

The
Samurai
Range

**AIR COOLED
WATER CHILLERS
-SCREW TYPE-**

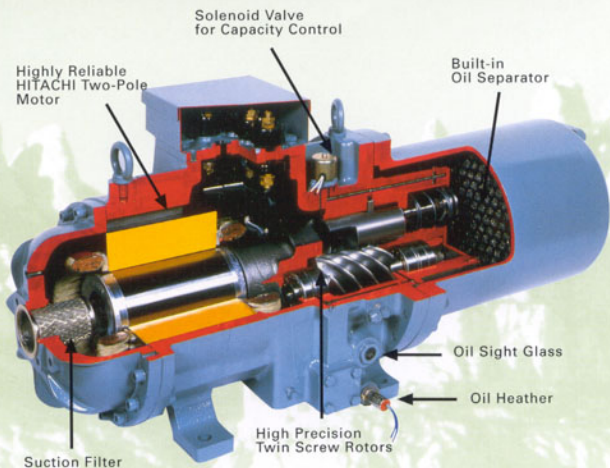
RCUE40A-240A (R22)
RCUE40AG-240AG (R407C)
CAPACITIES 106kW- 624kW

HITACHI
the future of air conditioning



COMPRESSOR

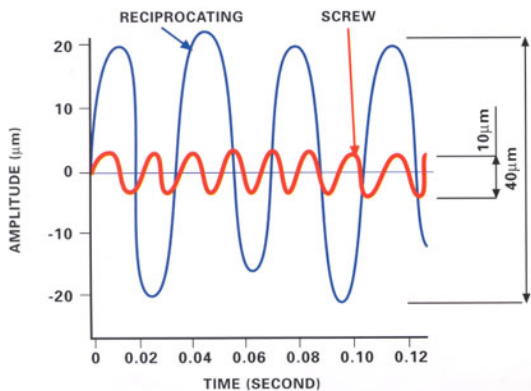
THE SAMURAI RANGE INCORPORATES THE LATEST DEVELOPMENT OF HITACHI'S SCREW COMPRESSOR TECHNOLOGY FOR THE NEW MILLENNIUM.



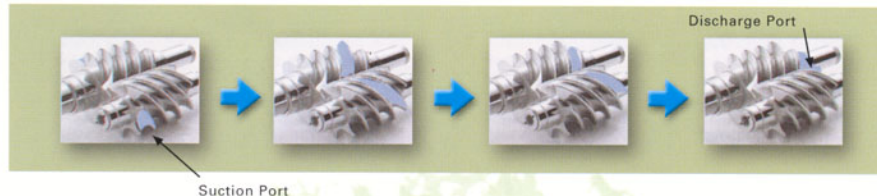
Twin Screw Compressor

- Dual refrigerant compressor for R22 or R407C utilising the same oil.
- By having so few moving parts, it has become highly reliable with very low noise level and low vibration.

-LOW VIBRATION-



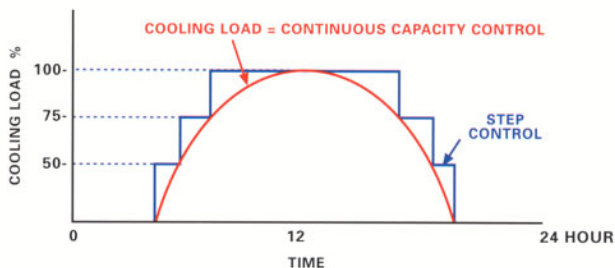
PRINCIPLE OF COMPRESSION



Continuous Capacity Control

HITACHI's continuous capacity control system uses advanced electronic controls to position the infinitely variable slide valve within each compressor.

This modulation allows exact load control and accurate chilled water temperature without the need for expensive inverters.

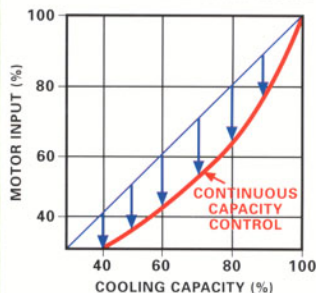


Energy Saving

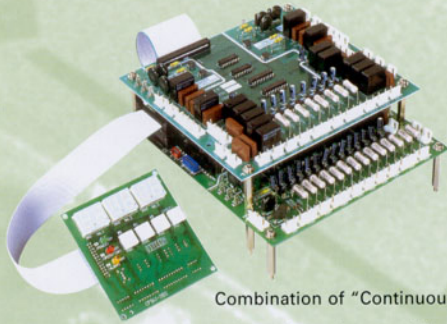
Thanks to Continuous Capacity Control, 15~20% energy saving is possible compared with current step control systems due to the following:

- The cooling load can be more closely matched
- Continuous Capacity Control takes advantage of high efficiency part load performance.
- Frequent compressor starts and stops are eliminated.

-PART LOAD PERFORMANCE-



CONTROL

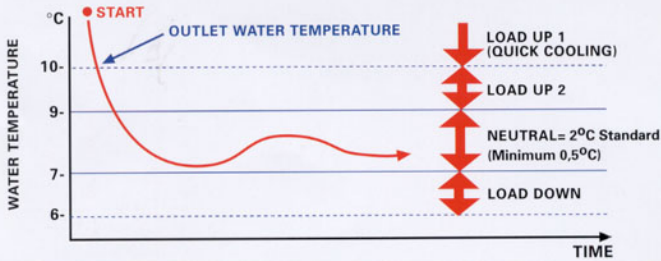


Precise Temperature Control

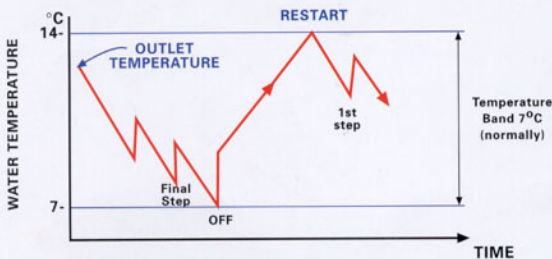
Combination of "Continuous Capacity Control Compressor" and "HITACHI's unique electronic controls" enable the chiller to control outlet water temperature precisely, independent of cooling load.

This control benefits not only air-conditioning but also industrial process use.

-CONTINUOUS CAPACITY CONTROL-



-CONVENTIONAL STEP CONTROL-



Many Functions

Newly developed Control Board has many functions shown below as standard.

- REMOTE/LOCAL changeover switch
- Individual Alarm
- Pump Operation Circuit
- Pump Freeze Protection Control
- Reverse Phase Protection
- Time Guard
- Star Delta Starting Circuit
- Easy Interface
- etc...

HEAT EXCHANGER

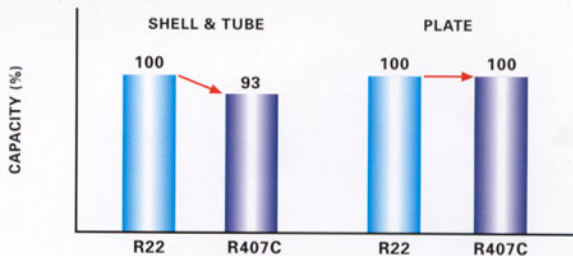


Plate Type Evaporator

The new Samurai chillers are equipped with plate type Heat Exchangers, which have many advantages when compared with conventional Shell & Tube evaporators as described below:

- Less Refrigerant (Small Internal Volume)
- Clean (Stainless Steel)
- High efficiency (closer approach temperature)

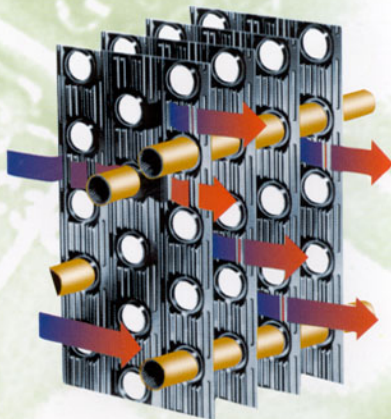
Plate type heat exchanger can provide improved cooling capacity for R407C.



Air-Cooled Condenser

HITACHI patented high performance SLIT FIN and inner-grooved tube are applied, to provide high performance and compact heat exchanger.

Fins are Exposy Resin pre-coated against corrosion as standard.



GENERAL SPECIFICATIONS

Models	(R22)	-	RCUE40A	RCUE50A	RCUE60A
	(R407C)	-	RCUE40AG	RCUE50AG	RCUE60AG
Cooling Capacity		kW	106	130	156
Total Power Input	(R22)	kW	37,7	49,2	62,2
	(R407C)	kW	40,9	52,7	66,6
Outer Dimensions	Height	mm	2.430	2.430	2.430
	Width	mm	1.800	1.800	1.800
	Depth	mm	2.200	2.200	2.200
Net Weight		kg	1.500	1.600	1.700
Compressor Model		-	4005SC-Z	5005SC-Z	6005SC -Z
Quantity		-	1	1	1
Capacity Control		-			
		%	33~100	25~100	25~100
Fan Motor Power(Pole)		kW	0.4 (6)	0.4 (6)	0.4 (6)
Quantity		-	4	4	4
Refrigerant Type		-			
Charge	(R22)	kg	27	37	47
	(R407C)	kg	27	37	47
Oil Type		-			
Charge	(R22)	L	6	6	6
	(R407C)	L	6	6	6
Water Flow Rate Min/Max		m ³ / h	13.7/30.4	16.8/37.4	20.1/44.8
Minimum Internal Water Volume		m ³	0,437	0,362	0,435
Internal Volume in Water Cooler		x10 ⁻³ m ³	10,8	13,3	16,1
Sound Pressure Level		dB (A)	71	72	72
Chilled Water Outlet Temp. Min. / Max.		°C			
Condenser Air Inlet Temp. Min. / Max.		°C			
Max. Permissible Water Pressure		MPa			
High Pressure Switch		MPa			
Low Pressure Switch		MPa			
Pressure Relief Valve		MPa			
Type of Control System		-			
Protection Device	Compressor	-			
Protection Device	Fan Motor	-			
Comp. Operation Hour Meter		-			
Condenser Type		-			Multi
Water Cooler Type		-			

NOTES:

- The cooling capacity is based on the following standard :
 temperature conditions
 Chilled Water Inlet Temperature 12°C
 Chilled Water Outlet Temperature 7°C
 Condenser Air Inlet Temperature 35°C

- Power Supply
 3~, N/380 - 415V / 50 Hz

RCUE80A	RCUE100A	RCUE120A	RCUE150A	RCUE180A	RCUE200A	RCUE240A
RCUE80AG	RCUE100AG	RCUE120AG	RCUE150AG	RCUE180AG	RCUE200AG	RCUE240AG
212	260	312	390	468	520	624
75,4	98,4	124,5	147,6	186,7	196,8	249,0
81,8	105,4	133,3	158,1	199,9	210,8	266,6
2.430	2.430	2.430	2.430	2.430	2.430	2.430
1.800	1.800	1.800	1.800	1.800	1.800	1.800
4.000	4.000	4.000	5.800	5.800	7.600	7.600
2.700	2.900	3.100	4.300	4.500	5.600	5.900
4005SC-Z	5005SC-Z	6005SC-Z	5005SC-Z	6005SC-Z	5005SC-Z	6005SC-Z
2	2	2	3	3	4	4
Continuous Capacity Control						
33~100	25~100	25~100	25~100	25~100	25~100	25~100
0.4 (6)	0.4 (6)	0.4 (6)	0.4 (6)	0.4 (6)	0.4 (6)	0.4 (6)
8	8	8	12	12	16	16
R22/R407C						
27X2	37X2	47X2	37X3	47X3	37X4	47X4
27X2	37X2	47X2	37X3	47X3	37X4	47X4
CASTROL ICEMATIC SW220HT (Ester type synthetic oil)						
6X2	6X2	6X2	6X3	6X3	6X4	6X4
6X2	6X2	6X2	6X3	6X3	6X4	6X4
27.4/61.0	33.5/74.6	40.3/89.7	50.3/112	60.4/134	67.1/149	80.5/179
0,873	0,725	0,870	1,087	1,304	1,449	1,739
23,9	30,7	38,2	44,0	54,3	61,3	76,4
72	73	73	73	73	73	73
5/15						
40/5 (option: 40/-15)						
1.0						
2.8						
0.25						
3.0						
Micro-Processor Control						
Circuit Braker, Internal Thermostat						
Circuit Braker, Internal Thermostat						
Equipped (Non resettable)						
Tri-Pass Finned Tube (Epoxy Resin pre-coated Aluminium fin)						
Brazing Plate Type						

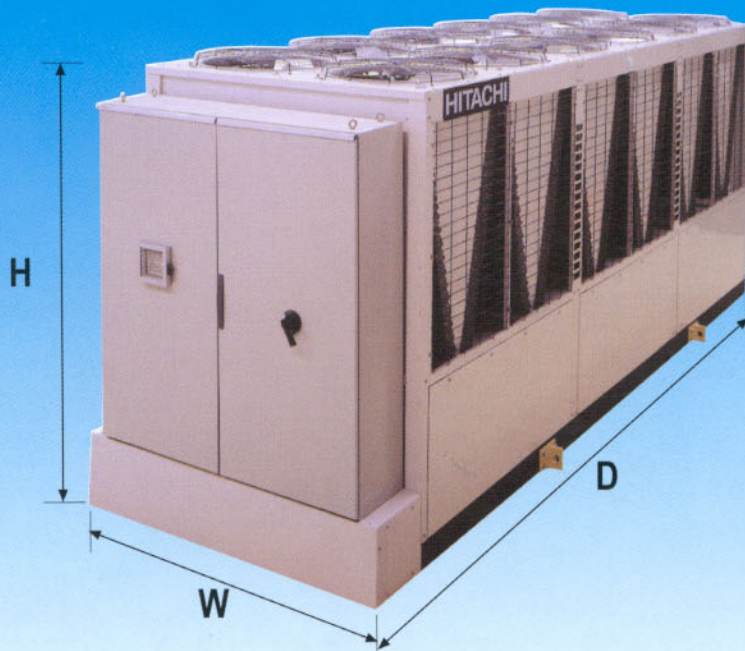
3. The sound pressure level is based on following conditions.

1 Meter from the Control Panel surface, and 1.5 Meters from floor level.

Voltage of the power source is 380 V. In case of the power source of 415V, the sound pressure level increases by about 1 dB. The above data was measured in an anechoic chamber so that reflected sound should be taken into consideration in the field.

4. Options

Remote Control Switch (1~/220-240V/50Hz). Low Ambient Fan Control (-15°C). CS-NET (Computer Control), Coil Guard. Discharge Valve. Compressor Safety Valve. Compressor Dual Safety Valve. PN 16 Flange. Water Pressure Switch. Rubber Mat. Witness Test. 220V Power Supply. Expanded Minimum Capacity Control. Spreader Bars for Transportation.



DIMENSIONS

MODEL	40	50	60	80	100	120	150	180	200	240
Height mm	2430	2430	2430	2430	2430	2430	2430	2430	2430	2430
Width mm	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Depth mm	2200	2200	2200	4000	4000	4000	5800	5800	7600	7600



Hitachi Air Conditioning Products Europe, S.A.

ISO9002 and ISO 14001 certified by AENOR

(Certifications No. ER-198/2/96 and GCM-99/044)

HITACHI

Specifications in this catalogue are subjected to change without notice in order that HITACHI may bring the latest innovations to their customers.

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