



# Samurai L cooling only

Air-to-water chiller with screw compressor



## New Hitachi twin-screw compressor

The HITACHI Samurai L range is equipped with a new semi-hermetic twin-screw compressor, with continuous capacity control from 25% to 100%, optimized for R134a refrigerant. Thanks to this feature and the Hitachi electronic control, the energy supplied by the unit corresponds precisely to the hydronic circuit's demand. This standard option in the Samurai L range avoids additional accessories in the system.

- The twin-screw compressor is fitted with an EXCLUSIVE HITACHI cyclonic oil separator, which, in addition to being maintenance free, ensures that the compressor will have no lubrication issues or impurities in the suction circuit.
- Hitachi mechanical efficiency to ensure 40,000 hours of work before mechanical component inspection. (Fig. 1)

## Precise temperature control

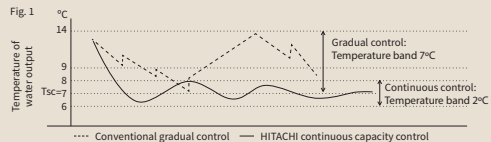
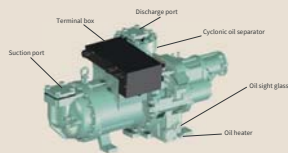
The combination of continuous adjustment of the compressor capacity and exclusive HITACHI electronic controls means the chiller is able to precisely control the water outlet temperature, independently of the load. This control is an advantage in both comfort applications and industrial process applications (Fig. 2)

## Modular design

The possibility of installing up to eight modules in cascade with no additional controls (Master-Slave mod.) offers a wide range of powers and flexibility of installation, as it means the power and the overall size of the chiller unit can be adapted to the design requirements. (Fig. 3 on the next page)

## Wide operating range

The Samurai L range can produce cold water with positive values. Optionally, an accessory is available for the production of cold water down to -10°C. (Fig. 4 on the next page)



## Two operating modes

Two operating modes available as standard, to adapt the functionality in both comfort and process applications:

- Standard mode > Constant water outlet temperature > all compressors work with the same load.
- High-efficiency mode > Intelligent control of compressors' on/off function to optimize the system's energy performance.

## Partial heat recovery

Optionally, the Samurai L unit can be fitted with an additional heat exchanger to allow for partial heat recovery from the heat recovery from the refrigeration circuit for the production of domestic hot water, or heating, etc.

## Samurai L - RCME-AH2 - Cooling only

Cooling only models			RCME-60AH2	RCME-70AH2	RCME-80AH2	RCME-90AH2	RCME-1200AH2	RCME-140AH2
Capacity	Cooling (nominal)	kW	160	180	205	225	320	360
EER			3.14	3.14	3.16	3.20	3.14	3.14
SEER			4.11	4.13	4.12	4.12	4.18	4.19
SEPR <sub>int</sub>			3.24	3.24	3.26	3.30	3.25	3.25
SEPR <sub>int</sub>			5.11	5.11	5.15	5.20	5.13	5.13
Sound power (standard mod.)		dB(A)	96	97	98	99	99	100
Sound pressure at 10 m		dB(A)	83	84	85	86	86	87
IP Rating			IPX4	IPX4	IPX4	IPX4	IPX4	IPX4
No. and type of compressor/ no. of circuits			1 - Semi-hermetic twin-screw/ 1	1 - Semi-hermetic twin-screw/ 1	1 - Semi-hermetic twin-screw/ 1	1 - Semi-hermetic twin-screw/ 1	2 - Semi-hermetic twin-screw/ 2	2 - Semi-hermetic twin-screw/ 2
Refrigerant			R134A	R134A	R134A	R134A	R134A	R134A
Refrigerant charge		kg	29	36	47	47	58	72
Capacity control		%	25-100	25-100	25-100	25-100	25-100	25-100
Water flow	Cooling (Min/Nom/Max)	m <sup>3</sup> /h	17.2-27.5-39.3	19.4-31.0-44.2	22.0-35.3-50.4	24.2-38.7-55.3	34.4-55.0-78.6	38.7-61.9-88.5
Water pipe connection	Size and type	inches	2 1/2" Victaulic					
	Quantity		1 x Inlet, 1 x Outlet			2 x Inlet, 2 x Outlet		
Minimum system water volume		m <sup>3</sup>	0.77	0.76	0.98	0.95	1.54	1.52
Fan motor			EC motor	EC motor	EC motor	EC motor	EC motor	EC motor
Number of fans			4	4	6	6	8	8
Outside operating temperatures	Cooling	°C	-15 to 46	-15 to 46	-15 to 46	-15 to 46	-15 to 46	-15 to 46
Water production temperatures	Cooling - Standard	°C	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15
	Cooling - Low option	°C	-10 to 5	-10 to 5	-10 to 5	-10 to 5	-10 to 5	-10 to 5
	Cooling - High option	°C	15 to 30	15 to 30	15 to 30	15 to 30	15 to 30	15 to 30
Power supply			3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz
Consumption	Cooling (nominal)	kW	51.0	57.3	64.9	70.3	101.9	114.6
Current (maximum-startup)		A	118-240	132-240	140-240	143-240	237-259	264-262
Dimensions (H x W x D)		mm	2,450x1,955x2,290	2,450x1,955x2,290	2,450x1,955x3,230	2,450x1,955x3,230	2,450x3,970x2,300	2,450x3,970x2,300
Weight		kg	1,300.0	1,340.0	1,590.0	1,680.0	2,640.0	2,720.0

\*In the Low Noise (LN) option the values are reduced by 3 dB(A)

\*In the Super Low Noise (SLN) option, the values are reduced by 5 dB(A)

\*In the Extra Super Low Noise (XSLN) option the values are reduced by 8 dB(A)

## Modular combinations

Fig. 3

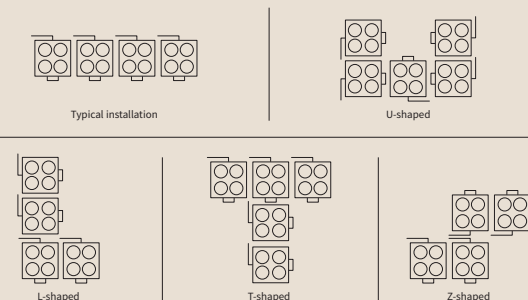
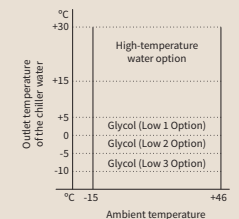
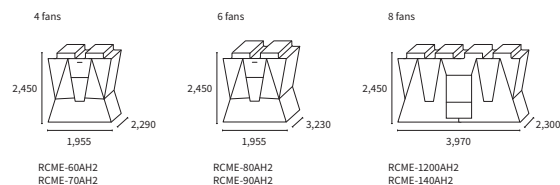


Fig. 4



## Cooling only models



## Options and accessories:

See pages 328-329



# Samurai L heat pump

Air-to-water chiller with screw compressor



## Precise temperature control

The combination of the Hitachi "continuous capacity control compressor" and Hitachi's exclusive electronic controls allows for very precise control of the water output temperature to +/- 0.5°C, independently of the cooling load, which is especially important in industrial processes. (Fig. 1)

## Modular design

The combination of up to eight modules allows very precise adaptation of the production to the requirements of the installation.

## Very small footprint

The new 80 and 90 HP modules (with 6 fans) reduce the space needed for the machine's location. (Fig. 2)

## Two operating modes

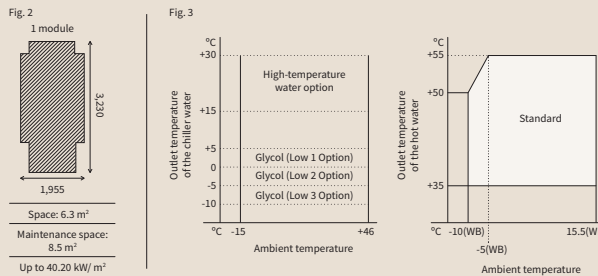
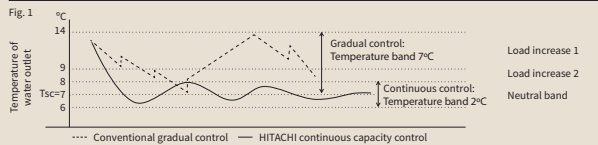
Two operating modes come as standard in the system:  
- Standard mode  
- High-efficiency mode

## Chilled water from -10°C and hot water up to 55°C

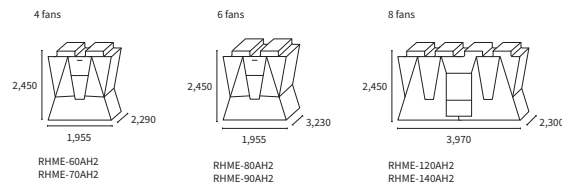
The unit can produce cold water from -10°C to 30°C, depending on its operating mode, and hot water from 35 to 55°C. (Fig. 3)

## Partial heat recovery

Optionally, the Samurai L unit can be fitted with an additional heat exchanger to allow for partial heat recovery from the heat recovery from the refrigeration circuit for the production of domestic hot water, or heating, etc.



## Cooling only models

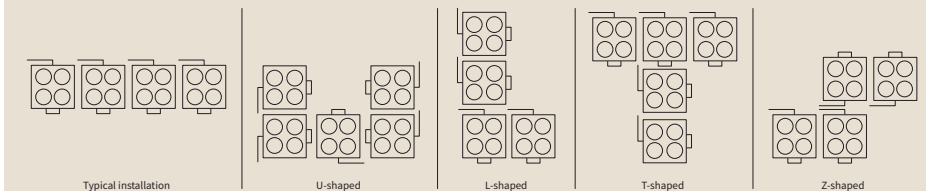


## Samurai L - RHME-AH2 - Heat pump

Heat pump models			RHME-60AH2	RHME-70AH2	RHME-80AH2	RHME-90AH2	RHME-120AH2	RHME-140AH2
Capacity	Cooling (nominal)	kW	150	170	195	210	300	340
	Heating (nominal)	kW	145	145	185	185	290	290
EER			2.95	2.95	2.97	3.01	2.95	2.95
COP			2.83	2.83	2.85	2.85	2.83	2.83
SEER			3.88	3.88	3.92	3.96	3.94	3.93
SEPR <sub>int</sub>			3.24	3.24	3.26	3.30	3.25	3.25
SEPR <sub>int</sub>			5.11	5.11	5.15	5.20	5.13	5.13
SCOP <sub>int</sub>			3.22	3.22	3.25	3.25	3.22	3.22
Sound power (standard mod.)		dB(A)	96	97	98	99	99	100
Sound pressure at 10 m		dB(A)	83	84	85	86	86	87
IP Rating			IPX4	IPX4	IPX4	IPX4	IPX4	IPX4
No. and type of compressor/ no. of circuits			1 - Semi-hermetic twin-screw/ 1	1 - Semi-hermetic twin-screw/ 1	1 - Semi-hermetic twin-screw/ 1	1 - Semi-hermetic twin-screw/ 1	2 - Semi-hermetic twin-screw/ 2	2 - Semi-hermetic twin-screw/ 2
Refrigerant			R134A	R134A	R134A	R134A	R134A	R134A
Refrigerant charge		kg	37	39	49	49	74	78
Capacity control		%	25-100	25-100	25-100	25-100	25-100	25-100
Water flow	Cooling (Min/Nom/Max)	m <sup>3</sup> /h	16.1-25.8-36.9	18.3-29.2-41.8	21.0-33.5-47.9	22.6-36.1-51.6	32.3-51.6-73.7	36.6-58.5-83.5
	Heating (nominal)		24.9	24.9	31.8	31.8	49.9	49.9
Water pipe connection	Size and type	inches	2.1/2" Victaulic					
	Quantity		1 x Inlet, 1 x Outlet			2 x Inlet, 2 x Outlet		
Minimum system water volume		m <sup>3</sup>	0.72	0.72	0.94	0.89	1.44	1.44
Fan motor			EC motor	EC motor	EC motor	EC motor	EC motor	EC motor
Number of fans			4	4	6	6	8	8
Outside operating temperatures	Cooling (DB)	°C	-15 to 46	-15 to 46	-15 to 46	-15 to 46	-15 to 46	-15 to 46
	Heating (DB)	°C	-9.5 to 21	-9.5 to 21	-9.5 to 21	-9.5 to 21	-9.5 to 21	-9.5 to 21
Water production temperatures	Cooling - Standard	°C	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15
	Cooling - Low option	°C	-10 to 5	-10 to 5	-10 to 5	-10 to 5	-10 to 5	-10 to 5
	Cooling - High option	°C	15 to 30	15 to 30	15 to 30	15 to 30	15 to 30	15 to 30
	Heating	°C	35 to 55	35 to 55	35 to 55	35 to 55	35 to 55	35 to 55
Power supply			3N-400V 50Hz	3N-400V 50Hz	3N-400V 50Hz	3N-400V 50Hz	3N-400V 50Hz	3N-400V 50Hz
Consumption	Cooling (nominal)	kW	50.8	57.6	65.7	69.8	101.7	115.3
	Heating (nominal)	kW	51.2	51.2	64.9	64.9	102.5	102.5
Current (maximum-startup)		A	119-240	133-240	140-240	143-240	238-259	266-262
Dimensions (H x W x D)		mm	2,450x1,955x2,290	2,450x1,955x2,290	2,450x1,955x3,230	2,450x1,955x3,230	2,450x3,970x2,300	2,450x3,970x2,300
Weight		kg	1,400.0	1,420.0	1,680.0	1,760.0	2,820.0	2,880.0

\*In the Low Noise (LN) option the values are reduced by 3 dB(A)  
\*In the Super Low Noise (SLN) option, the values are reduced by 5 dB(A)  
\*In the Extra Super Low Noise (XSLN) option the values are reduced by 8 dB(A)

## Modular combinations



## Options and accessories:

See pages 328-329