

RAS-(4-6)WHNPE + RWM-(4.0-6.0)N1E

Model		HP	4.0 HP		5.0 HP		6.0 HP	
		Outdoor unit	RAS-4WHNPE		RAS-5WHNPE		RAS-6WHNPE	
		Indoor unit	RWM-4.0N1E		RWM-5.0N1E		RWM-6.0N1E	
Water outlet temperature			35°C	55°C	35°C	55°C	35°C	55°C
Product description	Air to water heat pump	-	Yes					
	Heat pump combination heater	-	No					
	Low temperature heat pump	-	No					
	Complementary heater	-	Yes					
Design capacity (P_{DESIGN})		kW	11.0	10.0	14.0	12.0	16.0	14.0
Nominal energy efficiency (η_s)		%	180 (183)	135 (136)	182 (185)	132 (133)	161 (163)	134 (135)
Nominal energy class		-	A+++	A++	A+++	A++	A++	A++
Data for Packaged Fiche:								
Energy efficiency with OTC control (η_s) (*)		%	182 (185)	137 (139)	184 (187)	134 (135)	163 (165)	136 (137)
Energy class with OTC control		-	A+++	A++	A+++	A++	A++	A++
Energy efficiency with thermostats/sensors (η_s) (*)		%	183 (186)	138 (140)	185 (188)	135 (136)	164 (166)	137 (138)
Energy class with thermostats		-	A+++	A++	A+++	A++	A++	A++
Supplementary capacity (P_{SUP})		kW	0.5	2.6	1.9	3.0	1.9	3.5
Type of energy used		-	Electricity					
Declared capacity (P_{dh}) and coefficient of performance (COP_d) at partial load under the following outdoor temperatures:								
Outdoor temperature (T_j) = -7°C	P_{dh}	kW	9.45	8.60	12.00	10.25	13.80	11.20
	COP_d	-	3.05	1.80	2.55	1.70	2.40	1.94
Outdoor temperature (T_j) = +2°C	P_{dh}	kW	5.75	5.23	7.30	6.24	8.40	6.82
	COP_d	-	4.50	3.60	4.70	3.60	3.90	3.35
Outdoor temperature (T_j) = +7°C	P_{dh}	kW	3.70	3.52	4.70	4.01	5.40	4.38
	COP_d	-	6.00	4.80	6.54	4.60	6.16	4.80
Outdoor temperature (T_j) = +12°C	P_{dh}	kW	3.70	3.60	3.50	3.50	3.50	3.60
	COP_d	-	7.50	5.80	7.55	5.50	7.10	7.05
Outdoor temperature (T_j) = Bivalent temperature (T_{biv})	P_{dh}	kW	9.45	8.60	12.00	10.25	13.80	11.20
	COP_d	-	3.05	1.80	2.55	1.70	2.40	1.94
Outdoor temperature (T_j) = Limit operation temperature (TOL)	P_{dh}	kW	10.50	7.40	12.10	9.00	14.10	10.50
	COP_d	-	2.65	1.70	2.50	1.60	2.30	1.40
Bivalent temperature (T_{biv})		°C	-7	-7	-7	-7	-7	-7
Limit operation temperature (TOL)		°C	-10	-10	-10	-10	-10	-10
Water limit operation temperature (WTOL)		°C	55	55	55	55	55	55
Degradation coefficient (Cdh)		-	0.9	0.9	0.9	0.9	0.9	0.9
Annual energy consumption (Q_{HE})		kW·h	4823 (4753)	5837 (5767)	6044 (5974)	7088 (7018)	7844 (7774)	7662 (7592)

◆ **WARMER climate****RAS-(2-3)WHVRP1 + RWM-(2.0-3.0)R1E**

Model	HP		2.0 HP	2.5 HP	3.0 HP
	Outdoor unit		RAS-2WHVRP1	RAS-2.5WHVRP1	RAS-3WHVRP1
	Indoor unit		RWM-2.0R1E	RWM-2.5R1E	RWM-3.0R1E
Design capacity (P_{DESIGN})	kW		4.0	5.0	6.0
⁽¹⁾ Nominal energy efficiency (η_S)	%		185 (194)	182 (189)	170 (175)
Data for Packaged Fiche:					
⁽²⁾ Energy efficiency with OTC control (η_S) (*)	%		187 (196)	184 (191)	172 (177)
⁽³⁾ Energy efficiency with thermostats (η_S) (*)	%		188 (197)	185 (192)	173 (178)
Annual energy consumption (Q_{HE})	kW·h		1137 (1084)	1441 (1389)	1857 (1804)

RAS-(4-6)WH(V)NPE + RWM-(4.0-6.0)N1E

Model	HP		4.0 HP	5.0 HP	6.0 HP
	Outdoor unit		RAS-4WHVNP1	RAS-5WHVNP1	RAS-6WHVNP1
	Indoor unit		RWM-4.0N1E	RWM-5.0N1E	RWM-6.0N1E
Design capacity (P_{DESIGN})	kW		10	12	14
⁽¹⁾ Nominal energy efficiency (η_S)	%		193 (198)	183 (186)	177 (180)
Data for Packaged Fiche:					
⁽²⁾ Energy efficiency with OTC control (η_S) (*)	%		195 (200)	185 (188)	179 (182)
⁽³⁾ Energy efficiency with thermostats (η_S) (*)	%		196 (201)	186 (189)	180 (183)
Annual energy consumption (Q_{HE})	kW·h		2722 (2664)	3455 (3397)	4149 (4091)

Model	HP		4.0 HP	5.0 HP	6.0 HP
	Outdoor unit		RAS-4WHNPE	RAS-5WHNPE	RAS-6WHNPE
	Indoor unit		RWM-4.0N1E	RWM-5.0N1E	RWM-6.0N1E
Design capacity (P_{DESIGN})	kW		10	12	14
⁽¹⁾ Nominal energy efficiency (η_S)	%		191 (198)	181 (186)	176 (180)
Data for Packaged Fiche:					
⁽²⁾ Energy efficiency with OTC control (η_S) (*)	%		193 (200)	183 (188)	178 (182)
⁽³⁾ Energy efficiency with thermostats (η_S) (*)	%		194 (201)	184 (189)	179 (183)
Annual energy consumption (Q_{HE})	kW·h		2748 (2664)	3481 (3397)	4175 (4091)

RAS-(8-10)WHNPE + RWM-(8.0-10.0)N1E

Model	HP		8.0 HP	10.0 HP
	Outdoor unit		RAS-8WHNPE	RAS-10WHNPE
	Indoor unit		RWM-8.0N1E	RWM-10.0N1E
Design capacity (P_{DESIGN})	kW		16	18
⁽¹⁾ Nominal energy efficiency (η_S)	%		178 (181)	173 (178)
Data for Packaged Fiche:				
⁽²⁾ Energy efficiency with OTC control (η_S) (*)	%		180 (183)	175 (180)
⁽³⁾ Energy efficiency with thermostats (η_S) (*)	%		181 (184)	176 (181)
Annual energy consumption (Q_{HE})	kW·h		4725 (4641)	5466 (5307)

◆ **COLDER climate****RAS-(2-3)WHVRP1 + RWM-(2.0-3.0)R1E**

Model	HP		2.0 HP	2.5 HP	3.0 HP
	Outdoor unit		RAS-2WHVRP1	RAS-2.5WHVRP1	RAS-3WHVRP1
	Indoor unit		RWM-2.0R1E	RWM-2.5R1E	RWM-3.0R1E
Design capacity (P_{DESIGN})		kW	4.0	5.0	6.0
⁽¹⁾ Nominal energy efficiency (η_s)		%	123 (125)	122 (123)	118 (118)
Data for Packaged Fiche:					
⁽²⁾ Energy efficiency with OTC control (η_s) (*)		%	125 (127)	124 (125)	120 (120)
⁽³⁾ Energy efficiency with thermostats (η_s) (*)		%	126 (128)	125 (126)	121 (121)
Annual energy consumption (Q_{HE})		kW·h	3058 (3031)	4048 (4022)	4910 (4884)

RAS-(4-6)WH(V)NPE + RWM-(4.0-6.0)N1E

Model	HP		4.0 HP	5.0 HP	6.0 HP
	Outdoor unit		RAS-4WHVNPE	RAS-5WHVNPE	RAS-6WHVNPE
	Indoor unit		RWM-4.0N1E	RWM-5.0N1E	RWM-6.0N1E
Design capacity (P_{DESIGN})		kW	11	12	14
⁽¹⁾ Nominal energy efficiency (η_s)		%	120 (121)	119 (119)	112 (113)
Data for Packaged Fiche:					
⁽²⁾ Energy efficiency with OTC control (η_s) (*)		%	122 (123)	121 (121)	114 (115)
⁽³⁾ Energy efficiency with thermostats (η_s) (*)		%	123 (124)	122 (122)	115 (116)
Annual energy consumption (Q_{HE})		kW·h	8641 (8612)	9514 (9485)	11620 (11591)

Model	HP		4.0 HP	5.0 HP	6.0 HP
	Outdoor unit		RAS-4WHNPE	RAS-5WHNPE	RAS-6WHNPE
	Indoor unit		RWM-4.0N1E	RWM-5.0N1E	RWM-6.0N1E
Design capacity (P_{DESIGN})		kW	11	12	14
⁽¹⁾ Nominal energy efficiency (η_s)		%	120 (121)	119 (119)	112 (113)
Data for Packaged Fiche:					
⁽²⁾ Energy efficiency with OTC control (η_s) (*)		%	122 (123)	121 (121)	114 (115)
⁽³⁾ Energy efficiency with thermostats (η_s) (*)		%	123 (124)	122 (122)	115 (116)
Annual energy consumption (Q_{HE})		kW·h	8654 (8612)	9528 (9485)	11633 (11591)

RAS-(8-10)WHNPE + RWM-(8.0-10.0)N1E

Model	HP		8.0 HP	10.0 HP
	Outdoor unit		RAS-8WHNPE	RAS-10WHNPE
	Indoor unit		RWM-8.0N1E	RWM-10.0N1E
Design capacity (P_{DESIGN})		kW	16	18
⁽¹⁾ Nominal energy efficiency (η_s)		%	109 (110)	107 (107)
Data for Packaged Fiche:				
⁽²⁾ Energy efficiency with OTC control (η_s) (*)		%	111 (113)	109 (109)
⁽³⁾ Energy efficiency with thermostats (η_s) (*)		%	112 (114)	110 (110)
Annual energy consumption (Q_{HE})		kW·h	13987 (13945)	15956 (15876)

2.2.2.3 ERP additional data - YUTAKI S**RAS-(2-3)WHVRP1 + RWM-(2.0-3.0)R1E**

Model	HP	2.0 HP	2.5 HP	3.0 HP
	Outdoor unit	RAS-2WHVRP1	RAS-2.5WHVRP1	RAS-3WHVRP1
	Indoor unit	RWM-2.0R1E	RWM-2.5R1E	RWM-3.0R1E
Electrical power input in stand-by mode (Psb)	W	11.9	11.9	11.9
Electrical power input in thermostat-OFF mode (Pto)	W	0.0	0.0	0.0
Electrical power input in OFF mode (Poff)	W	11.9	11.9	11.9
Electrical power input in crankcase heater mode (Pck)	W	0.0	0.0	0.0
Sound power level of indoor unit (L _{WA})	dB(A)	37	37	37
Sound power level of outdoor unit (L _{WA})	dB(A)	49	54	57
Capacity control mode	-	Variable (Inverter)		
Integrated supplementary heater	kW	3.0	3.0	3.0
Nominal outdoor air flow	m ³ /h	2436	2436	2682

RAS-(4-6)WH(V)NPE + RWM-(4.0-6.0)N1E

Model	HP	4.0 HP	5.0 HP	6.0 HP
	Outdoor unit	RAS-4WHVNP1	RAS-5WHVNP1	RAS-6WHVNP1
	Indoor unit	RWM-4.0N1E	RWM-5.0N1E	RWM-6.0N1E
Electrical power input in stand-by mode (Psb)	W	13.1	13.1	13.1
Electrical power input in thermostat-OFF mode (Pto)	W	0.0	0.0	0.0
Electrical power input in OFF mode (Poff)	W	13.1	13.1	13.1
Electrical power input in crankcase heater mode (Pck)	W	0.0	0.0	0.0
Sound power level of indoor unit (L _{WA})	dB(A)	39	39	39
Sound power level of outdoor unit (L _{WA})	dB(A)	58	59	60
Capacity control mode	-	Variable (Inverter)		
Integrated supplementary heater	kW	6.0	6.0	6.0
Nominal outdoor air flow	m ³ /h	4800	5400	6000

Model	HP	4.0 HP	5.0 HP	6.0 HP
	Outdoor unit	RAS-4WHNPE	RAS-5WHNPE	RAS-6WHNPE
	Indoor unit	RWM-4.0N1E	RWM-5.0N1E	RWM-6.0N1E
Electrical power input in stand-by mode (Psb)	W	19.1	19.1	19.1
Electrical power input in thermostat-OFF mode (Pto)	W	0.0	0.0	0.0
Electrical power input in OFF mode (Poff)	W	19.1	19.1	19.1
Electrical power input in crankcase heater mode (Pck)	W	0.0	0.0	0.0
Sound power level of indoor unit (L _{WA})	dB(A)	39	39	39
Sound power level of outdoor unit (L _{WA})	dB(A)	58	59	60
Capacity control mode	-	Variable (Inverter)		
Integrated supplementary heater	kW	6.0	6.0	6.0
Nominal outdoor air flow	m ³ /h	4800	5400	6000

RAS-(4-6)WHNPE + RWM-(4.0-6.0)N1E

Model		Outdoor unit		RAS-4WHNPE		RAS-5WHNPE		RAS-6WHNPE	
		Indoor unit		RWM-4.0N1E		RWM-5.0N1E		RWM-6.0N1E	
Water outlet temperature				7°C	18°C	7°C	18°C	7°C	18°C
Product description	Outdoor side heat exchanger of chiller	-		Air to Water		Air to Water		Air to Water	
	Indoor side heat exchanger chiller	-		Water		Water		Water	
	Type	-		Compressor driven vapour compression		Compressor driven vapour compression		Compressor driven vapour compression	
	Driver of compressor	-		Electric motor		Electric motor		Electric motor	
	Capacity Control			Variable		Variable		Variable	
	Water control			Fixed		Fixed		Fixed	
Rated Cooling Capacity (PRATED,C)		kW		7.20	10.4	9.5	12.9	10.5	13.5
Seasonal space cooling energy efficiency ($\eta_{S,C}$)		%		197	246	206	315	203	305
Seasonal energy efficiency ratio cooling mode (SEER)		-		5.00	6.22	5.23	7.96	5.14	7.7
Seasonal active energy ratio cooling mode (SEERON)		-		5.44	6.69	5.59	8.57	5.45	8.25
Declared cooling capacity and efficiency ratio for part load at given outdoor temperatures T_j									
	Outdoor temperature (T_j) = 35°C	Pdc	kW	7.2	10.4	9.5	12.9	10.5	13.5
		EERd	-	3.84	4.5	3.4	4.48	3.23	4.23
	Outdoor temperature (T_j) = 30°C	Pdc	kW	5.3	7.66	7	9.51	7.8	9.95
		EERd	-	4.6	6.3	4.75	7.11	4.56	6.86
	Outdoor temperature (T_j) = 25°C	Pdc	kW	3.5	4.93	4.5	7.2	5	7.2
		EERd	-	5.8	7.2	5.88	9.98	5.77	9.54
	Outdoor temperature (T_j) = 20°C	Pdc	kW	3.6	5.1	3.2	7.8	3.2	7.8
		EERd	-	7.5	8.2	7.84	12.97	7.69	12.47
Degradation coefficient (Cdc)		-		0.9	0.9	0.9	0.9	0.9	0.9
Annual energy consumption (QCE)		kW·h		504	585	636	567	715	613

RAS-(4-6)WH(V)NPE + RWM-(4.0-6.0)N1E

Model	Outdoor unit	RAS-4WHVNPE	RAS-5WHVNPE	RAS-6WHVNPE
	Indoor unit	RWM-4.0N1E	RWM-5.0N1E	RWM-6.0N1E
Electrical power input in stand-by mode cooling mode (Psb)	W	13.1	13.1	13.1
Electrical power input in thermostat-OFF cooling mode (Pto)	W	0.0	0.0	0.0
Electrical power input in OFF mode (Poff)	W	13.1	13.1	13.1
Electrical power input in crankcase heater in cooling mode (Pck)	W	0.0	0.0	0.0
Sound power level of indoor unit (LWA)	dB(A)	39	39	39
Sound power level of outdoor unit (LWA)	dB(A)	58	59	60
Capacity control mode	-	Variable (Inverter)	Variable (Inverter)	Variable (Inverter)
Nominal outdoor air flow	m ³ /h	4800	5400	6000

RAS-(4-6)WH(V)NPE + RWM-(4.0-6.0)N1E

Model	Outdoor unit	RAS-4WHNPE	RAS-5WHNPE	RAS-6WHNPE
	Indoor unit	RWM-4.0N1E	RWM-5.0N1E	RWM-6.0N1E
Electrical power input in stand-by mode cooling mode (Psb)	W	19.1	19.1	19.1
Electrical power input in thermostat-OFF cooling mode (Pto)	W	0.0	0.0	0.0
Electrical power input in OFF mode (Poff)	W	19.1	19.1	19.1
Electrical power input in crankcase heater in cooling mode (Pck)	W	0.0	0.0	0.0
Sound power level of indoor unit (LWA)	dB(A)	39	39	39
Sound power level of outdoor unit (LWA)	dB(A)	58	59	60
Capacity control mode	-	Variable (Inverter)	Variable (Inverter)	Variable (Inverter)
Nominal outdoor air flow	m ³ /h	4800	5400	6000

RAS-(8-10)WHNPE + RWM-(8.0-10.0)N1E

Model	Outdoor unit	RAS-8WHNPE	RAS-10WHNPE
	Indoor unit	RWM-8.0N1E	RWM-10.0N1E
Electrical power input in stand-by mode cooling mode (Psb)	W	36	36
Electrical power input in thermostat-OFF cooling mode (Pto)	W	0.0	0.0
Electrical power input in OFF mode (Poff)	W	36	36
Electrical power input in crankcase heater in cooling mode (Pck)	W	0.0	0.0
Sound power level of indoor unit (LWA)	dB(A)	47	47
Sound power level of outdoor unit (LWA)	dB(A)	73	74
Capacity control mode	-	Variable (Inverter)	Variable (Inverter)
Nominal outdoor air flow	m ³ /h	7620	8040