

**LG Electronics, Home appliance & Air solution company**

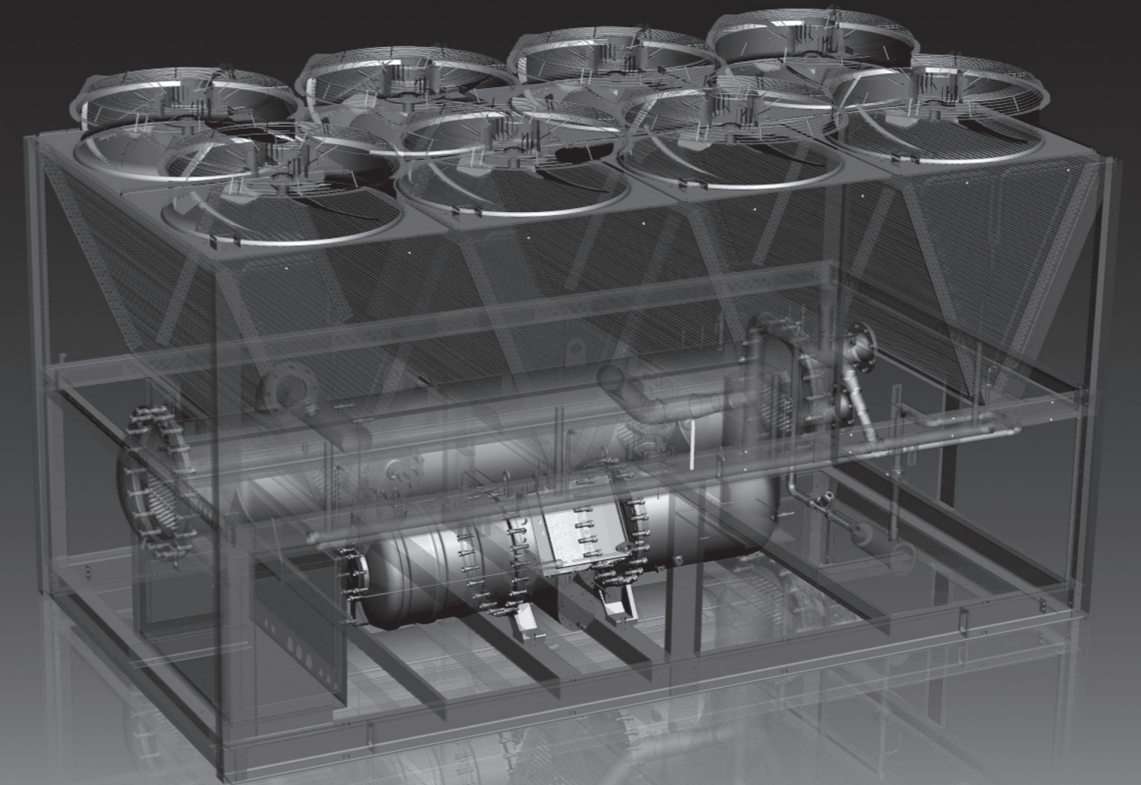
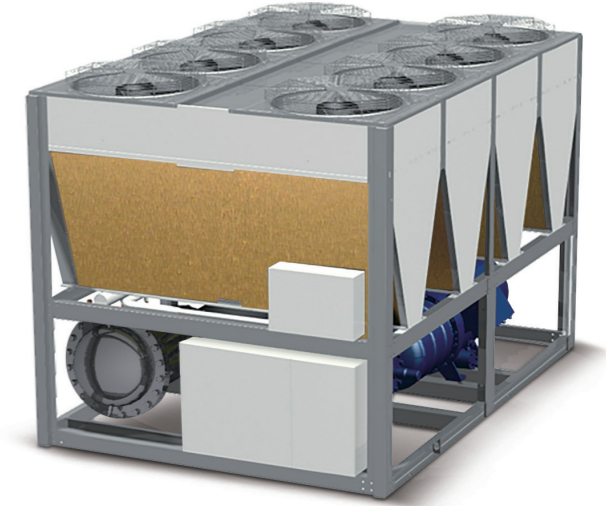
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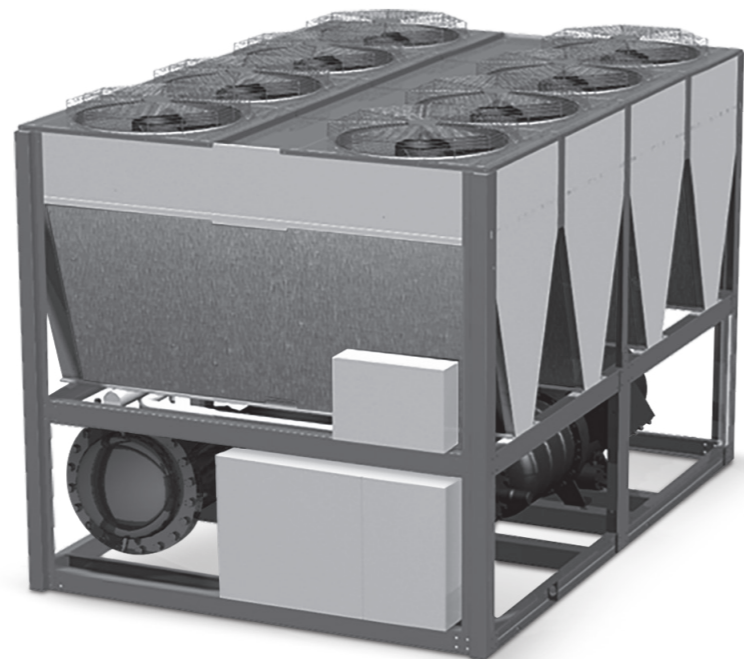
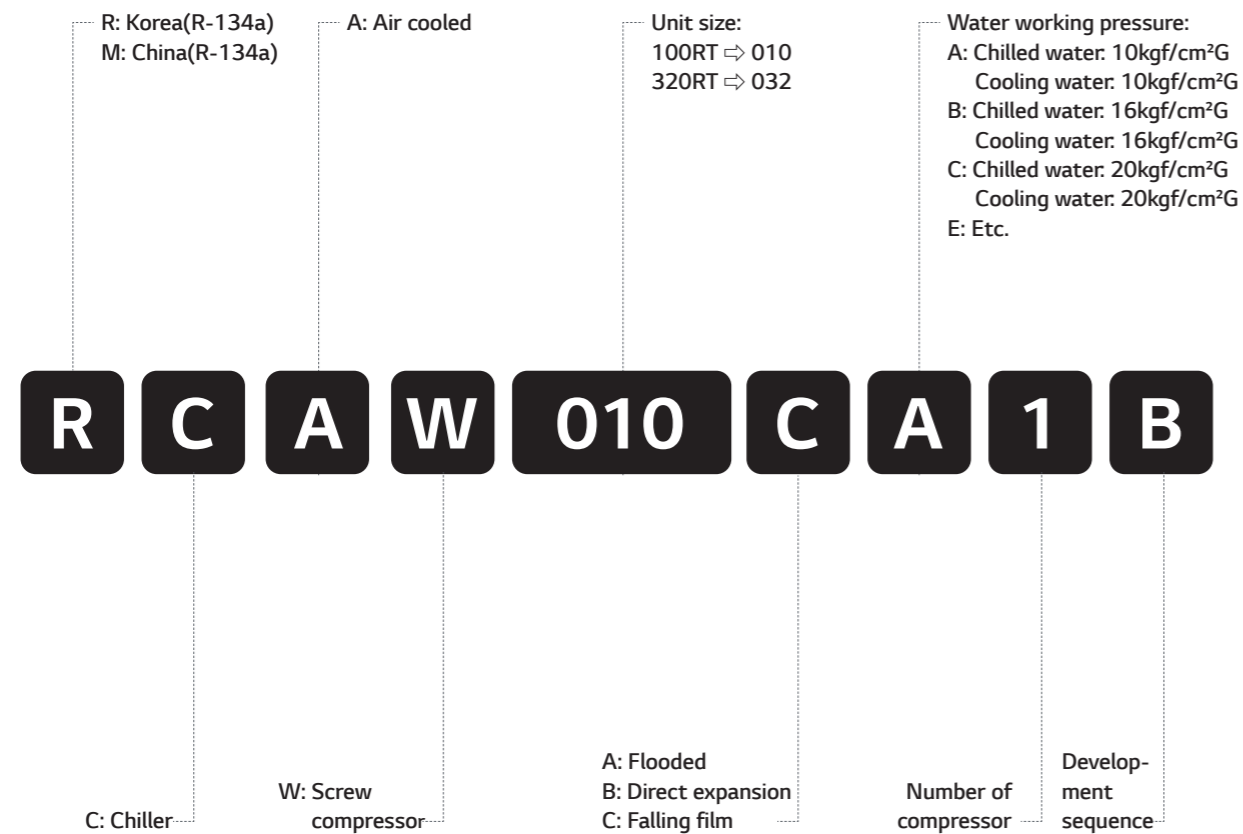
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**LG HVAC SOLUTION**

# AIR COOLED SCREW CHILLER

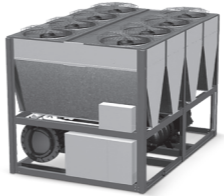




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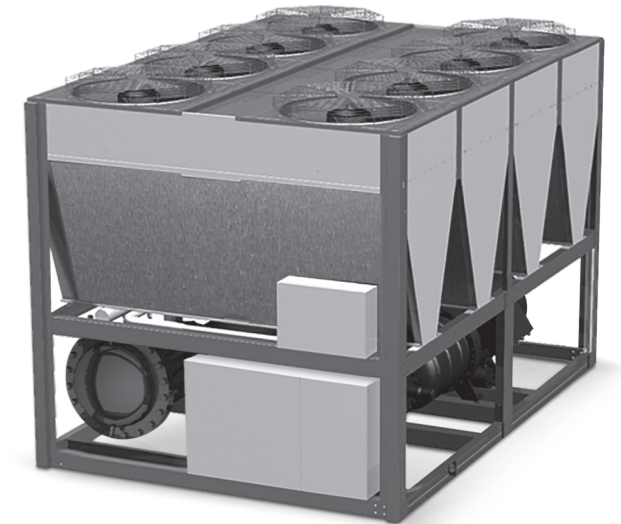
## Line up

Model		100	200	300	400	500
	High efficiency	50Hz	77RT		490RT	
		60Hz	76RT		503RT	
	Standard efficiency	50Hz	80RT		501RT	
		60Hz	79RT		492RT	

\* Above capacity range is base on the AHRI condition.

LG Air cooled water chillers are complete, self-contained automatic refrigerating units that include the latest in engineering components arranged to provide a compact and efficient unit. Each unit is completely assembled; factory wired, evacuated, charged, tested and comes complete and ready for installation.

Each unit consists of multiple air-cooled condensers with integral sub-cooler sections, one or more accessible semi-hermetic twin screw compressors, star-delta starters, high efficiency evaporator, and complete refrigerant piping. Liquid line components included are manual liquid line shutoff valves, charging valves, filter-driers, liquid line solenoid valves, sight glass/moisture indicators, and electronic expansion valves.



- High-performance compressor manufactured by specialized manufacturer is adopted to ensure that the chiller is economical and durable with low vibration and low noise.
- Highly integrated motherboard is adopted and hence the function is strong and reliable.
- Advanced control algorithm is adopted to control chiller in advance and hence avoid frequent stoppage of chiller.
- We have set complete safety protection function in order to make chiller safely and reliably run.
- The linkage control and remote monitoring function of peripheral equipment ensure that the chiller can run safely

- and the operation and monitoring are convenient.
- The selection of excellent raw materials and fittings is the key to guaranteeing chiller quality.

## Excellent reliability and powerful operation

The cutting-edge design of Air-cooled screw chiller accomplishes high performance and reliability for industrial and commercial market.

LG Air-cooled screw compressors are precisely machined from solid compound metal bar using profound cutting process.

Tolerance is maintained within a few microns just like one-tenth hair thickness. Robust components with highly skilled assembling process help the compressor last for a long time. LG condenser production technology is already well-known to worldwide air conditioning manufacturing industries because of its leading technologies.

### World class high efficiency (High efficiency model)

Top level efficiency is in accordance with AHRI Standard 550/590. Optimized compressor design including a rotor and a slide valve is suitable for comfort cooling applications. The rotor is designed to work efficiently for different pressure ranges covering air conditioning and refrigeration application. The slide valve controls the cooling capacity by controlling the position of the slide where refrigerant suction starts using internal pressure difference between discharge and suction. LG air cooled screw chiller has 4 steps capacity control(100, 75, 50, 25%) capability which is optimized for part-load condition. Precise rotor tip clearance provides excellent energy efficiency in the screw rotary compressor because this reduces leakage from high pressure to low pressure side during compression, achieving top class COP.

The evaporator uses internally grooved tubes having helical angle which have enhanced the water side heat transfer performance. The outside of the tube is of optimum shape which has highly enhanced performance for film-wise evaporation with R134a. The V-shape of condenser allows the largest heat transfer surface area for the same footprint, resulting in largest heat transfer performance when the configuration is optimally designed.

The LG V-shape condenser coil was designed by using numerical and experimental analysis, having optimum air flow path to optimize heat rejection performance.

Also, the enhanced condenser fin geometry allows the optimum heat transfer performance at small air side pressure drop, and this reduces the fan-motor power consumption. The fin is pre-coated to prevent corrosion at normal conditions and epoxy coated fin condenser which is sustainable in harsh conditions, is also available as option.

### Low noise and low vibration

The unit was designed with a compact structure and robust assembly. The condenser fan is completed with high-efficiency wing style axial fan and direct driven motor for low sound level. The unit configures compressor sound insulation box(Optional), which makes LG chillers silent and stable.

### Installation, start-up

- Small operating footprint fit most retrofit applications.

- (Compact model)
- Factory testing for high reliability.
- Factory-installed and tested controls help to reduce start up time and minimized extra cost.
- Display temperature and pressure for each component spot.

### Compressor specification

- Semi-hermetic twin-rotor screw compressor.
- Direct-drive, low speed/RPM.
- Only three moving parts, resulting in high reliability.
- The slide valve has a unique profile, optimized for part-load conditions.
- Field serviceable and easy maintenance.
- Precise rotor tip clearance
- A refrigerant dispersing device is set internally to the compressor for motor cooling.

### Factory testing / Unit performance testing

LG air-cooled screw chillers are given with a complete functional test at the factory. LG computer-based testing programs completely check the components including sensors, wiring, electronics and microprocessor control functions.

LG promotes factory performance tests for air-cooled chillers and water-cooled chillers to show that we stand behind the products which are designed and built up.

The benefits of a performance test include verification of performance, prevention of operational problems, and assurance of a smooth start-up. Each compressor is run and tested to verify capacity and efficiency.

### Structural strength analysis

Structure is designed to ensure stiffness for various disturbances by steps of structure modeling, meshing, excitation and evaluation.

#### Structural strength evaluation simulation

### Aerodynamic analysis

Condenser part is appropriately designed by aerodynamic analysis like inlet and outlet uniform airflow design and dead zone reduction design.

#### Heat circulation evaluation simulation

### Eco-friendly refrigerant R134a

System designed with Eco-friendly refrigerant R134a which does not harm the ozone layer & protects the environment. The HCFC(R22, R123) series cannot be produced any more from 2020 according to the Montreal Protocol for protection of ozone layer.

### AHRI certification program and standards and codes

The performance of the screw chiller complies with Air Conditioning, Heating, and Refrigeration Institute(AHRI) latest standards program(AHRI Standard 550/590).



Providing independent, third-party verification, the AHRI regularly tests chiller to ensure compliance.

Chillers conform to the following Standards and Codes:

- AHRI 550/590 - Water chilling packages using the vapor compression cycle.
- ANSI/ASHRAE 34 - Number designation and safety classification of refrigerants.
- ASME Section VIII - Boiler and pressure vessel.
- GB/T 18430.1 - Water chilling(Heat pump) packages using the vapor compression cycle - part 1: water chilling(Heat pump) packages for industrial & commercial and similar applications.

### Equipment overview

#### Semi-hermetic twin compressor

The semi-hermetic screw compressor is developed especially for applications in air-conditioning and refrigeration. With high operating load design, each compressor is of high efficiency and reliability in all operating conditions. Each compressor has the latest and advanced 5-to-6 Patented Screw Rotor Profile designed to ensure high capacity and efficiency in all operating conditions.

The compressor is equipped with separated radial and axial bearings, liquid injection and economizer connection, PTC motor temperature thermistors and discharge temperature thermistors, a motor protector, and oil level switch and oil pressure differential switch and other accessories. The complete accessories and their new designs guarantee the compressor has the best reliability, longest bearing life during heavy duty running and strict operating conditions.

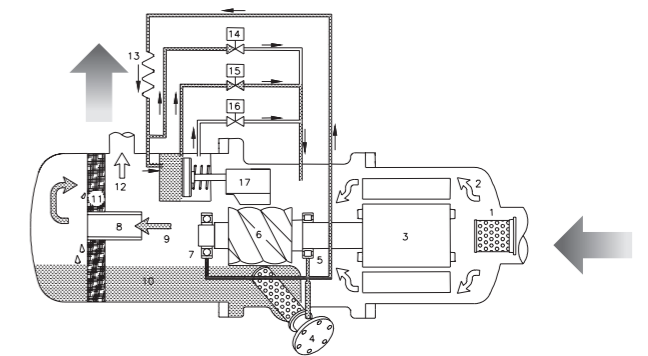
The slide valve for capacity control is located in the compressor chamber. The slide valve is actuated by injection of pressurized oil into the cylinder from the oil sump as well as bypass of oil through solenoid valves in each oil lines with pressure differential.

The screw compressors are equipped with either 3-step/4-step capacity control system or continuous(Stepless) capacity control system. Both of the capacity control systems consist of a modulation slide valve, piston rod, cylinder, piston and piston rings. The slide valve and the piston are connected by a

piston rod. The principle of operation is using the oil pressure to drive the piston in the cylinder. The lubrication oil flows from the oil sump through the oil filter cartridge and capillary then fills into the cylinder due to the positive oil pressure bigger than the right side of spring force plus the high pressure gas. The positive pressure differential causes the piston to move toward the right side in the cylinder.

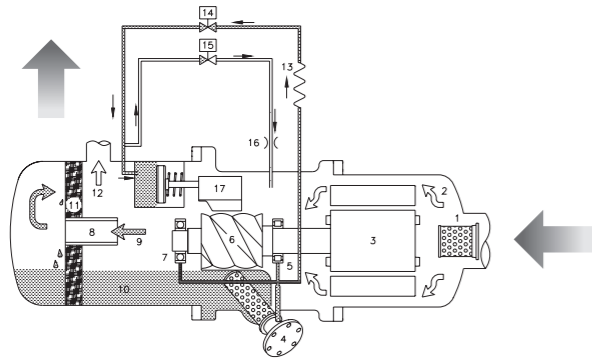
When the slide valve moves toward the right side, the effective compression volume in the compression chamber increases. This means the displacement of refrigerant gas also increases, as a result the refrigeration capacity also increases. However, when any of the step solenoid valve(For 4-step capacity control system) is opened, the high pressure oil in the cylinder bypasses to the suction port, which causes the piston and the slide valve to move toward the left side, and then some of the refrigerant gas bypasses from the compression chamber back to the suction end.

As a result, the refrigeration capacity decreases because of the reduction of displacement of refrigerant gas flowing in the system. The piston spring is used to push the piston back to its original position, i.e. minimum load position in order to reduce the starting current for the next starting.



4-step capacity control

No	Component	No	Component
1	Suction filter	10	Lubricant
2	Gas in(Low pressure)	11	Oil separator cartridge
3	Motor	12	Gas out (High pressure without oil)
4	Oil filter cartridge	13	Capillary
5	Suction bearings	14	Solenoid valve, SV2
6	Male rotor	15	Solenoid valve, SV1
7	Discharge bearings	16	Orifice
8	Oil separator baffle	17	Slide valve
9	Gas out(High pressure with oil)		



Step-less capacity control

No	Component	No	Component
1	Suction filter	10	Lubricant
2	Gas in(Low pressure)	11	Oil separator demister
3	Motor	12	Gas out(High pressure without oil)
4	Oil filter cartridge	13	Capillary
5	Suction bearings	14	Solenoid valve(Min. %), SV 25% / 33%
6	Male rotor	15	Solenoid valve (50% of full load), SV 50%
7	Discharge bearings	16	Solenoid valve(75% / 66% of full load), SV 75% / 66%
8	Oil separator baffle	17	Slide valve
9	Gas out(High pressure with oil)	*	For RC2-100, 140 & 180 the SV50% omitted

## Heat exchanger

### Evaporator Falling film type

“Falling film” shell and tube type evaporator is having refrigerant in the shell and chilled water inside the tubes. Advantage of this type evaporator is higher heat transfer performance and reduced refrigerant charge. Distributer located on the top side of inside shell makes uniform flow of refrigerant, this refrigerant flows downward by gravity as a continuous film.

The shell is of welded carbon steel construction with steel tube sheets and copper heat exchange tubes. Removable steel water boxes at both ends of the cooler allow tube cleaning without disturbing the refrigerant circuit.

Tubes are mechanically expanded into tube sheets with double grooves to ensure leak tight and trouble free operation. Multiple compressor/ circuit chillers have coolers with separate refrigeration circuits for each compressor.

Each refrigeration circuit is provided with its own pressure relief valve. All chillers are fitted with drain valves on the removable heads and shell. All coolers are factory insulated

with 19mm of closed cell expanded synthetic rubber with all joints vapor sealed.

## Air cooled condenser

Condenser coils are constructed from copper tubes with spiral grooves on their inside surface to maximize heat transfer efficiency. The two types of condenser fin can be provided as a standard based on customer's request. The one is that aluminum condenser fins have a corrosion resistant and hydrophilic coating to minimize dust and moisture accumulation and ensure a long working life. The fins have rippled and louvered surfaces to improve heat dissipation efficiency.

The other one is that LG's patented chloride-induced corrosion-resistant Goldfin™ reduces heat exchanger corrosion. This specially developed coating offers maximum protection, even in the most humid of conditions.

Each condenser section comprises coils in a reversed V arrangement. Condenser fans are axial type using designed s-shaped blade. Therefore it makes high air flow and low vibration and sound with the combination of this technology, chiller can be operated in ambient temperature up to 52°C (125°F). Fan motors are waterproof rated to IP54 with class 'F' insulation suitable for operation in temperatures from -20°C to 65°C(-4°F to 150°F).

## Electronic expansion valve

Electrically operated expansion valves is used for precise liquid injection in evaporators. This EXV are designed for HFC/HCFC conditions, providing 34 bar(493 psig) working pressure. Balanced design providing bi-flow operation as well as solenoid tight shut-off function in both flow directions at MOPD(Maximum Operating Pressure Differential) 33 bar(478.6 psig). This valve controls refrigerant flow for different operating conditions by change orifice size to increase or decrease flow area through the valve. This valve is controlled by microprocessor signal.

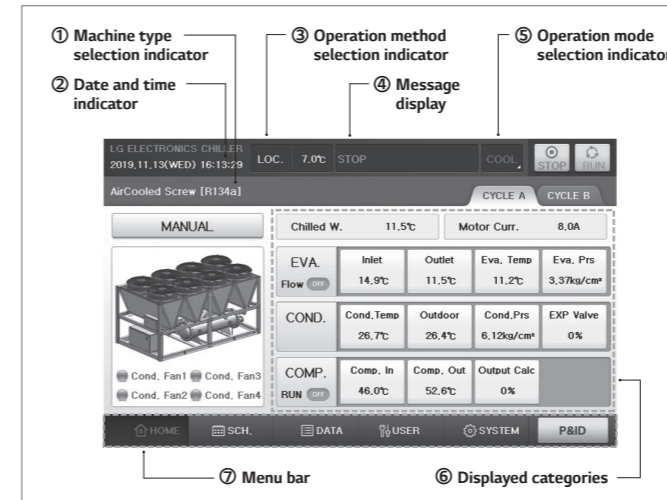
## Control

### Controller system information

Generally controller consist of Display, Master, Slave and Relay board. Each board connect with RS485 communication and include analog input/output, digital input/output channel.

- 7 and 10.2-inch color LCD touch screen with high resolution (1,024 x 600)
- Operation scheduling function
- Real time trend display
- Web Access(Additional accessory)

- Running data acquisition
- Easy-to-read display of operational data
- Certified EMI/EMS
- Communication supported: Modbus, RS485(Standard)
- Language: English / Chinese / Korean



Controller front view

- ① Machine type selection indicator  
It show the currently selected model. You can check detail from 'Control Information set' part.
- ② Date and time indicator  
It show the current time. You can check detail from 'Sys. Info.(System information)' part.
- ③ Operation method selection indicator  
It show the currently selected control mode. You can check detail from 'User set' part.
- ④ Message display  
It show the message about status of product.
- ⑤ Operation mode selection indicator  
It show the currently selected run mode. You can check detail from 'User set' part.
- ⑥ Displayed categories  
It show the currently information of product.
- ⑦ Menu bar  
It show the functions for menu operation bottom.

## Controller system composition diagram

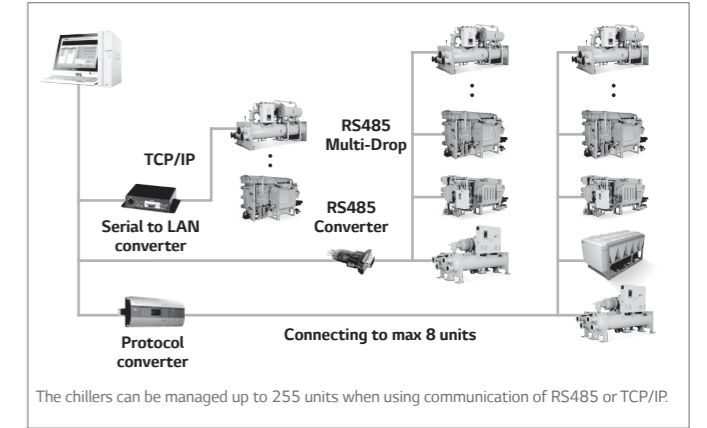
Master board and slave board have the same hardware and they are set as master or slave by DIP switch setting. This board consist of analog input/output, digital input/output and communication connections.

## BMS support function

Screw chiller's basic communication protocol is Modbus protocol, and it can be compatible with higher level communication methods.

Communication protocol support

- Protocol and communication method
  - Standard : Modbus, RS-485
  - Option : BACnet, TCP/IP, Lonwork



Detailed diagrams of BMS

## NFB(Non-Fused Breaker) power disconnect switch

A non-fused disconnect is available as a factory-installed option for all units with single point power connection units. This option is that power supply is disconnected during service & repair

## Suction service isolation valve

Suction service isolation valve is installed with unit for each refrigerant circuit as a standard.

## Accessories and options

### Compressor acoustic enclosure

The compressor acoustic enclosure can be provided as an option to reduce compressor sound levels. This enclosure is constructed of painted panels and sound absorbing insulation for maximum sound attenuation. The panels and the sound foam provide sound damping effect. This panel fastened with bolt for service. The enclosure is factory installed option.

## Condenser

To have better protection against corrosion caused by salty air in seashore area or acid corrosive environment, these options are recommended to extend equipment life. The following options are provided with factory mounted.

- Pre Coating  
The condenser coil is made of aluminum fins with pre-treated polyurethane coating.
- Copper fin  
The heat exchanger unit is made with copper tube condenser

coils having copper fins.(This is not recommended to use in area where they may be exposed to acid corrosive environment)

### Evaporator options

#### Double thickness insulation

As a standard, the evaporator shell is insulated with 3/4”(19mm). As an option, it can be insulated with 1-1/2”(38mm).

### General options

#### Vibration isolation

For installation on building roofs or in sensitive noise areas (Hospitals, studios and some residential areas) pre-selected spring type isolators with 1” or 2” deflection are available as a factory option – shipped with loose parts for field installation.

#### Power factor correction

Provide equipment with power factor correction capacitors as required to maintain a displacement power factor of 95% at all load conditions.

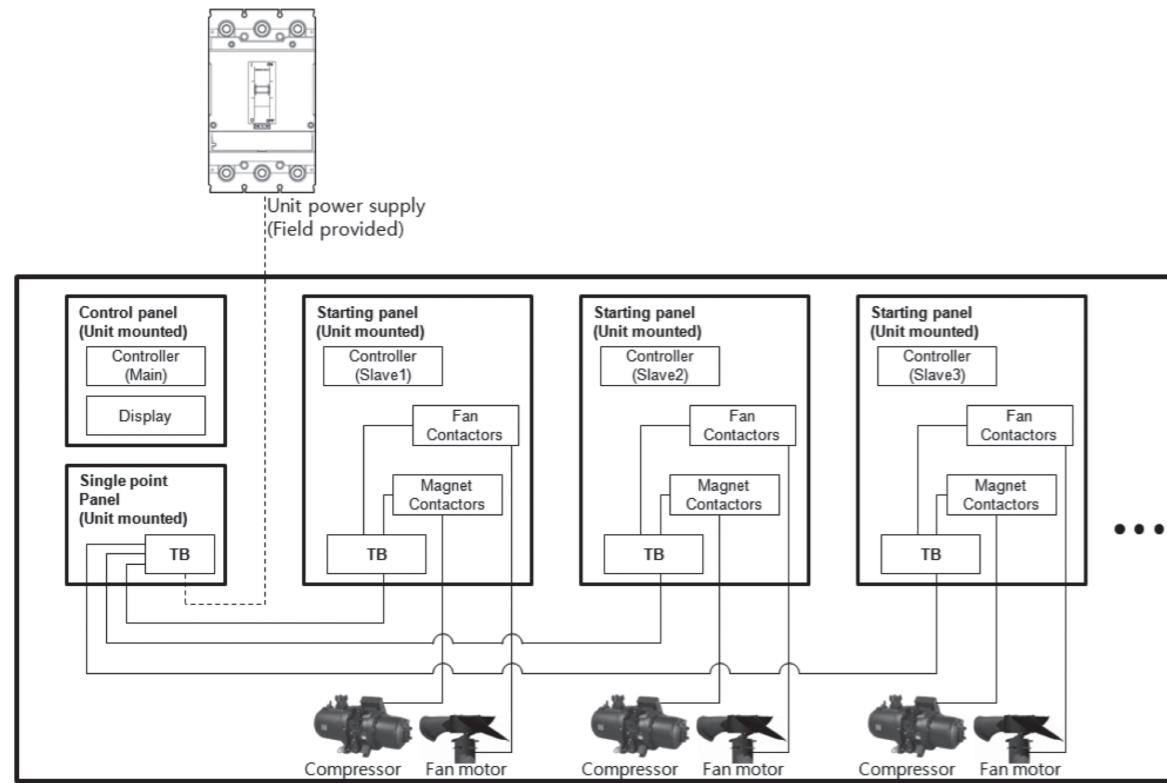
#### Single power point connection

For models installed with 2,3 and 4 compressors, to minimize job site installation cost and time, single point power connection can be provided as an option. If optional single point power connection is required, terminal block connections will be supplied at the point of incoming single point connection.

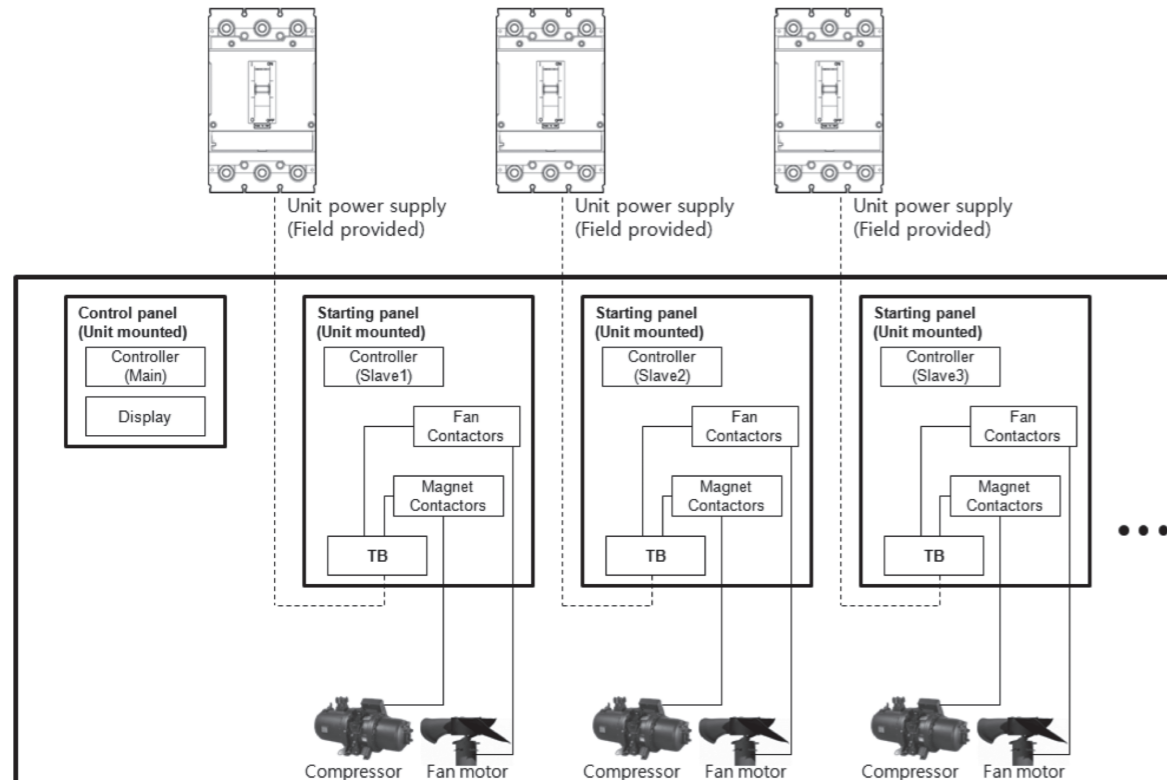
### Air-Cooled Screw chiller standard summary

Items		Standard	Option
Comp.	Power Supply(3Ph)	<input type="checkbox"/> 380V	<input type="checkbox"/> 400V <input type="checkbox"/> 415V <input type="checkbox"/> 440V <input type="checkbox"/> 460V <input type="checkbox"/> 480V
	Hertz	<input type="checkbox"/> 50Hz	<input type="checkbox"/> 60Hz
	Capacity Control Type	<input type="checkbox"/> Step	<input type="checkbox"/> Stepless
	Angle Valve	<input type="checkbox"/> N/A	<input type="checkbox"/> Yes
Control Panel	Communication	<input type="checkbox"/> Modbus	<input type="checkbox"/> BACnet <input type="checkbox"/> TCP/IP <input type="checkbox"/> etc( )
	Protection Grade	<input type="checkbox"/> IP54	<input type="checkbox"/> etc( )
Power Connection		<input type="checkbox"/> Standard(Multi,2-comp.)	<input type="checkbox"/> Single Power Connection
Starter Panel	Supplied by	<input type="checkbox"/> Factory	<input type="checkbox"/> Supplied by customer
	Starter Type	<input type="checkbox"/> Y-Delta(Open)	<input type="checkbox"/> Y-Delta(Closed) <input type="checkbox"/> Soft Starter <input type="checkbox"/> SPG <input type="checkbox"/> Direct
	Mounted Type	<input type="checkbox"/> Unit Mounted	<input type="checkbox"/> Stand Alone
	Misc. Options	<input type="checkbox"/> N/A	<input type="checkbox"/> Ground Fault Protection <input type="checkbox"/> Power Factor Correction Capacitor
	Protection Grade	<input type="checkbox"/> IP54	<input type="checkbox"/> Integrating Watt-meter
	Internal Inspection Lamp	<input type="checkbox"/> N/A	<input type="checkbox"/> etc( )
EVAP.	Waterbox Pressure	<input type="checkbox"/> 150 psig(10kg/cm <sup>2</sup> )	<input type="checkbox"/> 230 psig(16kg/cm <sup>2</sup> ) <input type="checkbox"/> 300 psig(20kg/cm <sup>2</sup> )
	Flow Proof Type(Ref.)	<input type="checkbox"/> Relief V/V(Single)	<input type="checkbox"/> Relief V/V(Dual)
	Nozzle Type	<input type="checkbox"/> ANSI-Flange	<input type="checkbox"/> ANSI-Victaulic(AGS) <input type="checkbox"/> ANSI-Victaulic(OGS)
COND.	Fan Control(In all season)	<input type="checkbox"/> N/A	<input type="checkbox"/> Yes
	Fin Coating	<input type="checkbox"/> Standard(Gold Fin)	<input type="checkbox"/> BlyGold Fin
Refrigerant Charge		<input type="checkbox"/> Separated Shipping	<input type="checkbox"/> Factory Charge <input type="checkbox"/> Customer Supplied
Oil Charge		<input type="checkbox"/> Separated Shipping	<input type="checkbox"/> Factory Charge <input type="checkbox"/> Customer Supplied
Packing		<input type="checkbox"/> Shrink film	<input type="checkbox"/> Wood Packing
Insulation		<input type="checkbox"/> N/A	<input type="checkbox"/> 19mm <input type="checkbox"/> 38mm <input type="checkbox"/> etc( )
Sound Attenuator		<input type="checkbox"/> N/A	<input type="checkbox"/> Yes
Isolation		<input type="checkbox"/> Neoprene PAD	<input type="checkbox"/> Spring 1inch <input type="checkbox"/> Spring Rubber Pad
Anchor Bolt for Foundation		<input type="checkbox"/> N/A	<input type="checkbox"/> Yes
Counter Pipe Flange		<input type="checkbox"/> N/A	<input type="checkbox"/> Yes
Certification		<input type="checkbox"/> Standard(KGS)	<input type="checkbox"/> ASME VII stamp <input type="checkbox"/> CE(PED) <input type="checkbox"/> PED <input type="checkbox"/> (C)UL(ETL)
Factory Performance Test&Process inspec.		<input type="checkbox"/> N/A	<input type="checkbox"/> Report Only <input type="checkbox"/> Customer Witness <input type="checkbox"/> Process Inspection
Operating Training		<input type="checkbox"/> N/A	<input type="checkbox"/> Yes
Warranty-Compressor		<input type="checkbox"/> 1yr	<input type="checkbox"/> etc( )
Warranty-Ass'y		<input type="checkbox"/> 1yr	<input type="checkbox"/> etc( )
Labor Warranty		<input type="checkbox"/> N/A	<input type="checkbox"/> etc( )
Standard Specification		1) Factory Wiring : Flexible 2) Color : Dawn Gray - Starter / Control Panel : Warm Gray 3) Standard provide Emergency stop switch and Protection guard 4) Flow proof type : DP Switch(Evaporator)	

# Single point connection



# Multi point connection



# Specification | High efficiency type



60Hz

Model		Units	RCAW008CA1B	RCAW010CA1B	RCAW012CA1B	RCAW014CA1B
Unit Data Standard Condition	Unit Capacity	usRT	77.6	102.8	121.0	136.4
		kW	272.9	361.5	425.5	479.7
	Input Power	kW	86.6	119.1	134.6	154.6
	COP		3.15	3.04	3.16	3.10
Unit Data High Ambient	Unit Capacity	usRT	70.6	92.6	109.6	123.0
		kW	248.2	325.5	385.3	432.4
	Input Power	kW	111.4	151.8	172.5	197.1
	COP		2.23	2.14	2.23	2.19
General Unit Data	Number of Independent Refrigerant Circuits		1	1	1	1
	Refrigerant Charge, R-134a	kg	90	90	100	1,400
	Oil Charge	l	16	18	23	28
Weight	Shipping Weight	kg	3,100	3,300	3,700	3,900
	Operating Weight	kg	3,270	3,470	3,900	4,140
Compressors	Compressor Type		Semihhermetic Twin Screw			
	Quantity	EA	1	1	1	1
Condenser	Total Chiller Coil Face Area	m <sup>2</sup>	12.1	12.1	16.1	16.1
	Number of Coils	EA	6	6	8	8
	Number of Rows	-	3	3	3	3
	Fins per inch	FPI	15	15	15	15
Fans	Number	EA	6	6	8	8
	Fan Motor	kW	12.6	12.6	16.8	16.8
	Fan Speed	RPM	860	860	860	860
	Fan Diameter	mm	850	850	850	850
	Fan Tip Speed	m/s	38.3	38.3	38.3	38.3
	Total Chiller Airflow	l/s	31,500	31,500	42,000	42,000
Evaporator	Evaporator Type		Shell and Tube(Falling Film)			
	Water Volume	l	64	71	78	86
	Maximum Water Side Pressure	MPa	1	1	1	1
	Maximum Refrigerant Side Pressure	Mpa	2	2	2	2
	Minimum Chiller Water Flow Rate	l/s	4.5	5.4	6.3	8.9
	Maximum Chiller Water Flow Rate	l/s	13.4	16.1	18.8	26.7
Water Connections	Water Connections	DN	100	100	125	125
	Drain(NPT)	mm	32	32	32	32
Dimension	Length	mm	3,022	3,022	4,008	4,008
	Width	mm	2,154	2,154	2,154	2,154
	Height	mm	2,317	2,317	2,317	2,317

- Note:
- 1 usRT = 3,024kcal/hr = 3.517kW, 1H<sub>2</sub>O = 9.8kPa
  2. Fouling factor of water in evaporator is 0.018m<sup>2</sup>·°C/kW(0.0001h·ft<sup>2</sup>·°F/Btu)
  3. Standard cooling conditions : Ambient temperature is 35°C(95°F), Chilled water temperature outlet is 6.7°C(44°F). Temperature difference is 5.5°C(10°F).
  4. High ambient conditions : Ambient temperature is 46°C(115°F), Chilled water temperature outlet is 6.7°C(44°F). Temperature difference is 5.5°C(10°F).
  5. Due to our policy of innovation some specifications may be changed without prior notification.
  6. All data in this table is rated in accordance with AHRI Standard 550/590.

60Hz

Model		Units	RCAW014CA2B	RCAW016CA1B	RCAW016CA2B	RCAW018CA2B
Unit Data Standard Condition	Unit Capacity	usRT	136.8	157.9	158.7	182.4
		kW	481.0	555.1	558.0	641.3
	Input Power	kW	166.9	174.6	178.4	205.0
	COP		2.88	3.18	3.13	3.13
Unit Data High Ambient	Unit Capacity	usRT	123.0	142.8	143.4	165.1
		kW	432.6	502.1	504.3	580.6
	Input Power	kW	212.9	223.2	228.1	262.4
	COP		2.03	2.25	2.21	2.21
General Unit Data	Number of Independent Refrigerant Circuits		2	1	2	2
	Refrigerant Charge, R-134a	kg	70/70	1,500	80/70	80/80
	Oil Charge	l	16/16	28	16/16	16/16
Weight	Shipping Weight	kg	4,700	4,500	5,400	5,800
	Operating Weight	kg	4,950	4,760	5,670	6,080
Compressors	Compressor Type		Semihhermetic Twin Screw			
	Quantity	EA	2	2	2	2
Condenser	Total Chiller Coil Face Area	m <sup>2</sup>	8.1/8.1	8.1/12.1	8.1/12.1	12.1/12.1
	Number of Coils	EA	4/4	10	4/6	6/6
	Number of Rows	-	3	3	3	3
	Fins per inch	FPI	15	15	15	15
Fans	Number	EA	4/4	10	4/6	6/6
	Fan Motor	kW	8.4/8.4	21.0	8.4/12.6	12.6/12.6
	Fan Speed	RPM	860	860	860	860
	Fan Diameter	mm	850	850	850	850
	Fan Tip Speed	m/s	38.3	38.3	38.3	38.3
	Total Chiller Airflow	l/s	21,000/21,000	52,500	21,000/31,500	31,500/31,500
Evaporator	Evaporator Type		Shell and Tube(Falling Film)			
	Water Volume	l	86	97	97	103
	Maximum Water Side Pressure	MPa	1	1	1	1
	Maximum Refrigerant Side Pressure	Mpa	2	2	2	2
	Minimum Chiller Water Flow Rate	l/s	8.9	10.7	10.7	11.7
	Maximum Chiller Water Flow Rate	l/s	26.7	32.2	32.2	35.2
Water Connections	Water Connections	DN	125	125	125	125
	Drain(NPT)	mm	32	32	32	32
Dimension	Length	mm	4,008	4,994	4,994	5,980
	Width	mm	2,154	2,154	2,154	2,154
	Height	mm	2,317	2,317	2,317	2,317

Note:  
 1. 1usRT = 3,024kcal/hr = 3.517kW, 1H<sub>2</sub>O = 9.8kPa  
 2. Fouling factor of water in evaporator is 0.018m<sup>2</sup>°C/kW(0.0001h·ft<sup>2</sup>°F/Btu)  
 3. Standard cooling conditions : Ambient temperature is 35°C(95°F), Chilled water temperature outlet is 6.7°C(44°F). Temperature difference is 5.5°C(10°F).  
 4. High ambient conditions : Ambient temperature is 46°C(115°F), Chilled water temperature outlet is 6.7°C(44°F). Temperature difference is 5.5°C(10°F).  
 5. Due to our policy of innovation some specifications may be changed without prior notification.  
 6. All data in this table is rated in accordance with AHRI Standard 550/590.

60Hz

Model		Units	RCAW020CA2B	RCAW022CA2B	RCAW024CA2B	RCAW026CA2B	RCAW028CA2B
Unit Data Standard Condition	Unit Capacity	usRT	204.6	222.1	241.1	266.5	281.1
		kW	719.6	780.9	847.8	937.1	988.4
	Input Power	kW	238.0	252.4	278.2	295.8	319.1
	COP		3.02	3.09	3.05	3.17	3.10
Unit Data High Ambient	Unit Capacity	usRT	184.3	200.7	217.2	240.5	254.1
		kW	648.2	705.8	763.6	845.5	893.4
	Input Power	kW	303.2	322.6	354.4	377.3	408.3
	COP		2.14	2.19	2.15	2.24	2.19
General Unit Data	Number of Independent Refrigerant Circuits		2	2	2	2	2
	Refrigerant Charge, R-134a	kg	80/80	90/80	100/90	100/100	130/120
	Oil Charge	l	18/18	20/20	23/23	20/23	23/28
Weight	Shipping Weight	kg	5,900	6,300	6,600	6,900	7,700
	Operating Weight	kg	6,190	6,610	6,950	7,260	8,120
Compressors	Compressor Type		Semihhermetic Twin Screw				
	Quantity	EA	2	2	2	2	2
Condenser	Total Chiller Coil Face Area	m <sup>2</sup>	12.1/12.1	12.1/16.1	12.1/16.1	16.1/16.1	16.1/20.2
	Number of Coils	EA	6/6	6/8	6/8	8/8	8/10
	Number of Rows	-	3	3	3	3	3
	Fins per inch	FPI	15	15	15	15	15
Fans	Number	EA	6/6	6/8	6/8	8/8	8/10
	Fan Motor	kW	12.6/12.6	12.6/16.8	12.6/16.8	16.8/16.8	16.8/21.0
	Fan Speed	RPM	860	860	860	860	860
	Fan Diameter	mm	850	850	850	850	850
	Fan Tip Speed	m/s	38.3	38.3	38.3	38.3	38.3
	Total Chiller Airflow	l/s	31,500/31,500	31,500/42,000	31,500/42,000	42,000/42,000	42,000/52,500
Evaporator	Evaporator Type		Shell and Tube(Falling Film)				
	Water Volume	l	110	115	136	134	154
	Maximum Water Side Pressure	MPa	1	1	1	1	1
	Maximum Refrigerant Side Pressure	Mpa	2	2	2	2	2
	Minimum Chiller Water Flow Rate	l/s	12.9	13.8	15.4	13.8	15
	Maximum Chiller Water Flow Rate	l/s	38.8	41.3	46.1	41.3	44.9
Water Connections	Water Connections	DN	125	150	150	150	150
	Drain(NPT)	mm	32	32	32	32	32
Dimension	Length	mm	5,980	6,966	6,966	7,952	8,938
	Width	mm	2,154	2,154	2,154	2,154	2,154
	Height	mm	2,317	2,317	2,317	2,317	2,317

Note:  
 1. 1usRT = 3,024kcal/hr = 3.517kW, 1H<sub>2</sub>O = 9.8kPa  
 2. Fouling factor of water in evaporator is 0.018m<sup>2</sup>°C/kW(0.0001h·ft<sup>2</sup>°F/Btu)  
 3. Standard cooling conditions : Ambient temperature is 35°C(95°F), Chilled water temperature outlet is 6.7°C(44°F). Temperature difference is 5.5°C(10°F).  
 4. High ambient conditions : Ambient temperature is 46°C(115°F), Chilled water temperature outlet is 6.7°C(44°F). Temperature difference is 5.5°C(10°F).  
 5. Due to our policy of innovation some specifications may be changed without prior notification.  
 6. All data in this table is rated in accordance with AHRI Standard 550/590.

60Hz

Model		Units	RCAW030CA2B	RCAW036CA3B	RCAW040CA3B	RCAW045CA4B	RCAW050CA4B
Unit Data Standard Condition	Unit Capacity	usRT	303.2	359.5	398.7	456.5	498.5
		kW	1,066.0	1,264.2	1,401.8	1,605.3	1,752.9
	Input Power	kW	354.6	411.0	460.0	518.0	550.4
	COP		3.01	3.08	3.05	3.10	3.18
Unit Data High Ambient	Unit Capacity	usRT	273.1	324.2	359.2	412.1	450.9
		kW	960.2	1,140.0	1,263.2	1,449.1	1,585.6
	Input Power	kW	452.7	525.6	588.0	661.5	704.4
	COP		2.12	2.17	2.15	2.19	2.25
General Unit Data	Number of Independent Refrigerant Circuits		2	3	3	4	4
	Refrigerant Charge, R-134a	kg	130/120	100/100/90	110/110/110	100/90/100/90	100/100/100/100
	Oil Charge	l	28/28	23/23/23	23/23/23	20/23/20/23	23/20/23/20
Weight	Shipping Weight	kg	7,900	9,600	10,200	13,000	13,800
	Operating Weight	kg	7,320	10,140	10,810	13,700	14,510
Compressors	Compressor Type		Semihhermetic Twin Screw				
	Quantity	EA	2	3	3	4	4
Condenser	Total Chiller Coil Face Area	m <sup>2</sup>	16.1/20.2	12.1/16.1/16.1	16.1/16.1/16.1	12.1/16.1/12.1/16.1	16.1/16.1/16.1/16.1
	Number of Coils	EA	8/10	6/8/8	8/8/8	6/8/6/8	8/8/8/8
	Number of Rows	-	3	3	3	3	3
	Fins per inch	FPI	15	15	15	15	15
Fans	Number	EA	8/10	6/8/8	8/8/8	6/8/6/8	8/8/8/8
	Fan Motor	kW	16.8/21.0	12.6/16.8/16.8	16.8/16.8/16.8	12.6/16.8/12.6/16.8	16.8/16.8/16.8/16.8
	Fan Speed	RPM	860	860	860	860	860
	Fan Diameter	mm	850	850	850	850	850
	Fan Tip Speed	m/s	38.3	38.3	38.3	38.3	38.3
	Total Chiller Airflow	l/s	42,000/52,500	31,500/42,000/42,000	42,000/42,000/42,000	31,500/42,000/31,500/42,000	42,000/42,000/42,000/42,000
Evaporator	Evaporator Type		Shell and Tube(Falling Film)				
	Water Volume	l	157	209	240	272	268
	Maximum Water Side Pressure	MPa	1	1	1	1	1
	Maximum Refrigerant Side Pressure	Mpa	2	2	2	2	2
	Minimum Chiller Water Flow Rate	l/s	15.4	18.2	20.2	30.8	27.6
	Maximum Chiller Water Flow Rate	l/s	46.1	54.6	60.7	92.2	82.6
Water Connections	Water Connections	DN	150	200	200	150/150	150/150
	Drain(NPT)	mm	32	32	32	32	32
Dimension	Length	mm	8,938	10,910	11,896	13,932	15,904
	Width	mm	2,154	2,154	2,154	2,154	2,154
	Height	mm	2,317	2,317	2,317	2,317	2,317

Note:  
 1. 1usRT = 3,024kcal/hr = 3.517kW, 1H<sub>2</sub>O = 9.8kPa  
 2. Fouling factor of water in evaporator is 0.018m<sup>2</sup>°C/kW(0.0001h·ft<sup>2</sup>°F/Btu)  
 3. Standard cooling conditions : Ambient temperature is 35°C(95°F), Chilled water temperature outlet is 6.7°C(44°F). Temperature difference is 5.5°C(10°F).  
 4. High ambient conditions : Ambient temperature is 46°C(115°F), Chilled water temperature outlet is 6.7°C(44°F). Temperature difference is 5.5°C(10°F).  
 5. Due to our policy of innovation some specifications may be changed without prior notification.  
 6. All data in this table is rated in accordance with AHRI Standard 550/590.

50Hz

Model		Units	RCAW008CA1B	RCAW010CA1B	RCAW012CA1B	RCAW014CA1B
Unit Data Standard Condition	Unit Capacity	usRT	78.0	101.1	114.0	131.1
		kW	274.3	355.6	400.8	461.0
	Input Power	kW	85.1	113.1	121.0	144.0
	COP		3.22	3.14	3.31	3.20
Unit Data High Ambient	Unit Capacity	usRT	70.9	91.1	103.5	118.4
		kW	249.4	320.5	363.8	416.3
	Input Power	kW	110.0	144.8	155.9	184.6
	COP		2.27	2.21	2.33	2.26
General Unit Data	Number of Independent Refrigerant Circuits		1	1	1	1
	Refrigerant Charge, R-134a	kg	90	90	100	1,400
	Oil Charge	l	16	23	23	28
Weight	Shipping Weight	kg	3,100	3,300	3,700	3,900
	Operating Weight	kg	3,270	3,470	3,900	4,140
Compressors	Compressor Type		Semihhermetic Twin Screw			
	Quantity	EA	1	1	1	1
Condenser	Total Chiller Coil Face Area	m <sup>2</sup>	12.1	12.1	16.1	16.1
	Number of Coils	EA	6	6	8	8
	Number of Rows	-	3	3	3	3
	Fins per inch	FPI	15	15	15	15
Fans	Number	EA	6	6	8	8
	Fan Motor	kW	12.6	12.6	16.8	16.8
	Fan Speed	RPM	960	960	960	960
	Fan Diameter	mm	850	850	850	850
	Fan Tip Speed	m/s	42.7	42.7	42.7	42.7
	Total Chiller Airflow	l/s	31,500	31,500	42,000	42,000
Evaporator	Evaporator Type		Shell and Tube(Falling Film)			
	Water Volume	l	64	71	78	86
	Maximum Water Side Pressure	MPa	1	1	1	1
	Maximum Refrigerant Side Pressure	Mpa	2	2	2	2
	Minimum Chiller Water Flow Rate	l/s	4.5	5.4	6.3	8.9
	Maximum Chiller Water Flow Rate	l/s	13.4	16.1	18.8	26.7
Water Connections	Water Connections	DN	100	100	125	125
	Drain(NPT)	mm	32	32	32	32
Dimension	Length	mm	3,022	3,022	4,008	4,008
	Width	mm	2,154	2,154	2,154	2,154
	Height	mm	2,317	2,317	2,317	2,317

Note:  
 1. 1usRT = 3,024kcal/hr = 3.517kW, 1H<sub>2</sub>O = 9.8kPa  
 2. Fouling factor of water in evaporator is 0.018m<sup>2</sup>°C/kW(0.0001h·ft<sup>2</sup>°F/Btu)  
 3. Standard cooling conditions : Ambient temperature is 35°C(95°F), Chilled water temperature outlet is 6.7°C(44°F). Temperature difference is 5.5°C(10°F).  
 4. High ambient conditions : Ambient temperature is 46°C(115°F), Chilled water temperature outlet is 6.7°C(44°F). Temperature difference is 5.5°C(10°F).  
 5. Due to our policy of innovation some specifications may be changed without prior notification.  
 6. All data in this table is rated in accordance with AHRI Standard 550/590.



50Hz

Model		Units	RCAW014CA2B	RCAW016CA1B	RCAW016CA2B	RCAW018CA2B
Unit Data Standard Condition	Unit Capacity	usRT	137.5	156.7	161.3	179.8
		kW	483.4	551.1	567.0	632.3
	Input Power	kW	159.3	168.1	181.1	196.0
	COP		3.03	3.28	3.13	3.23
Unit Data High Ambient	Unit Capacity	usRT	123.8	141.9	145.6	162.9
		kW	435.2	498.8	511.9	572.8
	Input Power	kW	203.8	215.9	232.1	251.9
	COP		2.14	2.31	2.21	2.27
General Unit Data	Number of Independent Refrigerant Circuits		2	1	2	2
	Refrigerant Charge, R-134a	kg	70/70	1500	80/70	80/80
	Oil Charge	l	16/16	28	16/18	18/20
Weight	Shipping Weight	kg	4,700	4,500	5,400	5,800
	Operating Weight	kg	4,950	4,760	5,670	6,080
Compressors	Compressor Type		Semihhermetic Twin Screw			
	Quantity	EA	2	2	2	2
Condenser	Total Chiller Coil Face Area	m <sup>2</sup>	8.1/8.1	8.1/12.1	8.1/12.1	12.1/12.1
	Number of Coils	EA	4/4	10	4/6	6/6
	Number of Rows	-	3	3	3	3
	Fins per inch	FPI	15	15	15	15
Fans	Number	EA	4/4	10	4/6	6/6
	Fan Motor	kW	8.4/8.4	21.0	8.4/12.6	12.6/12.6
	Fan Speed	RPM	960	960	960	960
	Fan Diameter	mm	850	850	850	850
	Fan Tip Speed	m/s	42.7	42.7	42.7	42.7
	Total Chiller Airflow	l/s	21,000/21,000	52,500	21,000/31,500	31,500/31,500
Evaporator	Evaporator Type		Shell and Tube(Falling Film)			
	Water Volume	l	86	97	97	103
	Maximum Water Side Pressure	MPa	1	1	1	1
	Maximum Refrigerant Side Pressure	Mpa	2	2	2	2
	Minimum Chiller Water Flow Rate	l/s	8.9	10.7	10.7	11.7
	Maximum Chiller Water Flow Rate	l/s	26.7	32.2	32.2	35.2
Water Connections	Water Connections	DN	125	125	125	125
	Drain(NPT)	mm	32	32	32	32
Dimension	Length	mm	4,008	4,994	4,994	5,980
	Width	mm	2,154	2,154	2,154	2,154
	Height	mm	2,317	2,317	2,317	2,317

Note:  
 1. 1usRT = 3,024kcal/hr = 3.517kW, 1H<sub>2</sub>O = 9.8kPa  
 2. Fouling factor of water in evaporator is 0.018m<sup>2</sup>°C/kW(0.0001h·ft<sup>2</sup>°F/Btu)  
 3. Standard cooling conditions : Ambient temperature is 35°C(95°F), Chilled water temperature outlet is 6.7°C(44°F). Temperature difference is 5.5°C(10°F).  
 4. High ambient conditions : Ambient temperature is 46°C(115°F), Chilled water temperature outlet is 6.7°C(44°F). Temperature difference is 5.5°C(10°F).  
 5. Due to our policy of innovation some specifications may be changed without prior notification.  
 6. All data in this table is rated in accordance with AHRI Standard 550/590.

50Hz

Model		Units	RCAW020CA2B	RCAW022CA2B	RCAW024CA2B	RCAW026CA2B	RCAW028CA2B
Unit Data Standard Condition	Unit Capacity	usRT	201.3	216.7	241.3	261.6	265.9
		kW	707.8	762.1	848.5	919.7	935.0
	Input Power	kW	226.0	227.9	273.8	287.9	287.2
	COP		3.13	3.34	3.10	3.19	3.26
Unit Data High Ambient	Unit Capacity	usRT	181.5	196.3	217.3	236.1	241.0
		kW	638.3	690.4	764.1	830.3	847.3
	Input Power	kW	289.2	292.6	349.7	369.0	369.7
	COP		2.21	2.36	2.19	2.25	2.29
General Unit Data	Number of Independent Refrigerant Circuits		2	2	2	2	2
	Refrigerant Charge, R-134a	kg	80/80	90/80	100/90	100/100	130/120
	Oil Charge	l	23/23	20/20	23/28	28/28	28/28
Weight	Shipping Weight	kg	5,900	6,300	6,600	6,900	7,700
	Operating Weight	kg	6,190	6,610	6,950	7,260	8,120
Compressors	Compressor Type		Semihhermetic Twin Screw				
	Quantity	EA	2	2	2	2	2
Condenser	Total Chiller Coil Face Area	m <sup>2</sup>	12.1/12.1	12.1/16.1	12.1/16.1	16.1/16.1	16.1/20.2
	Number of Coils	EA	6/6	6/8	6/8	8/8	8/10
	Number of Rows	-	3	3	3	3	3
	Fins per inch	FPI	15	15	15	15	15
Fans	Number	EA	6/6	6/8	6/8	8/8	8/10
	Fan Motor	kW	12.6/12.6	12.6/16.8	12.6/16.8	16.8/16.8	16.8/21.0
	Fan Speed	RPM	960	960	960	960	960
	Fan Diameter	mm	850	850	850	850	850
	Fan Tip Speed	m/s	42.7	42.7	42.7	42.7	42.7
	Total Chiller Airflow	l/s	31,500/31,500	31,500/42,000	31,500/42,000	42,000/42,000	42,000/52,500
Evaporator	Evaporator Type		Shell and Tube(Falling Film)				
	Water Volume	l	110	115	136	134	154
	Maximum Water Side Pressure	MPa	1	1	1	1	1
	Maximum Refrigerant Side Pressure	Mpa	2	2	2	2	2
	Minimum Chiller Water Flow Rate	l/s	12.9	13.8	15.4	13.8	15
	Maximum Chiller Water Flow Rate	l/s	38.8	41.3	46.1	41.3	44.9
Water Connections	Water Connections	DN	125	150	150	150	150
	Drain(NPT)	mm	32	32	32	32	32
Dimension	Length	mm	5,980	6,966	6,966	7,952	8,938
	Width	mm	2,154	2,154	2,154	2,154	2,154
	Height	mm	2,317	2,317	2,317	2,317	2,317

Note:  
 1. 1usRT = 3,024kcal/hr = 3.517kW, 1H<sub>2</sub>O = 9.8kPa  
 2. Fouling factor of water in evaporator is 0.018m<sup>2</sup>°C/kW(0.0001h·ft<sup>2</sup>°F/Btu)  
 3. Standard cooling conditions : Ambient temperature is 35°C(95°F), Chilled water temperature outlet is 6.7°C(44°F). Temperature difference is 5.5°C(10°F).  
 4. High ambient conditions : Ambient temperature is 46°C(115°F), Chilled water temperature outlet is 6.7°C(44°F). Temperature difference is 5.5°C(10°F).  
 5. Due to our policy of innovation some specifications may be changed without prior notification.  
 6. All data in this table is rated in accordance with AHRI Standard 550/590.

50Hz

Model		Units	RCAW030CA2B	RCAW036CA3B	RCAW040CA3B	RCAW045CA4B	RCAW050CA4B
Unit Data Standard Condition	Unit Capacity	usRT	292.1	366.9	406.5	437.8	485.2
		kW	1,027.1	1,290.2	1,429.4	1,539.6	1,706.2
	Input Power	kW	325.7	415.7	461.5	466.3	528.5
	COP		3.15	3.10	3.10	3.30	3.23
Unit Data High Ambient	Unit Capacity	usRT	263.7	330.5	366.0	396.2	439.2
		kW	927.2	1,162.2	1,287.0	1,393.3	1,544.3
	Input Power	kW	417.9	532.8	591.2	598.5	679.5
	COP		2.22	2.18	2.18	2.33	2.27
General Unit Data	Number of Independent Refrigerant Circuits		2	3	3	4	4
	Refrigerant Charge, R-134a	kg	130/120	100/100/90	110/110/110	100/90/100/90	100/100/100/100
	Oil Charge	l	28/28	23/28/28	28/28/28	20/23/20/23	23/28/23/28
Weight	Shipping Weight	kg	7,900	9,600	10,200	13,000	13,800
	Operating Weight	kg	7,320	10,140	10,810	13,700	14,510
Compressors	Compressor Type		Semihhermetic Twin Screw				
	Quantity	EA	2	3	3	4	4
Condenser	Total Chiller Coil Face Area	m <sup>2</sup>	16.1/20.2	12.1/16.1/16.1	16.1/16.1/16.1	12.1/16.1/12.1/16.1	16.1/16.1/16.1/16.1
	Number of Coils	EA	8/10	6/8/8	8/8/8	6/8/6/8	8/8/8/8
	Number of Rows	-	3	3	3	3	3
	Fins per inch	FPI	15	15	15	15	15
Fans	Number	EA	8/10	6/8/8	8/8/8	6/8/6/8	8/8/8/8
	Fan Motor	kW	16.8/21.0	12.6/16.8/16.8	16.8/16.8/16.8	12.6/16.8/12.6/16.8	16.8/16.8/16.8/16.8
	Fan Speed	RPM	960	960	960	960	960
	Fan Diameter	mm	850	850	850	850	850
	Fan Tip Speed	m/s	42.7	42.7	42.7	42.7	42.7
	Total Chiller Airflow	l/s	42,000/52,500	31,500/42,000/42,000	42,000/42,000/42,000	31,500/42,000/31,500/42,000	42,000/42,000/42,000/42,000
Evaporator	Evaporator Type		Shell and Tube(Falling Film)				
	Water Volume	l	157	209	240	272	268
	Maximum Water Side Pressure	MPa	1	1	1	1	1
	Maximum Refrigerant Side Pressure	Mpa	2	2	2	2	2
	Minimum Chiller Water Flow Rate	l/s	15.4	18.2	20.2	30.8	27.6
	Maximum Chiller Water Flow Rate	l/s	46.1	54.6	60.7	92.2	82.6
Water Connections	Water Connections	DN	150	200	200	150/150	150/150
	Drain(NPT)	mm	32	32	32	32	32
Dimension	Length	mm	8,938	10,910	11,896	13,932	15,904
	Width	mm	2,154	2,154	2,154	2,154	2,154
	Height	mm	2,317	2,317	2,317	2,317	2,317

Note:  
 1. 1usRT = 3,024kcal/hr = 3.517kW, 1H<sub>2</sub>O = 9.8kPa  
 2. Fouling factor of water in evaporator is 0.018m<sup>2</sup>·°C/kW(0.0001h·ft<sup>2</sup>·°F/Btu)  
 3. Standard cooling conditions : Ambient temperature is 35°C(95°F), Chilled water temperature outlet is 6.7°C(44°F). Temperature difference is 5.5°C(10°F).  
 4. High ambient conditions : Ambient temperature is 46°C(115°F), Chilled water temperature outlet is 6.7°C(44°F). Temperature difference is 5.5°C(10°F).  
 5. Due to our policy of innovation some specifications may be changed without prior notification.  
 6. All data in this table is rated in accordance with AHRI Standard 550/590.

60Hz

Model		Units	RCAW008CA1B	RCAW010CA1B	RCAW012CA1B	RCAW014CA1B
Unit Data Standard Condition	Unit Capacity	usRT	79.3	101.1	114.7	134.6
		kW	278.9	355.6	403.4	473.3
	Input Power	kW	98.0	125.4	144.3	166.6
	COP		2.85	2.84	2.80	2.84
Unit Data High Ambient	Unit Capacity	usRT	66.9	84.9	96.7	110.9
		kW	235.3	298.7	339.9	389.9
	Input Power	kW	118.9	151.2	174.9	199.6
	COP		1.98	1.98	1.94	1.95
General Unit Data	Number of Independent Refrigerant Circuits		1	1	1	1
	Refrigerant Charge, R-134a	kg	90	100	100	140
	Oil Charge	l	16	23	20	28
Weight	Shipping Weight	kg	3,100	3,300	3,600	4,000
	Operating Weight	kg	3,270	3,480	3,800	4,240
Compressors	Compressor Type		Semihhermetic Twin Screw			
	Quantity	EA	1	1	1	1
Condenser	Total Chiller Coil Face Area	m <sup>2</sup>	12.1	12.1	16.1	16.1
	Number of Coils	EA	6	6	8	8
	Number of Rows	-	3	3	3	3
	Fins per inch	FPI	15	15	15	15
Fans	Number	EA	6	6	8	8
	Fan Motor	kW	12.6	12.6	16.8	16.8
	Fan Speed	RPM	860	860	860	860
	Fan Diameter	mm	850	850	850	850
	Fan Tip Speed	m/s	38.3	38.3	38.3	38.3
	Total Chiller Airflow	l/s	31,500	31,500	42,000	42,000
Evaporator	Evaporator Type		Shell and Tube(Falling Film)			
	Water Volume	l	64	71	78	86
	Maximum Water Side Pressure	MPa	1	1	1	1
	Maximum Refrigerant Side Pressure	Mpa	2	2	2	2
	Minimum Chiller Water Flow Rate	l/s	4.5	5.4	6.3	8.9
	Maximum Chiller Water Flow Rate	l/s	13.4	16.1	18.8	26.7
Water Connections	Water Connections	DN	100	100	125	125
	Drain(NPT)	mm	32	32	32	32
Dimension	Length	mm	3,022	3,022	4,008	4,008
	Width	mm	2,154	2,154	2,154	2,154
	Height	mm	2,317	2,317	2,317	2,317

Note:  
 1. 1usRT = 3,024kcal/hr = 3.517kW, 1H<sub>2</sub>O = 9.8kPa  
 2. Fouling factor of water in evaporator is 0.018m<sup>2</sup>·°C/kW(0.0001h·ft<sup>2</sup>·°F/Btu)  
 3. Standard cooling conditions : Ambient temperature is 35°C(95°F), Chilled water temperature outlet is 6.7°C(44°F). Temperature difference is 5.5°C(10°F).  
 4. High ambient conditions : Ambient temperature is 46°C(115°F), Chilled water temperature outlet is 6.7°C(44°F). Temperature difference is 5.5°C(10°F).  
 5. Due to our policy of innovation some specifications may be changed without prior notification.  
 6. All data in this table is rated in accordance with AHRI Standard 550/590.

60Hz

Model		Units	RCAW014CA2B	RCAW016CA1B	RCAW016CA2B	RCAW018CA2B
Unit Data Standard Condition	Unit Capacity	usRT	140.4	161.5	163.2	178.1
		kW	493.6	568.0	573.7	626.1
	Input Power	kW	177.1	197.9	201.5	216.3
	COP		2.79	2.87	2.85	2.89
Unit Data High Ambient	Unit Capacity	usRT	117.8	136.0	137.2	150.2
		kW	414.2	478.3	482.6	528.1
	Input Power	kW	213.2	238.9	243.2	261.7
	COP		1.94	2.00	1.98	2.02
General Unit Data	Number of Independent Refrigerant Circuits		2	1	2	2
	Refrigerant Charge, R-134a	kg	70/70	150	90/80	80/80
	Oil Charge	l	16/16	28	16/18	18/18
Weight	Shipping Weight	kg	4,700	4,500	5,300	5,700
	Operating Weight	kg	4,950	4,760	5,570	5,990
Compressors	Compressor Type		Semihhermetic Twin Screw			
	Quantity	EA	2	2	2	2
Condenser	Total Chiller Coil Face Area	m <sup>2</sup>	8.1/8.1	8.1/12.1	8.1/12.1	12.1/12.1
	Number of Coils	EA	4/4	10	4/6	6/6
	Number of Rows	-	3	3	3	3
	Fins per inch	FPI	15	15	15	15
Fans	Number	EA	4/4	10	4/6	6/6
	Fan Motor	kW	8.4/8.4	21.0	8.4/12.6	12.6/12.6
	Fan Speed	RPM	860	860	860	860
	Fan Diameter	mm	850	850	850	850
	Fan Tip Speed	m/s	38.3	38.3	38.3	38.3
	Total Chiller Airflow	l/s	21,000/21,000	52,500	21,000/31,500	31,500/31,500
Evaporator	Evaporator Type		Shell and Tube(Falling Film)			
	Water Volume	l	86	97	97	103
	Maximum Water Side Pressure	MPa	1	1	1	1
	Maximum Refrigerant Side Pressure	Mpa	2	2	2	2
	Minimum Chiller Water Flow Rate	l/s	8.9	10.7	10.7	11.7
	Maximum Chiller Water Flow Rate	l/s	26.7	32.2	32.2	35.2
Water Connections	Water Connections	DN	125	125	125	125
	Drain(NPT)	mm	32	32	32	32
Dimension	Length	mm	4,008	4,994	4,994	5,980
	Width	mm	2,154	2,154	2,154	2,154
	Height	mm	2,317	2,317	2,317	2,317

Note:  
 1. 1usRT = 3,024kcal/hr = 3.517kW, 1H<sub>2</sub>O = 9.8kPa  
 2. Fouling factor of water in evaporator is 0.018m<sup>2</sup>°C/kW(0.0001h-ft<sup>2</sup>°F/Btu)  
 3. Standard cooling conditions : Ambient temperature is 35°C(95°F), Chilled water temperature outlet is 6.7°C(44°F). Temperature difference is 5.5°C(10°F).  
 4. High ambient conditions : Ambient temperature is 46°C(115°F), Chilled water temperature outlet is 6.7°C(44°F). Temperature difference is 5.5°C(10°F).  
 5. Due to our policy of innovation some specifications may be changed without prior notification.  
 6. All data in this table is rated in accordance with AHRI Standard 550/590.

60Hz

Model		Units	RCAW020CA2B	RCAW022CA2B	RCAW024CA2B	RCAW026CA2B	RCAW028CA2B
Unit Data Standard Condition	Unit Capacity	usRT	199.0	218.1	233.8	262.4	280.4
		kW	699.9	766.9	822.2	922.5	986.0
	Input Power	kW	247.9	265.7	284.6	324.9	343.5
	COP		2.82	2.89	2.89	2.84	2.87
Unit Data High Ambient	Unit Capacity	usRT	167.4	183.8	196.7	220.5	236.0
		kW	588.5	646.4	691.7	775.5	830.0
	Input Power	kW	299.1	321.2	343.2	392.1	415.1
	COP		1.97	2.01	2.02	1.98	2.00
General Unit Data	Number of Independent Refrigerant Circuits		2	2	2	2	2
	Refrigerant Charge, R-134a	kg	90/80	90/80	100/90	1100/1100	130/120
	Oil Charge	l	20/23	23/20	23/23	28/28	28/28
Weight	Shipping Weight	kg	5,700	6,100	6,400	7,100	7,700
	Operating Weight	kg	5,990	6,410	6,750	7,460	8,120
Compressors	Compressor Type		Semihhermetic Twin Screw				
	Quantity	EA	2	2	2	2	2
Condenser	Total Chiller Coil Face Area	m <sup>2</sup>	12.1/12.1	12.1/16.1	12.1/16.1	16.1/16.1	16.1/20.2
	Number of Coils	EA	6/6	6/8	6/8	8/8	8/10
	Number of Rows	-	3	3	3	3	3
	Fins per inch	FPI	15	15	15	15	15
Fans	Number	EA	6/6	6/8	6/8	8/8	8/10
	Fan Motor	kW	12.6/12.6	12.6/16.8	12.6/16.8	16.8/16.8	16.8/21.0
	Fan Speed	RPM	860	860	860	860	860
	Fan Diameter	mm	850	850	850	850	850
	Fan Tip Speed	m/s	38.3	38.3	38.3	38.3	38.3
	Total Chiller Airflow	l/s	31,500/31,500	31,500/42,000	31,500/42,000	42,000/42,000	42,000/52,500
Evaporator	Evaporator Type		Shell and Tube(Falling Film)				
	Water Volume	l	110	115	136	134	154
	Maximum Water Side Pressure	MPa	1	1	1	1	1
	Maximum Refrigerant Side Pressure	Mpa	2	2	2	2	2
	Minimum Chiller Water Flow Rate	l/s	12.9	13.8	15.4	13.8	15
	Maximum Chiller Water Flow Rate	l/s	38.8	41.3	46.1	41.3	44.9
Water Connections	Water Connections	DN	125	150	150	150	150
	Drain(NPT)	mm	32	32	32	32	32
Dimension	Length	mm	5,980	6,966	6,966	7,952	8,938
	Width	mm	2,154	2,154	2,154	2,154	2,154
	Height	mm	2,317	2,317	2,317	2,317	2,317

Note:  
 1. 1usRT = 3,024kcal/hr = 3.517kW, 1H<sub>2</sub>O = 9.8kPa  
 2. Fouling factor of water in evaporator is 0.018m<sup>2</sup>°C/kW(0.0001h-ft<sup>2</sup>°F/Btu)  
 3. Standard cooling conditions : Ambient temperature is 35°C(95°F), Chilled water temperature outlet is 6.7°C(44°F). Temperature difference is 5.5°C(10°F).  
 4. High ambient conditions : Ambient temperature is 46°C(115°F), Chilled water temperature outlet is 6.7°C(44°F). Temperature difference is 5.5°C(10°F).  
 5. Due to our policy of innovation some specifications may be changed without prior notification.  
 6. All data in this table is rated in accordance with AHRI Standard 550/590.

60Hz

Model		Units	RCAW030CA2B	RCAW036CA3B	RCAW040CA3B	RCAW045CA4B	RCAW050CA4B
Unit Data Standard Condition	Unit Capacity	usRT	302.5	345.1	391.6	443.9	493.6
		kW	1,063.5	1,213.3	1,376.9	1,560.9	1,735.8
	Input Power	kW	375.9	426.3	492.0	552.6	619.6
	COP		2.83	2.85	2.80	2.82	2.80
Unit Data High Ambient	Unit Capacity	usRT	254.1	289.9	328.5	369.9	415.2
		kW	893.4	1019.2	1155.1	1300.7	1460.0
	Input Power	kW	453.2	515.0	593.9	666.0	749.2
	COP		1.97	1.98	1.94	1.95	1.95
General Unit Data	Number of Independent Refrigerant Circuits		2	3	3	4	4
	Refrigerant Charge, R-134a	kg	130/120	100/100/90	110/110/110	100/90/100/90	110/100/110/100
	Oil Charge	l	28/28	23/23/23	28/28/28	20/23/20/23	23/28/23/28
Weight	Shipping Weight	kg	7,900	9,400	10,500	12,600	13,800
	Operating Weight	kg	8,320	9,940	11,120	13,300	14,520
Compressors	Compressor Type		Semihhermetic Twin Screw				
	Quantity	EA	2	3	3	4	4
Condenser	Total Chiller Coil Face Area	m <sup>2</sup>	16.1/20.2	12.1/16.1/16.1	16.1/16.1/16.1	12.1/16.1/12.1/16.1	16.1/16.1/16.1/16.1
	Number of Coils	EA	8/10	6/8/8	8/8/8	6/8/6/8	8/8/8/8
	Number of Rows	-	3	3	3	3	3
	Fins per inch	FPI	15	15	15	15	15
Fans	Number	EA	8/10	6/8/8	8/8/8	6/8/6/8	8/8/8/8
	Fan Motor	kW	16.8/21.0	12.6/16.8/16.8	16.8/16.8/16.8	12.6/16.8/12.6/16.8	16.8/16.8/16.8/16.8
	Fan Speed	RPM	860	860	860	860	860
	Fan Diameter	mm	850	850	850	850	850
	Fan Tip Speed	m/s	38.3	38.3	38.3	38.3	38.3
	Total Chiller Airflow	l/s	42,000/52,500	31,500/42,000/42,000	42,000/42,000/42,000	31,500/42,000/31,500/42,000	42,000/42,000/42,000/42,000
Evaporator	Evaporator Type		Shell and Tube(Falling Film)				
	Water Volume	l	157	209	240	272	268
	Maximum Water Side Pressure	MPa	1	1	1	1	1
	Maximum Refrigerant Side Pressure	Mpa	2	2	2	2	2
	Minimum Chiller Water Flow Rate	l/s	15.4	18.2	20.2	30.8	27.6
	Maximum Chiller Water Flow Rate	l/s	46.1	54.6	60.7	92.2	82.6
Water Connections	Water Connections	DN	150	200	200	150/150	150/150
	Drain(NPT)	mm	32	32	32	32	32
Dimension	Length	mm	8,938	10,910	11,896	13,932	15,904
	Width	mm	2,154	2,154	2,154	2,154	2,154
	Height	mm	2,317	2,317	2,317	2,317	2,317

Note:  
 1. 1usRT = 3,024kcal/hr = 3.517kW, 1H<sub>2</sub>O = 9.8kPa  
 2. Fouling factor of water in evaporator is 0.018m<sup>2</sup>°C/kW(0.0001h·ft<sup>2</sup>°F/Btu)  
 3. Standard cooling conditions : Ambient temperature is 35°C(95°F), Chilled water temperature outlet is 6.7°C(44°F). Temperature difference is 5.5°C(10°F).  
 4. High ambient conditions : Ambient temperature is 46°C(115°F), Chilled water temperature outlet is 6.7°C(44°F). Temperature difference is 5.5°C(10°F).  
 5. Due to our policy of innovation some specifications may be changed without prior notification.  
 6. All data in this table is rated in accordance with AHRI Standard 550/590.

50Hz

Model		Units	RCAW008CA1B	RCAW010CA1B	RCAW012CA1B	RCAW014CA1B
Unit Data Standard Condition	Unit Capacity	usRT	80.6	96.1	115.0	133.7
		kW	283.3	337.8	404.3	470.3
	Input Power	kW	97.8	113.3	146.1	161.7
	COP		2.90	2.98	2.77	2.91
Unit Data High Ambient	Unit Capacity	usRT	68.0	80.9	96.8	110.2
		kW	239.0	284.3	340.4	387.6
	Input Power	kW	118.9	137.1	177.6	194.4
	COP		2.01	2.07	1.92	1.99
General Unit Data	Number of Independent Refrigerant Circuits		1	1	1	1
	Refrigerant Charge, R-134a	kg	90	100	100	140
	Oil Charge	l	20	23	28	28
Weight	Shipping Weight	kg	3,100	3,300	3,600	4,000
	Operating Weight	kg	3,270	3,480	3,800	4,240
Compressors	Compressor Type		Semihhermetic Twin Screw			
	Quantity	EA	1	1	1	1
Condenser	Total Chiller Coil Face Area	m <sup>2</sup>	12.1	12.1	16.1	16.1
	Number of Coils	EA	6	6	8	8
	Number of Rows	-	3	3	3	3
	Fins per inch	FPI	15	15	15	15
Fans	Number	EA	6	6	8	8
	Fan Motor	kW	12.6	12.6	16.8	16.8
	Fan Speed	RPM	960	960	960	960
	Fan Diameter	mm	850	850	850	850
	Fan Tip Speed	m/s	42.7	42.7	42.7	42.7
	Total Chiller Airflow	l/s	31,500	31,500	42,000	42,000
Evaporator	Evaporator Type		Shell and Tube(Falling Film)			
	Water Volume	l	64	71	78	86
	Maximum Water Side Pressure	MPa	1	1	1	1
	Maximum Refrigerant Side Pressure	Mpa	2	2	2	2
	Minimum Chiller Water Flow Rate	l/s	4.5	5.4	6.3	8.9
	Maximum Chiller Water Flow Rate	l/s	13.4	16.1	18.8	26.7
Water Connections	Water Connections	DN	100	100	125	125
	Drain(NPT)	mm	32	32	32	32
Dimension	Length	mm	3,022	3,022	4,008	4,008
	Width	mm	2,154	2,154	2,154	2,154
	Height	mm	2,317	2,317	2,317	2,317

Note:  
 1. 1usRT = 3,024kcal/hr = 3.517kW, 1H<sub>2</sub>O = 9.8kPa  
 2. Fouling factor of water in evaporator is 0.018m<sup>2</sup>°C/kW(0.0001h·ft<sup>2</sup>°F/Btu)  
 3. Standard cooling conditions : Ambient temperature is 35°C(95°F), Chilled water temperature outlet is 6.7°C(44°F). Temperature difference is 5.5°C(10°F).  
 4. High ambient conditions : Ambient temperature is 46°C(115°F), Chilled water temperature outlet is 6.7°C(44°F). Temperature difference is 5.5°C(10°F).  
 5. Due to our policy of innovation some specifications may be changed without prior notification.  
 6. All data in this table is rated in accordance with AHRI Standard 550/590.

50Hz

Model		Units	RCAW014CA2B	RCAW016CA1B	RCAW016CA2B	RCAW018CA2B
Unit Data Standard Condition	Unit Capacity	usRT	143.5	158.4	153.3	179.9
		kW	504.5	557.0	539.0	632.5
	Input Power	kW	184.2	184.0	179.9	210.0
	COP		2.74	3.03	3.00	3.01
Unit Data High Ambient	Unit Capacity	usRT	120.2	133.6	127.9	151.8
		kW	422.8	469.6	449.8	533.8
	Input Power	kW	222.3	222.8	217.4	254.6
	COP		1.90	2.11	2.07	2.10
General Unit Data	Number of Independent Refrigerant Circuits		2	1	2	2
	Refrigerant Charge, R-134a	kg	70/70	150	90/80	80/80
	Oil Charge	l	18/18	28	18/20	23/20
Weight	Shipping Weight	kg	4,700	4,500	5,300	5,700
	Operating Weight	kg	4,950	4,760	5,570	5,990
Compressors	Compressor Type		Semihhermetic Twin Screw			
	Quantity	EA	2	2	2	2
Condenser	Total Chiller Coil Face Area	m <sup>2</sup>	8.1/8.1	8.1/12.1	8.1/12.1	12.1/12.1
	Number of Coils	EA	4/4	10	4/6	6/6
	Number of Rows	-	3	3	3	3
	Fins per inch	FPI	15	15	15	15
Fans	Number	EA	4/4	10	4/6	6/6
	Fan Motor	kW	8.4/8.4	21.0	8.4/12.6	12.6/12.6
	Fan Speed	RPM	960	960	960	960
	Fan Diameter	mm	850	850	850	850
	Fan Tip Speed	m/s	42.7	42.7	42.7	42.7
	Total Chiller Airflow	l/s	21,000/21,000	52,500	21,000/31500	31,500/31,500
Evaporator	Evaporator Type		Shell and Tube(Falling Film)			
	Water Volume	l	86	97	97	103
	Maximum Water Side Pressure	MPa	1	1	1	1
	Maximum Refrigerant Side Pressure	Mpa	2	2	2	2
	Minimum Chiller Water Flow Rate	l/s	8.9	10.7	10.7	11.7
	Maximum Chiller Water Flow Rate	l/s	26.7	32.2	32.2	35.2
Water Connections	Water Connections	DN	125	125	125	125
	Drain(NPT)	mm	32	32	32	32
Dimension	Length	mm	4,008	4,994	4,994	5,980
	Width	mm	2,154	2,154	2,154	2,154
	Height	mm	2,317	2,317	2,317	2,317

Note:  
 1. 1usRT = 3,024kcal/hr = 3.517kW, 1H<sub>2</sub>O = 9.8kPa  
 2. Fouling factor of water in evaporator is 0.018m<sup>2</sup>°C/kW(0.0001h-ft<sup>2</sup>°F/Btu)  
 3. Standard cooling conditions : Ambient temperature is 35°C(95°F), Chilled water temperature outlet is 6.7°C(44°F). Temperature difference is 5.5°C(10°F).  
 4. High ambient conditions : Ambient temperature is 46°C(115°F), Chilled water temperature outlet is 6.7°C(44°F). Temperature difference is 5.5°C(10°F).  
 5. Due to our policy of innovation some specifications may be changed without prior notification.  
 6. All data in this table is rated in accordance with AHRI Standard 550/590.

50Hz

Model		Units	RCAW020CA2B	RCAW022CA2B	RCAW024CA2B	RCAW026CA2B	RCAW028CA2B
Unit Data Standard Condition	Unit Capacity	usRT	205.9	224.0	243.9	260.7	284.5
		kW	724.0	787.5	857.5	916.6	1,000.5
	Input Power	kW	254.4	274.8	294.7	315.4	342.3
	COP		2.85	2.87	2.91	2.91	2.92
Unit Data High Ambient	Unit Capacity	usRT	173.0	188.6	205.0	219.2	239.5
		kW	608.3	663.1	720.8	770.9	842.0
	Input Power	kW	307.3	332.9	355.7	381.6	414.5
	COP		1.98	1.99	2.03	2.02	2.03
General Unit Data	Number of Independent Refrigerant Circuits		2	2	2	2	2
	Refrigerant Charge, R-134a	kg	90/80	90/80	100/90	1,100/1,100	130/120
	Oil Charge	l	23/28	28/28	28/28	28/28	28/28
Weight	Shipping Weight	kg	5,700	6,100	6,400	7,100	7,700
	Operating Weight	kg	5,990	6,410	6,750	7,460	8,120
Compressors	Compressor Type		Semihhermetic Twin Screw				
	Quantity	EA	2	2	2	2	2
Condenser	Total Chiller Coil Face Area	m <sup>2</sup>	12.1/12.1	12.1/16.1	12.1/16.1	16.1/16.1	16.1/20.2
	Number of Coils	EA	6/6	6/8	6/8	8/8	8/10
	Number of Rows	-	3	3	3	3	3
	Fins per inch	FPI	15	15	15	15	15
Fans	Number	EA	6/6	6/8	6/8	8/8	8/10
	Fan Motor	kW	12.6/12.6	12.6/16.8	12.6/16.8	16.8/16.8	16.8/21.0
	Fan Speed	RPM	960	960	960	960	960
	Fan Diameter	mm	850	850	850	850	850
	Fan Tip Speed	m/s	42.7	42.7	42.7	42.7	42.7
	Total Chiller Airflow	l/s	31,500/31,500	31,500/42,000	31,500/42,000	42,000/42,000	42,000/52,500
Evaporator	Evaporator Type		Shell and Tube(Falling Film)				
	Water Volume	l	110	115	136	134	154
	Maximum Water Side Pressure	MPa	1	1	1	1	1
	Maximum Refrigerant Side Pressure	Mpa	2	2	2	2	2
	Minimum Chiller Water Flow Rate	l/s	12.9	13.8	15.4	13.8	15
	Maximum Chiller Water Flow Rate	l/s	38.8	41.3	46.1	41.3	44.9
Water Connections	Water Connections	DN	125	150	150	150	150
	Drain(NPT)	mm	32	32	32	32	32
Dimension	Length	mm	5,980	6,966	6,966	7,952	8,938
	Width	mm	2,154	2,154	2,154	2,154	2,154
	Height	mm	2,317	2,317	2,317	2,317	2,317

Note:  
 1. 1usRT = 3,024kcal/hr = 3.517kW, 1H<sub>2</sub>O = 9.8kPa  
 2. Fouling factor of water in evaporator is 0.018m<sup>2</sup>°C/kW(0.0001h-ft<sup>2</sup>°F/Btu)  
 3. Standard cooling conditions : Ambient temperature is 35°C(95°F), Chilled water temperature outlet is 6.7°C(44°F). Temperature difference is 5.5°C(10°F).  
 4. High ambient conditions : Ambient temperature is 46°C(115°F), Chilled water temperature outlet is 6.7°C(44°F). Temperature difference is 5.5°C(10°F).  
 5. Due to our policy of innovation some specifications may be changed without prior notification.  
 6. All data in this table is rated in accordance with AHRI Standard 550/590.

50Hz

Model		Units	RCAW030CA2B	RCAW036CA3B	RCAW040CA3B	RCAW045CA4B	RCAW050CA4B
Unit Data Standard Condition	Unit Capacity	usRT	304.6	351.2	389.0	454.2	502.6
		kW	1,071.0	1,235.0	1,368.0	1,597.0	1,767.2
	Input Power	kW	366.0	426.3	477.7	566.4	618.8
	COP		2.93	2.90	2.86	2.82	2.86
Unit Data High Ambient	Unit Capacity	usRT	256.0	294.9	326.5	378.2	422.7
		kW	900.3	1037.1	1148.1	1329.9	1486.3
	Input Power	kW	442.1	516.0	578.1	684.0	750.0
	COP		2.04	2.01	1.99	1.94	1.98
General Unit Data	Number of Independent Refrigerant Circuits		2	3	3	4	4
	Refrigerant Charge, R-134a	kg	130/120	100/100/90	110/110/110	100/90/100/90	110/100/110/100
	Oil Charge	l	28/28	28/28/28	28/28/28	28/28/28/28	28/28/28/28
Weight	Shipping Weight	kg	7,900	9,400	10,500	12,600	13,800
	Operating Weight	kg	8,320	9,940	11,120	13,300	14,520
Compressors	Compressor Type		Semihhermetic Twin Screw				
	Quantity	EA	2	3	3	4	4
Condenser	Total Chiller Coil Face Area	m <sup>2</sup>	16.1/20.2	12.1/16.1/16.1	16.1/16.1/16.1	12.1/16.1/12.1/16.1	16.1/16.1/16.1/16.1
	Number of Coils	EA	8/10	6/8/8	8/8/8	6/8/6/8	8/8/8/8
	Number of Rows	-	3	3	3	3	3
	Fins per inch	FPI	15	15	15	15	15
Fans	Number	EA	8/10	6/8/8	8/8/8	6/8/6/8	8/8/8/8
	Fan Motor	kW	16.8/21.0	12.6/16.8/16.8	16.8/16.8/16.8	12.6/16.8/12.6/16.8	16.8/16.8/16.8/16.8
	Fan Speed	RPM	960	960	960	960	960
	Fan Diameter	mm	850	850	850	850	850
	Fan Tip Speed	m/s	42.7	42.7	42.7	42.7	42.7
	Total Chiller Airflow	l/s	42,000/52,500	31,500/42,000/42,000	42,000/42,000/42,000	31,500/42,000/31,500/42,000	42,000/42,000/42,000/42,000
Evaporator	Evaporator Type		Shell and Tube(Falling Film)				
	Water Volume	l	157	209	240	272	268
	Maximum Water Side Pressure	MPa	1	1	1	1	1
	Maximum Refrigerant Side Pressure	Mpa	2	2	2	2	2
	Minimum Chiller Water Flow Rate	l/s	15.4	18.2	20.2	30.8	27.6
Maximum Chiller Water Flow Rate	l/s	46.1	54.6	60.7	92.2	82.6	
Water Connections	Water Connections	DN	150	200	200	150/150	150/150
	Drain(NPT)	mm	32	32	32	32	32
Dimension	Length	mm	8,938	10,910	11,896	13,932	15,904
	Width	mm	2,154	2,154	2,154	2,154	2,154
	Height	mm	2,317	2,317	2,317	2,317	2,317

Note:  
 1. 1usRT = 3,024kcal/hr = 3.517kW, 1H<sub>2</sub>O = 9.8kPa  
 2. Fouling factor of water in evaporator is 0.018m<sup>2</sup>°C/kW(0.0001h·ft<sup>2</sup>°F/Btu)  
 3. Standard cooling conditions : Ambient temperature is 35°C(95°F), Chilled water temperature outlet is 6.7°C(44°F). Temperature difference is 5.5°C(10°F).  
 4. High ambient conditions : Ambient temperature is 46°C(115°F), Chilled water temperature outlet is 6.7°C(44°F). Temperature difference is 5.5°C(10°F).  
 5. Due to our policy of innovation some specifications may be changed without prior notification.  
 6. All data in this table is rated in accordance with AHRI Standard 550/590.

380V / 60Hz

Single point connection

Model	Voltage	Compressor			Fan		Total RLA	Max Current	MCA	MOCP	Circuit Breaker
		LRA	RLA	Start Current	No	RLA					
RCAW008CA1B	Circuit 1	1,220	129	407	6	4.1	154	431	245	422	250
RCAW010CA1B	Circuit 1	1,445	184	482	6	4.1	208	506	325	566	350
RCAW012CA1B	Circuit 1	1,605	203	535	8	4.1	236	568	383	664	400
RCAW014CA1B	Circuit 1	1,880	237	627	8	4.1	270	659	424	736	500
RCAW014CA2B	Circuit 1	1,030	129	343	4	4.1	290	504	436	758	500
	Circuit 2	1,030	129	343	4	4.1					
RCAW016CA1B	Circuit 1	2,470	262	823	10	4.1	303	864	488	845	500
RCAW016CA2B	Circuit 1	1,220	136	407	6	4.1	317	588	502	871	630
	Circuit 2	1,220	141	407	4	4.1					
RCAW018CA2B	Circuit 1	1,115	155	372	6	4.1	358	575	582	1,010	630
	Circuit 2	1,115	154	372	6	4.1					
RCAW020CA2B	Circuit 1	1,445	183	482	6	4.1	414	713	650	1,132	700
	Circuit 2	1,445	183	482	6	4.1					
RCAW022CA2B	Circuit 1	1,605	185	535	8	4.1	445	796	707	1,227	800
	Circuit 2	1,605	204	535	6	4.1					
RCAW024CA2B	Circuit 1	1,605	204	535	8	4.1	488	820	758	1,319	800
	Circuit 2	1,605	228	535	6	4.1					
RCAW026CA2B	Circuit 1	1,880	238	627	8	4.1	516	906	818	1,418	1,000
	Circuit 2	1,605	214	535	8	4.1					
RCAW028CA2B	Circuit 1	2,470	254	823	10	4.1	555	1,125	912	1,581	1,000
	Circuit 2	1,880	229	627	8	4.1					
RCAW030CA2B	Circuit 1	2,470	261	823	10	4.1	617	1,180	968	1,682	1,000
	Circuit 2	2,470	283	823	8	4.1					
RCAW036CA3B	Circuit 1	1,605	204	535	8	4.1	723	1,055	1,141	1,983	1,200
	Circuit 2	1,605	203	535	8	4.1					
	Circuit 3	1,605	227	535	6	4.1					

Note:  
 1. Standard conditions:  
 Entering chilled water / Leaving chilled water temperature is 54 / 44°F(12.2 / 6.7°C)  
 Air temperature is 95°F(35°C)  
 2. Symbols :  
 LRA : Locked Rotor Ampere  
 RLA : Rated Load Ampere  
 MCA : Minimum Circuit Ampere  
 MOCP : Maximum Over Current Protection  
 Total RLA : Current when all compressor and fan running  
 Start Current : Starting current of one compressor  
 Max. Current : Largest compressor starting current after all other compressor and motors running

### 380V / 60Hz

Multi point connection

Model	Circuit	Voltage	Compressor			Fan		Total RLA	Max Current	MCA	MOCP	Circuit Breaker
			LRA	RLA	Start Current	No	RLA					
RCAW008CA1B	Circuit 1	380	1,220	129	407	6	4.1	154	432	245	422	250
RCAW010CA1B	Circuit 1		1,445	183	482	6	4.1	208	507	325	566	350
RCAW012CA1B	Circuit 1		1,605	203	535	8	4.1	236	568	383	664	400
RCAW014CA1B	Circuit 1		1,880	236	627	8	4.1	269	660	424	736	500
RCAW014CA2B	Circuit 1		1,030	129	343	4	4.1	145	359	218	379	225
	Circuit 2		1,030	128	343	4	4.1	145	359	218	379	225
RCAW016CA1B	Circuit 1		2,470	262	823	10	4.1	303	864	488	845	500
RCAW016CA2B	Circuit 1		1,220	135	407	6	4.1	160	432	265	457	300
	Circuit 2		1,220	140	407	4	4.1	157	423	237	414	250
RCAW018CA2B	Circuit 1		1,115	154	372	6	4.1	179	397	291	505	300
	Circuit 2		1,115	154	372	6	4.1	178	397	291	505	300
RCAW020CA2B	Circuit 1		1,445	183	482	6	4.1	208	507	325	566	350
	Circuit 2		1,445	182	482	6	4.1	207	507	325	566	350
RCAW022CA2B	Circuit 1		1,605	184	535	8	4.1	217	568	358	618	400
	Circuit 2		1,605	204	535	6	4.1	228	560	349	609	350
RCAW024CA2B	Circuit 1		1,605	204	535	8	4.1	236	568	383	664	400
	Circuit 2		1,605	227	535	6	4.1	252	560	375	655	400
RCAW026CA2B	Circuit 1		1,880	237	627	8	4.1	270	660	424	736	500
	Circuit 2		1,605	214	535	8	4.1	246	568	394	682	400
RCAW028CA2B	Circuit 1		2,470	253	823	10	4.1	294	864	488	845	500
	Circuit 2		1,880	228	627	8	4.1	261	660	424	736	500
RCAW030CA2B	Circuit 1		2,470	260	823	10	4.1	301	864	488	845	500
	Circuit 2		2,470	283	823	8	4.1	316	856	480	837	500
RCAW036CA3B	Circuit 1		1,605	203	535	8	4.1	236	568	383	664	400
	Circuit 2		1,605	203	535	8	4.1	235	568	383	664	400
	Circuit 3		1,605	227	535	6	4.1	251	560	375	655	400
RCAW040CA3B	Circuit 1		1,880	236	627	8	4.1	268	660	424	736	500
	Circuit 2		1,880	235	627	8	4.1	267	660	424	736	500
	Circuit 3		1,880	234	627	8	4.1	267	660	424	736	500
RCAW045CA4B	Circuit 1		1,605	198	535	8	4.1	231	568	383	664	400
	Circuit 2		1,605	198	535	6	4.1	223	560	349	609	350
	Circuit 3		1,605	198	535	8	4.1	231	568	383	664	400
	Circuit 4		1,605	198	535	6	4.1	223	560	349	609	350
RCAW050CA4B	Circuit 1		1,605	213	535	8	4.1	246	568	394	682	400
	Circuit 2		1,605	203	535	8	4.1	235	568	383	664	400
	Circuit 3		1,605	213	535	8	4.1	246	568	394	682	400
	Circuit 4	1,605	203	535	8	4.1	235	568	383	664	400	

Note:  
 1. Standard conditions:  
 Entering chilled water / Leaving chilled water temperature is 54 / 44°F(12.2 / 6.7°C)  
 Air temperature is 95°F(35°C)  
 2. Symbols:  
 LRA : Locked Rotor Ampere  
 RLA : Rated Load Ampere  
 MCA : Minimum Circuit Ampere  
 MOCP : Maximum Over Current Protection  
 Total RLA : Current when all compressor and fan running  
 Start Current : Starting current of one compressor  
 Max. Current : Largest compressor starting current after all other compressor and motors running

### 380V / 50Hz

Single point connection

Model	Circuit	Voltage	Compressor			Fan		Total RLA	Max Current	MCA	MOCP	Circuit Breaker
			LRA	RLA	Start Current	No	RLA					
RCAW008CA1B	Circuit 1	380	875	138	292	6	4.7	166	320	258	441	300
RCAW010CA1B	Circuit 1		1,330	184	443	6	4.7	212	472	319	552	350
RCAW012CA1B	Circuit 1		1,510	201	503	8	4.7	239	541	362	622	400
RCAW014CA1B	Circuit 1		1,990	225	663	8	4.7	262	701	408	704	500
RCAW014CA2B	Circuit 1		1,035	126	345	4	4.7	287	507	444	770	500
	Circuit 2		1,035	125	345	4	4.7					
RCAW016CA1B	Circuit 1		2,355	269	785	10	4.7	316	832	484	834	500
RCAW016CA2B	Circuit 1		1,220	149	407	6	4.7	348	606	526	910	630
	Circuit 2		875	153	292	4	4.7					
RCAW018CA2B	Circuit 1		1,330	165	443	6	4.7	368	647	577	993	630
	Circuit 2		1,220	147	407	6	4.7					
RCAW020CA2B	Circuit 1		1,330	182	443	6	4.7	419	681	638	1,104	700
	Circuit 2		1,330	181	443	6	4.7					
RCAW022CA2B	Circuit 1		1,330	175	443	8	4.7	432	701	665	1,144	700
	Circuit 2		1,330	192	443	6	4.7					
RCAW024CA2B	Circuit 1		1,990	224	663	8	4.7	496	935	761	1,316	800
	Circuit 2		1,510	207	503	6	4.7					
RCAW026CA2B	Circuit 1		1,990	230	663	8	4.7	534	967	816	1,408	1,000
	Circuit 2		1,990	229	663	8	4.7					
RCAW028CA2B	Circuit 1		2,230	247	743	10	4.7	568	1,064	857	1,475	1,000
	Circuit 2		1,990	237	663	8	4.7					
RCAW030CA2B	Circuit 1		2,355	266	785	10	4.7	608	1,127	924	1,595	1,000
	Circuit 2		2,230	258	743	8	4.7					
RCAW036CA3B	Circuit 1		1,990	223	663	8	4.7	752	1,193	1,169	2,020	1,200
	Circuit 2		1,990	222	663	8	4.7					
	Circuit 3		1,510	205	503	6	4.7					

Note:  
 1. Standard conditions:  
 Entering chilled water / Leaving chilled water temperature is 54 / 44°F(12.2 / 6.7°C)  
 Air temperature is 95°F(35°C)  
 2. Symbols:  
 LRA : Locked Rotor Ampere  
 RLA : Rated Load Ampere  
 MCA : Minimum Circuit Ampere  
 MOCP : Maximum Over Current Protection  
 Total RLA : Current when all compressor and fan running  
 Start Current : Starting current of one compressor  
 Max. Current : Largest compressor starting current after all other compressor and motors running

### 380V / 50Hz

Multi point connection

Model	Circuit	Voltage	Compressor			Fan		Total RLA	Max Current	MCA	MOCP	Circuit Breaker
			LRA	RLA	Start Current	No	RLA					
RCAW008CA1B	Circuit 1	380	875	138	292	6	4.7	166	320	258	441	300
RCAW010CA1B	Circuit 1		1,330	184	443	6	4.7	212	471	319	552	350
RCAW012CA1B	Circuit 1		1,510	201	503	8	4.7	238	541	362	622	400
RCAW014CA1B	Circuit 1		1,990	224	663	8	4.7	262	701	408	704	500
RCAW014CA2B	Circuit 1		1,035	125	345	4	4.7	144	364	222	385	225
	Circuit 2		1,035	125	345	4	4.7	143	364	222	385	225
RCAW016CA1B	Circuit 1		2,355	268	785	10	4.7	315	832	484	834	500
RCAW016CA2B	Circuit 1		1,220	149	407	6	4.7	177	435	278	478	300
	Circuit 2		875	153	292	4	4.7	172	311	248	432	250
RCAW018CA2B	Circuit 1		1,330	165	443	6	4.7	193	471	299	515	300
	Circuit 2		1,220	147	407	6	4.7	175	435	278	478	300
RCAW020CA2B	Circuit 1		1,330	182	443	6	4.7	210	471	319	552	350
	Circuit 2		1,330	181	443	6	4.7	209	471	319	552	350
RCAW022CA2B	Circuit 1		1,330	175	443	8	4.7	212	481	337	577	350
	Circuit 2		1,330	192	443	6	4.7	220	471	328	567	350
RCAW024CA2B	Circuit 1		1,990	224	663	8	4.7	261	701	408	704	500
	Circuit 2		1,510	206	503	6	4.7	234	531	353	612	400
RCAW026CA2B	Circuit 1		1,990	230	663	8	4.7	267	701	408	704	500
	Circuit 2		1,990	229	663	8	4.7	266	701	408	704	500
RCAW028CA2B	Circuit 1		2,230	247	743	10	4.7	294	790	449	771	500
	Circuit 2		1,990	236	663	8	4.7	274	701	408	704	500
RCAW030CA2B	Circuit 1		2,355	266	785	10	4.7	313	832	484	834	500
	Circuit 2		2,230	257	743	8	4.7	295	781	440	761	500
RCAW036CA3B	Circuit 1		1,990	223	663	8	4.7	260	701	408	704	500
	Circuit 2		1,990	222	663	8	4.7	259	701	408	704	500
	Circuit 3		1,510	204	503	6	4.7	232	531	353	612	400
RCAW040CA3B	Circuit 1		2,230	250	743	8	4.7	288	781	440	761	500
	Circuit 2		2,230	249	743	8	4.7	287	781	440	761	500
	Circuit 3		1,990	222	663	8	4.7	259	701	408	704	500
RCAW045CA4B	Circuit 1		1,510	192	503	8	4.7	230	541	362	622	400
	Circuit 2		1,330	192	443	6	4.7	220	471	328	567	350
	Circuit 3		1,510	192	503	8	4.7	230	541	362	622	400
	Circuit 4	1,330	192	443	6	4.7	220	471	328	567	350	
RCAW050CA4B	Circuit 1	1,990	232	663	8	4.7	270	701	408	704	500	
	Circuit 2	1,510	193	503	8	4.7	230	541	362	622	400	
	Circuit 3	1,990	232	663	8	4.7	270	701	408	704	500	
	Circuit 4	1,510	193	503	8	4.7	230	541	362	622	400	

Note:  
 1. Standard conditions:  
 Entering chilled water / Leaving chilled water temperature is 54 / 44°F(12.2 / 6.7°C)  
 Air temperature is 95°F(35°C)  
 2. Symbols :  
 LRA : Locked Rotor Ampere  
 RLA : Rated Load Ampere  
 MCA : Minimum Circuit Ampere  
 MOCP : Maximum Over Current Protection  
 Total RLA : Current when all compressor and fan running  
 Start Current : Starting current of one compressor  
 Max. Current : Largest compressor starting current after all other compressor and motors running

### 415V / 50Hz

Single point connection

Model	Circuit	Voltage	Compressor			Fan		Total RLA	Max Current	MCA	MOCP	Circuit Breaker
			LRA	RLA	Start Current	No	RLA					
RCAW008CA1B	Circuit 1	415	850	127	283	6	4.7	155	312	238	406	250
RCAW010CA1B	Circuit 1		1,250	169	417	6	4.7	197	445	295	508	300
RCAW012CA1B	Circuit 1		1,405	184	468	8	4.7	222	506	335	572	350
RCAW014CA1B	Circuit 1		1,850	206	617	8	4.7	243	654	377	648	400
RCAW014CA2B	Circuit 1		940	115	313	4	4.7	266	465	410	708	500
	Circuit 2		940	115	313	4	4.7					
RCAW016CA1B	Circuit 1		2,590	246	863	10	4.7	293	910	447	767	500
RCAW016CA2B	Circuit 1		1,160	137	387	6	4.7	323	574	486	837	500
	Circuit 2		850	140	283	4	4.7					
RCAW018CA2B	Circuit 1		1,250	151	417	6	4.7	342	608	533	914	630
	Circuit 2		1,160	135	387	6	4.7					
RCAW020CA2B	Circuit 1		1,250	167	417	6	4.7	388	639	590	1,016	630
	Circuit 2		1,250	166	417	6	4.7					
RCAW022CA2B	Circuit 1		1,250	160	417	8	4.7	401	658	615	1,053	630
	Circuit 2		1,250	176	417	6	4.7					
RCAW024CA2B	Circuit 1		1,850	205	617	8	4.7	460	871	702	1,211	800
	Circuit 2		1,405	189	468	6	4.7					
RCAW026CA2B	Circuit 1		1,850	211	617	8	4.7	495	901	754	1,296	800
	Circuit 2		1,850	210	617	8	4.7					
RCAW028CA2B	Circuit 1		2,045	226	682	10	4.7	527	983	792	1,358	800
	Circuit 2		1,850	217	617	8	4.7					
RCAW030CA2B	Circuit 1		2,590	244	863	10	4.7	564	1,184	853	1,467	1,000
	Circuit 2		2,045	236	682	8	4.7					
RCAW036CA3B	Circuit 1		1,850	204	617	8	4.7	697	1,110	1,079	1,859	1,200
	Circuit 2		1,850	204	617	8	4.7					
	Circuit 3		1,405	188	468	6	4.7					

Note:  
 1. Standard conditions:  
 Entering chilled water / Leaving chilled water temperature is 54 / 44°F(12.2 / 6.7°C)  
 Air temperature is 95°F(35°C)  
 2. Symbols :  
 LRA : Locked Rotor Ampere  
 RLA : Rated Load Ampere  
 MCA : Minimum Circuit Ampere  
 MOCP : Maximum Over Current Protection  
 Total RLA : Current when all compressor and fan running  
 Start Current : Starting current of one compressor  
 Max. Current : Largest compressor starting current after all other compressor and motors running



### 415V / 50Hz

Multi point connection

Model	Circuit	Voltage	Compressor			Fan		Total RLA	Max Current	MCA	MOCP	Circuit Breaker
			LRA	RLA	Start Current	No	RLA					
RCAW008CA1B	Circuit 1	415	850	126	283	6	4.7	154	311	238	406	250
RCAW010CA1B	Circuit 1		1,250	168	417	6	4.7	196	445	295	508	300
RCAW012CA1B	Circuit 1		1,405	184	468	8	4.7	221	506	335	572	350
RCAW014CA1B	Circuit 1		1,850	205	617	8	4.7	243	655	377	648	400
RCAW014CA2B	Circuit 1		940	115	313	4	4.7	133	332	205	354	225
	Circuit 2		940	114	313	4	4.7	133	332	205	354	225
RCAW016CA1B	Circuit 1		2,590	245	863	10	4.7	292	910	447	767	500
RCAW016CA2B	Circuit 1		1,160	136	387	6	4.7	164	415	257	440	300
	Circuit 2		850	140	283	4	4.7	159	302	229	397	250
RCAW018CA2B	Circuit 1		1,250	151	417	6	4.7	179	445	276	474	300
	Circuit 2		1,160	135	387	6	4.7	163	415	257	440	300
RCAW020CA2B	Circuit 1		1,250	166	417	6	4.7	194	445	295	508	300
	Circuit 2		1,250	166	417	6	4.7	194	445	295	508	300
RCAW022CA2B	Circuit 1		1,250	160	417	8	4.7	197	455	312	531	350
	Circuit 2		1,250	175	417	6	4.7	204	445	303	522	350
RCAW024CA2B	Circuit 1		1,850	205	617	8	4.7	243	655	377	648	400
	Circuit 2		1,405	189	468	6	4.7	217	496	325	563	350
RCAW026CA2B	Circuit 1		1,850	210	617	8	4.7	248	655	377	648	400
	Circuit 2		1,850	210	617	8	4.7	247	655	377	648	400
RCAW028CA2B	Circuit 1		2,045	226	682	10	4.7	273	729	415	710	500
	Circuit 2		1,850	216	617	8	4.7	254	655	377	648	400
RCAW030CA2B	Circuit 1		2,590	243	863	10	4.7	290	910	447	767	500
	Circuit 2		2,045	236	682	8	4.7	273	720	406	700	500
RCAW036CA3B	Circuit 1		1,850	204	617	8	4.7	241	655	377	648	400
	Circuit 2		1,850	203	617	8	4.7	241	655	377	648	400
	Circuit 3		1,405	187	468	6	4.7	215	496	325	563	350
RCAW040CA3B	Circuit 1		2,045	229	682	8	4.7	267	720	406	700	500
	Circuit 2		2,045	228	682	8	4.7	266	720	406	700	500
	Circuit 3		1,850	203	617	8	4.7	241	655	377	648	400
RCAW045CA4B	Circuit 1		1,405	176	468	8	4.7	214	506	335	572	350
	Circuit 2		1,250	176	417	6	4.7	204	445	303	522	350
	Circuit 3		1,405	176	468	8	4.7	214	506	335	572	350
	Circuit 4		1,250	176	417	6	4.7	204	445	303	522	350
RCAW050CA4B	Circuit 1		1,850	212	617	8	4.7	250	655	377	648	400
	Circuit 2		1,405	176	468	8	4.7	214	506	335	572	350
	Circuit 3		1,850	212	617	8	4.7	250	655	377	648	400
	Circuit 4	1,405	176	468	8	4.7	214	506	335	572	350	

Note:  
 1. Standard conditions:  
 Entering chilled water / Leaving chilled water temperature is 54 / 44°F(12.2 / 6.7°C)  
 Air temperature is 95°F(35°C)  
 2. Symbols :  
 LRA : Locked Rotor Ampere  
 RLA : Rated Load Ampere  
 MCA : Minimum Circuit Ampere  
 MOCP : Maximum Over Current Protection  
 Total RLA : Current when all compressor and fan running  
 Start Current : Starting current of one compressor  
 Max. Current : Largest compressor starting current after all other compressor and motors running

### 400V / 50Hz

Single point connection

Model	Circuit	Voltage	Compressor			Fan		Total RLA	Max Current	MCA	MOCP	Circuit Breaker
			LRA	RLA	Start Current	No	RLA					
RCAW008CA1B	Circuit 1	400	915	131	305	6	4.7	160	333	246	421	250
RCAW010CA1B	Circuit 1		1,390	175	463	6	4.7	203	492	305	526	350
RCAW012CA1B	Circuit 1		1,580	191	527	8	4.7	229	564	346	592	350
RCAW014CA1B	Circuit 1		2,080	213	693	8	4.7	251	731	389	671	400
RCAW014CA2B	Circuit 1		1,080	119	360	4	4.7	275	516	424	734	500
	Circuit 2		1,080	119	360	4	4.7					
RCAW016CA1B	Circuit 1		2,480	255	827	10	4.7	302	874	462	794	500
RCAW016CA2B	Circuit 1		1,285	142	428	6	4.7	333	621	502	866	630
	Circuit 2		915	146	305	4	4.7					
RCAW018CA2B	Circuit 1		1,390	157	463	6	4.7	352	659	550	946	630
	Circuit 2		1,285	140	428	6	4.7					
RCAW020CA2B	Circuit 1		1,390	173	463	6	4.7	401	691	610	1,052	630
	Circuit 2		1,390	172	463	6	4.7					
RCAW022CA2B	Circuit 1		1,390	166	463	8	4.7	414	711	635	1,090	700
	Circuit 2		1,390	183	463	6	4.7					
RCAW024CA2B	Circuit 1		2,080	213	693	8	4.7	474	955	725	1,254	800
	Circuit 2		1,580	196	527	6	4.7					
RCAW026CA2B	Circuit 1		2,080	219	693	8	4.7	511	986	778	1,342	800
	Circuit 2		2,080	218	693	8	4.7					
RCAW028CA2B	Circuit 1		2,330	235	777	10	4.7	544	1,086	818	1,406	1,000
	Circuit 2		2,080	225	693	8	4.7					
RCAW030CA2B	Circuit 1		2,480	253	827	10	4.7	582	1,156	882	1,519	1,000
	Circuit 2		2,330	245	777	8	4.7					
RCAW036CA3B	Circuit 1		2,080	212	693	8	4.7	720	1,201	1,114	1,925	1,200
	Circuit 2		2,080	211	693	8	4.7					
	Circuit 3		1,580	195	527	6	4.7					

Note:  
 1. Standard conditions:  
 Entering chilled water / Leaving chilled water temperature is 54 / 44°F(12.2 / 6.7°C)  
 Air temperature is 95°F(35°C)  
 2. Symbols :  
 LRA : Locked Rotor Ampere  
 RLA : Rated Load Ampere  
 MCA : Minimum Circuit Ampere  
 MOCP : Maximum Over Current Protection  
 Total RLA : Current when all compressor and fan running  
 Start Current : Starting current of one compressor  
 Max. Current : Largest compressor starting current after all other compressor and motors running

### 400V / 50Hz

Multi point connection

Model	Circuit	Voltage	Compressor			Fan		Total RLA	Max Current	MCA	MOCP	Circuit Breaker
			LRA	RLA	Start Current	No	RLA					
RCAW008CA1B	Circuit 1	400	915	131	305	6	4.7	159	333	246	421	250
RCAW010CA1B	Circuit 1		1,390	174	463	6	4.7	203	491	305	526	350
RCAW012CA1B	Circuit 1		1,580	191	527	8	4.7	228	565	346	592	350
RCAW014CA1B	Circuit 1		2,080	213	693	8	4.7	251	731	389	671	400
RCAW014CA2B	Circuit 1		1,080	119	360	4	4.7	138	379	212	367	225
	Circuit 2		1,080	118	360	4	4.7	137	379	212	367	225
RCAW016CA1B	Circuit 1		2,480	255	827	10	4.7	302	874	462	794	500
RCAW016CA2B	Circuit 1		1,285	141	428	6	4.7	169	456	265	455	300
	Circuit 2		915	145	305	4	4.7	164	324	237	411	250
RCAW018CA2B	Circuit 1		1,390	156	463	6	4.7	185	491	285	491	300
	Circuit 2		1,285	140	428	6	4.7	168	456	265	455	300
RCAW020CA2B	Circuit 1		1,390	172	463	6	4.7	201	491	305	526	350
	Circuit 2		1,390	172	463	6	4.7	200	491	305	526	350
RCAW022CA2B	Circuit 1		1,390	166	463	8	4.7	203	501	322	550	350
	Circuit 2		1,390	182	463	6	4.7	210	491	313	540	350
RCAW024CA2B	Circuit 1		2,080	213	693	8	4.7	250	731	389	671	400
	Circuit 2		1,580	196	527	6	4.7	224	555	336	583	350
RCAW026CA2B	Circuit 1		2,080	218	693	8	4.7	256	731	389	671	400
	Circuit 2		2,080	217	693	8	4.7	255	731	389	671	400
RCAW028CA2B	Circuit 1		2,330	234	777	10	4.7	281	824	429	735	500
	Circuit 2		2,080	225	693	8	4.7	262	731	389	671	400
RCAW030CA2B	Circuit 1		2,480	253	827	10	4.7	300	874	462	794	500
	Circuit 2		2,330	244	777	8	4.7	282	815	420	725	500
RCAW036CA3B	Circuit 1		2,080	211	693	8	4.7	249	731	389	671	400
	Circuit 2		2,080	211	693	8	4.7	248	731	389	671	400
	Circuit 3		1,580	194	527	6	4.7	222	555	336	583	350
RCAW040CA3B	Circuit 1		2,330	238	777	8	4.7	275	815	420	725	500
	Circuit 2		2,330	237	777	8	4.7	274	815	420	725	500
	Circuit 3		2,080	211	693	8	4.7	248	731	389	671	400
RCAW045CA4B	Circuit 1		1,580	183	527	8	4.7	220	565	346	592	350
	Circuit 2		1,390	182	463	6	4.7	211	491	313	540	350
	Circuit 3		1,580	183	527	8	4.7	220	565	346	592	350
	Circuit 4		1,390	182	463	6	4.7	211	491	313	540	350
RCAW050CA4B	Circuit 1		2,080	220	693	8	4.7	258	731	389	671	400
	Circuit 2		1,580	183	527	8	4.7	221	565	346	592	350
	Circuit 3		2,080	220	693	8	4.7	258	731	389	671	400
	Circuit 4		1,580	183	527	8	4.7	221	565	346	592	350

Note:  
 1. Standard conditions:  
 Entering chilled water / Leaving chilled water temperature is 54 / 44°F(12.2 / 6.7°C)  
 Air temperature is 95°F(35°C)  
 2. Symbols :  
 LRA : Locked Rotor Ampere  
 RLA : Rated Load Ampere  
 MCA : Minimum Circuit Ampere  
 MOCP : Maximum Over Current Protection  
 Total RLA : Current when all compressor and fan running  
 Start Current : Starting current of one compressor  
 Max. Current : Largest compressor starting current after all other compressor and motors running

### 440V / 60Hz

Single point connection

Model	Circuit	Voltage	Compressor			Fan		Total RLA	Max Current	MCA	MOCP	Circuit Breaker
			LRA	RLA	Start Current	No	RLA					
RCAW008CA1B	Circuit 1	440	1,035	112	345	6	4.4	138	371	217	370	225
RCAW010CA1B	Circuit 1		1,220	159	407	6	4.4	185	433	286	494	300
RCAW012CA1B	Circuit 1		1,330	176	443	8	4.4	211	479	338	580	350
RCAW014CA1B	Circuit 1		1,510	205	503	8	4.4	240	539	373	643	400
RCAW014CA2B	Circuit 1		780	112	260	4	4.4	257	406	382	662	400
	Circuit 2		780	111	260	4	4.4					
RCAW016CA1B	Circuit 1		1,990	226	663	10	4.4	270	707	430	739	500
RCAW016CA2B	Circuit 1		1,035	117	345	6	4.4	282	510	442	761	500
	Circuit 2		1,035	122	345	4	4.4					
RCAW018CA2B	Circuit 1		875	134	292	6	4.4	319	477	514	882	630
	Circuit 2		875	133	292	6	4.4					
RCAW020CA2B	Circuit 1		1,220	159	407	6	4.4	368	617	572	988	630
	Circuit 2		1,220	158	407	6	4.4					
RCAW022CA2B	Circuit 1		1,330	160	443	8	4.4	397	681	623	1,071	630
	Circuit 2		1,330	176	443	6	4.4					
RCAW024CA2B	Circuit 1		1,330	176	443	8	4.4	434	701	667	1,151	700
	Circuit 2		1,330	197	443	6	4.4					
RCAW026CA2B	Circuit 1		1,510	205	503	8	4.4	460	758	720	1,239	800
	Circuit 2		1,330	185	443	8	4.4					
RCAW028CA2B	Circuit 1		1,990	219	663	10	4.4	495	940	803	1,382	1,000
	Circuit 2		1,510	198	503	8	4.4					
RCAW030CA2B	Circuit 1		1,990	225	663	10	4.4	548	987	851	1,469	1,000
	Circuit 2		1,990	245	663	8	4.4					
RCAW036CA3B	Circuit 1		1,330	176	443	8	4.4	643	911	1,005	1,731	1,200
	Circuit 2		1,330	176	443	8	4.4					
	Circuit 3		1,330	196	443	6	4.4					

Note:  
 1. Standard conditions:  
 Entering chilled water / Leaving chilled water temperature is 54 / 44°F(12.2 / 6.7°C)  
 Air temperature is 95°F(35°C)  
 2. Symbols :  
 LRA : Locked Rotor Ampere  
 RLA : Rated Load Ampere  
 MCA : Minimum Circuit Ampere  
 MOCP : Maximum Over Current Protection  
 Total RLA : Current when all compressor and fan running  
 Start Current : Starting current of one compressor  
 Max. Current : Largest compressor starting current after all other compressor and motors running

### 440V / 60Hz

Multi point connection

Model	Circuit	Voltage	Compressor			Fan		Total RLA	Max Current	MCA	MOCP	Circuit Breaker
			LRA	RLA	Start Current	No	RLA					
RCAW008CA1B	Circuit 1	440	1,035	111	345	6	4.4	138	371	217	370	225
RCAW010CA1B	Circuit 1		1,220	158	407	6	4.4	185	433	286	494	300
RCAW012CA1B	Circuit 1		1,330	175	443	8	4.4	210	478	338	580	350
RCAW014CA1B	Circuit 1		1,510	204	503	8	4.4	239	538	373	643	400
RCAW014CA2B	Circuit 1		780	111	260	4	4.4	129	278	191	331	200
	Circuit 2		780	111	260	4	4.4	128	278	191	331	200
RCAW016CA1B	Circuit 1		1,990	226	663	10	4.4	270	707	430	739	500
RCAW016CA2B	Circuit 1		1,035	117	345	6	4.4	143	371	234	400	250
	Circuit 2		1,035	121	345	4	4.4	139	363	208	361	225
RCAW018CA2B	Circuit 1		875	133	292	6	4.4	160	318	257	441	300
	Circuit 2		875	133	292	6	4.4	159	318	257	441	300
RCAW020CA2B	Circuit 1		1,220	158	407	6	4.4	184	433	286	494	300
	Circuit 2		1,220	157	407	6	4.4	184	433	286	494	300
RCAW022CA2B	Circuit 1		1,330	159	443	8	4.4	194	478	316	540	350
	Circuit 2		1,330	176	443	6	4.4	202	469	307	531	350
RCAW024CA2B	Circuit 1		1,330	176	443	8	4.4	211	478	338	580	350
	Circuit 2		1,330	196	443	6	4.4	223	469	329	571	350
RCAW026CA2B	Circuit 1		1,510	205	503	8	4.4	240	538	373	643	400
	Circuit 2		1,330	184	443	8	4.4	220	478	347	596	350
RCAW028CA2B	Circuit 1		1,990	219	663	10	4.4	263	707	430	739	500
	Circuit 2		1,510	197	503	8	4.4	232	538	373	643	400
RCAW030CA2B	Circuit 1		1,990	225	663	10	4.4	269	707	430	739	500
	Circuit 2		1,990	244	663	8	4.4	279	698	421	730	500
RCAW036CA3B	Circuit 1		1,330	176	443	8	4.4	211	478	338	580	350
	Circuit 2		1,330	175	443	8	4.4	210	478	338	580	350
	Circuit 3		1,330	196	443	6	4.4	222	469	329	571	350
RCAW040CA3B	Circuit 1		1,510	204	503	8	4.4	239	538	373	643	400
	Circuit 2		1,510	203	503	8	4.4	238	538	373	643	400
	Circuit 3		1,510	202	503	8	4.4	237	538	373	643	400
RCAW045CA4B	Circuit 1		1,330	171	443	8	4.4	206	478	338	580	350
	Circuit 2		1,330	171	443	6	4.4	198	469	307	531	350
	Circuit 3		1,330	171	443	8	4.4	206	478	338	580	350
	Circuit 4		1,330	171	443	6	4.4	198	469	307	531	350
RCAW050CA4B	Circuit 1		1,330	184	443	8	4.4	219	478	347	596	350
	Circuit 2		1,330	175	443	8	4.4	210	478	338	580	350
	Circuit 3		1,330	184	443	8	4.4	219	478	347	596	350
	Circuit 4		1,330	175	443	8	4.4	210	478	338	580	350

Note:  
 1. Standard conditions:  
 Entering chilled water / Leaving chilled water temperature is 54 / 44°F(12.2 / 6.7°C)  
 Air temperature is 95°F(35°C)  
 2. Symbols :  
 LRA : Locked Rotor Ampere  
 RLA : Rated Load Ampere  
 MCA : Minimum Circuit Ampere  
 MOCP : Maximum Over Current Protection  
 Total RLA : Current when all compressor and fan running  
 Start Current : Starting current of one compressor  
 Max. Current : Largest compressor starting current after all other compressor and motors running

### 460V / 60Hz

Single point connection

Model	Circuit	Voltage	Compressor			Fan		Total RLA	Max Current	MCA	MOCP	Circuit Breaker
			LRA	RLA	Start Current	No	RLA					
RCAW008CA1B	Circuit 1	460	1,080	107	360	6	4.2	132	385	208	353	225
RCAW010CA1B	Circuit 1		1,285	152	428	6	4.2	177	454	274	472	300
RCAW012CA1B	Circuit 1		1,390	168	463	8	4.2	202	497	323	555	350
RCAW014CA1B	Circuit 1		1,580	196	527	8	4.2	229	560	356	615	400
RCAW014CA2B	Circuit 1		815	107	272	4	4.2	246	411	366	632	400
	Circuit 2		815	106	272	4	4.2					
RCAW016CA1B	Circuit 1		2,080	217	693	10	4.2	259	735	411	706	500
RCAW016CA2B	Circuit 1		1,080	112	360	6	4.2	270	518	422	727	500
	Circuit 2		1,080	117	360	4	4.2					
RCAW018CA2B	Circuit 1		915	128	305	6	4.2	305	483	492	844	500
	Circuit 2		915	128	305	6	4.2					
RCAW020CA2B	Circuit 1		1,285	152	428	6	4.2	352	629	548	944	630
	Circuit 2		1,285	151	428	6	4.2					
RCAW022CA2B	Circuit 1		1,390	153	463	8	4.2	379	690	596	1,025	630
	Circuit 2		1,390	169	463	6	4.2					
RCAW024CA2B	Circuit 1		1,390	169	463	8	4.2	415	710	638	1,101	700
	Circuit 2		1,390	188	463	6	4.2					
RCAW026CA2B	Circuit 1		1,580	196	527	8	4.2	440	770	688	1,185	700
	Circuit 2		1,390	177	463	8	4.2					
RCAW028CA2B	Circuit 1		2,080	210	693	10	4.2	473	957	767	1,321	800
	Circuit 2		1,580	189	527	8	4.2					
RCAW030CA2B	Circuit 1		2,080	215	693	10	4.2	524	1003	596	1,025	630
	Circuit 2		2,080	234	693	8	4.2					
RCAW036CA3B	Circuit 1		1,390	169	463	8	4.2	615	911	961	1,656	1,000
	Circuit 2		1,390	168	463	8	4.2					
	Circuit 3		1,390	188	463	6	4.2					

Note:  
 1. Standard conditions:  
 Entering chilled water / Leaving chilled water temperature is 54 / 44°F(12.2 / 6.7°C)  
 Air temperature is 95°F(35°C)  
 2. Symbols :  
 LRA : Locked Rotor Ampere  
 RLA : Rated Load Ampere  
 MCA : Minimum Circuit Ampere  
 MOCP : Maximum Over Current Protection  
 Total RLA : Current when all compressor and fan running  
 Start Current : Starting current of one compressor  
 Max. Current : Largest compressor starting current after all other compressor and motors running

### 460V / 60Hz

Multi point connection

Model	Circuit	Voltage	Compressor			Fan		Total RLA	Max Current	MCA	MOCP	Circuit Breaker
			LRA	RLA	Start Current	No	RLA					
RCAW008CA1B	Circuit 1	460	1,080	107	360	6	4.2	132	385	208	353	225
RCAW010CA1B	Circuit 1		1,285	151	428	6	4.2	177	453	274	472	300
RCAW012CA1B	Circuit 1		1,390	168	463	8	4.2	201	497	323	555	350
RCAW014CA1B	Circuit 1		1,580	195	527	8	4.2	229	561	356	615	400
RCAW014CA2B	Circuit 1		815	106	272	4	4.2	123	289	183	316	200
	Circuit 2		815	106	272	4	4.2	123	289	183	316	200
RCAW016CA1B	Circuit 1		2,080	216	693	10	4.2	258	735	411	706	500
RCAW016CA2B	Circuit 1		1,080	112	360	6	4.2	137	385	223	382	225
	Circuit 2		1,080	116	360	4	4.2	133	377	199	345	200
RCAW018CA2B	Circuit 1		915	128	305	6	4.2	153	330	246	422	250
	Circuit 2		915	127	305	6	4.2	152	330	246	422	250
RCAW020CA2B	Circuit 1		1,285	151	428	6	4.2	176	453	274	472	300
	Circuit 2		1,285	151	428	6	4.2	176	453	274	472	300
RCAW022CA2B	Circuit 1		1,390	152	463	8	4.2	186	497	302	517	350
	Circuit 2		1,390	168	463	6	4.2	193	488	294	508	300
RCAW024CA2B	Circuit 1		1,390	168	463	8	4.2	202	497	323	555	350
	Circuit 2		1,390	188	463	6	4.2	213	488	315	546	350
RCAW026CA2B	Circuit 1		1,580	196	527	8	4.2	230	561	356	615	400
	Circuit 2		1,390	176	463	8	4.2	210	497	332	570	350
RCAW028CA2B	Circuit 1		2,080	209	693	10	4.2	251	735	411	706	500
	Circuit 2		1,580	188	527	8	4.2	222	561	356	615	400
RCAW030CA2B	Circuit 1		2,080	215	693	10	4.2	257	735	302	517	350
	Circuit 2		2,080	234	693	8	4.2	267	727	294	508	300
RCAW036CA3B	Circuit 1		1,390	168	463	8	4.2	202	497	323	555	350
	Circuit 2		1,390	167	463	8	4.2	201	497	323	555	350
	Circuit 3		1,390	187	463	6	4.2	213	488	315	546	350
RCAW040CA3B	Circuit 1		1,580	195	527	8	4.2	228	561	356	615	400
	Circuit 2		1,580	194	527	8	4.2	227	561	356	615	400
	Circuit 3		1,580	193	527	8	4.2	227	561	356	615	400
RCAW045CA4B	Circuit 1		1,390	164	463	8	4.2	197	497	323	555	350
	Circuit 2		1,390	164	463	6	4.2	189	488	294	508	300
	Circuit 3		1,390	164	463	8	4.2	197	497	323	555	350
	Circuit 4		1,390	164	463	6	4.2	189	488	294	508	300
RCAW050CA4B	Circuit 1		1,390	176	463	8	4.2	210	497	332	570	350
	Circuit 2		1,390	167	463	8	4.2	201	497	323	555	350
	Circuit 3		1,390	176	463	8	4.2	210	497	332	570	350
	Circuit 4		1,390	167	463	8	4.2	201	497	323	555	350

Note:

- Standard conditions:  
Entering chilled water / Leaving chilled water temperature is 54 / 44°F(12.2 / 6.7°C)  
Air temperature is 95°F(35°C)
- Symbols:  
LRA : Locked Rotor Ampere  
RLA : Rated Load Ampere  
MCA : Minimum Circuit Ampere  
MOCP : Maximum Over Current Protection  
Total RLA : Current when all compressor and fan running  
Start Current : Starting current of one compressor  
Max. Current : Largest compressor starting current after all other compressor and motors running

### 480V / 60Hz

Single point connection

Model	Circuit	Voltage	Compressor			Fan		Total RLA	Max Current	MCA	MOCP	Circuit Breaker
			LRA	RLA	Start Current	No	RLA					
RCAW008CA1B	Circuit 1	480	940	103	313	6	4.1	127	338	199	339	200
RCAW010CA1B	Circuit 1		1,160	145	387	6	4.1	170	411	263	453	300
RCAW012CA1B	Circuit 1		1,250	161	417	8	4.1	194	449	310	532	350
RCAW014CA1B	Circuit 1		1,405	188	468	8	4.1	220	501	342	590	350
RCAW014CA2B	Circuit 1		790	102	263	4	4.1	236	398	352	606	400
	Circuit 2		790	102	263	4	4.1					
RCAW016CA1B	Circuit 1		1,850	208	617	10	4.1	249	658	395	678	400
RCAW016CA2B	Circuit 1		940	107	313	6	4.1	259	466	406	698	500
	Circuit 2		940	112	313	4	4.1					
RCAW018CA2B	Circuit 1		850	123	283	6	4.1	293	454	472	810	500
	Circuit 2		850	122	283	6	4.1					
RCAW020CA2B	Circuit 1		1,160	145	387	6	4.1	338	580	526	906	630
	Circuit 2		1,160	145	387	6	4.1					
RCAW022CA2B	Circuit 1		1,250	146	417	8	4.1	365	635	572	983	630
	Circuit 2		1,250	162	417	6	4.1					
RCAW024CA2B	Circuit 1		1,250	162	417	8	4.1	399	654	612	1,056	630
	Circuit 2		1,250	181	417	6	4.1					
RCAW026CA2B	Circuit 1		1,405	188	468	8	4.1	422	703	660	1,137	700
	Circuit 2		1,250	170	417	8	4.1					
RCAW028CA2B	Circuit 1		1,850	201	617	10	4.1	455	871	737	1,268	800
	Circuit 2		1,405	181	468	8	4.1					
RCAW030CA2B	Circuit 1		1,850	207	617	10	4.1	504	914	782	1,348	800
	Circuit 2		1,850	224	617	8	4.1					
RCAW036CA3B	Circuit 1		1,250	162	417	8	4.1	591	847	922	1,588	1,000
	Circuit 2		1,250	161	417	8	4.1					
	Circuit 3		1,250	180	417	6	4.1					

Note:

- Standard conditions:  
Entering chilled water / Leaving chilled water temperature is 54 / 44°F(12.2 / 6.7°C)  
Air temperature is 95°F(35°C)
- Symbols:  
LRA : Locked Rotor Ampere  
RLA : Rated Load Ampere  
MCA : Minimum Circuit Ampere  
MOCP : Maximum Over Current Protection  
Total RLA : Current when all compressor and fan running  
Start Current : Starting current of one compressor  
Max. Current : Largest compressor starting current after all other compressor and motors running

### 480V / 60Hz

Multi point connection

Model	Circuit	Voltage	Compressor			Fan		Total RLA	Max Current	MCA	MOCP	Circuit Breaker
			LRA	RLA	Start Current	No	RLA					
RCAW008CA1B	Circuit 1	480	940	102	313	6	4.1	127	338	199	339	200
RCAW010CA1B	Circuit 1		1,160	145	387	6	4.1	170	412	263	453	300
RCAW012CA1B	Circuit 1		1,250	161	417	8	4.1	193	450	310	532	350
RCAW014CA1B	Circuit 1		1,405	187	468	8	4.1	220	501	342	590	350
RCAW014CA2B	Circuit 1		790	102	263	4	4.1	118	279	176	303	200
	Circuit 2		790	102	263	4	4.1	118	279	176	303	200
RCAW016CA1B	Circuit 1		1,850	207	617	10	4.1	248	658	395	678	400
RCAW016CA2B	Circuit 1		940	107	313	6	4.1	132	338	215	367	225
	Circuit 2		940	111	313	4	4.1	128	329	191	331	200
RCAW018CA2B	Circuit 1		850	122	283	6	4.1	147	308	236	405	250
	Circuit 2		850	122	283	6	4.1	146	308	236	405	250
RCAW020CA2B	Circuit 1		1,160	145	387	6	4.1	169	412	263	453	300
	Circuit 2		1,160	144	387	6	4.1	169	412	263	453	300
RCAW022CA2B	Circuit 1		1,250	146	417	8	4.1	179	450	290	496	300
	Circuit 2		1,250	161	417	6	4.1	186	442	282	487	300
RCAW024CA2B	Circuit 1		1,250	161	417	8	4.1	194	450	310	532	350
	Circuit 2		1,250	180	417	6	4.1	205	442	302	524	350
RCAW026CA2B	Circuit 1		1,405	188	468	8	4.1	221	501	342	590	350
	Circuit 2		1,250	169	417	8	4.1	202	450	318	547	350
RCAW028CA2B	Circuit 1		1,850	200	617	10	4.1	241	658	395	678	400
	Circuit 2		1,405	181	468	8	4.1	213	501	342	590	350
RCAW030CA2B	Circuit 1		1,850	206	617	10	4.1	247	658	395	678	400
	Circuit 2		1,850	224	617	8	4.1	257	650	387	670	400
RCAW036CA3B	Circuit 1		1,250	161	417	8	4.1	194	450	310	532	350
	Circuit 2		1,250	160	417	8	4.1	193	450	310	532	350
	Circuit 3		1,250	180	417	6	4.1	204	442	302	524	350
RCAW040CA3B	Circuit 1		1,405	187	468	8	4.1	219	501	342	590	350
	Circuit 2		1,405	186	468	8	4.1	219	501	342	590	350
	Circuit 3		1,405	185	468	8	4.1	218	501	342	590	350
RCAW045CA4B	Circuit 1		1,250	157	417	8	4.1	190	450	310	532	350
	Circuit 2		1,250	157	417	6	4.1	182	442	282	487	300
	Circuit 3		1,250	157	417	8	4.1	190	450	310	532	350
	Circuit 4		1,250	157	417	6	4.1	182	442	282	487	300
RCAW050CA4B	Circuit 1		1,250	169	417	8	4.1	201	450	318	547	350
	Circuit 2		1,250	160	417	8	4.1	193	450	310	532	350
	Circuit 3		1,250	169	417	8	4.1	201	450	318	547	350
	Circuit 4	1,250	160	417	8	4.1	193	450	310	532	350	

Note:  
 1. Standard conditions:  
 Entering chilled water / Leaving chilled water temperature is 54 / 44°F(12.2 / 6.7°C)  
 Air temperature is 95°F(35°C)  
 2. Symbols:  
 LRA : Locked Rotor Ampere  
 RLA : Rated Load Ampere  
 MCA : Minimum Circuit Ampere  
 MOCP : Maximum Over Current Protection  
 Total RLA : Current when all compressor and fan running  
 Start Current : Starting current of one compressor  
 Max. Current : Largest compressor starting current after all other compressor and motors running

### 380V / 60Hz

Single point connection

Model	Circuit	Voltage	Compressor			Fan		Total RLA	Max Current	MCA	MOCP	Circuit Breaker
			LRA	RLA	Start Current	No	RLA					
RCAW008CA1B	Circuit 1	380	1,115	145	372	6	4.1	170	396	259	447	300
RCAW010CA1B	Circuit 1		1,605	192	535	6	4.1	216	560	333	580	350
RCAW012CA1B	Circuit 1		1,605	217	535	8	4.1	250	568	351	606	400
RCAW014CA1B	Circuit 1		2,470	252	823	8	4.1	285	856	423	736	500
RCAW014CA2B	Circuit 1		1,220	138	407	4	4.1	306	576	454	792	500
	Circuit 2		1,220	137	407	4	4.1					
RCAW016CA1B	Circuit 1		3,200	297	1,067	10	4.1	338	1,108	505	875	630
RCAW016CA2B	Circuit 1		1,445	157	482	6	4.1	347	672	540	939	630
	Circuit 2		1,115	150	372	4	4.1					
RCAW018CA2B	Circuit 1		1,445	163	482	6	4.1	373	692	578	1,002	630
	Circuit 2		1,445	162	482	6	4.1					
RCAW020CA2B	Circuit 1		1,605	199	535	6	4.1	427	764	644	1,120	700
	Circuit 2		1,605	180	535	6	4.1					
RCAW022CA2B	Circuit 1		1,605	199	535	8	4.1	459	796	684	1,186	700
	Circuit 2		1,605	204	535	6	4.1					
RCAW024CA2B	Circuit 1		1,880	209	627	8	4.1	491	909	746	1,296	800
	Circuit 2		1,880	225	627	6	4.1					
RCAW026CA2B	Circuit 1		2,470	246	823	8	4.1	556	1,134	846	1,472	1,000
	Circuit 2		2,470	245	823	8	4.1					
RCAW028CA2B	Circuit 1		2,875	266	958	10	4.1	589	1,282	891	1,545	1,000
	Circuit 2		2,470	251	823	8	4.1					
RCAW030CA2B	Circuit 1		3,200	291	1,067	10	4.1	643	1,418	965	1,676	1,000
	Circuit 2		2,875	278	958	8	4.1					
RCAW036CA3B	Circuit 1		1,880	212	627	8	4.1	738	1,154	1,123	1,948	1,200
	Circuit 2		1,880	211	627	8	4.1					
	Circuit 3		1,880	227	627	6	4.1					

Note:  
 1. Standard conditions:  
 Entering chilled water / Leaving chilled water temperature is 54 / 44°F(12.2 / 6.7°C)  
 Air temperature is 95°F(35°C)  
 2. Symbols:  
 LRA : Locked Rotor Ampere  
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 MOCP : Maximum Over Current Protection  
 Total RLA : Current when all compressor and fan running  
 Start Current : Starting current of one compressor  
 Max. Current : Largest compressor starting current after all other compressor and motors running

### 380V / 60Hz

Multi point connection

Model	Voltage	Compressor			Fan		Total RLA	Max Current	MCA	MOCP	Circuit Breaker
		LRA	RLA	Start Current	No	RLA					
RCAW008CA1B	Circuit 1	1,115	145	372	6	4.1	169	397	259	447	300
RCAW010CA1B	Circuit 1	1,605	191	535	6	4.1	216	560	333	580	350
RCAW012CA1B	Circuit 1	1,605	216	535	8	4.1	249	568	351	606	400
RCAW014CA1B	Circuit 1	2,470	251	823	8	4.1	284	856	423	736	500
RCAW014CA2B	Circuit 1	1,220	137	407	4	4.1	153	423	227	396	250
	Circuit 2	1,220	136	407	4	4.1	153	423	227	396	250
RCAW016CA1B	Circuit 1	3,200	297	1,067	10	4.1	338	1,108	505	875	630
RCAW016CA2B	Circuit 1	1,445	157	482	6	4.1	181	507	289	501	300
	Circuit 2	1,115	150	372	4	4.1	166	388	251	438	300
RCAW018CA2B	Circuit 1	1,445	162	482	6	4.1	187	507	289	501	300
	Circuit 2	1,445	161	482	6	4.1	186	507	289	501	300
RCAW020CA2B	Circuit 1	1,605	198	535	6	4.1	223	560	333	580	350
	Circuit 2	1,605	180	535	6	4.1	204	560	311	540	350
RCAW022CA2B	Circuit 1	1,605	198	535	8	4.1	231	568	351	606	400
	Circuit 2	1,605	204	535	6	4.1	228	560	333	580	350
RCAW024CA2B	Circuit 1	1,880	209	627	8	4.1	242	660	377	652	400
	Circuit 2	1,880	225	627	6	4.1	250	652	369	644	400
RCAW026CA2B	Circuit 1	2,470	246	823	8	4.1	279	856	423	736	500
	Circuit 2	2,470	245	823	8	4.1	277	856	423	736	500
RCAW028CA2B	Circuit 1	2,875	265	958	10	4.1	306	999	468	809	500
	Circuit 2	2,470	250	823	8	4.1	283	856	423	736	500
RCAW030CA2B	Circuit 1	3,200	291	1,067	10	4.1	332	1,108	505	875	630
	Circuit 2	2,875	278	958	8	4.1	311	991	460	801	500
RCAW036CA3B	Circuit 1	1,880	211	627	8	4.1	244	660	377	652	400
	Circuit 2	1,880	210	627	8	4.1	243	660	377	652	400
	Circuit 3	1,880	227	627	6	4.1	251	652	369	644	400
RCAW040CA3B	Circuit 1	2,470	249	823	8	4.1	282	856	423	736	500
	Circuit 2	2,470	248	823	8	4.1	281	856	423	736	500
	Circuit 3	2,470	247	823	8	4.1	280	856	423	736	500
RCAW045CA4B	Circuit 1	1,880	212	627	8	4.1	244	660	377	652	400
	Circuit 2	1,605	207	535	6	4.1	232	560	343	597	350
	Circuit 3	1,880	212	627	8	4.1	244	660	377	652	400
	Circuit 4	1,605	207	535	6	4.1	232	560	343	597	350
RCAW050CA4B	Circuit 1	2,470	253	823	8	4.1	286	856	423	736	500
	Circuit 2	1,880	214	627	8	4.1	247	660	377	652	400
	Circuit 3	2,470	253	823	8	4.1	286	856	423	736	500
	Circuit 4	1,880	214	627	8	4.1	247	660	377	652	400

Note:  
 1. Standard conditions:  
 Entering chilled water / Leaving chilled water temperature is 54 / 44°F(12.2 / 6.7°C)  
 Air temperature is 95°F(35°C)  
 2. Symbols:  
 LRA : Locked Rotor Ampere  
 RLA : Rated Load Ampere  
 MCA : Minimum Circuit Ampere  
 MOCP : Maximum Over Current Protection  
 Total RLA : Current when all compressor and fan running  
 Start Current : Starting current of one compressor  
 Max. Current : Largest compressor starting current after all other compressor and motors running

### 380V / 50Hz

Single point connection

Model	Voltage	Compressor			Fan		Total RLA	Max Current	MCA	MOCP	Circuit Breaker
		LRA	RLA	Start Current	No	RLA					
RCAW008CA1B	Circuit 1	1,330	158	443	6	4.7	186	472	276	474	300
RCAW010CA1B	Circuit 1	1,510	187	503	6	4.7	215	532	327	565	350
RCAW012CA1B	Circuit 1	1,990	227	663	8	4.7	264	701	383	659	400
RCAW014CA1B	Circuit 1	2,355	275	785	8	4.7	312	823	451	781	500
RCAW014CA2B	Circuit 1	1,220	147	407	4	4.7	329	589	496	862	500
	Circuit 2	1,220	146	407	4	4.7					
RCAW016CA1B	Circuit 1	2,625	315	875	10	4.7	362	922	516	892	630
RCAW016CA2B	Circuit 1	1,330	155	443	6	4.7	354	643	524	905	630
	Circuit 2	1,220	154	407	4	4.7					
RCAW018CA2B	Circuit 1	1,330	185	443	6	4.7	417	676	596	1,028	630
	Circuit 2	1,330	177	443	6	4.7					
RCAW020CA2B	Circuit 1	1,990	220	663	6	4.7	456	900	700	1,214	800
	Circuit 2	1,510	181	503	6	4.7					
RCAW022CA2B	Circuit 1	1,990	211	663	8	4.7	503	955	756	1,308	800
	Circuit 2	1,990	227	663	6	4.7					
RCAW024CA2B	Circuit 1	2,230	229	743	8	4.7	540	1,055	795	1,379	800
	Circuit 2	2,230	247	743	6	4.7					
RCAW026CA2B	Circuit 1	2,355	266	785	8	4.7	604	1,124	902	1,562	1,000
	Circuit 2	2,355	264	785	8	4.7					
RCAW028CA2B	Circuit 1	2,625	299	875	10	4.7	654	1,230	967	1,673	1,000
	Circuit 2	2,355	271	785	8	4.7					
RCAW030CA2B	Circuit 1	2,625	294	875	10	4.7	687	1,269	1,023	1,775	1,200
	Circuit 2	2,625	310	875	8	4.7					
RCAW036CA3B	Circuit 1	2,230	229	743	8	4.7	786	1,301	1,177	2,037	1,200
	Circuit 2	2,230	228	743	8	4.7					
	Circuit 3	1,990	227	663	6	4.7					

Note:  
 1. Standard conditions:  
 Entering chilled water / Leaving chilled water temperature is 54 / 44°F(12.2 / 6.7°C)  
 Air temperature is 95°F(35°C)  
 2. Symbols:  
 LRA : Locked Rotor Ampere  
 RLA : Rated Load Ampere  
 MCA : Minimum Circuit Ampere  
 MOCP : Maximum Over Current Protection  
 Total RLA : Current when all compressor and fan running  
 Start Current : Starting current of one compressor  
 Max. Current : Largest compressor starting current after all other compressor and motors running

380V / 50Hz

Multi point connection

Model	Circuit	Voltage	Compressor			Fan		Total RLA	Max Current	MCA	MOCP	Circuit Breaker
			LRA	RLA	Start Current	No	RLA					
RCAW008CA1B	Circuit 1	380	1,330	157	443	6	4.7	186	471	276	474	300
RCAW010CA1B	Circuit 1		1,510	187	503	6	4.7	215	531	327	565	350
RCAW012CA1B	Circuit 1		1,990	226	663	8	4.7	264	701	383	659	400
RCAW014CA1B	Circuit 1		2,355	274	785	8	4.7	312	823	451	781	500
RCAW014CA2B	Circuit 1		1,220	146	407	4	4.7	165	426	248	431	250
	Circuit 2		1,220	145	407	4	4.7	164	426	248	431	250
RCAW016CA1B	Circuit 1		2,625	315	875	10	4.7	362	922	516	892	630
RCAW016CA2B	Circuit 1		1,330	154	443	6	4.7	182	471	276	474	300
	Circuit 2		1,220	153	407	4	4.7	172	426	248	431	250
RCAW018CA2B	Circuit 1		1,330	184	443	6	4.7	212	471	302	521	350
	Circuit 2		1,330	176	443	6	4.7	205	471	294	507	300
RCAW020CA2B	Circuit 1		1,990	219	663	6	4.7	247	691	373	649	400
	Circuit 2		1,510	180	503	6	4.7	208	531	327	565	350
RCAW022CA2B	Circuit 1		1,990	211	663	8	4.7	248	701	383	659	400
	Circuit 2		1,990	226	663	6	4.7	254	691	373	649	400
RCAW024CA2B	Circuit 1		2,230	228	743	8	4.7	266	781	402	694	500
	Circuit 2		2,230	246	743	6	4.7	274	771	393	685	400
RCAW026CA2B	Circuit 1		2,355	265	785	8	4.7	303	823	451	781	500
	Circuit 2		2,355	264	785	8	4.7	301	823	451	781	500
RCAW028CA2B	Circuit 1		2,625	299	875	10	4.7	346	922	516	892	630
	Circuit 2		2,355	271	785	8	4.7	308	823	451	781	500
RCAW030CA2B	Circuit 1		2,625	293	875	10	4.7	340	922	516	892	630
	Circuit 2		2,625	310	875	8	4.7	347	913	507	883	630
RCAW036CA3B	Circuit 1		2,230	228	743	8	4.7	266	781	402	694	500
	Circuit 2		2,230	227	743	8	4.7	265	781	402	694	500
	Circuit 3		1,990	227	663	6	4.7	255	691	373	649	400
RCAW040CA3B	Circuit 1		2,355	267	785	8	4.7	304	823	451	781	500
	Circuit 2		2,355	265	785	8	4.7	303	823	451	781	500
	Circuit 3		2,355	264	785	8	4.7	302	823	451	781	500
RCAW045CA4B	Circuit 1		2,230	234	743	8	4.7	272	781	402	694	500
	Circuit 2		1,990	233	663	6	4.7	261	691	373	649	400
	Circuit 3		2,230	234	743	8	4.7	272	781	402	694	500
	Circuit 4		1,990	233	663	6	4.7	261	691	373	649	400
RCAW050CA4B	Circuit 1		2,355	277	785	8	4.7	314	823	451	781	500
	Circuit 2		2,230	236	743	8	4.7	274	781	402	694	500
	Circuit 3		2,355	277	785	8	4.7	314	823	451	781	500
	Circuit 4		2,230	236	743	8	4.7	274	781	402	694	500

Note:  
 1. Standard conditions:  
 Entering chilled water / Leaving chilled water temperature is 54 / 44°F(12.2 / 6.7°C)  
 Air temperature is 95°F(35°C)  
 2. Symbols:  
 LRA : Locked Rotor Ampere  
 RLA : Rated Load Ampere  
 MCA : Minimum Circuit Ampere  
 MOCP : Maximum Over Current Protection  
 Total RLA : Current when all compressor and fan running  
 Start Current : Starting current of one compressor  
 Max. Current : Largest compressor starting current after all other compressor and motors running

400V / 50Hz

Single point connection

Model	Circuit	Voltage	Compressor			Fan		Total RLA	Max Current	MCA	MOCP	Circuit Breaker
			LRA	RLA	Start Current	No	RLA					
RCAW008CA1B	Circuit 1	400	1,390	150	463	6	4.7	178	492	264	452	300
RCAW010CA1B	Circuit 1		1,580	178	527	6	4.7	206	555	312	538	350
RCAW012CA1B	Circuit 1		2,080	215	693	8	4.7	253	731	365	628	400
RCAW014CA1B	Circuit 1		2,480	261	827	8	4.7	299	864	430	744	500
RCAW014CA2B	Circuit 1		1,285	139	428	4	4.7	314	604	472	820	500
	Circuit 2		1,285	138	428	4	4.7					
RCAW016CA1B	Circuit 1		2,745	299	915	10	4.7	346	962	493	850	500
RCAW016CA2B	Circuit 1		1,390	147	463	6	4.7	339	656	500	862	630
	Circuit 2		1,285	146	428	4	4.7					
RCAW018CA2B	Circuit 1		1,390	176	463	6	4.7	399	687	569	979	630
	Circuit 2		1,390	168	463	6	4.7					
RCAW020CA2B	Circuit 1		2,080	209	693	6	4.7	436	921	668	1,156	700
	Circuit 2		1,580	172	527	6	4.7					
RCAW022CA2B	Circuit 1		2,080	201	693	8	4.7	481	974	721	1,246	800
	Circuit 2		2,080	215	693	6	4.7					
RCAW024CA2B	Circuit 1		2,330	217	777	8	4.7	516	1,076	759	1,313	800
	Circuit 2		2,330	234	777	6	4.7					
RCAW026CA2B	Circuit 1		2,480	253	827	8	4.7	578	1,153	860	1,488	1,000
	Circuit 2		2,480	251	827	8	4.7					
RCAW028CA2B	Circuit 1		2,745	284	915	10	4.7	625	1,257	923	1,594	1,000
	Circuit 2		2,480	258	827	8	4.7					
RCAW030CA2B	Circuit 1		2,745	279	915	10	4.7	657	1,294	977	1,690	1,000
	Circuit 2		2,745	295	915	8	4.7					
RCAW036CA3B	Circuit 1		2,330	217	777	8	4.7	752	1,312	1,124	1,940	1,200
	Circuit 2		2,330	216	777	8	4.7					
	Circuit 3		2,080	216	693	6	4.7					

Note:  
 1. Standard conditions:  
 Entering chilled water / Leaving chilled water temperature is 54 / 44°F(12.2 / 6.7°C)  
 Air temperature is 95°F(35°C)  
 2. Symbols:  
 LRA : Locked Rotor Ampere  
 RLA : Rated Load Ampere  
 MCA : Minimum Circuit Ampere  
 MOCP : Maximum Over Current Protection  
 Total RLA : Current when all compressor and fan running  
 Start Current : Starting current of one compressor  
 Max. Current : Largest compressor starting current after all other compressor and motors running

**400V / 50Hz**

Multi point connection

Model	Circuit	Voltage	Compressor			Fan		Total RLA	Max Current	MCA	MOCP	Circuit Breaker
			LRA	RLA	Start Current	No	RLA					
RCAW008CA1B	Circuit 1	400	1,390	150	463	6	4.7	178	491	264	452	300
RCAW010CA1B	Circuit 1		1,580	177	527	6	4.7	206	555	312	538	350
RCAW012CA1B	Circuit 1		2,080	215	693	8	4.7	252	731	365	628	400
RCAW014CA1B	Circuit 1		2,480	261	827	8	4.7	298	865	430	744	500
RCAW014CA2B	Circuit 1		1,285	139	428	4	4.7	158	447	236	410	250
	Circuit 2		1,285	138	428	4	4.7	157	447	236	410	250
RCAW016CA1B	Circuit 1		2,745	299	915	10	4.7	346	962	493	850	500
RCAW016CA2B	Circuit 1		1,390	146	463	6	4.7	175	491	264	452	300
	Circuit 2		1,285	146	428	4	4.7	165	447	236	410	250
RCAW018CA2B	Circuit 1		1,390	175	463	6	4.7	203	491	288	496	300
	Circuit 2		1,390	168	463	6	4.7	196	491	281	483	300
RCAW020CA2B	Circuit 1		2,080	208	693	6	4.7	236	721	356	618	400
	Circuit 2		1,580	171	527	6	4.7	199	555	312	538	350
RCAW022CA2B	Circuit 1		2,080	200	693	8	4.7	238	731	365	628	400
	Circuit 2		2,080	215	693	6	4.7	243	721	356	618	400
RCAW024CA2B	Circuit 1		2,330	217	777	8	4.7	254	815	384	661	400
	Circuit 2		2,330	234	777	6	4.7	262	805	375	652	400
RCAW026CA2B	Circuit 1		2,480	252	827	8	4.7	290	865	430	744	500
	Circuit 2		2,480	251	827	8	4.7	288	865	430	744	500
RCAW028CA2B	Circuit 1		2,745	284	915	10	4.7	331	962	493	850	500
	Circuit 2		2,480	257	827	8	4.7	295	865	430	744	500
RCAW030CA2B	Circuit 1		2,745	278	915	10	4.7	325	962	493	850	500
	Circuit 2		2,745	294	915	8	4.7	332	953	484	840	500
RCAW036CA3B	Circuit 1		2,330	217	777	8	4.7	255	815	384	661	400
	Circuit 2		2,330	216	777	8	4.7	253	815	384	661	400
	Circuit 3		2,080	216	693	6	4.7	244	721	356	618	400
RCAW040CA3B	Circuit 1		2,480	253	827	8	4.7	291	865	430	744	500
	Circuit 2		2,480	252	827	8	4.7	289	865	430	744	500
	Circuit 3		2,480	251	827	8	4.7	289	865	430	744	500
RCAW045CA4B	Circuit 1		2,330	222	777	8	4.7	260	815	384	661	400
	Circuit 2		2,080	222	693	6	4.7	250	721	356	618	400
	Circuit 3		2,330	222	777	8	4.7	260	815	384	661	400
	Circuit 4		2,080	222	693	6	4.7	250	721	356	618	400
RCAW050CA4B	Circuit 1		2,480	263	827	8	4.7	300	865	430	744	500
	Circuit 2		2,330	225	777	8	4.7	262	815	384	661	400
	Circuit 3		2,480	263	827	8	4.7	300	865	430	744	500
	Circuit 4		2,330	225	777	8	4.7	262	815	384	661	400

Note:  
 1. Standard conditions:  
 Entering chilled water / Leaving chilled water temperature is 54 / 44°F(12.2 / 6.7°C)  
 Air temperature is 95°F(35°C)  
 2. Symbols :  
 LRA : Locked Rotor Ampere  
 RLA : Rated Load Ampere  
 MCA : Minimum Circuit Ampere  
 MOCP : Maximum Over Current Protection  
 Total RLA : Current when all compressor and fan running  
 Start Current : Starting current of one compressor  
 Max. Current : Largest compressor starting current after all other compressor and motors running

**415V / 50Hz**

Single point connection

Model	Circuit	Voltage	Compressor			Fan		Total RLA	Max Current	MCA	MOCP	Circuit Breaker
			LRA	RLA	Start Current	No	RLA					
RCAW008CA1B	Circuit 1	415	1,250	145	417	6	4.7	173	445	255	437	300
RCAW010CA1B	Circuit 1		1,405	172	468	6	4.7	200	497	301	520	350
RCAW012CA1B	Circuit 1		1,850	208	617	8	4.7	245	654	354	606	400
RCAW014CA1B	Circuit 1		2,590	252	863	8	4.7	289	901	416	718	500
RCAW014CA2B	Circuit 1		1,160	134	387	4	4.7	304	557	456	792	500
	Circuit 2		1,160	133	387	4	4.7					
RCAW016CA1B	Circuit 1		2,865	289	955	10	4.7	336	1002	477	821	500
RCAW016CA2B	Circuit 1		1,250	142	417	6	4.7	329	604	483	833	500
	Circuit 2		1,160	141	387	4	4.7					
RCAW018CA2B	Circuit 1		1,250	169	417	6	4.7	387	635	551	946	630
	Circuit 2		1,250	162	417	6	4.7					
RCAW020CA2B	Circuit 1		1,850	201	617	6	4.7	422	838	645	1,117	700
	Circuit 2		1,405	165	468	6	4.7					
RCAW022CA2B	Circuit 1		1,850	193	617	8	4.7	466	889	698	1,203	700
	Circuit 2		1,850	208	617	6	4.7					
RCAW024CA2B	Circuit 1		2,045	209	682	8	4.7	500	973	733	1,268	800
	Circuit 2		2,045,	226	682	6	4.7					
RCAW026CA2B	Circuit 1		2,590	243	863	8	4.7	560	1,180	832	1,436	1,000
	Circuit 2		2,590	242	863	8	4.7					
RCAW028CA2B	Circuit 1		2,865	274	955	10	4.7	606	1,287	893	1,539	1,000
	Circuit 2		2,590	248	863	8	4.7					
RCAW030CA2B	Circuit 1		2,865	269	955	10	4.7	636	1,323	944	1,632	1,000
	Circuit 2		2,865	284	955	8	4.7					
RCAW036CA3B	Circuit 1		2,045	210	682	8	4.7	728	1,201	1,086	1,875	1,200
	Circuit 2		2,045	209	682	8	4.7					
	Circuit 3		1,850	208	617	6	4.7					

Note:  
 1. Standard conditions:  
 Entering chilled water / Leaving chilled water temperature is 54 / 44°F(12.2 / 6.7°C)  
 Air temperature is 95°F(35°C)  
 2. Symbols :  
 LRA : Locked Rotor Ampere  
 RLA : Rated Load Ampere  
 MCA : Minimum Circuit Ampere  
 MOCP : Maximum Over Current Protection  
 Total RLA : Current when all compressor and fan running  
 Start Current : Starting current of one compressor  
 Max. Current : Largest compressor starting current after all other compressor and motors running



## 415V / 50Hz

Multi point connection

Model	Circuit	Voltage	Compressor			Fan		Total RLA	Max Current	MCA	MOCP	Circuit Breaker
			LRA	RLA	Start Current	No	RLA					
RCAW008CA1B	Circuit 1	415	1,250	144	417	6	4.7	172	445	255	437	300
RCAW010CA1B	Circuit 1		1,405	171	468	6	4.7	199	496	301	520	350
RCAW012CA1B	Circuit 1		1,850	207	617	8	4.7	245	655	354	606	400
RCAW014CA1B	Circuit 1		2,590	251	863	8	4.7	289	901	416	718	500
RCAW014CA2B	Circuit 1		1,160	134	387	4	4.7	153	406	228	396	250
	Circuit 2		1,160	133	387	4	4.7	152	406	228	396	250
RCAW016CA1B	Circuit 1		2,865	288	955	10	4.7	335	1,002	477	821	500
RCAW016CA2B	Circuit 1		1,250	141	417	6	4.7	169	445	255	437	300
	Circuit 2		1,160	140	387	4	4.7	159	406	228	396	250
RCAW018CA2B	Circuit 1		1,250	169	417	6	4.7	197	445	279	479	300
	Circuit 2		1,250	162	417	6	4.7	190	445	272	467	300
RCAW020CA2B	Circuit 1		1,850	201	617	6	4.7	229	645	344	597	350
	Circuit 2		1,405	165	468	6	4.7	193	496	301	520	350
RCAW022CA2B	Circuit 1		1,850	193	617	8	4.7	230	655	354	606	400
	Circuit 2		1,850	207	617	6	4.7	235	645	344	597	350
RCAW024CA2B	Circuit 1		2,045	209	682	8	4.7	247	720	371	639	400
	Circuit 2		2,045	225	682	6	4.7	253	710	362	629	400
RCAW026CA2B	Circuit 1		2,590	243	863	8	4.7	281	901	416	718	500
	Circuit 2		2,590	242	863	8	4.7	279	901	416	718	500
RCAW028CA2B	Circuit 1		2,865	273	955	10	4.7	320	1,002	477	821	500
	Circuit 2		2,590	248	863	8	4.7	285	901	416	718	500
RCAW030CA2B	Circuit 1		2,865	268	955	10	4.7	315	1,002	477	821	500
	Circuit 2		2,865	284	955	8	4.7	321	993	467	811	500
RCAW036CA3B	Circuit 1		2,045	209	682	8	4.7	247	720	371	639	400
	Circuit 2		2,045	208	682	8	4.7	246	720	371	639	400
	Circuit 3		1,850	208	617	6	4.7	236	645	344	597	350
RCAW040CA3B	Circuit 1		2,590	244	863	8	4.7	282	901	416	718	500
	Circuit 2		2,590	243	863	8	4.7	280	901	416	718	500
	Circuit 3		2,590	242	863	8	4.7	280	901	416	718	500
RCAW045CA4B	Circuit 1		2,045	214	682	8	4.7	252	720	371	639	400
	Circuit 2		1,850	214	617	6	4.7	242	645	344	597	350
	Circuit 3		2,045	214	682	8	4.7	252	720	371	639	400
	Circuit 4		1,850	214	617	6	4.7	242	645	344	597	350
RCAW050CA4B	Circuit 1		2,590	253	863	8	4.7	291	901	416	718	500
	Circuit 2		2,045	217	682	8	4.7	254	720	371	639	400
	Circuit 3		2,590	253	863	8	4.7	291	901	416	718	500
	Circuit 4		2,045	217	682	8	4.7	254	720	371	639	400

Note:  
 1. Standard conditions:  
 Entering chilled water / Leaving chilled water temperature is 54 / 44°F (12.2 / 6.7°C)  
 Air temperature is 95°F (35°C)  
 2. Symbols:  
 LRA : Locked Rotor Ampere  
 RLA : Rated Load Ampere  
 MCA : Minimum Circuit Ampere  
 MOCP : Maximum Over Current Protection  
 Total RLA : Current when all compressor and fan running  
 Start Current : Starting current of one compressor  
 Max. Current : Largest compressor starting current after all other compressor and motors running

## 440V / 60Hz

Single point connection

Model	Circuit	Voltage	Compressor			Fan		Total RLA	Max Current	MCA	MOCP	Circuit Breaker
			LRA	RLA	Start Current	No	RLA					
RCAW008CA1B	Circuit 1	440	875	126	292	6	4.4	152	318	229	391	250
RCAW010CA1B	Circuit 1		1,330	166	443	6	4.4	192	470	293	506	300
RCAW012CA1B	Circuit 1		1,330	187	443	8	4.4	222	479	310	530	350
RCAW014CA1B	Circuit 1		1,990	218	663	8	4.4	253	699	372	642	400
RCAW014CA2B	Circuit 1		1,035	119	345	4	4.4	271	498	400	692	500
	Circuit 2		1,035	118	345	4	4.4					
RCAW016CA1B	Circuit 1		2,355	257	785	10	4.4	301	829	444	765	500
RCAW016CA2B	Circuit 1		1,220	136	407	6	4.4	309	580	475	820	500
	Circuit 2		875	130	292	4	4.4					
RCAW018CA2B	Circuit 1		1,220	141	407	6	4.4	332	599	510	876	630
	Circuit 2		1,220	140	407	6	4.4					
RCAW020CA2B	Circuit 1		1,330	172	443	6	4.4	379	651	566	977	630
	Circuit 2		1,330	156	443	6	4.4					
RCAW022CA2B	Circuit 1		1,330	172	443	8	4.4	409	681	603	1,036	630
	Circuit 2		1,330	176	443	6	4.4					
RCAW024CA2B	Circuit 1		1,510	181	503	8	4.4	436	759	655	1,131	700
	Circuit 2		1,510	195	503	6	4.4					
RCAW026CA2B	Circuit 1		1,990	213	663	8	4.4	494	945	744	1,284	800
	Circuit 2		1,990	212	663	8	4.4					
RCAW028CA2B	Circuit 1		2,230	230	743	10	4.4	524	1,039	785	1,349	800
	Circuit 2		1,990	217	663	8	4.4					
RCAW030CA2B	Circuit 1		2,355	252	785	10	4.4	570	1,104	848	1,464	1,000
	Circuit 2		2,230	241	743	8	4.4					
RCAW036CA3B	Circuit 1		1,510	183	503	8	4.4	656	977	987	1,701	1,000
	Circuit 2		1,510	182	503	8	4.4					
	Circuit 3		1,510	196	503	6	4.4					

Note:  
 1. Standard conditions:  
 Entering chilled water / Leaving chilled water temperature is 54 / 44°F (12.2 / 6.7°C)  
 Air temperature is 95°F (35°C)  
 2. Symbols:  
 LRA : Locked Rotor Ampere  
 RLA : Rated Load Ampere  
 MCA : Minimum Circuit Ampere  
 MOCP : Maximum Over Current Protection  
 Total RLA : Current when all compressor and fan running  
 Start Current : Starting current of one compressor  
 Max. Current : Largest compressor starting current after all other compressor and motors running

440V / 60Hz

Multi point connection

Model	Circuit	Voltage	Compressor			Fan		Total RLA	Max Current	MCA	MOCP	Circuit Breaker
			LRA	RLA	Start Current	No	RLA					
RCAW008CA1B	Circuit 1	440	875	125	292	6	4.4	151	318	229	391	250
RCAW010CA1B	Circuit 1		1,330	165	443	6	4.4	191	469	293	506	300
RCAW012CA1B	Circuit 1		1,330	187	443	8	4.4	222	478	310	530	350
RCAW014CA1B	Circuit 1		1,990	217	663	8	4.4	252	698	372	642	400
RCAW014CA2B	Circuit 1		1,035	118	345	4	4.4	136	363	200	346	225
	Circuit 2		1,035	118	345	4	4.4	135	363	200	346	225
RCAW016CA1B	Circuit 1		2,355	256	785	10	4.4	300	829	444	765	500
RCAW016CA2B	Circuit 1		1,220	135	407	6	4.4	162	433	255	438	300
	Circuit 2		875	129	292	4	4.4	147	310	220	382	225
RCAW018CA2B	Circuit 1		1,220	140	407	6	4.4	167	433	255	438	300
	Circuit 2		1,220	139	407	6	4.4	166	433	255	438	300
RCAW020CA2B	Circuit 1		1,330	171	443	6	4.4	197	469	293	506	300
	Circuit 2		1,330	155	443	6	4.4	182	469	273	471	300
RCAW022CA2B	Circuit 1		1,330	171	443	8	4.4	206	478	310	530	350
	Circuit 2		1,330	176	443	6	4.4	202	469	293	506	300
RCAW024CA2B	Circuit 1		1,510	180	503	8	4.4	215	538	332	570	350
	Circuit 2		1,510	194	503	6	4.4	221	529	323	561	350
RCAW026CA2B	Circuit 1		1,990	212	663	8	4.4	248	698	372	642	400
	Circuit 2		1,990	211	663	8	4.4	246	698	372	642	400
RCAW028CA2B	Circuit 1		2,230	229	743	10	4.4	273	787	413	707	500
	Circuit 2		1,990	216	663	8	4.4	251	698	372	642	400
RCAW030CA2B	Circuit 1		2,355	251	785	10	4.4	295	829	444	765	500
	Circuit 2		2,230	240	743	8	4.4	275	778	404	699	500
RCAW036CA3B	Circuit 1		1,510	182	503	8	4.4	218	538	332	570	350
	Circuit 2		1,510	181	503	8	4.4	217	538	332	570	350
	Circuit 3		1,510	196	503	6	4.4	222	529	323	561	350
RCAW040CA3B	Circuit 1		1,990	215	663	8	4.4	250	698	372	642	400
	Circuit 2		1,990	214	663	8	4.4	249	698	372	642	400
	Circuit 3		1,990	213	663	8	4.4	249	698	372	642	400
RCAW045CA4B	Circuit 1		1,510	183	503	8	4.4	218	538	332	570	350
	Circuit 2		1,330	179	443	6	4.4	205	469	301	521	350
	Circuit 3		1,510	183	503	8	4.4	218	538	332	570	350
	Circuit 4		1,330	179	443	6	4.4	205	469	301	521	350
RCAW050CA4B	Circuit 1		1,990	218	663	8	4.4	254	698	372	642	400
	Circuit 2		1,510	185	503	8	4.4	220	538	332	570	350
	Circuit 3		1,990	218	663	8	4.4	254	698	372	642	400
	Circuit 4		1,510	185	503	8	4.4	220	538	332	570	350

Note:  
 1. Standard conditions:  
 Entering chilled water / Leaving chilled water temperature is 54 / 44°F(12.2 / 6.7°C)  
 Air temperature is 95°F(35°C)  
 2. Symbols :  
 LRA : Locked Rotor Ampere  
 RLA : Rated Load Ampere  
 MCA : Minimum Circuit Ampere  
 MOCP : Maximum Over Current Protection  
 Total RLA : Current when all compressor and fan running  
 Start Current : Starting current of one compressor  
 Max. Current : Largest compressor starting current after all other compressor and motors running

460V / 60Hz

Single point connection

Model	Circuit	Voltage	Compressor			Fan		Total RLA	Max Current	MCA	MOCP	Circuit Breaker
			LRA	RLA	Start Current	No	RLA					
RCAW008CA1B	Circuit 1	460	915	120	305	6	4.2	145	330	219	374	225
RCAW010CA1B	Circuit 1		1,390	158	463	6	4.2	184	489	280	484	300
RCAW012CA1B	Circuit 1		1,390	179	463	8	4.2	213	497	296	507	300
RCAW014CA1B	Circuit 1		2,080	208	693	8	4.2	242	727	356	614	400
RCAW014CA2B	Circuit 1		1,080	114	360	4	4.2	259	506	382	662	400
	Circuit 2		1,080	113	360	4	4.2					
RCAW016CA1B	Circuit 1		2,480	246	827	10	4.2	288	869	425	731	500
RCAW016CA2B	Circuit 1		1,285	130	428	6	4.2	295	594	454	784	500
	Circuit 2		915	124	305	4	4.2					
RCAW018CA2B	Circuit 1		1,285	135	428	6	4.2	318	612	488	838	500
	Circuit 2		1,285	134	428	6	4.2					
RCAW020CA2B	Circuit 1		1,390	164	463	6	4.2	363	662	542	935	630
	Circuit 2		1,390	149	463	6	4.2					
RCAW022CA2B	Circuit 1		1,390	164	463	8	4.2	391	690	576	991	630
	Circuit 2		1,390	169	463	6	4.2					
RCAW024CA2B	Circuit 1		1,580	173	527	8	4.2	417	771	627	1,082	630
	Circuit 2		1,580	186	527	6	4.2					
RCAW026CA2B	Circuit 1		2,080	204	693	8	4.2	472	963	712	1,228	800
	Circuit 2		2,080	203	693	8	4.2					
RCAW028CA2B	Circuit 1		2,330	220	777	10	4.2	502	1059	751	1,291	800
	Circuit 2		2,080	207	693	8	4.2					
RCAW030CA2B	Circuit 1		2,480	241	827	10	4.2	545	1132	811	1,399	1,000
	Circuit 2		2,330	230	777	8	4.2					
RCAW036CA3B	Circuit 1		1,580	175	527	8	4.2	628	980	945	1,627	1,000
	Circuit 2		1,580	174	527	8	4.2					
	Circuit 3		1,580	188	527	6	4.2					

Note:  
 1. Standard conditions:  
 Entering chilled water / Leaving chilled water temperature is 54 / 44°F(12.2 / 6.7°C)  
 Air temperature is 95°F(35°C)  
 2. Symbols :  
 LRA : Locked Rotor Ampere  
 RLA : Rated Load Ampere  
 MCA : Minimum Circuit Ampere  
 MOCP : Maximum Over Current Protection  
 Total RLA : Current when all compressor and fan running  
 Start Current : Starting current of one compressor  
 Max. Current : Largest compressor starting current after all other compressor and motors running

### 460V / 60Hz

Multi point connection

Model	Voltage	Compressor			Fan		Total RLA	Max Current	MCA	MOCP	Circuit Breaker
		LRA	RLA	Start Current	No	RLA					
RCAW008CA1B	Circuit 1	915	120	305	6	4.2	145	330	219	374	225
RCAW010CA1B	Circuit 1	1,390	158	463	6	4.2	183	488	280	484	300
RCAW012CA1B	Circuit 1	1,390	179	463	8	4.2	212	497	296	507	300
RCAW014CA1B	Circuit 1	2,080	208	693	8	4.2	241	727	356	614	400
RCAW014CA2B	Circuit 1	1,080	113	360	4	4.2	130	377	191	331	200
	Circuit 2	1,080	113	360	4	4.2	129	377	191	331	200
RCAW016CA1B	Circuit 1	2,480	245	827	10	4.2	287	869	425	731	500
RCAW016CA2B	Circuit 1	1,285	130	428	6	4.2	155	453	244	419	250
	Circuit 2	915	124	305	4	4.2	140	322	210	365	225
RCAW018CA2B	Circuit 1	1,285	134	428	6	4.2	159	453	244	419	250
	Circuit 2	1,285	133	428	6	4.2	159	453	244	419	250
RCAW020CA2B	Circuit 1	1,390	164	463	6	4.2	189	488	280	484	300
	Circuit 2	1,390	149	463	6	4.2	174	488	262	451	300
RCAW022CA2B	Circuit 1	1,390	164	463	8	4.2	197	497	296	507	300
	Circuit 2	1,390	168	463	6	4.2	193	488	280	484	300
RCAW024CA2B	Circuit 1	1,580	172	527	8	4.2	206	561	318	545	350
	Circuit 2	1,580	186	527	6	4.2	211	552	309	537	350
RCAW026CA2B	Circuit 1	2,080	203	693	8	4.2	237	727	356	614	400
	Circuit 2	2,080	202	693	8	4.2	236	727	356	614	400
RCAW028CA2B	Circuit 1	2,330	219	777	10	4.2	261	819	395	677	400
	Circuit 2	2,080	207	693	8	4.2	240	727	356	614	400
RCAW030CA2B	Circuit 1	2,480	240	827	10	4.2	282	869	425	731	500
	Circuit 2	2,330	230	777	8	4.2	263	811	386	668	400
RCAW036CA3B	Circuit 1	1,580	174	527	8	4.2	208	561	318	545	350
	Circuit 2	1,580	174	527	8	4.2	207	561	318	545	350
	Circuit 3	1,580	187	527	6	4.2	212	552	309	537	350
RCAW040CA3B	Circuit 1	2,080	206	693	8	4.2	239	727	356	614	400
	Circuit 2	2,080	205	693	8	4.2	238	727	356	614	400
	Circuit 3	2,080	204	693	8	4.2	238	727	356	614	400
RCAW045CA4B	Circuit 1	1,580	175	527	8	4.2	208	561	318	545	350
	Circuit 2	1,390	171	463	6	4.2	196	488	288	498	300
	Circuit 3	1,580	175	527	8	4.2	208	561	318	545	350
	Circuit 4	1,390	171	463	6	4.2	196	488	288	498	300
RCAW050CA4B	Circuit 1	2,080	209	693	8	4.2	243	727	356	614	400
	Circuit 2	1,580	177	527	8	4.2	210	561	318	545	350
	Circuit 3	2,080	209	693	8	4.2	243	727	356	614	400
	Circuit 4	1,580	177	527	8	4.2	210	561	318	545	350

Note:  
 1. Standard conditions:  
 Entering chilled water / Leaving chilled water temperature is 54 / 44°F(12.2 / 6.7°C)  
 Air temperature is 95°F(35°C)  
 2. Symbols :

LRA : Locked Rotor Ampere  
 RLA : Rated Load Ampere  
 MCA : Minimum Circuit Ampere  
 MOCP : Maximum Over Current Protection  
 Total RLA : Current when all compressor and fan running  
 Start Current : Starting current of one compressor  
 Max. Current : Largest compressor starting current after all other compressor and motors running

### 480V / 60Hz

Single point connection

Model	Voltage	Compressor			Fan		Total RLA	Max Current	MCA	MOCP	Circuit Breaker
		LRA	RLA	Start Current	No	RLA					
RCAW008CA1B	Circuit 1	850	115	283	6	4.1	140	308	210	359	225
RCAW010CA1B	Circuit 1	1,250	152	417	6	4.1	176	441	269	464	300
RCAW012CA1B	Circuit 1	1,250	172	417	8	4.1	205	449	285	486	300
RCAW014CA1B	Circuit 1	1,850	200	617	8	4.1	232	649	342	589	350
RCAW014CA2B	Circuit 1	940	109	313	4	4.1	249	454	366	634	400
	Circuit 2	940	108	313	4	4.1					
RCAW016CA1B	Circuit 1	2,590	236	863	10	4.1	277	904	408	702	500
RCAW016CA2B	Circuit 1	1,160	125	387	6	4.1	284	546	436	753	500
	Circuit 2	850	119	283	4	4.1					
RCAW018CA2B	Circuit 1	1,160	129	387	6	4.1	306	564	468	804	500
	Circuit 2	1,160	128	387	6	4.1					
RCAW020CA2B	Circuit 1	1,250	157	417	6	4.1	348	608	520	896	630
	Circuit 2	1,250	143	417	6	4.1					
RCAW022CA2B	Circuit 1	1,250	157	417	8	4.1	375	635	554	950	630
	Circuit 2	1,250	162	417	6	4.1					
RCAW024CA2B	Circuit 1	1,405	166	468	8	4.1	401	704	602	1,038	630
	Circuit 2	1,405	179	468	6	4.1					
RCAW026CA2B	Circuit 1	1,850	195	617	8	4.1	454	876	684	1,178	700
	Circuit 2	1,850	194	617	8	4.1					
RCAW028CA2B	Circuit 1	2,045	211	682	10	4.1	482	954	721	1,238	800
	Circuit 2	1,850	199	617	8	4.1					
RCAW030CA2B	Circuit 1	2,590	231	863	10	4.1	524	1,157	779	1,343	800
	Circuit 2	2,045	221	682	8	4.1					
RCAW036CA3B	Circuit 1	1,405	168	468	8	4.1	603	904	907	1,561	1,000
	Circuit 2	1,405	167	468	8	4.1					
	Circuit 3	1,405	180	468	6	4.1					

Note:  
 1. Standard conditions:  
 Entering chilled water / Leaving chilled water temperature is 54 / 44°F(12.2 / 6.7°C)  
 Air temperature is 95°F(35°C)  
 2. Symbols :

LRA : Locked Rotor Ampere  
 RLA : Rated Load Ampere  
 MCA : Minimum Circuit Ampere  
 MOCP : Maximum Over Current Protection  
 Total RLA : Current when all compressor and fan running  
 Start Current : Starting current of one compressor  
 Max. Current : Largest compressor starting current after all other compressor and motors running

### 480V / 60Hz

Multi point connection

Model	Circuit	Voltage	Compressor			Fan		Total RLA	Max Current	MCA	MOCP	Circuit Breaker
			LRA	RLA	Start Current	No	RLA					
RCAW008CA1B	Circuit 1	480	850	115	283	6	4.1	139	308	210	359	225
RCAW010CA1B	Circuit 1		1250	151	417	6	4.1	176	442	269	464	300
RCAW012CA1B	Circuit 1		1250	171	417	8	4.1	204	450	285	486	300
RCAW014CA1B	Circuit 1		1850	199	617	8	4.1	232	650	342	589	350
RCAW014CA2B	Circuit 1		940	109	313	4	4.1	125	329	183	317	200
	Circuit 2		940	108	313	4	4.1	124	329	183	317	200
RCAW016CA1B	Circuit 1		2,590	235	863	10	4.1	276	904	408	702	500
RCAW016CA2B	Circuit 1		1,160	124	387	6	4.1	149	412	234	402	250
	Circuit 2		850	118	283	4	4.1	135	299	202	351	225
RCAW018CA2B	Circuit 1		1,160	128	387	6	4.1	153	412	234	402	250
	Circuit 2		1,160	128	387	6	4.1	152	412	234	402	250
RCAW020CA2B	Circuit 1		1,250	157	417	6	4.1	181	442	269	464	300
	Circuit 2		1,250	142	417	6	4.1	167	442	251	432	300
RCAW022CA2B	Circuit 1		1,250	157	417	8	4.1	190	450	285	486	300
	Circuit 2		1,250	161	417	6	4.1	186	442	269	464	300
RCAW024CA2B	Circuit 1		1,405	165	468	8	4.1	198	501	305	523	350
	Circuit 2		1,405	178	468	6	4.1	203	493	297	515	300
RCAW026CA2B	Circuit 1		1,850	195	617	8	4.1	228	650	342	589	350
	Circuit 2		1,850	194	617	8	4.1	226	650	342	589	350
RCAW028CA2B	Circuit 1		2,045	210	682	10	4.1	251	723	379	649	400
	Circuit 2		1,850	198	617	8	4.1	231	650	342	589	350
RCAW030CA2B	Circuit 1		2,590	230	863	10	4.1	271	904	408	702	500
	Circuit 2		2,045	220	682	8	4.1	253	715	371	641	400
RCAW036CA3B	Circuit 1		1,405	167	468	8	4.1	200	501	305	523	350
	Circuit 2		1,405	166	468	8	4.1	199	501	305	523	350
	Circuit 3		1,405	179	468	6	4.1	204	493	297	515	300
RCAW040CA3B	Circuit 1		1,850	197	617	8	4.1	230	650	342	589	350
	Circuit 2		1,850	196	617	8	4.1	229	650	342	589	350
	Circuit 3		1,850	196	617	8	4.1	228	650	342	589	350
RCAW045CA4B	Circuit 1		1,405	167	468	8	4.1	200	501	305	523	350
	Circuit 2		1,250	164	417	6	4.1	189	442	276	478	300
	Circuit 3		1,405	167	468	8	4.1	200	501	305	523	350
	Circuit 4		1,250	164	417	6	4.1	189	442	276	478	300
RCAW050CA4B	Circuit 1		1,850	200	617	8	4.1	233	650	342	589	350
	Circuit 2		1,405	169	468	8	4.1	202	501	305	523	350
	Circuit 3		1,850	200	617	8	4.1	233	650	342	589	350
	Circuit 4		1,405	169	468	8	4.1	202	501	305	523	350

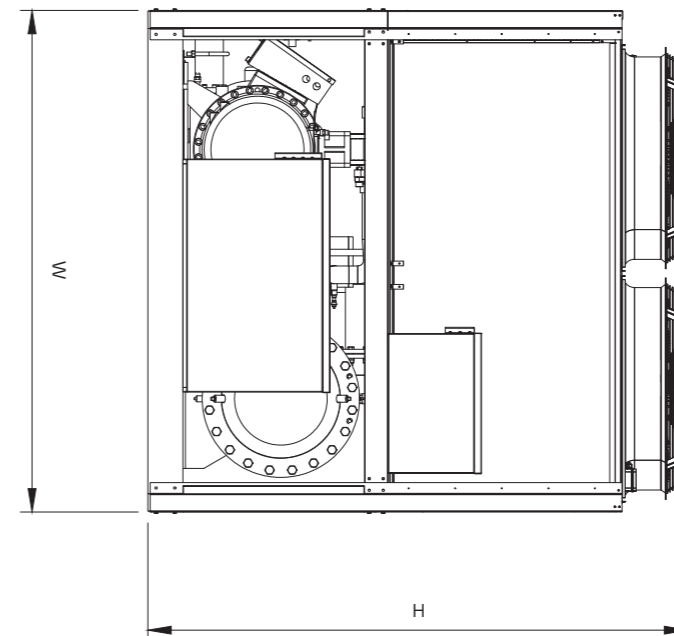
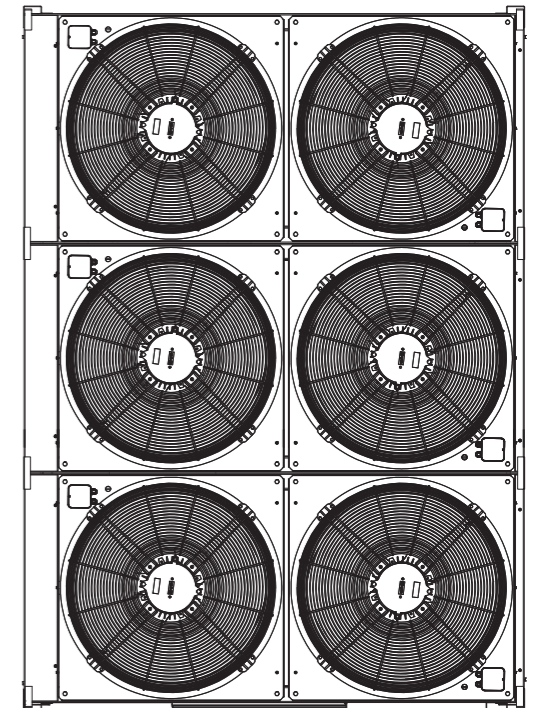
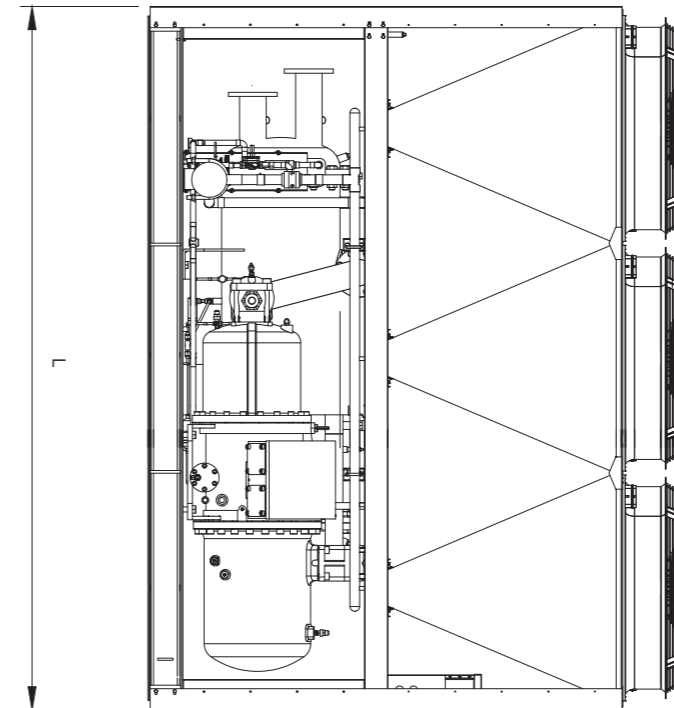
Note:

- Standard conditions:  
Entering chilled water / Leaving chilled water temperature is 54 / 44°F (12.2 / 6.7°C)  
Air temperature is 95°F (35°C)

2. Symbols:

- LRA : Locked Rotor Ampere
- RLA : Rated Load Ampere
- MCA : Minimum Circuit Ampere
- MOCP : Maximum Over Current Protection
- Total RLA : Current when all compressor and fan running
- Start Current : Starting current of one compressor
- Max. Current : Largest compressor starting current after all other compressor and motors running

### 1 Comp.

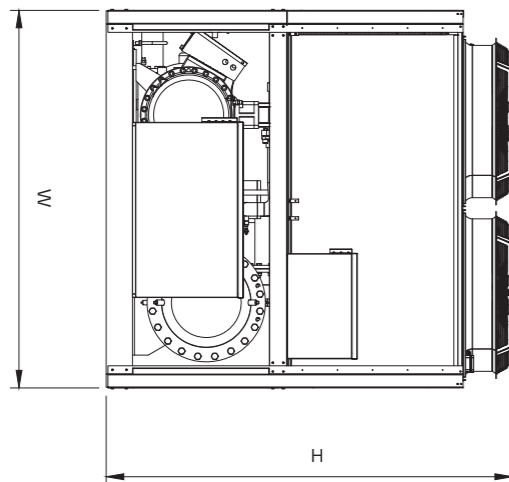
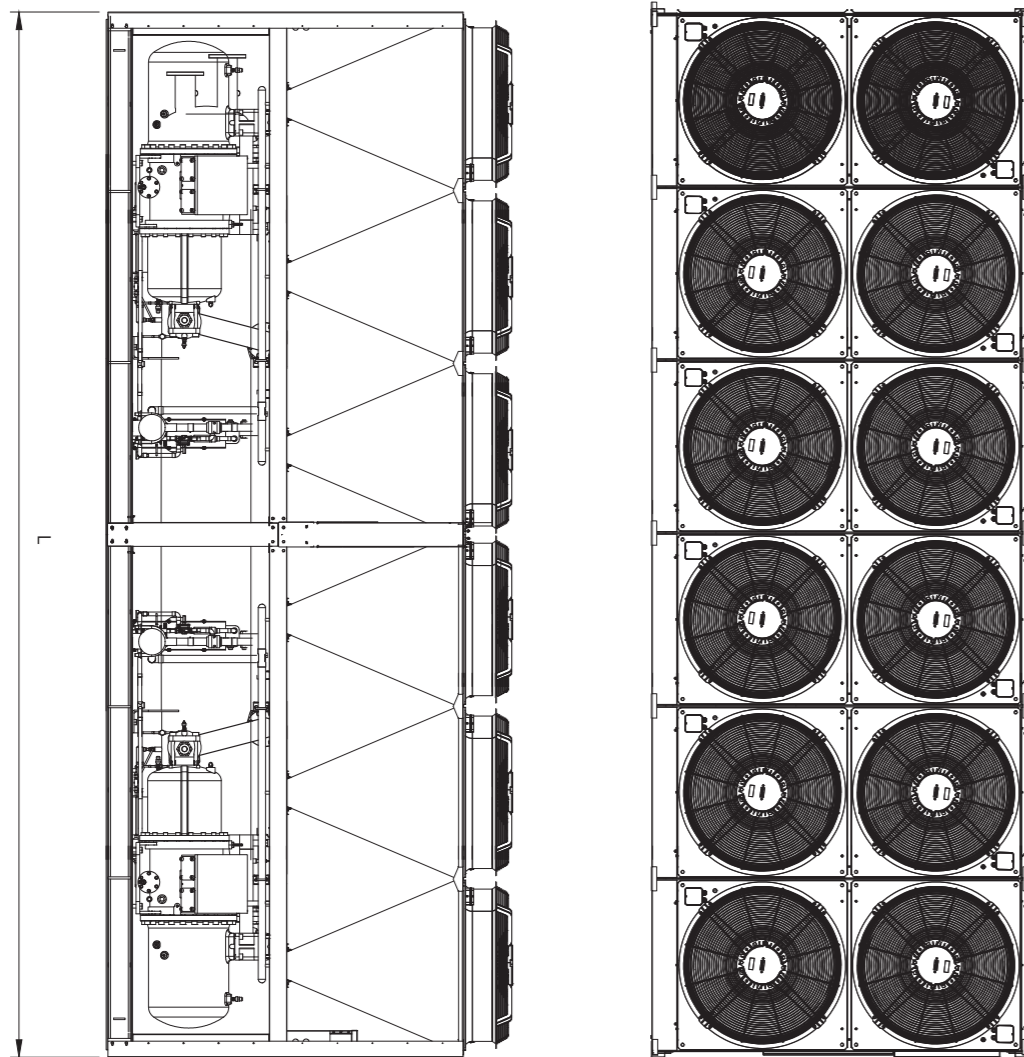


Unit: mm

Model name	L	W	H
RCAW008CA1B	4,008	2,154	2,317
RCAW010CA1B	4,008	2,154	2,317
RCAW012CA1B	4,008	2,154	2,317
RCAW014CA1B	4,008	2,154	2,317
RCAW016CA1B	4,008	2,154	2,317

# Outline dimension

2 Comp.

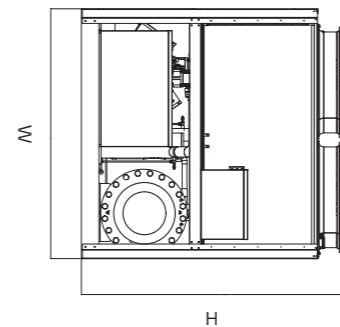
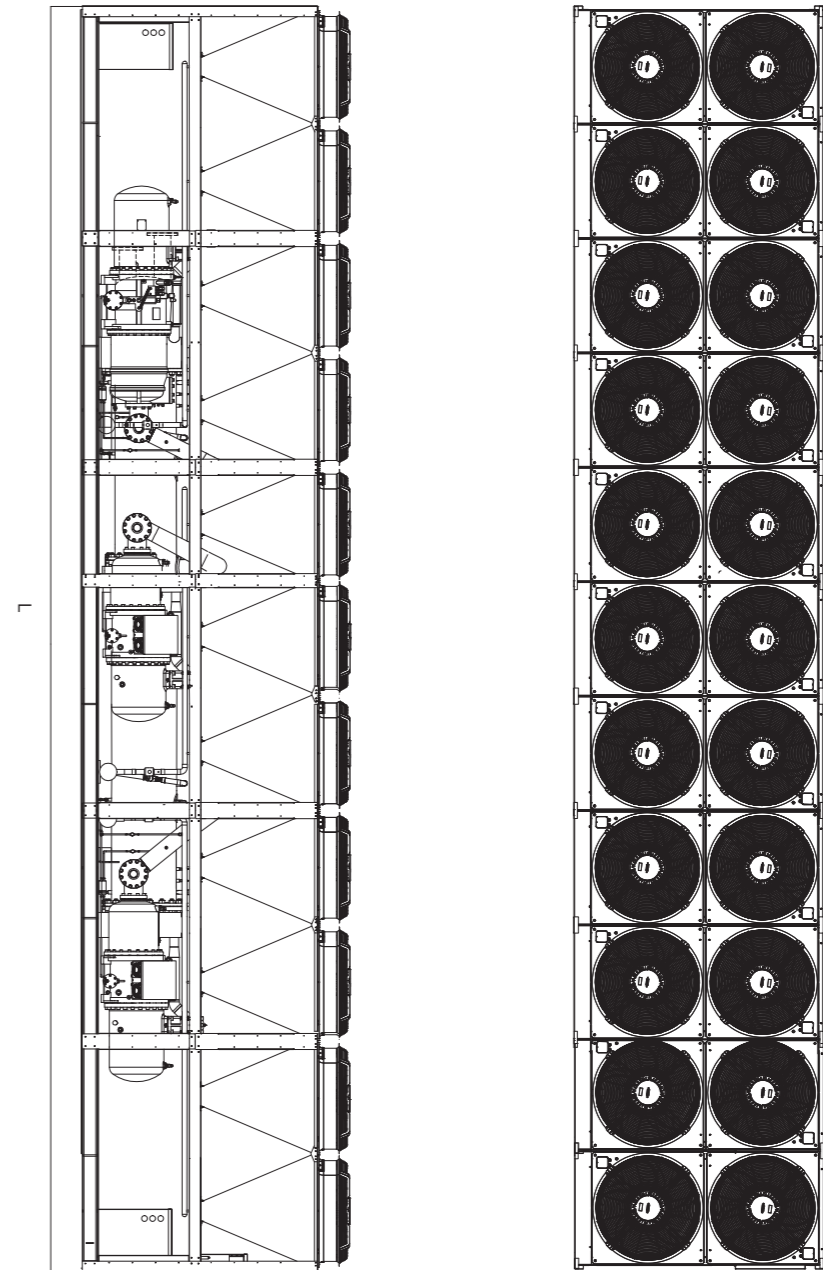


Unit: mm

Model name	L	W	H
RCAW014CA2B	4,008	2,154	2,317
RCAW016CA2B	4,994	2,154	2,317
RCAW020CA1B	5,980	2,154	2,317
RCAW022CA1B	6,966	2,154	2,317
RCAW024CA1B	6,966	2,154	2,317
RCAW026CA1B	7,952	2,154	2,317
RCAW028CA1B	8,938	2,154	2,317
RCAW030CA1B	8,938	2,154	2,317

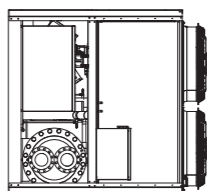
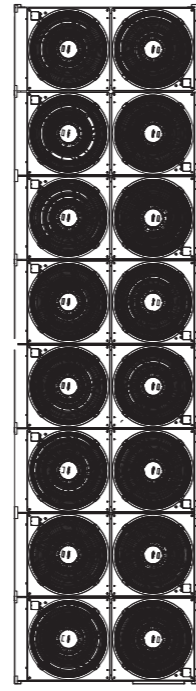
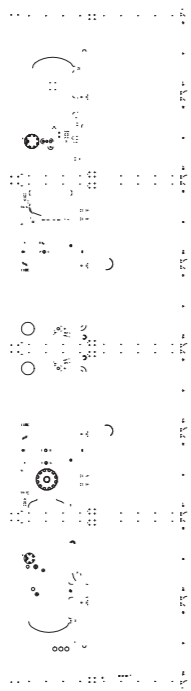
# Outline dimension

3 Comp.



Unit: mm

Model name	L	W	H
RCAW036CA3B	10,910	2,154	2,317
RCAW040CA3B	11,896	2,154	2,317



02

Model name	W	H	Unit: mm
02	13,932	2,154	2,317
02	15,904	2,154	2,317

L1

L1

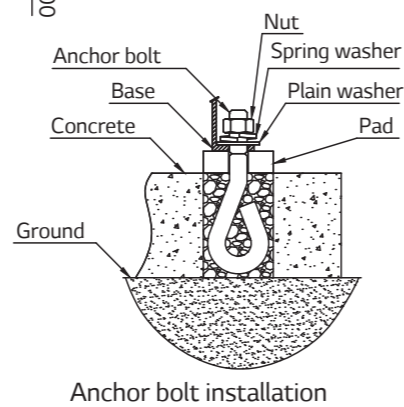
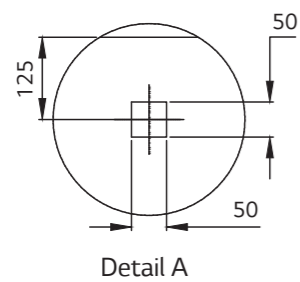
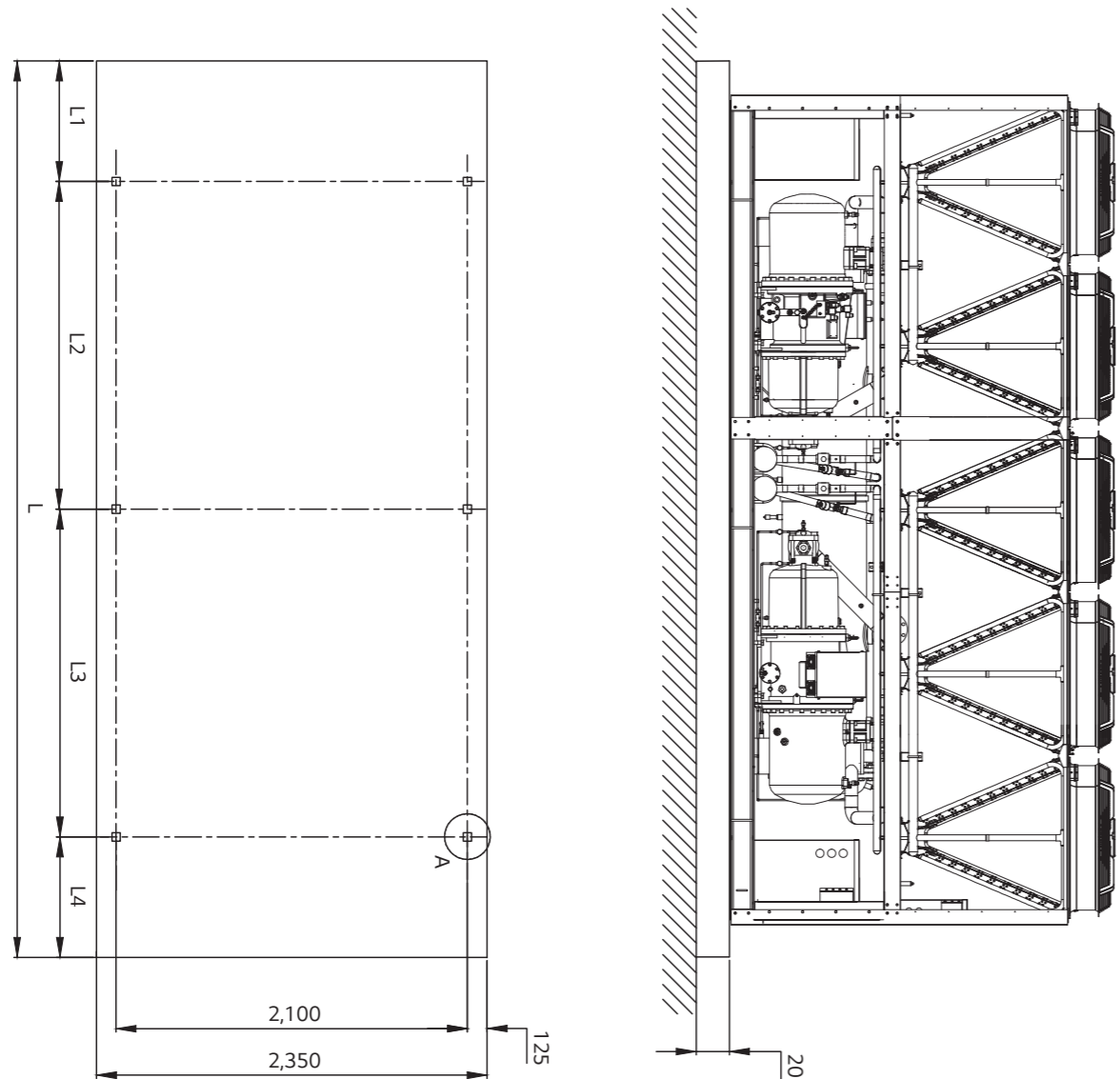
02

02

02

02

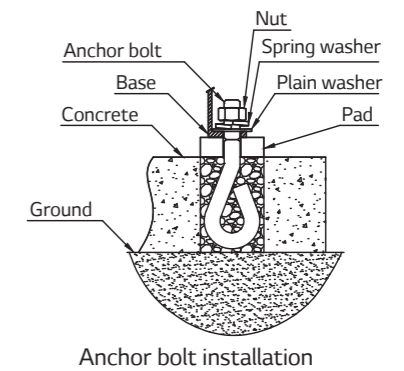
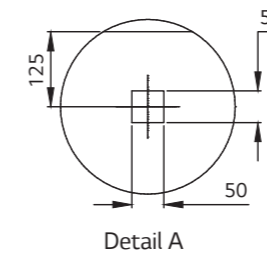
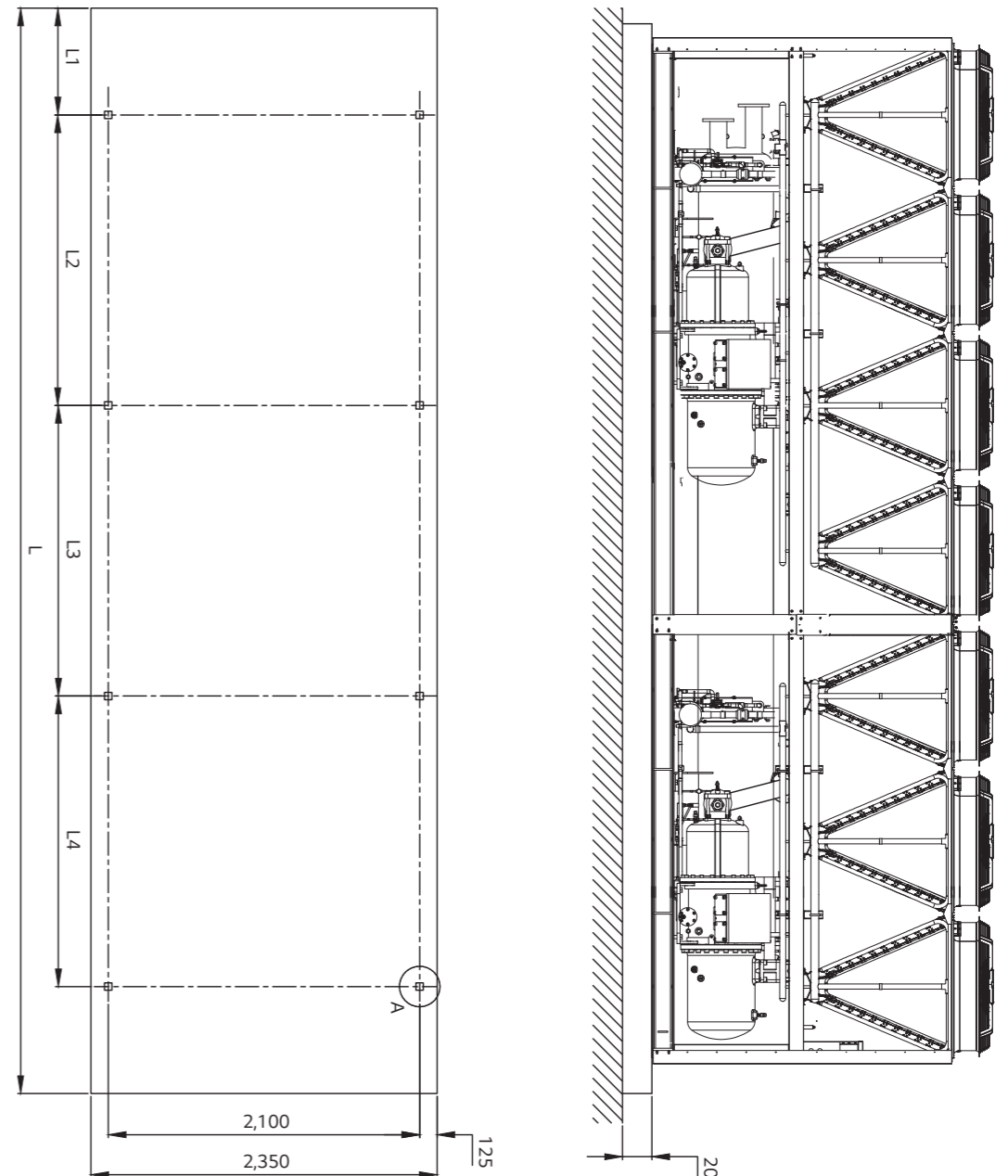
160, 180, 200 RT



Unit: mm

Model Name	L	L1	L2	L3
RCAW016CA1B	5,394	725	1,972	1,972
RCAW016CA2B	5,394	725	1,972	1,972
RCAW018CA2B	6,368	725	2,947	1,972
RCAW020CA2B	6,368	725	2,947	1,972

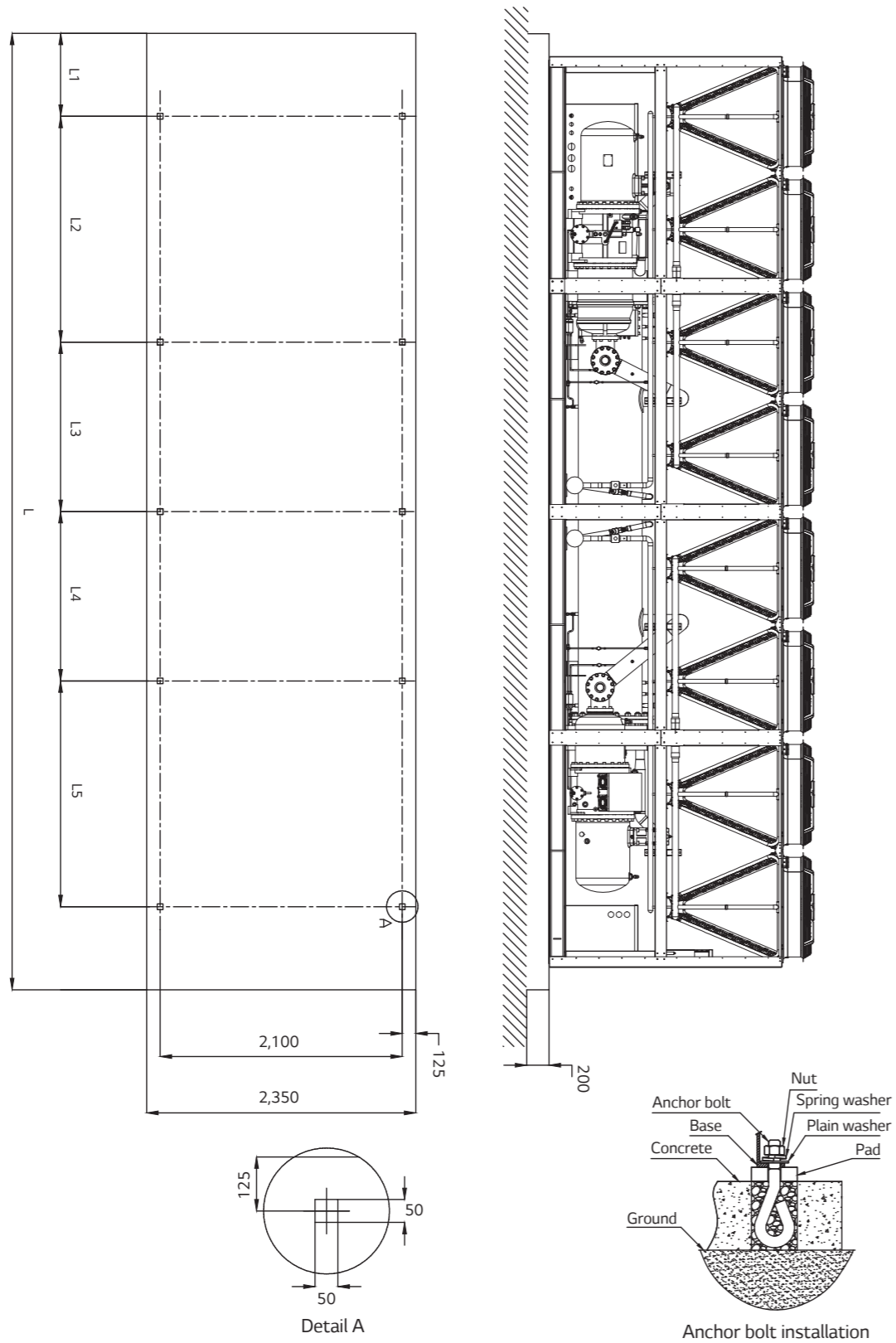
220, 240 RT



Unit: mm

Model Name	L	L1	L2	L3	L4
RCAW022CA2B	7,366	725	1,972	1,972	1,972
RACW024CA2B	7,366	725	1,972	1,972	1,972

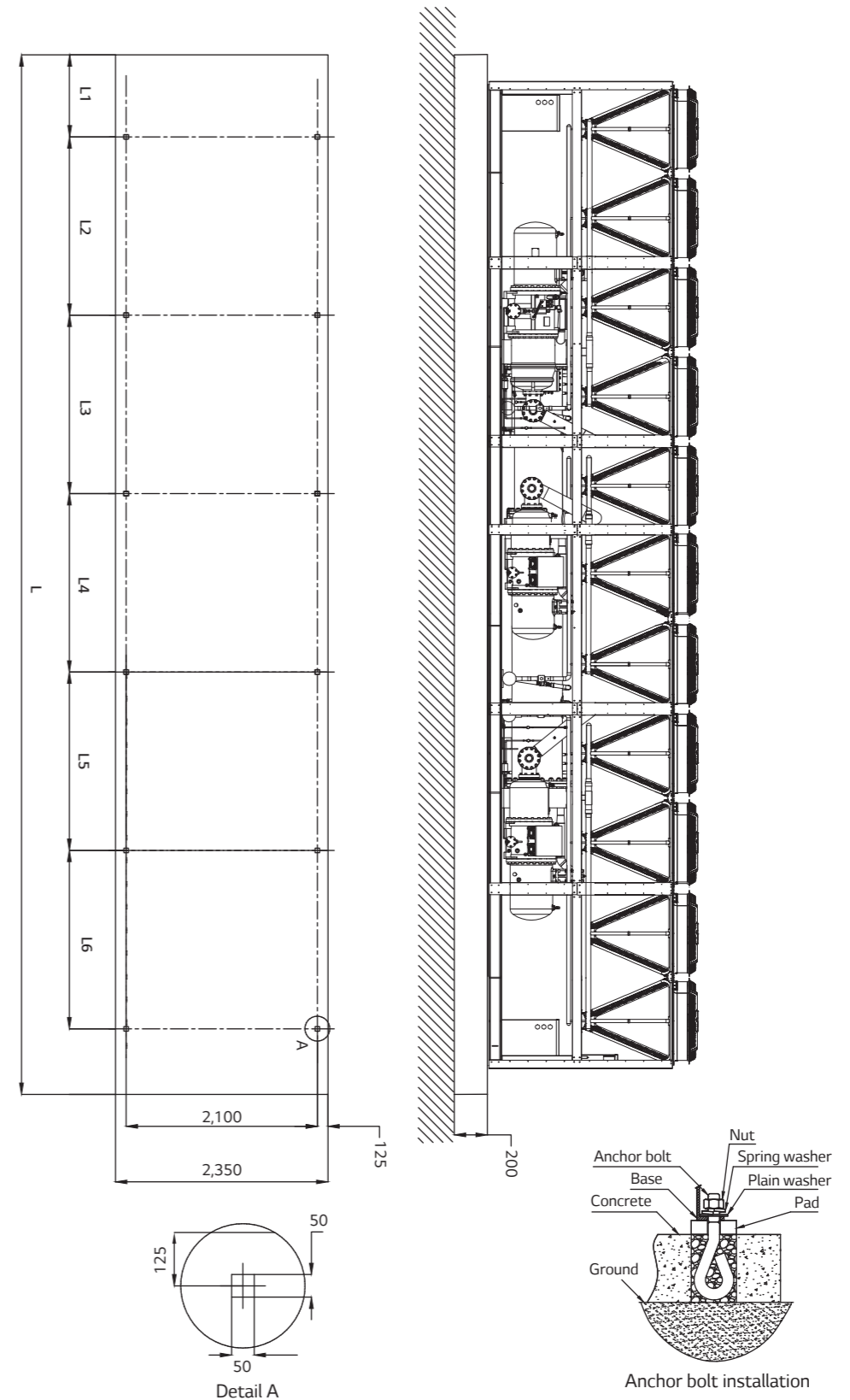
260, 280, 300 RT



Unit: mm

Model Name	L	L1	L2	L3	L4	L5
RCAW026CA2B	8,352	725	1,972	1,479	1,479	1,972
RCAW028CA2B	9,338	725	1,972	1,972	1,972	1,972
RCAW030CA2B	9,338	725	1,972	1,972	1,972	1,972

360, 400 RT

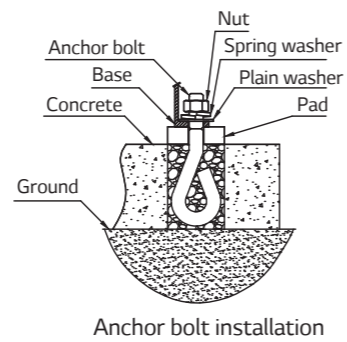
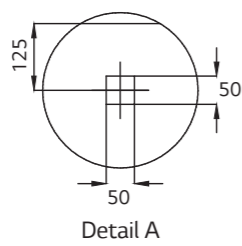
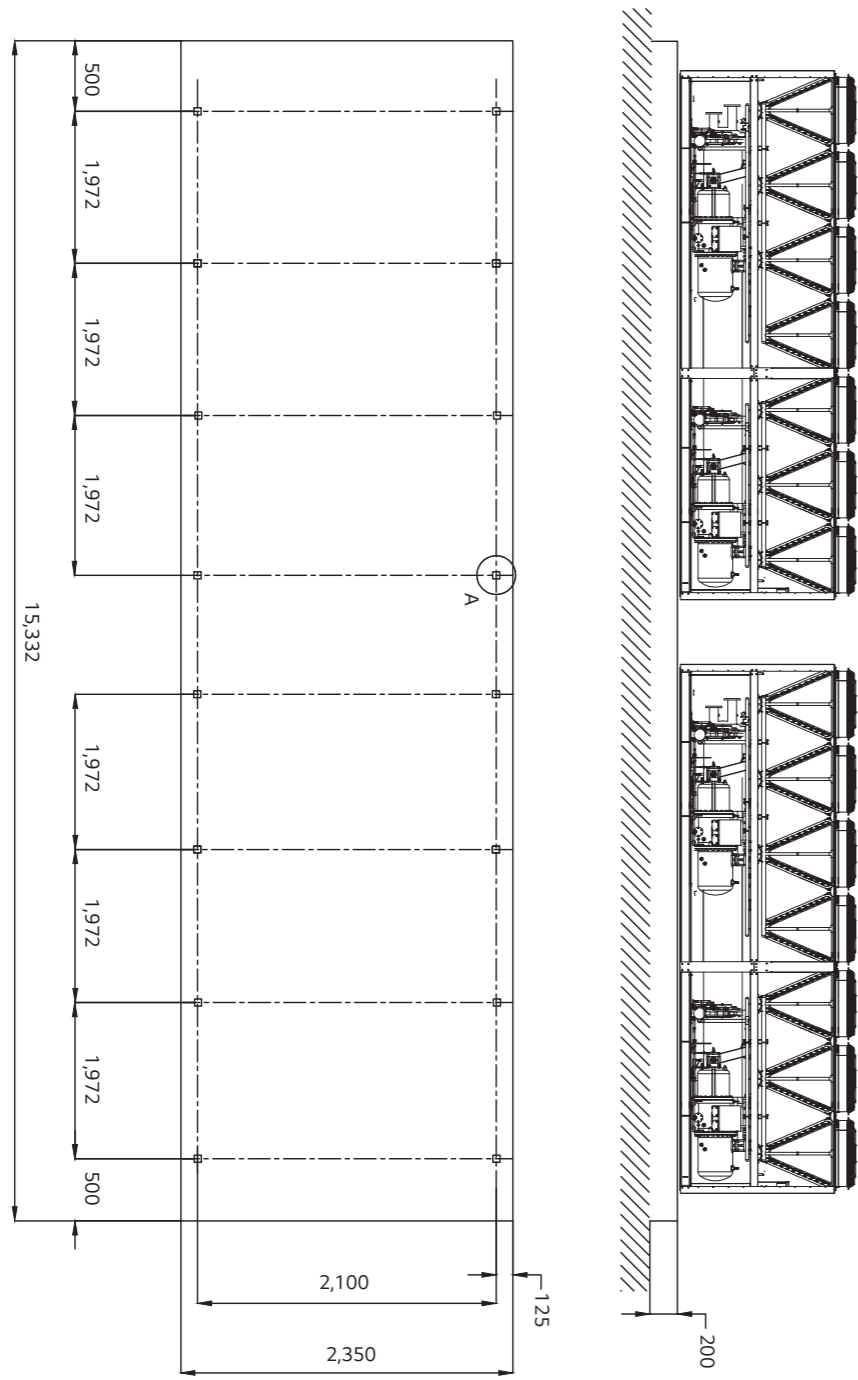


Unit: mm

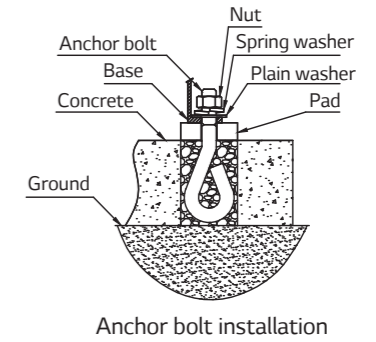
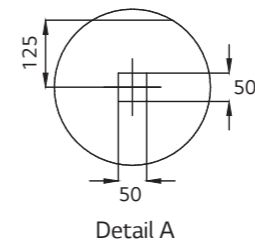
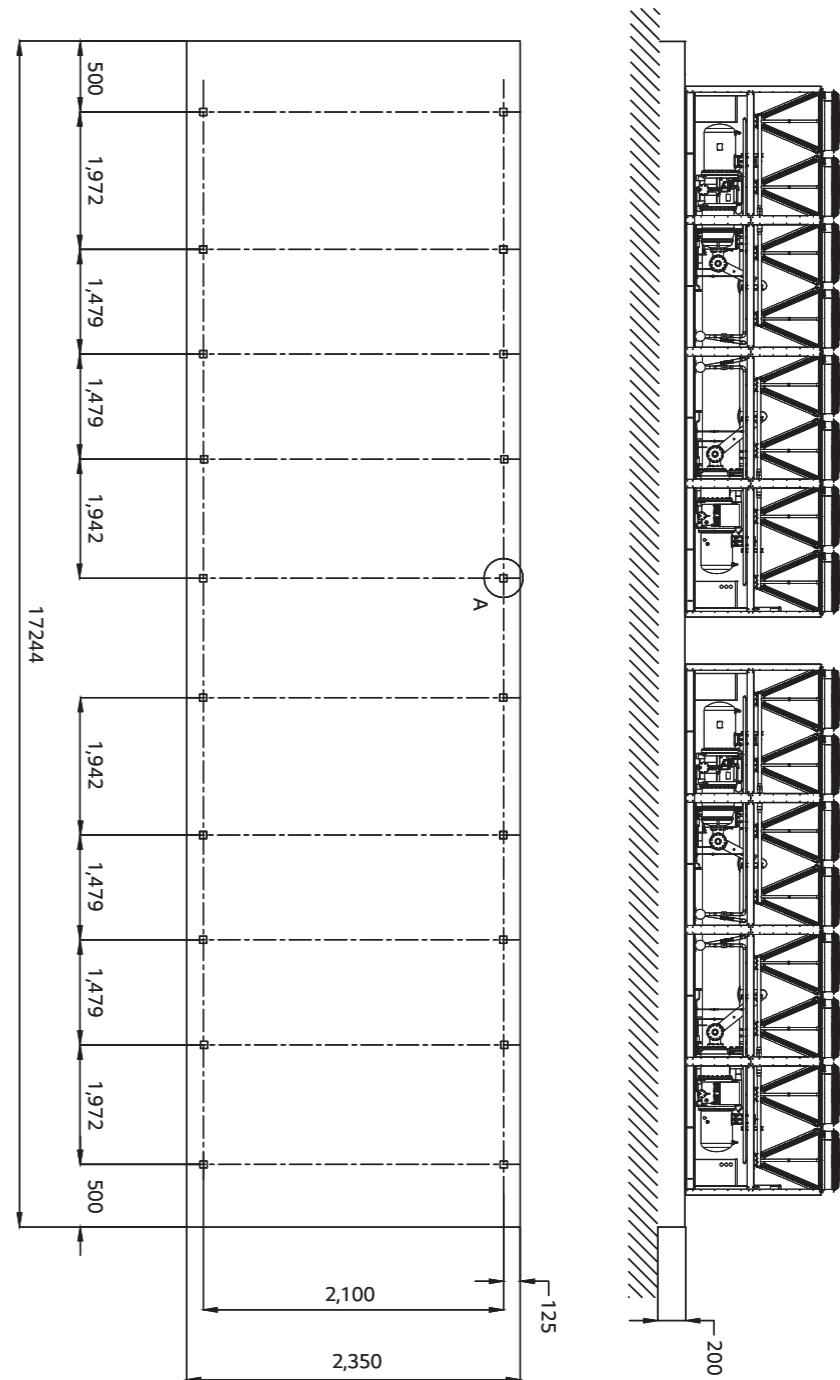
Model Name	L	L1	L2	L3	L4	L5	L6
RCAW036CA3B	11,310	725	1,972	1,972	1,972	1,972	1,972
RCAW040CA3B	11,803	725	1,972	1,972	2,465	1,972	1,972



## 450 RT

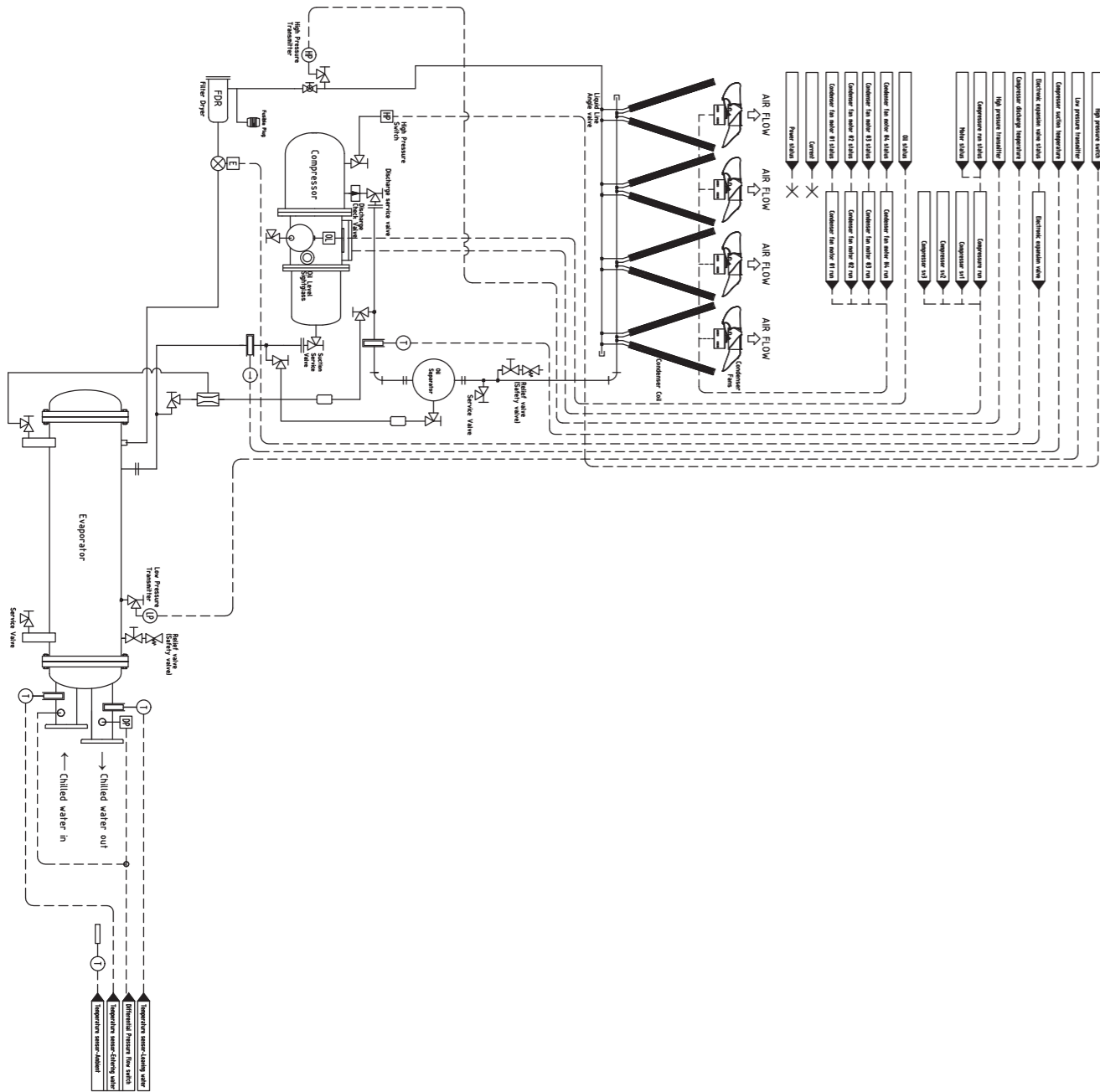


## 500 RT



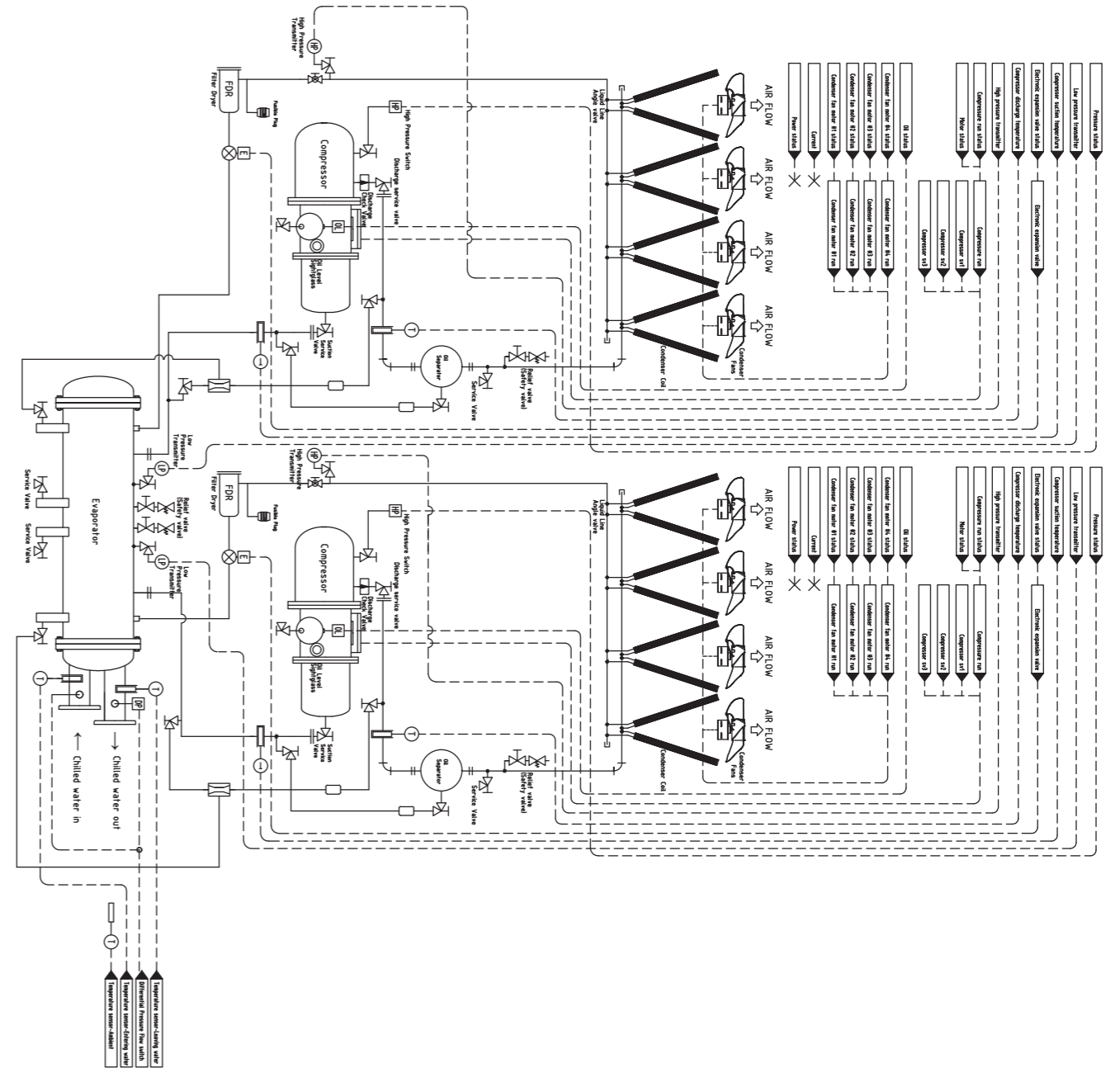
## 1 Comp.

Symbol	Description	Symbol	Description	Symbol	Description	Symbol	Description
	Solenoid valve		Filter dryer		Ejector		Oil level switch
	Electric expansion valve		Sight glass		Reducer		Flow switch
	Angle valve		Check valve		High pressure switch		Pressure sensor
	Ball valve		Tee		Low pressure switch		Temperature sensor
	Safety valve		Flange Connection		Differential pressure switch		Filter



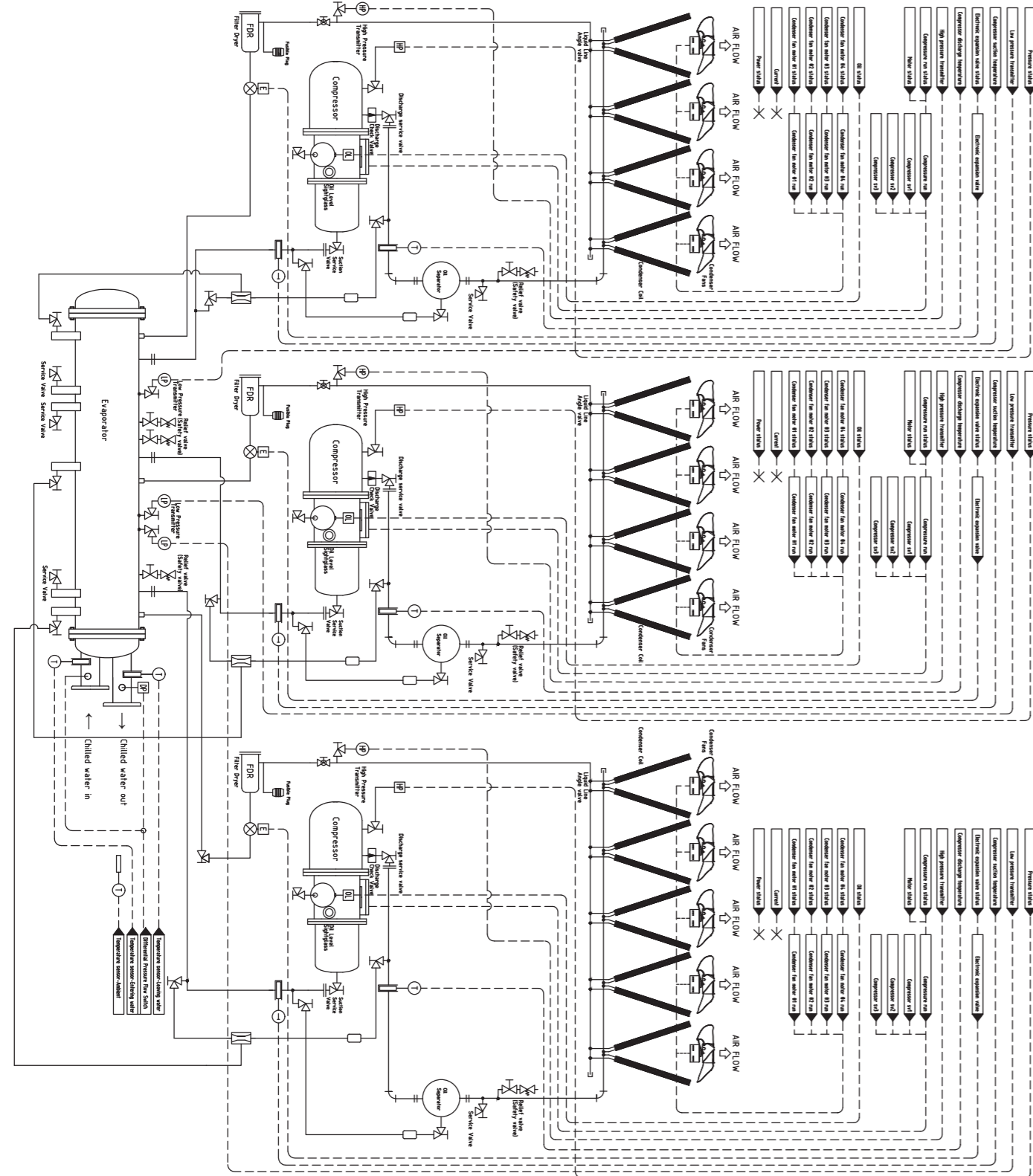
## 2 Comp.

Symbol	Description	Symbol	Description	Symbol	Description	Symbol	Description
	Solenoid valve		Filter dryer		Ejector		Oil level switch
	Electric expansion valve		Sight glass		Reducer		Flow switch
	Angle valve		Check valve		High pressure switch		Pressure sensor
	Ball valve		Tee		Low pressure switch		Temperature sensor
	Safety valve		Flange Connection		Differential pressure switch		Filter



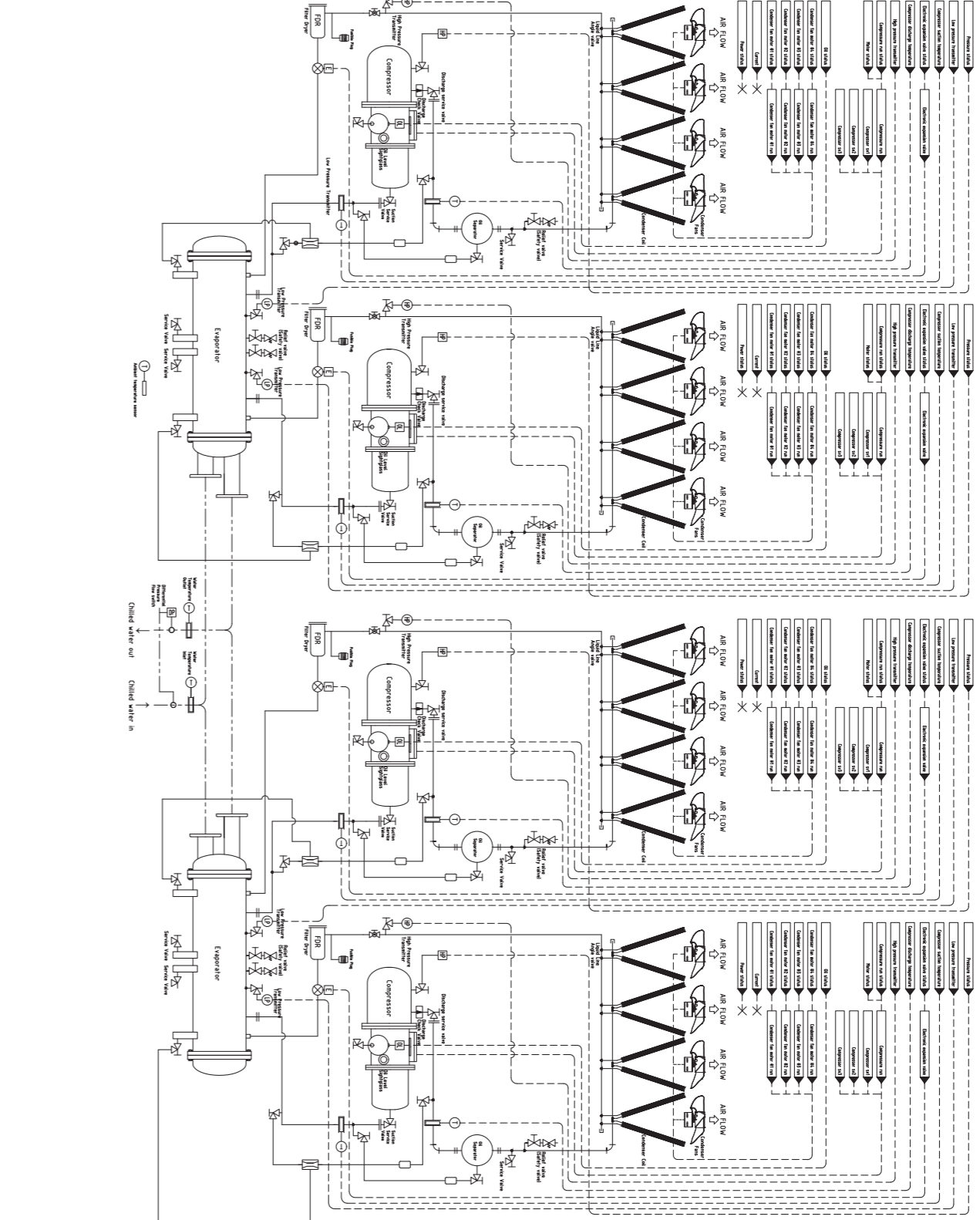
### 3 Comp.

Symbol	Description	Symbol	Description	Symbol	Description	Symbol	Description
	Solenoid valve		Filter dryer		Ejector		Oil level switch
	Electric expansion valve		Sight glass		Reducer		Flow switch
	Angle valve		Check valve		High pressure switch		Pressure sensor
	Ball valve		Tee		Low pressure switch		Temperature sensor
	Safety valve		Flange Connection		Differential pressure switch		Filter

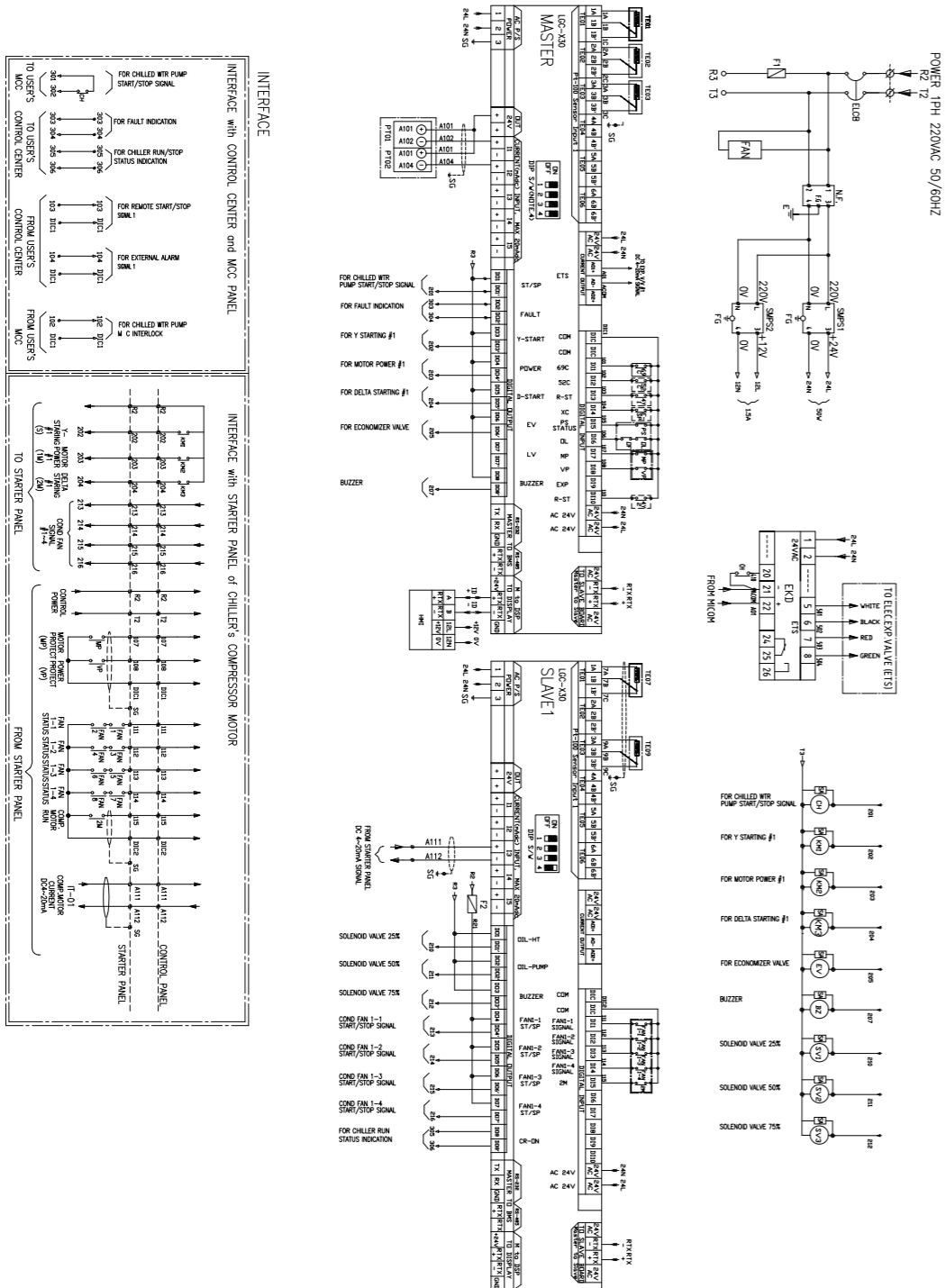


### 4 Comp.

Symbol	Description	Symbol	Description	Symbol	Description	Symbol	Description
	Solenoid valve		Filter dryer		Ejector		Oil level switch
	Electric expansion valve		Sight glass		Reducer		Flow switch
	Angle valve		Check valve		High pressure switch		Pressure sensor
	Ball valve		Tee		Low pressure switch		Temperature sensor
	Safety valve		Flange Connection		Differential pressure switch		Filter



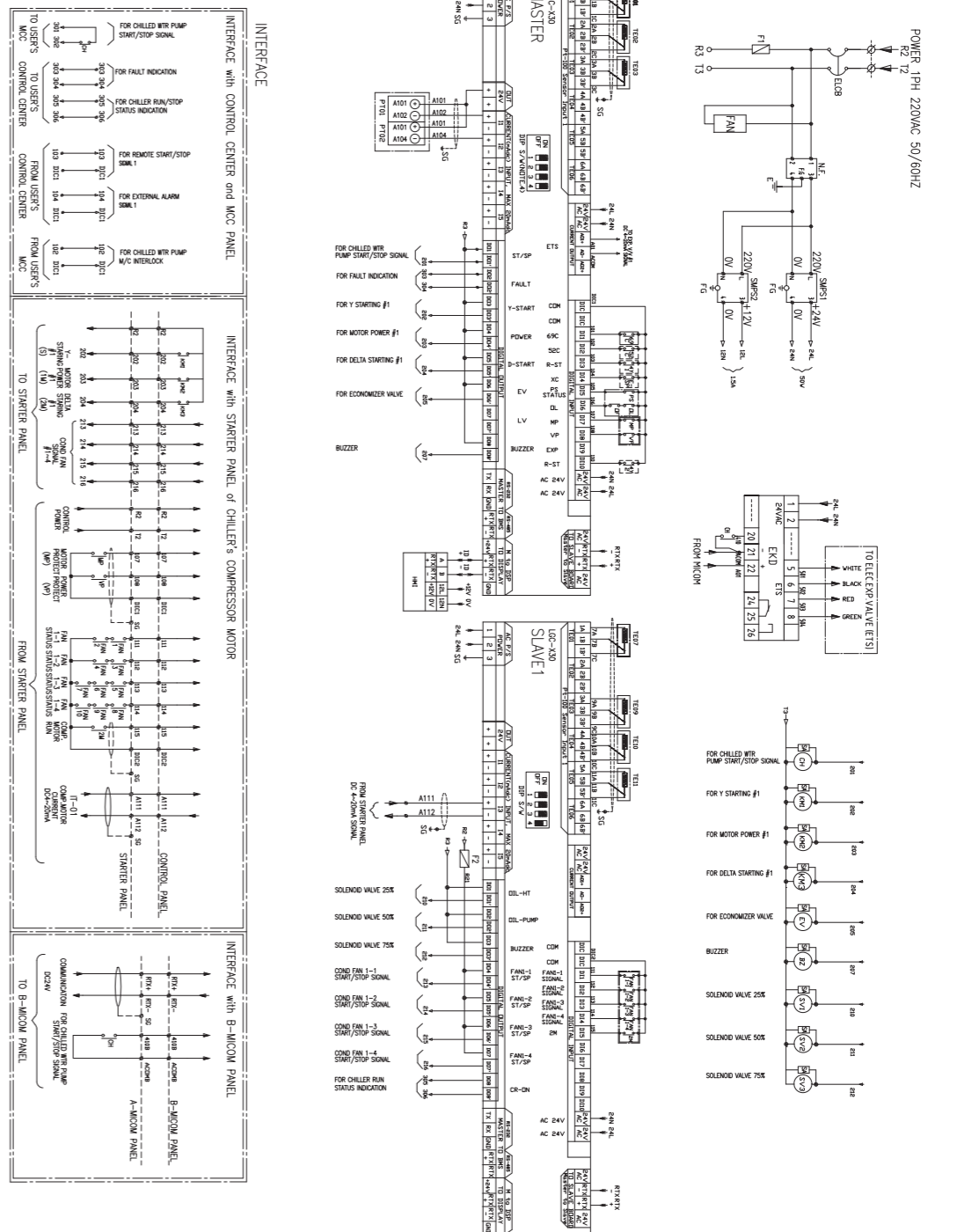
80-160 RT



SYMBOL	DESCRIPTION	REMARKS
ASC	AIR CONTACT	SHIPPED BY DISCONNECTED W/ RAMP
BAC	FLOW SW	CONTROL WATER ASSEMBLY W/ RAMP
FT-1/2	FAULT RUN/STOP SIGNAL	SHIPPED BY USER
FM	FLUID MOTOR	FROM WATER PUMP MOTOR RUN SIGNAL
AL	ALCOCONTACT	FROM WATER PUMP MOTOR RUN SIGNAL
DL	DRY LEVEL SWITCH	
FL	FAN FLW SWITCH	
AP	AIR RELAY CONTACT	FROM WATER PUMP MOTOR PROJECT
AV	AIR RELAY CONTACT	FROM WATER PUMP MOTOR PROJECT
EV	EXTRUSION VALVE	
PS	PRESS SW/SH SW/SH	
ELOS	EARTH LEAKAGE CIRCUIT BREAKER	2POLARS, 2WVE, 10A
BT	Buzzer	
FL-1/2	FLAN-1/2	220V/2A
FL-3/4	FLAN-3/4	220V/2A
SM-S1/2	POWER SUPPLY	KZ 220V/50/60HZ
SM-S2	POWER SUPPLY	KZ 220V/50/60HZ
TE01	COLD WTR INLET TEMP. SENSOR	PT100Ohm
TE02	COLD WTR OUTLET TEMP. SENSOR	PT100Ohm
TE03	IND. WTR TEMP. SENSOR	PT100Ohm
TE04	IND. WTR TEMP. SENSOR	PT100Ohm
TE05	COMP. OUTLET TEMP. SENSOR	PT100Ohm
TE06	COMP. INLET TEMP. SENSOR	PT100Ohm
PT02	COMP. INLET PRESS. TRANSDUCER	Range: 1.5-20kg/cm <sup>2</sup> (0.1 - 2.9bar)
PT03	COMP. INLET PRESS. TRANSDUCER	Range: 1.5-20kg/cm <sup>2</sup> (0.1 - 2.9bar)
EVS	EXTRUSION VALVE	
CN	CIRCUIT BREAKER	
CM	HUMAN MACHINE INTERFACE	CMM PLUMP
ACSM-1		ACSM-1

- NOTE**
1. THESE PARTS SHOULD BE SUPPLIED BY BUYERS.
  2. THESE PARTS ARE LOCATED ON CHILLER BODY.
  3. INTERFACE WITH USER'S SYSTEM or STARTER PANEL
  4. IF DP-SWITCH NO.3 IS ON, THERE IS WATER COOLED SCREW CHILLER. IF DP-SWITCH NO.3 IS OFF, THERE IS AIR COOLED SCREW CHILLER.

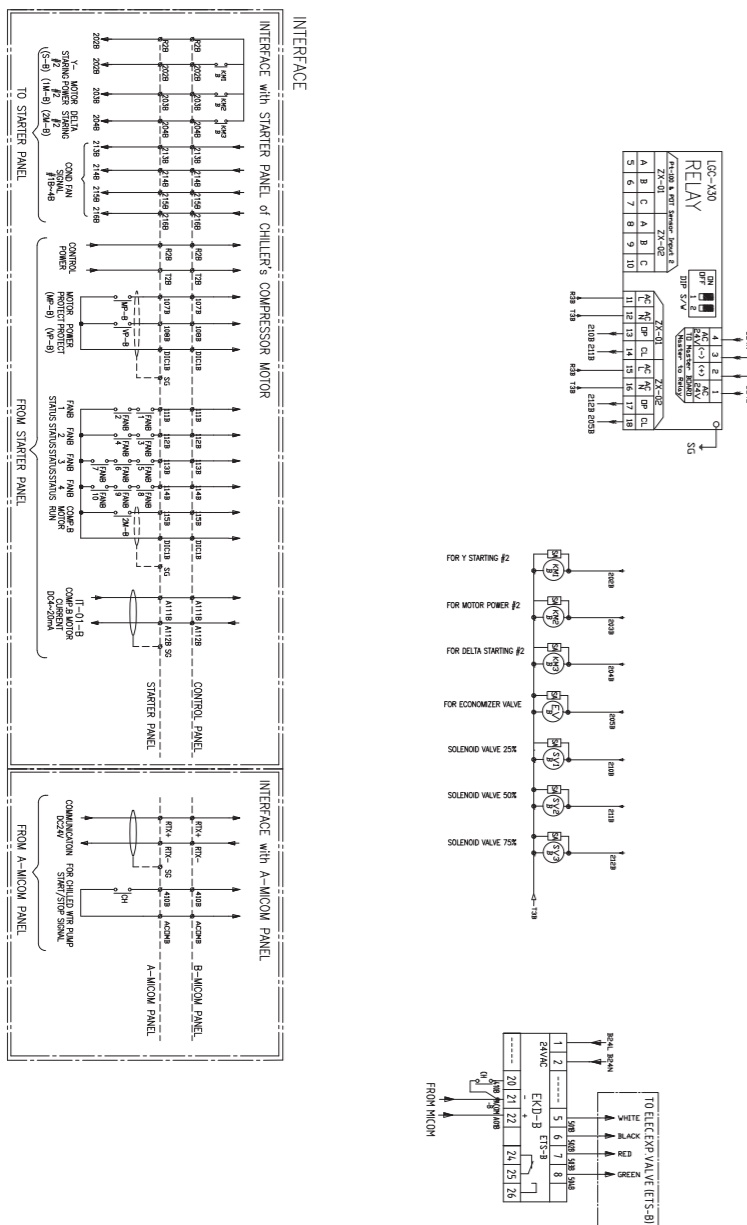
200-320 RT\_1



SYMBOL	DESCRIPTION	REMARKS
ASC	AIR CONTACT	SHIPPED BY DISCONNECTED W/ RAMP
BAC	FLOW SW	CONTROL WATER ASSEMBLY W/ RAMP
FT-1/2	FAULT RUN/STOP SIGNAL	SHIPPED BY USER
FM	FLUID MOTOR	FROM WATER PUMP MOTOR RUN SIGNAL
AL	ALCOCONTACT	FROM WATER PUMP MOTOR RUN SIGNAL
DL	DRY LEVEL SWITCH	
FL	FAN FLW SWITCH	
AP	AIR RELAY CONTACT	FROM WATER PUMP MOTOR PROJECT
AV	AIR RELAY CONTACT	FROM WATER PUMP MOTOR PROJECT
EV	EXTRUSION VALVE	
PS	PRESS SW/SH SW/SH	
ELOS	EARTH LEAKAGE CIRCUIT BREAKER	2POLARS, 2WVE, 10A
BT	Buzzer	
FL-1/2	FLAN-1/2	220V/2A
FL-3/4	FLAN-3/4	220V/2A
SM-S1/2	POWER SUPPLY	KZ 220V/50/60HZ
SM-S2	POWER SUPPLY	KZ 220V/50/60HZ
TE01	COLD WTR INLET TEMP. SENSOR	PT100Ohm
TE02	COLD WTR OUTLET TEMP. SENSOR	PT100Ohm
TE03	IND. WTR TEMP. SENSOR	PT100Ohm
TE04	IND. WTR TEMP. SENSOR	PT100Ohm
TE05	COMP. OUTLET TEMP. SENSOR	PT100Ohm
TE06	COMP. INLET TEMP. SENSOR	PT100Ohm
PT02	COMP. INLET PRESS. TRANSDUCER	Range: 1.5-20kg/cm <sup>2</sup> (0.1 - 2.9bar)
PT03	COMP. INLET PRESS. TRANSDUCER	Range: 1.5-20kg/cm <sup>2</sup> (0.1 - 2.9bar)
EVS	EXTRUSION VALVE	
CN	CIRCUIT BREAKER	
CM	HUMAN MACHINE INTERFACE	CMM PLUMP
ACSM-1		ACSM-1

- NOTE**
1. THESE PARTS SHOULD BE SUPPLIED BY BUYERS.
  2. THESE PARTS ARE LOCATED ON CHILLER BODY.
  3. INTERFACE WITH USER'S SYSTEM or STARTER PANEL
  4. IF DP-SWITCH NO.3 IS ON, THERE IS WATER COOLED SCREW CHILLER. IF DP-SWITCH NO.3 IS OFF, THERE IS AIR COOLED SCREW CHILLER.

### 200-320 RT\_2



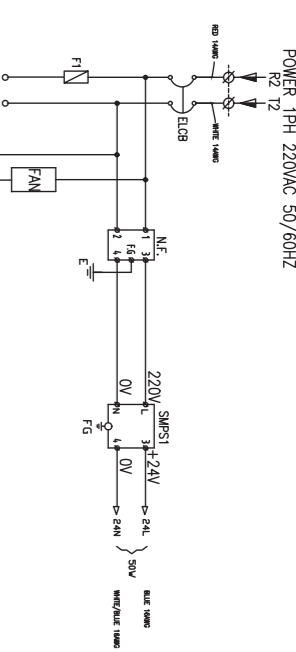
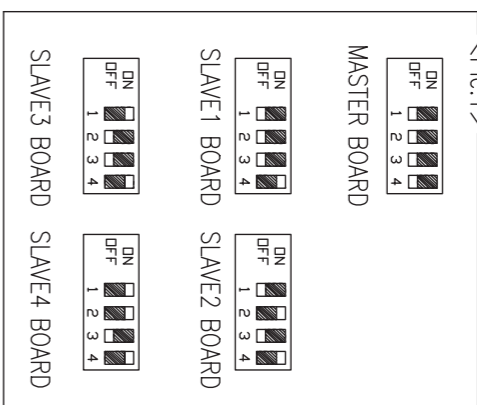
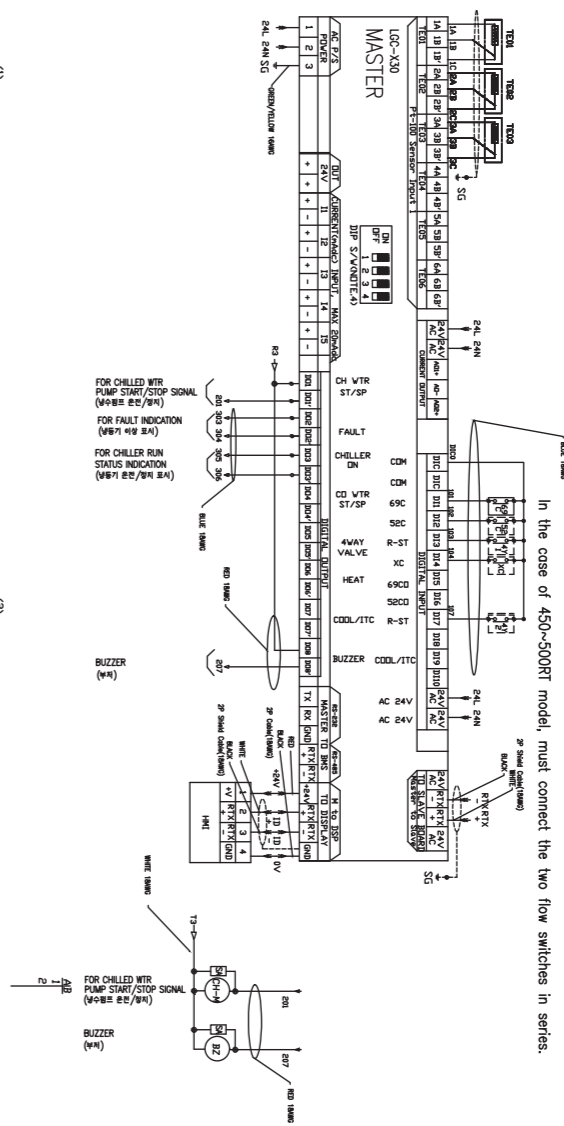
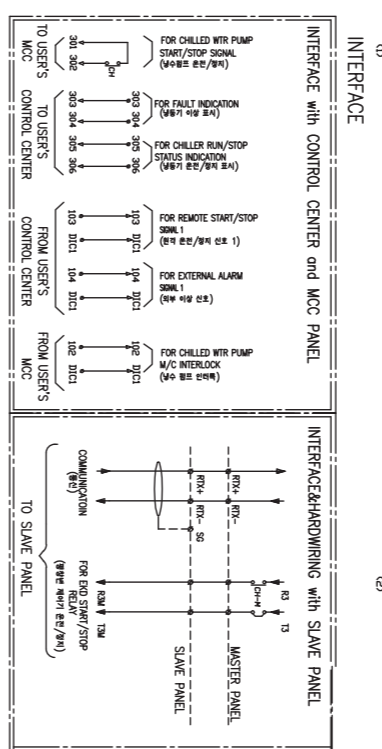
1. THESE PARTS SHOULD BE SUPPLIED BY BUYERS.

2. THESE PARTS ARE LOCATED ON CHILLER BODY.

3. INTERFACE WITH USER'S SYSTEM or STARTER PANEL.

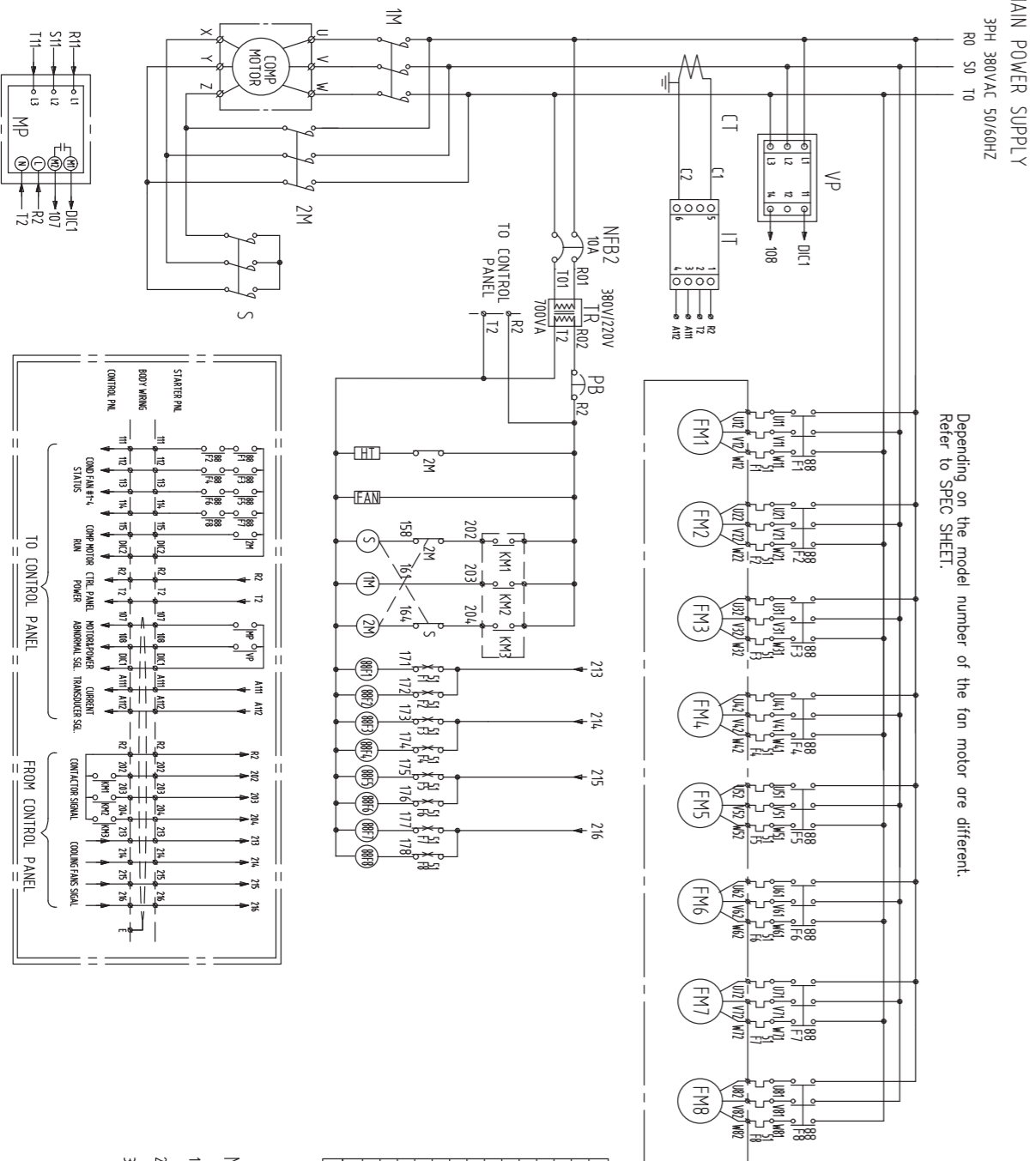
SYMBOL	DESCRIPTION	REMARKS
2AC	AUTOCANCEL	FROM STARTER/COMP MOTOR RUN SIGNAL
6AC	FLOW S/W	OUTPUT BELOW SCHEDULED WIR
4Y1-2	REMOTE RUN/STOP SIGNAL	SUPPLIED BY USER
XC	AUX CONTACT	FROM STARTER/FAULT SIGNAL
BZ	BUZZER	
BT	TRUCK	250V/2A
FN	COOLING FAN	1PH, 220V, 20W
SNPS	SWITCHING MODE POWER SUPPLY	
TE01	CHLD WIR INLET TEMP SENSOR	PT1000mm
TE02	CHLD WIR OUTLET TEMP SENSOR	PT1000mm
TE03	OUTDOOR TEMP SENSOR	PT1000mm
CH	ANY RELAY CONTACT	CHW PUMP
HM	HUMAN MACHINE INTERFACE	
N.F	NOISE FILTER	
SNRC	SIGRC ASSASOR	
SB	BYPASS LEAKAGE CIRCUIT BREAKER	

### 80-500 RT



SYMBOL	DESCRIPTION	REMARKS
SNRC	AUX CONTACT	SUPPLIED BY USER/SCHEDULED WIR PUMP
6AC	FLOW S/W	OUTPUT BELOW SCHEDULED WIR
4Y1-2	REMOTE RUN/STOP SIGNAL	SUPPLIED BY USER
XC	AUX CONTACT	FROM STARTER/FAULT SIGNAL
BZ	BUZZER	
BT	TRUCK	250V/2A
FN	COOLING FAN	1PH, 220V, 20W
SNPS	SWITCHING MODE POWER SUPPLY	
TE01	CHLD WIR INLET TEMP SENSOR	PT1000mm
TE02	CHLD WIR OUTLET TEMP SENSOR	PT1000mm
TE03	OUTDOOR TEMP SENSOR	PT1000mm
CH	ANY RELAY CONTACT	CHW PUMP
HM	HUMAN MACHINE INTERFACE	
N.F	NOISE FILTER	
SNRC	SIGRC ASSASOR	
SB	BYPASS LEAKAGE CIRCUIT BREAKER	

80-320 RT



MAIN POWER SUPPLY  
3PH 380VAC 50/60HZ

Depending on the model number of the fan motor are different. Refer to SPEC SHEET.

1. THESE PARTS ARE LOCATED IN CONTROL PANEL.  
2. THESE PARTS ARE LOCATED ON CHILLER BODY.  
3. FROM/TO CONTROL PANEL.

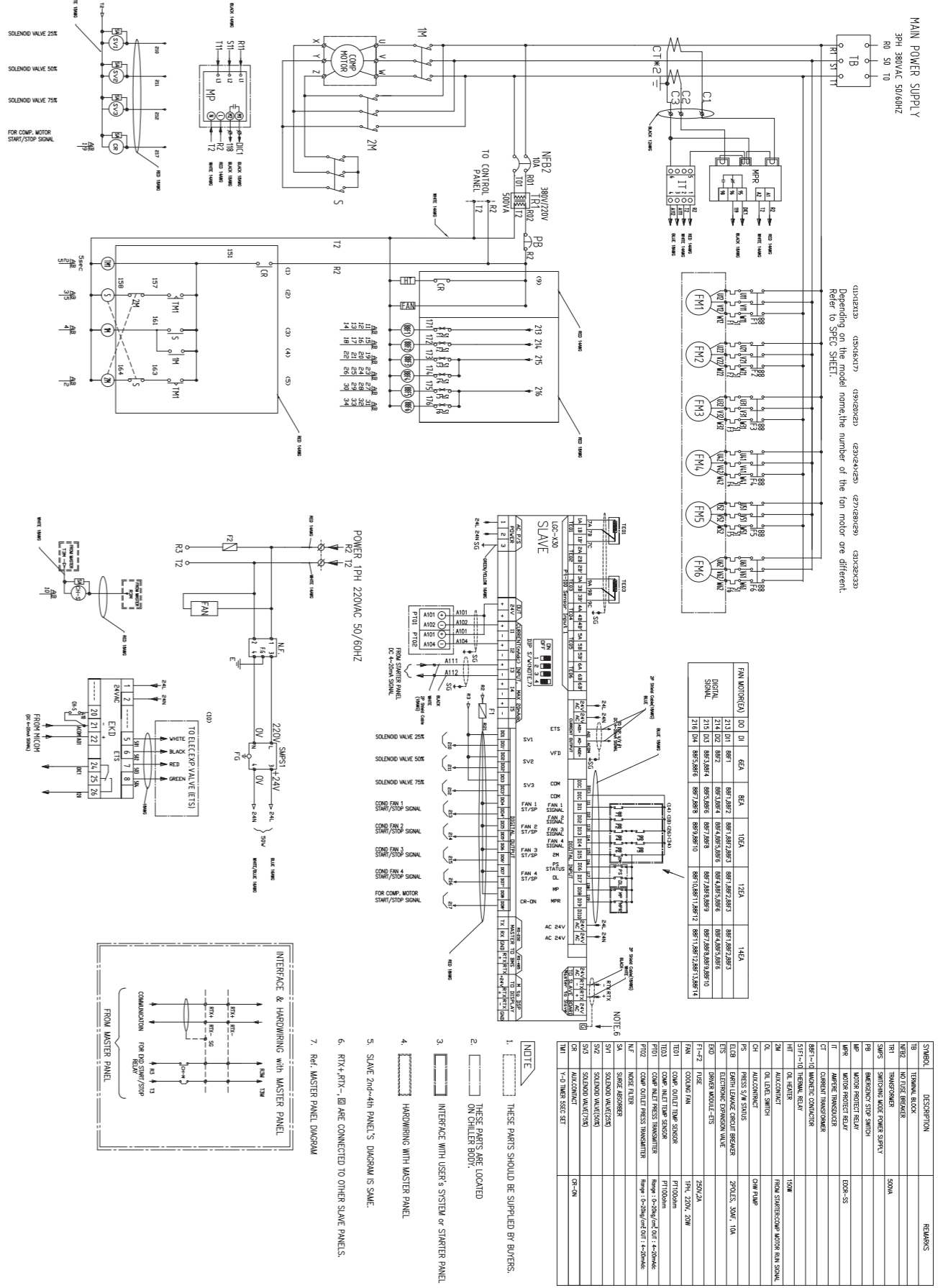
**ELECTRICAL PART LIST**

1	MS	MAIN SWITCH	
2	NFB2	MINI CIRCUIT BREAKER	
3	MF	MINI FUSE	
4	TR	TRANSFORMER	1WVA
5	ES	EMERGENCY STOP SWITCH	
6	MP	MOTOR PROTECT RELAY	
7	VP	VOLTMETER	
8	IT	INDICATOR LIGHT	
9	CT	CURRENT TRANSFORMER	
10	BR-A	BROWNE ROOTS RELAY	
11	SR-A	SOLENOID RELAY	
12	FM-A	FAN MOTOR	
13	CR	CONTACTOR	
14	FR	FAN RELAY	
15	HT	HEATER	

Note

- THESE PARTS ARE LOCATED IN CONTROL PANEL.
- THESE PARTS ARE LOCATED ON CHILLER BODY.
- FROM/TO CONTROL PANEL.

80-500 RT



MAIN POWER SUPPLY  
3PH 380VAC 50/60HZ

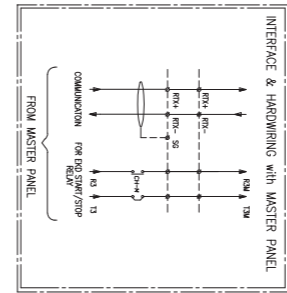
Depending on the model number of the fan motor are different. Refer to SPEC SHEET.

**FAN MOTOR(S) DIGITAL SIGNAL**

100	DI	62A	63A	100A	120A	140A
111	DI1	887	897	897	897	897
214	DI2	892	892	892	892	892
315	DI3	895	895	895	895	895
416	DI4	895	895	895	895	895

**SIGNAL DESCRIPTION**

SYMBOL	DESCRIPTION	REMARKS
TB	TERMINAL BLOCK	
MS	MAIN SWITCH	
TR	TRANSFORMER	1WVA
MS	EMERGENCY STOP SWITCH	
MP	MOTOR PROTECT RELAY	
VP	VOLTMETER	
IT	INDICATOR LIGHT	
CT	CURRENT TRANSFORMER	
BR-A	BROWNE ROOTS RELAY	
SR-A	SOLENOID RELAY	
CR	CONTACTOR	
FR	FAN RELAY	
HT	HEATER	
MS	MAIN SWITCH	
MS	EMERGENCY STOP SWITCH	
MP	MOTOR PROTECT RELAY	
VP	VOLTMETER	
IT	INDICATOR LIGHT	
CT	CURRENT TRANSFORMER	
BR-A	BROWNE ROOTS RELAY	
SR-A	SOLENOID RELAY	
CR	CONTACTOR	
FR	FAN RELAY	
HT	HEATER	



- THESE PARTS SHOULD BE SUPPLIED BY BUYERS.
- THESE PARTS ARE LOCATED ON CHILLER BODY.
- INTERFACE WITH USER'S SYSTEM AT STARTER PANEL.
- HARDWIRING WITH MASTER PANEL.
- SLAVE 240-440V PANEL'S DIAGRAM IS SAME.
- RTX-RTV-, @ ARE CONNECTED TO OTHER SLAVE PANELS.
- REF. MASTER PANEL DIAGRAM.

## Select Installation Location

Select space for installation air-cooled unit, which will meet the following conditions

- With strength which bears weight of unit
- With space for air passage and service work, don't install the unit at the space where generation, inflow, stagnation, and leak of combustible gas is expected.
- Avoid unit installation in a place where acidic solution and spray(Sulfur) are often used.
- Location with no leakage of combustible gas
- Location with installation or service work space(Refer to required space)
- Do not use the air-cooled unit under any special environment where oil, steam and sulfuric gas exist.
  - Establish an anti-freeze plan for the water supply when the product is stopped during the winter.
- The floor of the machine room must be water proof.
- In order to prevent the condensed water from being produced, both the evaporator and the pipe connected to it should be insulated.
  - Install a floor slope to make the drainage smooth.
- Avoid installing the air-cooled unit in the location with following conditions.
  - Location where corrosive gas such as acidic gas is generated. (It may cause the refrigerant leakage by corrosion of the pipe.)
  - Location where electromagnetic waves happen. (It may cause the abnormal operation by control parts disorder.)
  - Location to be able to leak the combustible gas
  - Location with carbon fiber or combustible dust.
  - Location with the combustible material like thinner or gasoline. (It may cause a fire by leaking the gas near the product.)

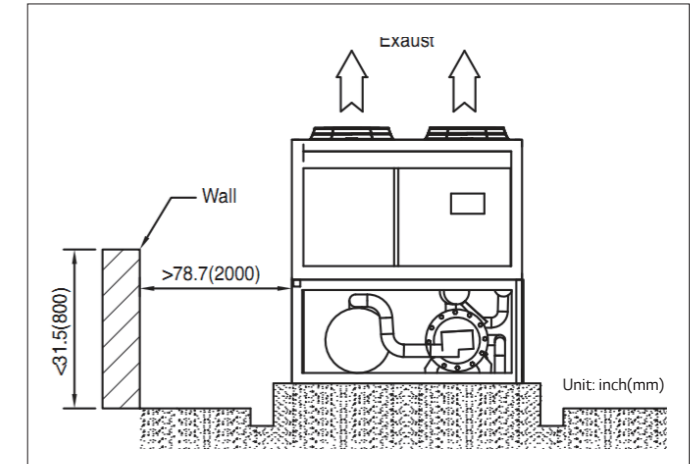
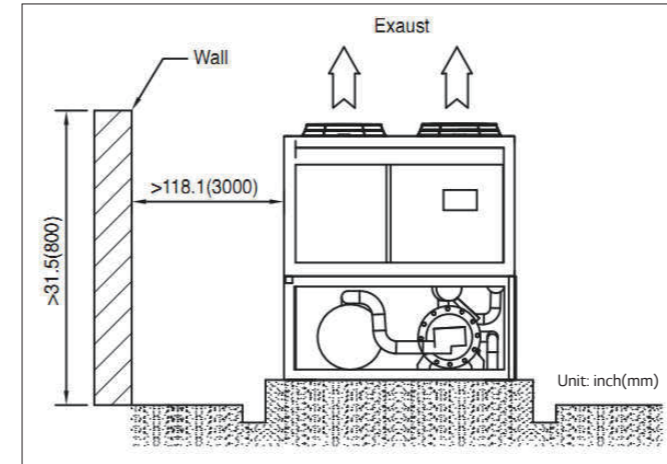
## Installation Space

Consider the condition of ventilation

- Air cooled chiller should be installed on the ground open air or provided proper ventilation.
- If install the unit alongside the wall, there must be enough ventilation space.

**Note:**

When the front or backside of the unit is near to the wall, if the wall is higher than the ground more than 31.5inches (800mm), the distance between wall and unit should be longer than 118.1inches(3,000mm).

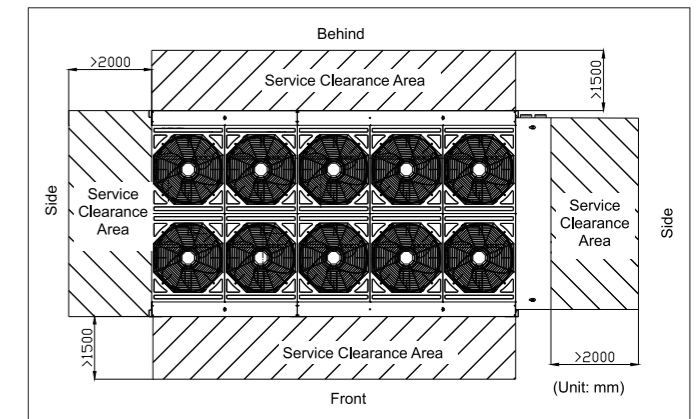
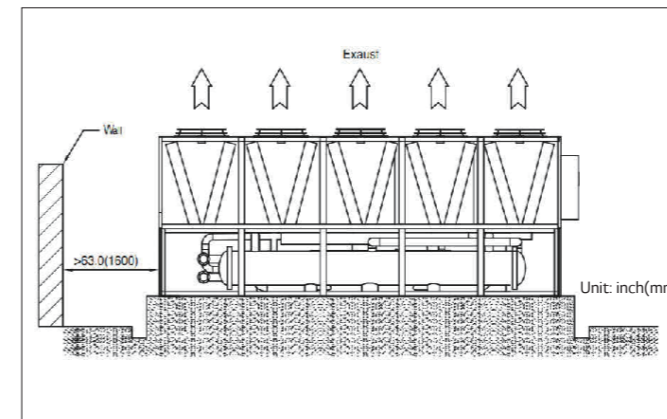


**Note:**

When the front or backside of the unit is near to the wall, if the wall is higher than the ground less than 31.5 inches(800mm), the distance between wall and unit should be longer than 78.7inches(2,000mm).

**Note:**

When the front or backside of the unit is near to the wall, if the wall is higher than the ground less than 31.5 inches(800mm), the distance between wall and unit should be longer than 78.7inches(2,000mm).



# Guide specification

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- 1.02 System descriptions
- 1.03 Quality assurance
- 1.04 Delivery and handling

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- 2.05 Motor compressor assembly
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- 2.07 Air cooled condenser(s)
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- 2.09 Oil separator
- 2.10 Ejector for oil return
- 2.11 Refrigeration system components
- 2.12 Chilled water circuit
- 2.13 Control Center
- 2.14 Features of controller
- 2.15 Starter
- 2.16 Safety devices
- 2.17 Special features
- 2.18 Accessory and option



# Guide specification



## Part 1 – General

### 1.01 Scope

Requirements of the General Conditions, Supplementary Conditions and Drawings apply to all work herein.

### 1.02 System descriptions

Factory packaged air cooled water chillers incorporating low noise twin screw compressor(s) and low noise fans.

### 1.03 Quality assurance

- ANSI/ASHRAE 34 - Number designation and safety classification of refrigerants.
- ANSI/ASHRAE standard 15 safety code
- Manufactured in an EN ISO 9001 accredited organization
- CE: Conform to CE testing services for construction of chillers and provide CE listed mark [Option]
- ASME Boiler and Pressure Vessel Code, Section VIII, Division 1 [Option]
- OSHA – Occupational Safety and Health Act
- Conform to Intertek Testing Services for construction of chillers and provide ETL/ cETL Listed Mark [Option]
- The packaged chiller shall be pressure and leak tested.
- Manufacturer shall warrant all equipment and material of its supply against defects in workmanship and material for a period of eighteen(18) months from date of shipment or twelve(12) months from initial start-up, whichever comes first.

### 1.04 Delivery and handling

Unit shall be delivered to jobsite fully assembled, charged with oil by manufacturer or manufacturer's authorized agent. Refrigerant is charged at job site by manufacturer's appointed local agent.

Unit shall be handled, transported and stored in accordance with manufacturer's instructions

## Part 2 – Products

### 2.01 General

The equipment shown on the drawings is based on the model RCAF series air cooled water chiller as manufactured by the LG Electronics.

### 2.02 Equipment description

Supply and install and commission as shown on the drawings and schedules completely factory assembled, charged and operationally tested air cooled screw compressor chiller(s) as specified herein. Chiller shall include one or more independent refrigeration circuits, semi hermetic twin screw compressors(s), shell and tube water cooler, air cooled

condenser, refrigerant R-134a, lubrication system and oil, interconnecting piping and wiring and lockable control center housing safety, operating and capacity controls necessary for the safe automatic operation of the water chiller.

### 2.03 Operating characteristics

- Unit shall be capable of starting-up and running in outdoor ambient temperatures from 10°C to 54°C.
- Unit shall be capable of starting up with fluid entering temperature to the cooler from 8°C to 25°C.

### 2.04 Unit construction

Unit base frame shall be constructed of 100 to 200mm steel channel sections welded and bolted to form rigid load bearing framework to support all major unit components and safe lifting platform. Frame shall be shot blasted after welding and finished with corrosion resistant primer and air drying epoxy based enamel.

Condenser coil frameworks, cabinet and control center cabinet shall be of heavy gauge galvanized sheet steel with oven baked powder coating capable of withstanding salt spray test

### 2.05 Motor compressor assembly

Compressor shall comprise semi-hermetic rotary twin screw directly driven by suction gas cooled semi-hermetic motor at rated RPM. Motor shall have inherent overload protection buried in windings and external current overloads. Capacity control can be modulated by slide valve, which is factory set to provide 4 capacity steps(Per compressor) or stepless. Compressor housing is precisely machined cast iron incorporating and oil separator, lubricating oil sump with auxiliary oil heater are installed.

### 2.06 Evaporator

Evaporator shall be of the falling film shell and tube type with removable heads and mechanically cleanable tubes of seamless copper with internally and externally enhanced surface. Distributer located on the top side of inside shell, which makes uniform flow of refrigerant. Through distributor refrigerant flows downward by gravity as a uniform and continuous film. Tubes shall be mechanically expanded into multiple grooves in tube sheets. Evaporator will incorporate one, two independent refrigerant circuits with a common chilled liquid multi-pass circuit arrangement.

[Option] Evaporators will be factory insulated with NBR(Nitrile-Butadiene Rubber) of 19mm black colored with all joints vapor sealed and water drain and vent taps in water box heads.

### 2.07 Air cooled condenser(s)

Coil structure is to be of internally enhanced seamless copper tubes mechanically bonded to louvered aluminum alloy fins. Because high-efficiency wide louver fin is applied, heat transfer



efficiency is greatly improved compared to the conventional one. Gold Fin(Corrosion-resistant Fin) is applied as a standard to improve corrosion protection.

Inner hydraulic pressure test of refrigerant side is done at 1.3 times(1.1 times for pneumatic test) of design pressure, which should not make any leakage or deformation. Condenser channel which has been passed the inner pressure test is charged with nitrogen.

To increase product life cycle, high corrosion resistant Al-alloy is adopted and tested for 1,000 hours SWAAT(Sea Water Acetic Acid Test) to ensure the reliability

- pH 2.8~3.0 sea water acetic acid spray test
  - After 1,000hrs, fin bondage check and 4.5MPa leakage test
- Propeller type fan is applied, which should have proper airflow. Also it should have proper strength for rotational speed and be operated stably through balance test.

## 2.08 Expansion devices

Expansion devices should be installed between condenser and evaporator to enable refrigerant to evaporate from evaporator by decreasing refrigerant pressure. EXV(Electric Expansion Valve) is applied to control refrigerant flow by electric signal.

## 2.09 Oil separator

Oil which is supplied to compressor shall be circulated by differential pressure of high and low pressure side without extra oil pump. Oil separator should be installed between compressor discharge and condenser inlet for better heat transfer and stable operation.

## 2.10 Ejector for oil return

To reclaim oil from evaporator to compressor, ejector shall be installed for oil return.

## 2.11 Refrigeration system components

Shall include replaceable filter drier, moisture indicating sight glass, electronic expansion valve, suction / discharge / liquid line service valves and charge of refrigerant R-134a and lubricating oil. Each refrigeration circuit in the evaporator shall have relief valves with changeover cock.

[Option] Dual type relief valve is fitted as an option

## 2.12 Chilled water circuit

- Chilled water circuit shall be rated for 150 psig(1034 kPa)
- Electronic thermal flow switch shall be factory installed and wired.(Option)

## 2.13 Control Center

### 1) Structure

The control panel shall consist of Micom module(HMI/MASTER/SLAVE), a power supply for supplying stable power,

breakers for controlling and safety, an electronic contact, and relays for controlling.

### 2) HMI/MASTER/SLAVE module

The module shall use the high-performance microprocessor to perform the control function optimized for the equipment. The high-precision Analog/Digital(A/D) converter shall monitor the values of the temperature sensors to display the values on the screen, and apply them to the controlling. The RS-485 communication port is embedded by default to support the remote monitoring and controlling by customers. Customers can simply select RS-485 for their building automation.

### 3) Indication and operation key module

The indication and operation key module consists of a display indicating operating data, set points required for the equipment operation, and data of abnormality in characters; a key input section for entering data or selecting menus; and a LED lamp indicator section showing the equipment operation shutdown conditions for operation of the equipment, operation of compressor, oil pump, oil heater, flow of chilled / cooling water, alarms status, selected manual actuation of vanes, and selected manual operation of oil pump. In particular, the module allows operators to directly access the frequently used keys, and select other operations from the menu for improving convenience of operators. The operation keys consist of: four menu operation keys, three manual operation keys for vanes, three manual operation keys for oil pumps, and two operation/shutdown key for operation and shutdown of the equipment. If the operation keys are inoperable, operators shall be able to use character display and menu selection keys to operate the equipment from the menu. The display shall show the following operation conditions in Korean, Chinese or English: the temperature of the inlet and the outlet of the chilled water and the cooling water, the compressor discharge temperature, the oil tank temperature, the motor bearing temperature, the condenser pressure, the evaporator pressure, the oil tank pressure, the oil pump pressure, the operating current and the vane opening.

The I/O is composed of a digital input section for monitoring the operating conditions of the switches and a digital output section for controlling the operation of the equipment. A photo coupler is mounted on the I/O section for preventing noises, and receives/transmits all the data through communication with the main module to prevent malfunctions caused by electronic waves generated from the data transmission through the cables.

## 2.14 Features of controller

### 1) Convenient operation data management

A wide 7inch Color Graphic LCD(800x480) is used to display various pieces of operation information on a single screen, and stores the analog data(e.g., temperature data)

up to over 200 cases per channel in the intervals defined by customers for keeping daily operation logs. The real-time display also shows the temperature of the chilled water outlet and the operating current of the compressor motor in graphics for easily identifying the trends of the changes to the temperature and operating current.

### 2) Self-diagnosis and failure history storing

The Micom monitors the conditions of the equipment during shutdown and operation, and notifies operators of the conditions of the equipment by displaying characters, alarm lamps and buzzers, and stores the time and the log of failures for maintenance. In particular, the Micom classifies failures into minor failures and major failures. If a minor failure takes place, the micom displays the details of the failure in characters and continues the operation of the equipment to minimize the shutdown of the equipment.

### 3) Optimized artificial intelligence control algorithm for chiller control

#### • Digital PID control

When the manual mode is changed to the auto mode, the digital PID control integrated with the flexible startup shall recognize the optimal PID control points automatically to minimize the unnecessary shutdown of the equipment and reflect them to the control equation to control the temperature stably and precisely.

#### • Preventive operation

The temperature and the pressure of the components are measured in real-time during operation and the primary and secondary preventive operations are performed in accordance with the measurement results to prevent the shutdown of the chiller caused by the overload, the high pressure of the condenser, the low pressure of the evaporation.

#### • Scheduled operation

The scheduled operation function is provided for the convenient operation of the equipment, which allows the selection of the operation/shutdown and the setting of the control temperature per day of the week, per holiday or 11 times a day

#### • Service functions

The following service functions are supported for easy maintenance:

\* Displaying the count of startups and the total operation hours of the motors mounted on the body.

\* Printing the operation and the trouble data.(Optional)

### 4) Powerful customer support functions

#### • Help

The help function memorizes the details of failures and shows the descriptions for corrective actions when the operator selects a particular failure from the menu, in order to improve the convenience for operators.

### 5) Indicator lamp

All indications are displayed in characters on the LCD which turns on in the following 8 cases.

- Chiller RUN/STOP
- Compressor operates
- Chilled water flow normal
- Cooling water flow normal
- Capacity control valve manual
- LEAD/LAG Manual

## 2.15 Starter

1) The starter is equipped with the embedded EOCCR(Electric Over Current Relay) protective relay for over-current. The starter is mounted with the following components: magnetic contactors, a power indicator lamp, a breaker for protecting circuits.

### 2) Protective relay

EOCCR(Electric Over Current Relay) protective relay should be installed.

\* The Ground fault circuit interrupter is optional and will be installed as required by customers.

### 3) Operation and instrument panel

Indicator lamps, breaker for protecting circuits

## 2.16 Safety devices

1) Chilled Water Low Temperature [temperature sensor at chilled water outlet] \_ Protect the evaporator from freeze.

2) Evaporator Low Pressure [evaporator pressure sensor] \_ Protect evaporator from abnormal low pressure

3) Condenser High Pressure [condenser pressure sensor] \_ Protect chiller from abnormal high pressure condenser

6) Oil level Low [interlock with oil level switch] \_ Protect compressor from abnormal oil level status.

7) Chilled Water Pump Abnormal [interlock with chilled water pump] \_ Protect chiller from chilled water pump

8) Cooling Water Pump Abnormal [interlock with cooling water pump] \_ Protect chiller from abnormal cooling water pump

9) Chilled Water Flow Rate Abnormal [chilled water differential pressure switch] \_ Protect chiller from abnormal chilled water flow rate

10) Cooling Water Flow Rate Abnormal [cooling water differential pressure switch] \_ Protect chiller from abnormal cooling water flow rate(Optional)

11) Motor Reverse Phase/Phase Loss/Over-Current \_ Protect chiller from motor reverse phase / phase loss / over-current (Optional)

12) Safety Valve control [evaporator/condenser] \_ Discharge chiller protective refrigerant when the pressure is abnormally high

13) Current Limiting Function [control panel] \_ Operation current limited operation, compressor protection / user convenience

## 2.17 Special features

### 2.17.1 Modbus translator control

Unit shall be supplied with field-installed interface between the chiller and Modbus Local Area Network.

## 2.18 Accessory and option

### 2.18.1 Compressor acoustic enclosure [Option]

Compressor acoustic enclosure can be provided as an option to reduce compressor sound level. This enclosure is constructed of painted panels and sound absorbing insulation for maximum sound attenuation. The panels and the sound insulation foam provide sound damping effect. This panel fastened with bolt for service. The sound enclosure factory installed is optional.

### 2.18.2 Pre Coating for condenser [Option]

The condenser coil shall be made of aluminum fins and copper tubes with pre-treated polyurethane coating.

### 2.18.3 Protection grills(Lower / Upper / Full protection) [Option]

Protect the exposed condenser from particles or debris and also prevent unpermitted access to internal components.

### 2.18.4 Double thickness insulation [Option]

As a standard, the evaporator shell is insulated with NBR (Nitrile-Butadiene Rubber) of 3/4"(19mm) thickness and black colored. As an option, it can be with NBR(Nitrile-Butadiene Rubber) of 1-1/2"(38mm) and black colored.

### 2.18.5 Flow switch accessory [Option]

Water flow detection switch is shall be installed to detect water flow. The water flow switch comes with SPDT(Single Pole Double Throw) output function, 1.6MPa(232psi) working pressure, -10°C to 120°C(-14°F to 248°F) with 1"NPT connection for upright mounting in horizontal pipe(This flow switch or equivalent must be furnished with each unit), which is field installed.

### 2.18.6 Vibration isolation [Option]

For installation on building roofs or in sensitive noise areas (Hospitals, studios and some residential areas) pre-selected spring type isolators with 1" or 2" deflection are available as an option – related parts can be shipped for field installation.

### 2.18.7 Power factor correction [Option]

Provide equipment with power factor correction capacitors as required to maintain the power factor of 95% at all load conditions(optional).

### 2.18.8 MCCB(Molded Case Circuit Breaker) power disconnect switch [Option]

A MCCB is available as a factory-installed option for all units with single / multi point power connection units. For this option, power supply is disconnected during service & repair work.

### 2.18.9 Suction service isolation valve [Standard]

Suction isolation valves are installed in unit for each refrigerant circuit as a standard.

### 2.18.10 Single power point connection [Option]

For models installed with 2, 3 and 4 compressors, to minimize job site installation cost and time, single point power connection can be provided as an option.

If optional single point power connection is required, terminal block connections will be supplied at the point of incoming single point connection.