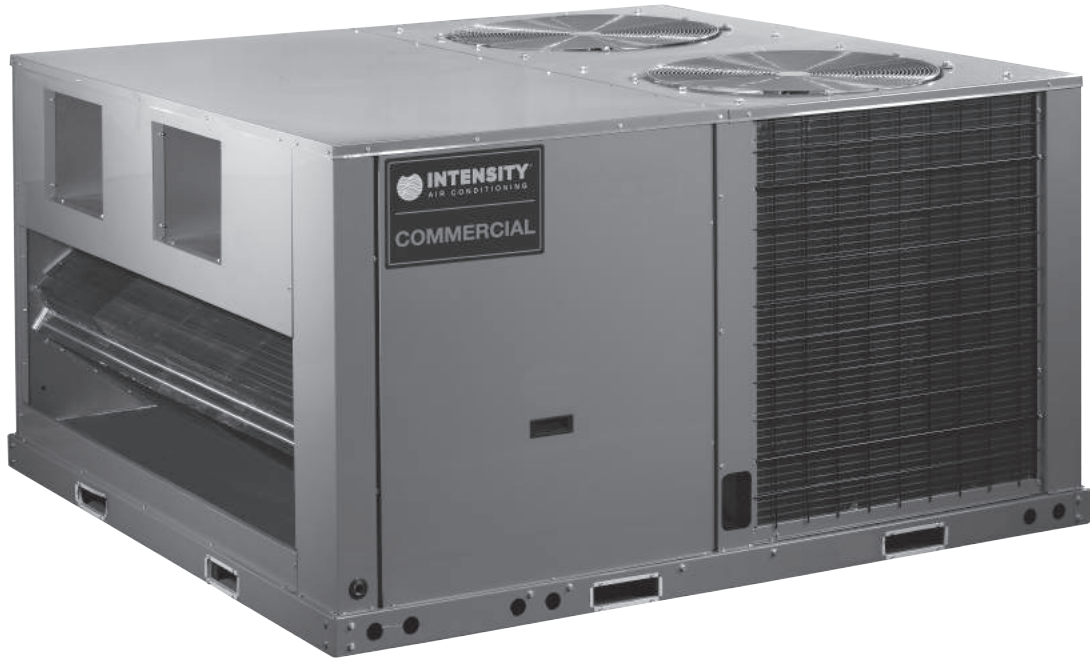




**INTENSITY**<sup>®</sup>  
AIR CONDITIONING



**ROOFTOP PACKAGE**  
COOLING ONLY | 7.5, 10, 15, 20 y 25 Tons.

IPCH090KF-5, IPCH120KF-5, IPCH180KF-5, IPCH240KF-5, IPCH300KF-5.

# INSTALLATION & OWNER'S MANUAL



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Thank you very much for purchasing our air conditioner. Before using your air conditioner, please read this manual carefully and keep it for future reference.

**Nomenclature**

CODE	NAME
C/O	Cooling Only
E/Heater+C	Cooling units with Electric Heater
Hor.& Dow.	Horizontal & Downflow Units (Optional)
Hor.	Horizontal Units
Dow.	Downflow Units

**1. ACCESSORIES**


Tab.1-1


Name of accessories	Qty	Shape
Manual	1	
Drain outlet	1	
Snap ring	1	
Drain pipe	1	
Wire controller and wire	1	

**2. GENERAL INFORMATION**

Warnings and Cautions appear at appropriate locations throughout this manual.

Read these carefully.

 **WARNING:** Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

 **CAUTION:** Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. It may also be used to alarm against unsafe practices and where property-damage-only accidents could occur.

 **CAUTION**

- Read this entire manual before beginning installation procedures.
- Bodily injury can result from high voltage electrical components, fast moving fans. For protection from these inherent hazards during installation and servicing, the electrical supply must be disconnected.
- If operating checks must be performed with the unit operating, it is the technicians responsibility to recognize these hazards and proceed safely.



**WARNING**

- **Ask your dealer for installation of the air conditioner.**  
Incomplete installation performed by yourself may result in a water leakage, electric shock, and fire.
- **Ask your dealer for improvement, repair, and maintenance.**  
Incomplete improvement, repair, and maintenance may result in a water leakage, electric shock, and fire.
- **In order to avoid electric shock, fire or injury, or if you detect any abnormality such as smell of fire, turn off the power supply and call your dealer for instructions.**
- **Never replace a fuse with that of wrong rated current or other wires when a fuse blows out.**  
Use of wire or copper wire may cause the unit to break down or cause a fire.
- **Do not insert fingers, rods or other objects into the air inlet or outlet.**  
When the fan is rotating at high speed, it will cause injury.
- **Never use a flammable spray such as hair spray, lacquer or paint near the unit.** It may cause a fire.
- **Never inspect or service the unit by yourself.**  
Ask a qualified service person to perform this work.
- **Keep far away from high-frequency equipment.**
- **Keep away from the following places:**  
A place where it is full of oil, gas; places where salty air surrounding(near the coast); and a place where is caustic gas(the sulfide in hot spring). Location in above places may cause malfunction or shorten the life span of the machine.
- **In the case of extremely strong wind, please prevent the air from flowing backwards into the outdoor unit.**
- **Snow canopy is necessary in snowfall places on the outdoor unit. Please consult the local dealer for details.**
- **In the frequent thunderstruck place, lightning proof actions should be taken.**
- **To prevent refrigerant leak, contact your dealer.**  
When the system is installed and runs in a small room, it is required to keep the concentration of the refrigerant, if by any chance coming out, below the limit. Otherwise, oxygen in the room may be affected, resulting in a serious accident.
- **The refrigerant in the air conditioner is safe and normally does not leak.**  
If the refrigerant leaks in the room, contact with a fire of a burner, a heater or a cooker may result in a harmful gas.
- **Turn off any combustible heating devices, ventilate the room, and contact the dealer where you purchased the unit.**  
Do not use the air conditioner until a service person confirms that the portion where the refrigerant leaks is repaired.
- **If the supply cord is damaged, it must be replaced by the manufacturer or its service agent or a similarly qualified person in order to avoid a hazard.**
- **The temperature of refrigerant circuit will be high, please keep the interconnection cable away from the copper tube.**
- **The appliance should not be used by children without supervision.**

# - APPEARANCE



7.5 Tons C/O Units (Hor)



10 Tons C/O Units (Hor)



15 Tons C/O Units (Hor)



20 Tons C/O Units (Hor)



25 Tons C/O Units (Hor)

\* The appearance of the pictures may be slightly different, it just for illustrative purposes.

### 3. UNIT DIMENSIONS

Units: mm

■ 7.5 Tons C/O Units ( Hor.)

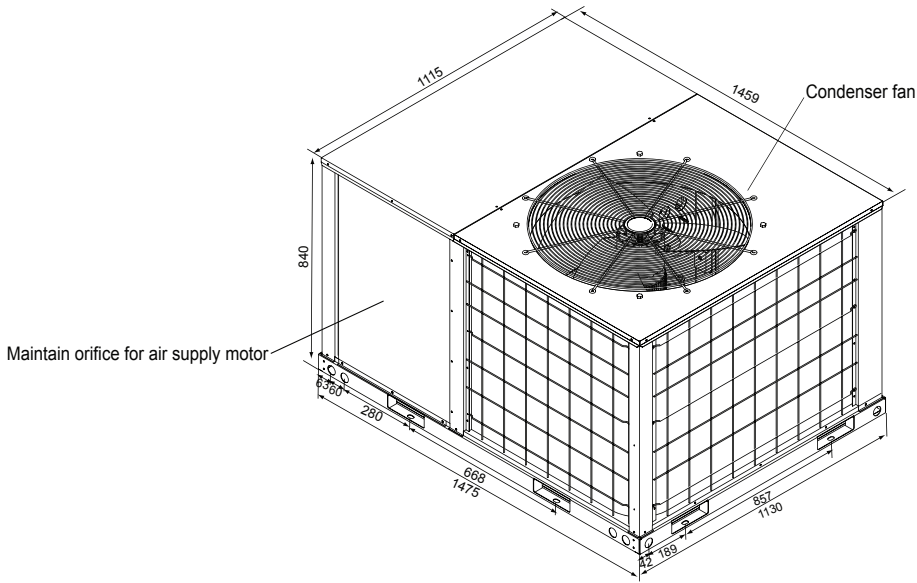


Fig.3-4

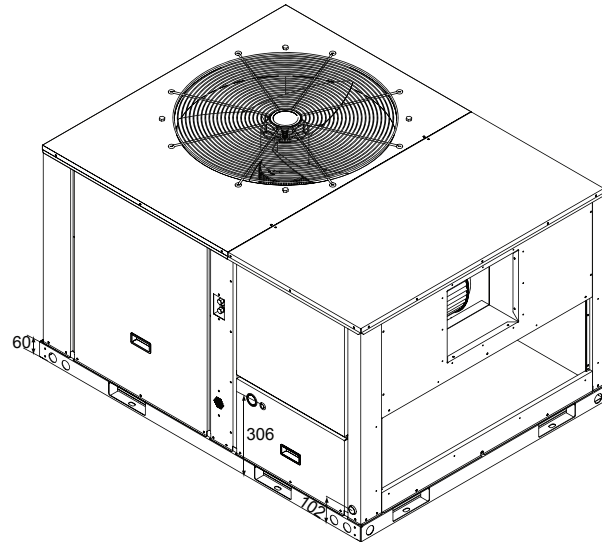


Fig.3-5

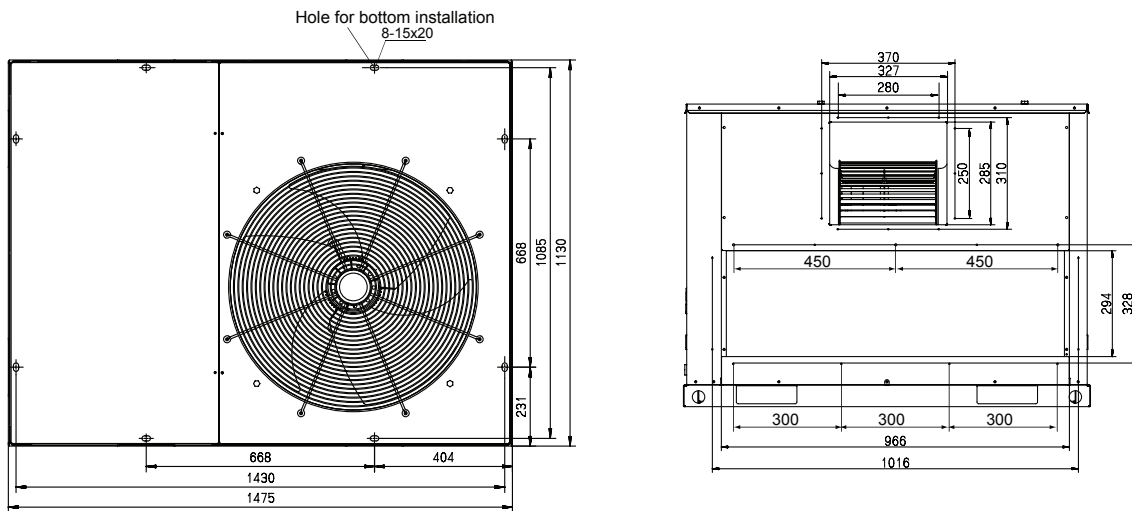


Fig.3-6



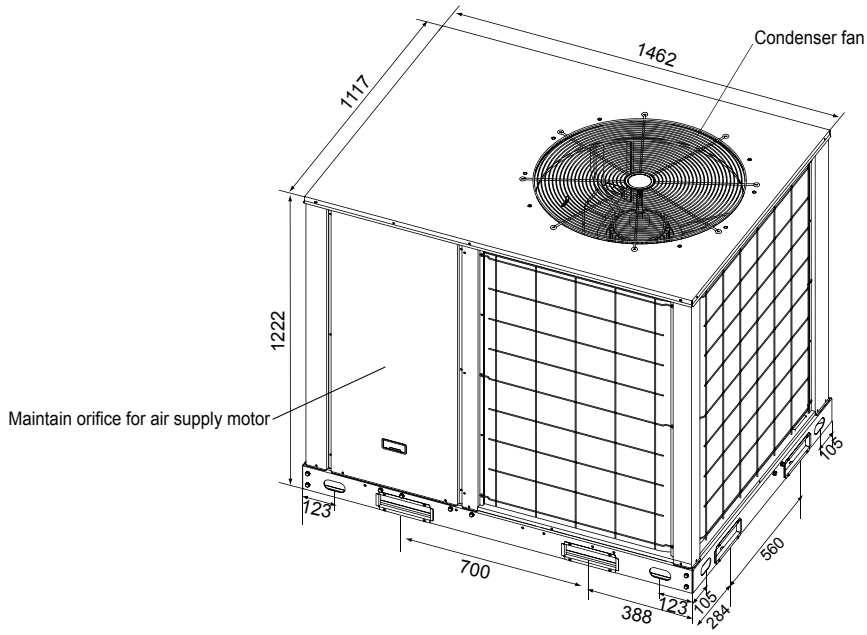
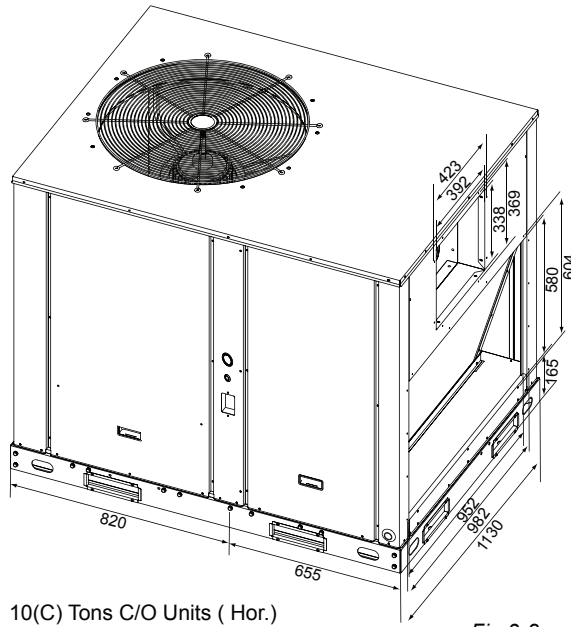


Fig.3-7



10(C) Tons C/O Units ( Hor.)

Fig.3-8

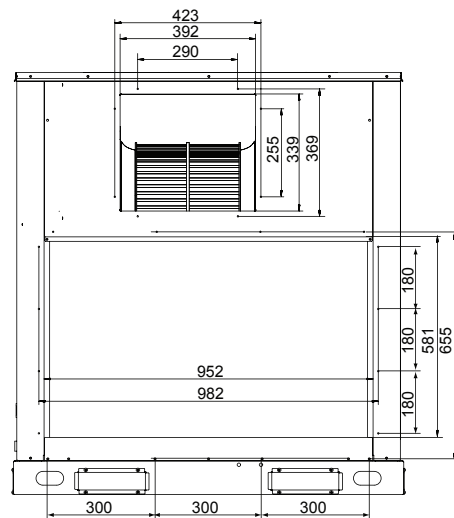
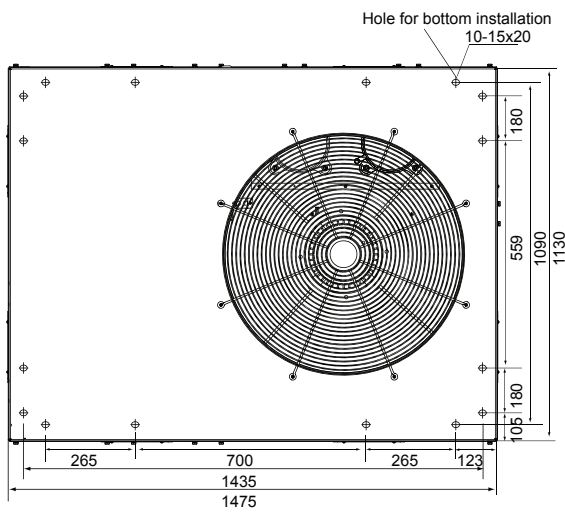


Fig.3-9

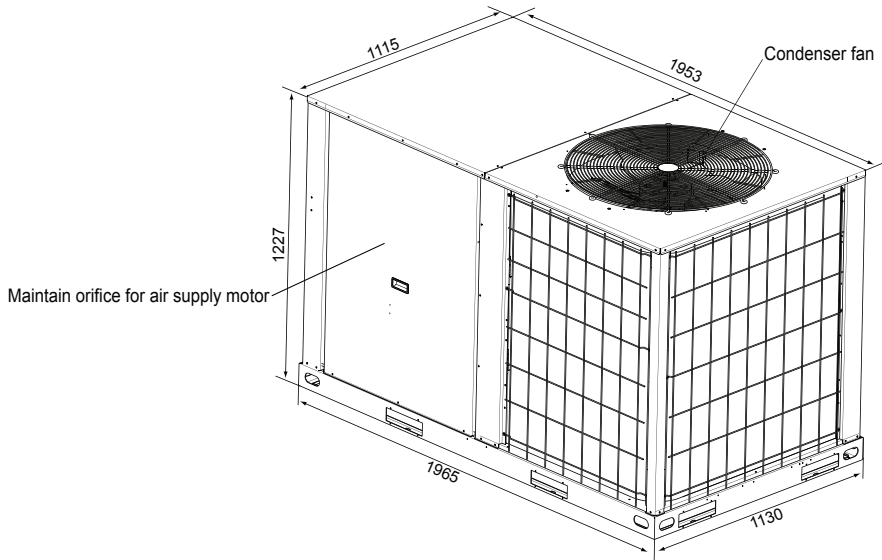


Fig.3-10

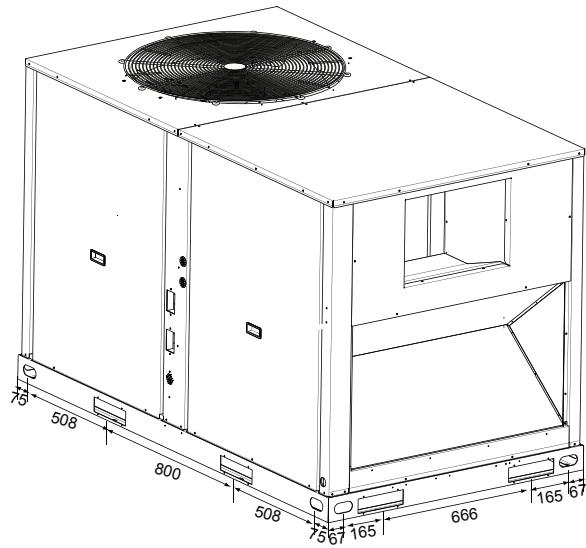


Fig.3-11

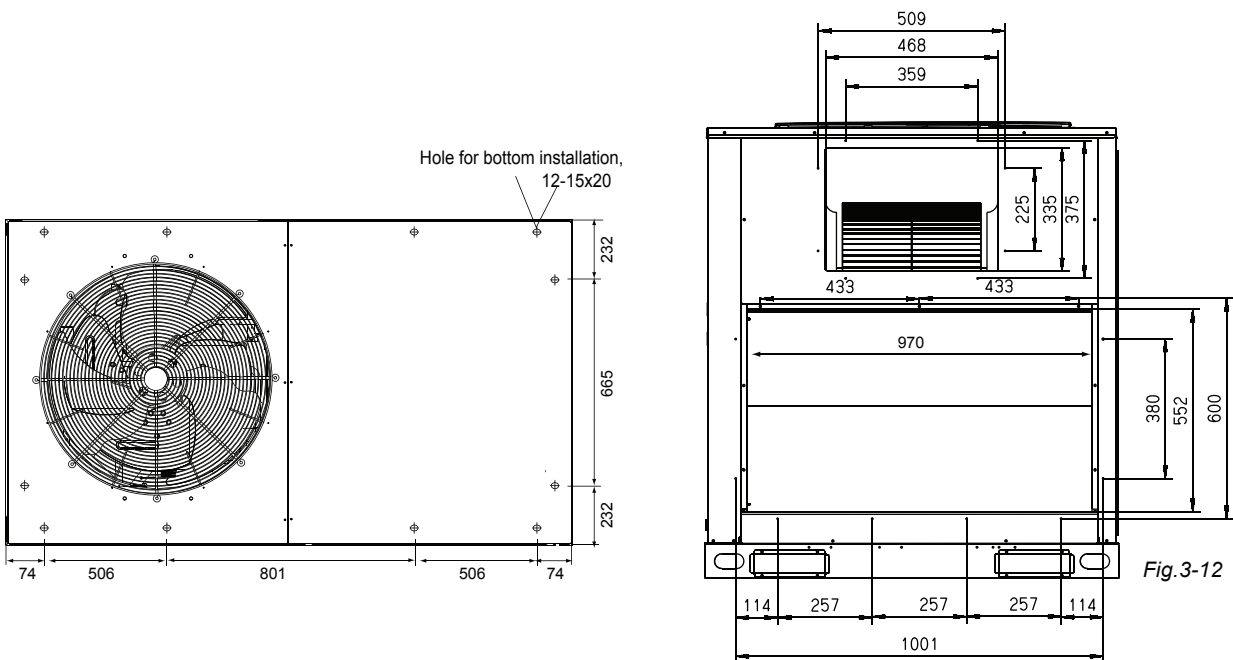


Fig.3-12

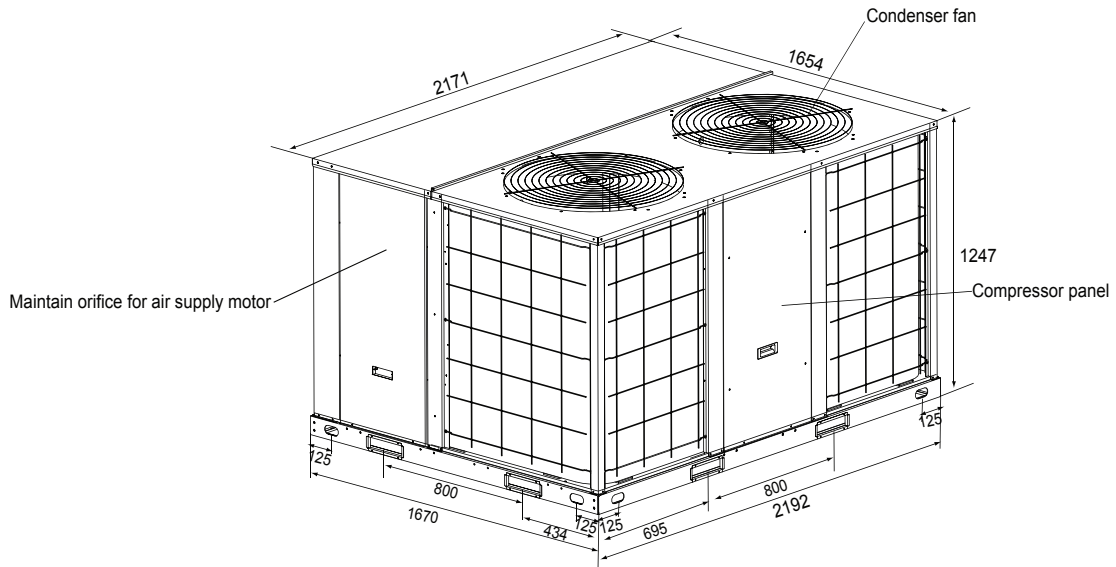


Fig.3-13

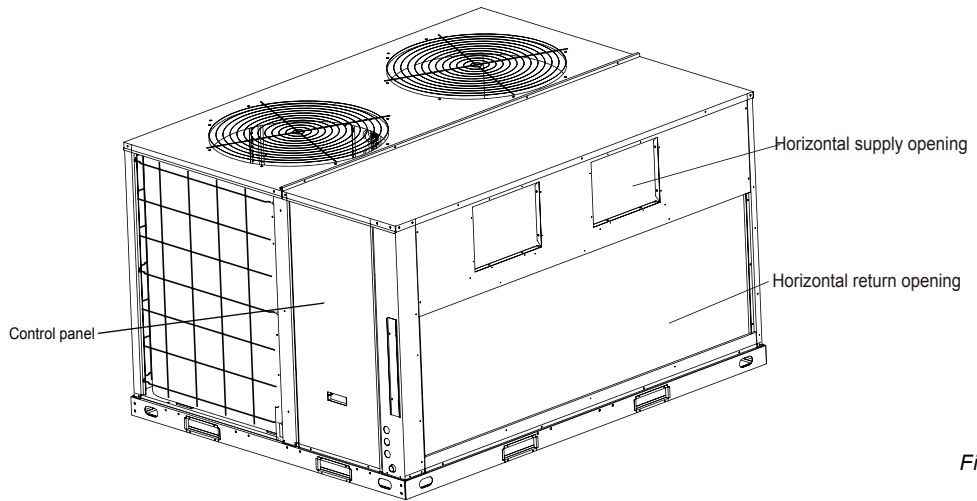


Fig.3-14

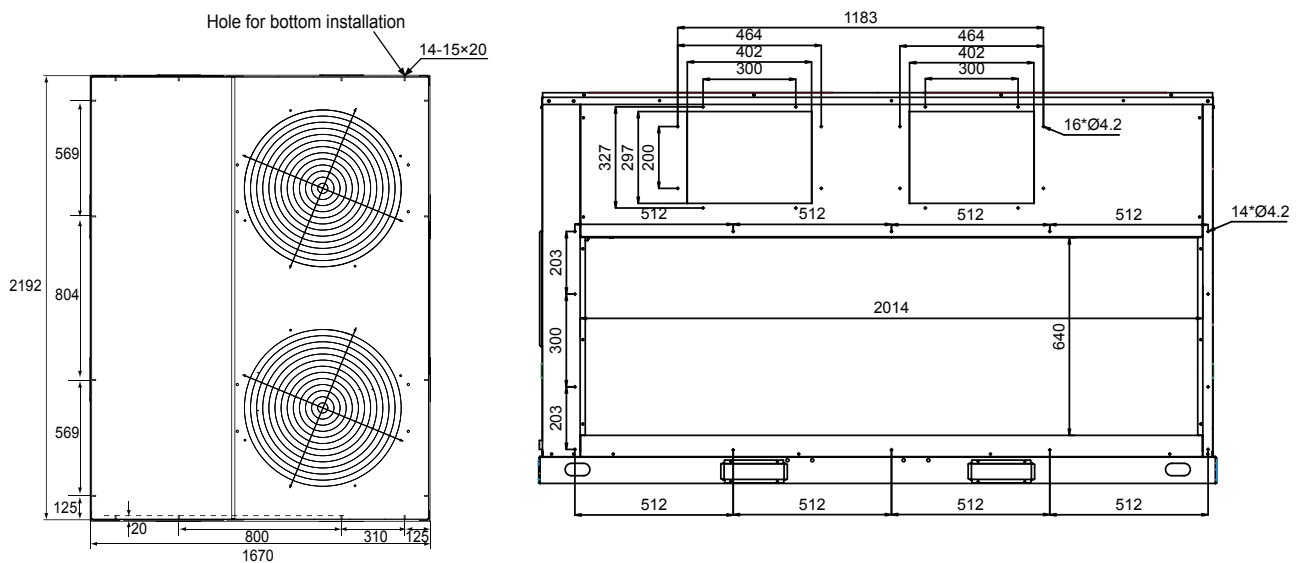


Fig.3-15

**Basic model of this product does not have bottom air discharge (downflow). Manufacturer will make bottom discharge available at the request of customer.**

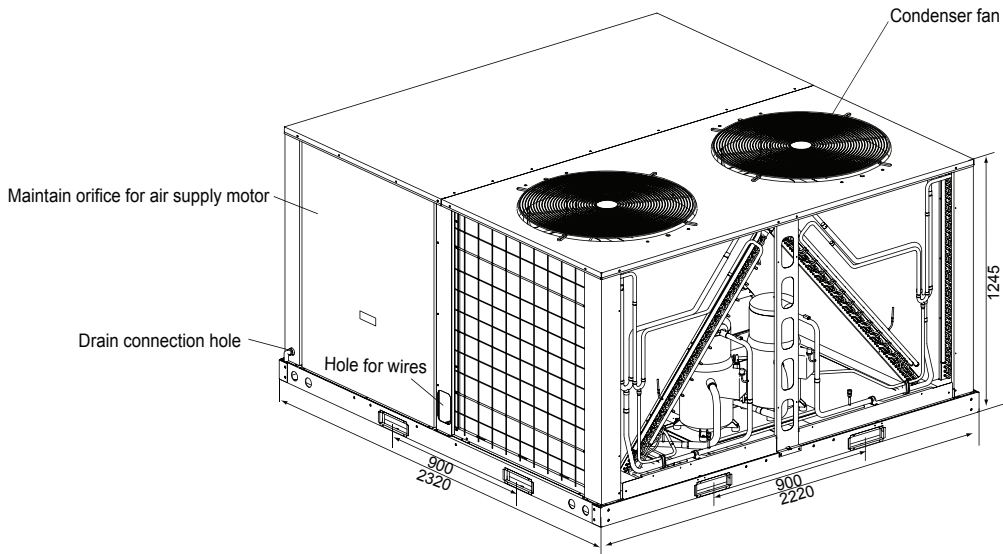


Fig.3-16

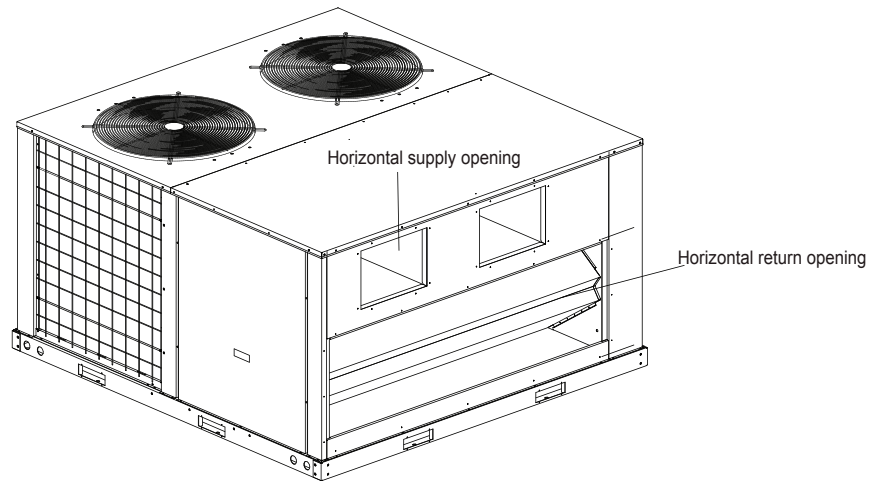


Fig.3-17

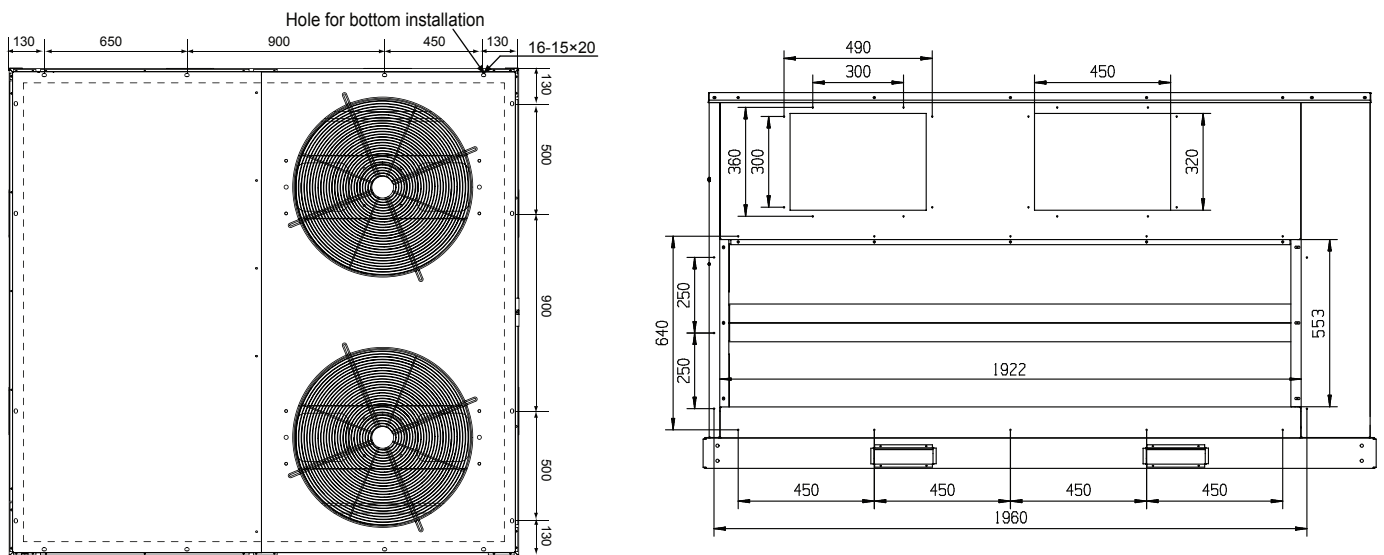


Fig.3-18

## 4. LOCATIONS AND RECOMMENDATIONS

### 4.1 Horizontal airflow application

- These units are designed and certified for outdoor installations. These units may be installed directly on wood flooring or on Class A, Class B, or Class C roof covering material.
- Location of the unit must allow service clearance around it. Clearance of the unit must be given careful consideration.
- Check the handling facilities to ensure the safety of personnel and the unit(s).
- Caution must be taken at all times to avoid Personal injuries and/or damage to equipment.
- The unit must be mounted level for proper drainage of water through the holes in the base pan.
- The unit must not be exposed to direct roof water runoff.
- Flexible duct connectors must be of a flame retardant material. All duct work outside of the structure must be insulated and weatherproofed in accordance with local codes.
- Holes through exterior walls must be sealed in accordance with local codes.
- All fabricated outdoor ducts should be as short as possible.

### 4.2 Clearances

- The recommended clearances for single-unit installations are illustrated in Fig. 4-1. These minimum requirements are not only an important consideration when determining unit placement, but they are also essential to ensure adequate serviceability, maximum capacity, and peak operating efficiency.
- Any reduction of the unit clearances indicated in these illustrations may result in condenser coil starvation or the recirculation of warm condenser air. Actual clearances which appear to be inadequate should be reviewed with a local engineer.
- See the unit's nameplate for the absolute minimum clearance between the unit and any combustible surface(s).

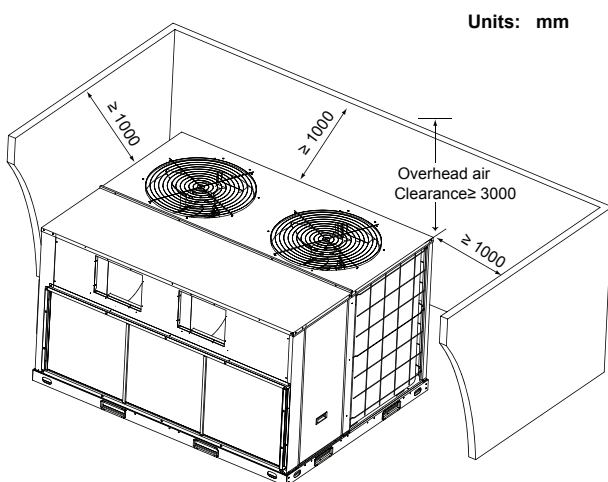


Fig.4-1

## 5. INSTALLATION

### 5.1 Lifting

- Rigging cables should have adequate capability to resist 3 times weight of unit. Before lift, please check and ensure that hooks are holding tightly to unit and lifting angles are no less than 60°. (See Fig. 5-1)
- Cloth material or hard-paper should be padded in the contact place between unit and rigging cable. Rigging cable should be entwined a round at the hook for prevent danger by cable slip because of weight unbalance.
- During lifting, anyone forbidden lingering under the lifting unit.

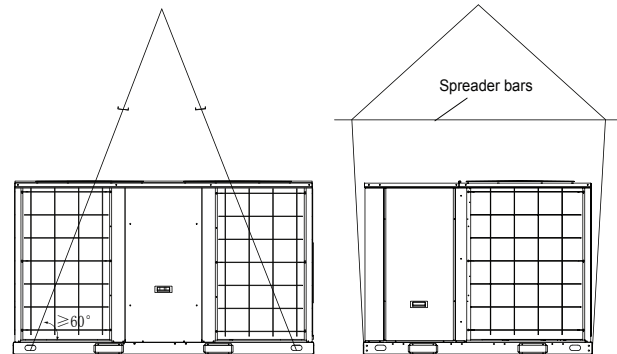


Fig.5-1

### 5.2 Rooftop-units

- **For roof top applications using a field fabricated frame and ducts, use the following procedure:**
- The frame must be located and secured by bolting or welding to the roof. Flashing is required.
- The hole in the roof must be prepared in advance of installing the unit.
- Secure the ducts to the roof.
- Place the unit on the frame or roof curb.
- Secure the unit to the frame or roof curb.
- Insulate any ductwork outside of the structure with at least 2 inches of insulation and then weatherproof. There must be a weatherproof seal where the duct enters the structure.
- Complete the installation according to the instructions in the following sections of this manual.
- Typical rooftop application with frame. (See Fig. 5-2)

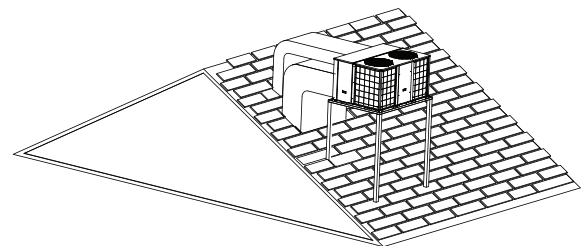


Fig.5-2

### 5.3 Ground level-horizontal units

- For ground level installations, the unit should be positioned on a pad in the size of the unit or larger. The unit must be level on the pad. The pad must not come in contact with the structure. Be sure the outdoor portion of the supply and return air ducts are as short as possible.
- Proceed with the installation as follows:
  - Place the unit on the pad.
  - Attach the supply and return air ducts to the unit.
  - Insulate any ductwork outside of the structure with at least 2 inches of insulation and weatherproof. There must be a weatherproof seal where the duct enters the structure.
  - Complete the installation according to the instructions in the following sections of this manual.
- Typical ground level application

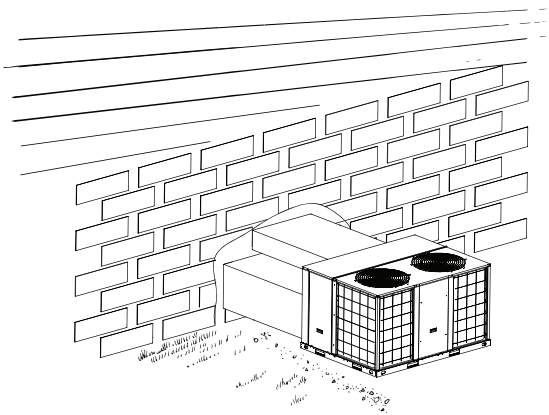


Fig.5-3

### 5.4 Condensate drain piping

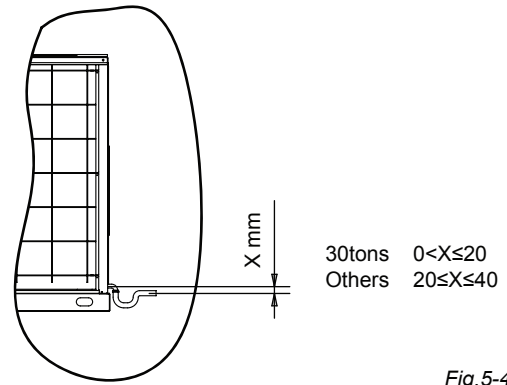
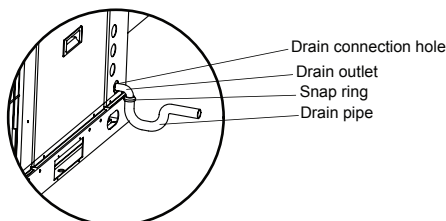
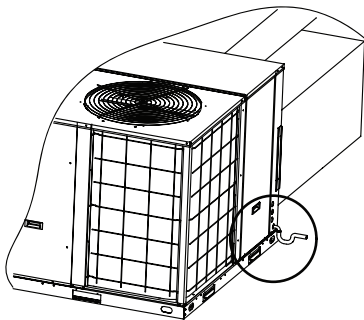


Fig.5-4

### 5.5 Ductwork

- Attaching horizontal ductwork to unit

All conditioned air ductwork should be insulated to minimize heating and cooling duct losses. Use a minimum of 2 inches of insulation with a vapor barrier. The outside ductwork must be weatherproofed between the unit and the building.

When attaching ductwork to a horizontal unit, provide a flexible watertight connection to prevent noise transmission from the unit to the ducts. The flexible connection must be indoors and made out of heavy canvas.



#### NOTE

Do not draw the canvas taut between the solid ducts.

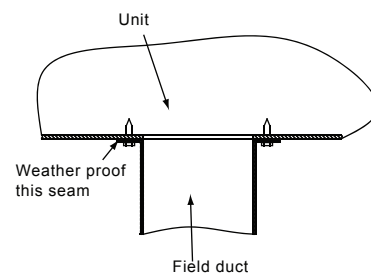


Fig.5-5

## 6. ELECTRICAL WIRING



#### WARNING

- An all-pole disconnection switch having a contact separation of at least 3mm in all poles should be connected in fixed wiring.
- The appliance shall be installed in accordance with national wiring regulations.
- An all-pole disconnection device which has at least 3mm separation distance in all pole and a residual current device(RCD)with the rating of above 10mA shall be incorporated in the fixed wiring according to the national rule.
- The appliance shall be installed in accordance with national wiring regulations.



## 6.1 Protections and safety control

### ■ Minutes delay for the compressor start-up

At the beginning of energizing, 3-minutes delay should be taken to start the compressor. while after the stop of the compressor, 7-minutes delay should be taken to re-start the compressor.

### ■ Compressor discharge temperature protection

When discharge temperature  $>257^{\circ}\text{F}$ , the compressor will stop.

### ■ Reverse phase protection relay

- The reverse phase protection relay will make the unit not start, when the power source is incorrectly connected.
- The checking of phase order is just carried out at the first time of electrifying. If malfunction happens then the checking will be going on until the order of phase is right, and the E0 will be displayed on the board. If there is no problem in the first checking, then it will be omitted.

### ■ High pressure and low pressure protection

When high pressure  $\geq 638$  Psi, and lower pressure  $\leq 21$  Psi, the unit will stop.

## 6.2 Electrical data

Tab.6-1

●220V 3Ph~ 60Hz

Nominal ton	Model type	Type of flow	Compressor				Evaporator fan motor			Condenser fan motor		
			STC	RNC	IPT	Qty	RNC	IPT	Qty	RNC (each)	IPT (each)	Qty
7.5	C/O	Hor.	191	24.8	8.23	1	5.04	1.09	1	5.45	1.65	1
10	C/O	Hor.	240	30.9	11	1	7.30	2.07	1	5.16	1.58	1
15	C/O	Hor.	240+155	30.9+16.3	11+5.5	1+1	11.40	3.37	1	5.28	1.64	1
20	C/O	Hor.	240	30.9	11	2	15.10	4.11	1	6.99	1.87	2
25	C/O	Hor.	245	38	12.4	2	19.68	5.93	1	8.80	2.60	2



### NOTES

- STC: Starting Current (A) RNC: Running Current (A) IPT: Input Power (kW) Qty: Quantity
- These data are based on the following conditions. Evaporator Air Input Temperature  $89.6^{\circ}\text{F}$  DB,  $73.4^{\circ}\text{F}$  WB. Condenser Air Input Temperature  $125.6^{\circ}\text{F}$  DB.

### 6.3 Wiring provision

■ **Field wiring**

The units are internally wired at the factory according to generally accepted electrical technology.

■ **Required field wiring**

Main power wiring to the unit control wiring between the control center and the unit, and earth wiring are required in the field.

■ **Required components**

The following components are required: main power fuses, conduit coupling, and field supplied room thermostat.

■ **Wire and fuse size selection for main power source**

Wire and fuse sizes should be selected in accordance with national and standard, taking the designed maximum current shall be the total of the compressor maximum current, condenser fan motor current and evaporator fan motor current(refer to “electrical data”).

■ **Wire size between room thermostat and unit**

The wire size between the room thermostat and the unit should be determined according to the following table, because the 24V power source is applied to the control circuit.

Tab.6-2

	Wiring length between room thermostat and unit(one way)				
	10m	15m	20m	30m	40m
Minimum wire size(mm <sup>2</sup> )	0.5	0.5	0.75	0.75	1.0



**NOTE**

- Before connecting the device to the public low-voltage supply systems the permission of the electricity supplier is forcefully necessary.

### 6.4 Operating conditions

For proper performance, run the unit under the following temperature conditions:

Tab.6-3

Cooling operation	Outdoor temperature: 50°F to 125.6°F
	Room temperature: 62°F to 88°F
	<b>Caution</b> Room relative humidity less than 80%. If the unit operates in excess of this figure, the surface of the unit may attract condensation.

### 6.5 Main power supply

Tab.6-2

Model type		Unit main power	Main power switch	Fuse	Wires for Power supplies	Type of wires
7.5Tons	C/O	220V 3Ph~ 60Hz	63A	50A	3x16mm <sup>2</sup> +2x10mm <sup>2</sup>	3xUL1015 5AWG 2xUL1015 7AWG
10Tons	C/O	220V 3Ph~ 60Hz	75A	63A	3x16mm <sup>2</sup> +2x10mm <sup>2</sup>	3xUL1015 5AWG 2xUL1015 7AWG
15Tons	C/O	220V 3Ph~ 60Hz	100A	90A	3x25mm <sup>2</sup> +2x10mm <sup>2</sup>	3xUL1015 3AWG 2xUL1015 7AWG
20Tons	C/O	220V 3Ph~ 60Hz	125A	110A	3x35mm <sup>2</sup> +2x16mm <sup>2</sup>	3xUL1015 2AWG 2xUL1015 5AWG
25Tons	C/O	220V 3Ph~ 60Hz	150A	125A	3x50mm <sup>2</sup> +2x25mm <sup>2</sup>	3xUL1015 1/0AWG 2xUL1015 3AWG



**NOTE**

- The power supply designation is H07RN-F.

## 6.6 Control wiring

### Power supply

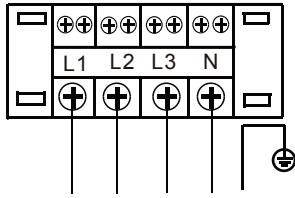


Fig.6-1

Next wire joint also available

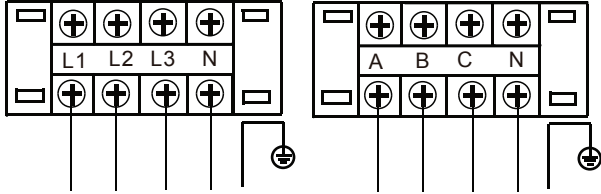
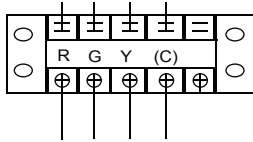


Fig.6-2

### To connect with wire controller

For C/O Units  
15 - 25 Tons



For E/Heater+C Units

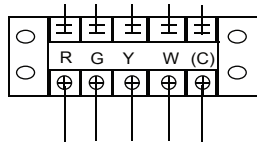


Fig.6-3

For C/O Units  
7.5, 10(C) Tons

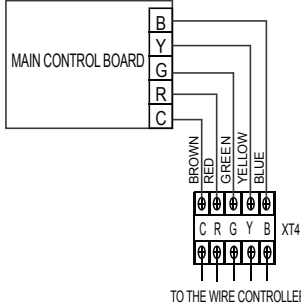


Fig.6-4

Suggestion: Thermostat choose KJR-23B or Non-programmed electrical thermostat series of Honeywell, such as TH 5220D. Wiring please refer to the Owner's Manual of the thermostat.

### Dial code settings

Set the dial code SW3 of PCB in unit's wire control box. After settings, please shut off the power supply and then repower, otherwise, the new settings function couldn't work.

- When SW3 has been set in "ON", please select KJR-12B wire controller;
- When SW3 has been set in "1", please select KJR-23B wire controller, KJR-23B is optional.

For C/O Units  
15 - 25 Tons

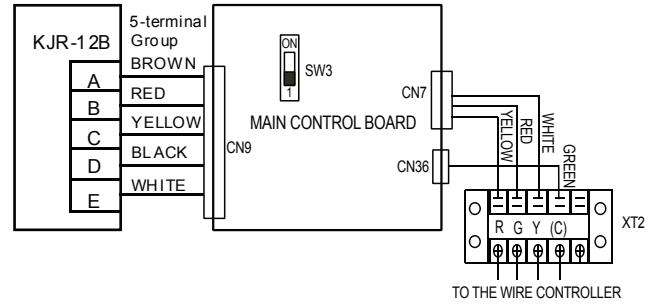


Fig.6-5

For E/Heater+C Units

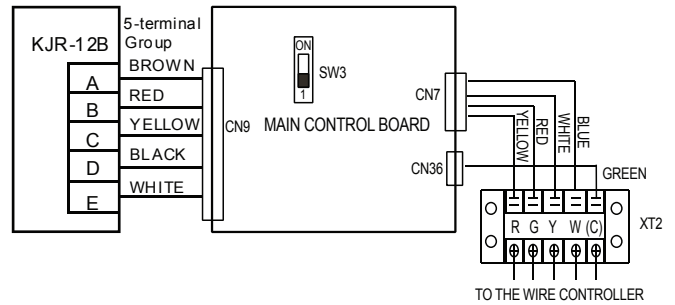


Fig.6-6

## 6.7 Error code

Tab.6-5 7.5, 10(C) Tons

NUM	CODE	LED1(RED)	LED2(YELLOW)	LED3(GREEN)
1	STANDBY	OFF	OFF	ON
2	FUNCTION	ON	ON	ON
3	PHASE-MISSING	FLASH	FLASH	FLASH
	PHASE-ERROR			
4	T1 SENSOR FAILURE	FLASH	FLASH	FLASH
	HIGH PRESSURE PROTECTION			
	VENT PROTECTION			
5	T2 SENSOR FAILURE	FLASH	OFF	FLASH
6	T3 SENSOR FAILURE	OFF	FLASH	FLASH
7	T4 SENSOR FAILURE	ON	FLASH	FLASH
8	T2 EVAPORATOR LOW TEMP. PROTECTION	OFF	FLASH	OFF
9	T2 EVAPORATOR HIGH TEMP. PROTECTION	FLASH	ON	ON
10	T3 CONDENSOR HIGH TEMP. PROTECTION	FLASH	OFF	OFF
11	LINE CONTROLLER INPUT FAILURE	FLASH	FLASH	ON
12	COMPRESSOR OVERCURRENT PROTECTION	OFF	OFF	FLASH
13	COMPRESSOR-INHALING LOW PRESSURE PROTECTION	FLASH	ON	FLASH
14	DEFROST	ON	FLASH	FLASH

Tab.6-6 15 - 25 Tons

Type	Content	Code	Remarks
Normal	Standby	—	
Normal	Constraint cool	on	
Normal	Run	10.	
Error	Compressor phase sequence error or phase default	E0	
Error	Outdoor coil sensor in sys. A error	E1	
Error	Outdoor coil sensor in sys. B error	E2	
Error	Overcurrent protection of system A are active 3 times within one hour	E3	Unit shall be power off to recovery
Error	Overcurrent protection of system B are active 3 times within one hour	E4	Unit shall be power off to recovery
Error	Indoor coil sensor in sys. A error	E5	
Error	Indoor coil sensor in sys. B error	E6	
Error	High、 low pressure protection or discharge temperature protection of system A reached 3 times	E7	Unit shall be power off to recovery
Error	High、 low pressure protection or discharge temperature protection of system B reached 3 times	E8	Unit shall be power off to recovery
Error	Indoor sensor error	E9	
Error	Outdoor ambient sensor error	EA	
Error	Wire controller output error	Eb	
Error	EEPROM error	EE	
Protection	Overcurrent protection in sys.A	P0	
Protection	Overcurrent protection in sys.B	P1	
Protection	Overcurrent protection for indoor fan	P2	
Protection	Comprehensive protection for outdoor fan	P3	
Protection	Protection for Hi./Lo. pressure or exhaust temp. in sys.A	P4	Comprehensive protection in sys.A
Protection	Protection for Hi./Lo. pressure or exhaust temp. in sys.B	P5	Comprehensive protection in sys.B
Protection	Hi-pressure protection initiated in T2 evaporator stops the outdoor unit fan	P6	
Protection	Hi-pressure protection initiated in T2 evaporator stops the outdoor unit fan and compressor	P7	
Protection	Protection for condenser Hi-temp. in sys.A	P8	
Protection	Protection for condenser Hi-temp. in sys.B	P9	
Protection	Anti-freezing protection for evaporator in sys. A	Pc	
Protection	Anti-freezing protection for evaporator in sys. B	Pd	
Protection	Defrosting	dF	
Protection	Protection for outdoor temp	PA	

# 7. SPECIFICATION

## 7.1 Physical Data

Tab.7-1

220V 3Ph~ 60Hz

Nominal ton		7.5 Tons	10 Tons	15 Tons	20 Tons
Model type		C/O	C/O	C/O	C/O
Type of flow		Hor.	Hor.	Hor.	Hor.
Capacity	Cooling capacity(net) (Btu/h) <sup>(1)</sup>	89000	120000	180000	240000
	Heating capacity (Btu/h)	---	---	---	---
Performance	EER	11.4	11.2	11.1	11.0
Dimensions	Length(mm)	1475	1483	1965	2192
	Width(mm)	1130	1138	1130	1670
	Height(mm)	840	1231	1230	1247
Net weight(kg)		235	325	470	670
Refrigerant type		R410A	R410A	R410A	R410A
Flow control		Piston	Piston	Piston	Piston
Compressor	Quantity/Type	1/Scroll	1/Scroll	2/Scroll	2/Scroll
Outdoor coil	Rows	3	2.5	3.5	3
	Fins per inch	17	17	16	17
	Tube diameter(in.)	9/32	9/32	5/16	9/32
Indoor coil	Rows	3	4	4	4
	Fins per inch	19	17	19	19
	Tube diameter(in.)	9/32	9/32	9/32	9/32
Outdoor fan	Quantity used/diameter(mm)	1/700	1/700	1/750	2/750
	Type	Propeller	Propeller	Propeller	Propeller
	Drive type	Direct	Direct	Direct	Direct
	Quantity speeds	1	1	1	1
	Quantity motors/power(kW)	1/1.65	1/1.58	1/1.64	2/1.865*2
	Motor RPM	1090	1100	1080	1150
	Nominal total CFM	7380	8815	8970	19600
Indoor fan	Quantity used/model	1/10×10	1/12×12	1/15×15	1/SYD315R2-L
	Type	FC Centrifugal	FC Centrifugal	FC Centrifugal	FC Centrifugal
	Drive type	Direct	Belt	Belt	Belt
	Quantity speeds	3	Variable sheave	Variable sheave	Variable sheave
	Quantity motors/power(kW)	1/1.09(80Pa)	1/2.07(90Pa)	1/3.37(110Pa)	1/4.11(120Pa)
	Motor RPM	1080/1000/920	1700	1730	1730
	Nominal total CFM <sup>(II)</sup>	2700	4120	6450	8580



### NOTES

■ <sup>(1)</sup> Cooling capacities are rated at 95 °F ambient DB, 80 °F entering DB, 67 °F entering WB.

■ <sup>(II)</sup> Units are suitable for operation to ±20% of nominal CFM.

Tab.7-1(con'd)  
220V 3Ph~ 60Hz

Nominal ton		25 Tons
Model type		C/O
Type of flow		Hbr.
Capacity	Cooling capacity(net) (Btu/h) <sup>(1)</sup>	300000
	Heating capacity (Btu/h)	---
Performance	EER	10.8
Dimensions	Length(mm)	2320
	Width(mm)	2220
	Height(mm)	1245
Net weight(kg)		895
Refrigerant type		R410A
Flow control		Capillary
Compressor	Quantity/Type	2/Scroll
Outdoor coil	Rows	3+2
	Fins per inch	17
	Tube diameter(in.)	9/32
Indoor coil	Rows	4
	Fins per inch	16
	Tube diameter(in.)	5/16
Outdoor fan	Quantity used/diameter(mm)	2/800
	Type	Propeller
	Drive type	Direct
	Quantity speeds	1
	Quantity motors/power(kW)	2/2.60*2
	Motor RPM	1130
	Nominal total CFM	25040
Indoor fan	Quantity used/model	1/SYD355R2-L
	Type	FC Centrifugal
	Drive type	Belt
	Quantity speeds	Variable sheave
	Quantity motors/power(kW)	1/5.94(250Pa)
	Motor RPM	1730
	Nominal total CFM <sup>(II)</sup>	11138



## NOTES

■ <sup>(1)</sup> Cooling capacities are rated at 95 °F ambient DB, 80 °F entering DB, 67 °F entering WB.

■ <sup>(II)</sup> Units are suitable for operation to ±20% of nominal CFM.



■ Parameter table for indoor unit air volume (220V 3Ph~ 60Hz)

**7.5 Tons (220V 3Ph~ 60Hz)**

Static pressure (Pa)		High speed	Middle speed	Low speed
0	Fan speed(RPM)	1035	936	844
	Power input(W)	1359	1242	1032
	Air flow (CFM)	3161	2685	2104
50	Fan speed(RPM)	1081	991	909
	Power input(W)	1258	1139	954
	Air flow (CFM)	2935	2601	2076
80	Fan speed(RPM)	<b>1110</b>	1026	954
	Power input(W)	<b>1202</b>	1082	919
	Air flow (CFM)	<b>2706</b>	2520	2065
100	Fan speed(RPM)	1127	1051	984
	Power input(W)	1159	1042	896
	Air flow (CFM)	2608	2452	2046
150	Fan speed(RPM)	1173	1110	1053
	Power input(W)	1050	944	818
	Air flow (CFM)	2422	2249	1938
200	Fan speed(RPM)	1217	1165	/
	Power input(W)	910	819	/
	Air flow (CFM)	2284	1930	/
250	Fan speed(RPM)	1263	1220	/
	Power input(W)	769	691	/
	Air flow (CFM)	2121	1815	/

Tab.7-2

BLOWER DRIVE OPTIONS							
UNIT MAIN POWER	MODEL TYPE	MOTOR			BLOWER		
		HP	RPM	PULLEY PITCH DIA. (INCH)	SPEED RANGE (RPM)		PULLEY PITCH DIA. (INCH)
					MINIMUM	MAXIMUM	
220V 3Ph~ 60Hz	10 Tons	2.9	1700	4.53~5.25	931	1016	8.82
	15 Tons	5.3	1730	4.53~5.25	941	1112	8.82
	20 Tons	7.3	1730	4.53~5.25	1081	1284	7.09
	25 Tons	10	1730	4.53~5.25	925	1088	7.87

Example for selection process:

The following data are the rated design points for model 10 Ton rooftop:

Air flow(CFM)=4183cfm

External static pressure(ESP)=0.3in.w.g

Fan speed(RPM)=980

Power input(W)=1915

The no. of turns (N) =1.0

To increase the ESP to 0.4in.w.g, but maintain the airflow rate at 4183cfm, please follow the steps below:

Step 1: Selection of new desired point.

From the table data, select the point that can meet both of the requirements (ESP = 0.4in.w.g and airflow rate(near or equal to) = 4183cfm).

Step 2: Read Fan speed(RPM), Power input(W):

Air flow(CFM)=4129cfm

Fan speed(RPM)=986

Power input(W)=2000

Step 3: Read number of turns for variable pitch pulley.

Similarly, use this RPM valve to read the no. of turns (N) by referring to the table of 'Motor Variable Pitch Pulley Data'. The variable pitch pulley for motor shall be adjusted to this 'N' in order to achieve the desired point (ESP = 0.4in.w.g and airflow rate =4183cfm). For instance, from the table, no. of turns (N) =0.5 in order to get 4129cfm. First, adjust the motor pulley to 0 turns. Then, makes 0.5 turns on the pulley. Cross check the dimension 'X', which stands for regulation space of motor pulley. In this case, X =1.5mm.

**10 Tons (220V 3Ph~60Hz )**

External static pressure(ESP)	N	0	0.25	0.5	0.75	1	1.25	1.5	1.75	2
	X	0.5	1	1.5	2	2.5	3	3.5	4	4.5
0	Fan speed(RPM)	/	/	/	/	972	967	962	946	931
	Power input(W)	/	/	/	/	2759	2390	2020	1945	1870
	Air flow (CFM)	/	/	/	/	4836	4704	4571	4500	4428
0.1	Fan speed(RPM)	/	/	/	/	974	969	964	969	933
	Power input(W)	/	/	/	/	2090	2010	1930	1855	1780
	Air flow (CFM)	/	/	/	/	4487	4442	4398	4323	4248
0.2	Fan speed(RPM)	/	/	980	978	977	972	967	972	935
	Power input(W)	/	/	2718	2354	1990	1915	1840	1765	1690
	Air flow (CFM)	/	/	4631	4476	4320	4272	4224	4146	4067
0.3	Fan speed(RPM)	/	/	983	981	980	975	970	975	937
	Power input(W)	/	/	2359	1998	1915	1843	1770	1695	1620
	Air flow (CFM)	/	/	4380	4214	4183	4127	4072	3997	3922
0.4	Fan speed(RPM)	989	987	986	984	982	977	972	977	938
	Power input(W)	2774	2387	2000	1900	1800	1730	1660	1590	1520
	Air flow (CFM)	4480	4305	4129	4052	3974	3905	3835	3771	3707
0.5	Fan speed(RPM)	999	989	989	987	985	980	975	980	940
	Power input(W)	2412	1980	1960	1833	1705	1635	1565	1495	1425
	Air flow (CFM)	4155	4065	3953	3927	3789	3719	3648	3579	3509
0.6	Fan speed(RPM)	1009	991	991	990	988	983	978	983	942
	Power input(W)	2050	1880	1865	1738	1610	1540	1470	1400	1330
	Air flow (CFM)	3891	3830	3778	3748	3605	3532	3460	3386	3312
0.7	Fan speed(RPM)	1011	993	994	992	990	/	/	/	/
	Power input(W)	1945	1775	1770	1638	1505	/	/	/	/
	Air flow (CFM)	3718	3656	3586	3549	3381	/	/	/	/
0.8	Fan speed(RPM)	1012	995	997	995	993	/	/	/	/
	Power input(W)	1840	1670	1660	1530	1400	/	/	/	/
	Air flow (CFM)	3517	3481	3394	3337	3157	/	/	/	/
0.9	Fan speed(RPM)	1014	996	1000	/	/	/	/	/	/
	Power input(W)	1725	1545	1550	/	/	/	/	/	/
	Air flow (CFM)	3316	3292	3148	/	/	/	/	/	/
1.0	Fan speed(RPM)	1016	998	1002	/	/	/	/	/	/
	Power input(W)	1610	1420	1425	/	/	/	/	/	/
	Air flow (CFM)	3104	3048	2902	/	/	/	/	/	/
1.1	Fan speed(RPM)									
	Power input(W)									
	Air flow (CFM)									

Legend: X: Regulation Space of Motor Pulley (mm); N: Number of Turns; ESP: External Static Pressure (in.w.g)

**15 Tons (220V 3Ph-60Hz )**

External static pressure(ESP)	N	0	0.25	0.5	0.75	1	1.25	1.5	1.75	2
	X	0.5	1	1.5	2	2.5	3	3.5	4	4.5
0	Fan speed(RPM)	/	/	1008	999	989	979	969	959	949
	Power input(W)	/	/	5146	4968	4790	4575	4360	4155	3950
	Air flow (CFM)	/	/	7928	7867	7805	7686	7566	7452	7338
0.1	Fan speed(RPM)	/	/	1014	1003	991	983	974	964	953
	Power input(W)	/	/	5043	4824	4605	4418	4230	4025	3820
	Air flow (CFM)	/	/	7791	7691	7592	7473	7353	7239	7124
0.2	Fan speed(RPM)	/	1022	1020	1006	993	986	979	968	957
	Power input(W)	/	4954	4940	4680	4420	4260	4100	3895	3690
	Air flow (CFM)	/	7700	7653	7516	7379	7259	7139	7025	6910
0.3	Fan speed(RPM)	1031	1026	1022	1009	995	989	982	971	960
	Power input(W)	4870	4810	4750	4495	4240	4088	3935	3745	3555
	Air flow (CFM)	7622	7529	7436	7313	7191	7048	6904	6790	6675
0.4	Fan speed(RPM)	1035	1028	1021	1008	995	988	982	971	959
	Power input(W)	4770	4665	4560	4310	4060	3915	3770	3595	3420
	Air flow (CFM)	7475	7347	7219	7111	7002	6836	6669	6554	6439
0.5	Fan speed(RPM)	1050	1044	1039	1026	1013	1006	998	990	981
	Power input(W)	4510	4440	4370	4123	3875	3760	3645	3465	3285
	Air flow (CFM)	7113	7046	6979	6844	6708	6571	6434	6297	6159
0.6	Fan speed(RPM)	1060	1056	1052	1039	1026	1021	1015	1005	995
	Power input(W)	4350	4290	4230	4005	3780	3695	3610	3410	3210
	Air flow (CFM)	6899	6863	6828	6679	6531	6411	6291	6134	5976
0.7	Fan speed(RPM)	1070	1065	1060	1049	1039	1032	1025	1017	1008
	Power input(W)	4170	4078	3985	3808	3630	3518	3405	3248	3090
	Air flow (CFM)	6658	6609	6559	6419	6279	6161	6043	5859	5675
0.8	Fan speed(RPM)	1082	1074	1067	1059	1051	1044	1036	1028	1020
	Power input(W)	3990	3865	3740	3610	3480	3340	3200	3085	2970
	Air flow (CFM)	6418	6354	6291	6159	6027	5911	5794	5584	5375
0.9	Fan speed(RPM)	1089	1082	1074	1065	1056	1048	1040	1033	1027
	Power input(W)	3855	3728	3600	3455	3310	3180	3050	2928	2805
	Air flow (CFM)	6194	6108	6022	5879	5736	5600	5464	5269	5075
1.0	Fan speed(RPM)	1097	1089	1082	1072	1061	1053	1044	1038	1033
	Power input(W)	3720	3590	3460	3300	3140	3020	2900	2770	2640
	Air flow (CFM)	5971	5862	5754	5600	5446	5289	5133	4954	4776
1.1	Fan speed(RPM)	1104	1095	1086	1076	1065	/	/	/	/
	Power input(W)	3595	3438	3280	3115	2950	/	/	/	/
	Air flow (CFM)	5705	5585	5464	5308	5151	/	/	/	/
1.2	Fan speed(RPM)	1112	/	/	/	/	/	/	/	/
	Power input(W)	3470	/	/	/	/	/	/	/	/
	Air flow (CFM)	5439	/	/	/	/	/	/	/	/
1.3	Fan speed(RPM)	1112	/	/	/	/	/	/	/	/
	Power input(W)	3470	/	/	/	/	/	/	/	/
	Air flow (CFM)	5439	/	/	/	/	/	/	/	/

Legend: X: Regulation Space of Motor Pulley (mm); N: Number of Turns; ESP: External Static Pressure (in.w.g)

**20 Tons (220V 3Ph~60Hz)**

External static pressure(ESP)	N	0	0.25	0.5	0.75	1	1.25	1.5	1.75	2	2.25	2.5	2.75	3
	X	0.5	1	1.5	2	2.5	3	3.5	4	4.5	5	5.5	6	6.5
0	Fan speed(RPM)	/	/	/	/	1194	1181	1168	1154	1140	1127	1113	1098	1081
	Power input(W)	/	/	/	/	6951	6710	6468	6266	6063	5831	5599	5422	5188
	Air flow (CFM)	/	/	/	/	11210	11104	10997	10872	10746	10623	10499	10306	10078
0.1	Fan speed(RPM)	/	/	/	/	1195	1182	1169	1155	1141	1128	1114	1100	1083
	Power input(W)	/	/	/	/	6756	6531	6306	6103	5901	5671	5442	5255	5057
	Air flow (CFM)	/	/	/	/	10982	10890	10798	10668	10539	10398	10258	10068	9892
0.2	Fan speed(RPM)	/	/	/	1214	1196	1183	1170	1156	1142	1129	1115	1101	1084
	Power input(W)	/	/	/	6944	6561	6352	6143	5941	5738	5512	5285	5088	4926
	Air flow (CFM)	/	/	/	10877	10754	10676	10599	10465	10332	10174	10016	9829	9705
0.3	Fan speed(RPM)	/	/	/	1214	1197	1184	1171	1157	1143	1130	1116	1102	1085
	Power input(W)	/	/	/	6738	6390	6180	5970	5754	5539	5328	5118	5069	4748
	Air flow (CFM)	/	/	/	10628	10540	10453	10367	10207	10047	9898	9749	9807	9403
0.4	Fan speed(RPM)	/	1240	1228	1215	1198	1185	1172	1158	1145	1131	1117	1103	1087
	Power input(W)	/	6941	6765	6532	6218	6008	5797	5568	5339	5145	4950	5049	4570
	Air flow (CFM)	/	10582	10491	10378	10326	10230	10135	9948	9761	9622	9483	9785	9102
0.5	Fan speed(RPM)	/	1241	1230	1215	1199	1186	1173	1159	1146	1131	1117	1105	1091
	Power input(W)	/	6753	6659	6367	6068	5866	5663	5441	5218	5013	4808	4570	4351
	Air flow (CFM)	/	10357	10349	10170	10113	10017	9922	9753	9584	9435	9285	9024	8815
0.6	Fan speed(RPM)	1258	1242	1230	1216	1202	1189	1175	1162	1149	1134	1120	1105	1091
	Power input(W)	6736	6565	6360	6158	5820	5611	5401	5180	4958	4769	4579	4327	4141
	Air flow (CFM)	10287	10132	10049	9952	9818	9692	9566	9395	9224	9069	8915	8599	8418
0.7	Fan speed(RPM)	1261	1244	1232	1218	1204	1190	1177	1163	1149	1135	1121	1106	1093
	Power input(W)	6511	6332	6169	5929	5607	5391	5175	4953	4731	4545	4358	4107	3925
	Air flow (CFM)	10042	9864	9794	9650	9524	9377	9231	9046	8861	8699	8537	8243	8045
0.8	Fan speed(RPM)	1263	1245	1233	1221	1205	1192	1179	1164	1150	1136	1123	1106	1094
	Power input(W)	6285	6099	5977	5700	5394	5172	4949	4727	4504	4321	4137	3887	3709
	Air flow (CFM)	9798	9597	9540	9347	9230	9063	8896	8697	8497	8328	8158	7887	7672
0.9	Fan speed(RPM)	1264	1248	1235	1222	1207	1194	1181	1166	1152	1138	1124	1110	1096
	Power input(W)	6046	5871	5696	5451	5160	4923	4686	4461	4237	4049	3861	3624	3433
	Air flow (CFM)	9505	9301	9183	9019	8877	8693	8508	8291	8074	7871	7669	7387	7138
1.0	Fan speed(RPM)	1265	1251	1237	1224	1209	1196	1183	1169	1154	1140	1126	1113	1099
	Power input(W)	5807	5643	5415	5201	4925	4674	4422	4196	3969	3777	3585	3361	3157
	Air flow (CFM)	9212	9004	8826	8691	8524	8322	8120	7885	7650	7415	7180	6887	6605
1.1	Fan speed(RPM)	1267	1253	1239	1226	1211	1198	1185	1171	1157	1144	1130	1117	1094
	Power input(W)	5523	5350	5120	4872	4585	4322	4059	3812	3564	3331	3098	2800	2662
	Air flow (CFM)	8831	8594	8380	8204	8010	7740	7470	7173	6876	6487	6099	5562	5395
1.2	Fan speed(RPM)	1269	1254	1242	1228	1213	1201	1188	1174	1160	1147			
	Power input(W)	5238	5056	4825	4542	4245	3971	3696	3428	3159	2885			
	Air flow (CFM)	8450	8184	7933	7717	7495	7157	6819	6460	6102	5560			
1.3	Fan speed(RPM)	1272	1258	1245	1233	1218	1206		/	/	/	/	/	/
	Power input(W)	4892	4650	4334	3987	3707	3334		/	/	/	/	/	/
	Air flow (CFM)	7955	7559	7136	6775	6406	5820		/	/	/	/	/	/
1.4	Fan speed(RPM)	1276	1262	1248	1235		/	/	/	/	/	/	/	/
	Power input(W)	4546	4243	3842	3731		/	/	/	/	/	/	/	/
	Air flow (CFM)	7459	6935	6339	6285		/	/	/	/	/	/	/	/
1.5	Fan speed(RPM)	1280	1267		/	/	/	/	/	/	/	/	/	/
	Power input(W)	3982	3457		/	/	/	/	/	/	/	/	/	/
	Air flow (CFM)	6465	5433		/	/	/	/	/	/	/	/	/	/
1.6	Fan speed(RPM)	1284	/	/	/	/	/	/	/	/	/	/	/	/
	Power input(W)	3417	/	/	/	/	/	/	/	/	/	/	/	/
	Air flow (CFM)	5471	/	/	/	/	/	/	/	/	/	/	/	/

Legend: X: Regulation Space of Motor Pulley (mm); N: Number of Turns; ESP: External Static Pressure (in.w.g)

**25 Tons (220V 3Ph-60Hz )**

External static pressure(ESP)	N	0	0.25	0.5	0.75	1	1.25	1.5	1.75	2	2.25	2.5	2.75	3
	X	0.5	1	1.5	2	2.5	3	3.5	4	4.5	5	5.5	6	6.5
0.5	Fan speed(RPM)	/	/	/	/	/	/	/	/	/	1215	1185	1181	1176
	Power input(W)	/	/	/	/	/	/	/	/	/	7350	7164	7155	7146
	Air flow (CFM)	/	/	/	/	/	/	/	/	/	12552	12275	12208	12141
0.6	Fan speed(RPM)	/	/	/	/	/	/	/	/	1225	1216	1186	1181	1177
	Power input(W)	/	/	/	/	/	/	/	/	8405	7032	6874	6860	6845
	Air flow (CFM)	/	/	/	/	/	/	/	/	12706	12210	11958	11867	11777
0.7	Fan speed(RPM)	/	/	/	/	/	/	/	1230	1220	1216	1187	1183	1178
	Power input(W)	/	/	/	/	/	/	/	6950	6846	6742	6607	6589	6571
	Air flow (CFM)	/	/	/	/	/	/	/	12704	12377	11835	11597	11500	11402
0.8	Fan speed(RPM)	/	/	/	/	/	/	1230	1225	1220	1217	1188	1184	1180
	Power input(W)	/	/	/	/	/	/	8379	8203	7854	6452	6339	6318	6297
	Air flow (CFM)	/	/	/	/	/	/	12654	12423	12048	11460	11237	11132	11028
0.9	Fan speed(RPM)	/	/	/	/	/	1215	1210	1200	1200	1189	1185	1183	1181
	Power input(W)	/	/	/	/	/	8155	8124	7923	7573	6195	6090	6062	6033
	Air flow (CFM)	/	/	/	/	/	12362	12352	12092	11671	11140	10926	10773	10620
1	Fan speed(RPM)	/	/	/	1220	1215	1214	1209	1200	1200	1189	1185	1182	1182
	Power input(W)	/	/	/	8696	8497	7868	7868	7643	7292	5938	5841	5805	5769
	Air flow (CFM)	/	/	/	12321	12063	12045	12050	11762	11294	10821	10615	10413	10212
1.1	Fan speed(RPM)	/	/	1220	1218	1213	1210	1207	1199	1199	1188	1182	1181	/
	Power input(W)	/	/	8383	8404	8195	6473	6463	6317	5952	5779	5693	5768	/
	Air flow (CFM)	/	/	11957	11970	11681	11553	11509	11280	10792	10452	10300	10200	/
1.2	Fan speed(RPM)	/	1220	1218	1215	1210	1208	1205	1197	1197	1188	1181	/	/
	Power input(W)	/	8566	8077	8111	7892	6495	6475	6409	6029	5843	5768	/	/
	Air flow (CFM)	/	12174	11596	11619	11299	11308	11215	11045	10536	10098	9999	/	/
1.3	Fan speed(RPM)	/	1218	1215	1212	1208	1206	1203	1195	1191	1186	/	/	/
	Power input(W)	/	8576	8216	8117	7892	6186	6316	5915	5870	5939	/	/	/
	Air flow (CFM)	/	12402	11891	11681	11299	10418	10847	9838	10168	9105	/	/	/
1.4	Fan speed(RPM)	1220	1215	1213	1210	1206	1201	1200	1188	1178	/	/	/	/
	Power input(W)	8629	7946	7715	7484	7253	6250	6380	5979	5934	/	/	/	/
	Air flow (CFM)	11462	11818	11374	10931	10487	10034	9605	9356	9025	/	/	/	/
1.5	Fan speed(RPM)	1215	1211	1210	1209	1205	1201	1200	1189	/	/	/	/	/
	Power input(W)	8342	8575	8809	7967	7126	6123	6253	5852	/	/	/	/	/
	Air flow (CFM)	11076	11514	11952	11069	10187	9733	9304	9055	/	/	/	/	/
1.6	Fan speed(RPM)	1206	1204	1201	1201	1200	1196	1189	/	/	/	/	/	/
	Power input(W)	8055	8011	7967	7791	6999	5996	6126	/	/	/	/	/	/
	Air flow (CFM)	10689	10656	10622	10489	9886	9433	9004	/	/	/	/	/	/
1.7	Fan speed(RPM)	1200	1200	1196	1196	1189	1186	/	/	/	/	/	/	/
	Power input(W)	5571	5615	5659	5835	6627	5624	/	/	/	/	/	/	/
	Air flow (CFM)	8441	8474	8508	8642	9244	8791	/	/	/	/	/	/	/
1.8	Fan speed(RPM)	1186	1184	1184	1184	1180	1180	/	/	/	/	/	/	/
	Power input(W)	7310	7266	7222	7046	6254	5251	/	/	/	/	/	/	/
	Air flow (CFM)	9406	9373	9339	9205	8603	8150	/	/	/	/	/	/	/

Legend: X: Regulation Space of Motor Pulley (mm); N: Number of Turns; ESP: External Static Pressure (in.w.g)  
 PULLEY PITCH Factory set point:The table, no. of turns (N) =1.5  
 Bold data is the performance testing set point  
 Gray bottom data are rated airflow

## 7.2 Capacity Data (220V 3Ph~ 60Hz)

■ Cooling capacity — 7.5 Tons (220V 3Ph~ 60Hz)

Air Flow(CFM)			2100.0				2950.0				3200.0				
Ent (DB)			(□)	75.0	80.0	85.0	90.0	75.0	80.0	85.0	90.0	75.0	80.0	85.0	90.0
Ambient Temperature	85	61	TC	77.6	79.4	81.1	82.9	82.4	84.2	86.1	88.0	84.4	86.3	88.2	90.2
			SC	67.8	75.6	80.6	81.5	72.5	79.5	83.5	86.5	77.1	79.7	83.2	87.7
			PI	7112.8	7257.9	7513.1	7803.3	7350.1	7495.2	7760.3	8055.5	7448.9	7599.0	7864.1	8164.2
		67	TC	89.9	91.9	93.9	96.0	91.0	93.0	95.1	97.2	91.8	93.8	95.9	98.0
			SC	50.7	64.0	77.1	89.7	53.1	67.8	80.7	91.7	54.6	69.0	83.5	95.5
			PI	7560.0	7735.1	8145.9	8496.0	7614.3	7789.4	8205.3	8555.4	7653.9	7829.0	8244.8	8594.9
		73	TC	93.7	95.8	97.9	100.0	94.3	96.4	98.5	100.6	94.5	96.6	98.7	100.9
			SC	31.9	46.2	57.3	67.8	32.4	45.9	57.6	70.5	32.9	50.0	58.6	70.8
			PI	8594.4	8794.5	9144.6	9539.8	8624.1	8824.2	9174.3	9569.4	8634.0	8834.1	9184.2	9584.3
	95	61	TC	73.7	75.4	77.1	78.8	76.1	77.8	79.6	81.4	78.4	80.2	82.0	83.8
			SC	64.7	70.8	73.3	76.8	67.4	73.8	76.5	80.7	70.3	74.5	78.8	82.1
			PI	7676.0	7856.1	8116.3	8411.4	7794.6	7974.8	8239.9	8540.0	7908.3	8093.4	8358.5	8658.6
		67	TC	80.7	82.5	84.4	86.2	82.2	89.0	91.9	93.4	86.5	91.4	93.4	95.2
			SC	49.0	62.9	76.9	81.6	51.4	66.6	81.8	86.7	53.8	70.2	86.1	87.4
			PI	7397.2	7594.3	7829.9	8180.0	7471.3	7800.2	8200.7	8535.9	7683.9	7909.0	8274.8	8624.9
		73	TC	92.9	95.0	97.1	99.2	93.4	95.5	97.6	99.7	93.8	95.9	98.0	100.1
			SC	30.8	45.4	57.6	69.9	31.3	46.4	59.4	72.7	31.9	47.2	60.9	74.6
			PI	9030.9	9281.0	9756.6	10156.7	9055.7	9305.8	9781.4	10181.5	9075.4	9325.5	9801.1	10201.2
	105	61	TC	67.2	68.7	70.3	71.9	69.5	71.1	72.7	74.4	71.6	73.2	74.9	76.6
			SC	61.5	63.5	66.6	68.6	66.3	67.6	71.6	73.8	70.4	71.7	73.2	75.8
			PI	7850.7	8080.8	8431.7	8726.8	7964.4	8199.5	8550.3	8850.4	8068.2	8303.3	8659.1	8959.2
		67	TC	79.5	81.3	83.1	85.0	81.4	83.2	85.1	87.0	82.9	84.8	86.6	88.6
			SC	46.1	60.2	74.5	81.7	48.8	61.4	80.3	85.7	51.4	68.5	85.9	87.7
			PI	8017.1	8262.3	8618.1	8963.2	8111.0	8356.2	8717.0	9062.1	8185.2	8435.3	8791.1	9141.2
		73	TC	90.4	92.4	94.5	96.5	90.3	92.3	94.3	96.4	91.8	93.8	95.9	98.0
			SC	29.3	44.1	59.5	72.2	29.2	45.6	60.9	74.2	30.5	47.4	62.5	76.3
			PI	9750.3	10030.4	10606.0	11001.1	9745.3	10025.4	10596.1	10996.2	9819.5	10099.6	10675.2	11075.3
	115	61	TC	54.7	56.1	57.5	59.0	56.6	58.0	59.5	61.0	59.2	60.7	62.2	63.8
			SC	52.6	54.1	56.0	58.3	50.6	53.8	57.2	58.8	56.7	58.6	60.6	62.9
			PI	8407.4	8652.6	8877.7	9172.9	8501.4	8746.5	8976.6	9271.8	8629.9	8880.0	9110.1	9410.2
		67	TC	66.1	67.7	69.4	71.1	67.9	69.6	71.3	73.0	69.5	71.2	72.9	74.7
			SC	37.2	51.6	65.0	69.9	39.9	55.5	67.9	71.8	42.5	59.7	71.7	74.3
			PI	8336.1	8606.2	8962.1	9307.2	8425.1	8600.2	9056.0	9401.2	8504.2	8779.3	9135.1	9485.2
		73	TC	80.2	82.1	84.1	86.1	75.4	77.2	79.1	81.0	82.3	84.3	86.3	88.3
			SC	21.8	35.8	50.8	66.1	22.4	37.9	53.1	67.8	23.1	39.9	56.2	72.0
			PI	9721.5	10016.7	10592.2	10992.3	9484.2	9774.4	10345.1	10740.2	9825.3	10125.4	10701.0	11101.1
	118.4	61	TC	53.7	55.1	56.5	58.0	55.6	57.0	58.5	60.0	58.2	59.7	61.2	62.8
			SC	51.6	53.1	55.0	57.3	49.6	52.8	56.2	57.8	55.7	57.6	59.6	61.9
			PI	8637.4	8882.6	9227.7	9522.9	8731.4	8976.5	9326.6	9621.8	8859.9	9110.0	9460.1	9760.2
		67	TC	65.6	67.1	68.7	70.3	67.4	69.1	70.6	72.2	69.0	70.6	72.2	73.9
			SC	36.7	51.0	64.3	69.1	39.4	54.7	67.2	71.0	42.0	59.1	70.5	73.5
			PI	8635.8	8906.0	9269.6	9613.0	8724.8	8700.0	9363.6	9707.0	8803.9	9079.0	9440.9	9791.0
		73	TC	79.2	81.1	83.1	85.1	74.4	76.2	78.1	80.0	81.3	83.3	85.3	87.3
			SC	20.8	34.8	49.8	65.1	21.4	36.9	52.1	66.8	22.1	38.9	55.2	71.0
			PI	10369.3	10714.4	11290.0	11690.1	10131.9	10472.2	11042.8	11438.0	10473.1	10823.2	11398.8	11798.9
	125	61	TC	49.3	50.6	51.9	53.3	51.1	52.4	53.7	55.1	53.4	54.8	56.2	57.7
			SC	47.4	48.8	50.5	52.6	45.5	48.5	51.6	53.1	51.1	52.9	54.7	56.9
			PI	9132.2	9402.4	9747.5	10042.7	9221.2	9491.3	9836.5	10131.7	9334.9	9610.0	9960.1	10260.2
67		TC	59.8	61.3	62.8	64.4	61.4	63.0	64.5	66.1	62.9	64.5	66.1	67.7	
		SC	33.3	46.5	58.8	63.3	35.7	50.1	61.4	65.0	38.1	53.9	64.9	67.3	
		PI	8986.5	9281.7	9688.7	10038.8	9065.6	9365.7	9772.7	10122.8	9139.8	9439.9	9851.8	10201.9	
73		TC	72.7	74.5	76.3	78.1	68.3	70.0	71.7	73.4	74.6	76.4	78.3	80.1	
		SC	19.1	32.0	45.7	59.8	19.7	33.9	47.9	61.4	20.3	35.7	50.7	65.2	
		PI	11076.9	11477.0	12082.6	12482.7	10859.4	11254.5	11855.2	12250.4	11170.8	11570.9	12181.5	12581.6	

**Notes:**

1. All capacities are net and have considered indoor fan heat.
2. TC=Total Capacity. (Unit:1000Btu/h)
3. SC=SensibleCapacity. (Unit:1000Btu/h)
4. different air volume in the above table, need to adjust in the field



■ Cooling capacity — 10 Tons (220V 3Ph~ 60Hz)

Air Flow(CFM)			2900				4200				4800				
Ent (DB)	(°F)		75	80	85	90	75	80	85	90	75	80	85	90	
Ambient Temperature	85	61	TC	106.6	109.0	111.4	113.7	109.6	112.0	114.4	116.7	112.5	115.0	117.4	119.8
			SC	92.5	94.6	96.7	98.7	95.5	97.6	99.7	101.7	101.9	104.2	106.4	108.5
			PI	9374.6	9686.2	10043.3	10557.7	9633.5	9945.0	10302.2	10816.6	9883.7	10203.9	10561.0	11084.0
		67	TC	119.1	121.8	124.4	127.0	122.1	124.8	127.4	130.0	123.3	126.0	128.6	131.2
			SC	68.9	87.9	104.3	120.8	71.9	90.9	107.3	123.8	74.3	93.2	111.8	127.5
			PI	10455.4	10790.6	11165.0	11698.0	10714.3	11049.5	11423.9	11956.9	10817.8	11153.0	11527.4	12060.4
		73	TC	123.6	126.4	129.1	131.7	126.6	129.4	132.1	134.7	127.0	129.8	132.5	135.2
			SC	43.4	60.8	75.6	91.3	46.4	63.8	78.6	94.3	47.0	64.7	80.2	95.7
			PI	10837.3	11187.5	11570.6	12111.9	11096.2	11446.4	11829.4	12370.8	11130.7	11480.9	11863.9	12413.9
	95	61	TC	98.5	100.8	103.0	105.1	101.5	103.8	106.0	108.1	104.6	106.9	109.2	111.4
			SC	88.4	90.5	92.4	94.4	91.4	93.5	95.4	97.4	97.9	100.1	102.2	104.3
			PI	8753.4	9073.6	9499.7	10014.1	9012.2	9332.4	9758.6	10273.0	9279.7	9599.9	10034.7	10557.7
		67	TC	114.4	117.0	119.5	122.0	117.4	120.0	122.5	125.0	121.2	125.9	127.5	129.1
			SC	66.5	85.7	104.6	119.4	69.5	88.7	107.6	122.4	73.0	93.7	113.0	123.3
			PI	10107.4	10261.4	10713.4	11324.1	10366.2	10700.2	10972.3	11582.9	10694.1	11029.3	11403.7	11936.7
		73	TC	122.5	125.2	127.9	130.6	125.5	128.2	130.9	133.6	125.8	128.5	131.2	133.9
			SC	42.0	61.3	77.5	93.8	45.0	64.3	80.5	96.8	45.9	65.6	83.3	100.9
			PI	10828.7	11178.9	11648.2	12198.2	11087.6	11437.8	11907.1	12457.1	11113.4	11463.6	11933.0	12483.0
	105	61	TC	90.2	92.3	94.3	96.3	93.2	95.3	97.3	99.3	96.5	98.7	100.8	102.8
			SC	84.3	86.3	88.2	90.0	87.3	89.3	91.2	93.0	93.9	96.0	98.0	100.0
			PI	10064.9	10376.5	10716.4	11239.4	10323.7	10635.3	10975.2	11498.2	10608.5	10928.7	11277.2	11800.2
		67	TC	106.0	108.4	110.8	113.1	109.0	111.4	113.8	116.1	111.6	114.1	116.5	118.8
			SC	63.3	82.3	101.9	111.6	66.3	85.3	104.9	114.6	70.0	91.0	112.7	116.9
			PI	11439.1	11765.6	12140.0	12673.0	11697.9	12024.5	12398.9	12931.9	11922.3	12257.5	12631.9	13164.9
		73	TC	119.5	122.2	124.8	127.4	122.5	125.2	127.8	130.4	123.3	126.0	128.6	131.2
			SC	40.0	59.1	77.0	94.3	43.0	62.1	80.0	97.3	43.9	64.5	84.3	102.7
			PI	12606.2	12956.4	13348.0	13898.0	12865.0	13215.2	13606.9	14156.9	12934.0	13284.2	13675.9	14225.9
	115	61	TC	80.0	81.9	83.8	85.6	83.0	84.9	86.8	88.6	85.9	87.9	89.8	91.7
			SC	78.3	80.2	82.0	83.8	81.3	83.2	85.0	86.8	82.9	84.8	86.7	88.5
			PI	10694.2	11005.7	11500.9	12015.3	10953.0	11264.6	11759.8	12274.2	11203.2	11523.4	12018.6	12541.6
		67	TC	95.0	97.2	99.4	101.5	98.0	100.2	102.4	104.5	99.9	103.9	104.4	106.5
			SC	57.2	77.1	96.1	98.1	60.2	80.1	99.1	101.1	64.0	85.1	102.3	104.4
			PI	12061.3	12241.2	12762.3	13295.3	12320.1	12500.0	13021.1	13554.1	12484.1	12819.3	13193.7	13726.7
		73	TC	112.9	115.5	118.0	120.5	115.9	118.5	121.0	123.5	116.8	119.4	122.0	124.5
			SC	35.9	55.2	74.1	92.7	38.9	58.2	77.1	95.7	39.6	61.0	81.3	101.1
			PI	13554.7	13904.9	14451.9	15001.9	13813.5	14163.7	14710.7	15260.7	13891.2	14241.4	14797.0	15347.0
118.4	61	TC	77.8	79.7	81.6	83.4	80.8	82.7	84.6	86.4	83.7	85.7	87.6	89.5	
		SC	76.1	78.0	79.8	81.6	79.1	81.0	82.8	84.6	80.7	82.6	84.5	86.3	
		PI	10815.0	11126.5	11622.5	12136.9	11073.8	11385.4	11881.4	12395.7	11324.0	11644.2	12140.2	12663.2	
	67	TC	93.2	95.4	97.6	99.7	96.2	98.0	100.6	102.7	98.1	102.1	102.6	104.7	
		SC	55.4	75.3	94.3	96.3	58.4	78.3	97.3	99.3	62.2	83.3	97.7	102.6	
		PI	12301.3	12481.2	13003.1	13535.3	12560.2	12700.0	13261.9	13794.1	12724.1	13059.3	13433.7	13966.7	
	73	TC	110.7	113.3	115.8	118.3	113.7	116.3	118.8	121.3	114.6	117.2	119.8	122.3	
		SC	33.7	53.0	71.9	90.5	36.7	56.0	74.9	93.5	37.4	58.8	79.1	98.9	
		PI	13675.5	14025.7	14573.4	15123.4	13934.3	14284.5	14832.3	15382.3	14012.0	14362.2	14918.6	15468.6	
125	61	TC	72.2	73.9	75.6	77.3	75.2	76.9	78.6	80.3	77.8	79.6	81.4	83.1	
		SC	70.6	72.3	74.0	75.6	73.6	75.3	77.0	78.6	75.1	76.8	78.5	80.2	
		PI	11720.9	12032.5	12519.1	13042.1	11979.8	12291.4	12778.0	13301.0	12204.1	12524.3	13019.5	13542.5	
	67	TC	85.8	87.8	89.8	91.7	88.8	90.8	92.8	94.7	90.5	94.8	95.2	96.6	
		SC	51.4	69.5	86.8	88.7	54.4	72.5	89.8	91.7	57.9	77.1	92.7	94.6	
		PI	13095.1	13231.9	13744.3	14320.5	13354.0	13490.7	14003.2	14579.3	13500.7	13835.9	14210.3	14743.3	
	73	TC	102.1	104.4	106.7	109.0	105.1	107.4	109.7	112.0	105.9	108.3	110.6	112.9	
		SC	32.1	49.6	66.8	83.7	35.1	52.6	69.8	86.7	35.7	55.2	73.6	91.6	
		PI	14322.6	14664.2	15202.5	15752.5	14581.5	14923.0	15461.4	16011.4	14650.5	15000.7	15539.1	16089.1	

Notes:  
 1.All capacities are net and have considered indoor fan heat.  
 2.TC=Total Capacity. (Unit:1000Btu/h)  
 3.SC=SensibleCapacity. (Unit:1000Btu/h)  
 4.different air v olume in the above table,need to adjust in the field

■ Cooling capacity — 15 Tons (220V 3Ph~ 60Hz)

Air Flow(CFM)			4800				7100				7900				
Ent (DB)	(°F)		75	80	85	90	75	80	85	90	75	80	85	90	
Ambient Temperature	85	61	TC	163.5	165.6	173.0	182.9	167.9	171.6	179.1	188.9	169.8	174.2	185.2	193.8
			SC	131.4	155.8	166.1	175.5	138.6	165.6	173.7	183.2	146.0	167.2	177.8	186.1
			PI	15341.6	15621.7	16302.1	16525.2	15491.6	15771.7	16452.1	16675.2	15791.6	16071.7	16752.1	16975.2
		67	TC	183.2	185.5	187.7	190.4	188.6	190.0	191.2	192.6	190.9	192.5	193.7	195.3
			SC	104.6	127.8	149.9	173.1	109.2	132.7	157.2	180.4	111.1	166.4	172.1	187.8
			PI	15688.1	15968.2	16598.6	16821.7	15838.1	16118.2	16748.6	16971.7	16138.1	16418.2	17048.6	17271.7
		73	TC	193.5	197.3	199.9	202.4	195.7	198.5	202.3	204.7	198.2	201.0	203.4	206.0
			SC	72.1	96.8	117.1	136.6	73.5	99.0	119.7	138.8	74.8	99.9	121.7	143.9
			PI	16188.1	16468.2	17098.6	17321.7	16338.1	16618.2	17248.6	17471.7	16638.1	16918.2	17548.6	17771.7
	95	61	TC	153.3	157.1	164.6	175.6	155.2	162.0	171.8	181.6	160.7	164.5	176.7	186.5
			SC	125.2	149.8	159.6	170.3	132.6	157.1	166.7	176.2	140.0	159.5	171.4	181.0
			PI	15698.0	15948.1	16478.5	17001.6	15848.0	16098.1	16628.5	17151.6	16148.0	16398.1	16928.5	17451.6
		67	TC	171.6	174.2	176.7	180.4	178.9	180.0	182.8	184.1	185.0	187.3	187.8	188.9
			SC	99.8	123.0	146.2	169.4	104.0	129.0	153.6	179.2	128.0	163.8	170.9	186.5
			PI	15770.9	16051.0	16343.8	16866.9	15920.9	16201.0	16493.8	17016.9	16220.9	16501.0	16793.8	17316.9
		73	TC	188.7	191.1	193.6	196.3	190.1	192.2	195.3	198.7	191.8	194.3	196.9	198.2
			SC	68.9	93.1	114.9	135.4	70.4	96.3	117.9	140.3	71.7	97.9	120.8	143.9
			PI	16570.9	16851.0	17143.8	17666.9	16720.9	17001.0	17293.8	17816.9	17020.9	17301.0	17593.8	18116.9
	105	61	TC	142.6	146.4	153.9	166.3	147.5	151.3	163.7	171.2	150.0	156.2	169.8	178.8
			SC	119.5	140.5	147.7	159.6	127.8	145.2	157.1	164.3	135.2	151.5	164.7	173.4
			PI	16910.8	17140.9	17371.3	18094.4	17060.8	17290.9	17521.3	18244.4	17360.8	17590.9	17821.3	18544.4
		67	TC	163.5	166.1	169.8	171.2	164.7	168.5	173.5	176.1	173.3	175.9	178.5	181.0
			SC	94.5	118.1	141.4	165.9	108.9	124.2	149.9	170.8	102.5	130.3	157.2	175.6
			PI	17314.1	17444.2	17937.0	18660.1	17464.1	17594.2	18087.0	18810.1	17764.1	17894.2	18387.0	19110.1
		73	TC	185.6	187.0	188.3	189.6	188.1	189.4	190.8	193.3	190.6	191.9	193.2	194.5
			SC	65.5	89.2	111.8	133.0	66.9	92.3	115.6	139.1	68.2	95.3	118.7	142.6
			PI	17814.1	17944.2	18437.0	19160.1	17964.1	18094.2	18587.0	19310.1	18264.1	18394.2	18887.0	19610.1
	115	61	TC	117.6	122.6	135.0	147.4	121.3	128.8	141.2	153.6	125.0	127.7	138.3	159.7
			SC	101.7	118.5	130.6	142.6	108.8	123.1	135.0	146.9	115.1	123.5	133.8	154.5
			PI	17211.6	17696.7	18182.1	19160.2	17361.6	17846.7	18332.1	19310.2	17661.6	18146.7	18632.1	19610.2
		67	TC	141.0	143.5	144.8	148.4	142.2	146.0	148.5	151.1	150.8	153.4	157.1	161.5
			SC	85.6	100.7	123.9	147.4	90.5	107.2	132.5	151.1	103.9	121.3	147.2	164.8
			PI	18221.2	18351.3	19044.1	19794.2	18371.2	18501.3	19194.1	19944.2	18671.2	18801.3	19494.1	20244.2
		73	TC	160.6	163.2	165.8	167.1	165.6	168.1	169.4	170.8	169.2	170.6	171.9	173.2
			SC	49.3	72.9	96.3	119.1	50.7	77.1	100.6	124.0	53.6	79.6	105.5	131.4
			PI	18901.2	19031.3	19724.1	20474.2	19051.2	19181.3	19874.1	20624.2	19351.2	19481.3	20174.1	20924.2
	118.4	61	TC	111.2	116.2	128.6	141.0	114.9	122.4	134.8	147.2	118.6	121.3	131.9	153.3
			SC	95.3	112.1	124.2	136.2	102.4	116.7	128.6	140.5	108.7	117.1	127.4	148.1
			PI	17028.4	17768.5	18509.0	19742.1	17178.4	17918.5	18659.0	19892.1	17478.4	18218.5	18959.0	20192.1
		67	TC	137.1	139.5	140.7	144.2	138.3	142.0	144.4	146.9	146.9	149.4	153.0	157.3
			SC	81.7	96.7	119.8	143.2	86.6	103.2	128.4	146.9	100.0	117.2	138.8	160.6
			PI	18410.9	18541.0	19408.8	20188.9	18560.9	18700.0	19558.8	20338.9	18860.9	18991.0	19858.8	20638.9
73		TC	154.2	156.8	159.4	160.7	159.2	161.7	163.0	164.4	162.8	164.2	165.5	166.8	
		SC	42.9	66.5	89.9	112.7	44.3	70.7	94.2	117.6	47.2	73.2	99.1	125.0	
		PI	18910.9	19041.0	19908.8	20688.9	19060.9	19191.0	20058.8	20838.9	19360.9	19491.0	20358.8	21138.9	
125	61	TC	109.2	114.0	125.9	136.2	112.7	119.9	131.8	143.8	116.3	124.6	137.8	149.7	
		SC	93.9	110.1	121.7	131.6	100.8	115.8	127.4	139.0	106.8	120.4	133.1	144.7	
		PI	16856.3	17851.4	18846.8	20334.9	17006.3	18001.4	18996.8	20484.9	17306.3	18301.4	19296.8	20784.9	
	67	TC	131.6	134.1	135.4	137.9	132.8	136.5	138.9	141.4	141.1	143.6	147.2	151.2	
		SC	78.4	92.9	115.3	137.9	83.1	99.2	123.6	136.7	87.9	104.5	129.5	146.2	
		PI	18755.8	18885.9	19853.4	20653.5	18905.8	19035.9	20003.4	20803.5	19205.8	19335.9	20303.4	21103.5	
	73	TC	150.6	153.0	155.5	156.8	155.3	157.8	159.0	160.3	158.8	160.1	161.4	162.7	
		SC	43.5	66.2	88.7	110.6	44.8	70.2	92.8	115.4	47.7	72.6	97.5	122.5	
		PI	19255.8	19385.9	20353.4	21153.5	19405.8	19535.9	20503.4	21303.5	19705.8	19835.9	20803.4	21603.5	

Notes:  
 1. All capacities are net and have considered indoor fan heat.  
 2. TC=Total Capacity . (Unit:1000Btu/h)  
 3. SC=SensibleCapacity . (Unit:1000Btu/h)  
 4. different air volume in the above table, need to adjust in the field

■ Cooling capacity — 20 Tons (220V 3Ph~ 60Hz)

Air Flow(CFM)			5400				8800				11200				
	Ent (DB)	(°F)	75	80	85	90	75	80	85	90	75	80	85	90	
Ambient Temperature	85	61	TC	216.2	218.8	228.6	241.4	222.1	226.8	236.5	249.4	224.5	230.2	244.7	255.9
			SC	173.8	206.0	221.7	234.2	183.4	218.8	229.4	241.9	193.2	223.3	237.3	248.2
			PI	20278.5	20347.6	20902.9	20918.6	20598.6	20638.7	20919.0	21006.7	20425.4	20902.9	20992.0	21080.3
		67	TC	242.2	245.2	247.9	251.3	249.4	251.2	252.6	254.3	252.5	254.4	255.9	257.8
			SC	138.4	168.9	198.0	228.6	144.6	175.4	207.6	238.2	147.0	180.3	214.1	247.9
			PI	21474.3	21613.6	21796.9	22002.3	22043.4	22163.4	22235.5	22324.4	22246.7	22518.7	22607.6	22679.8
		73	TC	255.9	260.8	264.0	267.3	258.8	262.4	267.3	270.3	262.1	265.6	268.7	272.0
			SC	95.5	128.0	154.6	180.3	97.3	130.9	158.1	183.2	99.1	132.1	160.8	189.9
			PI	22772.2	22857.5	23029.6	23085.1	22865.2	22940.7	23157.3	23212.8	22788.8	23096.2	23198.2	23308.2
	95	61	TC	202.7	207.6	217.4	231.8	205.3	214.1	227.0	239.8	212.5	217.4	233.5	246.3
			SC	165.7	198.0	210.8	224.9	175.4	205.6	217.9	230.2	185.2	210.8	226.4	238.9
			PI	19646.9	19786.3	20341.6	20357.3	19957.4	20077.4	20357.7	20445.4	20069.5	20341.6	20430.7	20519.0
		67	TC	227.0	230.2	233.5	238.2	236.5	240.0	241.4	243.0	244.7	246.5	248.1	249.4
			SC	132.1	162.6	193.2	223.7	137.6	170.6	202.9	236.5	192.9	231.0	233.0	246.3
			PI	20842.7	21052.3	21235.5	21441.0	21402.1	21902.0	21974.2	22063.1	22190.8	22257.4	22346.2	22418.4
		73	TC	249.5	252.6	255.7	259.1	251.3	254.1	258.0	262.4	253.6	256.9	260.1	261.7
			SC	91.3	123.1	151.7	178.7	93.2	127.3	155.8	185.2	95.0	129.5	159.5	189.9
			PI	22140.6	22296.1	22468.2	22523.8	22223.9	22379.4	22596.0	22651.5	22432.9	22534.9	22636.9	22746.9
	105	61	TC	188.6	193.5	203.2	219.5	195.1	200.0	216.2	226.0	198.4	206.5	224.4	239.0
			SC	158.1	187.7	197.1	212.9	169.1	194.0	209.7	219.2	178.9	200.3	217.6	231.8
			PI	22346.6	22486.0	23041.2	23057.0	22657.1	22777.1	23057.4	23145.1	22769.1	23041.2	23130.3	23218.6
		67	TC	216.2	219.5	224.4	226.0	217.9	222.7	229.2	232.5	229.2	232.5	235.7	239.0
			SC	125.1	156.1	186.8	219.0	144.1	164.2	198.0	209.2	135.6	172.2	207.6	239.0
			PI	22790.6	23000.2	23183.4	23388.9	23350.0	23549.9	23622.1	23710.9	23838.6	23905.3	23994.1	24066.3
		73	TC	245.5	247.1	248.7	250.4	248.7	250.4	252.0	255.2	252.0	253.6	255.2	256.9
			SC	86.7	117.9	147.7	175.6	88.7	122.1	152.7	183.6	90.3	126.0	156.8	188.3
			PI	24988.5	25144.0	25316.1	25371.6	25071.8	25227.2	25443.8	25499.3	25280.7	25382.7	25484.7	25594.7
	115	61	TC	180.2	186.7	202.9	219.2	185.0	194.8	211.0	227.3	189.9	201.3	219.2	235.4
			SC	159.2	181.3	197.1	212.8	168.6	189.2	204.9	220.7	176.9	195.5	212.8	228.6
			PI	24032.7	24172.1	24727.4	24743.1	24343.2	24463.2	24743.5	24831.2	24455.3	24727.4	24816.5	24904.8
		67	TC	194.0	197.3	198.9	202.2	195.7	200.5	203.8	207.0	207.0	210.3	215.2	218.4
			SC	120.9	140.7	171.3	202.2	127.4	149.3	182.7	207.0	150.9	173.7	207.8	209.4
			PI	24476.7	24686.3	24869.5	25075.0	25036.1	25204.0	25308.2	25397.1	25524.8	25591.4	26791.4	26863.6
		73	TC	220.0	223.3	226.5	228.2	226.5	229.8	231.4	233.0	231.4	233.0	234.7	236.3
			SC	73.0	104.0	134.7	164.8	74.8	109.5	140.4	171.3	78.7	112.8	146.9	181.0
			PI	27097.8	27253.3	27425.4	27480.9	27181.1	27336.6	27553.1	27608.6	27390.0	27492.0	27594.0	27704.0
	118.4	61	TC	176.6	183.1	199.3	215.6	181.4	191.2	207.4	223.7	186.3	197.7	215.6	231.8
			SC	155.6	177.7	193.5	209.2	165.0	185.6	201.3	217.1	173.3	191.9	209.2	225.0
			PI	24403.7	24543.1	25098.4	25114.1	24714.2	24834.2	25114.5	25202.2	24826.3	25098.4	25187.5	25275.8
		67	TC	193.1	196.2	197.6	200.7	194.8	199.3	202.5	205.5	206.1	209.2	213.9	216.9
			SC	120.0	139.6	170.0	200.7	126.5	148.2	181.4	205.5	150.0	172.6	195.8	207.9
			PI	24847.7	25057.3	25240.5	25446.0	25407.1	25500.0	25679.2	25768.1	25895.8	25962.4	27162.4	27234.6
73		TC	216.4	219.7	222.9	224.6	222.9	226.2	227.8	229.4	227.8	229.4	231.1	232.7	
		SC	69.4	100.4	131.1	161.2	71.2	105.9	136.8	167.7	75.1	109.2	143.3	177.4	
		PI	27464.2	27619.6	27791.8	27847.3	27547.4	27702.9	27919.5	27975.0	27756.4	27858.4	27960.4	27704.0	
125	61	TC	153.4	159.5	174.9	190.2	158.0	167.2	182.5	197.9	162.6	173.3	190.2	205.5	
		SC	133.6	154.5	169.3	184.2	142.5	161.9	176.8	191.6	150.3	167.9	184.2	199.1	
		PI	24953.7	25093.1	25648.4	25664.1	25264.2	25384.2	25664.5	25752.2	25376.3	25648.4	25737.5	25825.8	
	67	TC	182.5	185.6	187.1	201.2	184.1	188.7	191.7	194.8	194.8	197.9	202.5	205.5	
		SC	113.5	132.2	161.1	180.2	119.7	140.4	171.8	190.7	125.8	147.3	179.5	201.2	
		PI	25397.7	25607.3	25790.5	25996.0	25957.1	26157.0	26229.2	26318.1	26445.8	26512.4	27712.4	27784.6	
	73	TC	207.1	210.1	213.2	214.7	213.2	216.3	217.8	219.3	217.8	219.3	220.9	222.4	
		SC	68.3	97.6	126.6	154.9	70.0	102.8	131.9	161.1	73.7	105.9	138.1	170.3	
		PI	27864.2	28019.6	28191.8	28247.3	27947.4	28102.9	28319.5	28375.0	28156.4	28258.4	28360.4	27704.0	

Notes:  
 1. All capacities are net and have considered indoor fan heat.  
 2. TC=Total Capacity. (Unit: 1000Btu/h)  
 3. SC=SensibleCapacity. (Unit: 1000Btu/h)  
 4. different air volume in the above table, need to adjust in the field

■ Cooling capacity — 25 Tons (220V 3Ph~ 60Hz)

Air Flow CFM		8500				9300				10000				11000					
Ent (DB)	(°F)	75	80	85	90	75	80	85	90	75	80	85	90	75	80	85	90		
Ambient Temperature	85	61	TC	266.7	272.2	277.9	283.6	273.9	279.6	285.4	291.3	280.7	286.5	292.4	298.5	285.9	291.8	297.9	304.0
			SC	231.4	236.2	241.2	246.2	247.4	252.6	257.8	263.2	262.4	267.9	273.4	279.1	276.2	281.9	287.7	293.7
			PI	25132.7	25332.6	25404.8	25532.5	25422.7	25622.6	25694.8	25822.5	25712.7	25912.6	25984.8	26112.5	26002.7	26202.6	26274.8	26402.5
		67	TC	297.9	304.1	310.4	316.8	300.9	307.1	313.5	320.0	303.7	309.9	316.3	322.9	305.2	311.5	317.9	324.5
			SC	172.4	219.4	265.2	301.4	178.4	230.2	284.4	310.7	186.9	262.7	280.7	315.4	213.4	258.7	287.9	317.4
			PI	25632.7	25832.6	25904.8	26032.5	25922.7	26122.6	26194.8	26322.5	26212.7	26412.6	26484.8	26612.5	26502.7	26702.6	26774.8	26902.5
		73	TC	309.2	315.5	322.1	328.7	310.2	316.6	323.1	329.8	310.9	317.3	323.9	330.6	313.9	320.4	327.0	333.8
			SC	108.7	161.7	198.2	237.7	110.2	163.9	205.2	256.2	111.9	169.7	220.4	260.4	113.7	178.4	224.9	267.7
			PI	26209.0	26413.3	26486.8	26617.1	26519.0	26723.3	26796.8	26927.1	26829.0	27033.3	27106.8	27237.1	27139.0	27343.3	27416.8	27547.1
	95	61	TC	246.4	251.5	256.8	262.1	254.2	259.4	264.8	270.4	261.7	267.1	272.6	278.3	267.2	272.7	278.4	284.2
			SC	221.2	225.8	230.5	235.3	237.4	242.4	247.4	252.6	252.9	258.6	263.5	269.0	260.7	266.1	271.6	277.3
			PI	24900.5	25082.6	25149.6	25266.6	25150.5	25332.6	25399.6	25516.6	25400.5	25582.6	25649.6	25766.6	25650.5	25832.6	25899.6	26016.6
		67	TC	273.7	279.3	285.1	291.0	278.2	289.4	295.4	301.5	293.9	300.0	306.2	312.5	297.2	303.3	309.6	316.0
			SC	166.4	213.9	258.4	297.9	175.2	226.4	274.4	300.2	182.9	257.6	270.4	310.4	189.9	249.9	278.7	284.4
			PI	27110.1	27310.0	27382.2	27509.9	27400.1	27600.0	27672.2	27799.9	27700.1	27900.0	27972.2	28099.9	28166.5	28255.4	28327.6	28399.7
		73	TC	306.4	312.7	319.2	325.8	307.2	313.5	320.0	326.6	308.9	315.3	321.8	328.5	309.7	316.1	322.6	329.3
			SC	105.2	152.9	193.2	233.9	107.4	156.2	200.2	251.7	108.2	158.4	208.9	251.2	110.4	171.2	209.2	256.4
			PI	28999.0	29208.0	29282.9	29416.2	29309.0	29518.0	29592.9	29726.2	29619.0	29828.0	29902.9	30036.2	29929.0	30138.0	30212.9	30346.2
	105	61	TC	225.7	230.4	235.2	240.1	233.9	238.8	243.8	248.9	238.9	243.9	249.0	254.2	248.2	253.3	258.6	264.0
			SC	210.9	215.3	219.8	224.5	227.4	232.2	237.0	242.0	222.9	227.6	232.3	237.2	242.4	247.5	252.6	257.9
			PI	29437.9	29620.0	29687.0	29804.0	29687.9	29870.0	29937.0	30054.0	29937.9	30120.0	30187.0	30304.0	30187.9	30370.0	30437.0	30554.0
		67	TC	265.2	270.7	276.3	282.0	271.7	277.3	283.1	288.9	275.9	281.6	287.5	293.4	280.2	286.0	291.9	297.9
			SC	158.4	205.4	254.2	278.4	167.7	219.7	269.4	284.2	174.9	235.2	265.2	280.9	183.9	246.4	269.4	280.2
			PI	31897.5	32097.4	32169.6	32297.3	32187.5	32387.4	32459.6	32587.3	32487.5	32900.4	32986.6	33087.3	33153.9	33242.8	33314.9	33387.1
73		TC	298.9	305.1	311.4	317.8	300.9	307.1	313.5	320.0	302.4	308.7	315.0	321.6	303.9	310.2	316.6	323.1	
		SC	100.2	147.4	186.9	223.2	102.4	153.4	192.7	248.7	103.7	153.2	199.2	246.4	105.2	163.7	199.9	245.4	
		PI	35277.1	35493.6	35569.3	35706.2	35587.1	35803.6	35879.3	36016.2	35897.1	36113.6	36189.3	36326.2	36207.1	36423.6	36499.3	36636.2	
115	61	TC	198.2	202.5	206.9	211.4	205.4	209.9	214.4	219.0	213.2	217.8	222.5	227.3	221.9	226.7	231.6	236.6	
		SC	193.9	198.1	202.4	206.8	197.9	202.2	206.6	211.1	207.9	212.4	217.0	221.7	218.2	222.9	227.7	232.6	
		PI	33975.3	34157.4	34224.4	34341.4	34225.3	34407.4	34474.4	34591.4	34475.3	34657.4	34724.4	34841.4	34725.3	34907.4	34974.4	35091.4	
	67	TC	235.7	240.7	245.9	251.2	240.4	245.6	250.8	256.2	246.4	251.7	257.1	262.6	252.9	258.3	263.8	269.5	
		SC	141.2	190.4	237.7	242.8	150.7	202.9	245.7	250.9	159.4	217.7	250.7	258.7	167.7	231.4	258.2	263.7	
		PI	36684.9	36884.8	36957.0	37084.7	36974.9	37174.8	37247.0	37374.7	37274.9	37900.8	38001.0	38074.7	38141.3	38230.2	38302.3	38374.5	
	73	TC	280.4	286.4	292.4	298.6	282.7	288.7	294.8	301.0	284.4	290.4	296.6	302.9	285.2	291.2	297.4	303.7	
		SC	87.9	135.7	174.9	204.2	89.7	142.7	177.9	235.2	91.7	141.9	185.2	230.7	93.2	150.2	185.4	231.7	
		PI	41555.2	41779.1	41855.6	41996.3	41865.2	42089.1	42165.6	42306.3	42175.2	42399.1	42475.6	42616.3	42485.2	42709.1	42785.6	42926.3	
118	61	TC	195.5	199.8	204.2	208.7	202.7	207.2	211.7	216.3	210.5	215.1	219.8	224.6	219.2	224.0	228.9	233.9	
		SC	191.2	195.4	199.7	204.1	195.2	199.5	203.9	208.4	205.2	209.7	214.3	219.0	215.5	220.2	225.0	229.9	
		PI	34571.5	34753.6	34820.6	34937.6	34821.5	35003.6	35070.6	35187.6	35071.5	35253.6	35320.6	35437.6	35321.5	35503.6	35570.6	35687.6	
	67	TC	233.0	238.0	243.2	248.5	237.7	242.9	248.1	253.5	243.7	249.0	254.4	259.9	250.2	255.6	261.1	266.8	
		SC	138.5	187.7	235.0	240.1	148.0	200.2	243.0	248.2	156.7	215.0	248.0	256.0	165.0	228.7	255.5	261.0	
		PI	37281.1	37481.0	37553.2	37680.9	37571.1	37771.0	37843.2	37970.9	37871.1	38071.0	38143.2	38270.9	38337.5	38426.4	38498.6	38570.7	
	73	TC	277.7	283.7	289.7	295.9	280.0	286.0	292.1	298.3	281.7	287.7	293.9	300.2	282.5	288.5	294.7	301.0	
		SC	85.2	133.0	172.2	201.5	87.0	140.0	175.2	232.5	89.0	139.2	182.5	228.0	90.5	147.5	182.7	229.0	
		PI	42298.7	42518.0	42596.8	42736.4	42608.7	42828.0	42906.8	43046.4	42918.7	43138.0	43216.8	43356.4	43228.7	43448.0	43526.8	43666.4	
125	61	TC	175.5	179.5	183.5	187.5	182.1	186.2	190.3	194.5	189.2	193.4	197.6	202.0	197.1	201.5	205.9	210.5	
		SC	171.7	175.5	179.4	183.4	175.3	179.2	183.2	187.3	184.4	188.5	192.7	196.9	193.7	198.0	202.4	206.8	
		PI	35962.7	36144.8	36211.8	36328.8	36212.7	36394.8	36461.8	36578.8	36462.7	36644.8	36711.8	36828.8	36712.7	36894.8	36961.8	37078.8	
	67	TC	209.6	214.2	218.9	223.7	213.9	218.6	223.4	228.3	219.4	224.2	229.1	234.1	225.3	230.2	235.2	240.4	
		SC	123.7	168.5	211.4	216.1	132.4	179.9	218.7	223.5	140.3	193.3	223.3	230.5	147.8	205.8	230.1	235.1	
		PI	38672.3	38872.2	38944.4	39072.1	38962.3	39162.2	39234.4	39362.1	39262.3	39462.2	39534.4	39662.1	39728.7	39817.5	39889.7	39961.9	
	73	TC	250.3	255.7	261.3	266.9	252.4	257.8	263.4	269.1	253.9	259.4	265.0	270.7	254.6	260.1	265.7	271.5	
		SC	75.3	118.7	154.4	181.0	76.9	125.1	157.1	209.2	78.7	124.4	163.7	205.1	80.1	131.9	163.9	206.0	
		PI	43958.3	44179.8	44253.7	44392.1	44268.3	44489.8	44563.7	44702.1	44578.3	44799.8	44873.7	45012.1	44888.3	45109.8	45183.7	45322.1	

Notes:

1. All capacities are net and have considered indoor fan heat.
2. TC=Total Capacity. (Unit:1000Btu/h)
3. SC=SensibleCapacity. (Unit:1000Btu/h)
4. different air volume in the above table, need to adjust in the field

## 8. START-UP

### ■ Before starting unit

- Is the unit properly located and level with the proper clearance?
- Is the duct work correctly sized, run, taped, insulated, and weatherproofed with proper unit arrangement? See Ductwork Installation section.
- Is the wiring properly sized and run according to the unit wiring diagram?
- Are all the wiring connections, including those in the unit, tight?
- Has the unit been properly grounded and fused with the recommended fuse size? See Wiring Data.
- Have the air conditioning systems been checked at the service ports for charge and leak tested if necessary?
- Does the condenser fan and indoor blower fan free without rubbing, and are they tight on the shafts?
- Are all covers and access panels in place to prevent air loss and safety hazards?

### ■ Starting the unit in the cooling mode

### ■ Voltage

With the unit operating, check the line voltage of the unit. The voltage should be within the range shown on the unit nameplate.

If low voltage is encountered, check the size and length of the supply line from the main disconnect to the unit. The line may be undersized for the length of the run.

### ■ Cooling shut down

Place the system selector in the OFF position or reset thermostat at a setting above room temperature.

Do not de-energize the main power disconnect except when unit is to be serviced.

## 9. MAINTENANCE

### ■ Regular maintenance

Some regular maintenance have been carry on by user, includes: change the one-time dust filter, clean casing, wash condenser and replace a new belt, as well as do some test for the equipment.

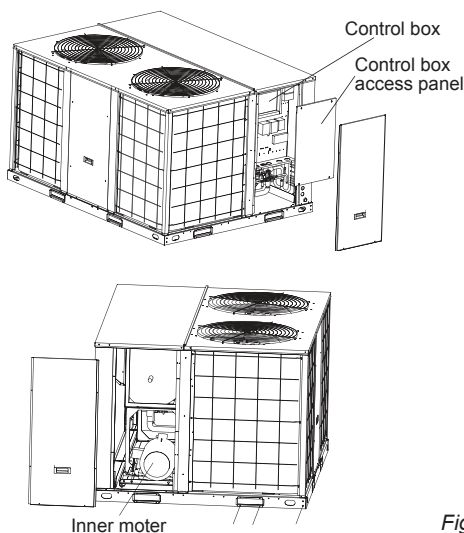


Fig.9-1

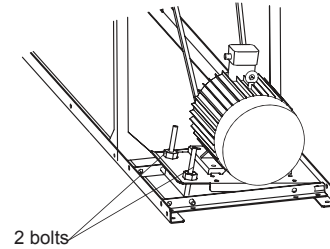


## WARNING

At least 1m flame resistant layer must be laid at the end of the air duct internal surface.

### ■ Regulating belt of tension

Refer to Fig.9-2, loose 2 bolts, and move the electric motor to adjust belt tension.

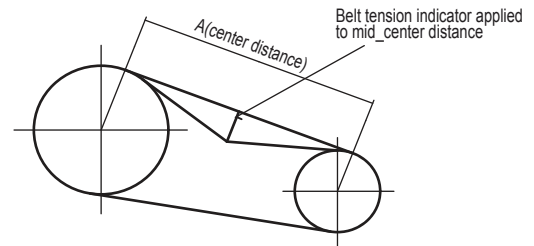


The two bolts are used for precision adjustment .

Fig.9-2

### ■ Belt tension is measured by belt tension indicator

- Calculate the deflection,  $\text{deflection} = A/64$ .
- Measure the belt deflection force, the force should be between the values shown in Tab.9-2



Tab.9-1

Nominal ton	A (mm)
10	380
15	560
20	580
25	480

Fig.9-3

Tab.9-2

Belt section	For required to deflection		
	Small pulley diameter (mm)	Newton(N)	Kilogram-force(kgf)
SPA	80 to 132	25 to 35	2.5 to 3.6



## NOTE

The belt which is too tight or too loose may generate noise and be harmful to the unit.

- If you use air filter accessories provided by the manufacturer, please dismantle the air filter as the following steps.
  - Twist of screws and get out the plate.
  - Pull out the filter along the supporting slot.

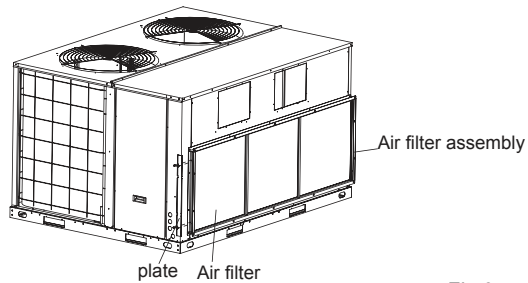


Fig.9-4

- Clean the air filter (Vacuum cleaner or fresh water may be used to clean the air filter. If the dust accumulated too much, please use soft brush and mild detergent to clean and dry out in cool place) .

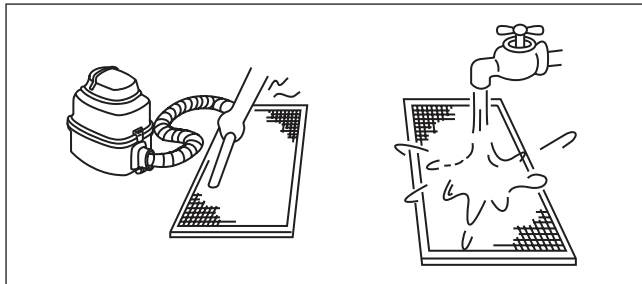


Fig.9-5

- The air-in side should face up when using vacuum cleaner.
- The air-in side should face down when using water.



### CAUTION

Do not dry out the air filter under direct sunshine or heat.

- Re-install the air filter
- Condenser coil  
Unfiltered air circulates through the unit's condenser coil can cause the coil's surface to become clogged with dust, etc. Clean the coil, vertically (i.e., with the fins), and stroke the coil surface with a soft brush. Be sure to keep all vegetation away from the condenser coil area.
- Maintenance performed by serviceman.  
To keep your unit operating safely and efficiently, the manufacturer recommends that a qualified serviceman check the entire system at least once each year and any other time that you feel one is needed. Your serviceman should examine these areas of your unit:
  - Filters
  - Motors and drive system components
  - Economizer gaskets (for possible replacement)
  - Safety controls (for mechanical cleaning)
  - Electrical components and wiring (for possible replacement and connection tightness)
  - Condensate drain (for cleaning)
  - Unit duct connections (to see that they are physically sound and sealed to the unit casing)
  - Unit mounting support (for structural integrity)
  - The unit (for obvious unit deterioration)



### CAUTION

- Do not operate the unit without the evaporator fan access panel in place. Reinstall the access panel after performing any maintenance. Operating the unit without the access panel may result in severe personal injury or death.
- This unit is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety. Children should be supervised to ensure that they do not play with the unit.
- Disconnect the power supply before cleaning and maintenance.
- The unit shall be installed in accordance with national wiring regulations.



**DISPOSAL:** Do not dispose this product as unsorted municipal waste. Collection of such waste separately for special treatment is necessary.

- Do not dispose of electrical appliances as unsorted municipal waste, use separate collection facilities.
- Contact you local government for information regarding the collection systems available.
- If electrical appliances are disposed of in landfills or dumps, hazardous substances can leak into the groundwater and get into the food chain, damaging your health and well-being.





Importado por: **INTENSITY AIR, S. A. DE C. V.**

RFC: IAI-100609-SRA.

Río Amacuzac #1125, Col. Valle Ote., CP. 66269

San Pedro Garza García, Nuevo León, México.

**Note:** Product specifications change from time to time as product improvements and developments are released and may vary from those in this document.