

Samurai Chillers

	Air Cooled Hi-Efficiency Cooling Only	Air Cooled Cooling Only	Air Cooled Heat Pump	Water Cooled Cooling or Heat Pump	Condenserless Cooling Only
Model	RCME 40 ~ 480AH	RCU2E 40 ~ 400AG2	RHU2E 40 ~ 240AG2	RCUE 40 ~ 240WG2	RCUE 40 ~ 120CLG2
Nominal Cooling Capacity (kW)	106 ~ 1280	112 ~ 1030	106 ~ 585	134 ~ 696	120 ~ 360
Nominal Heating Capacity (kW)	-	-	110 ~ 556	161 ~ 824	-
ESEER	4.61 ~ 5.01	3.48 ~ 3.52	3.36 ~ 3.45	4.46 ~ 4.83	4.23 ~ 4.32
Refrigerant	R134a	R407c	R407c	R407c	R407c
Compressor Type	Screw	Screw	Screw	Screw	Screw
Operating Range (Cooling) (db)	-15°C / +46(db)°C	-15°C / +46(db)°C	-15°C / +46(db)°C	-	-
Operating Range (Heating) (wb)	-	-	-15°C / +15(wb)°C	-	-
No. Circuits	1 ~ 8	1 ~ 5	1 ~ 3	1 ~ 3	1 ~ 2

Did you know?

Samurai controls outlet water temperature to $\pm 0.5^{\circ}\text{C}$ independent of cooling load.





Features and Benefits

Samurai Chillers offer world-renowned reliability thanks to Hitachi's own twin screw compressors.

Hi Efficiency, Air Cooled Cooling only

RCME-AH



- Capacities from 40HP to 480HP (106kW to 1280kW)
- Modular concept for flexible installations
- New 4-blade fan design with inverter control achieves reduced input power at partial load
- New U-shape heat exchanger with enhanced aluminium fins for 20% more exchange surface
- 2 plate heat exchangers delivers improved refrigerant distribution and greater efficiency
- Electronic expansion valve with PID control
- New twin screw compressor optimized for R134a with continuous capacity control
- Intelligent control system for optimum SEER even at partial load
- LCD touch screen panel

Hydraulic Module Option - Single and Dual Pump Models



Hitachi Hydraulic modules are a compact design integrated inside the Chiller unit. They are assembled with all interconnecting piping and wiring during manufacture ready for installation.

Available for:

Air-Cooled Hi-Efficiency Cooling Only
RCU2E(40~480)

Air-Cooled Cooling Only RCU2E(40~400)

AG2 and Air Cooled Heat Pump RHU2E(40~240)

AG2 models. Available with single or dual pumps and with or without a buffer tank.

Other options available, please contact your local sales office.

Air Cooled Cooling only

RCU2E-AG2



Air Cooled Heat Pump

RHU2E-AG2

Water Cooled

RCUE-WG2

Condenserless Cooling only

RCUE-CLG2

- High performance technology
 - RCU2E-AG2 Air Cooled Cooling only - capacities from 40HP to 400HP (112kW to 1030kW)
 - RHU2E-AG2 Air cooled Heat Pump - capacities from 40HP to 240HP (106kW to 585kW)
 - RCUE-WG2 Water Cooled models - capacities from 40HP to 240HP (134kW to 696kW)
 - RCUE-CLG2 Condenserless Cooling only capacities from 40HP to 120HP (120kW - 360kW)
- Continuous capacity control provides 15% to 20% energy saving compared to step control
- Low noise
 - High technology DC Inverter twin blade fans achieves a reduction of sound emissions, increasing air volume and reducing power consumption. Low noise and super low noise models are available.
- Precise temperature control of outlet water to within $\pm 0.5^{\circ}\text{C}$, independent of cooling load
- Excellent partial load performance
- STAR DELTA starting system reduces the maximum starting current
- Twin screw compressors – highly reliable with very low noise and vibration
- Small installation space
 - Thanks to meticulous design of each component, it is possible to achieve exceptionally high cooling capacity values per square metre
- Optional recovery system
 - Recover 30% of the output power in cooling mode by heating the water in a dedicated circuit with outlet temperatures up to 70°C at maximum working conditions.



High Efficiency Air Cooled Cooling Only



		RCME 40AH	RCME 50AH	RCME 60AH
Cooling Capacity ¹	Kw	106	132	160
Power Input	Kw	30.5	39.3	49.1
EER (inc. pump input)		3.48 (3.40)	3.36 (3.29)	3.26 (3.19)
ESEER		4.61 (4.31)	4.45 (4.19)	4.32 (4.07)
Sound Power Level (Std/LN/SLN)	dB(A)	91 / tbc / tbc	92 / tbc / tbc	93 / tbc / tbc
Sound Pressure Level (Std/LN/SLN) ²	dB(A)	77 / tbc / tbc	78 / tbc / tbc	79 / tbc / tbc
Height	mm	2450		
Width	mm	2230		
Depth	mm	2000		
Net Weight	Kg	1425	1460	1515
Capacity Control	-	Continuous Capacity Control		
	%	25 ~ 100		
Number of Circuits	-	1	1	1
Water Pipe Connection	in	2 ½" Victaulic (1 x Inlet / 1 x Outlet)		
Leaving Water Outlet Temperature	°C	5°C ~ 15°C (-5°C option)		
Ambient Temperature	°C	-15°C ~ 46°C		

NOTES:

- 3 Basic Modules (40, 50 and 60HP)
- Customise selection for either Energy Efficiency, Price or Installation space
- Combine up to 8 Modules to match higher capacities (40 & 60HP modules cannot be combined)
- Two Operating Modes as Standard; selected at Commissioning
 - Steady water outlet temperature (+/- 0.5°C). All compressors running at the same load
 - High Efficiency Mode, Smart control of compressors start/stop operation
- Option for up to 4 modules to be factory connected on a single base frame (RCME 080/2AH ~ RCME 240/4AH)

- The nominal cooling capacities are based on the European Standard EN14511.
Chilled Water Inlet / Outlet Temperature : 12 / 7°C
Condenser Inlet Air Temperature : 35°C
- Sound Pressure level measured at 1.5m height and 1m from control panel



		RCME 080/2AH	RCME 090/2AH	RCME 100/2AH	RCME 110/2AH	RCME 120/2AH
Module		40/40	40/50	50/50	50/60	60/60
Cooling Capacity ¹	Kw	212	238	264	292	320
Power Input	Kw	60.9	69.8	78.6	88.5	98.2
EER (inc. pump input)		3.48 (3.40)	3.41 (3.35)	3.36 (3.30)	3.30 (3.25)	3.26 (3.20)
ESEER		4.61 (4.31)	4.52 (4.30)	4.45 (4.23)	4.38 (4.16)	4.32 (4.11)
Sound Power Level (Std/LN/SLN)	dB(A)	94 / tbc / tbc	95 / tbc / tbc	95 / tbc / tbc	96 / tbc / tbc	96 / tbc / tbc
Sound Pressure Level (Std/LN/SLN) ²	dB(A)	80 / tbc / tbc	81 / tbc / tbc	81 / tbc / tbc	82 / tbc / tbc	82 / tbc / tbc
Height	mm	2450	2450	2450	2450	2450
Width	mm	2250	2250	2250	2250	2250
Depth	mm	4000	4000	4000	4000	4000
Net Weight	Kg	2910	2945	2980	3035	3090
Capacity Control	-	Continuous Capacity Control				
	%	12.5 ~ 100	12.5 ~ 100	12.5 ~ 100	12.5 ~ 100	12.5 ~ 100
Number of Circuits	-	2	2	2	2	2
Water Pipe Connection	in	2 ½" Victaulic (2 x Inlet / 2 x Outlet)				
		Common Water Pipe Connection Option available				
Leaving Water Outlet Temperature	°C	5°C ~ 15°C (-5°C option)				
Ambient Temperature	°C	-15°C ~ 46°C				

- The nominal cooling capacities are based on the European Standard EN14511.
Chilled Water Inlet / Outlet Temperature : 12 / 7°C
Condenser Inlet Air Temperature : 35°C
- Sound Pressure level measured at 1.5m height and 1m from control panel



Hi Efficiency Air Cooled Cooling Only

Module		RCME 120/3AH	RCME 130/3AH	RCME 140/3AH	RCME 150/3AH	RCME 160/3AH	RCME 170/3AH	RCME 180/3AH
		40/40/40	40/40/50	40/50/50	50/50/50	50/50/60	50/60/60	60/60/60
Cooling Capacity ¹	Kw	318	344	370	396	424	452	480
Power Input	Kw	91.4	100.3	109.1	117.9	127.7	137.4	147.2
EER (inc. pump input)		3.48 (3.42)	3.43 (3.37)	3.39 (3.34)	3.36 (3.30)	3.32 (3.27)	3.29 (3.23)	3.26 (3.21)
ESEER		4.61 (4.39)	4.54 (4.34)	4.50 (4.29)	4.45 (4.25)	4.40 (4.19)	4.36 (4.16)	4.32 (4.12)
Sound Power Level (Std/LN/SLN)	dB(A)	96 / tbc / tbc	96 / tbc / tbc	96 / tbc / tbc	97 / tbc / tbc	97 / tbc / tbc	97 / tbc / tbc	98 / tbc / tbc
Sound Pressure Level (Std/LN/SLN) ²	dB(A)	82 / tbc / tbc	82 / tbc / tbc	82 / tbc / tbc	83 / tbc / tbc	83 / tbc / tbc	83 / tbc / tbc	84 / tbc / tbc
Height	mm	2450	2450	2450	2450	2450	2450	2450
Width	mm	2250	2250	2250	2250	2250	2250	2250
Depth	mm	6000	6000	6000	6000	6000	6000	6000
Net Weight	Kg	4395	4430	4465	4500	4555	4610	4665
Capacity Control	-							
	%	8.3 ~ 100	8.3 ~ 100	8.3 ~ 100	8.3 ~ 100	8.3 ~ 100	8.3 ~ 100	8.3 ~ 100
Number of Circuits	-	3	3	3	3	3	3	3
Water Pipe Connection	in	2 ½" Victaulic (3 x Inlet / 3 x Outlet)						
		Common Water Pipe Connection Option available						
Leaving Water Outlet Temperature	°C	5°C ~ 15°C (-5°C option)						
Ambient Temperature	°C	-15°C ~ 46°C						

1. The nominal cooling capacities are based on the European Standard EN14511.

Chilled Water Inlet / Outlet Temperature : 12 / 7°C

Condenser Inlet Air Temperature : 35°C

2. Sound Pressure level measured at 1.5m height and 1m from control panel

Module		RCME 160/4AH	RCME 170/4AH	RCME 180/4AH	RCME 190/4AH	RCME 200/4AH	RCME 210/4AH	RCME 220/4AH	RCME 230/4AH	RCME 240/4AH
		40/40/40/40	40/40/40/50	40/40/50/50	40/50/50/50	50/50/50/50	50/50/50/60	50/50/60/60	50/60/60/60	60/60/60/60
Cooling Capacity ¹	Kw	424	450	476	502	528	556	584	612	640
Power Input	Kw	121.8	130.8	139.6	148.5	157.1	167.0	177.0	186.6	196.3
EER (inc. pump input)		3.48 (3.42)	3.44 (3.39)	3.41 (3.36)	3.38 (3.33)	3.36 (3.31)	3.33 (3.28)	3.30 (3.25)	3.28 (3.23)	3.26 (3.21)
ESEER		4.61 (4.40)	4.56 (4.35)	4.52 (4.32)	4.49 (4.28)	4.45 (4.25)	4.41 (4.21)	4.38 (4.18)	4.35 (4.16)	4.32 (4.13)
Sound Power Level (Std/LN/SLN)	dB(A)	97 / tbc / tbc	97 / tbc / tbc	98 / tbc / tbc	98 / tbc / tbc	98 / tbc / tbc	98 / tbc / tbc	99 / tbc / tbc	99 / tbc / tbc	99 / tbc / tbc
Sound Pressure Level (Std/LN/SLN) ²	dB(A)	83 / tbc / tbc	83 / tbc / tbc	84 / tbc / tbc	84 / tbc / tbc	84 / tbc / tbc	84 / tbc / tbc	85 / tbc / tbc	85 / tbc / tbc	85 / tbc / tbc
Height	mm	2450	2450	2450	2450	2450	2450	2450	2450	2450
Width	mm	2250	2250	2250	2250	2250	2250	2250	2250	2250
Depth	mm	8000	8000	8000	8000	8000	8000	8000	8000	8000
Net Weight	Kg	5880	5915	5950	5985	6020	6075	6130	6185	6240
Capacity Control	-	Continuous Capacity Control								
	%	6.25 ~ 100	6.25 ~ 100	6.25 ~ 100	6.25 ~ 100	6.25 ~ 100	6.25 ~ 100	6.25 ~ 100	6.25 ~ 100	6.25 ~ 100
Number of Circuits	-	4	4	4	4	4	4	4	4	4
Water Pipe Connection	in	2 ½" Victaulic (4 x Inlet / 4 x Outlet)								
		Common Water Pipe Connection Option available								
Leaving Water Outlet Temperature	°C	5°C ~ 15°C (-5°C option)								
Ambient Temperature	°C	-15°C ~ 46°C								

1. The nominal cooling capacities are based on the European Standard EN14511.

Chilled Water Inlet / Outlet Temperature : 12 / 7°C

Condenser Inlet Air Temperature : 35°C

2. Sound Pressure level measured at 1.5m height and 1m from control panel



Air Cooled Cooling Only

		RCU2E 40AG2	RCU2E 50AG2	RCU2E 60AG2	RCU2E 70AG2	RCU2E 80AG2	RCU2E 100AG2	RCU2E 120AG2	RCU2E 140AG2	RCU2E 160AG2	RCU2E 180AG2	RCU2E 210AG2	RCU2E 240AG2	RCU2E 280AG2	RCU2E 320AG2	RCU2E 350AG2	RCU2E 400AG2
Cooling Capacity ¹	Kw	112	130	156	178	206	260	312	356	412	468	534	618	712	824	890	1030
Power Input	Kw	38.6	44.7	53	61	70	89.4	106	122	140	159	183	210	244	280	305	350
EER		2.9	2.91	2.94	2.92	2.94	2.91	2.94	2.92	2.94	2.94	2.92	2.94	2.92	2.94	2.92	2.94
ESEER		3.48	3.49	3.52	3.5	3.52	3.49	3.52	3.5	3.52	3.52	3.5	3.52	3.5	3.52	3.5	3.52
Sound Power Level (Std/LN/SLN)	dB(A)	82/80/78	83/81/79	84/82/80	85/83/81	85/83/81	86/84/82	87/85/83	88/86/84	88/86/84	89/87/85	91/89/87	91/89/87	92/90/88	92/90/88	94/92/90	94/92/90
Sound Pressure Level (Std/LN/SLN) ³	dB(A)	52/50/48	53/51/49	54/52/50	55/53/51	55/53/51	55/53/51	56/54/52	57/55/53	57/55/53	57/55/53	58/56/54	58/56/54	59/57/55	59/57/55	60/58/56	60/58/56
Height	mm	2430															
Width	mm	1900															
Depth	mm	2190				2790			4090			5290		5990		7790	
Net Weight	Kg	1430	1470	1560	1760	1820	2830	3000	3420	3550	4450	5070	5250	6750	7000	8450	8750
Capacity Control	- %	Continuous Capacity Control 15 ~ 100															
Number of Circuits	-	1	1	1	1	1	2	2	2	2	3	3	3	4	4	5	5
Water Pipe Connection	in in	3" Victaulic (1 x Inlet / 1 x Outlet) per Circuit Common Water Pipe Connection Option available															
Leaving Water Outlet Temperature	°C	5 ~ 15 (-10 option)															
Ambient Temperature	°C	-15 ~ 46															



Air Cooled Heat Pump

		RHU2E 40AG2	RHU2E 50AG2	RHU2E 60AG2	RHU2E 70AG2	RHU2E 80AG2	RHU2E 100AG2	RHU2E 120AG2	RHU2E 140AG2	RHU2E 160AG2	RHU2E 180AG2	RHU2E 210AG2	RHU2E 240AG2
Cooling Capacity ¹	Kw	106	123	148	169	195	246	296	338	390	444	507	585
Heating Capacity ²	Kw	110	127	152	185	185	254	304	370	370	456	555	555
Power Input (Cooling)	Kw	37.9	42.7	52	60	70	85.4	104	120	140	156	180	210
Power Input (Heating)	Kw	40.7	44.5	54	68	68	89	108	136	136	162	204	204
EER		2.80	2.88	2.85	2.82	2.79	2.88	2.85	2.82	2.79	2.85	2.82	2.79
COP		2.70	2.85	2.81	2.72	2.72	2.85	2.81	2.72	2.72	2.81	2.72	2.72
ESEER		3.36	3.45	3.42	3.38	3.34	3.45	3.42	3.38	3.34	3.42	3.38	3.34
Sound Power Level	dB(A)	82/80/78	83/81/79	84/82/80	85/83/81	85/83/81	86/84/82	87/85/83	88/86/84	88/86/84	89/87/85	91/89/87	91/89/87
Sound Pressure Level (Std/LN/SLN) ³	dB(A)	52/50/48	53/51/49	54/52/50	55/53/51	55/53/51	55/53/51	56/54/52	57/55/53	57/55/53	57/55/53	58/56/54	58/56/54
Height	mm	2430											
Width	mm	1900											
Depth	mm	2190				2790			4090		5290		5990
Net Weight	Kg	1550	1600	1670	1880	1950	3050	3250	3670	3780	4780	5440	5650
Capacity Control	- %	Continuous Capacity Control 15 ~ 100											
Number of Circuits	-	1	1	1	1	1	2	2	2	2	3	3	3
Water Pipe Connection	in in	3" Victaulic (1 x Inlet / 1 x Outlet) per Circuit Common Water Pipe Connection Option available											
Leaving Water Outlet Temperature (Cool)	°C	5 ~ 15 (-10 option)											
Leaving Water Outlet Temperature (Heat)	°C	35 ~ 55											
Ambient Temperature	°C	-15 ~ 46 Cooling / -10 ~ 15.5wb Heating											

NOTES: Please refer to notes 1, 2 and 3



Water Cooled

		RCUE 40WG2	RCUE 50WG2	RCUE 60WG2	RCUE 80WG2	RCUE 100WG2	RCUE 120WG2	RCUE 150WG2	RCUE 180WG2	RCUE 200WG2	RCUE 240WG2
Cooling Capacity ¹	Kw	134	160	194	232	320	388	445	525	600	696
Heating Capacity ²	Kw	161.1	192.3	233.9	274.7	384.7	467.9	526.9	621.9	719.5	824.2
Power Input (Cooling) ¹	Kw	33.5	40	49.1	54.5	80	98.2	104.5	123.5	148.5	163.5
Power Input (Heating) ²	Kw	39.8	47.5	58.3	64.7	95	116.6	124.1	146.7	176.4	194.2
EER		4.0	4.0	4.0	4.3	4.0	4.0	4.3	4.3	4.0	4.3
COP		4.0	4.0	4.0	4.2	4.0	4.0	4.2	4.2	4.1	4.2
ESEER		4.52	4.52	4.46	4.81	4.52	4.46	4.83	4.82	4.55	4.82
Sound Power Level	dB(A)	83	84	86	86	88	90	90	91	92	93
Sound Pressure Level	dB(A)	68	69	71	71	72	74	74	75	76	77
Height	mm	1520				1700			1580		
Width	mm	1105									
Depth	mm	850				1465			2350		
Net Weight	Kg	750	765	830	950	1570	1670	1770	2500	2580	2670
Capacity Control	-	Continuous Capacity Control									
	%	15 ~ 100									
Number of Circuits	-	1	1	1	1	2	2	2	3	3	3
Water Pipe Connection (Evaporator)	in	3" Victaulic (1 x Inlet / 1 x Outlet)							3" Victaulic (3 x Inlet / 3 x Outlet)		
	in	-							5" Victaulic (1 x Inlet / 1 x Outlet)		
Water Pipe Connection (Condenser)	in	3" Victaulic (1 x Inlet / 1 x Outlet)							3" Victaulic (3 x Inlet / 3 x Outlet)		
	in	-							5" Victaulic (1 x Inlet / 1 x Outlet)		
Leaving Water Outlet Temperature (Cool)	°C	5 ~ 15 (-10 option)									
Leaving Water Outlet Temperature (Heat)	°C	25 ~ 55									
Condenser Water Outlet Temperature ⁷	°C	22 ~ 45 (55* option)									

NOTES: Please refer to notes 4 and 5. ⁷ () is in case of high condensing option and heat pump operation option.



Condenserless Cooling Only

NOTES:

- The nominal cooling capacities are based on the European Standard EN14511.
Chilled Water Inlet / Outlet Temperature: 12 / 7°C
Condenser Inlet Air Temperature: 35°C
- The nominal heating capacities are based on the European Standard EN14511.
Heated Water Inlet / Outlet Temperature: 40 / 45°C
Evaporator Air Inlet Temperature: 6°C wb
- Sound Pressure level measured at 10m
- The nominal cooling capacities are based on the European Standard EN12055.
Chilled Water Inlet / Outlet Temperature: 12 / 7°C
Cooling Water Inlet / Outlet Temperature: 30 / 35°C
- The nominal heating capacities are only for Heat Pump Operation Option and based on following conditions.
Chilled Water Inlet / Outlet Temperature: 12 / 7°C
Hot Water (Condenser) Inlet / Outlet Temperature: 40 / 45°C
- The nominal cooling capacities are based on the following conditions.
Chilled Water Inlet / Outlet Temperature: 12 / 7°C
Condensing Temperature: 45°C

		RCUE 40CLG2	RCUE 50CLG2	RCUE 60CLG2	RCUE 80CLG2	RCUE 100CLG2	RCUE 120CLG2
Cooling Capacity	Kw	120	145	180	240	290	360
Power Input	Kw	34.4	42.4	52.1	68.8	84.8	104.2
EER		3.5	3.4	3.5	3.5	3.4	3.5
ESEER		4.32	4.32	4.28	4.32	4.23	4.28
Sound Power Level	dB(A)	83	84	86	86	88	90
Sound Pressure Level	dB(A)	68	69	71	71	72	74
Height	mm	1520			1720		
Width	mm	1045		1104			
Depth	mm	885			1471		
Net Weight	Kg	630	680	730	1200	1310	1380
Capacity Control	-	Continuous Capacity Control					
	%	15 ~ 100					
Number of Circuits	-	1	1	1	2	2	2
Water Pipe Connection (Evaporator)	in	3" Victaulic (1 x Inlet / 1 x Outlet)					
Leaving Water Outlet Temperature	°C	5 ~ 15 (-10 option)					
Condensing Temperature	°C	30 ~ 65					

NOTES: Please refer to note 6