



AIR-COOLED WATER CHILLERS SCREW TYPE



TROPICAL

Nominal Cooling Capacity Range

191 kW to 1,146 kW at 50Hz
164,260 kcal/h to 985,560 kcal/h at 50Hz
651,000 Btu/h to 3,910,000 Btu/h at 50Hz

225 kW to 1,350 kW at 60Hz
193,500 kcal/h to 1,161,000 kcal/h at 60Hz
768,000 Btu/h to 4,606,000 Btu/h at 60Hz

Technical Bulletin

Continuous Capacity Control Type:
R-22 R-407C
CCU-ATZ CCU-ATZG

**THESE CHILLERS ARE MANUFACTURED
UNDER HITACHI LICENSE NO. HTCA0601
& ACCORDING TO HITACHI STANDARD & JIS**



This series of Cool Wave air-cooled water chillers up to 400HP has been developed for various requirements of air conditioning systems and industrial chilled water systems, where these equipments are operated under high ambient temperatures of around 50~52°C.

Therefore, the units can be utilized under a wide temperature range.

These water chillers are equipped with semi-hermetic HITACHI screw compressors, featuring high reliability, low noise and low vibration and highly efficient air-cooled condenser, resulting in compact design. The unit is composed of compressors, air-cooled condensers, plate type water coolers, and other auxiliary and control devices, compactly packaged in a weather-proof cabinet and constructed of galvanized steel plates processed with specially baked resin paint.

Continuous Capacity Control Models

For R22

CCU 75ATZ
CCU 100ATZ
CCU 120ATZ
CCU 150ATZ
CCU 180ATZ
CCU 200ATZ
CCU 220ATZ
CCU 240ATZ
CCU 270ATZ
CCU 300ATZ
CCU 310ATZ
CCU 320ATZ
CCU 330ATZ
CCU 360ATZ
CCU 370ATZ
CCU 380ATZ
CCU 400ATZ

For R407C

CCU 75ATZ(G)
CCU 100ATZ(G)
CCU 120ATZ(G)
CCU 150ATZ(G)
CCU 180ATZ(G)
CCU 200ATZ(G)
CCU 220ATZ(G)
CCU 240ATZ(G)
CCU 270ATZ(G)
CCU 300ATZ(G)
CCU 310ATZ(G)
CCU 320ATZ(G)
CCU 330ATZ(G)
CCU 360ATZ(G)
CCU 370ATZ(G)
CCU 380ATZ(G)
CCU 400ATZ(G)

Note:

- Suffix “G” stands for models having R407C refrigerant.



COOL WAVE AIR-COOLED WATER CHILLERS... RELIABLE, EFFICIENT, COMPACT SIZE, LOW OPERATION NOISE

Compact Size

Due to the compact V-type and plate type heat exchangers, the units designed to occupy minimum installation space.

Also, the service and maintenance space has been greatly minimized.

Smaller Vibration and Lower Operation Sound

Due to the combination of the HITACHI semi-hermetic screw compressors and smooth-air-flow propeller fans for air side heat exchangers, smaller vibration and lower sound operation has been achieved, which was almost impractical in the current reciprocating compressor units. Therefore, in most cases, special vibration absorbing curbs are not required by utilizing factory-supplied rubber mats.

Highly Efficient Operation

The appropriate combination of the air side heat exchangers with high performance SLIT fins, highly-efficient screw compressors and water side heat exchangers has achieved this high efficiency of operation.

Most Reliable Semi-Hermetic Screw Compressor

The HITACHI screw compressor, which is called, the heart of the unit, has been developed for higher efficiency by introducing new profile screw rotors, resulting in reliable and durable operation.

Small Refrigerant Charge and New Refrigerant

Due to the new V-type and plate type heat exchangers, the volume of charged refrigerant has been minimized.

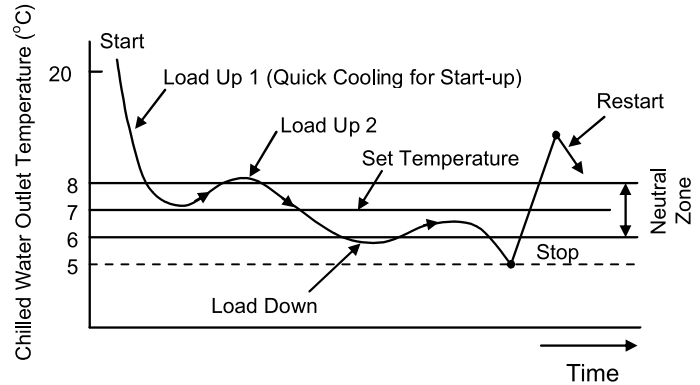
Refrigerants, R22 and new refrigerant R407C are available for 50 Hz. R22 is available for 60 Hz.



HITACHI SEMI HERMETIC SCREW COMPRESSOR

Continuous Capacity Control

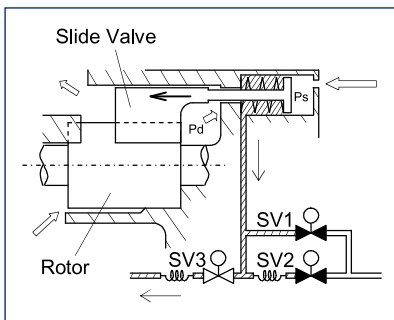
- Chilled water outlet temperatures can be controlled precisely within $\pm 1^\circ\text{C}$ of the setting temperature. This control is performed by applying a micro-computer to the continuous capacity control type screw compressor
- This precise temperature control is suitable not only for air conditioning, but also for industrial use.



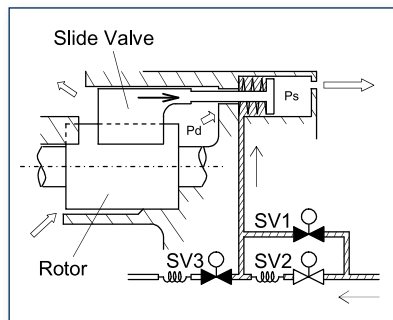
Principle of Continuous Capacity Control

Continuous capacity control is performed by adjusting the slide valve position as shown below. The slide valve position can be changed freely between 100% and 25% in accordance with cooling load.

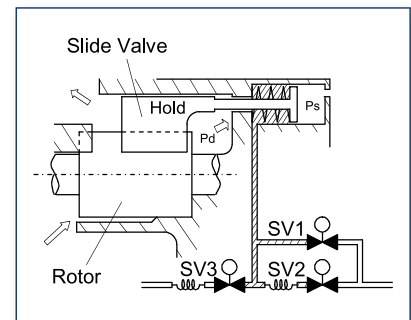
Load-up



Load-down



Hold



Pd: Discharge Pressure, Ps: Suction Pressure

Micro-Processor Control for Various Functions

A micro-processor has been applied to the models for following various functions.

- Alarm Indication for each cycle by 7-Segment
- Rotating Control of Compressor Starting Order
- Current Limitation Control
- Automatic Start after Instantaneous Power Failure

Easy Maintenance

Water coolers are Independent for each cycle so that service and maintenance are performed respectively.

Standard Accessory

Vibration-proof mats

Various Option

The following specifications are available on order basis.

- (1) Gateway for BMS connectivity
- (2) Water Strainer
- (3) Anti-Corrosive Type Condenser Fin
- (4) Pressure Gauge for Low and High Pressure



Unit General Data (For R22)

Model	Continuous Control Type	CCU 75ATZ	CCU 100ATZ	CCU 120ATZ	CCU 150ATZ	CCU 180ATZ	CCU 200ATZ	CCU 220ATZ	CCU 240ATZ	
Nominal Cooling Capacity ¹	50Hz	kW	191	280	346	382	519	573	626	692
		kcal/h	164,300	240,800	297,600	328,500	446,300	492,800	538,400	595,100
		Btu/h	651,000	955,500	1,180,000	1,303,000	1,771,000	1,955,000	2,136,000	2,361,000
	60Hz	kW	225	330	408	450	612	675	738	816
		kcal/h	193,500	283,800	350,880	387,000	526,320	580,500	634,680	701,760
		Btu/h	768,000	1,126,000	1,392,000	1,535,000	2,088,000	2,303,000	2,518,000	2,785,000
Nominal Cooling Capacity ²	50Hz	kW	166	243	301	332	451	498	544	601
		kcal/h	142,800	209,300	258,600	285,500	387,900	428,300	467,900	517,200
		Btu/h	566,000	830,000	1,026,000	1,133,000	1,539,000	1,699,000	1,856,000	2,052,000
	60Hz	kW	196	287	355	391	532	587	641	709
		kcal/h	168,100	246,600	305,000	336,300	457,400	504,500	551,600	609,900
		Btu/h	667,000	979,000	1,210,000	1,334,000	1,815,000	2,001,000	2,188,000	2,420,000
Capacity Control										
Continuous Type	%	100 ~ 25, 0			100 ~ 25, (12.5) ³ , 0		100 ~ 25, (8.3) ³ , 0		100 ~ 25, (12.5) ³ , 0	
Dimension										
Height	mm	2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400
Width	mm	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800
Depth	mm	2,130	3,930	3,930	3,930	5,730	5,730	7,960 (min.)	7,960 (min.)	
Refrigerant	R22 (Operating Charge)									
Flow Control	Thermal Expansion Valve									
Number of Circuit		1	2	2	2	3	3	4	4	
Compressor Model	Semi-Hermetic Screw Type									
Continuous Control Quantity		60ASC-Z 1	50ASC-Z 2	60ASC-Z 2	60ASC-Z 2	60ASC-Z 3	60ASC-Z 3	50ASC-Z 2 60ASC-Z 2	60ASC-Z 4	
Heat Exchanger										
Condenser	Cross Fin Type (Pre-Coated Fin: Standard)									
Condenser Fan	Direct Drive Propeller Fan									
Motor	kW	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	
Quantity		4	8	8	8	12	12	2 x 8	2 x 8	
Water Cooler	Plate Type									
Type of Control System	Micro-Processor Control									
Safety Device	Over Current Relay for Compressor , Internal Thermostat for Compressor, Reverse Phase Protection device for Compressor, Thermal Over current Relay for Fan Motor, High Pressure Switch, Low Pressure Control, Suction Gas Temperature Control, Freeze Protection Thermistor Control, Oil Heater, Discharge Gas Thermistor, Fusible Plug, Fuse for Control Circuit and Pressure Relief valve									
Connections	Victaulic Type									
Water Cooler Inlet/Outlet		3B	2 x 3B			3 x 3B		4 x 3B		
Net Weight	kg	1,620	2,810	2,960	3,020	4,340	4,410	2,960+2,810	2 x 2,960	
Approximate Shipping Dimensions ⁴										
Height	mm	2,730	2,740	2,740	2,740	2,760	2,760	2 x 2,740	2 x 2,740	
Width	mm	2,140	2,190	2,190	2,190	2,190	2,190	2 x 2,190	2 x 2,190	
Depth	mm	2,300	4,150	4,150	4,150	5,950	5,950	2 x 4,150	2 x 4,150	
Shipping Weight ⁴	kg	2,040	3,470	3,620	3,680	5,140	5,210	3,470+3,620	2 x 3,620	

Notes:

- The nominal cooling capacities are based on the following conditions. (1)
Chilled Water Inlet/Outlet Temperature: 12 / 7°C Condenser Air Inlet Temperature: 35°C (DB)
The effective cooling capacities are based on the following conditions. (2)
Chilled Water Inlet/Outlet Temperature: 12 / 7°C Condenser Air Inlet Temperature: 46°C (DB)
- Power Source : Main (AC 3ø) 380V/50Hz , 415V/50Hz, 380V/60Hz , 440V/60Hz,
: Control (AC 1ø) 220V/50Hz , 240V/50Hz, 220V/60Hz
- The units greater than 220AT including 220AT consist of two modules and are separately shipped. (*4)
- Water Flow
 - CCU 240, 300, 320, 360, 370, 400AT (Z)
It is necessary to control the same water quantity to each cooler.
The common chilled water piping (Field-Supplied) between each water cooler shall be directly connected at site.
(The water coolers in the same unit shall be connected to the same common piping).
 - CCU 220, 270, 310, 330, 380AT (Z)
The chilled water flow rate is different between No.1 and No.2 units.
It is necessary to control the water quantity of each unit with adjusting valves as dimensional drawing.



Unit General Data (For R22)

Model	Continuous Control Type	CCU 270ATZ	CCU 300ATZ	CCU 310ATZ	CCU 320ATZ	CCU 330ATZ	CCU 360ATZ	CCU 370ATZ	CCU 380ATZ	CCU 400ATZ	
Nominal Cooling Capacity ¹	50Hz	kW	728	764	799	865	901	955	1,038	1,092	1,146
		kcal/h	626,100	657,000	687,100	743,900	774,900	821,300	892,700	939,100	985,600
		Btu/h	2,484,000	2,607,000	2,726,000	2,951,000	3,074,000	3,259,000	3,542,000	3,726,000	3,910,000
	60Hz	kW	858	900	942	1,020	1,062	1,125	1,224	1,287	1,350
		kcal/h	737,900	774,000	810,100	877,200	913,300	967,500	1,052,600	1,106,800	1,161,000
		Btu/h	2,927,000	3,071,000	3,214,000	3,480,000	3,624,000	3,839,000	4,176,000	4,391,000	4,606,000
Nominal Cooling Capacity ²	50Hz	kW	632	664	694	751	783	830	902	949	996
		kcal/h	544,100	571,000	597,200	646,500	673,500	713,800	775,900	816,200	856,600
		Btu/h	2,159,000	2,266,000	2,369,000	2,565,000	2,672,000	2,832,000	3,078,000	3,238,000	3,398,000
	60Hz	kW	745	782	818	887	923	977	1,064	1,119	1,173
		kcal/h	641,300	672,700	704,100	762,400	793,800	840,800	914,900	961,900	1,009,000
		Btu/h	2,544,000	2,669,000	2,793,000	3,025,000	3,149,000	3,336,000	3,630,000	3,816,000	4,003,000
Capacity Control											
Continuous Type	%	100 ~ 25, (12.5) ⁻³ , 0				100 ~ 25, (10) ⁻³ , 0			100 ~ 25, (12.5) ⁻³ , 0		
Dimension											
Height	mm	2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400
Width	mm	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800
Depth	mm	7,960 (min.)	7,960 (min.)	9,760 (min.)	9,760 (min.)	9,760 (min.)	9,760 (min.)	11,560 (min.)	11,560 (min.)	11,560 (min.)	
Refrigerant		R22 (Operating Charge)									
Flow Control		Thermal Expansion Valve									
Number of Circuit		4	4	5	5	5	5	6	6	6	
Compressor Model		Semi-Hermetic Screw Type									
Continuous Control Quantity		60ASC-Z 4	60ASC-Z 4	50ASC-Z 2 60ASC-Z 3	60ASC-Z 5	60ASC-Z 5	60ASC-Z 5	60ASC-Z 6	60ASC-Z 6	60ASC-Z 6	
Heat Exchanger											
Condenser		Cross Fin Type (Pre-Coated Fin: Standard)									
Condenser Fan		Direct Drive Propeller Fan									
Motor	kW	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	
Quantity		2 x 8	2 x 8	12 + 8	12 + 8	12 + 8	12 + 8	2 x 12	2 x 12	2 x 12	
Water Cooler		Plate Type									
Type of Control System		Micro-Processor Control									
Safety Device		Over Current Relay for Compressor, Internal Thermostat for Compressor, Reverse Phase Protection device for Compressor, Thermal Overcurrent Relay for Fan Motor, High Pressure Switch, Low Pressure Control, Suction Gas Temperature Control, Freeze Protection Thermistor Control, Oil Heater, Discharge Gas Thermistor, Fusible Plug, Fuse for Control Circuit and Pressure Relief valve									
Connections		Victaulic Type									
Water Cooler Inlet/Outlet		4 x 3B			5 x 3B				6 x 3B		
Net Weight	kg	3,020+2,960	2 x 3,020	4,340+2,810	4,340+2,960	4,340+3,020	4,410+3,020	2 x 4,340	4,410+4,340	2 x 4,410	
Approximately Shipping Dimensions ⁴											
Height	mm	2 x 2,740	2 x 2,740	2,760+2,740	2,760+2,740	2,760+2,740	2,760+2,740	2 x 2,760	2 x 2,760	2 x 2,760	
Width	mm	2 x 2,190	2 x 2,190	2,190+2,190	2,190+2,190	2,190+2,190	2,190+2,190	2 x 2,190	2 x 2,190	2 x 2,190	
Depth	mm	2 x 4,150	2 x 4,150	5,950+4,150	5,950+4,150	5,950+4,150	5,950+4,150	2 x 5,950	2 x 5,950	2 x 5,950	
Shipping Weight ⁴	kg	3,680+3,620	2 x 3,680	5,140+3,470	5,140+3,620	5,140+3,680	5,210+3,680	2 x 5,140	5,210+5,140	2 x 5,210	

5. It is required to connect electrical control wires between No.1 and No.2 units for the unit greater than 220AT including 220AT.

6. Capacity Control marked with *3 is available by selection switch.

7. Specifications in above table are subject to change without notice, in order that Cool Wave may bring the latest innovations to their customers.

Working Range (R22)

Item	50Hz	60Hz
Chilled Water Outlet Temperature	5 ~ 15°C	
Condenser Air Inlet Temperature (DB)	5 ~ 52°C	5 ~ 50°C



Unit General Data (For R407C)

Model	Continuous Control Type	CCU 75ATZG	CCU 100ATZG	CCU 120ATZG	CCU 150ATZG	CCU 180ATZG	CCU 200ATZG	CCU 220ATZG	CCU 240ATZG	
Nominal		kW	191	280	346	382	519	573	626	692
Cooling Capacity ¹	50Hz	kcal/h	164,260	240,800	297,560	328,520	446,340	492,780	538,360	595,120
		Btu/h	651,000	955,000	1,180,000	1,303,000	1,771,000	1,955,000	2,136,000	2,361,000
Nominal		kW	158	243	301	315	451	473	544	601
Cooling Capacity ²	50Hz	kcal/h	135,600	209,300	258,900	271,200	387,900	406,900	467,900	517,200
		Btu/h	538,000	831,000	1,026,000	1,076,000	1,539,000	1,614,000	1,857,000	2,052,000
Capacity Control										
Continuous Type		%	100 ~ 25, 0			100 ~ 25, (12.5) ³ , 0		100 ~ 25, (8.3) ³ , 0		100 ~ 25, (12.5) ³ , 0
Dimension										
Height	mm	2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400	
Width	mm	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	
Depth	mm	2,130	3,930	3,930	3,930	5,730	5,730	7,960 (min.)	7,960 (min.)	
Refrigerant			R407C (Operating Charge)							
Flow Control			Thermal Expansion Valve							
Number of Circuit			1	2	2	2	3	3	4	4
Compressor Model			Semi-Hermetic Screw Type							
Continuous Control Quantity			60ASC-Z 1	50ASC-Z 2	60ASC-Z 2	60ASC-Z 2	60ASC-Z 3	60ASC-Z 3	50ASC-Z 2 60ASC-Z 2	60ASC-Z 4
Heat Exchanger			Cross Fin Type (Pre-Coated Fin: Standard)							
Condenser			Direct Drive Propeller Fan							
Condenser Fan			Direct Drive Propeller Fan							
Motor	kW	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	
Quantity		4	8	8	8	12	12	2 x 8	2 x 8	
Water Cooler			Plate Type							
Type of Control System			Micro-Processor Control							
Safety Device			Over Current Relay for Compressor, Internal Thermostat for Compressor, Reverse Phase Protection device for Compressor, Thermal Overcurrent Relay for Fan Motor, High Pressure Switch, Low Pressure Control, Suction Gas Temperature Control, Freeze Protection Thermistor Control, Oil Heater, Discharge Gas Thermistor, Fusible Plug, Fuse for Control Circuit and Pressure Relief valve							
Connections			Victaulic Type							
Water Cooler Inlet/Outlet			3B	2 x 3B		3 x 3B		4 x 3B		
Net Weight	kg	1,650	2,870	3,020	3,080	4,430	4,500	2,870+3,020	2 x 3,020	
Approximate Shipping Dimensions ⁴										
Height	mm	2,730	2,740	2,740	2,740	2,760	2,760	2 x 2,740	2 x 2,740	
Width	mm	2,140	2,190	2,190	2,190	2,190	2,190	2 x 2,190	2 x 2,190	
Depth	mm	2,300	4,150	4,150	4,150	5,950	5,950	2 x 4,150	2 x 4,150	
Shipping Weight ⁴	kg	2,070	3,530	3,680	3,740	5,230	5,300	3,530+3,680	2 x 3,680	

Notes:

- The nominal cooling capacities are based on the following conditions. (1)
Chilled Water Inlet/Outlet Temperature: 12 / 7°C Condenser Air Inlet Temperature: 35°C (DB)
The effective cooling capacities are based on the following conditions. (2)
Chilled Water Inlet/Outlet Temperature: 12 / 7°C Condenser Air Inlet Temperature: 46°C (DB)
- Power Source : Main (AC 3ø) 380V/50Hz , 415V/50Hz
: Control (AC 1ø) 220V/50Hz , 240V/50Hz
- The units greater than 220ATZ including 220ATZ consist of two modules and are separately shipped. (*4)
- Water Flow
 - CCU 240, 300, 320, 360, 370, 400ATZ(G)
It is necessary to control the same water quantity to each cooler.
The common chilled water piping (Field-Supplied) between each water cooler shall be directly connected at site.
(The water coolers in the same unit shall be connected to the same common piping).
 - CCU 220, 270, 310, 330, 380ATZ(G)
The chilled water flow rate is different between No.1 and No.2 units.
It is necessary to control the water quantity of each unit with adjusting valves as dimensional drawing.



Unit General Data (For R407C)

Model	Continuous Control Type	CCU270ATZG	CCU300ATZG	CCU310ATZG	CCU320ATZG	CCU330ATZG	CCU360ATZG	CCU370ATZG	CCU380ATZG	CCU400ATZG	
Nominal	50Hz	kW	728	764	799	865	901	955	1,038	1,092	1,146
Cooling Capacity ^{*1}		kcal/h	626,080	657,040	687,140	743,900	774,860	821,300	892,680	939,120	985,560
		Btu/h	2,484,000	2,607,000	2,726,000	2,951,000	3,074,000	3,259,000	3,542,000	3,726,000	3,910,000
Nominal	50Hz	kW	616	631	694	752	766	789	902	924	946
Cooling Capacity ^{*2}		kcal/h	529,800	542,500	597,200	646,500	659,200	678,100	775,900	794,800	813,700
		Btu/h	2,102,000	2,153,000	2,370,000	2,566,000	2,616,000	2,691,000	3,079,000	3,154,000	3,229,000
Capacity Control											
Continuous Type	%	100 ~ 25, (12.5) ^{*3} , 0			100 ~ 25, (10) ^{*3} , 0			100 ~ 25, (12.5) ^{*3} , 0			
Dimension											
Height	mm	2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400	
Width	mm	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	
Depth	mm	7,960 (min.)	7,960 (min.)	9,760 (min.)	9,760 (min.)	9,760 (min.)	9,760 (min.)	11,560 (min.)	11,560 (min.)	11,560 (min.)	
Refrigerant		R407C (Operating Charge)									
Flow Control		Thermal Expansion Valve									
Number of Circuit		4	4	5	5	5	5	6	6	6	
Compressor Model		Semi-Hermetic Screw Type									
Continuous Control Quantity		60ASC-Z 4	60ASC-Z 4	50ASC-Z 2 60ASC-Z 3	60ASC-Z 5	60ASC-Z 5	60ASC-Z 5	60ASC-Z 6	60ASC-Z 6	60ASC-Z 6	
Heat Exchanger		Cross Fin Type (Pre-Coated Fin: Standard)									
Condenser		Direct Drive Propeller Fan									
Condenser Fan Motor	kW	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	
Quantity		2 x 8	2 x 8	12 + 8	12 + 8	12 + 8	12 + 8	2 x 12	2 x 12	2 x 12	
Water Cooler		Plate Type									
Type of Control System		Micro-Processor Control									
Safety Device		Over Current Relay for Compressor, Internal Thermostat for Compressor, Reverse Phase Protection device for Compressor, Thermal Over Current Relay for Fan Motor, High Pressure Switch, Low Pressure Control, Suction Gas Temperature Control, Freeze Protection Thermistor Control, Oil Heater, Discharge Gas Thermistor, Fusible Plug, Fuse for Control Circuit and Pressure Relief valve									
Connections		Victaulic Type									
Water Cooler Inlet/Outlet		4 x 3B			5 x 3B			6 x 3B			
Net Weight	kg	3,080+3,020	2 x 3,080	4,430+2,870	4,430+3,020	4,430+3,020	4,500+3,080	2 x 4,430	4,500+4,430	2 x 4,500	
Approximately Shipping Dimensions ^{*4}											
Height	mm	2 x 2,740	2 x 2,740	2,760+2,740	2,760+2,740	2,760+2,740	2,760+2,740	2 x 2,760	2 x 2,760	2 x 2,760	
Width	mm	2 x 2,190	2 x 2,190	2,190+2,190	2,190+2,190	2,190+2,190	2,190+2,190	2 x 2,190	2 x 2,190	2 x 2,190	
Depth	mm	2 x 4,150	2 x 4,150	5,950+4,150	5,950+4,150	5,950+4,150	5,950+4,150	2 x 5,950	2 x 5,950	2 x 5,950	
Shipping Weight ^{*4}	kg	3,740+3,680	2 x 3,740	5,230+3,530	5,230+3,680	5,230+3,740	5,300+3,740	2 x 5,230	5,300+5,230	2 x 5,300	

5. It is required to connect electrical control wires between No.1 and No.2 units for the unit greater than 220ATG including 220ATG.

6. Capacity Control marked with *3 is available by selection switch.

7. Specifications in above table are subject to change without notice, in order that Cool Wave may bring the latest innovations to their customers.

Working Range (R407C)

Item	50Hz	60Hz
Chilled Water Outlet Temperature	5 ~ 10°C	N/A
Condenser Air Inlet Temperature (DB)	5 ~ 50°C	N/A



SELECTION DATA

Cooling Capacities (For R22) -50Hz-

Table with columns for ABT, COT, and cooling capacities (CAP, CFR, CPD, IPT) for models CCU75AT(Z), CCU100AT(Z), CCU120AT(Z), CCU150AT(Z), and CCU180AT(Z). Rows represent different operating conditions and capacities.

Table with columns for ABT, COT, and cooling capacities (CAP, CFR, CPD, IPT) for models CCU200AT(Z), CCU220AT(Z), CCU240AT(Z), and CCU270AT(Z). Rows represent different operating conditions and capacities.

ABT: Condenser Air Inlet Temperature(°C)
COT: Chilled Water Outlet Temperature(°C)
CAP: Cooling Capacity(KW)
CFR: Chilled Water Flow Rate 5°C Difference Between Inlet And Outlet Temperature(m³/h)
CFR1: For No.1 Unit

CFR2: For No.2 Unit
CPD: Water Cooler Pressure Drop(kPa)
CPD1: For No.1 Unit
CPD2: For No.2 Unit
IPT: Compressor Input Power(KW)
Conversion Multiplier: 1kW =860kcal/h =3.412Btu/h 1kPa =0.102mAg



Cooling Capacities (For R22) -50Hz-

		CCU300AT(Z)					CCU310AT(Z)					CCU320AT(Z)				CCU330AT(Z)					
ABT	COT	CAP	CFR	CPD	IPT	CAP	CFR1	CFR2	CPD1	CPD2	IPT	CAP	CFR	CPD	IPT	CAP	CFR1	CFR2	CPD1	CPD2	IPT
25.0	5.0	801.0	137.8	58.7	180.2	837.7	93.6	50.5	95.1	46.2	191.0	906.9	156.0	48.9	208.0	944.7	93.6	68.9	48.9	58.7	214.9
25.0	6.0	828.0	142.4	62.4	181.8	865.9	96.7	52.2	101.1	49.1	192.8	937.4	161.2	52.0	209.9	976.4	96.7	71.2	52.0	62.4	216.8
25.0	7.0	854.9	147.0	66.2	183.5	894.1	99.9	53.9	107.2	52.1	194.6	967.9	166.5	55.2	211.8	1008.2	99.9	73.5	55.2	66.2	218.8
25.0	8.0	881.7	151.6	70.0	185.1	922.1	103.0	55.6	113.5	55.1	196.4	998.2	171.7	58.4	213.7	1039.8	103.0	75.8	58.4	70.0	220.8
25.0	9.0	908.0	156.2	73.9	186.8	949.6	106.1	57.2	119.9	58.2	198.1	1028.0	176.8	61.6	215.7	1070.8	106.1	78.1	61.6	73.9	222.8
25.0	10.0	933.9	160.6	77.9	188.5	976.7	109.1	58.9	126.3	61.4	199.9	1057.4	181.9	64.9	217.6	1101.4	109.1	80.3	64.9	77.9	224.8
30.0	5.0	757.4	130.3	53.0	205.4	792.1	88.5	47.7	85.7	41.6	218.1	857.5	147.5	44.1	237.2	893.2	88.5	65.1	44.1	53.0	245.0
30.0	6.0	783.4	134.7	56.4	207.1	819.3	91.5	49.4	91.3	44.3	220.0	887.0	152.6	47.0	239.3	923.9	91.5	67.4	47.0	56.4	247.2
30.0	7.0	809.5	139.2	59.9	208.9	846.5	94.6	51.0	97.0	47.1	222.0	916.5	157.6	49.9	241.4	954.6	94.6	69.6	49.9	59.9	249.3
30.0	8.0	835.3	143.7	63.4	210.7	873.6	97.6	52.7	102.8	49.9	223.9	945.8	162.7	52.9	243.5	985.1	97.6	71.8	52.9	63.4	251.5
30.0	9.0	860.8	148.1	67.0	212.5	900.2	100.6	54.3	108.6	52.7	225.8	974.6	167.6	55.9	245.6	1015.1	100.6	74.0	55.9	67.0	253.6
30.0	10.0	885.8	152.4	70.7	214.3	926.4	103.5	55.8	114.5	55.6	227.8	1003.0	172.5	58.9	247.7	1044.7	103.5	76.2	58.9	70.7	255.8
35.0	5.0	713.7	122.8	47.5	230.5	746.4	83.4	45.0	76.8	37.3	245.2	808.1	139.0	39.6	266.5	841.7	83.4	61.4	39.6	47.5	275.2
35.0	6.0	738.9	127.1	50.6	232.5	772.7	86.3	46.6	81.9	39.7	247.3	836.5	143.9	42.2	268.8	871.4	86.3	63.5	42.2	50.6	277.5
35.0	7.0	764.0	131.4	53.8	234.4	799.0	89.3	48.2	87.1	42.3	249.4	865.0	148.8	44.9	271.0	901.0	89.3	65.7	44.9	53.8	279.8
35.0	8.0	789.0	135.7	57.1	236.3	825.1	92.2	49.7	92.5	44.9	251.5	893.3	153.6	47.6	273.3	930.5	92.2	67.9	47.6	57.1	282.1
35.0	9.0	813.6	139.9	60.4	238.3	850.8	95.1	51.3	97.9	47.5	253.6	921.1	158.4	50.4	275.5	959.5	95.1	70.0	50.4	60.4	284.4
35.0	10.0	837.8	144.1	63.8	240.2	876.2	97.9	52.8	103.3	50.2	255.6	948.5	163.1	53.1	277.7	988.0	97.9	72.0	53.1	63.8	286.7
40.0	5.0	670.1	115.3	42.3	255.7	700.8	78.3	42.2	68.4	33.1	272.3	758.7	130.5	35.2	295.8	790.2	78.3	57.6	35.2	42.3	305.3
40.0	6.0	694.3	119.4	45.1	257.8	726.1	81.1	43.8	73.0	35.4	274.6	786.1	135.2	37.6	298.2	818.8	81.1	59.7	37.6	45.1	307.8
40.0	7.0	718.6	123.6	48.1	259.9	751.1	84.0	45.3	77.8	37.7	276.8	813.5	139.9	40.1	300.6	847.4	84.0	61.8	40.1	48.1	310.3
40.0	8.0	742.6	127.7	51.1	261.9	776.6	86.8	46.8	82.7	40.1	279.0	840.8	144.6	42.6	303.0	875.8	86.8	63.9	42.6	51.1	312.8
40.0	9.0	766.4	131.8	54.1	264.0	801.5	89.5	48.3	87.6	42.5	281.3	867.7	149.2	45.1	305.4	903.8	89.5	65.9	45.1	54.1	315.2
40.0	10.0	789.7	135.8	57.2	266.1	825.9	92.3	49.8	92.6	45.0	283.5	894.1	153.8	47.7	307.8	931.3	92.3	67.9	47.7	57.2	317.7
46.0	5.0	617.7	106.2	36.4	285.9	646.0	72.2	38.9	58.8	28.5	304.9	699.4	120.3	30.3	330.9	728.5	72.2	53.1	30.3	36.4	341.5
46.0	6.0	640.8	110.2	39.0	288.2	670.2	74.9	40.4	63.0	30.5	307.3	725.6	124.8	32.5	333.5	755.8	74.9	55.1	32.5	39.0	344.2
46.0	7.0	664.0	114.2	41.6	290.4	694.4	77.6	41.9	67.3	32.6	309.7	751.8	129.3	34.7	336.1	783.1	77.6	57.1	34.7	41.6	346.9
46.0	8.0	687.0	118.2	44.3	292.6	718.5	80.3	43.3	71.6	34.7	312.1	777.8	133.8	36.9	338.7	810.2	80.3	59.1	36.9	44.3	349.5
46.0	9.0	709.7	122.1	47.0	294.9	742.2	82.9	44.7	76.0	36.9	314.5	803.5	138.2	39.2	341.3	837.0	82.9	61.0	39.2	47.0	352.2
46.0	10.0	732.0	125.9	49.7	297.1	765.6	85.5	46.1	80.5	39.1	316.9	828.8	142.6	41.5	343.9	863.3	85.5	63.0	41.5	49.7	354.9
48.0	5.0	600.2	103.2	34.5	296.0	627.7	70.1	37.8	55.8	27.0	315.7	679.6	116.9	28.8	342.6	707.9	70.1	51.6	28.8	34.5	353.6
48.0	6.0	623.0	107.2	37.0	298.3	651.6	72.8	39.3	59.8	29.0	318.2	705.4	121.3	30.8	345.3	734.7	72.8	53.6	30.8	37.0	356.3
48.0	7.0	645.8	111.1	39.5	300.6	675.4	75.5	40.7	63.9	31.0	320.7	731.2	125.8	32.9	348.0	761.6	75.5	55.5	32.9	39.5	359.1
48.0	8.0	668.5	115.0	42.1	302.9	699.1	78.1	42.1	68.1	33.0	323.1	756.9	130.2	35.1	350.6	788.3	78.1	57.5	35.1	42.1	361.8
48.0	9.0	690.8	118.8	44.7	305.2	722.5	80.7	43.5	72.4	35.1	325.6	782.1	134.5	37.3	353.3	814.7	80.7	59.4	37.3	44.7	364.6
48.0	10.0	712.8	122.6	47.4	307.5	745.5	83.3	44.9	76.7	37.2	328.1	807.0	138.8	39.5	356.0	840.6	83.3	61.3	39.5	47.4	367.3
52.0	5.0	502.0	86.3	24.9	308.6	525.0	58.7	31.6	40.1	19.4	329.3	568.4	97.8	20.7	357.3	592.0	58.7	43.2	20.7	24.9	368.7
52.0	6.0	521.6	89.7	26.7	311.0	545.5	60.9	32.9	43.1	20.8	331.9	590.6	101.6	22.2	360.0	615.1	60.9	44.9	22.2	26.7	371.5
52.0	7.0	541.2	93.1	28.5	313.3	566.0	63.2	34.1	46.1	22.3	334.4	612.8	105.4	23.8	362.8	638.3	63.2	46.5	23.8	28.5	374.3
52.0	8.0	560.7	96.4	30.5	315.7	586.4	65.5	35.3	49.2	23.8	336.9	634.8	109.2	25.4	365.5	661.2	65.5	48.2	25.4	30.5	377.1
52.0	9.0	579.9	99.7	32.4	318.0	606.5	67.8	36.6	52.4	25.4	339.5	656.6	112.9	27.0	368.2	683.9	67.8	49.9	27.0	32.4	380.0
52.0	10.0	598.8	103.0	34.4	320.4	626.3	70.0	37.7	55.6	26.9	342.0	678.0	116.6	28.7	371.0	706.2	70.0	51.5	28.7	34.4	382.8

ABT: Condenser Air Inlet Temperature(°C)
 COT: Chilled Water Outlet Temperature(°C)
 CAP: Cooling Capacity(KW)
 CFR: Chilled Water Flow Rate 5°C Difference Between Inlet And Outlet Temperature(m³/h)
 CFR1: For No.1 Unit

CFR2: For No.2 Unit
 CPD: Water Cooler Pressure Drop(kPa)
 CPD1: For No.1 Unit
 CPD2: For No.2 Unit
 IPT: Compressor Input Power(KW)

Conversion Multiplier: 1kW =860kcal/h
 =3.412Btu/h
 1kPa =0.102mAq



Cooling Capacities (For R22) -50Hz-

		CCU360AT(Z)				CCU370AT(Z)				CCU380AT(Z)					CCU400AT(Z)				
ABT	COT	CAP	CFR	CPD	IPT	CAP	CFR	CPD	IPT	CAP	CFR1	CFR2	CPD1	CPD2	IPT	CAP	CFR	CPD	IPT
25.0	5.0	1001.3	172.2	58.7	225.2	1088.3	187.3	48.9	249.5	1144.9	103.3	93.6	58.7	48.9	259.9	1201.5	206.7	58.7	270.3
25.0	6.0	1035.0	178.0	62.4	227.3	1124.9	193.5	52.0	251.9	1183.4	106.8	96.7	62.4	52.0	262.3	1242.0	213.6	96.7	272.7
25.0	7.0	1068.6	183.8	66.2	229.4	1161.5	199.8	55.2	254.2	1222.0	110.3	99.9	66.2	55.2	264.7	1282.4	220.6	99.9	275.2
25.0	8.0	1102.1	189.6	70.0	231.4	1197.9	206.0	58.4	256.5	1260.2	113.7	103.0	70.0	58.4	267.1	1322.5	227.5	103.0	277.7
25.0	9.0	1135.0	195.2	73.9	233.5	1233.7	212.2	61.6	258.8	1297.8	117.1	106.1	73.9	61.6	269.5	1362.0	234.3	106.1	280.2
25.0	10.0	1167.4	200.8	77.9	235.6	1268.8	218.2	64.9	261.1	1334.8	120.5	109.1	77.9	64.9	271.9	1400.8	240.9	109.1	282.7
30.0	5.0	946.7	162.8	53.0	256.7	1029.0	177.0	44.1	284.7	1082.5	97.7	88.5	53.0	44.1	296.4	1136.1	195.4	88.5	308.0
30.0	6.0	979.3	168.4	56.4	258.9	1064.4	183.1	47.0	287.2	1119.8	101.1	91.5	56.4	47.0	299.0	1175.1	202.1	91.5	310.7
30.0	7.0	1011.8	174.0	59.9	261.2	1099.8	189.2	49.9	289.7	1157.0	104.4	94.6	59.9	49.9	301.5	1214.2	208.8	94.6	313.4
30.0	8.0	1044.1	179.6	63.4	263.4	1134.9	195.2	52.9	292.2	1193.9	107.8	97.6	63.4	52.9	304.1	1253.0	215.5	97.6	316.1
30.0	9.0	1076.0	185.1	67.0	265.7	1169.5	201.2	55.9	294.7	1230.3	111.0	100.6	67.0	55.9	306.7	1291.2	222.1	100.6	318.8
30.0	10.0	1107.3	190.5	70.7	267.9	1203.5	207.0	58.9	297.2	1266.1	114.3	103.5	70.7	58.9	309.3	1328.8	228.5	103.5	321.5
35.0	5.0	892.2	153.5	47.5	288.2	969.7	166.8	39.6	319.8	1020.1	92.1	83.4	47.5	39.6	332.8	1070.6	184.1	83.4	345.8
35.0	6.0	923.6	158.9	50.6	290.6	1003.9	172.7	42.2	322.5	1056.1	95.3	86.3	50.6	42.2	335.6	1108.3	190.6	86.3	348.7
35.0	7.0	955.0	164.3	53.8	293.0	1038.0	178.5	44.9	325.2	1092.0	98.6	89.3	53.8	44.9	338.4	1146.0	197.1	89.3	351.6
35.0	8.0	986.2	169.6	57.1	295.4	1071.9	184.4	47.6	327.9	1127.7	101.8	92.2	57.1	47.6	341.2	1183.5	203.6	92.2	354.5
35.0	9.0	1017.0	174.9	60.4	297.8	1105.4	190.1	50.4	330.6	1162.9	105.0	95.1	60.4	50.4	344.0	1220.4	209.9	95.1	357.4
35.0	10.0	1047.2	180.1	63.8	300.2	1138.2	195.8	53.1	333.3	1197.5	108.1	97.9	63.8	53.1	346.8	1256.7	216.1	97.9	360.3
40.0	5.0	837.6	144.1	42.3	319.6	910.4	156.6	35.2	354.9	957.8	86.4	78.3	42.3	35.2	369.3	1005.1	172.9	78.3	383.6
40.0	6.0	867.9	149.3	45.1	322.2	943.3	162.3	37.6	357.8	992.4	89.6	81.1	45.1	37.6	372.3	1041.5	179.1	81.1	386.7
40.0	7.0	898.2	154.5	48.1	324.8	976.3	167.9	40.1	360.7	1027.0	92.7	84.0	48.1	40.1	375.2	1077.8	185.4	84.0	389.8
40.0	8.0	928.3	159.7	51.1	327.4	1009.0	173.5	42.6	363.6	1061.5	95.8	86.8	51.1	42.6	378.2	1113.9	191.6	86.8	392.9
40.0	9.0	957.9	164.8	54.1	330.0	1041.2	179.1	45.1	366.5	1095.4	98.9	89.5	54.1	45.1	381.2	1149.5	197.7	89.5	396.0
40.0	10.0	987.1	169.8	57.2	332.6	1072.9	184.5	47.7	369.4	1128.8	101.9	92.3	57.2	47.7	384.2	1184.6	203.7	92.3	399.1
46.0	5.0	772.1	132.8	36.4	357.4	839.2	144.3	30.3	397.1	882.9	79.7	72.2	36.4	30.3	413.0	926.5	159.4	72.2	428.9
46.0	6.0	801.1	137.8	39.0	360.2	870.7	149.8	32.5	400.2	916.0	82.7	74.9	39.0	32.5	416.2	961.3	165.3	74.9	432.2
46.0	7.0	830.0	142.8	41.6	363.0	902.2	155.2	34.7	403.3	949.1	85.7	77.6	41.6	34.7	419.5	996.0	171.3	77.6	435.6
46.0	8.0	858.8	147.7	44.3	365.8	933.4	160.5	36.9	406.5	982.0	88.6	80.3	44.3	36.9	422.7	1030.5	177.2	80.3	439.0
46.0	9.0	887.1	152.6	47.0	368.6	964.2	165.8	39.2	409.6	1014.4	91.6	82.9	47.0	39.2	425.9	1064.5	183.1	82.9	442.3
46.0	10.0	915.0	157.4	49.7	371.4	994.6	171.1	41.5	412.7	1046.3	94.4	85.5	49.7	41.5	429.2	1098.1	188.9	85.5	445.7
48.0	5.0	750.3	129.0	34.5	370.0	815.5	140.3	28.8	411.2	857.9	77.4	70.1	34.5	28.8	427.6	900.3	154.9	70.1	444.0
48.0	6.0	778.8	134.0	37.0	372.9	846.5	145.6	30.8	414.4	890.5	80.4	72.8	37.0	30.8	430.9	934.5	160.7	72.8	447.4
48.0	7.0	807.3	138.9	39.5	375.7	877.4	150.9	32.9	417.5	923.1	83.3	75.5	39.5	32.9	434.2	968.7	166.6	75.5	450.9
48.0	8.0	835.6	143.7	42.1	378.6	908.2	156.2	35.1	420.7	955.5	86.2	78.1	42.1	35.1	437.5	1002.7	172.5	78.1	454.3
48.0	9.0	863.5	148.5	44.7	381.5	938.6	161.4	37.3	423.9	987.4	89.1	80.7	44.7	37.3	440.8	1036.2	178.2	80.7	457.7
48.0	10.0	891.0	153.3	47.4	384.3	968.5	166.6	39.5	427.1	1018.8	92.0	83.3	47.4	39.5	444.2	1069.2	183.9	83.3	461.2
52.0	5.0	627.5	107.9	24.9	385.8	682.0	117.3	20.7	428.8	717.5	64.8	58.7	24.9	20.7	445.9	753.0	129.5	58.7	462.9
52.0	6.0	652.0	112.1	26.7	388.7	708.7	121.9	22.2	432.1	745.5	67.3	60.9	26.7	22.2	449.3	782.4	134.6	60.9	466.5
52.0	7.0	676.5	116.4	28.5	391.7	735.3	126.5	23.8	435.3	773.6	69.8	63.2	28.5	23.8	452.7	811.8	139.6	63.2	470.0
52.0	8.0	700.9	120.5	30.5	394.6	761.8	131.0	25.4	438.6	801.4	72.3	65.5	30.5	25.4	456.1	841.0	144.7	65.5	473.5
52.0	9.0	724.9	124.7	32.4	397.5	787.9	135.5	27.0	441.9	828.9	74.8	67.8	32.4	27.0	459.5	869.9	149.6	67.8	477.0
52.0	10.0	748.5	128.7	34.4	400.5	813.6	139.9	28.7	445.2	855.9	77.2	70.0	34.4	28.7	462.9	898.2	154.5	70.0	480.6

ABT: Condenser Air Inlet Temperature(°C)
 COT: Chilled Water Outlet Temperature(°C)
 CAP: Cooling Capacity(KW)
 CFR: Chilled Water Flow Rate 5°C Difference Between Inlet And Outlet Temperature(m³/h)
 CFR1: For No.1 Unit

CFR2: For No.2 Unit
 CPD: Water Cooler Pressure Drop(kPa)
 CPD1: For No.1 Unit
 CPD2: For No.2 Unit
 IPT: Compressor Input Power(KW)

Conversion Multiplier: 1kW =860kcal/h
 =3.412Btu/h
 1kPa =0.102mAq



SELECTION DATA

Cooling Capacities (For R22) -60Hz-

Table with columns for model (CCU75AT(Z) to CCU180AT(Z)), ABT, COT, CAP, CFR, CPD, IPT, and various capacity values.

Table with columns for model (CCU200AT(Z) to CCU270AT(Z)), ABT, COT, CAP, CFR, CPD, IPT, and various capacity values.

ABT: Condenser Air Inlet Temperature(°C)

COT: Chilled Water Outlet Temperature(°C)

CAP: Cooling Capacity(KW)

CFR: Chilled Water Flow Rate 5°C Difference Between Inlet And Outlet Temperature(m³/h)

CFR1: For No.1 Unit

CFR2: For No.2 Unit

CPD: Water Cooler Pressure Drop(kPa)

CPD1: For No.1 Unit

CPD2: For No.2 Unit

IPT: Compressor Input Power(KW)

Conversion Multiplier: 1kW =860kcal/h

=3.412Btu/h

1kPa =0.102mAg



Cooling Capacities (For R22) -60Hz-

		CCU300AT(Z)				CCU310AT(Z)					CCU320AT(Z)				CCU330AT(Z)						
ABT	COT	CAP	CFR	CPD	IPT	CAP	CFR1	CFR2	CPD1	CPD2	IPT	CAP	CFR	CPD	IPT	CAP	CFR1	CFR2	CPD1	CPD2	IPT
25.0	5.0	943.6	162.3	79.4	220.5	987.6	110.4	59.5	128.9	62.6	225.1	1069.4	183.9	66.3	251.4	1113.4	110.4	81.1	66.3	79.4	261.1
25.0	6.0	975.3	167.8	84.3	222.5	1020.9	114.1	61.5	137.0	66.6	227.3	1105.4	190.1	70.4	253.8	1150.9	114.1	83.9	70.4	84.3	263.6
25.0	7.0	1007.1	173.2	89.4	224.6	1054.1	117.8	63.5	145.3	70.6	229.5	1141.4	196.3	74.7	256.3	1188.3	117.8	86.6	74.7	89.4	266.1
25.0	8.0	1038.6	178.6	94.7	226.7	1087.1	121.5	65.5	153.8	74.8	231.7	1177.1	202.5	79.1	258.7	1225.5	121.5	89.3	79.1	94.7	268.6
25.0	9.0	1069.6	184.0	99.9	228.8	1119.5	125.1	67.5	162.4	79.0	233.9	1212.2	208.5	83.5	261.1	1262.1	125.1	92.0	83.5	99.9	271.0
25.0	10.0	1100.1	189.2	105.2	230.9	1151.5	128.7	69.4	171.1	83.2	236.1	1246.8	214.4	87.9	263.5	1298.1	128.7	94.6	87.9	105.2	273.5
30.0	5.0	892.2	153.5	71.6	252.2	933.8	104.3	56.3	116.2	56.4	258.4	1011.1	173.9	59.8	288.0	1052.8	104.3	76.7	59.8	71.6	298.9
30.0	6.0	922.9	158.7	76.2	254.5	965.9	107.9	58.2	123.7	60.1	260.8	1045.9	179.9	63.6	290.6	1089.0	107.9	79.4	63.6	76.2	301.6
30.0	7.0	953.5	164.0	80.9	256.7	998.0	111.5	60.1	131.4	63.8	263.1	1080.7	185.9	67.6	293.2	1125.2	111.5	82.0	67.6	80.9	304.3
30.0	8.0	984.0	169.2	85.7	259.0	1029.9	115.1	62.1	139.2	67.7	265.5	1115.2	191.8	71.6	295.9	1161.1	115.1	84.6	71.6	85.7	307.0
30.0	9.0	1014.0	174.4	90.6	261.2	1061.3	118.6	64.0	147.2	71.5	267.9	1149.2	197.7	75.6	298.5	1196.5	118.6	87.2	75.6	90.6	309.7
30.0	10.0	1043.5	179.5	95.5	263.5	1092.2	122.0	65.8	155.2	75.4	270.2	1182.6	203.4	79.7	301.1	1231.3	122.0	89.7	79.7	95.5	312.4
35.0	5.0	840.8	144.6	64.2	283.9	880.0	98.3	53.0	104.1	50.5	291.6	952.9	163.9	53.6	324.6	992.1	98.3	72.3	53.6	64.2	336.7
35.0	6.0	870.4	149.7	68.4	286.4	911.0	101.8	54.9	111.0	53.9	294.2	986.4	169.7	57.1	327.4	1027.0	101.8	74.9	57.1	68.4	339.6
35.0	7.0	900.0	154.8	72.7	288.8	942.0	105.3	56.8	118.1	57.3	296.7	1020.0	175.4	60.7	330.2	1062.0	105.2	77.4	60.7	72.7	342.5
35.0	8.0	929.4	159.9	77.2	291.2	972.8	108.7	58.6	125.3	60.9	299.3	1053.3	181.2	64.4	333.1	1096.7	108.7	79.9	64.4	77.2	345.4
35.0	9.0	958.4	164.8	81.7	293.7	1003.1	112.1	60.4	132.6	64.4	301.9	1086.2	186.8	68.2	335.9	1130.9	112.1	82.4	68.2	81.7	348.3
35.0	10.0	986.9	169.7	86.2	296.1	1032.9	115.4	62.2	140.0	68.0	304.4	1118.5	192.4	72.0	338.7	1164.5	115.4	84.9	72.0	86.2	351.3
40.0	5.0	789.3	135.8	57.1	315.7	826.2	92.3	49.8	92.7	45.0	324.9	894.6	153.9	47.7	361.2	931.4	92.3	67.9	47.7	57.1	374.6
40.0	6.0	817.9	140.7	61.0	318.3	856.1	95.7	51.6	99.0	48.0	327.6	926.9	159.4	50.9	364.2	965.1	95.7	70.3	50.9	61.0	377.7
40.0	7.0	846.4	145.6	65.0	320.9	885.9	99.0	53.4	105.4	51.2	330.4	959.3	165.0	54.3	367.2	998.8	99.0	72.8	54.3	65.0	380.8
40.0	8.0	874.8	150.5	69.0	323.5	915.6	102.3	55.2	112.1	54.4	333.1	991.4	170.5	57.7	370.2	1032.3	102.3	75.2	57.7	69.0	383.9
40.0	9.0	902.8	155.3	73.2	326.1	944.9	105.6	56.9	118.8	57.7	335.8	1023.1	176.0	61.1	373.3	1065.3	105.6	77.6	61.1	73.2	387.0
40.0	10.0	930.3	160.0	77.3	328.7	973.7	108.8	58.7	125.5	61.0	338.6	1054.3	181.3	64.6	376.3	1097.7	108.8	80.0	64.6	77.3	390.1
46.0	5.0	727.6	125.2	49.2	353.7	761.6	85.1	45.9	79.7	38.7	364.8	824.6	141.8	41.1	405.1	858.6	85.1	62.6	41.1	49.2	419.9
46.0	6.0	754.9	129.8	52.6	356.6	790.1	88.3	47.6	85.4	41.4	367.7	855.6	147.2	44.0	408.4	890.8	88.3	64.9	44.0	52.6	423.3
46.0	7.0	782.2	134.5	56.2	359.4	818.7	91.5	49.3	91.1	44.2	370.7	886.5	152.5	46.9	411.6	923.0	91.5	67.3	46.9	56.2	426.7
46.0	8.0	809.3	139.2	59.8	362.2	847.1	94.7	51.0	97.1	47.1	373.6	917.2	157.8	50.0	414.9	955.0	94.7	69.6	50.0	59.8	430.0
46.0	9.0	836.0	143.8	63.5	365.0	875.0	97.8	52.7	103.1	50.0	376.6	947.5	163.0	53.0	418.1	986.5	97.8	71.9	53.0	63.5	433.4
46.0	10.0	862.3	148.3	67.2	367.8	902.6	100.9	54.4	109.1	53.0	379.6	977.3	168.1	56.2	421.4	1017.5	100.9	74.2	56.2	67.2	436.7
48.0	5.0	627.9	108.0	37.5	357.5	657.2	73.4	39.6	60.7	29.4	368.8	711.6	122.4	31.3	409.5	740.9	73.4	54.0	31.3	37.5	424.5
48.0	6.0	651.7	112.1	40.2	360.4	682.1	76.2	41.1	65.1	31.5	371.7	738.6	127.0	33.5	412.8	769.0	76.2	56.0	33.5	40.2	427.8
48.0	7.0	675.6	116.2	42.9	363.2	707.1	79.0	42.6	69.5	33.7	374.7	765.6	131.7	35.8	416.0	797.2	79.0	58.1	35.8	42.9	431.2
48.0	8.0	699.3	120.3	45.7	366.0	731.9	81.8	44.1	74.1	35.9	377.6	792.5	136.3	38.2	419.3	825.1	81.8	60.1	38.2	45.7	434.6
48.0	9.0	722.6	124.3	48.6	368.8	756.4	84.5	45.6	78.7	38.2	380.6	819.0	140.9	40.6	422.5	852.7	84.5	62.1	40.6	48.6	437.9
48.0	10.0	745.6	128.2	51.5	371.7	780.4	87.2	47.0	83.4	40.5	383.6	845.1	145.3	43.0	425.8	879.8	87.2	64.1	43.0	51.5	441.3
50.0	5.0	609.6	104.9	35.5	369.9	638.1	71.3	38.4	57.5	27.8	381.8	690.9	118.8	29.7	423.8	719.3	71.3	52.4	29.7	35.5	439.3
50.0	6.0	633.1	108.9	38.1	372.8	662.6	74.0	39.9	61.7	29.9	384.8	717.5	123.4	31.8	427.2	747.0	74.0	54.4	31.8	38.1	442.7
50.0	7.0	656.5	112.9	40.7	375.7	687.2	76.8	41.4	66.0	31.9	387.8	744.1	128.0	34.0	430.5	774.7	76.8	56.5	34.0	40.7	446.2
50.0	8.0	679.9	116.9	43.4	378.6	711.6	79.5	42.9	70.3	34.1	390.9	770.5	132.5	36.3	433.8	802.2	79.5	58.5	36.3	43.4	449.6
50.0	9.0	702.9	120.9	46.2	381.5	735.7	82.2	44.3	74.8	36.3	393.9	796.6	137.0	38.6	437.2	829.4	82.2	60.4	38.6	46.2	453.1
50.0	10.0	725.5	124.8	48.9	384.4	759.4	84.9	45.8	79.3	38.5	396.9	822.3	141.4	40.9	440.5	856.1	84.9	62.4	40.9	48.9	456.5

ABT: Condenser Air Inlet Temperature(°C)
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 CFR1: For No.1 Unit

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 CPD: Water Cooler Pressure Drop(kPa)
 CPD1: For No.1 Unit
 CPD2: For No.2 Unit
 IPT: Compressor Input Power(KW)

Conversion Multiplier: 1kW =860kcal/h
 =3.412Btu/h
 1kPa =0.102mAq



Cooling Capacities (For R22) -60Hz-

		CCU360AT(Z)					CCU370AT(Z)				CCU380AT(Z)						CCU400AT(Z)			
ABT	COT	CAP	CFR	CPD	IPT	CAP	CFR	CPD	IPT	CAP	CFR1	CFR2	CPD1	CPD2	IPT	CAP	CFR	CPD	IPT	
25.0	5.0	1179.5	202.9	79.4	275.6	1283.3	220.7	66.3	301.7	1349.3	121.7	110.4	79.4	66.3	316.2	1415.4	243.4	79.4	330.7	
25.0	6.0	1219.2	209.7	84.3	278.2	1326.5	228.2	70.4	304.6	1394.7	125.8	114.1	84.3	70.4	319.2	1463.0	251.6	114.1	333.8	
25.0	7.0	1258.8	216.5	89.4	280.8	1369.6	235.6	74.7	307.5	1440.1	129.9	117.9	89.4	74.7	322.2	1510.6	259.8	117.8	336.9	
25.0	8.0	1298.2	223.3	94.7	283.4	1412.5	242.9	79.1	310.4	1485.2	134.0	121.5	94.7	79.1	325.2	1557.9	268.0	121.5	340.1	
25.0	9.0	1337.0	230.0	99.9	286.0	1454.7	250.2	83.5	313.3	1529.5	138.0	125.1	99.9	83.5	328.2	1604.4	276.0	125.1	343.2	
25.0	10.0	1375.1	236.5	105.2	288.6	1496.2	257.3	87.9	316.2	1573.2	141.9	128.7	105.2	87.9	331.3	1650.2	283.8	128.7	346.3	
30.0	5.0	1115.2	191.8	71.6	315.2	1213.4	208.7	59.8	345.6	1275.8	115.1	104.3	71.6	59.8	362.0	1338.3	230.2	104.3	378.3	
30.0	6.0	1153.6	198.4	76.2	318.1	1255.1	215.9	63.6	348.8	1319.7	119.0	107.9	76.2	63.6	365.2	1384.3	238.1	107.9	381.7	
30.0	7.0	1191.9	205.0	80.9	320.9	1296.8	223.1	67.6	351.9	1363.5	123.0	111.5	80.9	67.6	368.5	1430.3	246.0	111.5	385.1	
30.0	8.0	1230.0	211.6	85.7	323.7	1338.2	230.2	71.6	355.0	1407.1	126.9	115.1	85.7	71.6	371.7	1476.0	253.9	115.1	388.5	
30.0	9.0	1267.5	218.0	90.6	326.5	1379.0	237.2	75.6	358.2	1450.0	130.8	118.6	90.6	75.6	375.0	1521.0	261.6	118.6	391.9	
30.0	10.0	1304.4	224.4	95.5	329.4	1419.2	244.1	79.7	361.3	1492.2	134.6	122.0	95.5	79.7	378.3	1565.2	269.2	122.0	395.2	
35.0	5.0	1050.9	180.8	64.2	354.9	1143.4	196.7	53.6	389.5	1202.3	108.5	98.3	64.2	53.6	407.7	1261.1	216.9	98.3	425.9	
35.0	6.0	1088.0	187.1	68.4	357.9	1183.7	203.6	57.1	392.9	1244.6	112.3	101.8	68.4	57.1	411.2	1305.6	224.6	101.8	429.5	
35.0	7.0	1125.0	193.5	72.7	361.0	1224.0	210.5	60.7	396.3	1287.0	116.1	105.3	72.7	60.7	414.7	1350.0	232.2	105.3	433.2	
35.0	8.0	1161.7	199.8	77.2	364.0	1264.0	217.4	64.4	399.7	1329.0	119.9	108.7	77.2	64.4	418.3	1394.1	239.8	108.7	436.8	
35.0	9.0	1198.0	206.1	81.7	367.1	1303.4	224.2	68.2	403.0	1370.5	123.6	112.1	81.7	68.2	421.8	1437.6	247.3	112.1	440.5	
35.0	10.0	1233.6	212.2	86.2	370.1	1342.2	230.9	72.0	406.4	1411.2	127.3	115.4	86.2	72.0	425.3	1480.3	254.6	115.4	444.2	
40.0	5.0	986.7	169.7	57.1	394.6	1073.5	184.6	47.7	433.5	1128.7	101.8	92.3	57.1	47.7	453.5	1184.0	203.6	92.3	473.5	
40.0	6.0	1022.4	175.8	61.0	397.8	1112.3	191.3	50.9	437.1	1169.6	105.5	95.7	61.0	50.9	457.2	1226.8	211.0	95.7	477.4	
40.0	7.0	1058.0	182.0	65.0	401.1	1151.2	198.0	54.3	440.7	1210.4	109.2	99.0	65.0	54.3	461.0	1269.7	218.4	99.0	481.3	
40.0	8.0	1093.5	188.1	69.0	404.4	1189.7	204.6	57.7	444.3	1251.0	112.8	102.3	69.0	57.7	464.8	1312.2	225.7	102.3	485.2	
40.0	9.0	1128.4	194.1	73.2	407.6	1227.8	211.2	61.1	447.9	1290.9	116.5	105.6	73.2	61.1	468.5	1354.1	232.9	105.6	489.1	
40.0	10.0	1162.8	200.0	77.3	410.9	1265.2	217.6	64.6	451.5	1330.3	120.0	108.8	77.3	64.6	472.3	1395.4	240.0	108.8	493.1	
46.0	5.0	909.5	156.4	49.2	442.2	989.6	170.2	41.1	486.2	1040.5	93.9	85.1	49.2	41.1	508.4	1091.4	187.7	85.1	530.6	
46.0	6.0	943.6	162.3	52.6	445.7	1026.7	176.6	44.0	490.1	1079.5	97.4	88.3	52.6	44.0	512.4	1132.4	194.8	88.3	534.8	
46.0	7.0	977.7	168.2	56.2	449.2	1063.8	183.0	46.9	494.0	1118.5	100.9	91.5	56.2	46.9	516.5	1173.3	201.8	91.5	539.1	
46.0	8.0	1011.6	174.0	59.8	452.7	1100.6	189.3	50.0	497.9	1157.3	104.4	94.7	59.8	50.0	520.6	1213.9	208.8	94.7	543.3	
46.0	9.0	1045.0	179.7	63.5	456.3	1137.0	195.6	53.0	501.8	1195.5	107.8	97.8	63.5	53.0	524.6	1254.0	215.7	97.8	547.5	
46.0	10.0	1077.9	185.4	67.2	459.8	1172.8	201.7	56.2	505.7	1233.1	111.2	100.9	67.2	56.2	528.7	1293.5	222.5	100.9	551.7	
48.0	5.0	784.8	135.0	37.5	446.9	853.9	146.9	31.3	491.4	897.8	81.0	73.4	37.5	31.3	513.9	941.8	162.0	73.4	536.3	
48.0	6.0	814.6	140.1	40.2	450.4	886.3	152.4	33.5	495.3	932.0	84.1	76.2	40.2	33.5	517.9	977.6	168.1	76.2	540.5	
48.0	7.0	844.5	145.2	42.9	454.0	918.8	158.0	35.8	499.2	966.1	87.1	79.0	42.9	35.8	522.0	1013.3	174.3	79.0	544.8	
48.0	8.0	874.1	150.3	45.7	457.5	951.0	163.6	38.2	503.1	999.9	90.2	81.8	45.7	38.2	526.1	1048.9	180.4	81.8	549.0	
48.0	9.0	903.3	155.4	48.6	461.0	982.8	169.0	40.6	507.0	1033.4	93.2	84.5	48.6	40.6	530.1	1083.9	186.4	84.5	553.2	
48.0	10.0	932.0	160.3	51.5	464.6	1014.1	174.4	43.0	511.0	1066.3	96.2	87.2	51.5	43.0	534.2	1118.4	192.4	87.2	557.5	
50.0	5.0	762.0	131.1	35.5	462.4	829.1	142.6	29.7	508.6	871.7	78.6	71.3	35.5	29.7	531.7	914.4	157.3	71.3	554.9	
50.0	6.0	791.3	136.1	38.1	466.0	861.0	148.1	31.8	512.6	905.3	81.7	74.0	38.1	31.8	535.9	949.6	163.3	74.0	559.3	
50.0	7.0	820.7	141.2	40.7	469.7	892.9	153.6	34.0	516.6	938.9	84.7	76.8	40.7	34.0	540.1	984.8	169.4	76.8	563.6	
50.0	8.0	849.8	146.2	43.4	473.3	924.6	159.0	36.3	520.6	972.2	87.7	79.5	43.4	36.3	544.3	1019.8	175.4	79.5	567.9	
50.0	9.0	878.6	151.1	46.2	476.9	955.9	164.4	38.6	524.6	1005.1	90.7	82.2	46.2	38.6	548.4	1054.3	181.3	82.2	572.3	
50.0	10.0	906.9	156.0	48.9	480.5	986.7	169.7	40.9	528.6	1037.5	93.6	84.9	48.9	40.9	552.6	1088.3	187.2	84.9	576.6	

ABT: Condenser Air Inlet Temperature(°C)
 COT: Chilled Water Outlet Temperature(°C)
 CAP: Cooling Capacity(KW)
 CFR: Chilled Water Flow Rate 5°C Difference Between Inlet And Outlet Temperature(m³/h)
 CFR1: For No.1 Unit

CFR2: For No.2 Unit
 CPD: Water Cooler Pressure Drop(kPa)
 CPD1: For No.1 Unit
 CPD2: For No.2 Unit
 IPT: Compressor Input Power(KW)

Conversion Multiplier: 1kW =860kcal/h
 =3.412Btu/h
 1kPa =0.102mHg



SELECTION DATA

Cooling Capacities (For R407C) -50Hz-

		CCU75AT(Z)G				CCU100AT(Z)G				CCU120AT(Z)G				CCU150AT(Z)G				CCU180AT(Z)G			
ABT	COT	CAP	CFR	CPD	IPT	CAP	CFR	CPD	IPT	CAP	CFR	CPD	IPT	CAP	CFR	CPD	IPT	CAP	CFR	CPD	IPT
25.0	5.0	200.3	34.4	58.7	48.5	293.6	50.5	46.2	71.5	362.8	62.4	48.9	89.6	400.5	68.9	58.7	97.0	544.2	93.6	48.9	134.4
25.0	6.0	207.0	35.6	62.4	48.9	303.4	52.2	49.1	72.1	375.0	64.5	52.0	90.4	414.0	71.2	62.4	97.9	562.5	96.7	52.0	135.7
25.0	7.0	213.7	36.8	66.2	49.4	313.3	53.9	52.1	72.8	387.2	66.6	55.2	91.3	427.5	73.5	66.2	98.8	580.8	99.9	55.2	136.9
25.0	8.0	220.4	37.9	70.0	49.8	323.1	55.6	55.1	73.5	399.3	68.7	58.4	92.1	440.8	75.8	70.0	99.7	598.9	103.0	58.4	138.1
25.0	9.0	227.0	39.0	73.9	50.3	332.8	57.2	58.2	74.2	411.2	70.7	61.6	92.9	454.0	78.1	73.9	100.6	616.8	106.1	61.6	139.4
25.0	10.0	233.5	40.2	77.9	50.7	342.3	58.9	61.4	74.8	422.9	72.7	64.9	93.7	466.9	80.3	77.9	101.4	634.4	109.1	64.9	140.6
30.0	5.0	189.3	32.6	53.0	55.2	277.6	47.7	41.6	81.7	343.0	59.0	44.1	102.2	378.7	65.1	53.0	110.5	514.5	88.5	44.1	153.2
30.0	6.0	195.9	33.7	56.4	55.7	287.1	49.4	44.3	82.4	354.8	61.0	47.0	103.0	391.7	67.4	56.4	111.4	532.2	91.5	47.0	154.6
30.0	7.0	202.4	34.8	59.9	56.2	296.7	51.0	47.1	83.2	366.6	63.1	49.9	103.9	404.7	69.6	59.9	112.4	549.9	94.6	49.9	155.9
30.0	8.0	208.8	35.9	63.4	56.7	306.1	52.7	49.9	83.9	378.3	65.1	52.9	104.8	417.7	71.8	63.4	113.4	567.5	97.6	52.9	157.2
30.0	9.0	215.2	37.0	67.0	57.2	315.5	54.3	52.7	84.6	389.8	67.1	55.9	105.7	430.4	74.0	67.0	114.3	584.8	100.6	55.9	158.6
30.0	10.0	221.5	38.1	70.7	57.6	324.6	55.8	55.6	85.3	401.2	69.0	58.9	106.6	442.9	76.2	70.7	115.3	601.8	103.5	58.9	159.9
35.0	5.0	178.4	30.7	47.5	62.0	261.6	45.0	37.3	91.9	323.2	55.6	39.6	114.7	356.9	61.4	47.5	123.9	484.9	83.4	39.6	172.0
35.0	6.0	184.7	31.8	50.6	62.5	270.8	46.6	39.7	92.7	334.6	57.6	42.2	115.6	369.4	63.5	50.6	125.0	501.9	86.3	42.2	173.5
35.0	7.0	191.0	32.9	53.8	63.0	280.0	48.2	42.3	93.5	346.0	59.5	44.9	116.6	382.0	65.7	53.8	126.0	519.0	89.3	44.9	174.9
35.0	8.0	197.2	33.9	57.1	63.5	289.1	49.7	44.9	94.3	357.3	61.5	47.6	117.6	394.5	67.9	57.1	127.1	536.0	92.2	47.6	176.4
35.0	9.0	203.4	35.0	60.4	64.0	298.2	51.3	47.5	95.1	368.5	63.4	50.4	118.5	406.8	70.0	60.4	128.1	552.7	95.1	50.4	177.8
35.0	10.0	209.4	36.0	63.8	64.6	307.0	52.8	50.2	95.8	379.4	65.3	53.1	119.5	418.9	72.0	63.8	129.1	569.1	97.9	53.1	179.2
40.0	5.0	167.5	28.8	42.3	68.7	245.6	42.2	33.1	102.1	303.5	52.2	35.2	127.2	335.0	57.6	42.3	137.4	455.2	78.3	35.2	190.8
40.0	6.0	173.6	29.9	45.1	69.3	254.5	43.8	35.4	103.0	314.4	54.1	37.6	128.2	347.2	59.7	45.1	138.5	471.7	81.1	37.6	192.4
40.0	7.0	179.6	30.9	48.1	69.8	263.3	45.3	37.7	103.8	325.4	56.0	40.1	129.3	359.3	61.8	48.1	139.6	488.1	84.0	40.1	193.9
40.0	8.0	185.7	31.9	51.1	70.4	272.2	46.8	40.1	104.7	336.3	57.8	42.6	130.3	371.3	63.9	51.1	140.7	504.5	86.8	42.6	195.5
40.0	9.0	191.6	33.0	54.1	70.9	280.9	48.3	42.5	105.5	347.1	59.7	45.1	131.3	383.2	65.9	54.1	141.9	520.6	89.5	45.1	197.0
40.0	10.0	197.4	34.0	57.2	71.5	289.4	49.8	45.0	106.3	357.6	61.5	47.7	132.4	394.9	67.9	57.2	143.0	536.5	92.3	47.7	198.5
46.0	5.0	146.7	25.2	33.1	72.7	226.4	38.9	28.5	114.4	279.7	48.1	30.3	142.2	293.4	50.5	33.1	145.5	419.6	72.2	30.3	213.4
46.0	6.0	152.2	26.2	35.4	73.3	234.9	40.4	30.5	115.3	290.2	49.9	32.5	143.4	304.4	52.4	35.4	146.6	435.3	74.9	32.5	215.0
46.0	7.0	157.7	27.1	37.8	73.9	243.4	41.9	32.6	116.2	300.7	51.7	34.7	144.5	315.4	54.2	37.8	147.7	451.1	77.6	34.7	216.7
46.0	8.0	163.2	28.1	40.3	74.4	251.8	43.3	34.7	117.1	311.1	53.5	36.9	145.6	326.3	56.1	40.3	148.9	466.7	80.3	36.9	218.4
46.0	9.0	168.6	29.0	42.8	75.0	260.1	44.7	36.9	118.0	321.4	55.3	39.2	146.7	337.1	58.0	42.8	150.0	482.1	82.9	39.2	220.1
46.0	10.0	173.9	29.9	45.3	75.6	268.3	46.1	39.1	118.9	331.5	57.0	41.5	147.8	347.7	59.8	45.3	151.2	497.3	85.5	41.5	221.7
48.0	5.0	142.6	24.5	31.4	75.3	209.0	35.9	24.6	112.1	258.2	44.4	26.2	139.5	285.1	49.0	31.4	150.6	387.4	66.6	26.2	209.2
48.0	6.0	148.0	25.5	33.7	75.9	216.9	37.3	26.3	113.0	268.0	46.1	28.1	140.5	295.9	50.9	33.7	151.7	402.1	69.2	28.1	210.8
48.0	7.0	153.4	26.4	36.0	76.5	224.9	38.7	28.1	113.9	277.9	47.8	30.0	141.6	306.8	52.8	36.0	152.9	416.8	71.7	30.0	212.4
48.0	8.0	158.8	27.3	38.3	77.0	232.7	40.0	30.0	114.8	287.6	49.5	31.9	142.7	317.5	54.6	38.3	154.1	431.4	74.2	31.9	214.1
48.0	9.0	164.1	28.2	40.7	77.6	240.5	41.4	31.9	115.7	297.2	51.1	33.9	143.8	328.1	56.4	40.7	155.2	445.8	76.7	33.9	215.7
48.0	10.0	169.3	29.1	43.1	78.2	248.2	42.7	33.8	116.5	306.7	52.7	35.9	144.9	338.6	58.2	43.1	156.4	460.0	79.1	35.9	217.3
50.0	5.0	119.0	20.5	22.6	66.3	174.5	30.0	17.6	98.5	215.6	37.1	18.8	122.8	238.1	40.9	22.6	132.7	323.4	55.6	18.8	184.2
50.0	6.0	123.6	21.3	24.2	66.8	181.2	31.2	18.9	99.3	223.9	38.5	20.2	123.8	247.2	42.5	24.2	133.7	335.9	57.8	20.2	185.6
50.0	7.0	128.2	22.0	25.8	67.4	187.9	32.3	20.2	100.1	232.2	39.9	21.5	124.7	256.4	44.1	25.8	134.7	348.3	59.9	21.5	187.1
50.0	8.0	132.7	22.8	27.6	67.9	194.6	33.5	21.5	100.9	240.5	41.4	23.0	125.7	265.5	45.7	27.6	135.8	360.7	62.0	23.0	188.5
50.0	9.0	137.2	23.6	29.3	68.4	201.2	34.6	22.9	101.6	248.6	42.8	24.4	126.6	274.5	47.2	29.3	136.8	372.9	64.1	24.4	189.9
50.0	10.0	141.7	24.4	31.1	68.9	207.7	35.7	24.3	102.4	256.6	44.1	25.9	127.6	283.3	48.7	31.1	137.8	384.9	66.2	25.9	191.4

		CCU200AT(Z)G				CCU220AT(Z)G				CCU240AT(Z)G				CCU270AT(Z)G							
ABT	COT	CAP	CFR	CPD	IPT	CAP	CFR1	CFR2	CPD1	CPD2	IPT	CAP	CFR	CPD	IPT	CAP	CFR1	CFR2	CPD1	CPD2	IPT
25.0	5.0	600.8	103.3	68.7	145.5	656.3	62.4	50.5	48.9	46.2	161.1	725.5	124.8	48.9	179.2	763.3	68.9	62.4	58.7	48.9	186.6
25.0	6.0	621.0	106.8	62.4	146.8	678.4	64.5	52.2	52.0	49.1	162.6	749.9	129.0	52.0	180.9	789.0	71.2	64.5	62.4	52	188.3
25.0	7.0	641.2	110.3	66.2	148.2	700.5	66.6	53.9	55.2	52.1	164.1	774.4	133.2	55.2	182.5	814.6	73.5	66.6	66.2	55.2	190.1
25.0	8.0	661.2	113.7	70.0	149.5	722.4	68.7	55.6	58.4	55.1	165.6	798.6	137.4	58.4	184.2	840.1	75.8	68.7	70.0	58.4	191.8
25.0	9.0	681.0	117.1	73.9	150.8	744.0	70.7	57.2	61.6	58.2	167.1	822.4	141.5	61.6	185.8	865.2	78.1	70.7	73.9	61.6	193.5
25.0	10.0	700.4	120.5	77.9	152.2	765.2	72.7	58.9	64.9	61.4	168.6	845.9	145.5	64.9	187.5	889.9	80.3	72.7	77.9	64.9	195.2
30.0	5.0	568.0	97.7	53.0	165.7	620.6	59.0	47.7	44.1	41.6	183.8	686.0	118.0	44.1	204.3	721.7	65.1	59.0	53.0	44.1	212.6
30.0	6.0	587.6	101.1	56.4	167.2	641.9	61.0	49.4	47.0	44.3	185.5	709.6	122.1	47.0	206.1	746.5	67.4	61.0	56.4	47	214.5
30.0	7.0	607.1	104.4	59.9	168.6	663.2	63.1	51.0	49.9	47.1	187.1	733.2	126.1	49.9	207.9	771.3	69.6	63.1	59.9	49.9	216.3
30.0	8.0	626.5	107.8	63.4	170.0	684.4	65.1	52.7	52.9	49.9	188.7	756.6	130.1	52.9	209.7	796.0	71.8	65.1	63.4	52.9	218.2
30.0	9.0	645.6	111.0	67.0	171.5	705.3	67.1	54.3	55.9	52.7	190.3	779.7	134.1	55.9	211.4	820.2	74.0	67.1	67.0	55.9	220.0
30.0	10.0	664.4	114.3	70.7	172.9	725.8	69.0	55.8	58.9	55.6	192	802.4	138.0	58.9	213.2	844.1	76.2	69.0	70.7	58.9	221.9
35.0	5.0	535.3	92.1	47.5	185.9	584.8	55.6	45.0	39.6	37.3	206.6	646.5	111.2	39.6	229.4	680.1	61.4	55.6	47.5	39.6	238.6
35.0	6.0																				



SELECTION DATA

Cooling Capacities (For R407C) -50Hz-

		CCU300AT(Z)G				CCU310AT(Z)G				CCU320AT(Z)G				CCU330AT(Z)G								
ABT	COT	CAP	CFR	CPD	IPT	CAP	CFR1	CFR2	CPD1	CPD2	IPT	CAP	CFR	CPD	IPT	CAP	CFR1	CFR2	CPD1	CPD2	IPT	
25.0	5.0	801.0	137.8	58.7	194.0	837.7	93.6	50.5	95.1	46.2	205.9	906.9	156.0	48.9	224.1	944.7	93.6	68.9	48.9	58.7	231.4	
25.0	6.0	828.0	142.4	62.4	195.8	865.9	96.7	52.2	101.1	49.1	207.8	937.4	161.2	52.0	226.1	976.4	96.7	71.2	52.0	62.4	233.6	
25.0	7.0	854.9	147.0	66.2	197.6	894.1	99.9	53.9	107.2	52.1	209.7	967.9	166.5	55.2	228.2	1008.2	99.9	73.5	55.2	66.2	235.7	
25.0	8.0	881.7	151.6	70.0	199.3	922.1	103.0	55.6	113.5	55.1	211.6	998.2	171.7	58.4	230.2	1039.8	103.0	75.8	58.4	70.0	237.8	
25.0	9.0	908.0	156.2	73.9	201.1	949.6	106.1	57.2	119.9	58.2	213.5	1028.0	176.8	61.6	232.3	1070.8	106.1	78.1	61.6	739.0	239.9	
25.0	10.0	933.9	160.6	77.9	202.9	976.7	109.1	58.9	126.3	61.4	215.5	1057.4	181.9	64.9	234.4	1101.4	109.1	80.3	64.9	77.9	242.1	
30.0	5.0	757.4	130.3	53.0	221.0	792.1	88.5	47.7	85.7	41.6	234.9	857.5	147.5	44.1	255.4	893.2	88.5	65.1	44.1	53.0	263.7	
30.0	6.0	783.4	134.7	56.4	222.9	819.3	91.5	49.4	91.3	44.3	237.0	887.0	152.6	47.0	257.6	923.9	91.5	67.4	47.0	56.4	266.0	
30.0	7.0	809.5	139.2	59.9	224.8	846.5	94.6	51.0	97.0	47.1	239.1	916.5	157.6	49.9	259.8	954.6	94.6	69.6	49.9	59.9	268.3	
30.0	8.0	835.3	143.7	63.4	226.7	873.6	97.6	52.7	102.8	49.9	241.1	945.8	162.7	52.9	262.1	985.1	97.6	71.8	52.9	63.4	270.6	
30.0	9.0	860.8	148.1	67.0	228.6	900.2	100.6	54.3	108.6	52.7	243.2	974.6	167.6	55.9	264.3	1015.1	100.6	74.0	55.9	67.0	272.9	
30.0	10.0	885.8	152.4	70.7	230.6	926.4	103.5	55.8	114.5	55.6	245.3	1003.0	172.5	58.9	266.5	1044.7	103.5	76.2	58.9	70.7	275.2	
35.0	5.0	713.7	122.8	47.5	247.9	746.4	83.4	45.0	76.8	37.3	263.9	808.1	139.0	39.6	286.7	841.7	83.4	61.4	39.6	47.5	296.0	
35.0	6.0	738.9	127.1	50.6	250.0	772.7	86.3	46.6	81.9	39.7	266.2	836.5	143.9	42.2	289.1	871.4	86.3	63.5	42.2	50.6	298.4	
35.0	7.0	764.0	131.4	53.8	252.0	799.0	89.3	48.2	87.1	42.3	268.4	865.0	148.8	44.9	291.5	901.0	89.3	65.7	44.9	53.8	300.9	
35.0	8.0	789.0	135.7	57.1	254.1	825.1	92.2	49.7	92.5	44.9	270.6	893.3	153.6	47.6	293.9	930.5	92.2	67.9	47.6	57.1	303.4	
35.0	9.0	813.6	139.9	60.4	256.2	850.8	95.1	51.3	97.9	47.5	272.8	921.1	158.4	50.4	296.3	959.5	95.1	70.0	50.4	60.4	305.9	
35.0	10.0	837.8	144.1	63.8	258.2	876.2	97.9	52.8	103.3	50.2	275.1	948.5	163.1	53.1	298.7	988.0	97.9	72.0	53.1	63.8	308.4	
40.0	5.0	670.1	115.3	42.3	274.8	700.8	78.3	42.2	68.4	33.1	293.0	758.7	130.5	35.2	318.0	790.2	78.3	57.6	35.2	42.3	328.2	
40.0	6.0	694.3	119.4	45.1	277.1	726.1	81.1	43.8	73.0	35.4	295.3	786.1	135.2	37.6	320.6	818.8	81.1	59.7	37.6	45.1	330.9	
40.0	7.0	718.6	123.6	48.1	279.3	751.5	84.0	45.3	77.8	37.7	297.7	813.5	139.9	40.1	323.2	847.4	84.0	61.8	40.1	48.1	333.5	
40.0	8.0	742.6	127.7	51.1	281.5	776.6	86.8	46.8	82.7	40.1	300.1	840.8	144.6	42.6	325.8	875.8	86.8	63.9	42.6	51.1	336.2	
40.0	9.0	766.4	131.8	54.1	283.7	801.5	89.5	48.3	87.6	42.5	302.5	867.7	149.2	45.1	328.3	903.8	89.5	65.9	45.1	54.1	338.9	
40.0	10.0	789.7	135.8	57.2	285.9	825.9	92.3	49.8	92.6	45.0	304.9	894.1	153.8	47.7	330.9	931.3	92.3	67.9	47.7	57.2	341.5	
46.0	5.0	586.8	100.9	33.1	295.9	646.0	72.2	38.9	58.8	28.5	327.8	699.4	120.3	30.3	355.6	713.0	72.2	50.5	30.3	33.1	358.8	
46.0	6.0	608.8	104.7	35.4	293.2	670.2	74.9	40.4	63.0	30.5	330.3	725.6	124.8	32.5	358.4	739.7	74.9	52.4	32.5	35.4	361.6	
46.0	7.0	630.8	108.5	37.8	295.5	694.4	77.6	41.9	67.3	32.6	332.9	751.8	129.3	34.7	361.2	766.5	77.6	54.2	34.7	37.8	364.5	
46.0	8.0	652.7	112.3	40.3	297.8	718.5	80.3	43.3	71.6	34.7	335.5	777.8	133.8	36.9	364.0	793.0	80.3	56.1	36.9	40.3	367.3	
46.0	9.0	674.2	116.0	42.8	300.0	742.2	82.9	44.7	76.0	36.9	338.1	803.5	138.2	39.2	366.8	819.2	82.9	58.0	39.2	42.8	370.1	
46.0	10.0	695.4	119.6	45.3	302.3	765.6	85.5	46.1	80.5	39.1	340.7	828.8	142.6	41.5	369.5	845.0	85.5	59.8	41.5	45.3	372.9	
48.0	5.0	570.2	98.1	31.4	301.2	596.3	66.6	35.9	50.8	24.6	321.3	645.6	111.0	26.2	348.6	672.5	66.6	49.0	26.2	31.4	359.8	
48.0	6.0	591.9	101.8	33.7	303.5	619.0	69.2	37.3	54.4	26.3	323.8	670.1	115.3	28.1	351.4	698.0	69.2	50.9	28.1	33.7	362.6	
48.0	7.0	613.5	105.5	36.0	305.8	641.6	71.7	38.7	58.1	28.1	326.3	694.6	119.5	30.0	354.1	723.6	71.7	52.8	30.0	36.0	365.4	
48.0	8.0	635.1	109.2	38.3	308.2	664.1	74.2	40.0	61.9	30.0	328.8	719.0	123.7	31.9	356.8	748.9	74.2	54.6	31.9	38.3	368.1	
48.0	9.0	656.3	112.9	40.7	310.5	686.3	76.7	41.4	65.8	31.9	331.3	743.0	127.8	33.9	359.5	774.0	76.7	56.4	33.9	40.7	370.9	
48.0	10.0	677.2	116.5	43.1	312.8	708.2	79.1	42.7	69.7	33.8	333.9	766.7	131.9	35.9	362.2	798.6	79.1	58.2	35.9	43.1	373.7	
50.0	5.0	476.1	81.9	22.6	265.3	497.9	55.6	30.0	36.4	17.6	282.7	539.1	92.7	18.8	307.0	561.5	55.6	40.9	18.8	22.6	316.9	
50.0	6.0	494.5	85.0	24.2	267.4	517.1	57.8	31.2	39.0	18.9	284.9	559.8	96.3	20.2	309.4	583.1	57.8	42.5	20.2	24.2	319.3	
50.0	7.0	512.8	88.2	25.8	269.5	536.3	59.9	32.3	41.7	20.2	287.1	580.6	99.9	21.5	311.8	604.7	59.9	44.1	21.5	25.8	321.8	
50.0	8.0	531.0	91.3	27.6	271.5	555.3	62.0	33.5	44.5	21.5	289.4	601.2	103.4	23.0	314.1	626.2	62.0	45.7	23.0	27.6	324.2	
50.0	9.0	549.0	94.4	29.3	273.6	574.1	64.1	34.6	47.3	22.9	291.6	621.5	106.9	24.4	316.5	647.4	64.1	47.2	24.4	29.3	326.7	
50.0	10.0	566.7	97.5	31.1	275.6	592.6	66.2	35.7	50.2	24.3	293.8	641.6	110.4	25.9	318.9	668.3	66.2	48.7	25.9	31.1	329.2	

		CCU360AT(Z)G				CCU370AT(Z)G				CCU380AT(Z)G				CCU400AT(Z)G					
ABT	COT	CAP	CFR	CPD	IPT	CAP	CFR	CPD	IPT	CAP	CFR1	CFR2	CPD1	CPD2	IPT	CAP	CFR	CPD	IPT
25.0	5.0	1001.3	172.2	58.7	242.5	1088.3	187.2	48.9	268.9	1144.9	103.3	93.6	58.7	48.9	279.9	1201.5	206.7	58.7	291.0
25.0	6.0	1035.0	178.0	62.4	244.7	1124.9	193.5	52.0	271.3	1183.4	106.8	96.7	62.4	52.0	282.5	1242.0	213.6	62.4	293.7
25.0	7.0	1068.6	183.8	66.2	247.0	1161.5	199.8	55.2	273.8	1222.0	110.3	99.9	66.2	55.2	285.1	1282.4	220.6	66.2	296.3
25.0	8.0	1102.1	189.6	70.0	249.2	1197.9	206.0	58.4	276.3	1260.2	113.7	103.0	70.0	58.4	287.6	1322.5	227.5	70.0	299.0
25.0	9.0	1135.0	195.2	73.9	251.4	1233.7	212.2	61.6	278.8	1297.8	117.1	106.1	73.9	61.6	290.2	1362.0	234.3	73.9	301.7
25.0	10.0	1167.4	200.8	77.9	253.6	1268.8	218.2	64.9	281.2	1334.8	120.5	109.1	77.9	64.9	292.8	1400.8	240		

Electrical Data (For R22)

35°C Condenser Air Inlet Temperature

Model	Unit Main Power		Applicable Voltage		Compressor Motor			Condenser Fan Motor		Maximum Unit Current (A)
	VOL	Hz	Maximum	Minimum	STC	RNC	IPT	RNC	IPT	
CCU 75AT(Z)	380	50	403	357	196	99	58.6	4 x 2.7	4 x 1.1	164
	415	50	440	390	214	92	58.6	4 x 3.3	4 x 1.1	157
	380	60	403	357	244	115	72.2	4 x 2.9	4 x 1.8	189
	440	60	466	413	196	103	72.2	4 x 3.1	4 x 1.8	172
CCU 100AT(Z)	380	50	403	357	162	2 x 75	2 x 43.4	8 x 2.7	8 x 1.1	256
	415	50	440	390	177	2 x 72	2 x 43.4	8 x 3.3	8 x 1.1	254
	380	60	403	357	202	2 x 80	2 x 49.3	8 x 2.9	8 x 1.8	273
	440	60	466	413	163	2 x 71	2 x 49.3	8 x 3.1	8 x 1.8	249
CCU 120AT(Z)	380	50	403	357	196	2 x 90	2 x 54.2	8 x 2.7	8 x 1.1	300
	415	50	440	390	214	2 x 87	2 x 54.2	8 x 3.3	8 x 1.1	299
	380	60	403	357	244	2 x 105	2 x 66.1	8 x 2.9	8 x 1.8	347
	440	60	466	413	196	2 x 94	2 x 66.1	8 x 3.1	8 x 1.8	317
CCU 150AT(Z)	380	50	403	357	196	2 x 99	2 x 58.6	8 x 2.7	8 x 1.1	327
	415	50	440	390	214	2 x 92	2 x 58.6	8 x 3.3	8 x 1.1	313
	380	60	403	357	244	2 x 115	2 x 72.2	8 x 2.9	8 x 1.8	377
	440	60	466	413	196	2 x 103	2 x 72.2	8 x 3.1	8 x 1.8	344
CCU 180AT(Z)	380	50	403	357	196	3 x 90	3 x 54.2	12 x 2.7	12 x 1.1	451
	415	50	440	390	214	3 x 87	3 x 54.2	12 x 3.3	12 x 1.1	448
	380	60	403	357	244	3 x 105	3 x 66.1	12 x 2.9	12 x 1.8	521
	440	60	466	413	196	3 x 94	3 x 66.1	12 x 3.1	12 x 1.8	476
CCU 200AT(Z)	380	50	403	357	196	3 x 99	3 x 58.6	12 x 2.7	12 x 1.1	491
	415	50	440	390	214	3 x 92	3 x 58.6	12 x 3.3	12 x 1.1	470
	380	60	403	357	244	3 x 115	3 x 72.2	12 x 2.9	12 x 1.8	566
	440	60	466	413	196	3 x 103	3 x 72.2	12 x 3.1	12 x 1.8	516
CCU 220AT(Z)	380	50	403	357	196	2 x 90 + 2 x 75	2 x 54.2 + 2 x 43.4	16 x 2.7	16 x 1.1	556
	415	50	440	390	214	2 x 87 + 2 x 72	2 x 54.2 + 2 x 43.4	16 x 3.3	16 x 1.1	553
	380	60	403	357	244	2 x 105 + 2 x 80	2 x 66.1 + 2 x 49.3	16 x 2.9	16 x 1.8	620
	440	60	466	413	196	2 x 94 + 2 x 71	2 x 66.1 + 2 x 49.3	16 x 3.1	16 x 1.8	566
CCU 240AT(Z)	380	50	403	357	196	4 x 90	4 x 54.2	16 x 2.7	16 x 1.1	600
	415	50	440	390	214	4 x 87	4 x 54.2	16 x 3.3	16 x 1.1	598
	380	60	403	357	244	4 x 105	4 x 66.1	16 x 2.9	16 x 1.8	694
	440	60	466	413	196	4 x 94	4 x 66.1	16 x 3.1	16 x 1.8	634
CCU 270AT(Z)	380	50	403	357	196	2 x 99 + 2 x 90	2 x 58.6 + 2 x 54.2	16 x 2.7	16 x 1.1	627
	415	50	440	390	214	2 x 92 + 2 x 87	2 x 58.6 + 2 x 54.2	16 x 3.3	16 x 1.1	612
	380	60	403	357	244	2 x 115 + 2 x 105	2 x 72.2 + 2 x 66.1	16 x 2.9	16 x 1.8	724
	440	60	466	413	196	2 x 103 + 2 x 94	2 x 72.2 + 2 x 66.1	16 x 3.1	16 x 1.8	661
CCU 300AT(Z)	380	50	403	357	196	4 x 99	4 x 58.6	16 x 2.7	16 x 1.1	654
	415	50	440	390	214	4 x 92	4 x 58.6	16 x 3.3	16 x 1.1	626
	380	60	403	357	244	4 x 115	4 x 72.2	16 x 2.9	16 x 1.8	754
	440	60	466	413	196	4 x 103	4 x 72.2	16 x 3.1	16 x 1.8	688
CCU 310AT(Z)	380	50	403	357	196	3 x 90 + 2 x 75	3 x 54.2 + 2 x 43.4	20 x 2.7	20 x 1.1	707
	415	50	440	390	214	3 x 87 + 2 x 72	3 x 54.2 + 2 x 43.4	20 x 3.3	20 x 1.1	702
	380	60	403	357	244	3 x 105 + 2 x 80	3 x 66.1 + 2 x 49.3	20 x 2.9	20 x 1.8	794
	440	60	466	413	196	3 x 94 + 2 x 71	3 x 66.1 + 2 x 49.3	20 x 3.1	20 x 1.8	725
CCU 320AT(Z)	380	50	403	357	196	3 x 90 + 2 x 90	5 x 54.2	20 x 2.7	20 x 1.1	751
	415	50	440	390	214	3 x 87 + 2 x 87	5 x 54.2	20 x 3.3	20 x 1.1	747
	380	60	403	357	244	3 x 105 + 2 x 105	5 x 66.1	20 x 2.9	20 x 1.8	868
	440	60	466	413	196	3 x 94 + 2 x 94	5 x 66.1	20 x 3.1	20 x 1.8	793
CCU 330AT(Z)	380	50	403	357	196	3 x 90 + 2 x 99	3 x 54.2 + 2 x 58.6	20 x 2.7	20 x 1.1	778
	415	50	440	390	214	3 x 87 + 2 x 92	3 x 54.2 + 2 x 58.6	20 x 3.3	20 x 1.1	761
	380	60	403	357	244	3 x 105 + 2 x 115	3 x 66.1 + 2 x 72.2	20 x 2.9	20 x 1.8	898
	440	60	466	413	196	3 x 94 + 2 x 103	3 x 66.1 + 2 x 72.2	20 x 3.1	20 x 1.8	820
CCU 360AT(Z)	380	50	403	357	196	3 x 99 + 2 x 90	5 x 58.6	20 x 2.7	20 x 1.1	818
	415	50	440	390	214	3 x 92 + 2 x 87	5 x 58.6	20 x 3.3	20 x 1.1	783
	380	60	403	357	244	3 x 115 + 2 x 105	5 x 72.2	20 x 2.9	20 x 1.8	943
	440	60	466	413	196	3 x 103 + 2 x 94	5 x 72.2	20 x 3.1	20 x 1.8	860
CCU 370AT(Z)	380	50	403	357	196	6 x 90	6 x 54.2	24 x 2.7	24 x 1.1	902
	415	50	440	390	214	6 x 87	6 x 54.2	24 x 3.3	24 x 1.1	896
	380	60	403	357	244	6 x 105	6 x 66.1	24 x 2.9	24 x 1.8	1,042
	440	60	466	413	196	6 x 94	6 x 66.1	24 x 3.1	24 x 1.8	952
CCU 380AT(Z)	380	50	403	357	196	3 x 99 + 3 x 90	3 x 58.6 + 3 x 54.2	24 x 2.7	24 x 1.1	942
	415	50	440	390	214	3 x 92 + 3 x 87	3 x 58.6 + 3 x 54.2	24 x 3.3	24 x 1.1	918
	380	60	403	357	244	3 x 115 + 3 x 105	3 x 72.2 + 3 x 66.1	24 x 2.9	24 x 1.8	1,087
	440	60	466	413	196	3 x 103 + 3 x 94	3 x 72.2 + 3 x 66.1	24 x 3.1	24 x 1.8	992
CCU 400AT(Z)	380	50	403	357	196	6 x 99	6 x 58.6	24 x 2.7	24 x 1.1	982
	415	50	440	390	214	6 x 92	6 x 58.6	24 x 3.3	24 x 1.1	940
	380	60	403	357	244	6 x 115	6 x 72.2	24 x 2.9	24 x 1.8	1,132
	440	60	466	413	196	6 x 103	6 x 72.2	24 x 3.1	24 x 1.8	1,032

VOL : Rated Unit Power Supply Voltage (V) [Plated]
 IPT : Input Power (KW)

RNC : Running Current (A)
 STC : Starting Current (A)

Hz : Frequency (Hz)

Notes:

- These data are based under the same conditions as those for the cooling capacity. See the notes for the Unit General Data.
- The starting current is indicated for each compressor.
- The "Maximum Unit Current" is the total running current of the unit under the following conditions, which consume the maximum current within the unit working range.

Supplied Voltage : Rated Voltage x 0.94 Condenser Air Inlet Temperature : 52°C(50Hz), 50°C(60Hz)
 Chilled Water Outlet Temperature: 15°C Capacity Control : 100%

Therefore, the sizes of wiring and fuses must be determined according to applicable national and local codes.

- In addition to the conditions mentioned in the item 3, the compressor currents can be estimated as shown below.

	One - Compressor
Maximum Instantaneous Current	STC

- The unit power input can be estimated from the compressor in the Cooling Capacity Table and the condenser fan motor.

Electrical Data (For R22)

46°C Condenser Air Inlet Temperature

Model	Unit Main Power		Applicable Voltage		Compressor Motor			Condenser Fan Motor		Maximum Unit Current (A)
	VOL	Hz	Maximum	Minimum	STC	RNC	IPT	RNC	IPT	
CCU 75AT(Z)	380	50	403	357	196	120	72.6	4 x 2.7	4 x 1.1	164
	415	50	440	390	214	114	72.6	4 x 3.3	4 x 1.1	157
	380	60	403	357	244	145	89.8	4 x 2.9	4 x 1.8	189
	440	60	466	413	196	128	89.8	4 x 3.1	4 x 1.8	172
CCU 100AT(Z)	380	50	403	357	162	2 x 91	2 x 54.0	8 x 2.7	8 x 1.1	256
	415	50	440	390	177	2 x 84	2 x 54.0	8 x 3.3	8 x 1.1	254
	380	60	403	357	202	2 x 99	2 x 61.9	8 x 2.9	8 x 1.8	273
	440	60	466	413	163	2 x 89	2 x 61.9	8 x 3.1	8 x 1.8	249
CCU 120AT(Z)	380	50	403	357	196	2 x 111	2 x 67.2	8 x 2.7	8 x 1.1	300
	415	50	440	390	214	2 x 105	2 x 67.2	8 x 3.3	8 x 1.1	299
	380	60	403	357	244	2 x 132	2 x 82.3	8 x 2.9	8 x 1.8	347
	440	60	466	413	196	2 x 117	2 x 82.3	8 x 3.1	8 x 1.8	317
CCU 150AT(Z)	380	50	403	357	196	2 x 120	2 x 72.6	8 x 2.7	8 x 1.1	327
	415	50	440	390	214	2 x 114	2 x 72.6	8 x 3.3	8 x 1.1	313
	380	60	403	357	244	2 x 145	2 x 89.8	8 x 2.9	8 x 1.8	377
	440	60	466	413	196	2 x 128	2 x 89.8	8 x 3.1	8 x 1.8	344
CCU 180AT(Z)	380	50	403	357	196	3 x 111	3 x 67.2	12 x 2.7	12 x 1.1	451
	415	50	440	390	214	3 x 105	3 x 67.2	12 x 3.3	12 x 1.1	448
	380	60	403	357	244	3 x 132	3 x 82.3	12 x 2.9	12 x 1.8	521
	440	60	466	413	196	3 x 117	3 x 82.3	12 x 3.1	12 x 1.8	476
CCU 200AT(Z)	380	50	403	357	196	3 x 120	3 x 72.6	12 x 2.7	12 x 1.1	491
	415	50	440	390	214	3 x 114	3 x 72.6	12 x 3.3	12 x 1.1	470
	380	60	403	357	244	3 x 145	3 x 89.8	12 x 2.9	12 x 1.8	566
	440	60	466	413	196	3 x 128	3 x 89.8	12 x 3.1	12 x 1.8	516
CCU 220AT(Z)	380	50	403	357	196	2 x 111 + 2 x 91	2 x 67.2 + 2 x 54.0	16 x 2.7	16 x 1.1	556
	415	50	440	390	214	2 x 105 + 2 x 87	2 x 67.2 + 2 x 54.0	16 x 3.3	16 x 1.1	553
	380	60	403	357	244	2 x 132 + 2 x 99	2 x 82.3 + 2 x 61.9	16 x 2.9	16 x 1.8	620
	440	60	466	413	196	2 x 117 + 2 x 89	2 x 82.3 + 2 x 61.9	16 x 3.1	16 x 1.8	566
CCU 240AT(Z)	380	50	403	357	196	4 x 111	4 x 67.2	16 x 2.7	16 x 1.1	600
	415	50	440	390	214	4 x 105	4 x 67.2	16 x 3.3	16 x 1.1	598
	380	60	403	357	244	4 x 132	4 x 82.3	16 x 2.9	16 x 1.8	694
	440	60	466	413	196	4 x 117	4 x 82.3	16 x 3.1	16 x 1.8	634
CCU 270AT(Z)	380	50	403	357	196	2 x 120 + 2 x 111	2 x 72.6 + 2 x 67.2	16 x 2.7	16 x 1.1	627
	415	50	440	390	214	2 x 114 + 2 x 105	2 x 72.6 + 2 x 67.2	16 x 3.3	16 x 1.1	612
	380	60	403	357	244	2 x 145 + 2 x 132	2 x 89.8 + 2 x 82.3	16 x 2.9	16 x 1.8	724
	440	60	466	413	196	2 x 128 + 2 x 117	2 x 89.8 + 2 x 82.3	16 x 3.1	16 x 1.8	661
CCU 300AT(Z)	380	50	403	357	196	4 x 120	4 x 72.6	16 x 2.7	16 x 1.1	654
	415	50	440	390	214	4 x 114	4 x 72.6	16 x 3.3	16 x 1.1	626
	380	60	403	357	244	4 x 145	4 x 89.8	16 x 2.9	16 x 1.8	754
	440	60	466	413	196	4 x 128	4 x 89.8	16 x 3.1	16 x 1.8	688
CCU 310AT(Z)	380	50	403	357	196	3 x 111 + 2 x 91	3 x 67.2 + 2 x 54.0	20 x 2.7	20 x 1.1	707
	415	50	440	390	214	3 x 108 + 2 x 87	3 x 67.2 + 2 x 54.0	20 x 3.3	20 x 1.1	702
	380	60	403	357	244	3 x 132 + 2 x 99	3 x 82.3 + 2 x 61.9	20 x 2.9	20 x 1.8	794
	440	60	466	413	196	3 x 117 + 2 x 89	3 x 82.3 + 2 x 61.9	20 x 3.1	20 x 1.8	725
CCU 320AT(Z)	380	50	403	357	196	5 x 111	5 x 67.2	20 x 2.7	20 x 1.1	751
	415	50	440	390	214	5 x 105	5 x 67.2	20 x 3.3	20 x 1.1	747
	380	60	403	357	244	5 x 132	5 x 82.3	20 x 2.9	20 x 1.8	868
	440	60	466	413	196	5 x 117	5 x 82.3	20 x 3.1	20 x 1.8	793
CCU 330AT(Z)	380	50	403	357	196	3 x 111 + 2 x 120	3 x 67.2 + 2 x 72.6	20 x 2.7	20 x 1.1	778
	415	50	440	390	214	3 x 105 + 2 x 114	3 x 67.2 + 2 x 72.6	20 x 3.3	20 x 1.1	761
	380	60	403	357	244	3 x 132 + 2 x 145	3 x 82.3 + 2 x 89.8	20 x 2.9	20 x 1.8	898
	440	60	466	413	196	3 x 117 + 2 x 128	3 x 82.3 + 2 x 89.8	20 x 3.1	20 x 1.8	820
CCU 360AT(Z)	380	50	403	357	196	5 x 120	5 x 72.6	20 x 2.7	20 x 1.1	818
	415	50	440	390	214	5 x 114	5 x 72.6	20 x 3.3	20 x 1.1	783
	380	60	403	357	244	5 x 145	5 x 89.8	20 x 2.9	20 x 1.8	943
	440	60	466	413	196	5 x 128	5 x 89.8	20 x 3.1	20 x 1.8	860
CCU 370AT(Z)	380	50	403	357	196	6 x 111	6 x 67.2	24 x 2.7	24 x 1.1	902
	415	50	440	390	214	6 x 105	6 x 67.2	24 x 3.3	24 x 1.1	896
	380	60	403	357	244	6 x 132	6 x 82.3	24 x 2.9	24 x 1.8	1,042
	440	60	466	413	196	6 x 117	6 x 82.3	24 x 3.1	24 x 1.8	952
CCU 380AT(Z)	380	50	403	357	196	3 x 120 + 3 x 111	3 x 72.6 + 3 x 67.2	24 x 2.7	24 x 1.1	942
	415	50	440	390	214	3 x 114 + 3 x 105	3 x 72.6 + 3 x 67.2	24 x 3.3	24 x 1.1	918
	380	60	403	357	244	3 x 145 + 3 x 132	3 x 89.8 + 3 x 82.3	24 x 2.9	24 x 1.8	1,087
	440	60	466	413	196	3 x 128 + 3 x 117	3 x 89.8 + 3 x 82.3	24 x 3.1	24 x 1.8	992
CCU 400AT(Z)	380	50	403	357	196	6 x 120	6 x 72.6	24 x 2.7	24 x 1.1	982
	415	50	440	390	214	6 x 114	6 x 72.6	24 x 3.3	24 x 1.1	940
	380	60	403	357	244	6 x 145	6 x 89.8	24 x 2.9	24 x 1.8	1,132
	440	60	466	413	196	6 x 128	6 x 89.8	24 x 3.1	24 x 1.8	1,032

VOL : Rated Unit Power Supply Voltage (V) [Plated]
IPT : Input Power (KW)

RNC : Running Current (A)
STC : Starting Current (A)

Hz : Frequency (Hz)

NOTES :

1. These data are based under the same conditions as those for the cooling capacity. See the notes for the Unit General Data.
2. The starting current is indicated for each compressor.
3. The "Maximum Unit Current" is the total running current of the unit under the following conditions, which consume the maximum current within the unit working range.

Supplied Voltage : Rated Voltage x 0.94 Condenser Air Inlet Temperature : 52°C(50Hz), 50°C(60Hz)
Chilled Water Outlet Temperature: 15°C Capacity Control : 100%

Therefore, the sizes of wiring and fuses must be determined according to applicable national and local codes.

4. In addition to the conditions mentioned in the item 3, the compressor currents can be estimated as shown below.

Maximum Instantaneous Current	One – Compressor STC
-------------------------------	-------------------------

5. The unit power input can be estimated from the compressor in the Cooling Capacity Table and the condenser fan motor.

Electrical Data (For R407C)

35°C Condenser Air Inlet Temperature

Model	Unit Main Power		Applicable Voltage			Compressor Motor			Condenser Fan Motor		Maximum Unit Current (A)
	VOL	Hz	Maximum	Minimum	STC	RNC	IPT	RNC	IPT		
CCU 75AT(Z)G	380	50	403	357	196	104	63.0	4 x 2.7	4 x 1.1	184	
	415	50	440	390	214	98	63.0	4 x 3.3	4 x 1.1	178	
CCU 100AT(Z)G	380	50	403	357	162	2 x 79	2 x 46.8	8 x 2.7	8 x 1.1	287	
	415	50	440	390	177	2 x 76	2 x 46.8	8 x 3.3	8 x 1.1	285	
CCU 120AT(Z)G	380	50	403	357	196	2 x 97	2 x 58.3	8 x 2.7	8 x 1.1	345	
	415	50	440	390	214	2 x 92	2 x 58.3	8 x 3.3	8 x 1.1	337	
CCU 150AT(Z)G	380	50	403	357	196	2 x 104	2 x 63.0	8 x 2.7	8 x 1.1	367	
	415	50	440	390	214	2 x 98	2 x 63.0	8 x 3.3	8 x 1.1	356	
CCU 180AT(Z)G	380	50	403	357	196	3 x 97	3 x 58.3	12 x 2.7	12 x 1.1	517	
	415	50	440	390	214	3 x 92	3 x 58.3	12 x 3.3	12 x 1.1	505	
CCU 200AT(Z)G	380	50	403	357	196	3 x 104	3 x 63.0	12 x 2.7	12 x 1.1	551	
	415	50	440	390	214	3 x 98	3 x 63.0	12 x 3.3	12 x 1.1	534	
CCU 220AT(Z)G	380	50	403	357	196	2x97 + 2x79	2x58.3 + 2x46.8	16 x 2.7	16 x 1.1	632	
	415	50	440	390	214	2x92 + 2x76	2x58.3 + 2x46.8	16 x 3.3	16 x 1.1	622	
CCU 240AT(Z)G	380	50	403	357	196	4 x 97	4 x 58.3	16 x 2.7	16 x 1.1	690	
	415	50	440	390	214	4 x 92	4 x 58.3	16 x 3.3	16 x 1.1	674	
CCU 270AT(Z)G	380	50	403	357	196	2x104 + 2x97	2x63.0 + 2x58.3	16 x 2.7	16 x 1.1	712	
	415	50	440	390	214	2x98 + 2x92	2x63.0 + 2x58.3	16 x 3.3	16 x 1.1	693	
CCU 300AT(Z)G	380	50	403	357	196	4 x 104	4 x 63.0	16 x 2.7	16 x 1.1	734	
	415	50	440	390	214	4 x 98	4 x 63.0	16 x 3.3	16 x 1.1	712	
CCU 310AT(Z)G	380	50	403	357	196	3x97 + 2x79	3x58.3 + 2x46.8	20 x 2.7	20 x 1.1	804	
	415	50	440	390	214	3x92 + 2x76	3x58.3 + 2x46.8	20 x 3.3	20 x 1.1	790	
CCU 320AT(Z)G	380	50	403	357	196	5 x 97	5 x 58.3	20 x 2.7	20 x 1.1	862	
	415	50	440	390	214	5 x 92	5 x 58.3	20 x 3.3	20 x 1.1	842	
CCU 330AT(Z)G	380	50	403	357	196	3x97 + 2x104	3x58.3 + 2x63.0	20 x 2.7	20 x 1.1	884	
	415	50	440	390	214	3x92 + 2x98	3x58.3 + 2x63.0	20 x 3.3	20 x 1.1	861	
CCU 360AT(Z)G	380	50	403	357	196	5 x 104	5 x 63.0	20 x 2.7	20 x 1.1	918	
	415	50	440	390	214	5 x 98	5 x 63.0	20 x 3.3	20 x 1.1	890	
CCU 370AT(Z)G	380	50	403	357	196	6 x 97	6 x 58.3	24 x 2.7	24 x 1.1	1034	
	415	50	440	390	214	6 x 92	6 x 58.3	24 x 3.3	24 x 1.1	1010	
CCU 380AT(Z)G	380	50	403	357	196	3x104 + 3x97	3x63.0 + 3x58.3	24 x 2.7	24 x 1.1	1068	
	415	50	440	390	214	3x98 + 3x92	3x63.0 + 3x58.3	24 x 3.3	24 x 1.1	1039	
CCU 400AT(Z)G	380	50	403	357	196	6 x 104	6 x 63.0	24 x 2.7	24 x 1.1	1102	
	415	50	440	390	214	6 x 98	6 x 63.0	24 x 3.3	24 x 1.1	1068	

VOL : Rated Unit Power Supply Voltage (V) [Plated]
IPT : Input Power (KW)

RNC : Running Current (A)
STC : Starting Current (A)

Hz : Frequency (Hz)

NOTES :

1. These data are based under the same conditions as those for the cooling capacity. See the notes for the Unit General Data.
2. The starting current is indicated for each compressor.
3. The "Maximum Unit Current" is the total running current of the unit under the following conditions, which consume the maximum current within the unit working range.

Supplied Voltage : Rated Voltage x 0.94 Condenser Air Inlet Temperature : 50°C (50Hz)
Chilled Water Outlet Temperature: 10°C Capacity Control : 100%

Therefore, the sizes of wiring and fuses must be determined according to applicable national and local codes.

4. In addition to the conditions mentioned in the item 3, the compressor currents can be estimated as shown below.

	One – Compressor
Maximum Instantaneous Current	STC

5. The unit power input can be estimated from the compressor in the Cooling Capacity Table and the condenser fan motor.

Electrical Data (For R407C)

46°C Condenser Air Inlet Temperature

Model	Unit Main Power		Applicable Voltage		Compressor Motor			Condenser Fan Motor		Maximum Unit Current (A)
	VOL	Hz	Maximum	Minimum	STC	RNC	IPT	RNC	IPT	
CCU 75AT(Z)G	380	50	403	357	196	127	73.9	4 x 2.7	4 x 1.1	184
	415	50	440	390	214	115	73.9	4 x 3.3	4 x 1.1	178
CCU 100AT(Z)G	380	50	403	357	162	2 x 97.3	2 x 58.1	8 x 2.7	8 x 1.1	287
	415	50	440	390	177	2 x 92.2	2 x 58.1	8 x 3.3	8 x 1.1	285
CCU 120AT(Z)G	380	50	403	357	196	2 x 120	2 x 72.3	8 x 2.7	8 x 1.1	345
	415	50	440	390	214	2 x 112	2 x 72.3	8 x 3.3	8 x 1.1	337
CCU 150AT(Z)G	380	50	403	357	196	2 x 127	2 x 73.9	8 x 2.7	8 x 1.1	367
	415	50	440	390	214	2 x 115	2 x 73.9	8 x 3.3	8 x 1.1	356
CCU 180AT(Z)G	380	50	403	357	196	3 x 120	3 x 72.3	12 x 2.7	12 x 1.1	517
	415	50	440	390	214	3 x 112	3 x 72.3	12 x 3.3	12 x 1.1	505
CCU 200AT(Z)G	380	50	403	357	196	3 x 127	3 x 73.9	12 x 2.7	12 x 1.1	551
	415	50	440	390	214	3 x 115	3 x 73.9	12 x 3.3	12 x 1.1	534
CCU 220AT(Z)G	380	50	403	357	196	2x120 + 2x97.3	2x72.3 + 2x58.1	16 x 2.7	16 x 1.1	632
	415	50	440	390	214	2x112 + 2x92.2	2x72.3 + 2x58.1	16 x 3.3	16 x 1.1	622
CCU 240AT(Z)G	380	50	403	357	196	4 x 120	4 x 72.3	16 x 2.7	16 x 1.1	690
	415	50	440	390	214	4 x 112	4 x 72.3	16 x 3.3	16 x 1.1	674
CCU 270AT(Z)G	380	50	403	357	196	2x127 + 2x120	2x73.9 + 2x72.3	16 x 2.7	16 x 1.1	712
	415	50	440	390	214	2x115 + 2x112	2x73.9 + 2x72.3	16 x 3.3	16 x 1.1	693
CCU 300AT(Z)G	380	50	403	357	196	4 x 127	4 x 73.9	16 x 2.7	16 x 1.1	734
	415	50	440	390	214	4 x 115	4 x 73.9	16 x 3.3	16 x 1.1	712
CCU 310AT(Z)G	380	50	403	357	196	3x120 + 2x97.3	3x72.3 + 2x58.1	20 x 2.7	20 x 1.1	804
	415	50	440	390	214	3x112 + 2x92.2	3x72.3 + 2x58.1	20 x 3.3	20 x 1.1	790
CCU 320AT(Z)G	380	50	403	357	196	5 x 120	5 x 72.3	20 x 2.7	20 x 1.1	862
	415	50	440	390	214	5 x 112	5 x 72.3	20 x 3.3	20 x 1.1	842
CCU 330AT(Z)G	380	50	403	357	196	3x120 + 2x127	3x72.3 + 2x73.9	20 x 2.7	20 x 1.1	884
	415	50	440	390	214	3x112 + 2x115	3x72.3 + 2x73.9	20 x 3.3	20 x 1.1	861
CCU 360AT(Z)G	380	50	403	357	196	5 x 127	5 x 73.9	20 x 2.7	20 x 1.1	918
	415	50	440	390	214	5 x 115	5 x 73.9	20 x 3.3	20 x 1.1	890
CCU 370AT(Z)G	380	50	403	357	196	6 x 120	6 x 72.3	24 x 2.7	24 x 1.1	1034
	415	50	440	390	214	6 x 112	6 x 72.3	24 x 3.3	24 x 1.1	1010
CCU 380AT(Z)G	380	50	403	357	196	3x127 + 3x120	3x73.9 + 3x72.3	24 x 2.7	24 x 1.1	1068
	415	50	440	390	214	3x115 + 3x112	3x73.9 + 3x72.3	24 x 3.3	24 x 1.1	1039
CCU 400AT(Z)G	380	50	403	357	196	6 x 127	6 x 73.9	24 x 2.7	24 x 1.1	1102
	415	50	440	390	214	6 x 115	6 x 73.9	24 x 3.3	24 x 1.1	1068

VOL : Rated Unit Power Supply Voltage (V) [Plated]
 IPT : Input Power (KW)

RNC : Running Current (A)
 STC : Starting Current (A)

Hz : Frequency (Hz)

NOTES :

1. These data are based under the same conditions as those for the cooling capacity. See the notes for the Unit General Data.
2. The starting current is indicated for each compressor.
3. The "Maximum Unit Current" is the total running current of the unit under the following conditions, which consume the maximum current within the unit working range.

Supplied Voltage : Rated Voltage x 0.94 Condenser Air Inlet Temperature : 50°C (50Hz)
 Chilled Water Outlet Temperature: 10°C Capacity Control : 100%

Therefore, the sizes of wiring and fuses must be determined according to applicable national and local codes.

4. In addition to the conditions mentioned in the item 3, the compressor currents can be estimated as shown below.

	One – Compressor
Maximum Instantaneous Current	STC

5. The unit power input can be estimated from the compressor in the Cooling Capacity Table and the condenser fan motor.

Sound Data

- 50Hz -

Model	Sound Level	Unit Power Supply : 50Hz								
		Frequency Band (Hz)								
		45 ~ 90	90 ~180	180 ~355	355 ~710	710 ~1,400	1,400 ~2,800	2,800 ~5,600	5,600 ~11,200	Overall
CCU 75AT(Z) CCU 75AT(Z)G	SPL-A APL-C	50.8 79.8	55.0 73.0	67.1 77.1	68.5 72.5	70.4 70.4	61.8 60.8	43.3 42.3	38.2 39.2	74.0 —
CCU 100AT(Z) CCU 100AT(Z)G	SPL-A APL-C	55.9 84.9	55.8 73.8	69.6 79.6	72.2 76.2	71.0 71.0	70.5 69.5	48.1 47.1	42.7 43.7	77.0 —
CCU 120AT(Z) CCU 120AT(Z)G	SPL-A APL-C	53.9 82.9	58.0 76.0	70.0 80.0	71.5 75.5	73.5 73.5	64.6 63.6	46.6 45.6	41.0 42.0	77.0 —
CCU 150AT(Z) CCU 150AT(Z)G	SPL-A APL-C	53.7 82.7	58.2 76.2	69.9 79.9	71.7 75.7	73.3 73.3	64.7 63.7	46.3 45.3	41.1 42.1	77.0 —
CCU 180AT(Z) CCU 180AT(Z)G	SPL-A APL-C	54.8 83.8	59.1 77.1	70.9 80.9	72.6 76.6	74.4 74.4	65.7 64.7	47.5 46.5	42.1 43.1	78.0 —
CCU 200AT(Z) CCU 200AT(Z)G	SPL-A APL-C	54.7 83.7	59.2 77.2	70.8 80.8	72.8 76.8	74.3 74.3	65.6 64.6	47.4 46.4	42.0 43.0	78.0 —
CCU 220AT(Z) CCU 220AT(Z)G	SPL-A APL-C	57.0 86.0	59.1 77.1	71.8 81.8	73.9 77.9	73.5 73.5	71.4 70.4	49.4 48.4	44.0 45.0	79.0 —
CCU 240AT(Z) CCU 240AT(Z)G	SPL-A APL-C	55.9 84.9	60.3 78.3	71.9 81.9	73.5 77.5	75.6 75.6	66.5 66.5	48.4 47.4	43.0 44.0	79.0 —
CCU 270AT(Z) CCU 270AT(Z)G	SPL-A APL-C	55.8 84.8	60.1 78.1	72.0 82.0	73.6 77.6	75.4 75.4	66.7 65.7	48.5 47.5	43.1 44.1	79.0 —
CCU 300AT(Z) CCU 300AT(Z)G	SPL-A APL-C	55.8 84.8	60.1 78.1	71.9 81.9	73.6 77.6	75.4 75.4	66.7 65.7	48.5 47.5	43.1 44.1	79.0 —
CCU 310AT(Z) CCU 310AT(Z)G	SPL-A APL-C	56.8 85.8	59.1 77.1	71.7 81.7	73.8 77.8	74.4 74.4	70.1 69.1	49.2 48.2	43.8 44.8	79.0 —
CCU 320AT(Z) CCU 320AT(Z)G	SPL-A APL-C	55.8 84.8	60.0 78.0	71.9 81.9	73.5 77.5	75.4 75.4	66.6 65.6	48.5 47.5	43.0 44.0	79.0 —
CCU 330AT(Z) CCU 330AT(Z)G	SPL-A APL-C	55.7 84.7	60.1 78.1	71.8 81.8	73.6 77.6	75.3 75.3	66.3 65.3	48.3 47.3	43.0 44.0	79.0 —
CCU 360AT(Z) CCU 360AT(Z)G	SPL-A APL-C	56.0 85.0	59.9 77.9	72.1 82.1	73.4 77.4	75.6 75.6	66.5 65.5	48.7 47.7	42.9 43.9	79.0 —
CCU 370AT(Z) CCU 370AT(Z)G	SPL-A APL-C	55.8 84.8	60.1 78.1	71.9 81.9	73.6 77.6	75.4 75.4	66.7 65.7	48.5 47.5	43.1 44.1	79.0 —
CCU 380AT(Z) CCU 380AT(Z)G	SPL-A APL-C	55.7 84.7	60.1 78.1	71.8 81.8	73.6 77.6	75.3 75.3	66.6 65.6	48.4 47.4	43.0 44.0	79.0 —
CCU 400AT(Z) CCU 400AT(Z)G	SPL-A APL-C	55.7 84.7	60.2 78.2	71.8 81.8	73.8 77.8	75.3 75.3	66.6 65.6	48.4 47.4	43.0 44.0	79.0 —

SPL-A : A Scale Sound Pressure Level (dB)
SPL-C : C Scale Sound Pressure Level (dB)

NOTES:

1. The measuring point is 1.0 meter from the center of the unit surface and 1.5 meter from the floor level.
2. The units are operating under the standard working condition for the nominal cooling operation.
3. The above data was measured on a flat ground. Therefore, reflected sounds should be taken into consideration when the unit is surrounded by walls, etc.

Sound Data

- 60Hz -

Model	Sound Level	Unit Power Supply : 60Hz								
		Frequency Band (Hz)								
		45 ~ 90	90 ~180	180 ~355	355 ~710	710 ~1,400	1,400 ~2,800	2,800 ~5,600	5,600 ~11,200	Overall
CCU 75AT(Z)	SPL-A	57.9	66.4	69.4	69.5	71.3	64.9	54.6	43.3	76.0
	APL-C	86.9	84.4	79.4	73.5	71.3	63.9	53.6	44.3	—
CCU 100AT(Z)	SPL-A	59.7	58.4	55.5	78.3	68.0	64.7	47.1	44.1	79.0
	APL-C	88.7	76.4	65.5	82.3	68.0	63.7	46.1	45.1	—
CCU 120AT(Z)	SPL-A	61.0	69.3	72.6	72.2	74.6	67.9	57.9	46.1	79.0
	APL-C	90.0	87.3	82.6	76.2	74.6	66.9	56.9	47.1	—
CCU 150AT(Z)	SPL-A	60.8	69.5	72.5	72.5	74.4	68.0	57.6	46.2	79.0
	APL-C	89.8	87.5	82.5	76.5	74.4	67.0	56.6	47.2	—
CCU 180AT(Z)	SPL-A	61.9	70.4	73.5	73.4	75.5	69.0	58.8	47.2	80.0
	APL-C	90.9	88.4	83.5	77.4	75.5	68.0	57.8	48.2	—
CCU 200AT(Z)	SPL-A	61.8	70.5	73.4	73.6	75.4	68.9	58.7	47.1	80.0
	APL-C	90.8	88.5	83.4	77.6	75.4	67.9	57.7	48.1	—
CCU 220AT(Z)	SPL-A	62.3	68.6	71.5	78.2	74.4	68.5	57.2	47.1	81.0
	APL-C	91.3	86.6	81.5	82.2	74.4	67.5	56.2	48.1	—
CCU 240AT(Z)	SPL-A	63.0	71.6	74.5	74.3	76.5	69.8	59.7	48.1	81.0
	APL-C	92.0	89.6	84.5	78.3	76.5	68.8	58.7	49.1	—
CCU 270AT(Z)	SPL-A	62.8	71.3	74.5	74.3	76.4	69.9	59.7	48.1	81.0
	APL-C	91.8	89.3	84.5	78.3	76.4	68.9	58.7	49.1	—
CCU 300AT(Z)	SPL-A	62.9	71.4	74.5	74.4	76.5	70.0	59.8	48.2	81.0
	APL-C	91.9	89.4	84.5	78.4	76.5	69.0	59.8	49.2	—
CCU 310AT(Z)	SPL-A	62.3	69.1	71.9	78.0	74.6	68.8	57.5	47.3	81.0
	APL-C	91.3	87.1	81.9	82.0	74.6	67.8	56.5	48.3	—
CCU 320AT(Z)	SPL-A	62.9	71.3	74.5	74.3	76.5	69.9	59.8	48.1	81.0
	APL-C	91.9	89.3	84.5	78.3	76.5	68.9	58.8	49.1	—
CCU 330AT(Z)	SPL-A	62.8	71.4	74.4	74.4	76.4	69.9	59.7	48.1	81.0
	APL-C	91.8	89.4	84.4	78.4	76.4	68.9	58.7	49.1	—
CCU 360AT(Z)	SPL-A	63.1	71.2	74.7	74.1	76.6	69.8	60.0	48.0	81.0
	APL-C	92.1	89.2	84.7	78.1	76.6	69.8	59.0	49.0	—
CCU 370AT(Z)	SPL-A	62.9	71.4	74.5	74.4	76.5	70.0	59.8	48.2	81.0
	APL-C	91.9	89.4	84.5	78.4	76.5	69.0	58.8	49.2	—
CCU 380AT(Z)	SPL-A	62.8	71.4	74.4	74.4	76.4	69.9	59.7	48.1	81.0
	APL-C	91.8	89.4	84.4	78.4	76.4	68.9	58.7	49.1	—
CCU 400AT(Z)	SPL-A	62.8	71.5	74.4	74.6	76.4	69.9	59.7	48.1	81.0
	APL-C	91.8	89.5	84.4	78.6	76.4	68.9	58.7	49.1	—

SPL-A : A scale Sound Pressure Level (dB)
 SPL-C : C scale Sound Pressure Level (dB)

NOTES:

1. The measuring point is 1.0 meter from the center of the unit surface and 1.5 meter from the floor level.
2. The units are operating under the standard working condition for the nominal cooling operation.
3. The above data was measured on a flat ground. Therefore, reflected sounds should be taken into consideration when the unit is surrounded by walls, etc.



Standard Specifications

UNIT

The unit shall be an air-cooled screw type water chiller with R22 or R407C refrigerant, and shall be factory-completed with screw type compressors, refrigeration cycles, air-cooled condenser, plate type water coolers, condenser fan motors, a star-delta starter, protective and safety devices, thermal expansion valves and compressor discharge line check valves, and shall be factory-assembled, piped, internal wired and charged with R22 or R407C refrigerant. The unit shall be completely weather-proofed for outdoor installation. The unit shall comply with Japanese Industrial Standards and other Japanese Industrial Standardization Statutes, including safety codes.

CAPACITY

The cooling capacity of the unit shall be ___KW or greater under the following conditions: ___m³/h chilled water flow rate, ___°C chilled water inlet temperature, ___°C chilled water outlet temperature, ___°C condenser air inlet temperature, and a water cooler fouling factor of m²h°C/kcal or smaller. The pressure drop of the water cooler shall not exceed ___kPa. The compressor input shall not exceed ___kW under the prescribed conditions.

POWER SUPPLY

The unit shall operate at ___V, ___Hz, 3-phase, and shall be capable to operate within maximum ___V and minimum ___V.

DIMENSIONS

The unit dimensions shall be a height of 2,400mm, a width of 1,800mm, and a depth of ___ mm. The weight of the unit shall not exceed ___kg.

CABINET

The cabinet shall be constructed of galvanized steel, baked with synthetic resin paint. The service panels shall be easily removable for service access to the electrical components, including magnetic switches and electrical devices.

COMPRESSOR

The unit contains semi-hermetic compressors. The semi-hermetic compressor shall be the serviceable type. The compressor protection system shall include over-current relays, pressure switches, timer relays and internal thermostats embedded in the motor winding.

WATER COOLER

The water cooler shall be the plate type heat exchanger. The refrigerant side of the water cooler shall be cleaned, dehydrated and tested for leakage at the maximum permissible working pressure of 1.3 MPa. The water side of the water cooler shall be cleaned and hydrostatically tested at 1.05 MPa.

FAN AND FAN MOTOR

The condenser fan shall be the propeller type directly driven by a 0.9 KW motor. The motor shall be thermatically protected from overloaded conditions with a thermal over-current relay, and shall be permanently lubricated. The winding and bearing of the condenser fan motor shall be weather-proof construction.

CONDENSER

The condenser shall be the multi-pass, cross-finned tube type equipped with aluminum slit fins, mechanically bonded to seamless, oxygen-free copper tubes. The coil shall be cleaned, dehydrated and tested for leakage at the maximum permissible working pressure of MPa.

ACCESSORIES

Standard accessories shall include vibration-proof mats.

Note: Missing data to be filled according to the Model selected



Manufactured by
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