kWh	Rated brine or water flow rate, outdoor heat exchanger			m ³ /h
For heat pump combination heater							
Declared load profile	L			Water heating energy efficiency		h _{WH}	%
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			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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Model		RASM-2VRE						
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}	4.0	kW		Seasonal space heating energy efficiency	η _s	133	%
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}	3.50	kW		T _j = -7°C (A Condition)	COP _d	2.13	kW
T _j = +2°C (B Condition)	P _{dh}	2.10	kW		T _j = +2°C (B Condition)	COP _d	3.35	kW
T _j = +7°C (C Condition)	P _{dh}	2.43	kW		T _j = +7°C (C Condition)	COP _d	5.15	kW
T _j = +12°C (D Condition)	P _{dh}	2.80	kW		T _j = +12°C (D Condition)	COP _d	6.80	kW
T _j = biv	P _{dh}	3.50	kW		T _j = biv	COP _d	2.13	kW
T _j = TOL (E Condition)	P _{dh}	3.10	kW		T _j = TOL (E Condition)	COP _d	1.90	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		Operation limit temperature	TOL	-10	°C
Cycling interval capacity for heating	P _{cych}		kW		Cycling interval efficiency	COP _{cyc}		-
Degradation co-efficient	C _{dh}	0.9	-		Heating water operating limit	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			m ³ /h
Sound power level, indoors/outdoors	L _{WA}	37/61	dB		Rated water flow rate, indoor heat exchanger			m ³ /h
Annual energy consumption	Q _{HE}	2401	kWh		Rated brine or water flow rate, outdoor heat exchanger			m ³ /h
For heat pump combination heater								
Declared load profile	L				Water heating energy efficiency	h _{WH}	132	%
Capacity of heat pump	P _{rated}	3.33	kW		Reference hot water temperature	Θ _{WH}	50	°C
Daily electricity consumption	Q _{elec}		kWh		Vol. of DHW accounted for in test		232	Litres
Annual electricity consumption	AEC		kWh		Standby heat loss / day		1.61	kWhr
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(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.