Service Manual

ROOFTOP PACKAGED

CAPACITY RANGE:10.5~69.0kW (35800~235500Btu/h)

OPERATION RANGE:COOLING:18~48℃

HEATING:-10~24℃

Contents

PRODUCT

PRODUCT INTRODUCTION

1 MODELS LIST

Nominal Capacity (Ton)	Model			Power Supply (V, Ph, Hz)	Appearance
	Refrigerant	Model Name	Product Code		
3	R410A	GRIT03A	EJ51000660	220~240V, 1Ph, 50/60Hz	
5.5	R410A	GRIT05A	EJ51000740	220~240V, 1Ph, 50/60Hz	
5.5	R410A	GRIST05B	EJ51000650	220~240V, 3Ph, 60Hz	
10	R410A	GRIT10B	EJ51000710	220~240V, 3Ph, 60Hz	
15	R410A	GRIT15B	EJ51000700	220~240V, 3Ph, 60Hz	
20	R410A	GRIT20B	EJ51000720	220~240V, 3Ph, 60Hz	

Notes:

① Above pictures may be different from actual model.

② 1Ton =12000Btu/h = 3.517kW.

3 FUNCTION

Function	Description
OPERATING EFFICIENCY	All units provide high operating efficiencies and have a minimum SEER of 16.0 or above.
EXCLUSIVE COIL DESIGN	Grooved copper tubes and enhanced aluminum fin construction improves heat transfer for maximum efficiency and durability.
TOP DISCHARGE	The top discharge condenser fan does not disrupt neighboring areas and does not dry-out vegetation surrounding the unit. The warm air from the top mounted fan is blown up away from the structure and any landscaping. This allows compact location on multi-unit applications.
LOW OPERATING SOUND LEVEL	The upward air flow carries the normal operating noise up and away from the living area. The rigid and unique shock absorption structure greatly reduces the vibration and effectively isolates motor sound.
SPACE SAVING	With compact and unitary structure, the unit can be connected and assembled at field, which is in favor of transport and installation and saves indoor space.

4 PRODUCT DATA

4.1 PRODUCT DATA AT RATED CONDITION

Model				GRIT03A	GRIT05A
Total Capacity	Cooling		Btu/h	35800(13650-42660)	66500(20500-66500)
			kW	10.5(4.0-12.5)	19.5(6.0-19.5)
	Heating		Btu/h	39250(17070-46100)	70000(27300-73400)
			kW	11.5(5.0-13.5)	20.5(8.0-21.5)
Electrical Data	Power supply		V-Hz-Ph	220-240V-50/60Hz-1Ph	220-240V-50/60Hz-1Ph
	Power input	Cooling	kW	3.1	6.8
		Heating	kW	3.2	5.8
	Current input	Cooling	A	13.5	30.0
		Heating	A	14.0	25.5
SEER			Btu/(W.h)	20	16
Sound Pressure Level			dB(A)	61	63
Refrigerant	Type/weight		—	R410A/3.5kg	R410A/5.0kg
Air Flow Volume			CFM	1177	1942
			m³/h	2000	3300
External Static Pressure		Rated/Range	Pa	50(0-150)	60(0-180)
			InWg	0.20(0-0.6)	0.24(0-0.72)
Dehumidifying Volume			l/h	2.63	7.2
Evaporator Side	Fan motor	Drive Type	-	Direct Drive	Direct Drive
		Power Output	HP	4/15	1
	Fan	Type	-	Centrifugal	Centrifugal
		Quantity	-	2	2
		Motor Speed	rpm	1100	1080
	Evaporator	Material	-	Copper tube-Aluminum fin	Copper tube-Aluminum fin
		Face Area	sq.ft	4.31	4.31
			m^2	0.4	0.4
		Fins per Inch(FPI)	-	16	16
	Drain Connection Size		Inch	0.80×0.047	0.80×0.047
Condenser Side	Compressor	Type	-	Inverter Rotary	Inverter Rotary
		Quantity	-	1	1
	Fan motor	Drive Type	-	Direct Drive	Direct Drive
		Power Output	HP	1	1
	Fan	Type	-	Axial-flow	Axial-flow
		Quantity	-	1	1
	Condenser	Material	-	Copper tube -Aluminum fin	Copper tube -Aluminum fin
		Face Area	sq.ft	13.89	13.89
			m^2	1.29	1.29
		Fins per Inch(FPI)	-	16	16
Permissible Excessive Operating Pressure for the Discharge Side			Mpa	4.4	4.4
Permissible Excessive Operating Pressure for the Suction Side			Mpa	2.5	2.5
Operation temp		Cooling	℃	18-48	18-48
		Heating	℃	-10-24	-10-24
Filter			-	PP	PP

Model			GRIT03A	GRIT05A
Dimension	Outline dimension (W×D×H)	mm	1450×1120×815	1450×1120×815
	Package dimension (W×D×H)	mm	1463×1133×860	1463×1133×860
Weight	Net weight	kg	206	268
	Gross weight	kg	227	289
Loading quantity		20'GP	16	16
		40'GP	32	32
		40'HQ	48	48

Model				GRIT05B	GRIT10B
Total Capacity	Cooling		Btu/h	71700(20500-75100)	116000(34100-119400)
			kW	21.0(6.0-22.0)	34.0(10.0-35.0)
	Heating		Btu/h	75100(27300-78500)	119400(37500-122800)
			kW	22.0(8.0-23.0)	35.0(11.0-36.0)
Electrical Data	Power supply		V-Hz-Ph	220-240V-60Hz-3Ph	220-240V-60Hz-3Ph
	Power input	Cooling	kW	7.9	13.7
		Heating	kW	6.6	11.5
	Current input	Cooling	A	21.0	36.0
		Heating	A	18.0	30.0
SEER			Btu/(W.h)	16	16
Sound Pressure Level			dB(A)	63	72
Refrigerant	Type/weight		—	R410A/5.0kg	R410A/10.0kg
Air Flow Volume			CFM	1942	3413
			m³/h	3300	5800
External Static Pressure		Rated/Range	Pa	60(0-180)	90(0-210)
			InWg	0.24(0-0.72)	0.36(0-0.84)
Dehumidifying Volume			l/h	7.73	11.08
Evaporator Side	Fan motor	Drive Type	-	Direct Drive	Direct Drive
		Power Output	HP	1	2
	Fan	Type	-	Centrifugal	Centrifugal
		Quantity	-	2	2
		Motor Speed	rpm	1080	1400
	Evaporator	Material	-	Copper tube-Aluminum fin	Copper tube-Aluminum fin
		Face Area	sq.ft	4.31	7.00
			m^2	0.4	0.65
		Fins per Inch(FPI)	-	16	16
	Drain Connection Size		Inch	0.80×0.047	0.80×0.047
Condenser Side	Compressor	Type	-	Inverter Rotary	Inverter Rotary
		Quantity	-	1	1
	Fan motor	Drive Type	-	Direct Drive	Direct Drive
		Power Output	HP	1	2
	Fan	Type	-	Axial-flow	Axial-flow
		Quantity	-	1	1
	Condenser	Material	-	Copper tube -Aluminum fin	Copper tube -Aluminum fin
		Face Area	sq.ft	13.89	25.19

Model				GRIT05B	GRIT10B
			m^2	1.29	2.34
		Fins per Inch(FPI)	-	16	16
Permissible Excessive Operating Pressure for the Discharge Side			Mpa	4.4	4.4
Permissible Excessive Operating Pressure for the Suction Side			Mpa	2.5	2.5
Operation temp		Cooling	℃	18-48	18-48
		Heating	℃	-10-24	-10-24
Filter			-	PP	PP
Dimension		Outline dimension (W×D×H)	mm	1450×1120×815	1450×1120×1215
		Package dimension (W×D×H)	mm	1463×1133×860	1463×1133×1260
Weight		Net weight	kg	268	339
		Gross weight	kg	289	360
Loading quantity			20'GP	16	7
			40'GP	32	16
			40'HQ	48	32

Model				GRIT15B	GRIT20B
Total Capacity	Cooling		Btu/h	174000(44400-180800)	211600(58000-235500)
			kW	51.0(13.0-53.0)	62.0(17.0-69.0)
	Heating		Btu/h	182500(47800-191100)	249100(61400-259400)
			kW	53.5(14.0-56.0)	73.0（18.0-76.0）
Electrical Data	Power supply		V-Hz-Ph	220-240V-60Hz-3Ph	220-240V-60Hz-3Ph
	Power input	Cooling	kW	22.0	29.0
		Heating	kW	16.0	25.0
	Current input	Cooling	A	63.0	79.0
		Heating	A	46.0	70.0
SEER			Btu/(W.h)	16	16
Sound Pressure Level			dB(A)	74	74
Refrigerant	Type/weight		—	R410A/12.0kg	R410A/16.0kg
Air Flow Volume			CFM	5591	8416
			m^3/h	9500	14300
External Static Pressure		Rated/Range	Pa	120(0-320)	140(0-350)
			InWg	0.48(0-1.28)	0.56(0-1.4)
Dehumidifying Volume			l/h	14.31	16.20
Evaporator Side	Fan motor	Drive Type	-	Belt	Belt
		Power Output	HP	4	5.5
	Fan	Type	-	Centrifugal	Centrifugal
		Quantity	-	1	2
		Motor Speed	rpm	916	1020
	Evaporator	Material	-	Copper tube-Aluminum fin	Copper tube-Aluminum fin
		Face Area	sq.ft	10.12	12.32
			m^2	0.94	1.145
		Fins per Inch(FPI)	-	18	16

Model				GRIT15B	GRIT20B
	Drain Connection Size		Inch	0.80×0.047	1.20*0.059
Condenser Side	Compressor	Type	-	Inverter Rotary	Inverter Rotary
		Quantity	-	2	2
	Fan motor	Drive Type	-	Direct Drive	Direct Drive
		Power Output	HP	2	2
	Fan	Type	-	Axial-flow	Axial-flow
		Quantity	-	1	2
	Condenser	Material	-	Copper tube -Aluminum fin	Copper tube -Aluminum fin
		Face Area	sq.ft	26.16	34.22
			m^2	2.43	3.18
		Fins per Inch(FPI)	-	16	16
Permissible Excessive Operating Pressure for the Discharge Side			Mpa	4.4	4.4
Permissible Excessive Operating Pressure for the Suction Side			Mpa	2.5	2.5
Operation temp		Cooling	℃	18-48	18-48
		Heating	℃	-10-24	-10-24
Filter			-	PP	PP
Dimension		Outline dimension (W×D×H)	mm	2260x1140x1245	2240×1880×1250
		Package dimension (W×D×H)	mm	2283x1163x1290	2258×1898×1300
Weight		Net weight	kg	572	790
		Gross weight	kg	600	835
Loading quantity			20'GP	4	3
			40'GP	10	6
			40'HQ	20	12

Notes:

① The cooling capacity stated above is measured under following conditions:

- Indoor Conditions: 27℃ DB/19℃ WB (81℉ DB/67℉ WB);
- Outdoor Conditions: 35℃ DB/24℃ WB (95℉ DB/76℉ WB).

② The air volume is measured at the relevant standard external static pressure.

③ The technical parameters are changed along with the products improvement; please refer to the nameplate of the unit for actual data.

④ Above data is subject to change without notice.

4.2 OPERATION RANGE

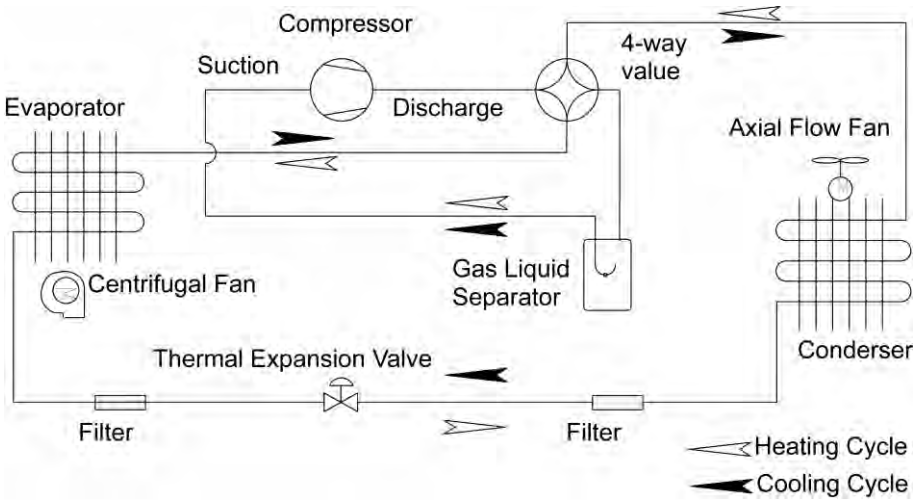
GRIT03A,GRIT05A, GRIT05B,GRIT10B, GRIT15B, GRIT20B

Item	Outdoor Condition (DB °C)
Cooling	18~48
Heating	-10~24

4.3 ELECTRICAL DATA

Model	Compressor			Condenser Fan Motors	Supply Blower Motor	Breaker Capacity	Min. Power Supply Cord
	Power Supply	Qty.	RLA	FLA	FLA		
	V/Ph/Hz	–	A	A	A	A	mm^2
GRIT03A	220-240V, 1Ph,50/60Hz	1	13.0	1.9	1.8	25	4.0
GRIT05A	220-240V, 1Ph,50/60Hz	1	19.0	2.5	2.8	40	10.0
GRIT05B	220-240V, 3Ph,60Hz	1	28.0	2.2	2.8	40	10.0
GRIT10B	220-240V, 3Ph,60Hz	1	36.0	3.5	7.5	50	10.0
GRIT15B	220-240V, 3Ph,60Hz	2	29.0	4.2	11.0	80	25.0
GRIT20B	220-240V, 3Ph,60Hz	2	36.0	3.5	12.0	100	25.0

5 PIPING DIAGRAM



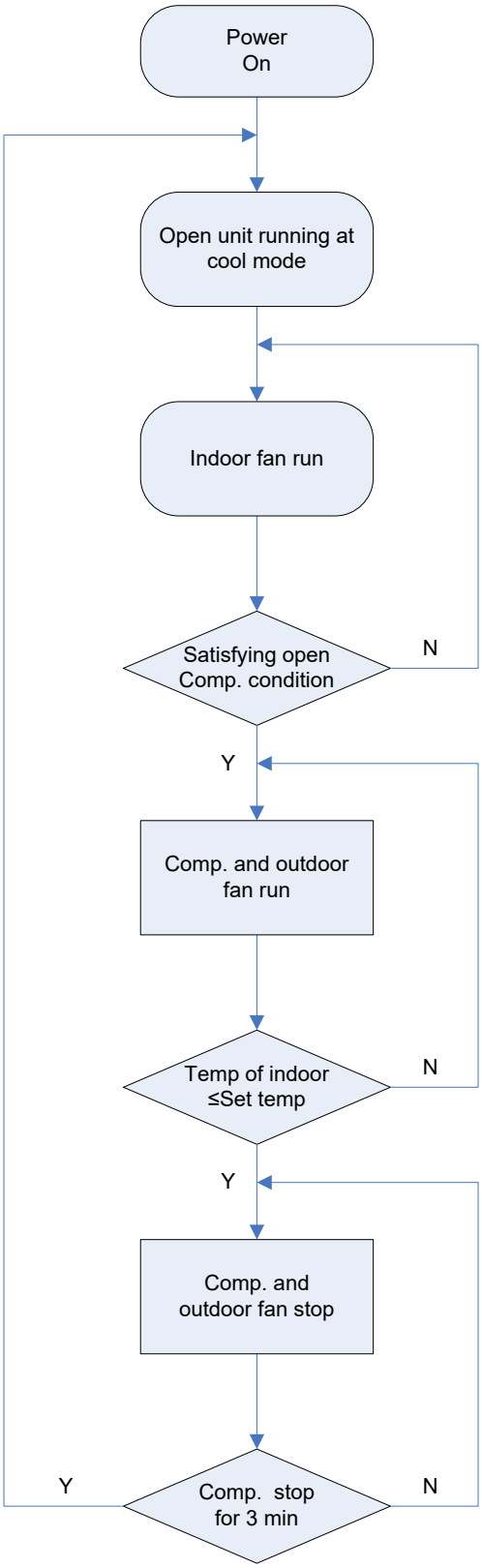
(Refrigerant flowing direction is shown as the arrow)

CONTROL

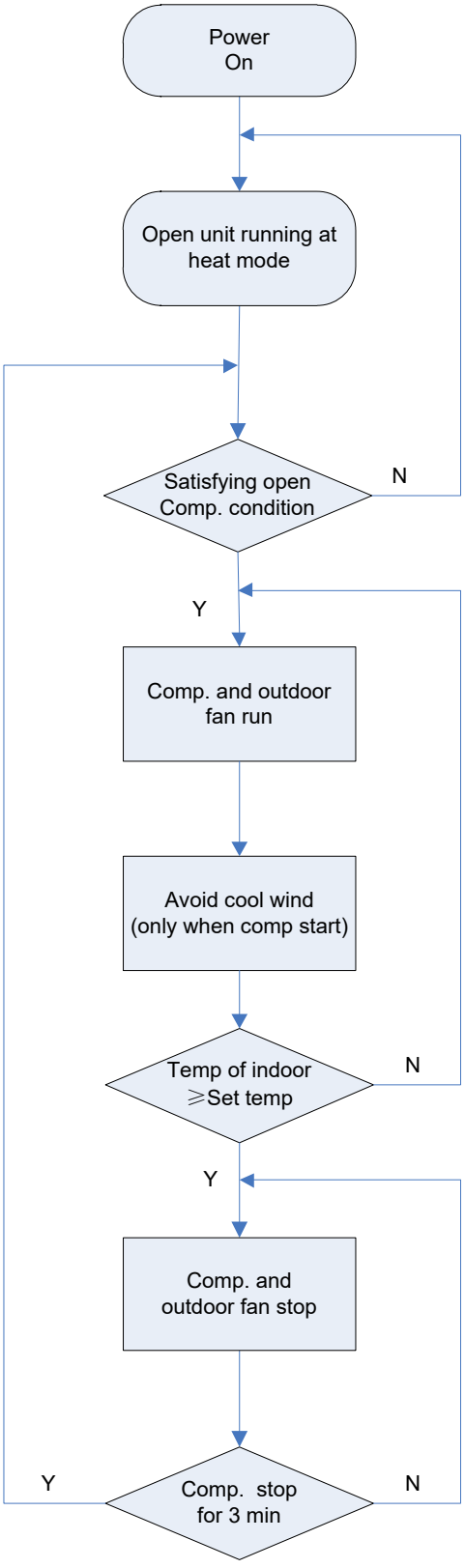
UNITS CONTROL

1 OPERATION FLOWCHART

1.1 COOLING OPERATION



1.2 HEATING OPERATION



2 WIRELESS REMOTE CONTROLLER

Notes:

The wireless remote controller is an Optional Fitting

2.1 OPERATION AND DISPLAY VIEW

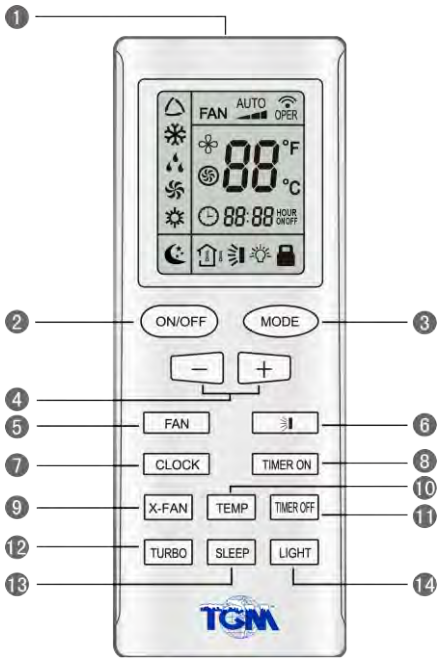


Table 2-2-1 Operation instruction of wireless remote controller

No.	Name	Function Description
1	Signal transmitter	Signal transmitter
2	ON/OFF button	Press this button and the unit will be turned on; press it once more, and the unit will be turned off. When turning off the unit, the Sleep function will be canceled, but the presetting time is still remained.
3	MODE button	By pressing this button, Auto, Cool, Dry, Fan, Heat mode can be selected circularly. Auto mode is default after power on. Under the Auto mode, the setting temperature will not be displayed; Under the Heat mode, the initial value is 28°C (82°F); Under other modes, the initial value is 25°C(77°F). AUTO; COOL; DRY; FAN; HEAT (only for cooling and heating unit)
4	- button	Preset temperature can be decreased by pressing this button. Pressing and holding this button for more than 2 seconds can make the temperature changed quickly until release this button and then transmit this order. The temperature adjustment is unavailable under the Auto mode, but the order can be sent by pressing this button. Centigrade setting range: 16-30; Fahrenheit scale setting range 61-86.
	+ button	Preset temperature can be increased by pressing this button. Pressing and holding this button for more than 2 seconds can make the temperature changed quickly until release the button and then transmit this order. The temperature adjustment is unavailable under the Auto mode, but the order can be sent by pressing this button. Centigrade setting range: 16-30; Fahrenheit scale setting range 61-86.
5	FAN button	By pressing this button, Auto, Low, Middle, High speed can be circularly selected. After power on, Auto fan speed is default. AUTO Low speed Middle speed High speed Note: Under the DRY mode, the fan will be kept running at the low speed and the fan speed isn't adjustable.

No.	Name	Function Description
6	SWING UP/DOWN button	Press this button to set up the swing angle, which circularly changes as below:  When the guide louver starts to swing up and down, if SWING functions is canceled, the air guide louver will stop and remains at the current position. Indicates the guide louver swings up and down among those five directions.(Simplified SWING function applicable for some Fan Coil Units: When the wireless remote controller is energized initially with the unit under the OFF status, it should be set by pressing the + button and the SWING button simultaneously, with the symbol blinking twice. Then, after the unit is turned on, this function can be activated by pressing the SWING button, with the displayed symbol indicating swing function is on and without this displayed symbol indicating swing function is off.)
7	CLOCK button	By pressing this button, the clock is allowed to be set, with blinking, and then press the +/- button to adjust the clock within 5 seconds. If the +/-button is pressed down constantly for more than 2 seconds, the clock setting will be increased or decreased 10 minutes every 0.5 seconds. After that, another press on the CLOCK button accepts the setting. 12:00 is the default, when the wireless remote controller is energized.
8	TIMER ON button	When TIMER ON is activated, ON will blink while the symbol will disappear. Within 5 seconds it is allowed to set the ON time by pressing the +/- button. Each press will make the time increase or decrease one minute. Besides, the time can also be set by pressing the +/- button constantly. that is, in the early 2.5 seconds, the time will increase/decrease quickly per single minute, and in the late 2.5, the time will increase/decrease per ten minutes. After the desired time value is set, press TIENE ON again to conform the setting within five seconds. After that, another press on TIMER ON will cancel the setting. Prior to this setting, the clock shall be set to the actual time.
9	X-FAN button	Pressing this button can activate or deactivate the X-FAN function. In Cool or Dry mode, by pressing this button, if "" is displayed, it indicates the X-FAN function is activated. By repressing this button, if "" disappears, it indicates the X-FAN function is deactivated. After energization, X-FAN OFF is defaulted. If the unit is turned off, X-FAN can be deactivated but can't be activated.
10	TEMP button	By pressing this button it is allowed to select displaying the indoor setting temperature or the indoor ambient temperature. Indoor setting temperature is default after the indoor unit is energized initially. By pressing the TEMP button, when the temperature symbol is displayed, the indoor displayer will show the indoor setting temperature; when is displayed, it will show the indoor ambient temperature; when is invalidation, If current displays indoor ambient temperature, if received the other remote control signal, it will display presetting temperature, 5s later, will back to display the ambient temperature. (This function is applicable to partial of models)
11	TIMER OFF button	By pressing this button it is available to go to the TIMER OFF setting state with the same setting method as that of the TIMER ON, in which case the OFF symbol blinks.
12	TURBO button	In the Cool or Heat mode, pressing this button can activate or deactivate the TURBO function. When the TURBO function is activated, its symbol will be displayed; when the running mode or the fan speed is changed, this function will be canceled automatically.(This function is applicable to partial of models).
13	SLEEP button	By pressing this button, Sleep On and Sleep Off can be selected. After powered on, Sleep Off is defaulted. Once the unit is turned off, the Sleep function is canceled. When Sleep is set to On, the symbol of SLEEP will display. Under the Fan and Auto modes, this function is not available.
14	LIGHT button	Press this button to select LIGHT on or off in the displayer. When the LIGHT is set to on, the icon will be displayed and the indicating light in the displayer will be on. When the LIGHT is set to off, the icon will be disappeared and the indicating light in the displayer will be off.

3 WIRED CONTROLLER

3.1 DISPLAY VIEW

Figure 2-3-1 Appearance of wired controller

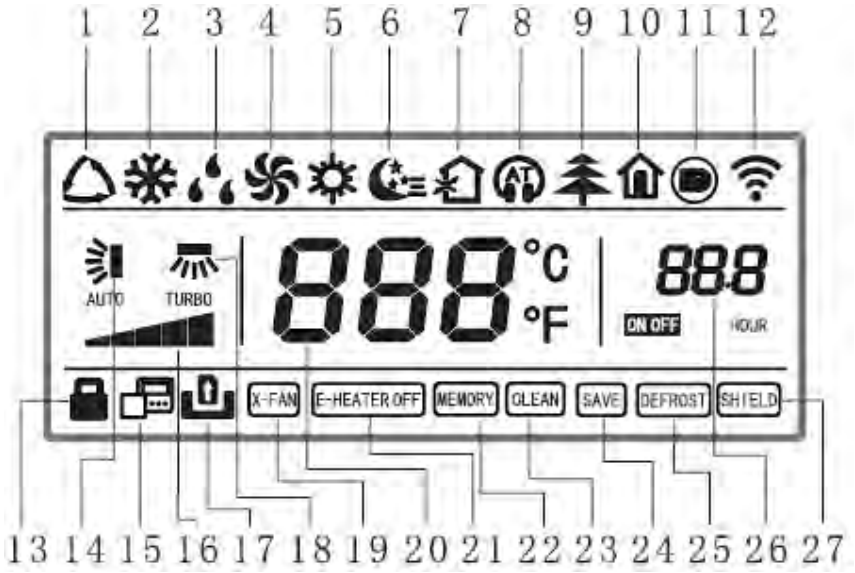


Figure 2-3-2 LCD display of wired controller

Table 2-3-1 Instruction to LCD Display

No.	Display	Introduction
1	Auto	Automatic mode (under auto mode, the indoor unit will select its operating mode according to the variation of room temperature)
2	Cool	Cooling mode
3	Dry	Dry mode
4	Fan	Fan mode
5	Heat	Heating mode
6	Sleep	Display when sleep function is set (only display sleep mode II)
7	Exchange	Display when air exchange function is set
8	Silent	Display when silent function is set (only display silent, no AT)

No.	Display	Introduction
9	Health	Display when health function is set
10	Absent	Display when absent function is set
11	I-Demand	Display when I-DEMAND function is set
12	WIFI	WIFI function icon
13	Child-lock	Child-lock status, display when child-lock function is set
14	Up&down swing	Display when up and down swing function is set
15	Slave wired controller	Icon of slave wired controller, it will display when slave wired controller is set
16	Fan speed	The fan speed set currently (including auto, low, medium and low, medium, medium and high, high, and turbo)
17	No card	No card in gate control system
18	Left&right swing	Display when left and right swing function is set
19	X-fan	Display when dry function is set
20	Temperature	It will display the setting temperature
21	E-heater	On/off switch of auxiliary heating
22	Memory	Memory status (After power failure and re-energizing the unit, it will resume to ON/OFF status of unit before the power failure)
23	Clean	Filter washing reminder
24	Save	Display when energy-saving function is set
25	Defrost	Defrosting status
26	Timer	Display when timer status is set
27	Shield	Shielding status

3.2 OPERATION VIEW

3.2.1 Silk Screen of Buttons

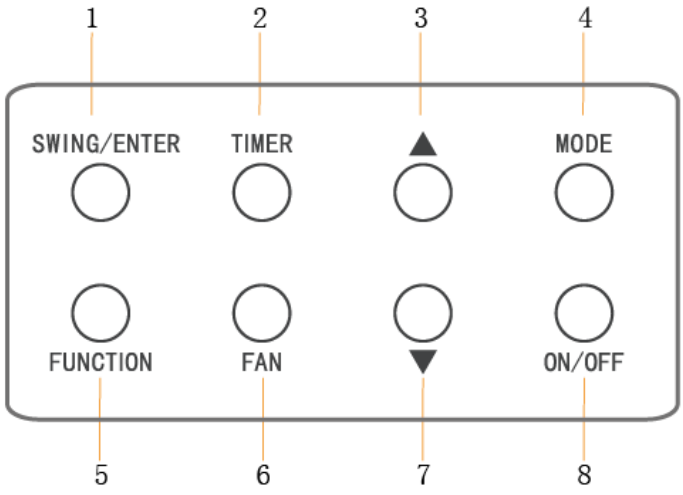


Figure 2-3-3 Silk screen of buttons

3.2.2 Instruction to Function of Buttons

Table 2-3-2 Instruction to buttons of wired controller

No.	Description	Functions
1	Swing/Enter	• Function selection and canceling; • Press it for 5s to view the ambient temperature; press Mode button to select viewing outdoor ambient temperature or indoor ambient temperature.
2	Timer	Timer setting.
3	▲	• Running temperature setting range of indoor unit: 16-30° C; • Timer setting range: 0.5-24hr; • Setting of air function level; • Setting of energy-saving temperature; • Setting of cleaning class.
7	▼	
4	Mode	Setting of auto/cooling/heating/fan/dry mode of indoor unit.
5	Function	Switch over among these functions of swing/air/sleep/health/ I-Demand/out/turbo/save/e-heater/X-fan/clean/quiet.
6	Fan	Setting of high/medium high/medium/medium low/low/auto fan speed.
8	On/Off	Turn on/off indoor unit.
4 Mode and 3 ▲	Memory function	Press Mode and ▲ buttons at the same time for 5s under off state of the unit to Swing/Enter memory function (If memory function is set, indoor unit will resume original setting state after power failure and then power recovery. If not, indoor unit is defaulted to be off after power recovery. Ex-factory setting of memory function is on).
3 ▲ and 7 ▼	Lock	Upon startup of the unit without malfunction or under off state of the unit, press ▲ and ▼ buttons at the same time for 5s to enter lock state. In this case, any other buttons won't respond when pressing. Repress ▲ and ▼ buttons for 5s to quit lock state.
4 Mode and 5 Function	Enquiry and setting of address of wired controller	Under off state of the unit, press Mode and Function buttons at the same time for 5s to set the address.
5 Function and 2 Timer	Setting of project parameters (More details please refer to the Notes)	Under off state of the unit, press Function and Timer buttons at the same time for 5s to go to the debugging menu. Press Mode button to adjust the setting items and press ▲ or ▼ buttons to set the actual value.
4 Mode and 7 ▼	Switch between Fahrenheit and Centigrade	Under off state of the unit, press Mode and ▼ buttons at the same time for 5s to switch between Fahrenheit and Centigrade.
5 Function and 7 ▼	Viewing historical malfunction	Continuously press Function and ▼ buttons for 5s to view historical malfunction. Then press ▲ and ▼ buttons to adjust displayed contents. The timer displaying position displays the sequence of malfunction and the detailed error code. The 5th displayed malfunction is the last malfunction.
1 Swing/Enter and 4 Mode	Setting of master and slave wired controller	Under off state of the unit, press Swing/Enter and Mode buttons at the same time for 5s to set master and slave wired controller. Press ▲ or ▼ button to adjust.
1 Swing/Enter and 3 ▲	Swing angle function	Under power-off status, press "Swing/Enter" button and "▲" button simultaneously for 5 seconds, the up & down swing icon will flash, then switch for simple swing and fixed swing is done.

Notes:

The following functions can be set through Function and Timer buttons: setting of ambient temperature sensor, display setting of freeze protection error code, selecting of blowing residual heat of indoor unit, selecting door control function.

4 OPERATION INSTRUCTIONS OF SPECIAL FUNCTIONS

4.1 Setting of Filter Clean Reminder Function

When unit is on, press Function button to switch to filter clean reminder function. The CLEAN icon will blink and then enter setting of filter clean reminder function. Timer zone displays the set pollution level and you can press ▲ or ▼ button to adjust the level. Then press Swing/Enter button to turn on this function.

When filter clean reminder function is turned on, press Function button to switch to filter clean reminder function. The CLEAN icon will blink and press ▲ or ▼ button to adjust timer zone to display "00". Then press Swing/Enter button to cancel this function.

When setting the filter clean reminder function, timer zone will display 2 digits, of which the former indicates the pollution degree of operating place and the latter indicates the accumulated operating time of indoor unit. There are 4 types of situations:

(1) Clean Reminder is off (Timer zone shows "00");

(2) Slight pollution: the former digit in timer zone shows 1 while the latter one shows 0, which indicates the accumulated operating time is 5500hr. Each time the latter digit increases 1, the accumulated operating time increases 500hr. When it reaches 9, it means the accumulated operating time is 10000hr;

(3) Medium pollution: the former digit in timer zone shows 2 while the latter one shows 0, which indicates the accumulated operating time is 1400hr. Each time the latter digit increases 1, the accumulated operating time increases 400hr. When it reaches 9, it means the accumulated operating time is 5000hr;

(4) Heavy pollution: the former digit in timer zone shows 3 while the latter one shows 0, which indicates the accumulated operating time is 100hr. Each time the latter digit increases 1, the accumulated operating time increases 100hr. When it reaches 9, it means the accumulated operating time is 1000hr;

The detailed pollution level and the corresponding time is as shown in Table 2-4below:

Table 2-4-1 Pollution level and corresponding time

Pollution Level	Accumulative operating time (hour)	Pollution Level	Accumulative operating time (hour)	Pollution Level	Accumulative operating time (hour)
10	5500	20	1400	30	100
11	6000	21	1800	31	200
12	6500	22	2200	32	300
13	7000	23	2600	33	400
14	7500	24	3000	34	500
15	8000	25	3400	35	600
16	8500	26	3800	36	700
17	9000	27	4200	37	800
18	9500	28	4600	38	900
19	10000	29	5000	39	1000

If filter clean reminder function is turned on, the CLEAN icon will be on.

(1) If cleaning time is not reached, no mater the setting is changed or not, the accumulated operating time won't be recalculated when pressing Swing/Enter button;

(2) If cleaning time is reached, in unit on or off state, CLEAN will blink every 0.5s for reminder. Press Function button to switch to CLEAN icon and press ▲ and ▼ button to adjust the level. Then press Swing/Enter button, so the accumulated operating time won"t be cleared (If the adjusted level is higher than the present accumulated operating time, the icon won"t blink any more; if the adjusted level is lower than the present accumulated operating time, the icon will go on blinking).

(3) The only way to cancel filter clean reminder function is to press Function button to switch to filter clean reminder function. The CLEAN icon will blink and press ▲ or ▼ button to adjust timer zone to display "00". In this case, the accumulated operating time will be cleared.

4.2 Lock Function

When unit is turned on normally or turned off, pressing ▲ and ▼ buttons at the same time for 5s will turn on Lock function. LCD will display  . Pressing ▲ and ▼ buttons at the same time for 5s to turn off this function.

When Lock function is turned on, any other buttons won"t respond when pressing. The function can be memorized after power failure and then power recovery.

4.3 Memory Function

Press Mode and ▲ buttons at the same time for 5s under off state of the unit to turn on or cancel memory function. If memory function is set, MEMORY is displayed.

If memory function is set, indoor unit will resume original setting state after power failure and then power recovery.

If memory function is not set, indoor unit is defaulted to be off after power recovery.

Note:

If memory function is set, indoor unit will resume original setting state after power failure and then power recovery. If cut off power with 5s after memorized content is changed, the memorized content may be abnormal. Do not cut off power within 5s after memorized content is changed.

4.4 Door Control Function

Door control function can be selected (More details please refer to Debugging Function).

When door control function is selected, the wired controller will work when the room card is inserted and stop working when the room card is not inserted;When the door control function senses the room card is not inserted, the wired controller will display  icon.

Note:

The unit can not be controlled by buttons when the card is not inserted.

4.5 Switch between Fahrenheit and Centigrade

Under off state of the unit, press Mode and ▼ buttons at the same time for 5s to switch between Fahrenheit and Centigrade.

4.6 Enquiry of Ambient Temperature

Under off or on state of the unit, press Swing/Enter for 5s to view the ambient temperature. In this case, timer zone displays ambient temperature type 01 or 02. Ambient temperature zone displays the corresponding temperature of that type. 01 stands for outdoor ambient temperature and 02 stands for the indoor ambient temperature after compensation. Press Mode button to switch between 01 and 02. Pressing other buttons except Mode button or receiving remote control signal will exit enquiry state. If there is no operation within 20s will also exit enquiry state.

Note:

① If the unit is not connected to outdoor ambient temperature sensor, display of outdoor ambient temperature will be shielding after energizing for 12hr.

② If there is malfunction of outdoor ambient temperature sensor, display of outdoor ambient temperature will be shielding after energizing for 12hr.

Note (for this air-condition):

When you want to enquiry outdoor ambient temperature,"00" will displayed for 3 seconds, and then the temperature will turn to the setted temperature.

4.7 Enquiry of Historical Malfunction

Under off or on state of the unit, continuously press Function and ▼buttons for 5s to view historical malfunction.

In enquiry state, set temperature displaying zone displays "00". Press ▲ and ▼ buttons to view the 10 malfunctions happened recently. The timer displaying position displays the detailed error code. The 10th displayed malfunction is the last malfunction.

4.8 Debugging Function

Under off state of the unit, press Function and Timer buttons at the same time for 5s to go to the debugging menu. Press Mode button to adjust the setting items and press ▲ or ▼ button to set the actual value.

4.8.1 Setting ambient temperature sensor (dual ambient temperature sensors function)

Under debugging state, press Mode button to adjust to "00" in temperature displaying zone. Timer zone displays setting state and press ▲ or ▼ button to adjust. There are 3 selections:

(1) The ambient temperature at air return is set as indoor ambient temperature (timer zone displays 01).

(2) The temperature at wired controller is set as indoor ambient temperature (timer zone displays 02).

(3) Select the temperature sensor at air return in cooling, dry and fan mode; select the temperature

sensor at wired controller in heating and auto mode.

4.8.2 Displaying setting of freeze protection error code

Under debugging state, press Mode button to adjust to “02” in temperature displaying zone. Timer zone displays setting state and press ▲ or ▼ button to adjust. There are 2 selections:

(1) Displayed (LCD displays 01)

(2) Not displayed (LCD displays 02)

It is defaulted to be not displayed for export unit and be displayed for domestic unit.

4.8.3 Setting refrigerant lacking protection function

Under debugging state, press Mode button to adjust to “04” in temperature displaying zone. Timer zone displays setting state and press ▲ or ▼ button to adjust. There are 2 selections:

(1) With refrigerant lacking protection function (LCD displays 01)

(2) Without refrigerant lacking protection function (LCD displays 02)

4.8.4 Selecting blowing residual heating of indoor unit

Under debugging state, press Mode button to adjust to “05” in temperature displaying zone. Timer zone displays setting state and press ▲ or ▼ button to adjust. There are 2 selections:

(1) Mode 1 (LCD displays 00)

(2) Mode 2 (LCD displays 01)

Note: Blowing residual heating of indoor unit

Mode 1: Unit stops when reaching temperature point and indoor fan motor does not stop in cooling mode, duct type unit and floor ceiling unit blow residual heat for 60s and then stop indoor unit, while cassette type unit always operates in low fan speed and blows residual heat for 60s when there is malfunction.

Mode 2: After unit stops when reaching temperature point, the indoor fan motor stops operation with a 10s delay no matter in cooling mode or in heating mode.

4.8.5 Mode selecting of compressor electric heating belt

Under debugging state, press Mode button to adjust to “06” in temperature displaying zone. Timer zone displays setting state and press ▲ or ▼ button to adjust. There are 2 selections:

(1) Mode 1 (LCD displays 00)

(2) Mode 2 (LCD displays 01)

Note:

Mode 1: Compressor electric heating belt starts when outdoor ambient temperature is below 35℃ and stops when outdoor ambient temperature is above 37℃. When outdoor ambient temperature is within 35℃ ~ 37℃, the belt will keep its previous operation state.

Mode 1: Compressor electric heating belt starts when outdoor ambient temperature is below -2℃ and stops when outdoor ambient temperature is above 0℃. When outdoor ambient temperature is within -2℃ ~0℃, the belt will keep its previous operation state.

4.8.6 Selecting low-power consumption mode

Under debugging state, press Mode button to adjust to “07” in temperature displaying zone. Timer zone displays setting state and press ▲ or ▼ button to adjust. There are 2 selections:

(1) With low-power consumption mode (LCD displays 00)

(2) Without low-power consumption mode (LCD displays 01)

4.8.7 Selecting door control function

Under debugging state, press Mode button to adjust to “08” in temperature displaying zone. Timer zone displays setting state and press ▲ or ▼ button to adjust. There are 2 selections:

(1) Without door control function (LCD displays 00)

(2) With door control function (LCD displays 01)

4.8.8 Selecting long-distance monitoring or centralized controller

Under debugging state, press Mode button to adjust to “10” in temperature displaying zone. Timer zone displays setting state and press ▲ or ▼ button to adjust. There are 2 selections:

(1) Centralized controller (LCD displays 00)

(2) Long-distance monitoring (LCD displays 01)

4.8.9 Selecting fan mode of indoor fan motor

Under debugging state, press Mode button to adjust to “11” in temperature displaying zone. Timer zone displays setting state and press ▲ or ▼ button to adjust. There are 5selections:

(1) P3 (LCD displays 03)

(2) P4 (LCD displays 04)

(3) P5 (LCD displays 05)

(4) P6 (LCD displays 06)

(5) P7 (LCD displays 07)

Note:

You can select P03, P04, P05, P06, P07 in fan mode of indoor fan motor, which means different fan mode combinations are corresponding to different static pressure. Ex-factory defaulted mode is P05. You can set the mode through wired controller. S01, S02, S0……S12, S13 means the rotation speed of indoor unit is from low to high.

Table 2-4-2 Combination relationship of P03, P04, P05, P06, P07

Static pressure selection	Super high speed	High speed	Medium high speed	Medium speed	Medium low speed	Low speed	Quiet R1 speed	Quiet R2 speed	Quiet R13 speed
P03	S09	S08	S07	S06	S05	S04	S03	S02	S01
P04	S10	S09	S08	S07	S06	S05	S04	S03	S02
P05	S11	S10	S09	S08	S07	S06	S05	S04	S03
P06	S12	S11	S10	S09	S08	S07	S06	S05	S04
P07	S13	S12	S11	S10	S09	S08	S07	S06	S05

4.8.10 Selecting compensation of temperature sensor at air return

Under debugging state, press Mode button to adjust to “12” in temperature displaying zone. Timer zone displays setting state and press ▲ or ▼ button to adjust. There are 16 selections:

(1) Compensate 0℃ (LCD displays 00)
(2) Compensate 1℃ (LCD displays 01)
(3) Compensate 2℃ (LCD displays 02)
(4) Compensate 3℃ (LCD displays 03)
(5) Compensate 4℃ (LCD displays 04)
(6) Compensate 5°C (LCD displays 05)
(7) Compensate 6℃ (LCD displays 06)
(8) Compensate 7℃ (LCD displays 07)
(9) Compensate 8℃ (LCD displays 08)
(10) Compensate 9℃ (LCD displays 09)
(11) Compensate 10℃ (LCD displays 10)
(12) Compensate 11℃ (LCD displays 11)
(13) Compensate 12℃ (LCD displays 12)
(14) Compensate 13℃ (LCD displays 13)
(15) Compensate 14℃ (LCD displays 14)
(16) Compensate 15℃ (LCD displays 15)

Note: Indoor ambient temperature compensation can be set through wired controller (E.g. If 02 is selected, it indicates the compensation temperature is 2℃ . If the indoor ambient temperature detected by the temperature sensor at air return is 29℃ , the ambient temperature after compensation is 29℃ -2℃ =27℃).

4.8.11 Auto mode selection

Under debugging state, press Mode button to adjust to “16” in temperature displaying zone. Timer zone displays setting state and press ▲ or ▼ button to adjust. There are 2 selections:

(1) Auto mode 1, the set temperature under auto mode can’t be adjusted (LCD displays 01)
(2) Auto mode 2, the set temperature can be adjusted under auto mode (LCD displays 02)

4.8.12 Defrost mode selection

Under debugging state, press Mode button to adjust to “17” in temperature displaying zone. Timer zone displays setting state and press ▲ or ▼ button to adjust. There are 2 selections:

(1) Defrost mode 1 (LCD displays 01)
(2) Defrost mode 2 (LCD displays 02)

4.8.13 Heat pump unit and cooling only unit selection

Under debugging state, press Mode button to adjust to “18” in temperature displaying zone. Timer zone displays setting state and press ▲ or ▼ button to adjust. There are 2 selections:

(1) Heat pump type unit (LCD displays 00)
(2) Cooling only unit (LCD displays 01)

After finishing setting, press Swing/Enter button to save and exit setting. After entering this interface, the system will exit this menu if there is no operation on the button within 20s. Normal off state interface will be displayed and present setting will not be saved.

5 INSTALLATION OF WIRED CONTROLLER

5.1 Standard Accessories

Table 2-5-1 Standard Accessories of Wired Controller

No.	①	②	③	④
Name	wired controller	screw M4×25	installing box of wired controller	junction box for installing inside the wall
Quantity	1	2	1	1(prepared by user)

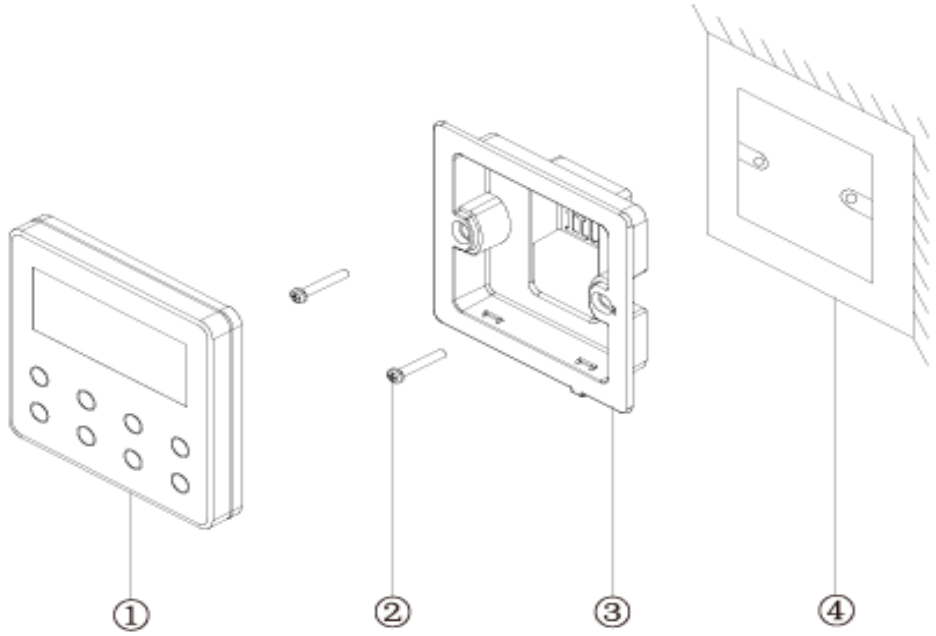


Figure 2-5-1

5.2 Installation Position and Requirement

(1) Please do not install the wired controller in the position where is wet or is likely to be splashed with water;

(2) Please do not install the wired controller near high-temperature objects or under direct sunlight;

(3) Please do not install the wired controller in the position where facing the window, so as to avoid interference of neighbor's remote controller with the same model and cause malfunction;

(4) Before installation, please cut off the power supply of strong current wire inside the wall, it is not allowed to install under electrified status;

(5) In order to avoid malfunction due to electromagnetic interference and other causes, please pay attention to the following notices:

1) Make sure that the interface of communication wire is correct, otherwise the communication cannot work;

2) Signal wire of wired controller should be separated from the power cord and indoor and outdoor

connecting wire, the shortest distance should be over 20cm, otherwise the communication cannot work normally;

3) If the unit is installed in the position where is likely to be impacted by electromagnetic interface, signal wire of wired controller should be made of STP (shielded twisted pair).

(6) The wired controller should only be installed indoors, and its working temperature range is 0℃ ~ 50℃ .

5.3 Installation of Wired Controller

First to select the right signal wire of wired controller: 2–core signal wire (wire diameter>=0.75mm, length<30m, recommendable length is 8m).

For installation steps of wired controller please refer to the following sketch map, brief instructions are as below:

(1) Before installation, please cut off the power supply of indoor unit, live working during installation is not allowed;

(2) Pull out the 2–core STP inside the wall from the installing hole, thread the wire through the connecting hole in the back of soleplate of wired controller;

(3) Stick the soleplate of wired controller on the wall, use screw M4×25 to fix the soleplate onto the installing hole of wall;

(4) Connect the 2–core STP with the two wiring terminals in the back of wired controller respectively, and screw up the screw; no polarity for these two wiring terminals, but note that it should not be connected to strong current;

(5) Buckle the panel of wired controller with the soleplate, then the installation is finished.

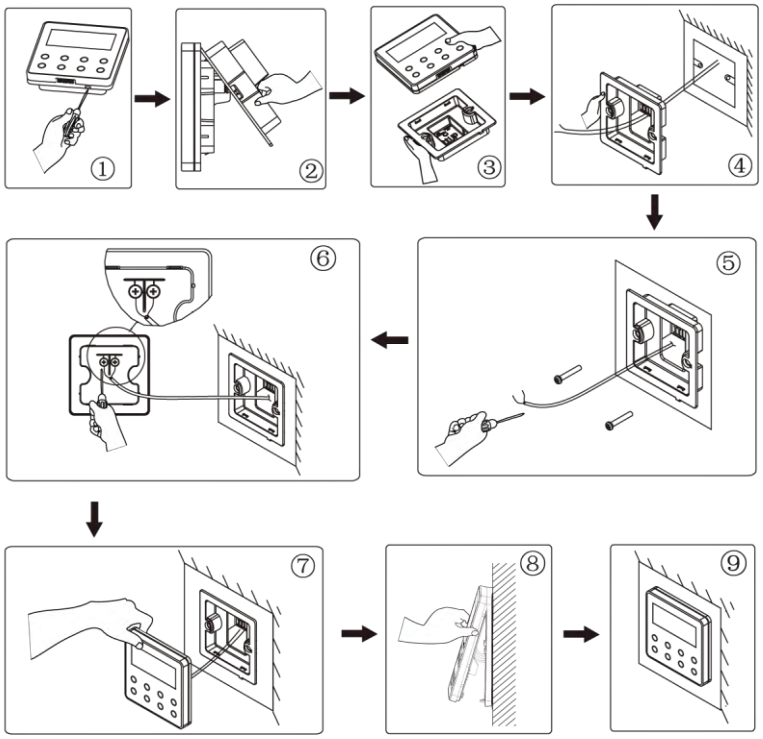


Figure 2-5-2 Installation of wired controller

5.4 Removal of Wired Controller

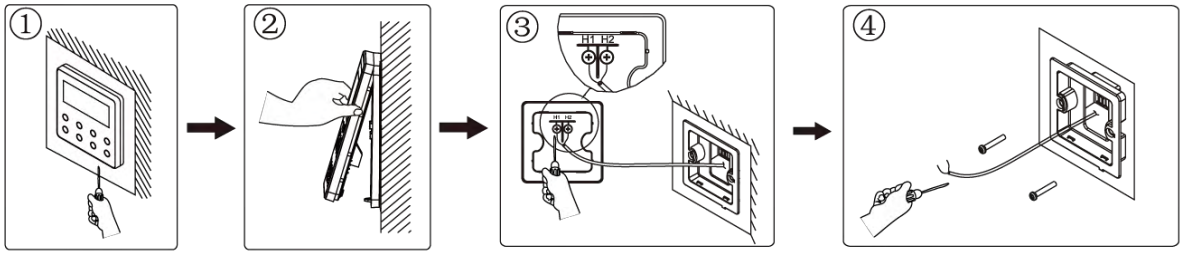


Figure 2-5-3 Removal of wired controller

6 TROUBLESHOOTING

6.1 DISPLAY OF ERROR CODE

Table 2-6-1 Error Code List 1

NO.	Error code	Error	Remarks
1	E1	Compressor high pressure protection	
2	E2	Indoor anti-freeze protection	
3	E3	Compressor low pressure protection, refrigerant lack protection and refrigerant colleting mode	
4	E4	Compressor high discharge temperature protection	
5	E6	Communication error	
6	E8	Indoor fan motor error	
7	F0	Indoor ambient temperature sensor error	
8	F1	Evaporator temperature sensor error	
9	F2	Condenser temperature sensor error	
10	F3	Outdoor ambient temperature sensor error	
11	F4	Discharge temperature sensor error	
12	F5	Temperature sensor error of wired controller	
13	C5	Capacity code error	
14	EE	Outdoor memory chip error	
15	PF	Electric box sensor error	
16	H3	Compressor overload protection	
17	H4	Overloading	
18	H5	IPM protection	
19	H6	DC fan motor error	
20	H7	Drive desynchronizing protection	
21	Lc	Activation failure	
22	Ld	Compressor phase sequence protection	
23	LE	Compressor stalling protection	
24	LF	Power protection	
25	Lp	Indoor and outdoor mismatch	
26	U7	4-way valve direction changing protection	
27	P0	Drive reset protection	
28	P5	Over-current protection	
29	P6	Communication error between main control and drive	
30	P7	Drive module sensor error	
31	P8	Drive module over temperature protection	

NO.	Error code	Error	Remarks
32	P9	Zero passage protection	
33	PA	AC current protection	
34	Pc	Drive current error	
35	Pd	Sensor connecting protection	
36	PE	Temperature drift protection	
37	PL	Bus low voltage protection	
38	PH	Bus high voltage protection	
39	PU	Charge loop error	
40	PP	Input voltage abnormality	
41	ee	Drive memory chip error	
44	HC	pfc protection	
45	C4	ODU jumper cap failure	
46	d1	DRED1 mode	
47	d2	DRED2 mode	
48	d3	DRED3 mode	
49	E9	Water overflow protection	
50	EL	Emergency Stop(Fire alarm)	

Note: When several malfunctions occur at the same time, these error codes will be displayed circularly. When there is a malfunction, please turn off the unit and ask the professional for maintenance.

Table 2-6-2 Error Code List 2

NO.	Error code	Error	Remarks
1	AL	Fan DC busbar under voltage protection	
2	AH	Fan DC busbar over voltage protection	
3	AA	Fan AC current protection (input side)	
4	A1	Fan IPM module protection	
5	AF	Fan PFC abnormality	
6	Ac	Fan startup failure	
7	Ad	Fan Missing phase	
8	A0	Fan Drive module resetting	
9	UL	Fan current protection	
10	UP	Fan power protection	
11	AE	Fan Current sensor malfunction	
12	AJ	The Fan motor in loss of synchronization	
13	A6	Malfunction from Fan driving part to main-control communication	
14	A8	Overheat protection of Fan radiator	
15	A9	Fan radiator sensor malfunction	
16	An	Fan Drive Storage chip malfunction	
17	AU	Fan Charge circuit malfunction	
18	AP	Fan AC input voltage abnormality	
19	Ar	Fan drive board environment temperature sensor malfunction	
20	U9	Fan AC contactor protection or input zero crossing error	

When there is a malfunction during operation, error will be displayed on the temperature displaying zone of LCD. When several malfunctions occur at the same time, these error codes will be displayed circularly.

When there is a malfunction, please turn off the unit and ask the professional for maintenance.

For example, E1 means high pressure protection during operation.

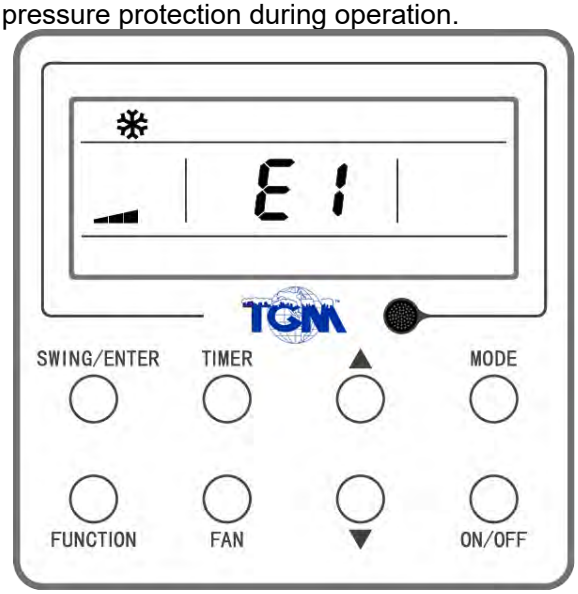


Figure 2-6-1

INSTALLATION

INSTALLATION

1 UNITS INSTALL

1.1 INSTALLATION POSITIONS

To ensure the unit in proper function, selection of installation location must be in accordance with following principles.

(1) Unit shall be installed so that the air discharged by outdoor fan will not return and that sufficient space for repair shall be provided around the unit.

(2) The installation site must have good ventilation, so that the unit can take in and exhaust enough air.

(3) Place of installation shall be strong enough to support the weight of unit, and it shall be able to insulate noise and prevent vibration. Ensure that the wind and noise from the unit will not affect your neighbors.

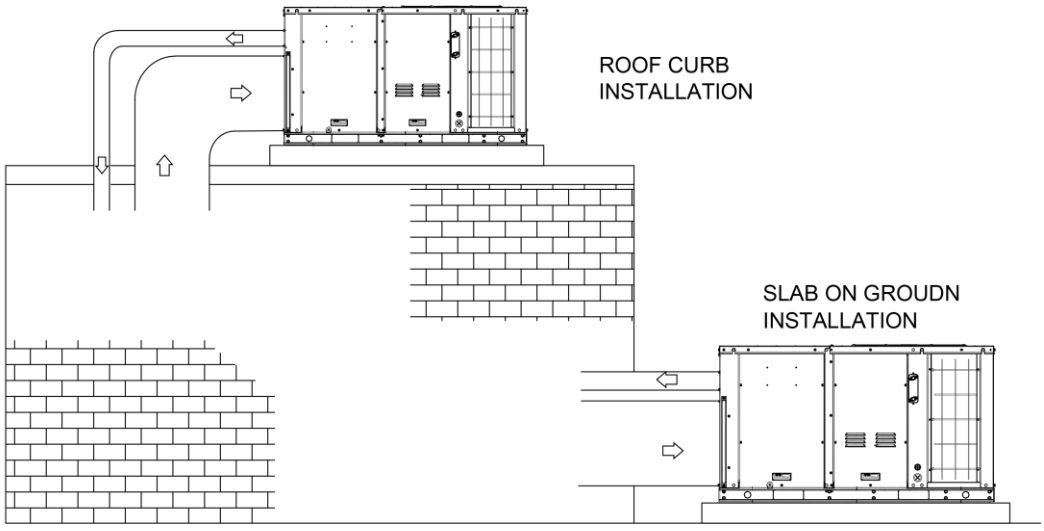
(4) Avoid direct sunshine over the unit. It is better to set up a sun shield as the protection.

(5) Place of installation must be able to drain the rainwater and defrosting water.

(6) Place of installation must ensure the unit will not subject to the influence of rubbish or oil fog.

(7) The installation site must be at a place where the air exhaust outlet does not face strong wind.

(8) Unit must be fixed on stable and solid surface of floor.



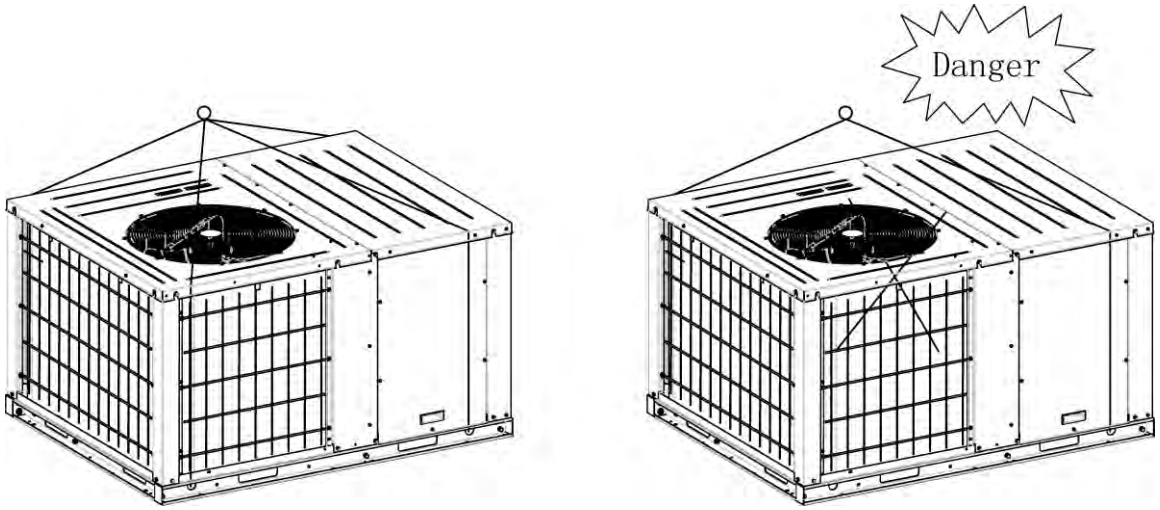
1.2 MATTERS NEED ATTENTION

1.2.1 PRE-INSTALLATION INSTRUCTION

Upon receiving the product, check any damage from transportation. Shipping damage is the responsibility of the carrier. Verify the model number, specifications and accessories are correct prior to installation. The distributor or manufacturer will not accept claims from dealers for transportation damage or installation of incorrectly shipped units.

If the checking is passed, protecting measure should be adopted. Do not open the packing too early, in order to avoid damage

1.2.2 LIFTING METHOD



(1) When removing the unit, two ropes are needed to hang the unit along the four ways.

(2) In order to avoid the extrusion, between the ropes should be add something to protect the unit (e.g. batten).

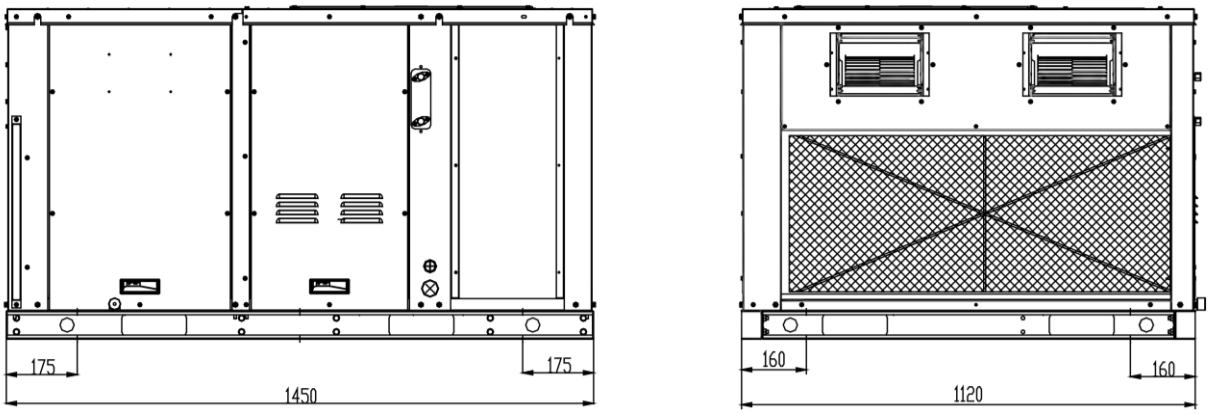
(3) Please use M12 to tight the support fundus.

1.2.3 INSTALLATION PEDESTAL

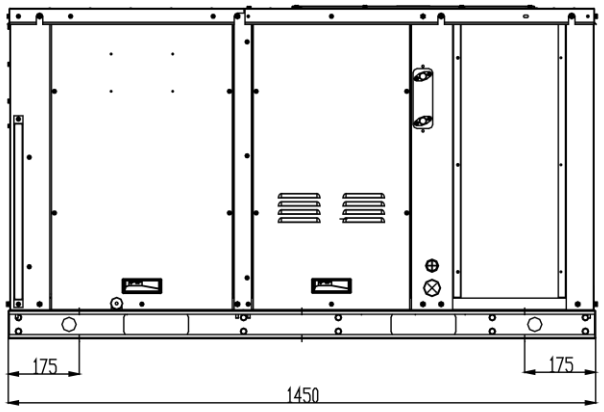
The unit must be laid on horizontal pedestal that is rigid. It is advised that pedestal is made of concrete.

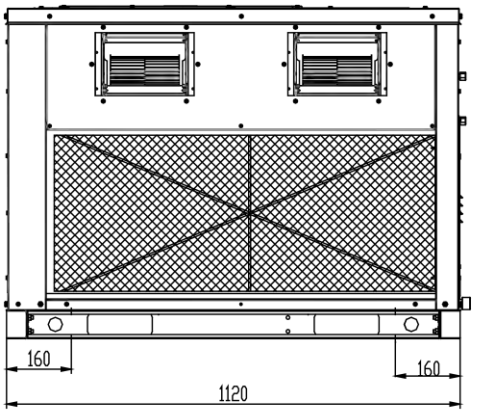
The high dimension of the pedestal must larger than the dimension that needed for drainpipe installation. And the unit must be fixed on the pedestal with bolt. The location of pedestal must be able to support the weight of the unit. If not, the unit may be overturning, declining or falling off in an extreme circumstance (just like earthquake, typhoon).

GRIT03A

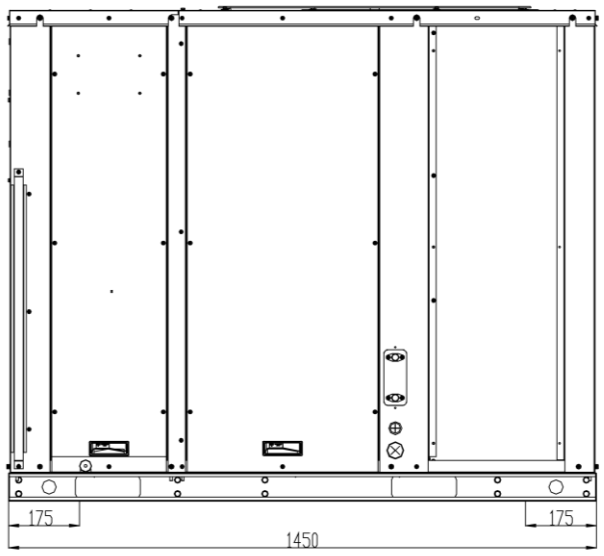


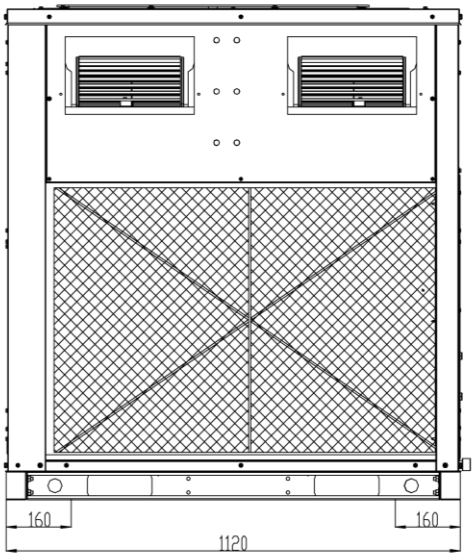
GRIT05A、GRIT05B



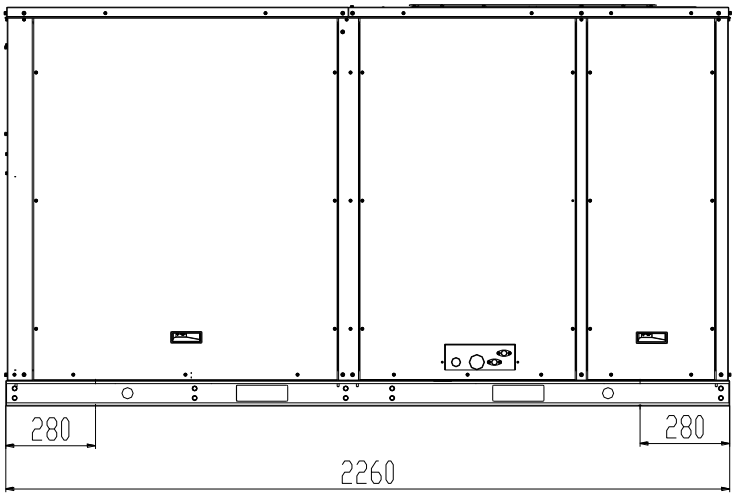


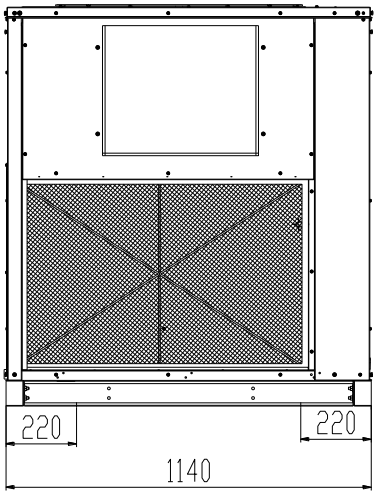
GRIT10B



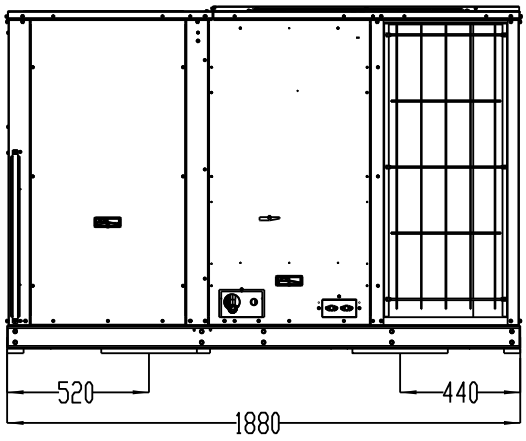


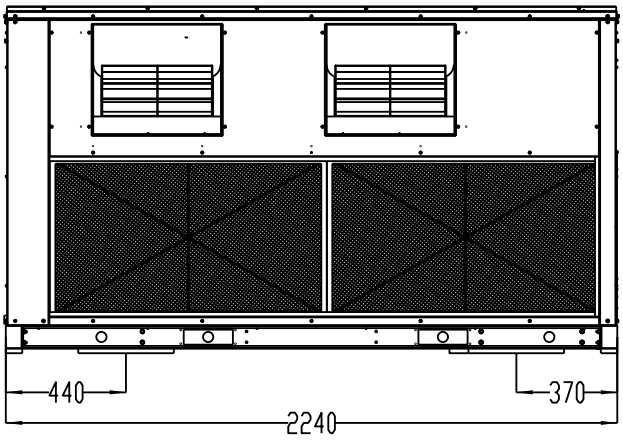
GRIT15B





GRIT20B





NOTE:

① The diagram may be different from actual model. The diagram is for pedestal made of concrete.

② The high dimension of the pedestal must be enough to install drainpipe (Refer to DRAIN PIPING WORK)

1.2.4 DUCTWORK

The design and installation of air ducts must be in conformity with the relevant local engineering criteria.

Ductwork is to be constructed in a manner that limits restrictions and maintains suitable air velocity.

The air supply duct, the air intake duct must be covered with a layer of thermal insulation, so as to avoidthermal leakage and condensation.

The air supply ducts and the air intake ducts shall be fixed by the prefabricated boards of the ceiling by using iron supports. The joints of the ducts must be sealed by glue so as to avoid leakage.

The edge of the air intake duct must be at least 150mm away from the wall.

Silencing and shock absorption shall be considered in the design and installation of the air ducts. Additionally, the noise source must be far away from where people stay. The air intake shall not be located above the place where users stay (offices and rest places,etc.).

Do not terminate the air return duct in an area that can introduce toxic or objectionable fumes/odors into the ductwork.

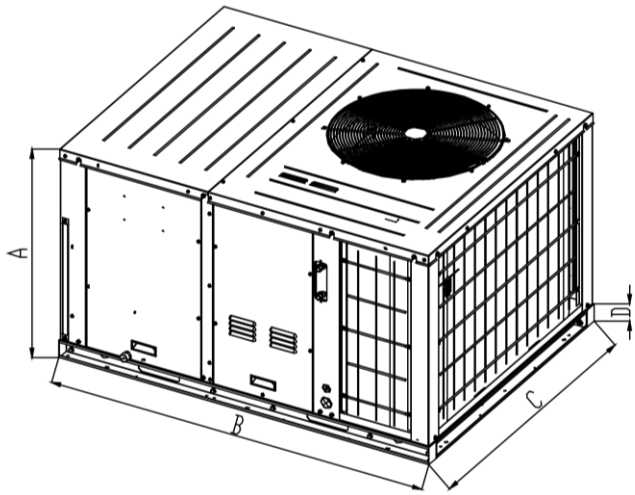
Each installation must include a return air filter. This filtering may be performed at the unit or externally such as a return air filter grille.

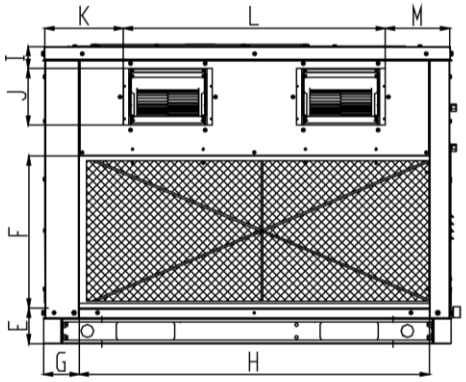
Building condition and maintenance convenience should be taken into consideration when selecting the installation method.

1.3 DIMENSION

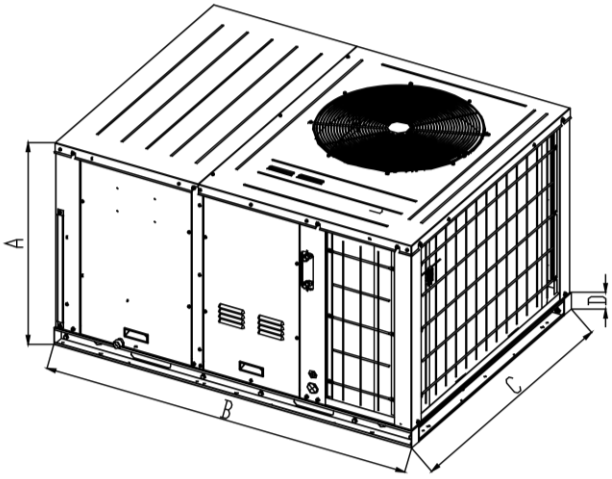
1.3.1 DIMENSION OF UNITS

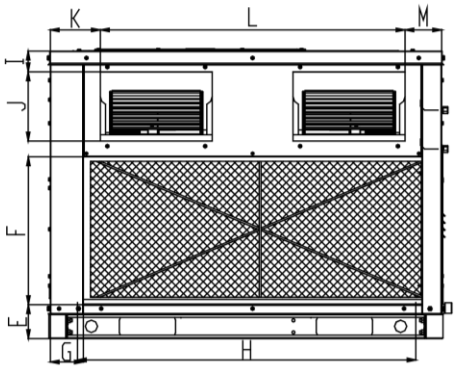
GRIT03A



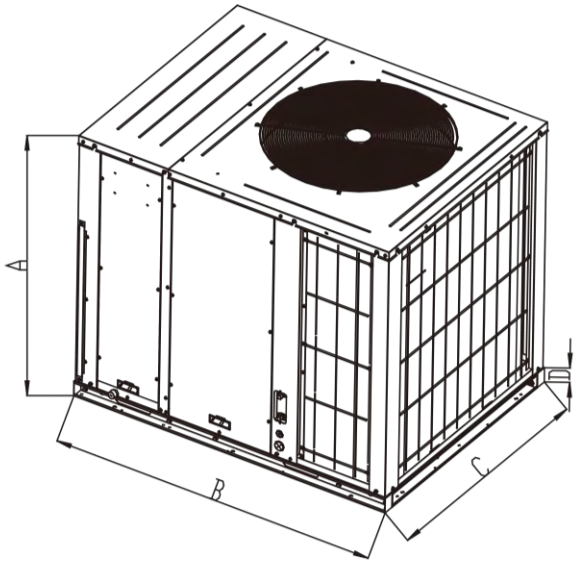


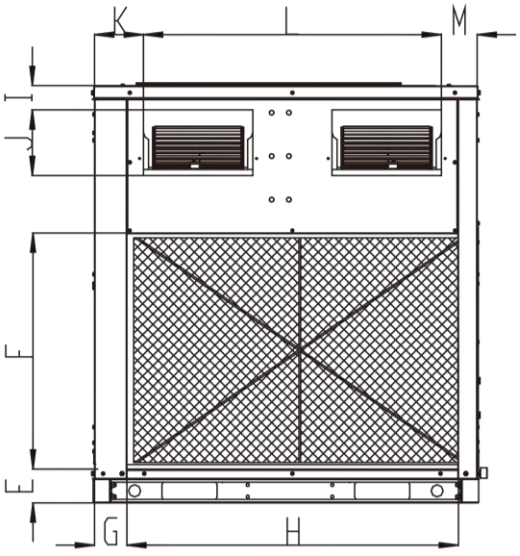
GRIT05A、GRIT05B



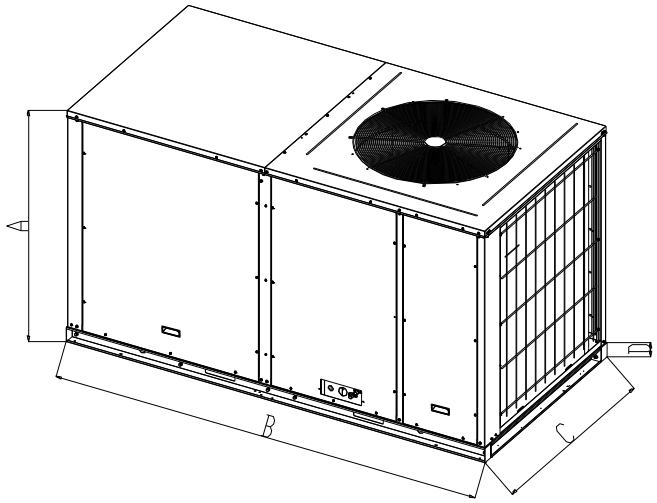


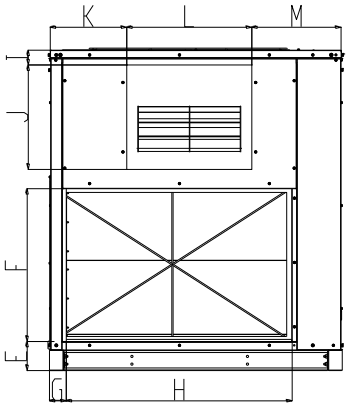
GRIT10B



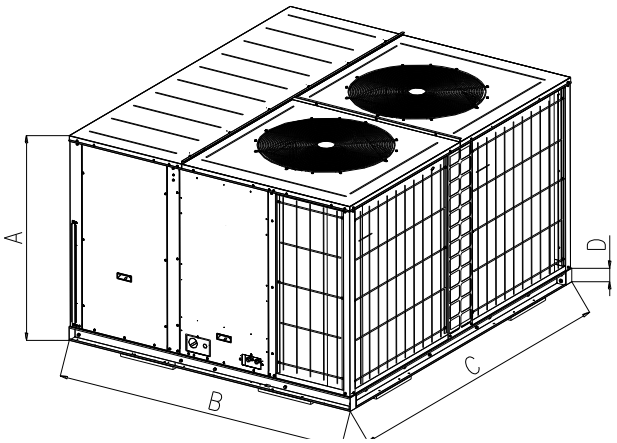


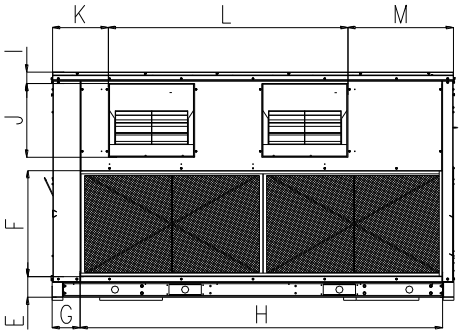
GRIT15B





GRIT20B

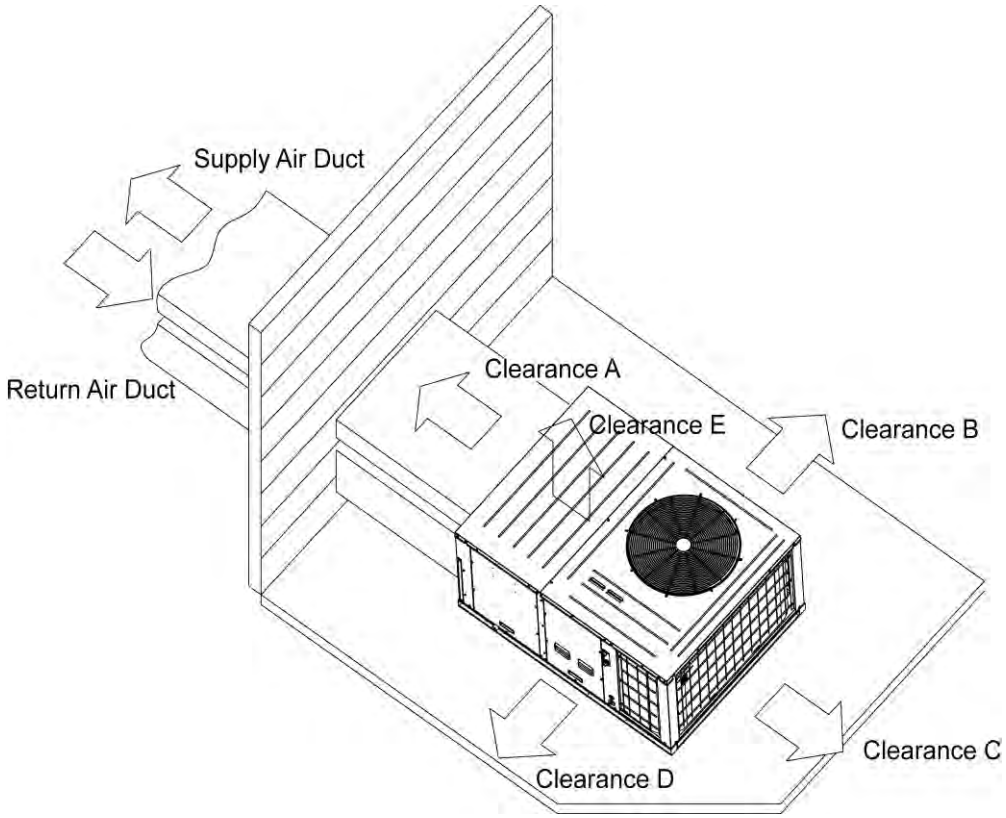




Dimension (mm)	A	B	C	D	E	F	G	H	I	J	K	L	M
GRIT03A	815	1450	1120	70	98	417	94	916	60	155	215	719	178
GRIT05A	815	1450	1120	70	98	417	94	916	65	190	144	866	105
GRIT05B	815	1450	1120	70	98	417	94	916	65	190	144	866	105
GRIT10B	1215	1450	1120	70	98	686	94	916	70	190	144	866	105
GRIT15B	1245	2260	1140	80	111	595	50	914	58	406	298	487	349
GRIT20B	1250	1880	2240	85	115	590	158	2021	45	412	311	1336	588

Note: Above diagrams may be different from actual mode.

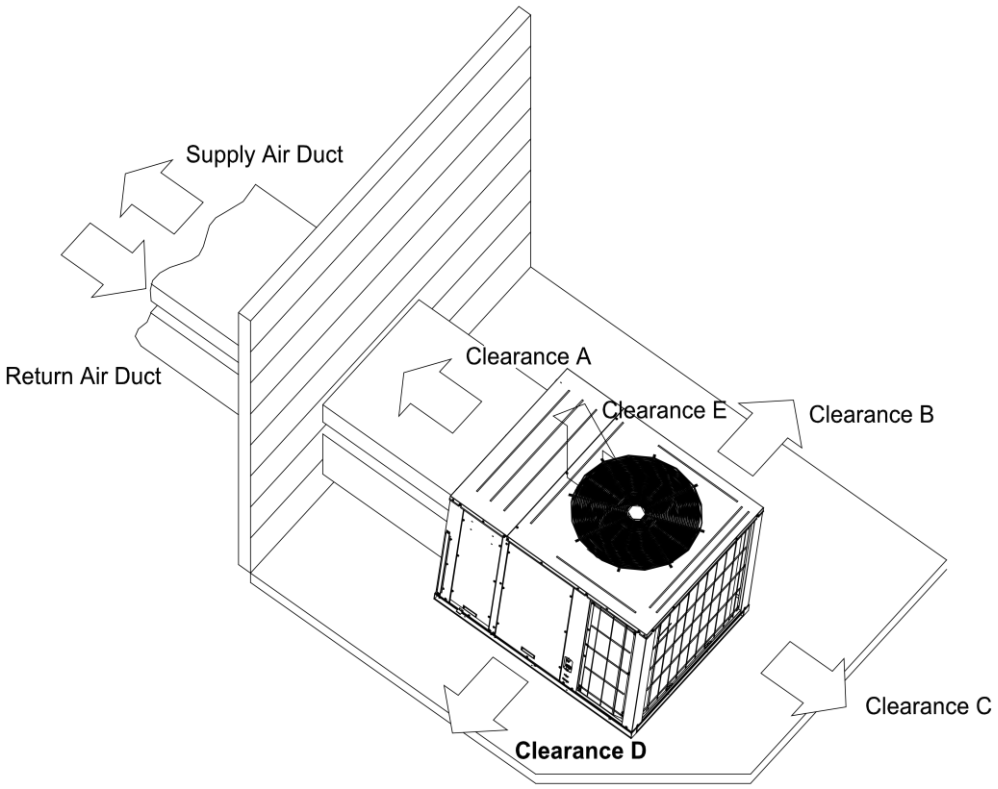
1.3.2 INSTALLATION CLEARANCE DATA



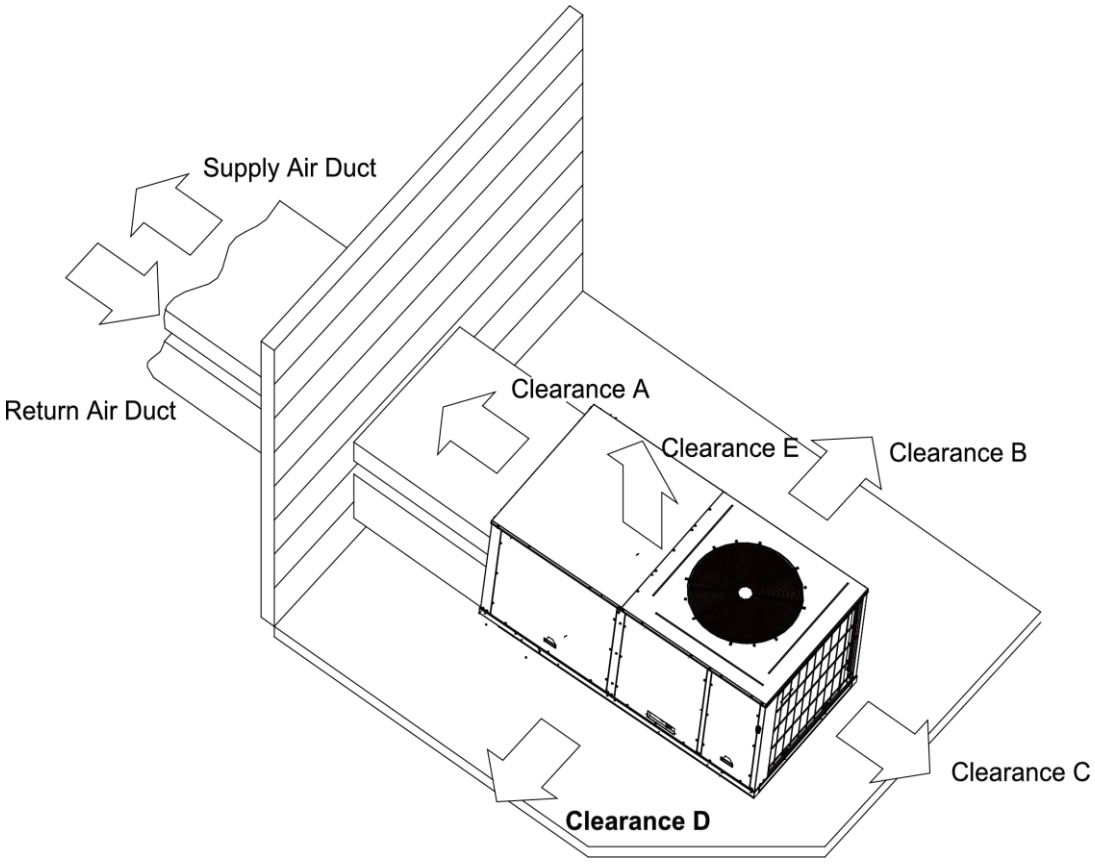
Note: Above diagrams may be different from actual mode.

GRIT03A、GRIT05A、GRIT05B

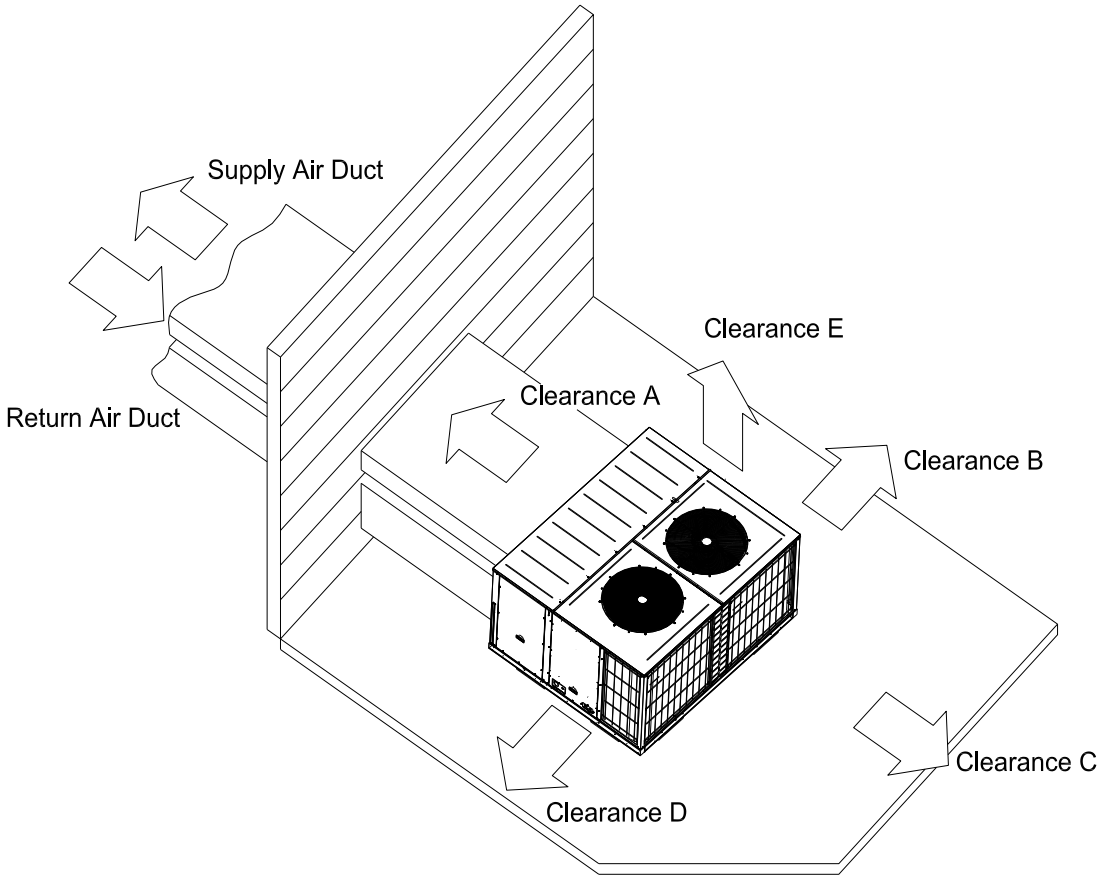
Installation Clearances		
DIMENSION (Minimum)	mm	inch
A	600	24
B	1100	43
C	860	34
D	1100	43
E	1100	43



GRIT10B



GRIT15B



GRIT20B

Note: Above diagrams may be different from actual mode.

GRIT10B、GRIT15B、GRIT20B

Installation Clearances		
DIMENSION (Minimum)	mm	inch
A	1000	39
B	1500	59
C	1100	43
D	1100	43
E	1100	43

2 DRAIN PIPING WORK

2.1 INSTALLATION PROCEDURE

After the unit is installed, it is required to check the level of the whole unit. The unit must be placed horizontally to ensure the unit in proper function.

When shipped out from factory, both the condensate outlets are blocked by rubber plug. So before installation, please take the rubber plug out. Condensate removal is performed by attaching a PVC pipe to the drain pan and terminated in accordance with local or state Plumbing/HVAC codes.

The indoor coil condensate drain ends with a threaded 20mm stub tube. A trap must be built for proper condensate drainage and to prevent debris from being drawn into the unit.

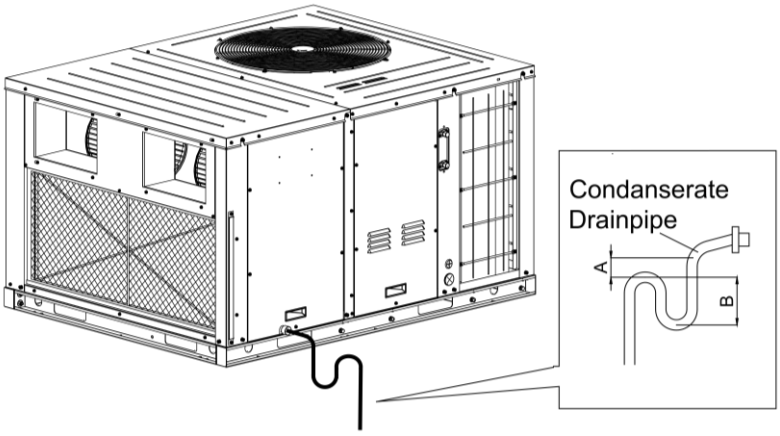
2.2 MATTERS OF ATTENTION

The condensate pipe shall be installed with an inclining angel of 5~10°, so as to facilitate the drainage of condensate.

As the inside of the unit is in the negative pressure status, it is required to set up a backwater elbow. The requirements is: A=B≥P/10+20(mm)

Remark: P is the absolute pressure inside the unit. The unit of the pressure is Pa.

After the electrical installation is completed, carry out the testing of the drainage system.



Note: Above diagrams may be different from actual mode.

Model	Drain Connection Size(mm)
GRIT03A	20
GRIT05A	20
GRIT05B	20
GRIT10B	20
GRIT15B	20
GRIT20B	30

3 ELECTRIC WIRING WORK

3.1 WIRING PRINCIPLE

3.1.1 Precautions

(1) Before connecting lines, read the unit nameplate for message about voltages, circuit ampacity, capacity, and so on. Then carry out line connection according to the schematic diagram.

(2) The air-conditioning unit shall have special power supply line which shall be equipped with electricity leakage switch and air switch, so as to deal with overload conditions. Moreover, leakage switch must be tested for availability in each month (press TEST button on the switch to test).

(3) The air-conditioning unit must have grounding to avoid hazard owing to insulation failure.

(4) Lay out power cords through cable trough or wiring pipe. Make power cord connect into electric box through the cable-cross loop to avoid scratch of it by edges of sheet metal.

(5) Keep distance between power line and low voltage connections above 150mm.

(6) All line connections must conform to the schematic diagram. Wrong connection may cause abnormal operation or damage of the air-conditioning unit.

(7) Do not let any cable contact the refrigerant pipe, the compressor and moving parts such as fan.

(8) Do not change the internal line connections inside the air-conditioning unit. The manufacturer shall not be liable for any loss or abnormal operation arising from wrong line connections.

(9) 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.

(10) All of the supplied components, material, and electric operation should be accorded with the local principles.

3.1.2 Connect Wiring to the Terminals

Cautions：

Please note the following items before installing the electric appliance.

(1) Check if the power supply accords with its value on the nameplate.

(2) The capacity of the power supply must be large enough.

(3) The circuit should be installed by the professional technician.

(4) In fixed circuit, there must be electricity leakage protection switch of enough power capacity and air switch with space between its electrode contacts ≥ 3mm.

(5) Single wire connection.

1) Peel off the insulation for 25mm with pliers.

2) Remove the screw from the terminal board.

3) Bend the peeled wire into circle with pliers.

4) Screw cross the circle and fix it on the terminal board.

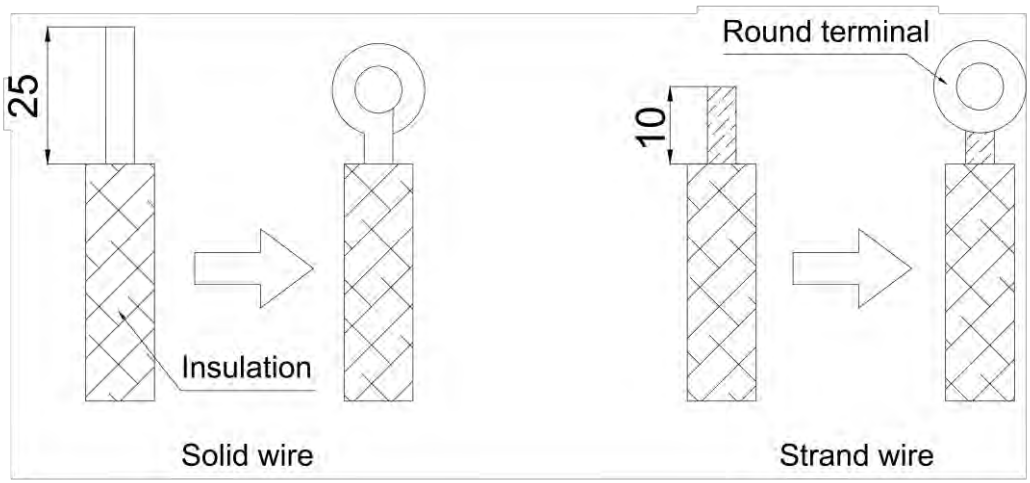
(6) Strand wires connection.

1) Peel off the insulation for 10mm with pliers.

2) Remove the screw from the terminal board.

3) Clamp a round terminal of the peeled wires.

4) Screw cross the circle and fix it on the terminal board.



3.1.3 Electrical connections-supply voltage:

(1) Air-conditioning unit with single-phase power supply

1) Remove the Electric Box Cover of the unit.

2) Pass the cable through rubber ring.

3) Connect the power supply cable to the erminals and the grounding screw.

4) Use cable fastener to bundle and fix the cable.

(2) Air-conditioning unit with 3-phase power supply

1) Remove the Electric Box Cover of the unit.

2) Pass the cable through rubber ring.

3) Connect the power supply cable to the “L1, L2, L3” terminals and the grounding screw.

4) Use cable fastener to bundle and fix the cable.

(3) Low Voltage Connections

Low voltage wiring is to be copper conductors. The wire size of the communication line should be no less than 0.75mm^2.

1) Remove the Electric Box Cover of the unit.

2) Pass the signal cable of the wire controller through rubber ring.

3) Connect the signal cable to the “1, 2” terminals.

4) Use cable fastener to bundle and fix the cable.

Cautions:

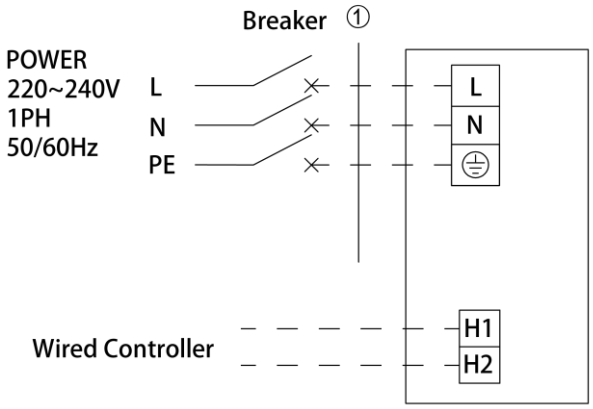
Take great care when carrying out the following connections, so as to avoid malfunction of the air-conditioning unit because of electromagnetic interference.

The signal line of the wire controller must be separated from the power line.

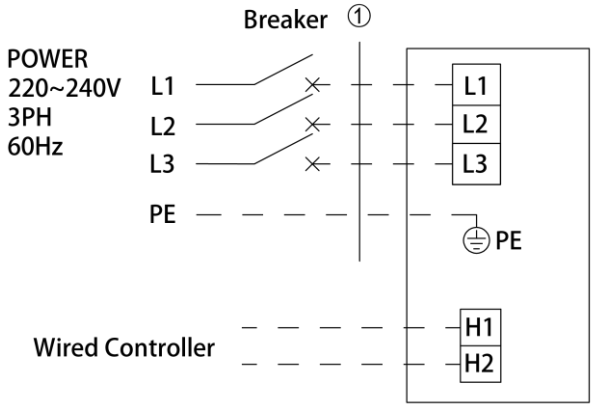
In case the unit is installed in a place vulnerable by electromagnetic interference, it is better to use shielded cable or double-twisted cable as the signal line of the wire controller.

3.2 ELECTRIC WIRING DESIGN

GK-H03NH3AS、GK-H5.5NH3AS



GRIT05B,GRIT10B,GRIT15B,GRIT20B



4 Adjust the Tightness of the Belt (Only above 10 Ton)

(1) The rotation of the fan is achieved by the transmission of the belt. The velocity and stability of the fan is associated with the tightness of the belt and the tightness should be adjusted after a period of time.

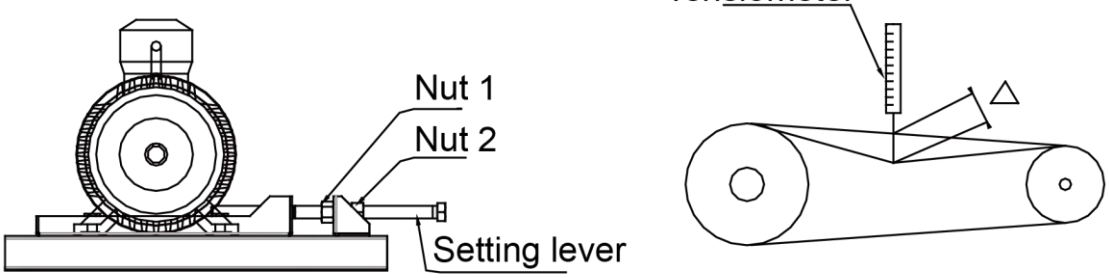
(2) For a new belt, the tightness should be adjusted for at least twice within 24 hours. After one week running, the tightness of the belt should be adjusted again, we should routinely check it every 1-2 months; also ensure the test results complying with the following table.

(3) The adjustment of the tightness of the belt is shown in the following figure. Loosen screws fixing motor on the base, move motor along the direction of arrow as shown in the picture, and then fix the screw again.

(4) The tightness level of belt is tested by tensiometer as shown in the following figure, when reaches the deviation length, read the value on the meter, the value should be in the category specified in the following table.

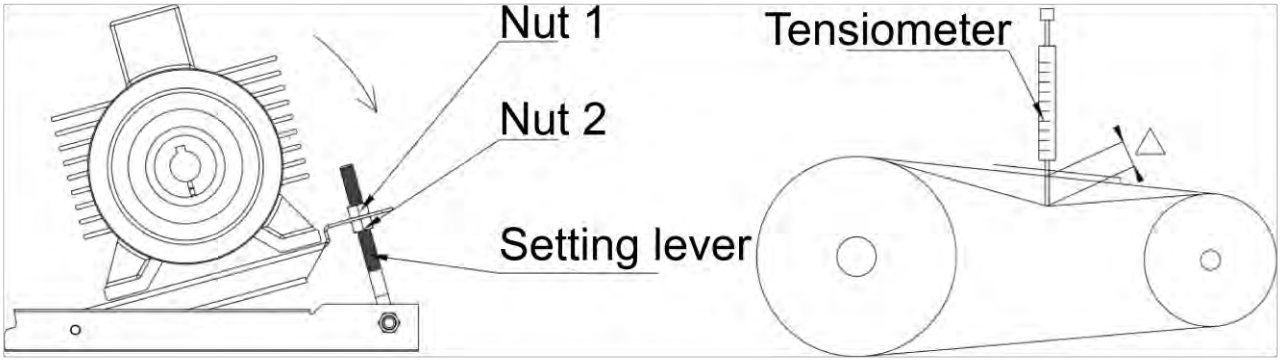
GRIT15B

Section area of the belt	Diameter of the small wheel(mm)	Diameter of the big wheel(mm)	The total length of the belt(mm)	Deviation length(mm)	Tension(N)	
					Min.	Max.
SPA	100	190	1700	9.9	13	14
	100	180	1682	9.9	13	14
	106	190	1700	9.9	12	14
	100	170	1657	9.8	13	14
	106	180	1682	9.8	12	14
	112	190	1732	10.0	12	13



GRIT20B

Section area of the belt	Diameter of the small wheel(mm)	Diameter of the big wheel(mm)	The total length of the belt(mm)	Deviation length(mm)	Tension(N)	
					Min.	Max.
SPA	100	180	1482	8.3	16	18
	100	170	1457	8.2	16	18
	106	180	1482	8.2	16	18
	100	160	1432	8.2	16	18
	106	170	1457	8.2	16	18
	112	180	1500	8.3	15	17



Note: Above diagrams may be different from actual model.

MAINTENANCE

MAINTENANCE

1 MALFUNCTION TABLE

1.1 MAIN CONTROL MALFUNCTION

Table 1 Fault Display on Wired Controller

No.	Error code	Malfunction name	Origin of malfunction signal	Control description
1	E1	High pressure protection	High pressure switch	When unit detects the high pressure switch is cut off for 3s successively, high pressure protection will occur. All the loads (except the 4-way valve in heating mode) will be switched off. In this case, all the buttons and remote control signals except ON/OFF button will be disabled and cannot be recovered automatically. Switch off the unit or re-energize the unit after cutting off power to eliminate this protection.
2	E2	Freeze protection	Evaporator temperature sensor	If detecting that the evaporator temperature is lower than protective temperature value after the unit has been running for a period of time under cooling or dry mode, the unit will report this fault, in which case the compressor and condenser fan motor will be stopped. The unit will not run until evaporator temperature is higher than the protective temperature value and the compressor is stopped for 3min.
3	E3	Low pressure protection	Low pressure switch	If it is detected within 30s successively that the low-pressure switch is cut off under ON or standby state, the unit will report low pressure protection. If the fault occurs successively 3 times within 30min, the unit cannot be recovered automatically.
		Refrigerant lacking protection	/	If the unit reports system refrigerant lacking within 10min after turning on the unit, the unit will stop operation. If the fault occurs successively 3 times, the unit cannot be recovered automatically.
		Refrigerant recycling mode	/	If enter refrigerant recycling mode through special operation, E3 will be displayed. After exiting refrigerant recycling mode, the code will disappear.
4	E4	Compressor high discharge temperature protection	Compressor discharge temperature is high	If unit detects that the discharge temperature is higher than protective temperature value, the unit will report high discharge temperature protection. If the protection occurs over 6 times, the unit cannot be recovered automatically. Switch off the unit or re-energize the unit after cutting off power to eliminate this protection.
5	E6	Communication malfunction	Communication between mainboards	If the mainboard does not receive data from the other mainboards, communication malfunction will be reported. If there is communication abnormity between display board (wired controller) and the unit, communication malfunction will be reported too.
6	E8	Malfunction of evaporator fan motor	Evaporator fan motor	If the unit does not receive signal from evaporator fan motor for 30s successively when the fan motor is operating, evaporator fan motor malfunction will be reported. In this case, the unit can automatically resume operation after stopping. If the malfunction occurs 6 times within one hour, the unit cannot be recovered automatically. Switch off the unit or re-energize the unit after cutting off power to eliminate this malfunction.
7	E9	Full water protection	Water level switch	If cut-off of water level switch is detected for 8s successively once energized, the system will enter full water protection. In this case, switch off the unit and then switch it on to eliminate this malfunction.

No.	Error code	Malfunction name	Origin of malfunction signal	Control description
8	F0	Malfunction of indoor ambient temperature sensor at air return port	Indoor ambient temperature sensor	If the indoor ambient temperature sensor is detected of open circuit or short circuit for 5s successively, indoor ambient temperature sensor malfunction will be reported. The unit can automatically resume operation after the malfunction disappears. If indoor ambient temperature sensor malfunction occurs in fan mode, only the error code is displayed and the unit can work normally.
9	F1	Malfunction of evaporator temperature sensor	Evaporator temperature sensor	If the indoor evaporator temperature sensor is detected of open circuit or short circuit for 5s successively, evaporator temperature sensor malfunction will be reported. The unit can automatically resume operation after the malfunction disappears. If evaporator temperature sensor malfunction occurs in fan mode, only the error code is displayed and the indoor unit can work normally.
10	F2	Malfunction of condenser temperature sensor	Condenser temperature sensor	If the condenser temperature sensor is detected of open circuit or short circuit for 5s successively, condenser temperature sensor malfunction will be reported. The unit can automatically resume operation after the malfunction disappears. If condenser temperature sensor malfunction occurs in fan mode, only the error code is displayed and the unit can work normally.
11	F3	Malfunction of outdoor ambient temperature sensor	Outdoor ambient temperature sensor	If the outdoor ambient temperature sensor is detected of open circuit or short circuit for 5s successively, outdoor ambient temperature sensor malfunction will be reported. The unit can automatically resume operation after the malfunction disappears. If outdoor ambient temperature sensor malfunction occurs in fan mode, only the error code is displayed and the indoor unit can work normally.
12	F4	Malfunction of discharge temperature sensor	Discharge temperature sensor	If the discharge temperature sensor is detected of open circuit or short circuit for 5s successively after the compressor has been operating for 3min, discharge temperature sensor malfunction will be reported. The unit can automatically resume operation after the malfunction disappears.
13	F5	Malfunction wired controller temperature sensor	Wired controller	If the wired controller detects open circuit or short circuit of its temperature sensor for 5s successively, wired controller temperature sensor malfunction will be reported.
14	ee	Malfunction of drive memory chip	Drive board	If the memory chip of drive board is broken, the unit cannot be started. The unit cannot be recovered automatically. If the malfunction cannot be eliminated after switching off the unit and then energizing the unit for several times, please replace the drive board.
15	H3	Compressor overload protection	Compressor overload switch	If it is detected within 3s successively that the overload switch is cut off under ON or standby state, the unit will report overload protection. If the fault occurs successively 3 times, the unit cannot be recovered automatically. Switch off the unit or re-energize the unit after cutting off power to eliminate this protection.
16	H4	Overload protection	Evaporator temperature, condenser temperature	If unit detects that the tube temperature is higher than protective temperature value, the unit will report overload protection. The unit will not restart operation until tube temperature is lower than the protective temperature value and the compressor is stopped for 3min. If the protection occurs over 6 times, the unit cannot be recovered automatically. Switch off the unit or re-energize the unit after cutting off power to eliminate this protection.

No.	Error code	Malfunction name	Origin of malfunction signal	Control description
17	H6	Malfunction of condenser fan motor	Condenser fan motor	If the unit does not receive signal from condenser fan motor for 30s successively when the fan motor is operating, condenser fan motor malfunction will be reported. In this case, the unit can automatically resume operation after stopping. If the malfunction occurs 6 times within one hour, the unit cannot be recovered automatically. Switch off the unit or re-energize the unit after cutting off power to eliminate this malfunction.
18	U7	Direction changing malfunction of 4-way valve	4-way valve	After the compressor starts operation in heating mode, if the unit detects the difference between evaporator temperature and indoor ambient temperature is lower than the protective value for 10min successively, direction changing malfunction of 4-way valve will be reported and the outdoor unit will stop operation. The unit can automatically resume operation in the first two malfunctions. If the malfunction occurs 3 times, the unit cannot be recovered automatically. Switch off the unit or re-energize the unit after cutting off power to eliminate this malfunction.
19	P6	Communication malfunction between main control board and drive board	Communication between main control board and drive board	If the outdoor main control board does not receive data from drive board, communication malfunction between main control and drive will be reported. This malfunction can be eliminated automatically.
20	EE	Malfunction of main control memory chip	Main control board	If the memory chip of main control board is broken, the unit cannot be started. The unit cannot be recovered automatically. If the malfunction cannot be eliminated after switching off the unit and then energizing the unit for several times, please replace the outdoor main control board.

1.2 DESCRIPTION OF DRIVE MALFUNCTION

Main board dual 8 numeral tube Display Codes for Unit

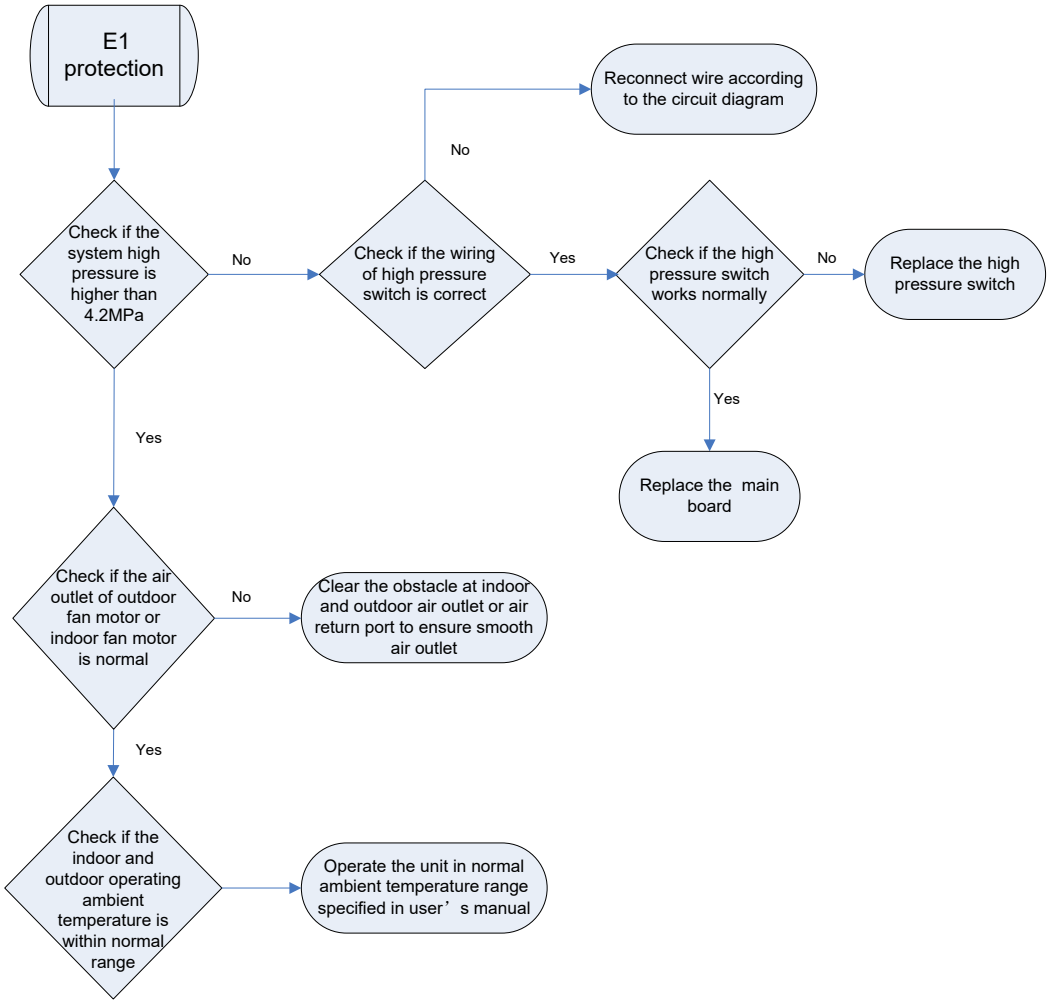
Malfunction Item	Wired Controller Display	Unit display of dual 8 numeral tube
DC busbar over-voltage protection	PH	PH
IPM or PFC over-temperature protection	P8	P8
Current sense circuit error	Pc	Pc
IPM or PFC temperature sensor error	P7	P7
Compressor current protection	P5	P5
DC busbar under-voltage protection	PL	PL
Compressor startup failure	Lc	Lc
Drive module reset	P0	P0
Compressor motor desynchronizing	H7	H7
Phase loss	Ld	Ld
Drive-to-main-control communication error	P6	P6
IPM protection	H5	H5
Compressor overload protection	H3	H3
AC current protection (input side)	PA	PA
Charging circuit error	PU	PU
DC fan error	H6	H6
Input AC voltage abnormality	PP	PP
Driving board memory chip error	ee	ee
Condenser Fan DC busbar under voltage protection	H6	AL
Condenser Fan DC busbar over voltage protection	H6	AH

Malfunction Item	Wired Controller Display	Unit display of dual 8 numeral tube
Condenser Fan AC current protection (input side)	H6	AA
Condenser Fan IPM module protection	H6	A1
Condenser Fan PFC abnormality	H6	AF
Condenser Fan startup failure	H6	AC
Condenser Fan Missing phase	H6	Ad
Condenser Fan Drive module resetting	H6	A0
Condenser Fan current protection	H6	UL
Condenser Fan power protection	H6	UP
Condenser Fan Current sensor malfunction	H6	AE
Condenser Fan motor in loss of synchronization	H6	AJ
Malfunction from Condenser Fan driving part to main-control communication	H6	A6
Overheat protection of Condenser Fan radiator	H6	A8
Condenser Fan radiator sensor malfunction	H6	A9
Condenser Fan Drive Storage chip malfunction	H6	An
Condenser Fan Charge circuit malfunction	H6	AU
Condenser Fan AC input voltage abnormality	H6	AP
Condenser Fan drive board environment temperature sensor malfunction	H6	Ar
Condenser Fan AC contactor protection or input zero crossing error	H6	U9

2 FLOW CHART OF TROUBLESHOOTING

2.1 TROUBLESHOOTING FLOW CHART OF MAIN CONTROL MALFUNCTION

◆ E1 High Pressure Protection



◆ E2 Freeze Protection

Freeze protection is normal protection but not abnormal malfunction. If freeze protection occurs frequently during operation, please check if the indoor filter is with filth blockage or if the indoor air outlet is abnormal. The user is required to clean the filter, check the air outlet and air return pipe periodically to ensure smooth air return and air outlet.

◆ E3 stands for three statuses:

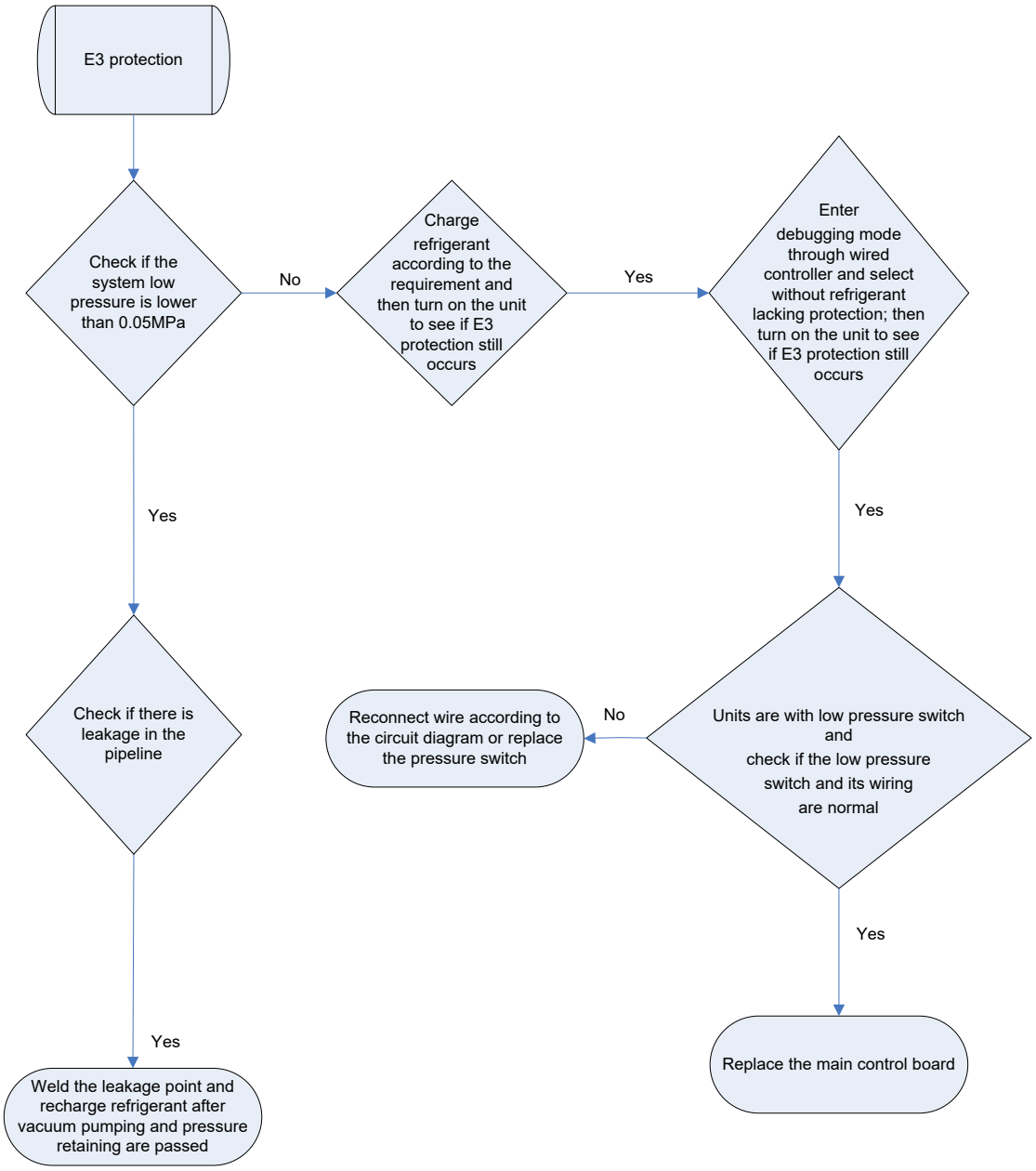
(1) Low pressure protection;

(2) Refrigerant lacking protection;

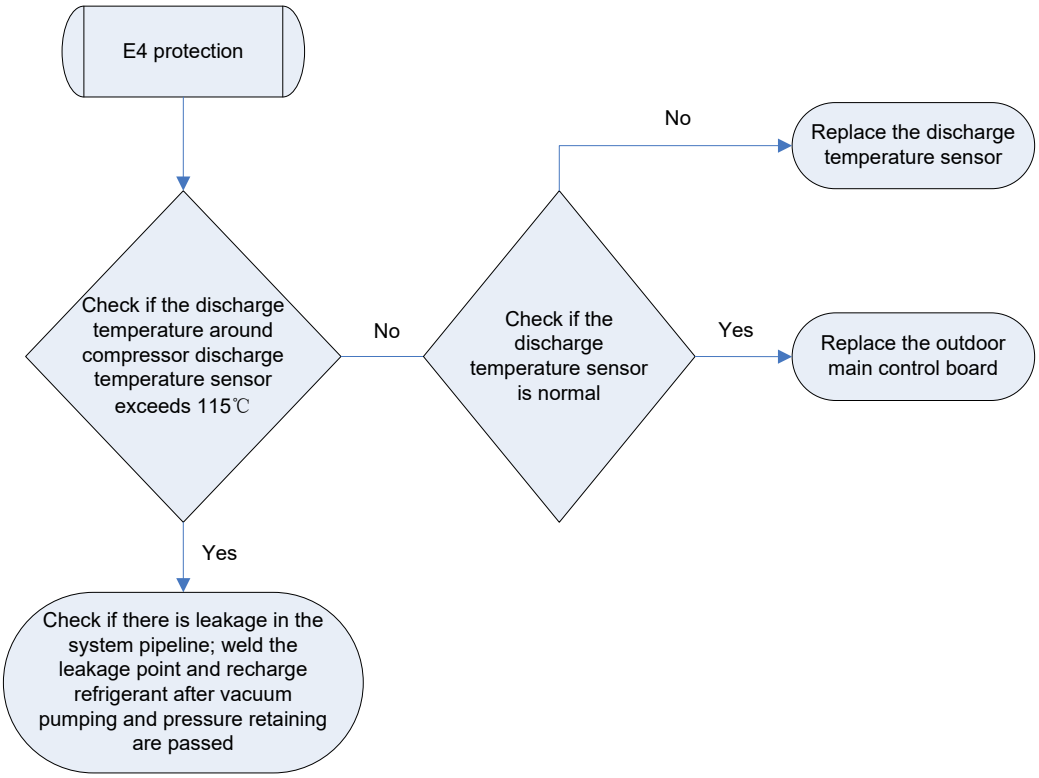
(3) Refrigerant recycling mode;

1) If enter refrigerant recycling mode through special operation, the displayed E3 is not an error code. It will be eliminated when exiting refrigerant recycling mode.

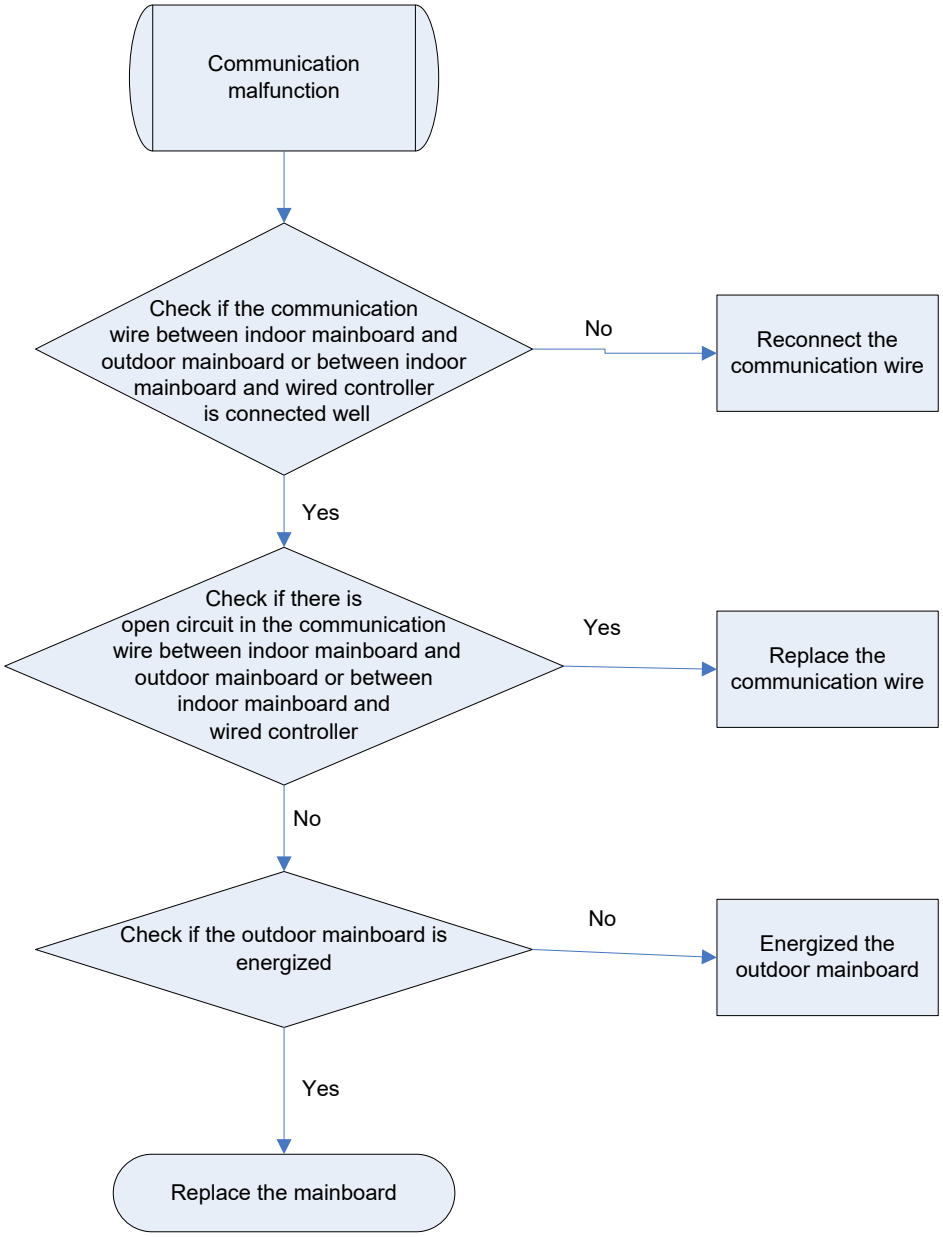
2) If you do not want to have refrigerant lacking protection, you can enter the debugging mode through wired controller and then cancel the refrigerant lacking protection mode.


E3 protection
Check if the system low pressure is lower than 0.05MPa
No
Charge refrigerant according to the requirement and then turn on the unit to see if E3 protection still occurs
Yes
Enter debugging mode through wired controller and select without refrigerant lacking protection; then turn on the unit to see if E3 protection still occurs
Yes
Yes
Check if there is leakage in the pipeline
Reconnect wire according to the circuit diagram or replace the pressure switch
No
Units are with low pressure switch and check if the low pressure switch and its wiring are normal
Yes
Yes
Weld the leakage point and recharge refrigerant after vacuum pumping and pressure retaining are passed
Replace the main control board

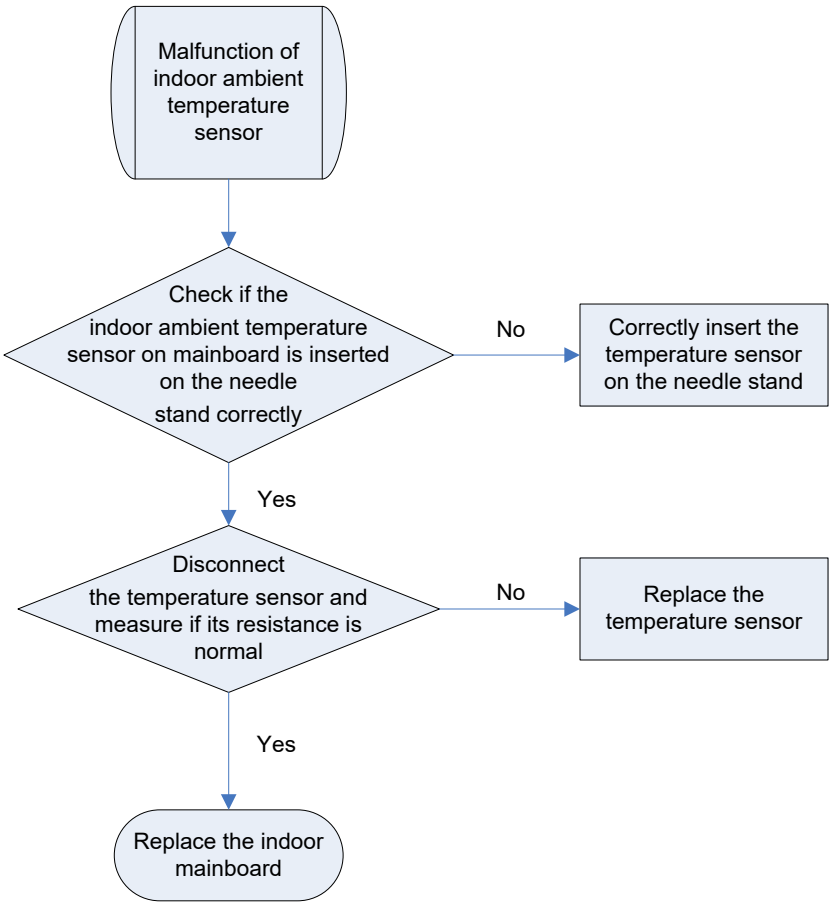
◆ E4 Discharge Protection



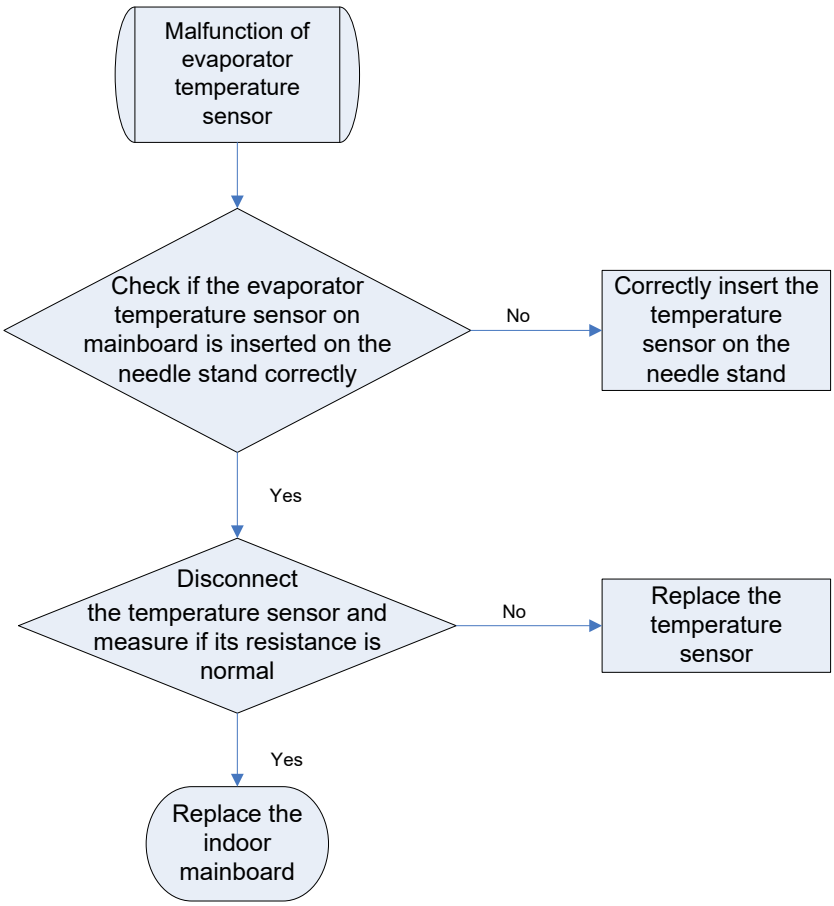
◆ E6 Communication Malfunction



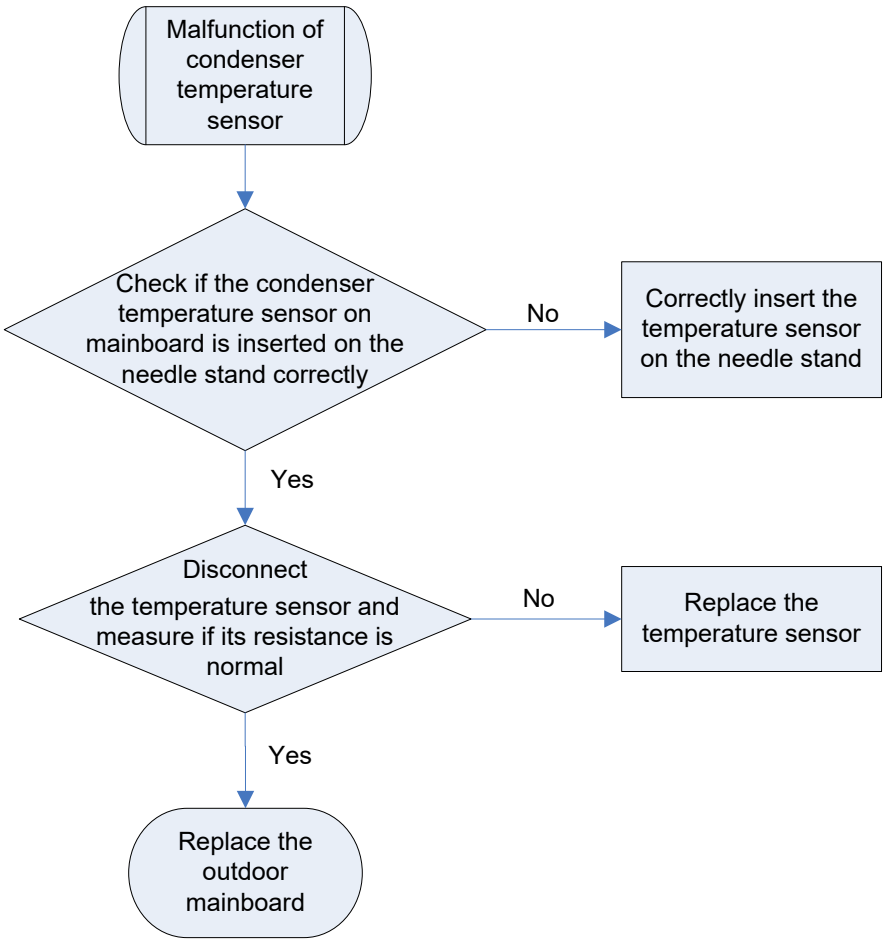
◆ F0 Malfunction of Indoor Ambient Temperature Sensor



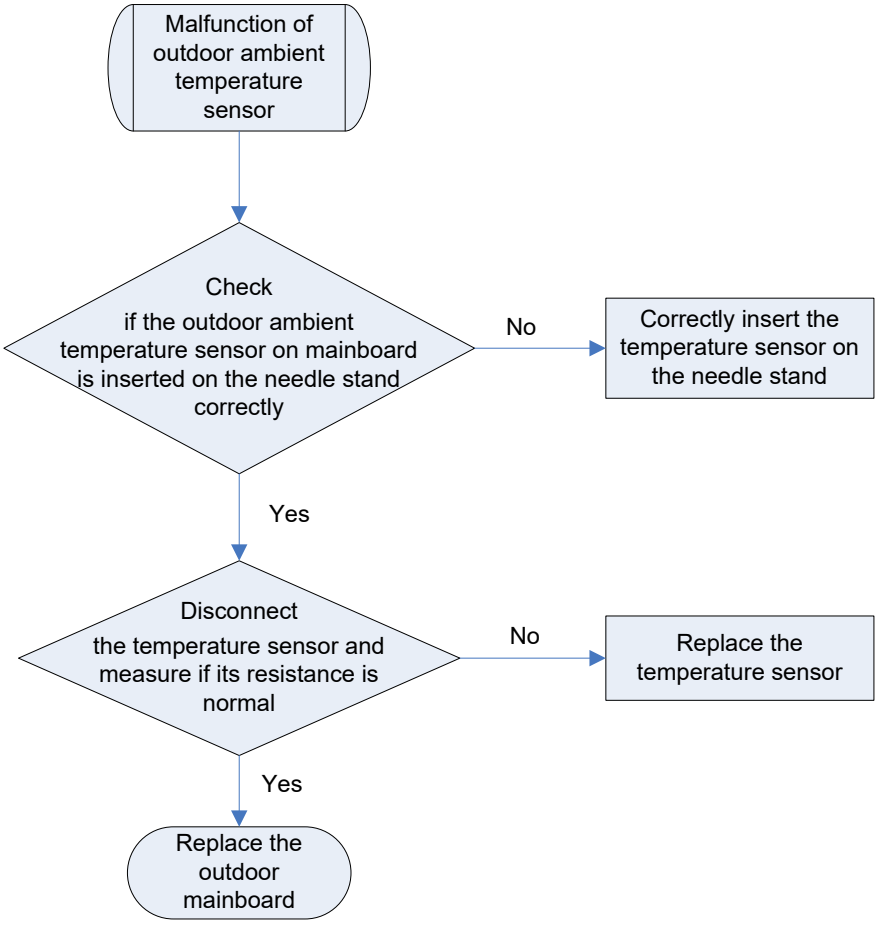
◆ F1 Malfunction of Evaporator Temperature Sensor



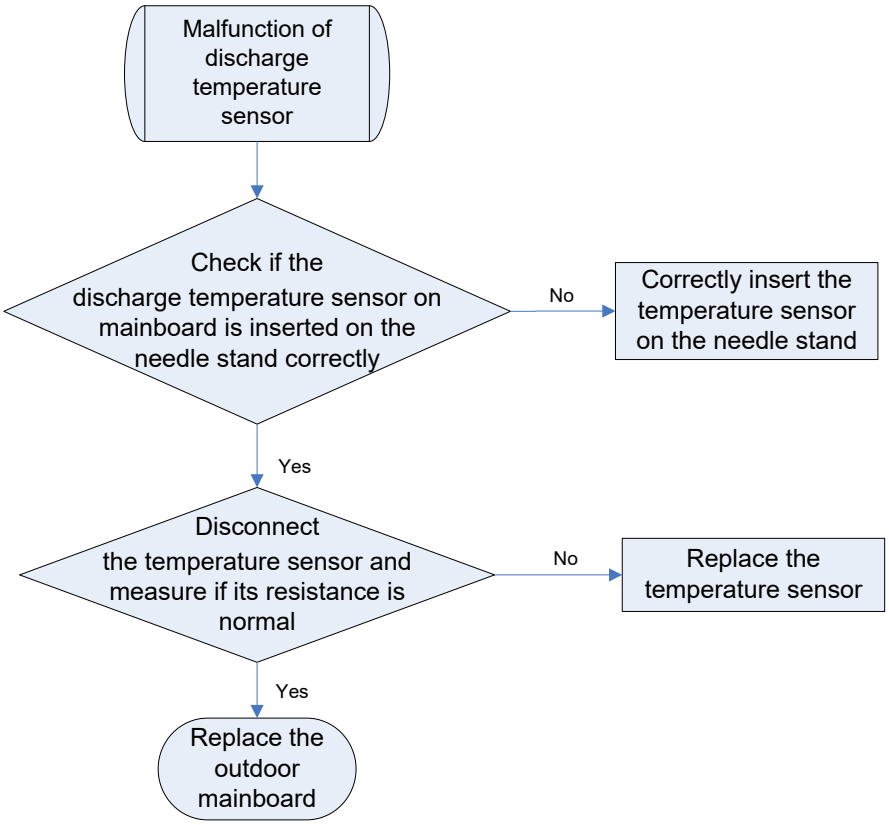
◆ F2 Malfunction of Condenser Temperature Sensor



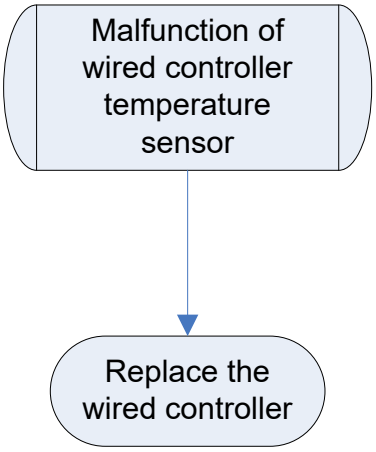
◆ F3 Malfunction of Outdoor Ambient Temperature Sensor



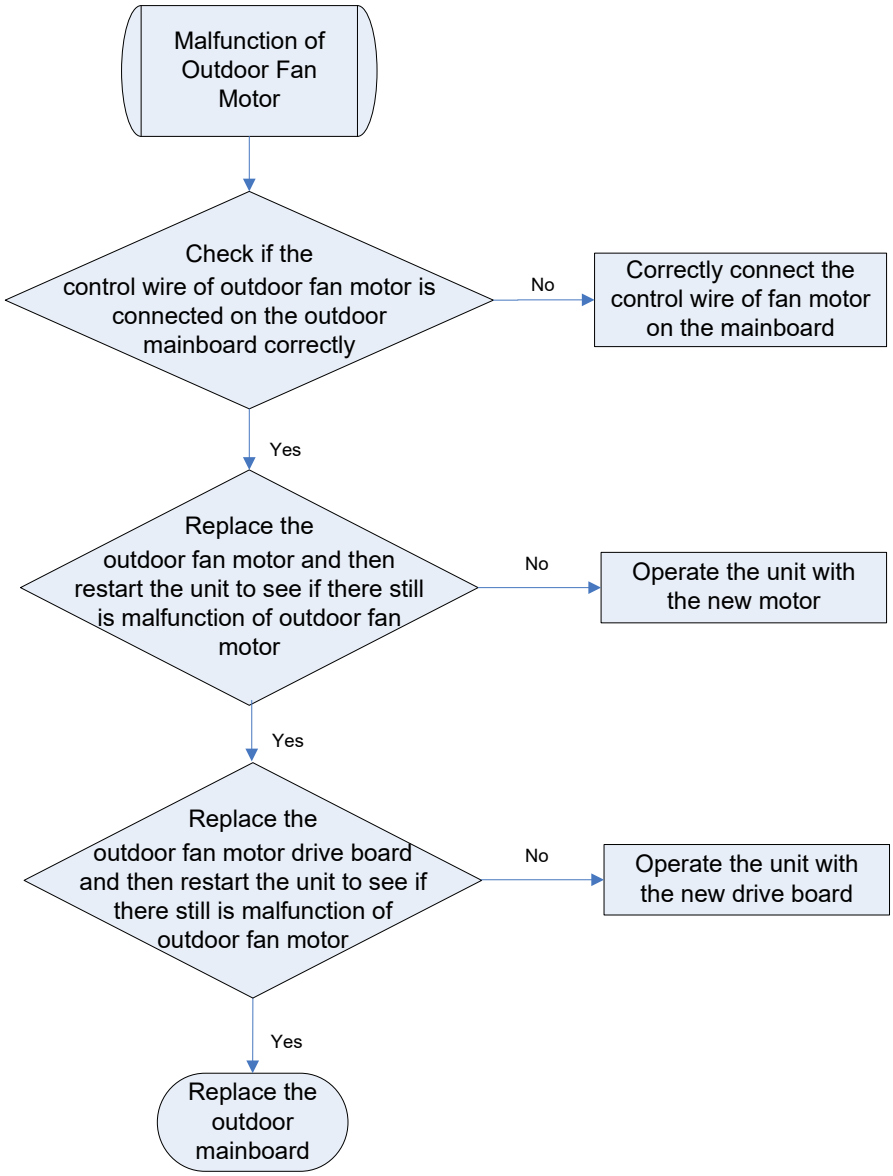
◆ F4 Malfunction of Discharge Temperature Sensor



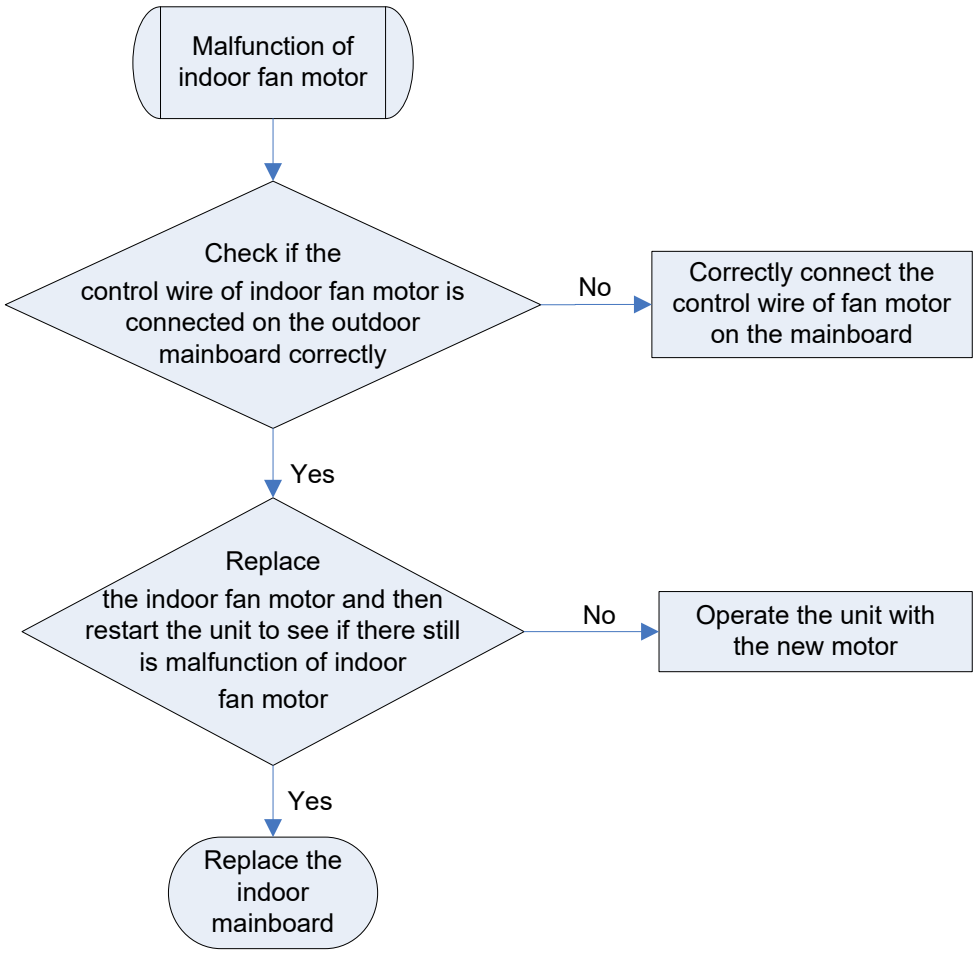
◆ F5 Malfunction of Wired Controller Temperature Sensor



◆ H6 Malfunction of Outdoor Fan Motor



◆ E8 Malfunction of Indoor Fan Motor



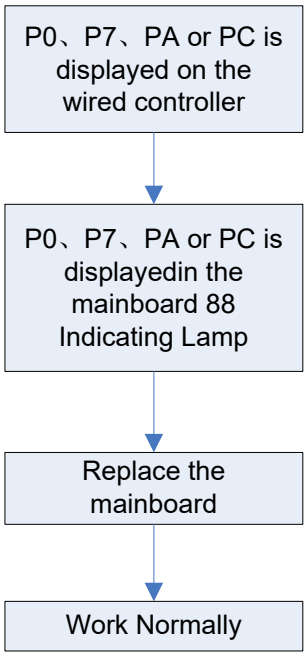
2.2 TROUBLESHOOTING FLOW CHART OF DRIVE MALFUNCTION

◆ P0 Drive module reset

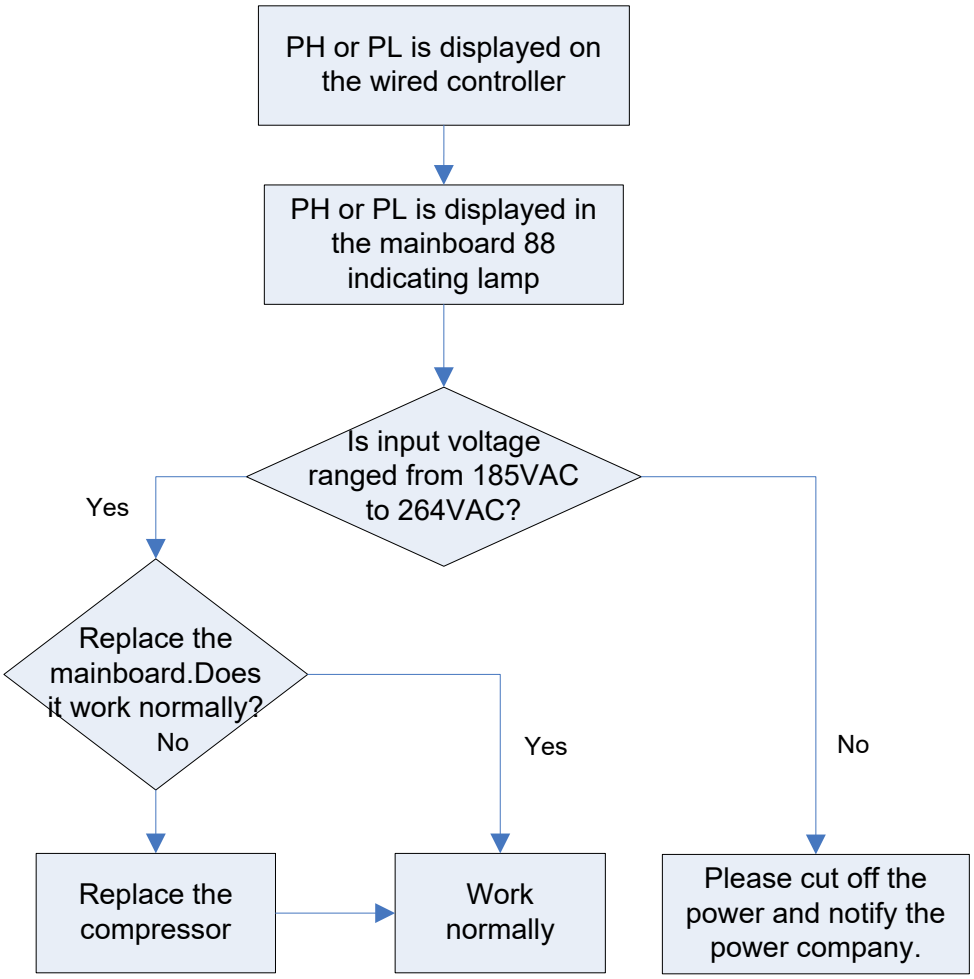
◆ P7 IPM temperature sensor error

◆ PA AC current protection (input side)

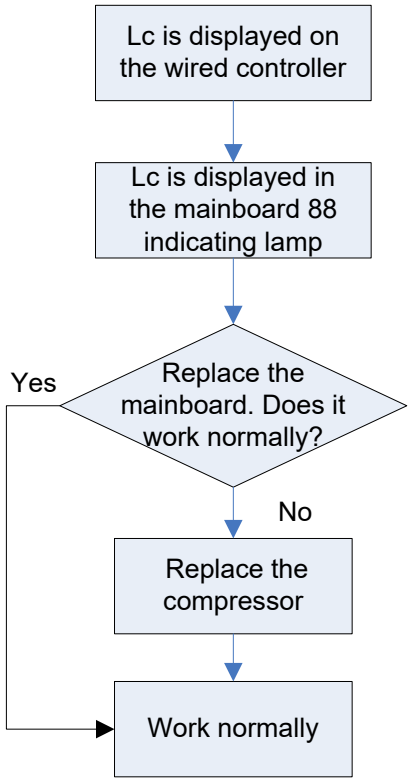
◆ PC Current sense circuit error



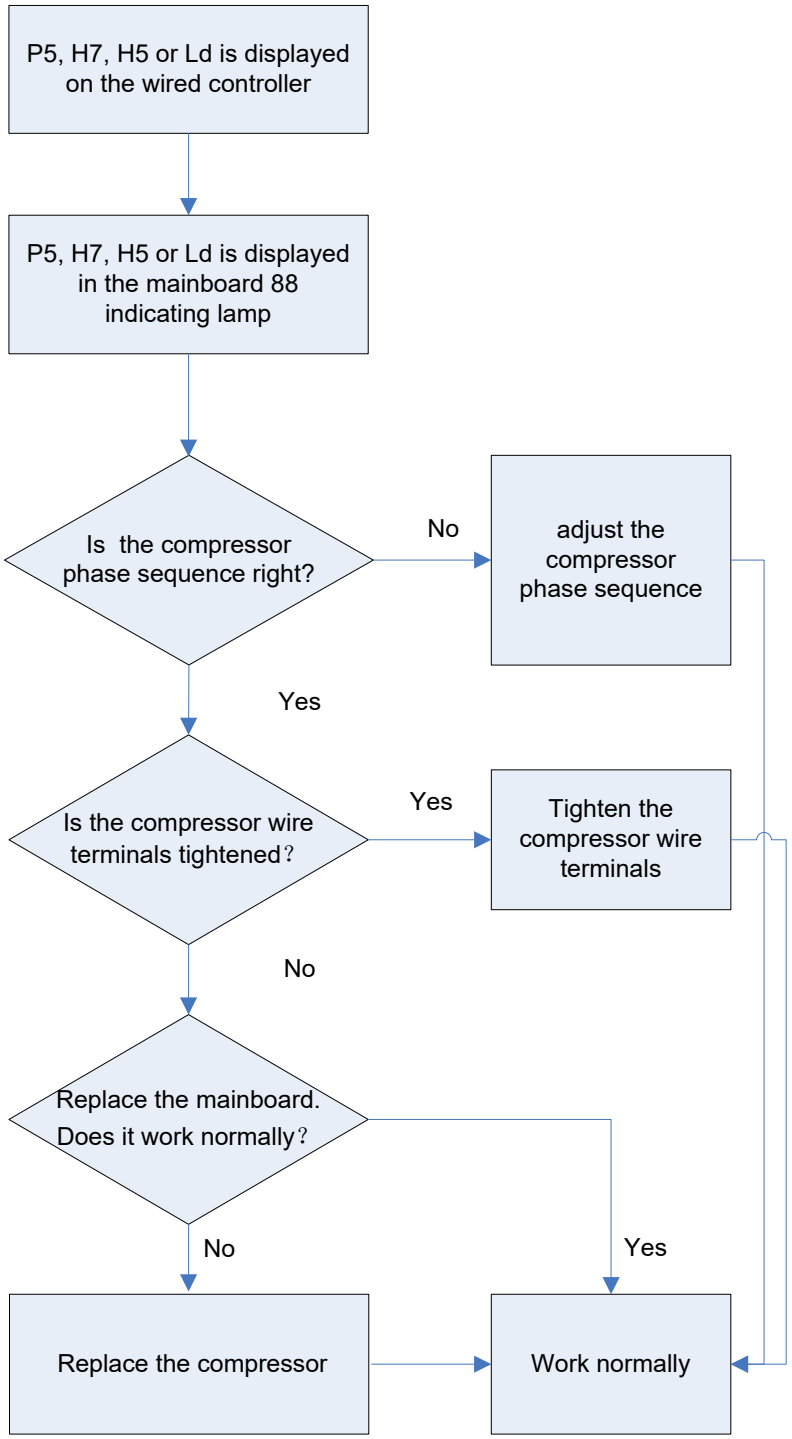
- PH DC busbar over-voltage protection
- PL DC busbar under-voltage protection



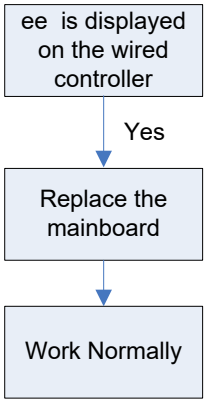
- P6 Drive-to-main-control communication error
- LC Compressor Startup Failure



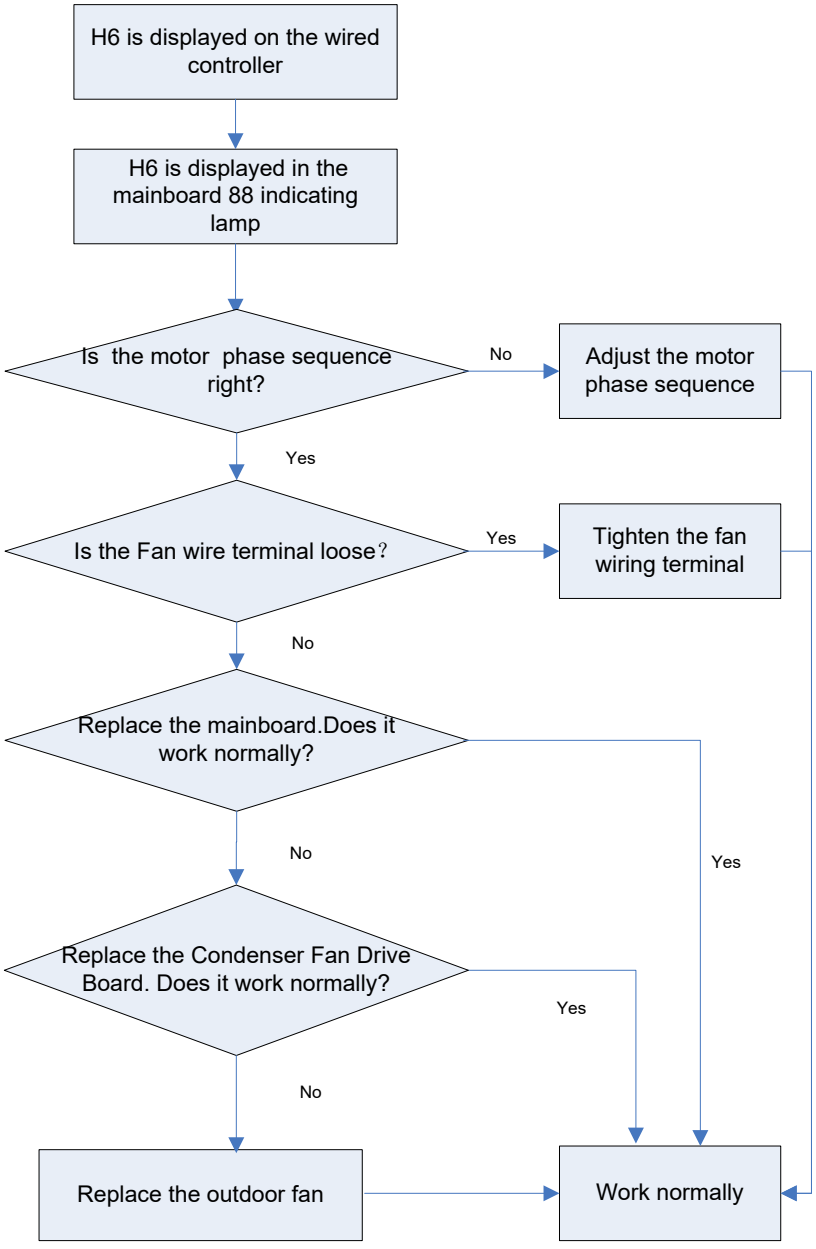
- ◆ P5 Compressor current protection
- ◆ H7 Compressor motor desynchronizing
- ◆ H5 IPM protection
- ◆ Ld Phase loss



◆ ee driving board chip error

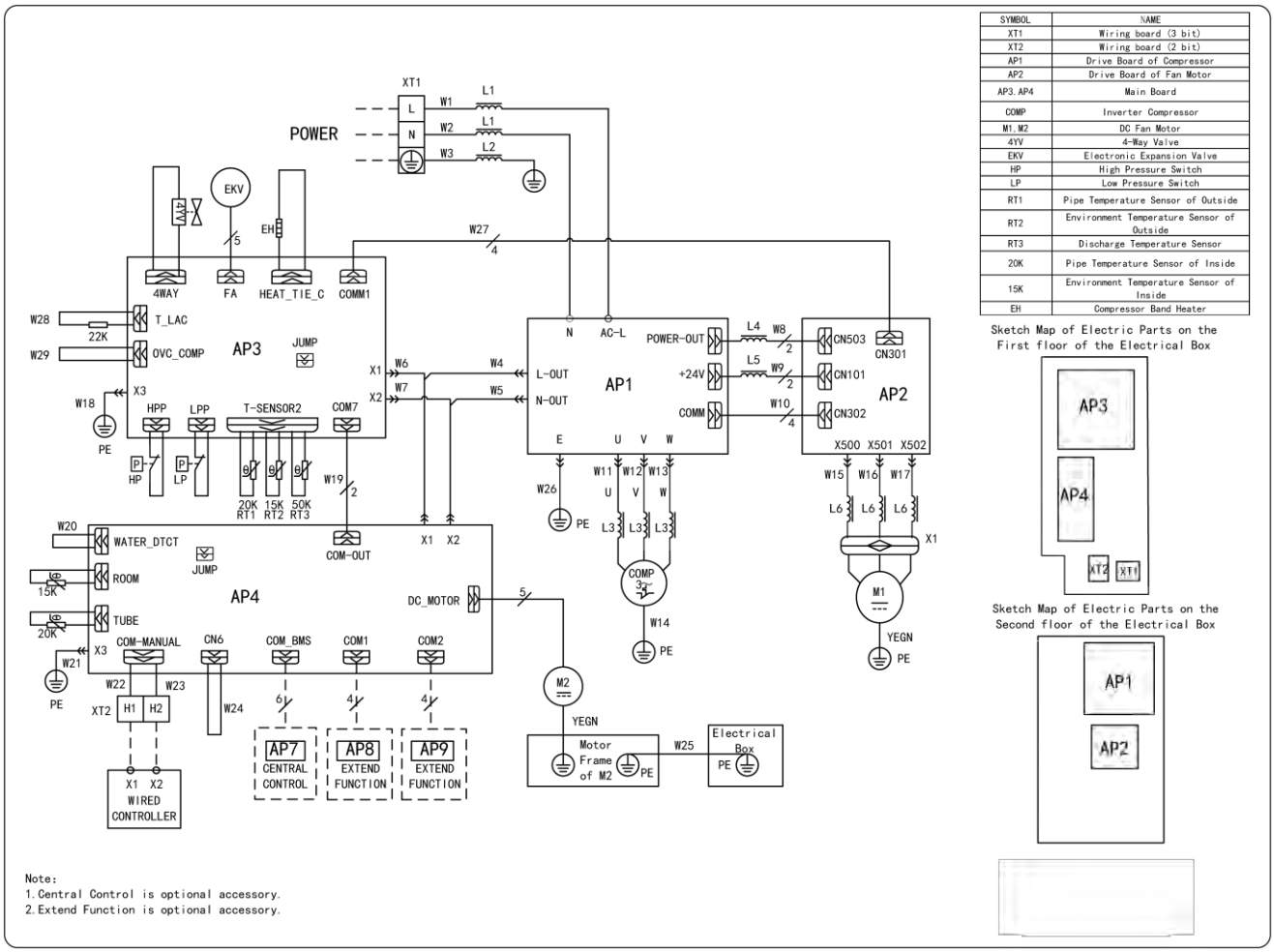


◆ H6 DC fan error



3 WIRING DIAGRAM

The actual wiring should always refer to the wiring diagram of the unit. Model: GRIT03A



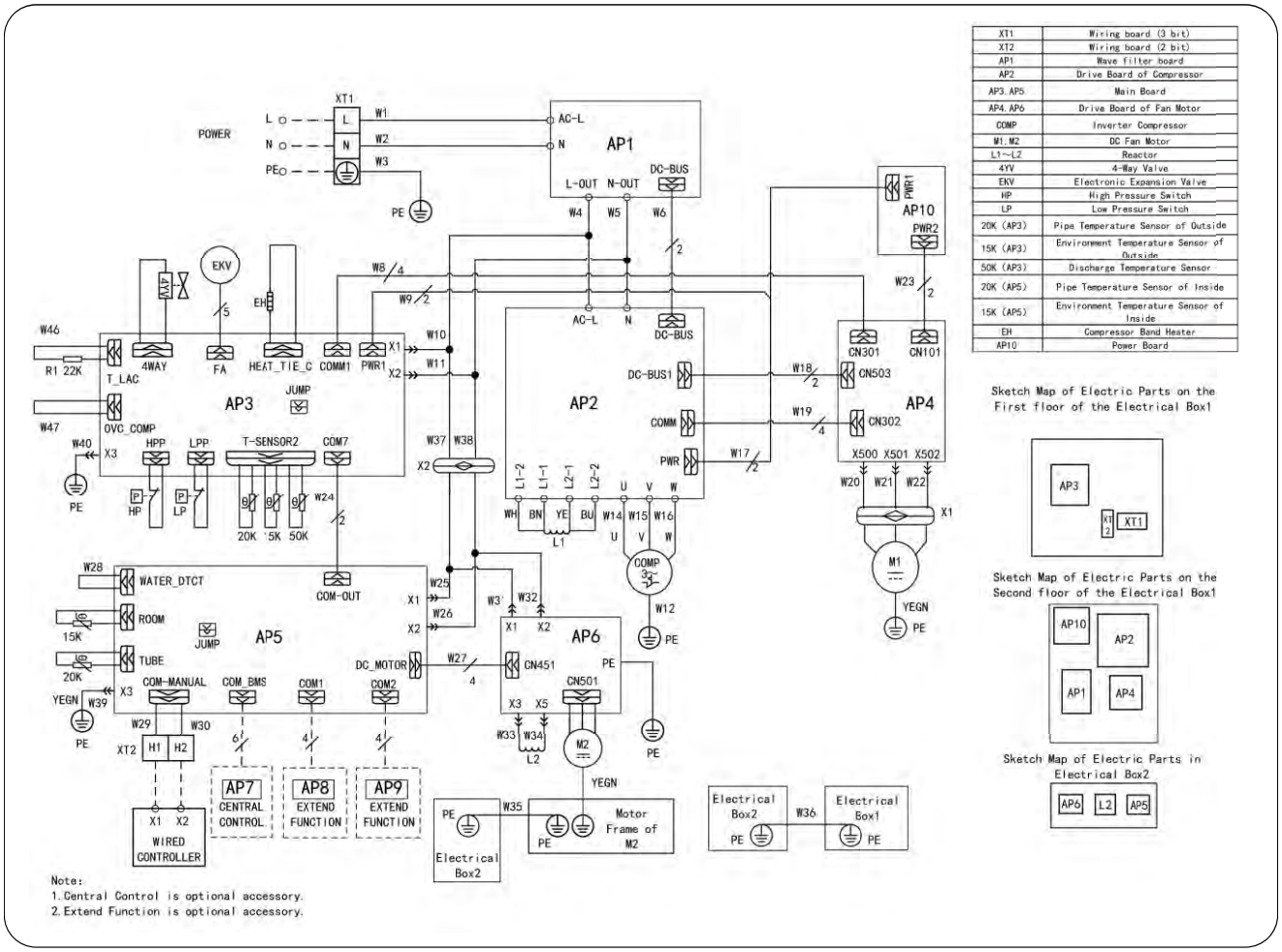
SYMBOL	NAME
XT1	Wiring board (3 bit)
XT2	Wiring board (2 bit)
AP1	Drive Board of Compressor
AP2	Drive Board of Fan Motor
AP3. AP4	Main Board
COMP	Inverter Compressor
M1. M2	DC Fan Motor
4YV	4-Way Valve
EKV	Electronic Expansion Valve
HP	High Pressure Switch
LP	Low Pressure Switch
RT1	Pipe Temperature Sensor of Outside
RT2	Environment Temperature Sensor of Outside
RT3	Discharge Temperature Sensor
20K	Pipe Temperature Sensor of Inside
15K	Environment Temperature Sensor of Inside
EH	Compressor Band Heater

Sketch Map of Electric Parts on the First floor of the Electrical Box

Sketch Map of Electric Parts on the Second floor of the Electrical Box

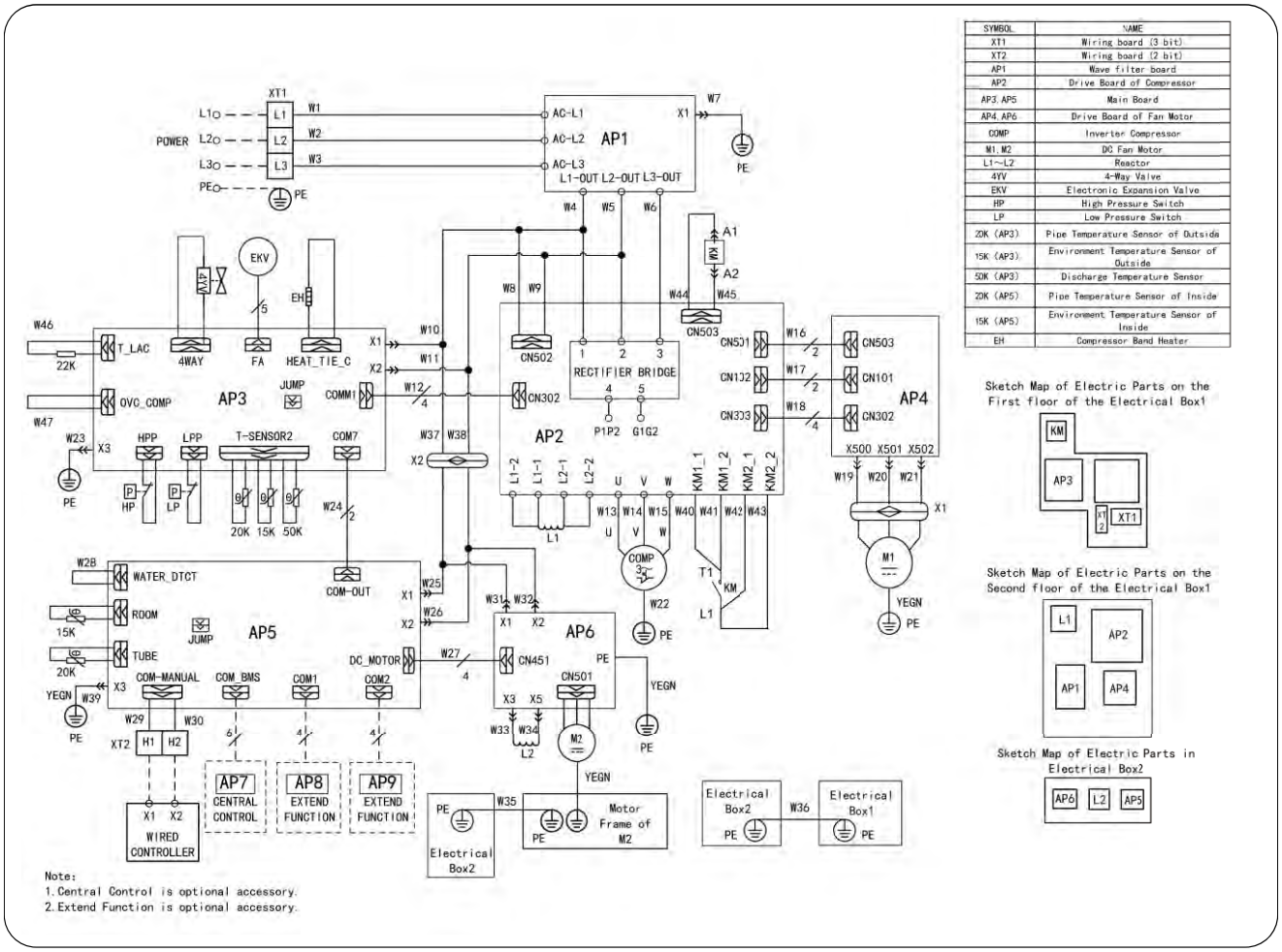
Note: Above data is subject to change without notice.

Model: GRIT05A



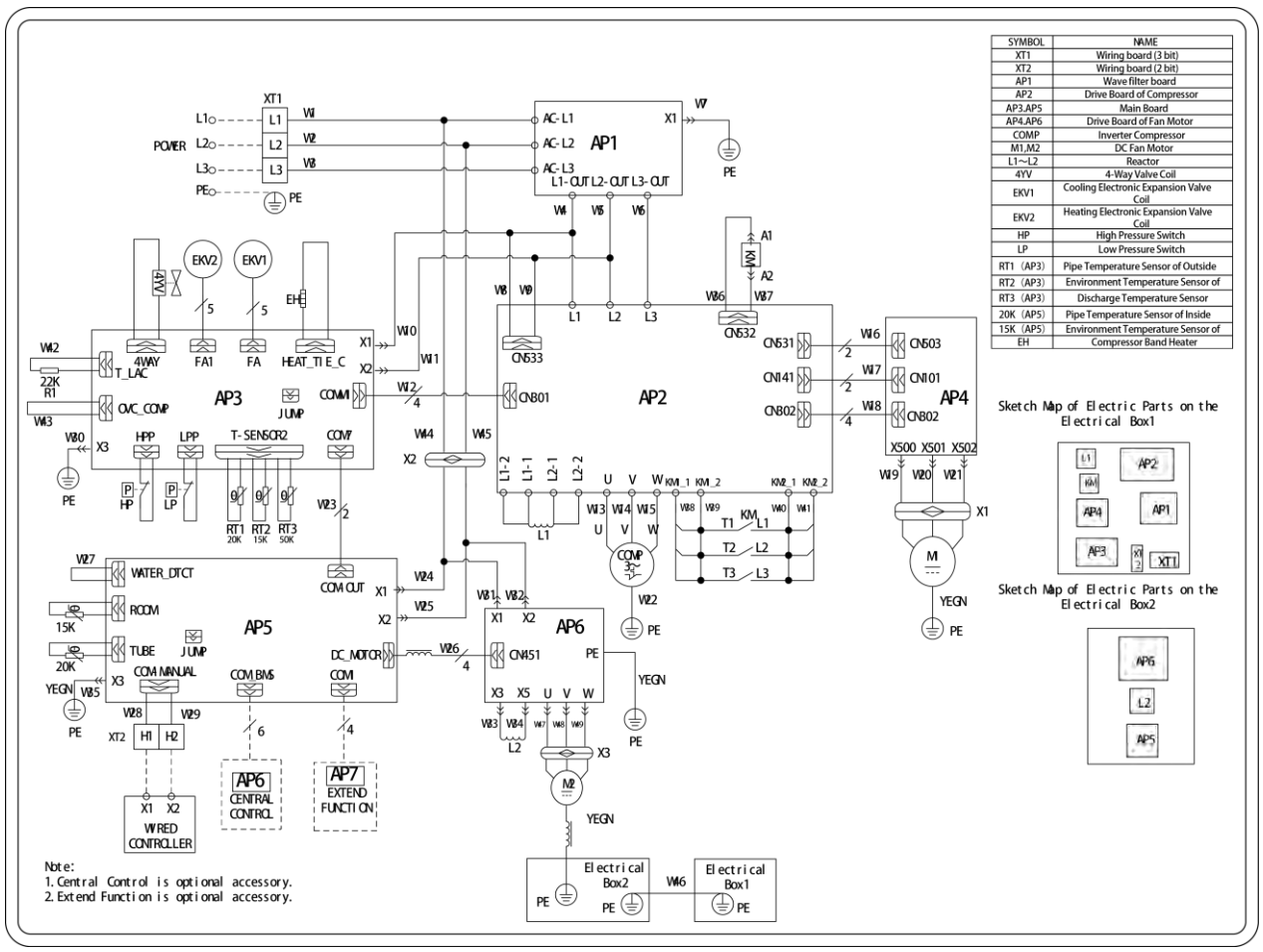
Note: Above data is subject to change without notice.

Model: GRIT05B



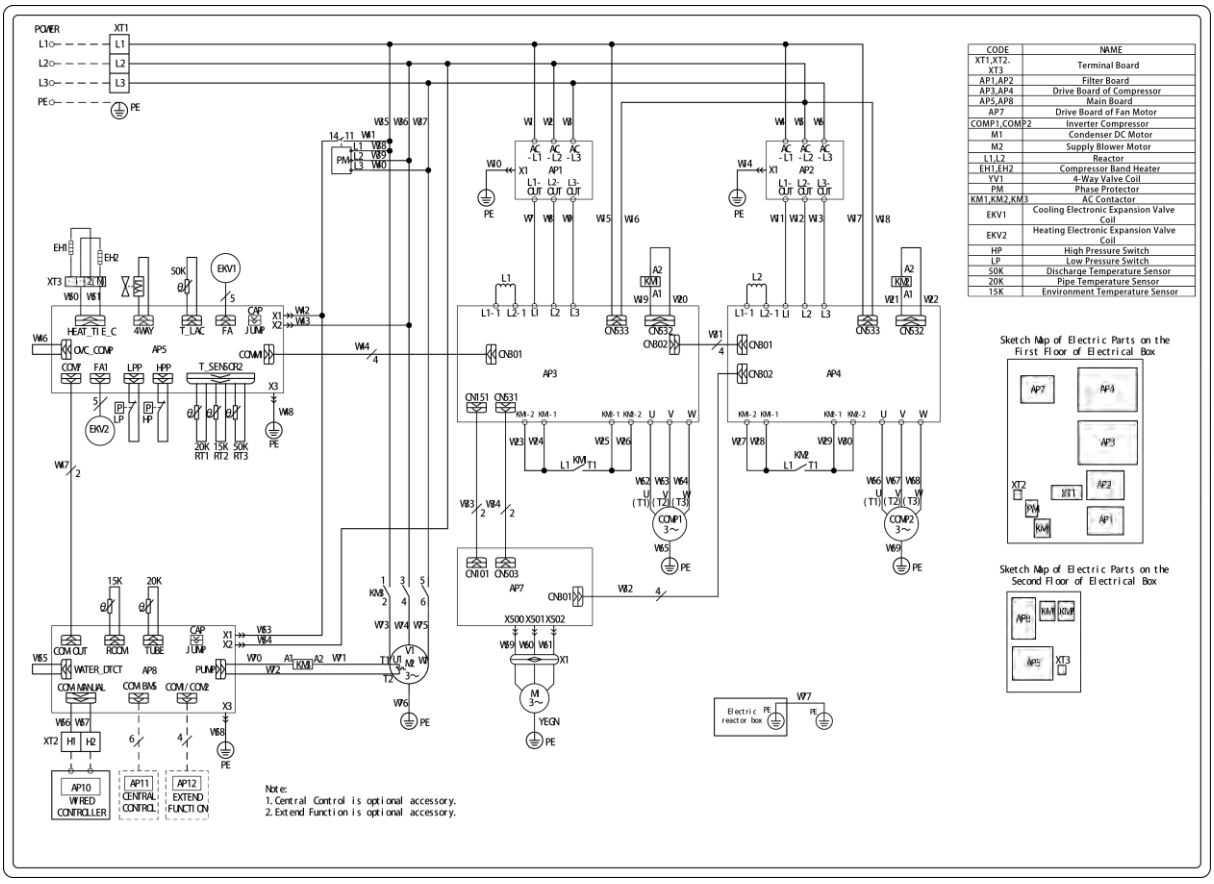
Note: Above data is subject to change without notice.

Model: GRIT10B



Note: Above data is subject to change without notice.

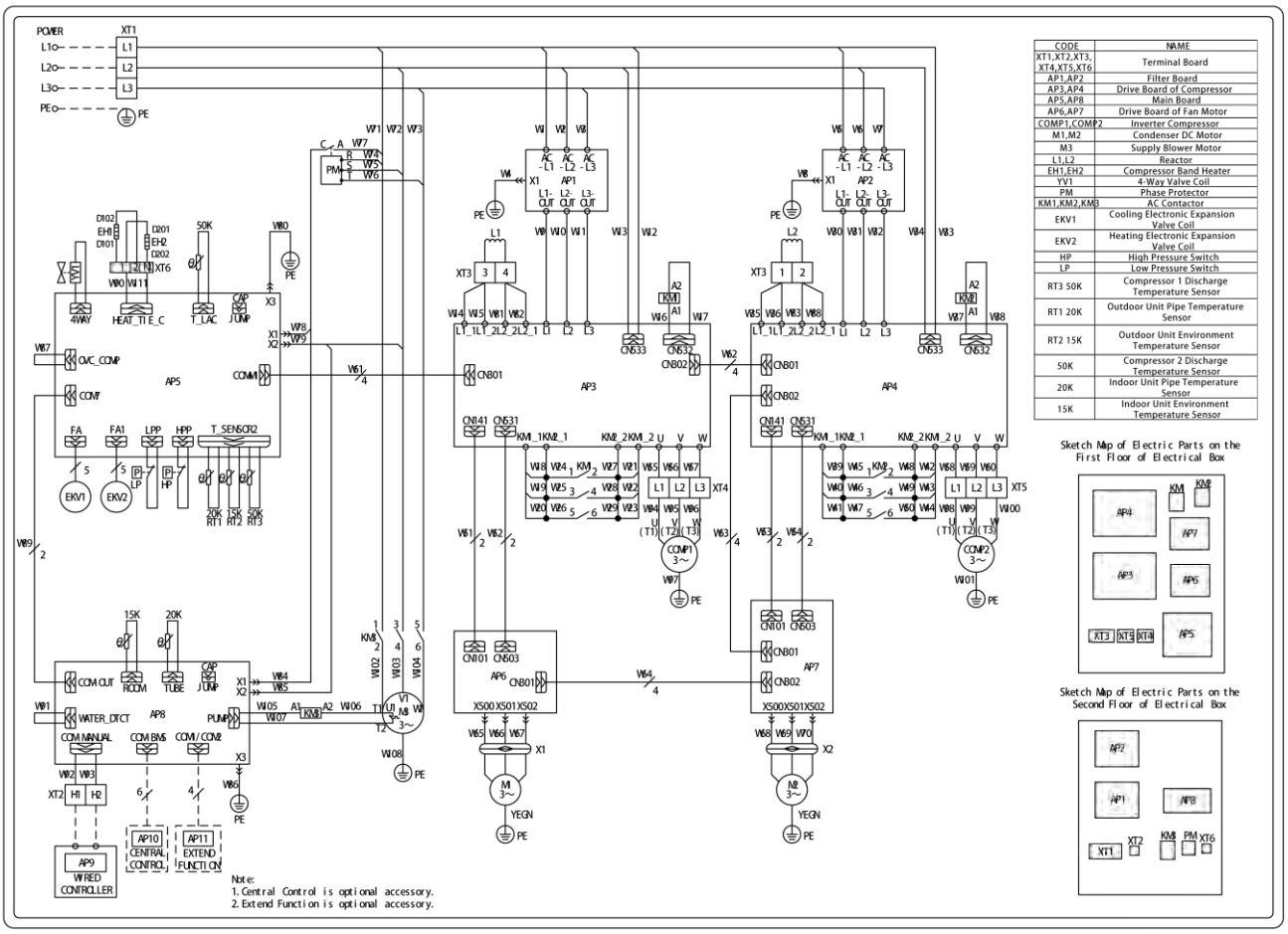
Model: GRIT15B



CODE	NAME
XT1,XT2,XT3	Terminal Board
AP1,AP2	Filter Board
AP3,AP4	Drive Board of Compressor
AP5,AP8	Main Board
AP7	Drive Board of Fan Motor
COMP1,COMP2	Inverter Compressor
M1	Condenser DC Motor
M2	Supply Blower Motor
L1,L2	Reactor
EH1,EH2	Compressor Band Heater
YV1	4-Way Valve Coil
PM	Phase Protector
KM1,KM2,KM3	AC Contactor
EKV1	Cooling Electronic Expansion Valve Coil
EKV2	Heating Electronic Expansion Valve Coil
HP	High Pressure Switch
LP	Low Pressure Switch
50K	Discharge Temperature Sensor
20K	Pipe Temperature Sensor
15K	Environment Temperature Sensor

Note: Above data is subject to change without notice.

Model: GRIT20B

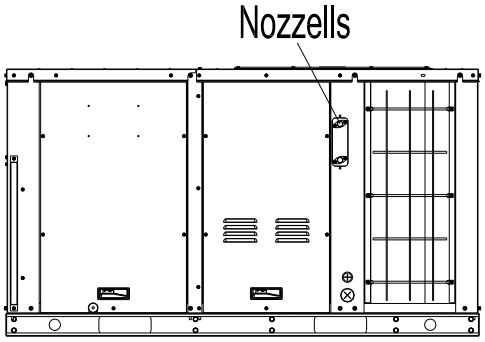
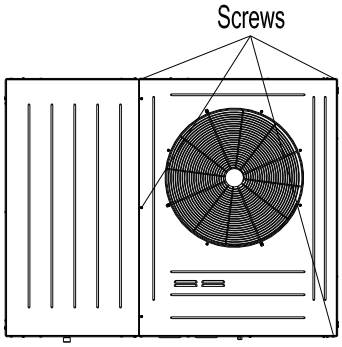
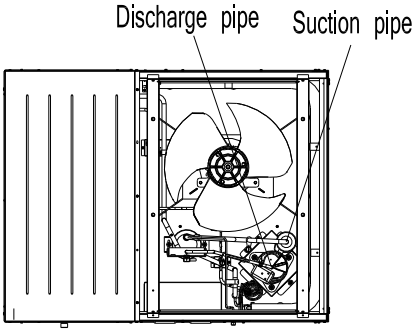


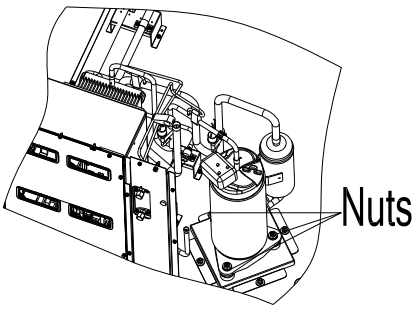
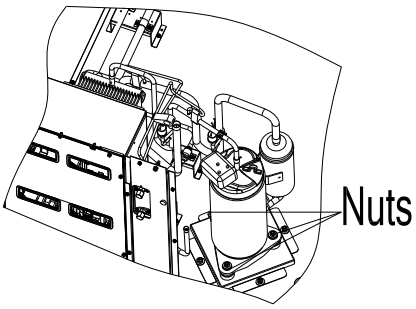
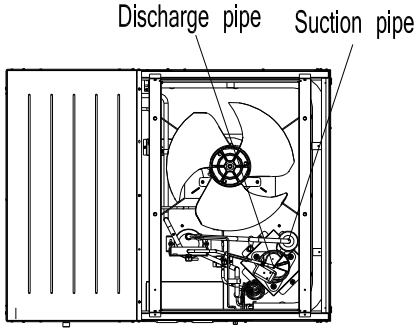
CODE	NAME
XT1,XT2,XT3, XT4,XT5,XT6	Terminal Board
AP1,AP2	Filter Board
AP3,AP4	Drive Board of Compressor
AP5,AP8	Main Board
AP6,AP7	Drive Board of Fan Motor
COMP1,COMP2	Inverter Compressor
M1,M2	Condenser DC Motor
M3	Supply Blower Motor
L1,L2	Reactor
EH1,EH2	Compressor Band Heater
YV1	4-Way Valve Coil
PM	Phase Protector
KM1,KM2,KM3	AC Contactor
EKV1	Cooling Electronic Expansion Valve Coil
EKV2	Heating Electronic Expansion Valve Coil
HP	High Pressure Switch
LP	Low Pressure Switch
RT3 50K	Compressor 1 Discharge Temperature Sensor
RT1 20K	Outdoor Unit Pipe Temperature Sensor
RT2 15K	Outdoor Unit Environment Temperature Sensor
50K	Compressor 2 Discharge Temperature Sensor
20K	Indoor Unit Pipe Temperature Sensor
15K	Indoor Unit Environment Temperature Sensor

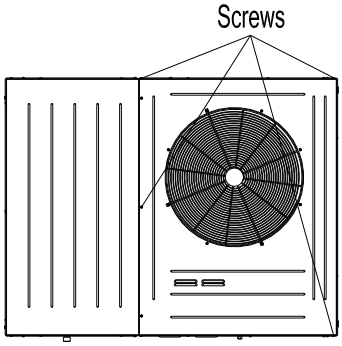
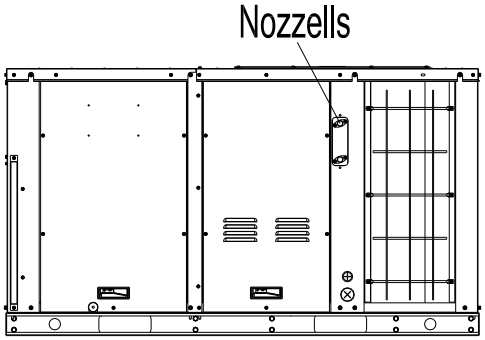
Note: Above data is subject to change without notice.

4 DISASSEMBLY AND ASSEMBLY PROCEDURE OF MAIN PARTS

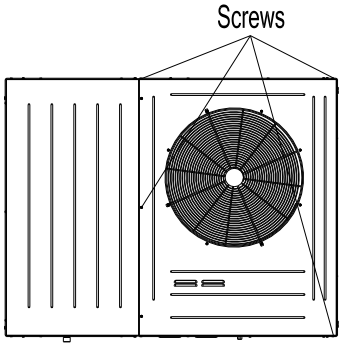
4.1 Model: GRIT03A

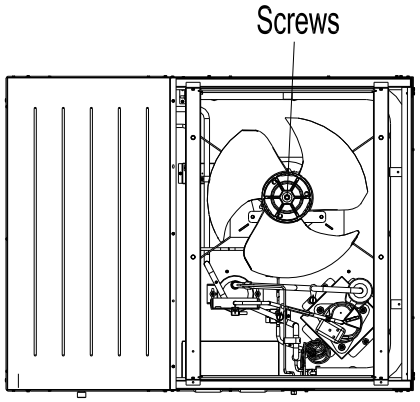
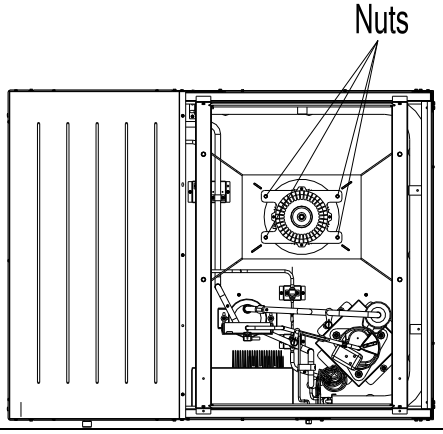
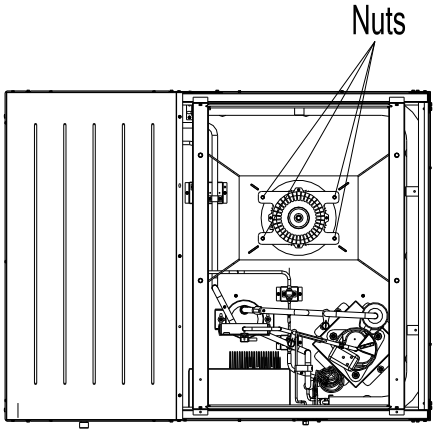
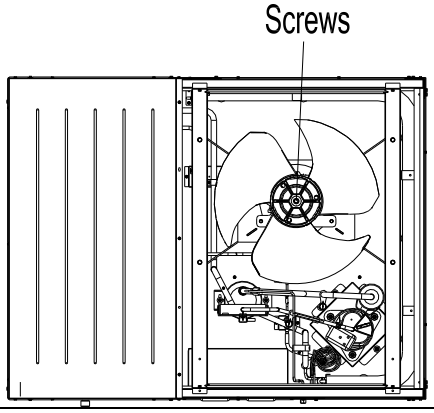
Disassembly and Assembly of Compressor		
Remark: Make sure there isn't any refrigerant in pipe system and the power supply is cut off before removal of the compressor.		
Step	Illustration	Handling Instruction
1. Recover refrigerant in the system.		● Connect vacuum recovery tank with nozzle for adding freon for recovery of refrigerant. **Note:** Recovery work must be complete because refrigerant is badly hurtful to environment and animals.
2. Take out the cover plate.		● Unscrew the screws fixing cover plate (indicated by arrows) to take it out.
3. Disconnect the power cord.		● Pull out power cord or disconnect the power cord after unscrewing the screws. **Note:** Earmark the colour of wire corresponding to the terminal when removing the wire to avoid mistakes when renewing wire connection.
4. Cut off the connection between compressor and pipes.		Heat the connection pipes indicated by arrows with fired heater and then draw out them. **Note:** Pay attention to things around to avoid burning out.

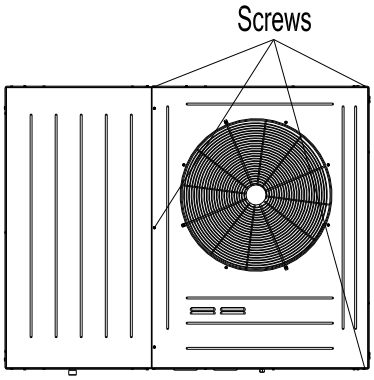
Disassembly and Assembly of Compressor		
Remark: Make sure there isn't any refrigerant in pipe system and the power supply is cut off before removal of the compressor.		
Step	Illustration	Handling Instruction
5. Take down the compressor from the base.		● Unscrew the nuts on compressor base with a wrench and then remove compressor from the base. **Note:** Keep compressor level and vertically out. Never invert it.
6. Fix the compressor on to the base.		● Put the repaired or new compressor on base as the direction during removing, and then screw down fixing nut on compressor base with a wrench. **Note:** Keep compressor level and vertically on to the base. Never incline or invert it.
7. Connect compressor with system pipes.		● Heat the connection pipes indicated by arrows and then weld them with unit pipes together. **Note:** Pay attention to things around to avoid burning out.
8. Reconnect power cord of compressor.	/	● Reconnect the power cord into compressor according to the procedure of disconnecting power cord. The line connection must accord to the schematic diagram. **Note:** The connection box of compressor must be re-covered to resisting water. All cable can not contact the pipe and moving parts such as fan.

Disassembly and Assembly of Compressor		
Remark: Make sure there isn't any refrigerant in pipe system and the power supply is cut off before removal of the compressor.		
Step	Illustration	Handling Instruction
9. Re-install the cover plate.		● Put the cover plate back and tighten the screws.
10. Recharge refrigerant.		● Connect refrigerant tank with nozzle of low pressure (indicated by the maker) for recharging refrigerant. **Note:** Check the leak after finishing the connectionpipes. Charge amount should be consistent with nameplate.

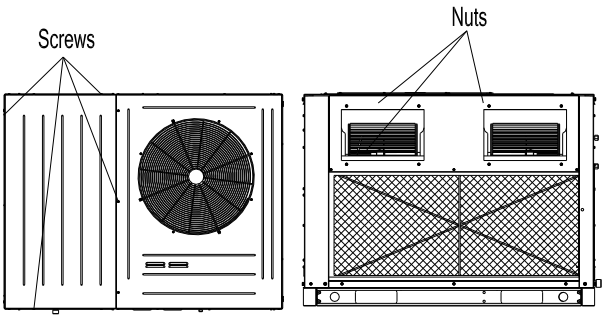
NOTE: Above diagrams may be different from actual model.

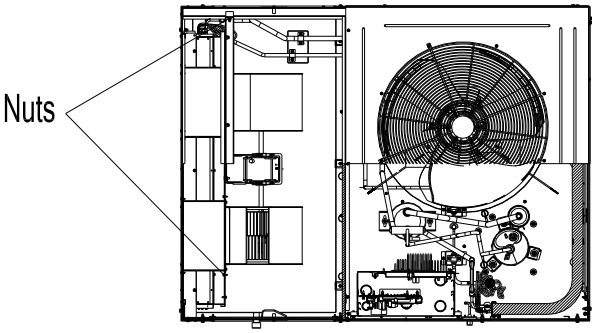
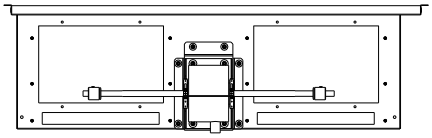
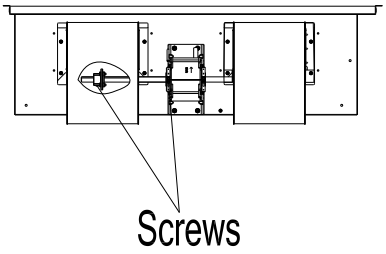
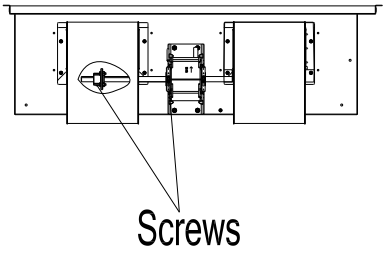
Disassembly and Assembly of Condenser Fan Motor		
Remark: Make sure that the unit is stopped running and power supply is cut off before removal of the motor.		
Step	Illustration	Handling Instruction
1. Disconnect the electrical source wire.	/	● Disconnect all connection lines between motor and elements in electric box. **Note:** Please refer to the schematic diagram which adhered on electric box for disconnection of connection lines of condenser fan motor.
2. Take out the cover plate.		● Unscrew the screws fixing cover plate (indicated by arrows) to take it out.

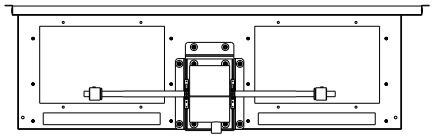
Disassembly and Assembly of Condenser Fan Motor		
Remark: Make sure that the unit is stopped running and power supply is cut off before removal of the motor.		
Step	Illustration	Handling Instruction
3. Take out the fan blade.		● Unscrew the screw (indcated by the arrow) fixing fan to take the fan out. **Note:** Fix fan blade when unscrew the holding bolt to avoid fan blade from rotating and thereby injury to people is caused.
4. Take down the motor from the bracket.		● Remove the holding bolt of motor firstly and then remove motor from bracket. **Note:** Loosen power cord fixed by bundles before removing motor.
5. Fix the new motor on to the bracket.		● Put the repaired or replaced motor onto brakcet as the direction during removing. Then screw down the holding bolt with a wrench. **Note:** Please keep the motor level and vertical during installation. After that,fix the power cord with bundles at original locations.
6. Install and fix fan blade.		● Re-install fan blade and screw down the holidng bolt indicated by the arrow with a wrench. **Note:** Moment of force should be within 8-12N during screwing down bolt. After that, please charge glue into gap between bolt and hole to avoid loose of it.

Disassembly and Assembly of Condenser Fan Motor		
Remark: Make sure that the unit is stopped running and power supply is cut off before removal of the motor.		
Step	Illustration	Handling Instruction
7. Re-install the cover plate.		● Put the cover plate back and tighten the screws.
8. Re-connect power cord.	/	● Re-connect power cord according to circuit mark adhered on eletric box. **Note:** After connection, arrange leading wires and refix them with bundles at original locations. Close the cover plate of electric box hermetically. All cable can not contact the pipe and moving parts such as fan.

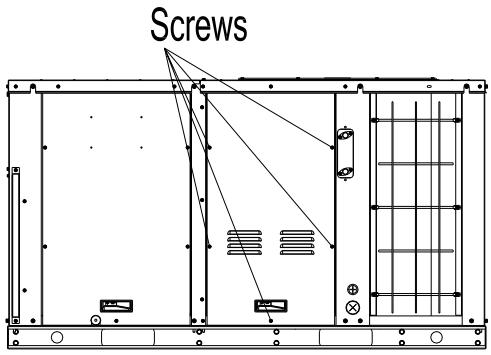
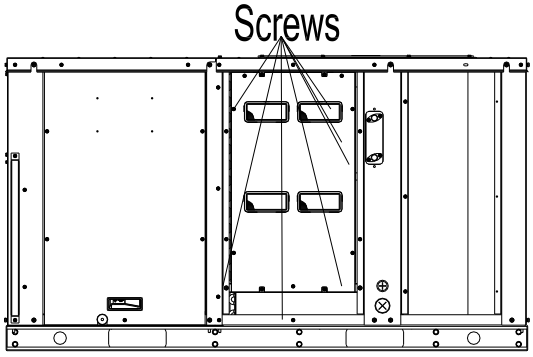
NOTE: Above diagrams may be different from actual model.

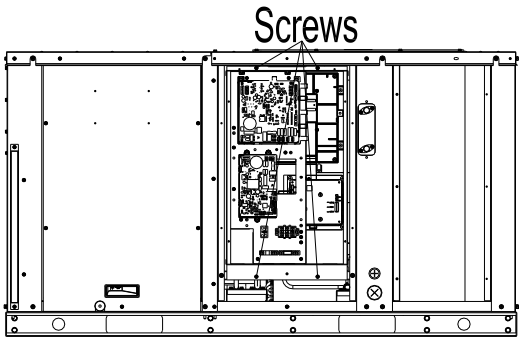
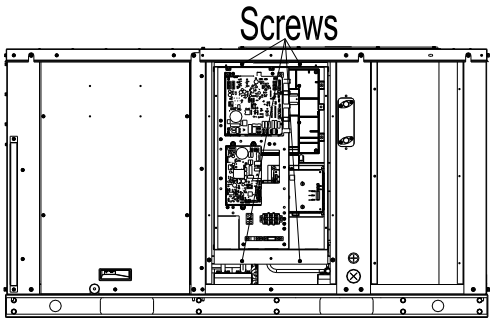
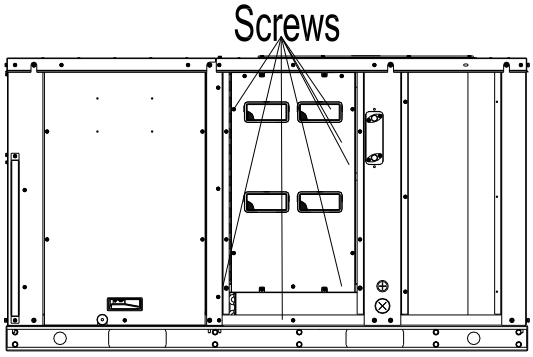
Disassembly and Assembly of Supply Blower Motor		
Remark: Make sure that the unit is stopped running and power supply is cut off before removal of the motor.		
Step	Illustration	Handling Instruction
1. Take out the cover plate		● Unscrew the screws fixing cover plate .Lift the handles, slightly pulling it outwards and downwards to take out the cover plate.
2. Disconnect all connection lines.	/	● Disconnect all connection lines between motor and elements in electric box. **Note:** Please refer to the schematic diagram which adhered on electric box for disconnection of connection lines of supply blower motor.

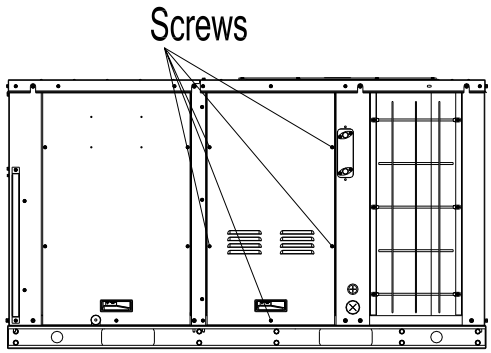
Disassembly and Assembly of Supply Blower Motor		
Remark: Make sure that the unit is stopped running and power supply is cut off before removal of the motor.		
Step	Illustration	Handling Instruction
3. Remove the screws on fan sub-assembly.		● Unscrew the screws on fan sub-assembly (indicated by arrows)
4. Remove the fan volute.		● Remove the fan volute.
5. Remove the fan blade		● Remove the fan blade.
6. Install the fan blade.		● Install the fan blade

Disassembly and Assembly of Supply Blower Motor		
Remark: Make sure that the unit is stopped running and power supply is cut off before removal of the motor.		
Step	Illustration	Handling Instruction
7. Install the fan volute.		● Install the fan volute.

NOTE: Above diagrams may be different from actual model.

Disassembly and Assembly of Electric Box		
Remark: Make sure that the unit is stopped running and power supply is cut off before removal.		
Step	Illustration	Handling Instruction
1. Take down the side plate		● Unscrew the screws fixing side plate. Lift the handles, slightly pulling it outwards and downwards to take out the side plate.
2. Disconnect the power cord.	/	● Pull out power cord or disconnect the power cord after unscrewing the screws. **Note:** Earmark the colour of wire corresponding to the terminal when removing the wire to avoid mistakes when renewing wire connection.
3. Take out the electric box cover.		● Unscrew the screws fixing cover (indicated by the arrows).Then take out the cover.
4. Disconnect all connection lines.	/	● Disconnect all connection lines between exterior electric component and elements in electric box. **Note:** Please refer to the schematic diagram which adhered on electric box for disconnection of

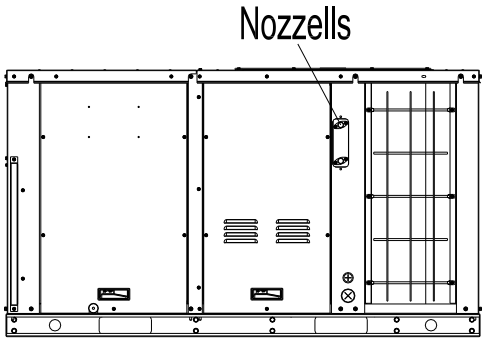
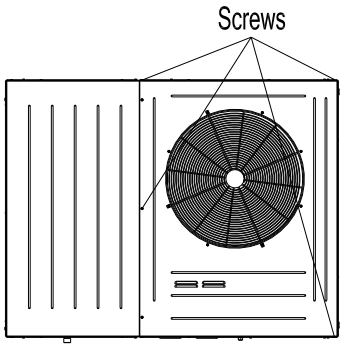
Disassembly and Assembly of Electric Box		
Remark: Make sure that the unit is stopped running and power supply is cut off before removal.		
Step	Illustration	Handling Instruction
		connection lines of motor.
5. Take down the electric box.		● Unscrew the screws (indicated by the arrows),and then take down the electric box. **Note:** Power cord may be fixed by bundles, so loose the bundles before taking out the electric box.
6. Re-install the electric box.		● Put the electric box back and tighten the screws. Then reconnect all connection lines that had been take down, and refix the Power cord with bundles at original locations. **Note:** The line connection must accord to the schematic diagram. All cable can not contact the pipe and moving parts such as fan.
7. Re-install the electric box cover.		● Put the electric box back and tighten the screws.
8. Re-connect power cord.		● Re-connect power cord according to wiring diagram adhered on eletric box. **Note:** After connection, arrange leading wires and refix them with bundles at original locations. All cable can not contact the pipe and moving parts such as fan. Close the cover plate of electric box hermetically.

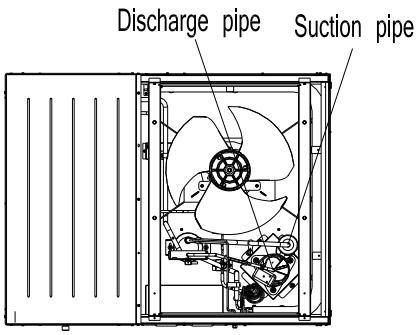
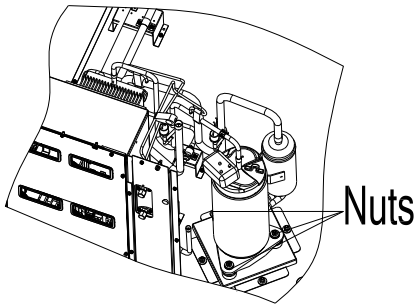
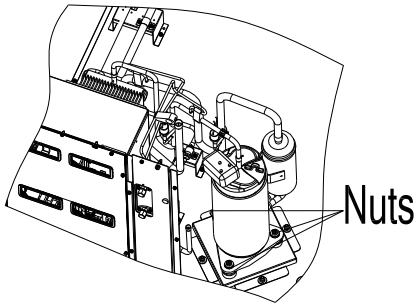
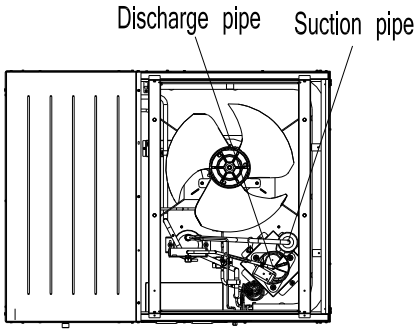
Disassembly and Assembly of Electric Box		
Remark: Make sure that the unit is stopped running and power supply is cut off before removal.		
Step	Illustration	Handling Instruction
9. Re-install the side plate.		● Put the side plate back and tighten the screws.

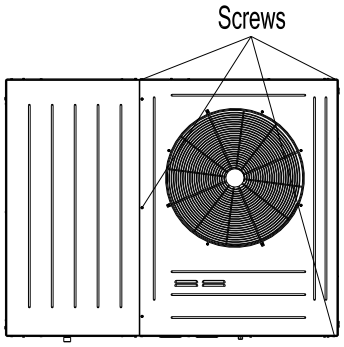
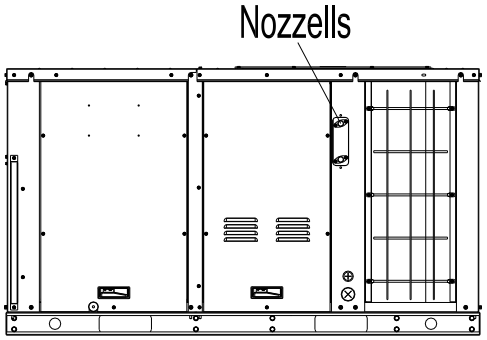
NOTE: Above diagrams may be different from actual model.

4.2 Model: GRIT05A、GRIT05B

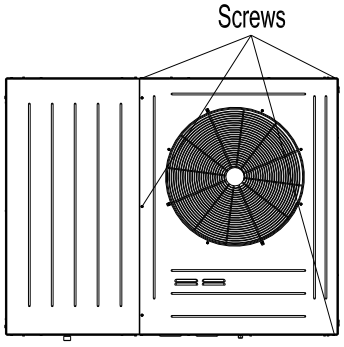
Model: GRIT05A、GRIT05B

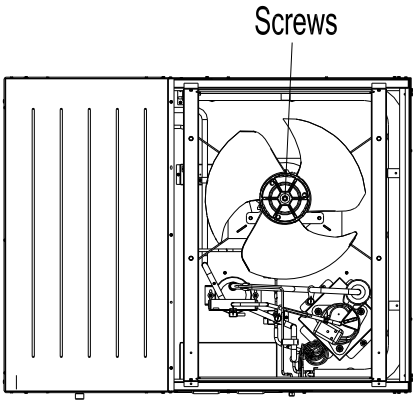
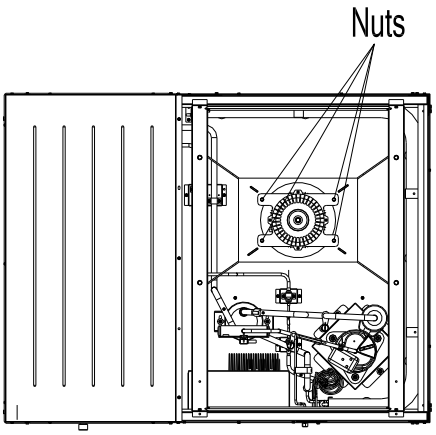
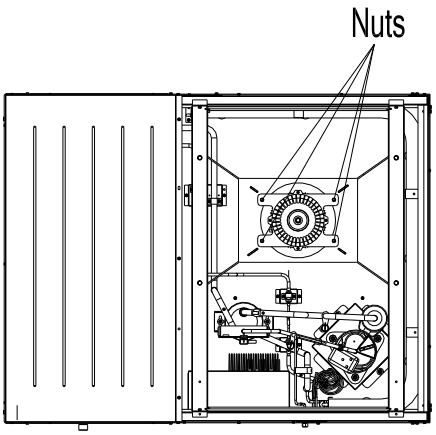
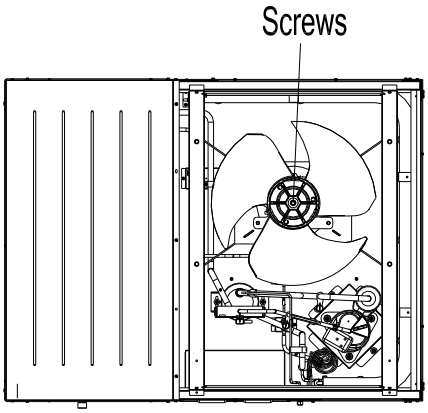
Disassembly and Assembly of Compressor		
Remark: Make sure there isn't any refrigerant in pipe system and the power supply is cut off before removal of the compressor.		
Step	Illustration	Handling Instruction
1. Recover refrigerant in the system.		● Connect vacuum recovery tank with nozzle for adding freon for recovery of refrigerant. **Note:** Recovery work must be complete because refrigerant is badly hurtful to environment and animals.
2. Take out the cover plate.		● Unscrew the screws fixing cover plate (indicated by arrows) to take it out.
3. Disconnect the power cord.	/	● Pull out power cord or disconnect the power cord after unscrewing the screws. **Note:** Earmark the colour of wire corresponding to the terminal when removing the wire to avoid mistakes when renewing wire connection.

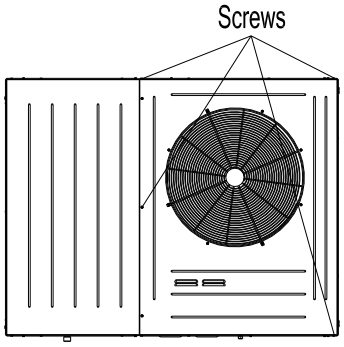
Disassembly and Assembly of Compressor		
Remark: Make sure there isn't any refrigerant in pipe system and the power supply is cut off before removal of the compressor.		
Step	Illustration	Handling Instruction
4. Cut off the connection between compressor and pipes.		● Heat the connection pipes indicated by arrows with fired heater and then draw out them. **Note:** Pay attention to things around to avoid burning out.
5. Take down the compressor from the base.		● Unscrew the nuts on compressor base with a wrench and then remove compressor from the base. **Note:** Keep compressor level and vertically out. Never invert it.
6. Fix the compressor on to the base.		● Put the repaired or new compressor on base as the direction during removing, and then screw down fixing nut on compressor base with a wrench. **Note:** Keep compressor level and vertically on to the base. Never incline or invert it.
7. Connect compressor with system pipes.		● Heat the connection pipes indicated by arrows and then weld them with unit pipes together. **Note:** Pay attention to things around to avoid burning out.
8. Reconnect power cord of compressor.	/	● Reconnect the power cord into compressor according to the procedure of disconnecting power cord. The line connection must accord to the schematic diagram. **Note:** The connection box of compressor must be re-covered to resisting water. All cable can not contact the pipe and moving parts

Disassembly and Assembly of Compressor		
Remark: Make sure there isn't any refrigerant in pipe system and the power supply is cut off before removal of the compressor.		
Step	Illustration	Handling Instruction
		such as fan.
9. Re-install the cover plate.		● Put the cover plate back and tighten the screws.
10. Recharge refrigerant.		Connect refrigerant tank with nozzle of low pressure (indicated by the maker) for recharging refrigerant. **Note:** Check the leak after finishing the connectionpipes. Charge amount should be consistent with nameplate.

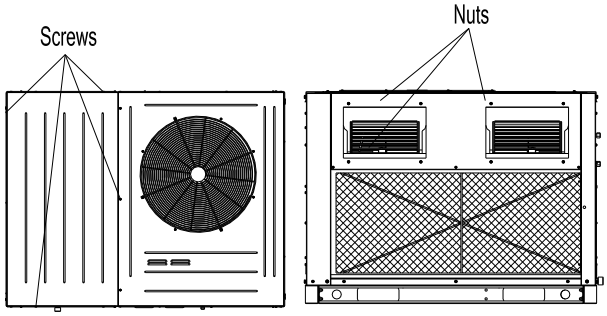
NOTE: Above diagrams may be different from actual model.

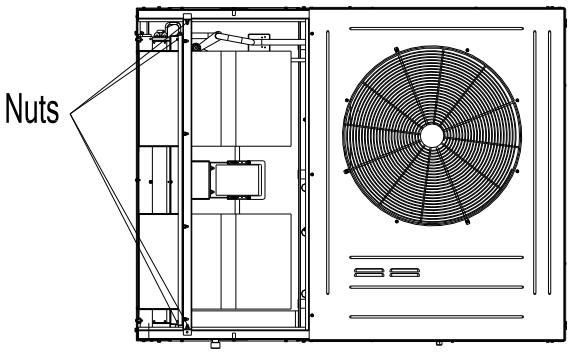
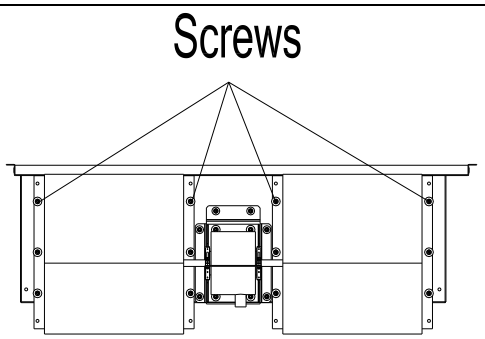
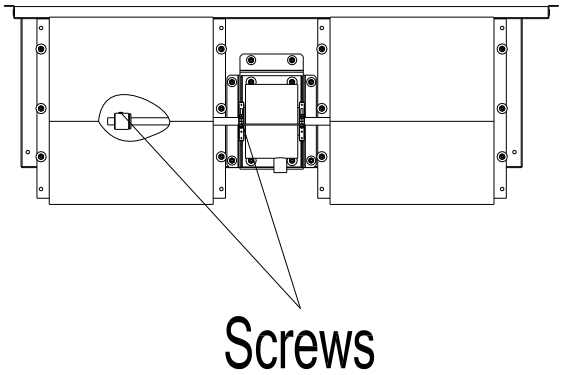
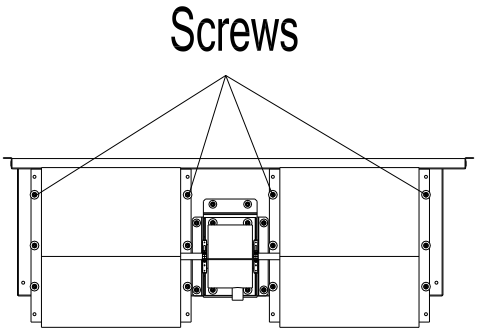
Disassembly and Assembly of Condenser Fan Motor		
Remark: Make sure that the unit is stopped running and power supply is cut off before removal of the motor.		
Step	Illustration	Handling Instruction
1. Disconnect the electrical source wire.		● Disconnect all connection lines between motor and elements in electric box. **Note:** Please refer to the schematic diagram which adhered on electric box for disconnection of connection lines of condenser fan motor.
2. Take out the cover plate.		● Unscrew the screws fixing cover plate (indicated by arrows) to take it out.

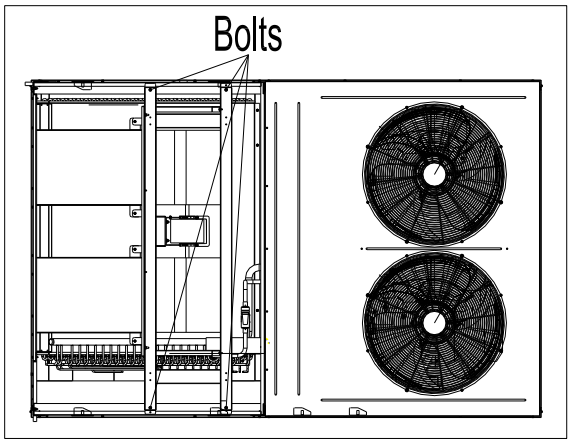
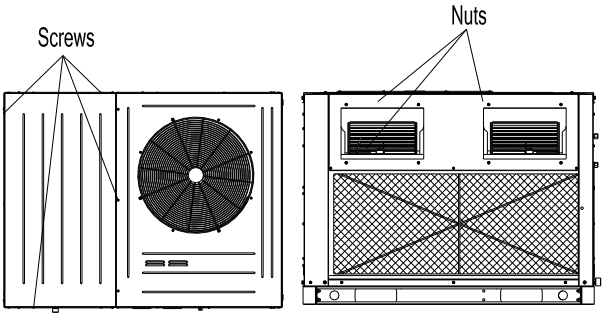
Disassembly and Assembly of Condenser Fan Motor		
Remark: Make sure that the unit is stopped running and power supply is cut off before removal of the motor.		
Step	Illustration	Handling Instruction
3. Take out the fan blade.		● Unscrew the screw (indcated by the arrow) fixing fan to take the fan out. **Note:** Fix fan blade when unscrew the holding bolt to avoid fan blade from rotating and thereby injury to people is caused.
4. Take down the motor from the bracket.		● Remove the holding bolt of motor firstly and then remove motor from bracket. **Note:** Loosen power cord fixed by bundles before removing motor.
5. Fix the new motor on to the bracket.		● Put the repaired or replaced motor onto brakcet as the direction during removing. Then screw down the holding bolt with a wrench. **Note:** Please keep the motor level and vertical during installation. After that, fix the power cord with bundles at original locations.
6. Install and fix fan blade.		● Re-install fan blade and screw down the holidng bolt indicated by the arrow with a wrench **Note:** Moment of force should be within 8-12N during screwing down bolt. After that, please charge glue into gap between bolt and hole to avoid loose of it.

Disassembly and Assembly of Condenser Fan Motor		
Remark: Make sure that the unit is stopped running and power supply is cut off before removal of the motor.		
Step	Illustration	Handling Instruction
7. Re-install the cover plate.		● Put the cover plate back and tighten the screws.
8. Re-connect power cord.	/	● Re-connect power cord according to circuit mark adhered on eletric box. **Note:** After connection, arrange leading wires and refix them with bundles at original locations. Close the cover plate of electric box hermetically. All cable can not contact the pipe and moving parts such as fan.

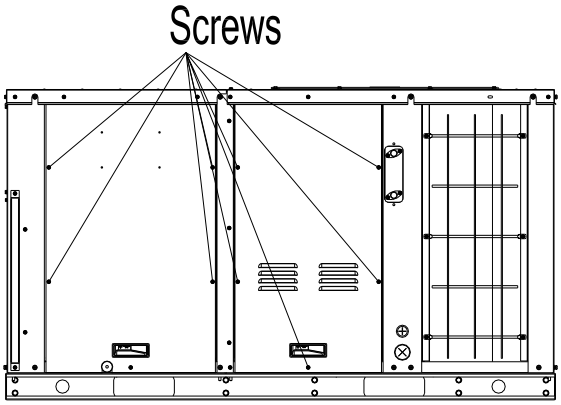
NOTE: Above diagrams may be different from actual model.

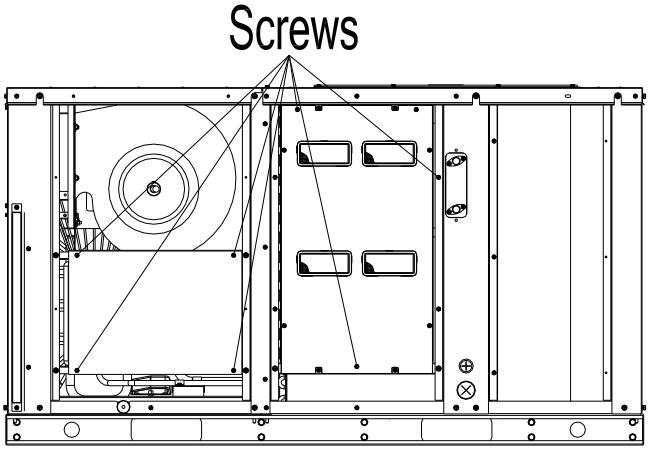
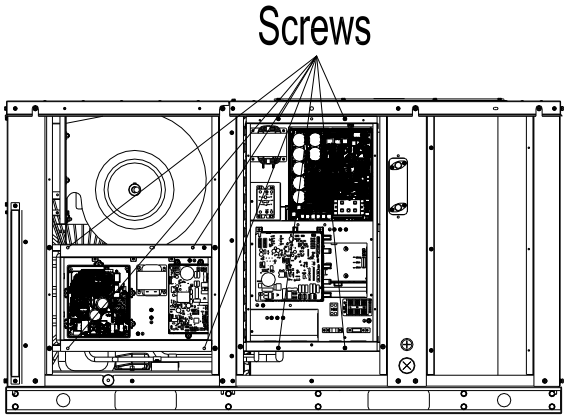
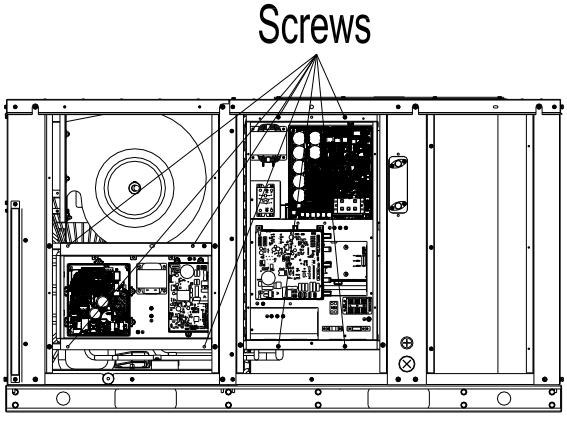
Disassembly and Assembly of Supply Blower Motor		
Remark: Make sure that the unit is stopped running and power supply is cut off before removal of the motor.		
Step	Illustration	Handling Instruction
1. Take out the cover plate		● Unscrew the screws fixing cover plate .Lift the handles, slightly pulling it outwards and downwards to take out the cover plate.
2. Disconnect all connection lines.	/	● Disconnect all connection lines between motor and elements in electric box. **Note:** Please refer to the schematic diagram which adhered on electric box for disconnection of connection lines of supply blower motor.

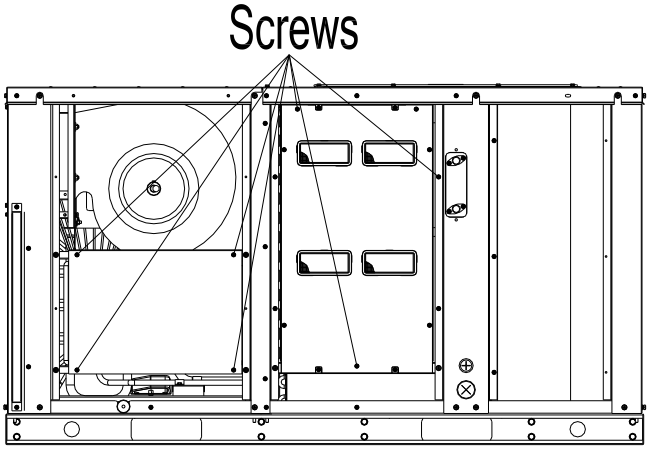
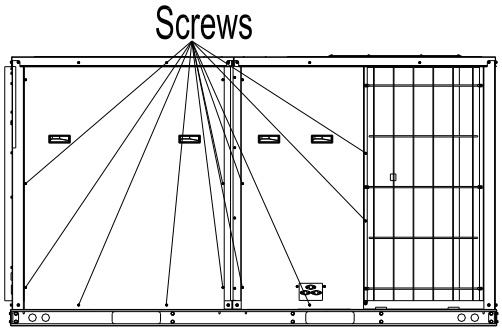
Disassembly and Assembly of Supply Blower Motor		
Remark: Make sure that the unit is stopped running and power supply is cut off before removal of the motor.		
Step	Illustration	Handling Instruction
3. Take down the fan sub-assembly .		● Unscrew holding bolt(indicated by the arrow) of fan sub-assembly bracket with a wrench
4. Remove the screws on fan sub-assembly.		● Unscrew the screws fixing cover plate (indicated by arrows)
5. Take down the fan and motor.		● Unscrew the holding screw of fan (indicated by the arrows) to loose connection between motor shaft and fan. **Note:** Fix fan blade when unscrewing hoiding nut of fan blade to avoid blade from rotating and thereby injury to people is caused.
6. Install the fan and motor		● Re-assemble repaired or replaced motor and the fan. Installation direction is the same as that during disassembly.

Disassembly and Assembly of Supply Blower Motor		
Remark: Make sure that the unit is stopped running and power supply is cut off before removal of the motor.		
Step	Illustration	Handling Instruction
7. Fix the fan sub-assembly on to the bracket.		● Then screw down the holding bolt with a wrench.
8. Re-connect power cord.		● Re-connect power cord according to wiring diagram adhered on eletric box. **Note:** After connection, arrange leading wires and refix them with bundles at original locations. All cable can not contact the pipe and moving parts such as fan. Close the cover plate of electric box hermetically.
9. Re-install the cover plate		● Put the cover plate back and tighten the screws.

NOTE: Above diagrams may be different from actual model.

Disassembly and Assembly of Electric Box		
Remark: Make sure that the unit is stopped running and power supply is cut off before removal.		
Step	Illustration	Handling Instruction
1. Take down the side plate		● Unscrew the screws fixing side plate. Lift the handles, slightly pulling it outwards and downwards to take out the side plate.

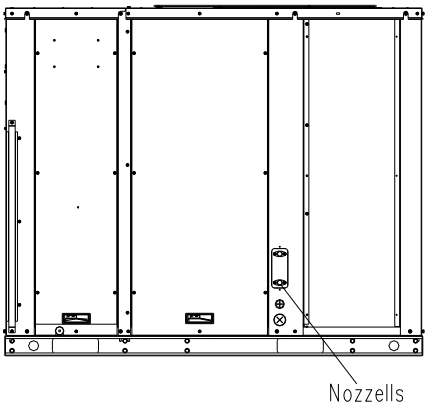
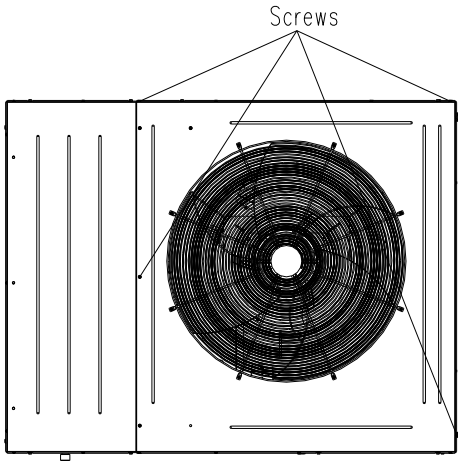
Disassembly and Assembly of Electric Box		
Remark: Make sure that the unit is stopped running and power supply is cut off before removal.		
Step	Illustration	Handling Instruction
2. Disconnect the power cord.	/	● Pull out power cord or disconnect the power cord after unscrewing the screws. **Note:** Earmark the colour of wire corresponding to the terminal when removing the wire to avoid mistakes when renewing wire connection.
3. Take out the electric box cover.		● Unscrew the screws fixing cover (indicated by the arrows). Then take out the cover.
4. Disconnect all connection lines.	/	● Disconnect all connection lines between exterior electric component and elements in electric box. **Note:** Please refer to the schematic diagram which adhered on electric box for disconnection of connection lines of motor.
5. Take down the electric box.		● Unscrew the screws (indicated by the arrows),and then take down the electric box. **Note:** Power cord may be fixed by bundles, so loose the bundles before taking out the electric box.
6. Re-install the electric box.		● Put the electric box back and tighten the screws. Then reconnect all connection lines that had been take down, and refix the Power cord with bundles at original locations. **Note:** The line connection must accord to the schematic diagram. All cable can not contact the pipe and moving parts such as fan.

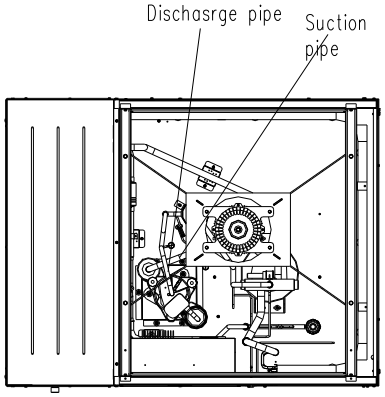
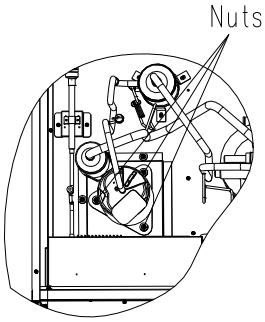
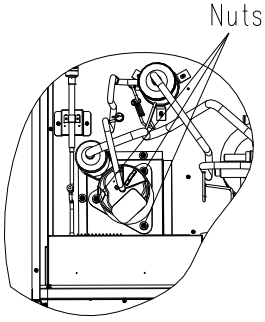
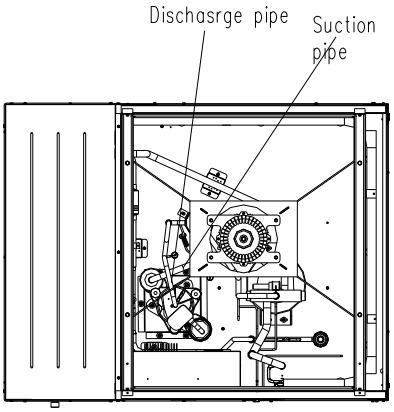
Disassembly and Assembly of Electric Box		
Remark: Make sure that the unit is stopped running and power supply is cut off before removal.		
Step	Illustration	Handling Instruction
7. Re-install the electric box cover.		● Put the electric box back and tighten the screws.
8. Re-connect power cord.	/	● Re-connect power cord according to wiring diagram adhered on eletric box. **Note:** After connection, arrange leading wires and refix them with bundles at original locations. All cable can not contact the pipe and moving parts such as fan. Close the cover plate of electric box hermetically.
9. Re-install the side plate.		● Put the side plate back and tighten the screws.

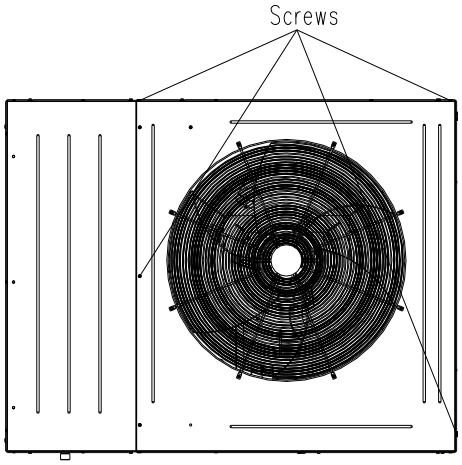
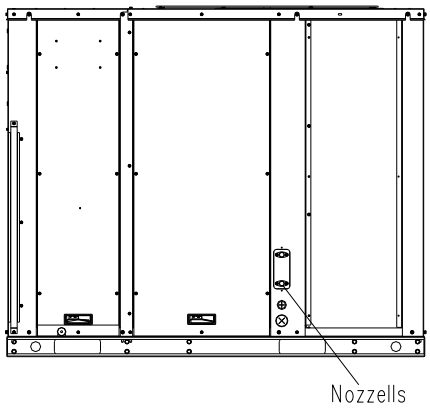
NOTE: Above diagrams may be different from actual model.

4.3 Model: GRIT10B

Model: GRIT10B

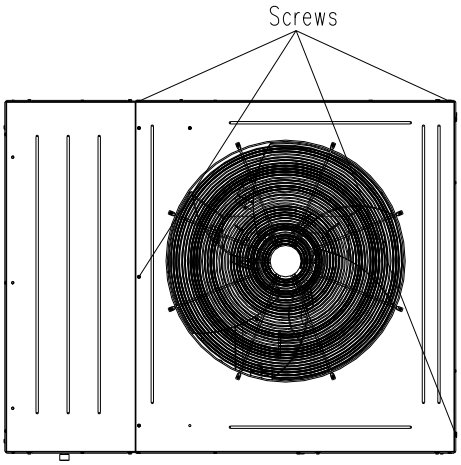
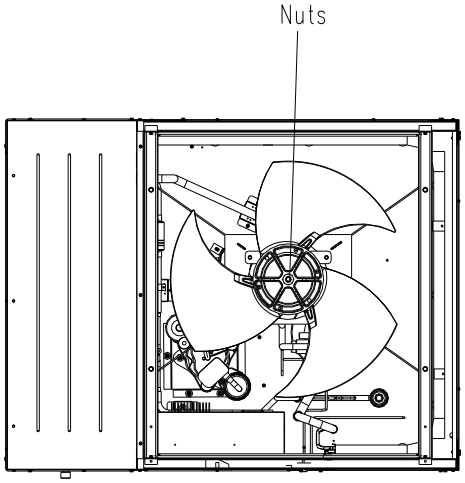
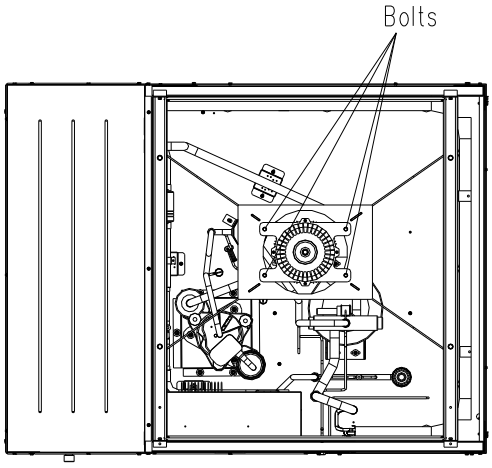
Disassembly and Assembly of Compressor		
Remark: Make sure there isn't any refrigerant in pipe system and the power supply is cut off before removal of the compressor.		
Step	Illustration	Handling Instruction
1. Recover refrigerant in the system.		Connect vacuum recovery tank with nozzle for adding freon for recovery of refrigerant. **Note:** Recovery work must be complete because refrigerant is badly hurtful to environment and animals.
2. Take out the cover plate.		Unscrew the screws fixing cover plate (indicated by arrows) to take it out.
3. Disconnect the power cord.	/	Pull out power cord or disconnect the power cord after unscrewing the screws. **Note:** Earmark the colour of wire corresponding to the terminal when removing the wire to avoid mistakes when renewing wire connection.

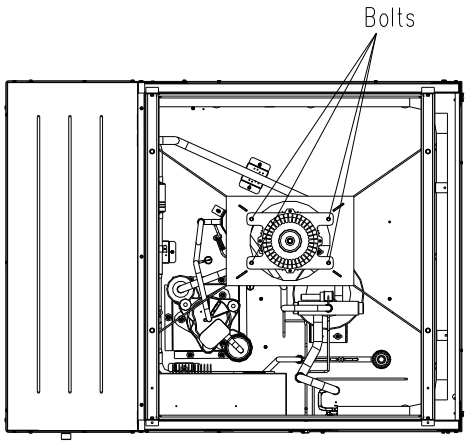
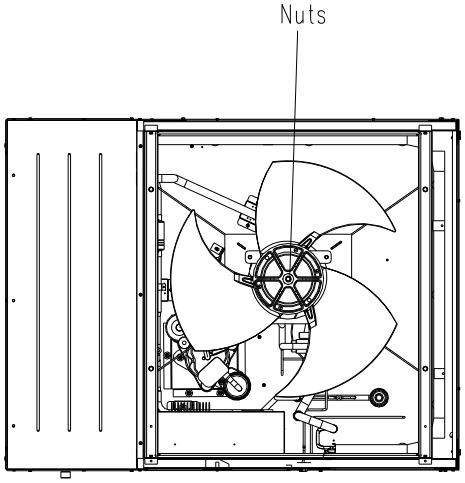
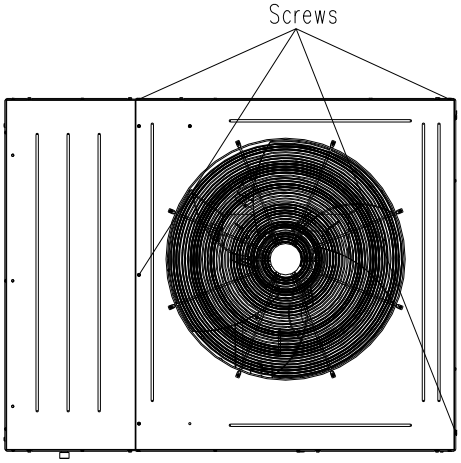
Disassembly and Assembly of Compressor		
Remark: Make sure there isn't any refrigerant in pipe system and the power supply is cut off before removal of the compressor.		
Step	Illustration	Handling Instruction
4. Cut off the connection between compressor and pipes.		Heat the connection pipes indicated by arrows with fired heater and then draw out them. **Note:** Pay attention to things around to avoid burning out.
5. Take down the compressor from the base.		Unscrew the nuts on compressor base with a wrench and then remove compressor from the base. **Note:** Keep compressor level and vertically out. Never invert it.
6. Fix the compressor on to the base.		Put the repaired or new compressor on base as the direction during removing, and then screw down fixing nut on compressor base with a wrench. **Note:** Keep compressor level and vertically on to the base. Never incline or invert it.
7. Connect compressor with system pipes.		Heat the connection pipes indicated by arrows and then weld them with unit pipes together. **Note:** Pay attention to things around to avoid burning out.
8. Reconnect power cord of compressor.	/	Reconnect the power cord into compressor according to the procedure of disconnecting power

Disassembly and Assembly of Compressor		
Remark: Make sure there isn't any refrigerant in pipe system and the power supply is cut off before removal of the compressor.		
Step	Illustration	Handling Instruction
		cord. The line connection must accord to the schematic diagram. **Note:** The connection box of compressor must be re-covered to resisting water. All cable can not contact the pipe and moving parts such as fan.
9. Re-install the cover plate.		Put the cover plate back and tighten the screws.
10. Recharge refrigerant.		Connect refrigerant tank with nozzle of low pressure (indicated by the maker) for recharging refrigerant. **Note:** Check the leak after finishing the connectionpipes. Charge amount should be consistent with nameplate.

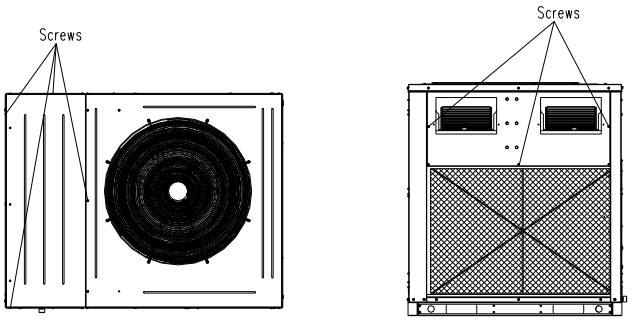
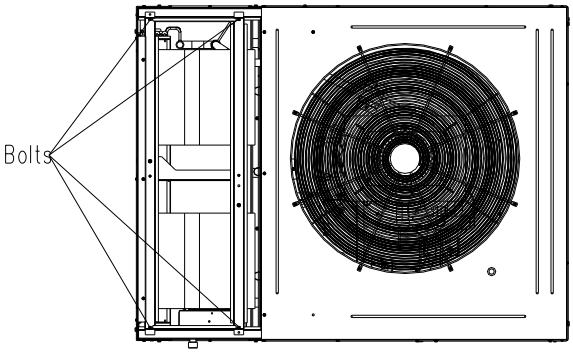
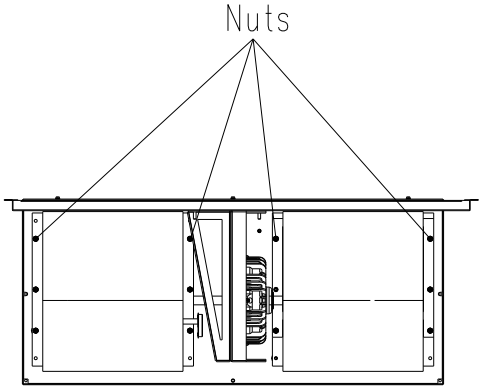
NOTE: Above diagrams may be different from actual model.

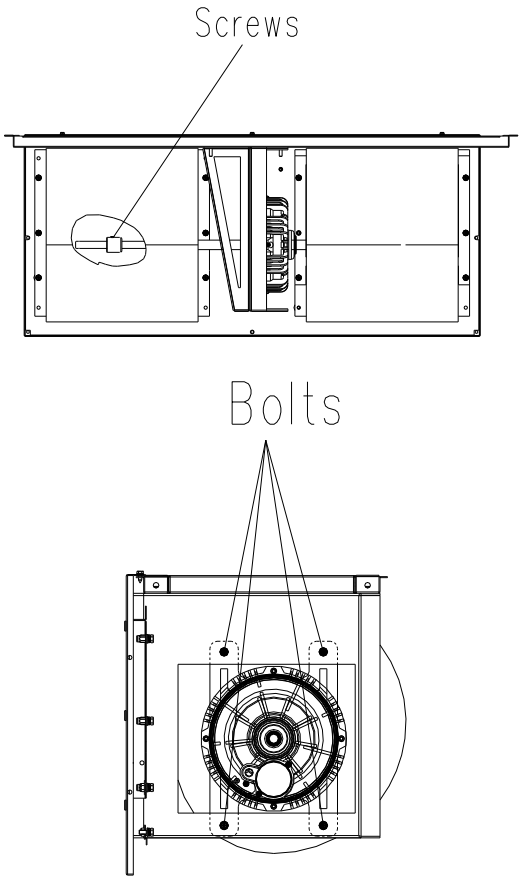
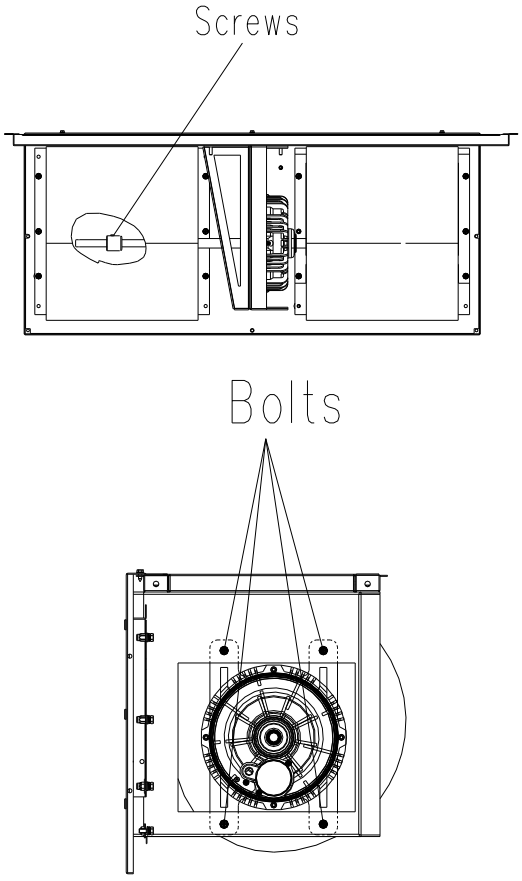
Disassembly and Assembly of Condenser Fan Motor		
Remark: Make sure that the unit is stopped running and power supply is cut off before removal of the motor.		
Step	Illustration	Handling Instruction
1. Disconnect the electrical source wire.	/	● Disconnect all connection lines between motor and elements in electric box. **Note:** Please refer to the schematic diagram which adhered on electric box for disconnection of connection lines of condenser fan motor.

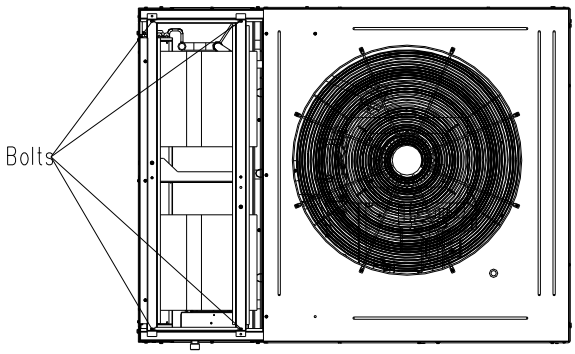
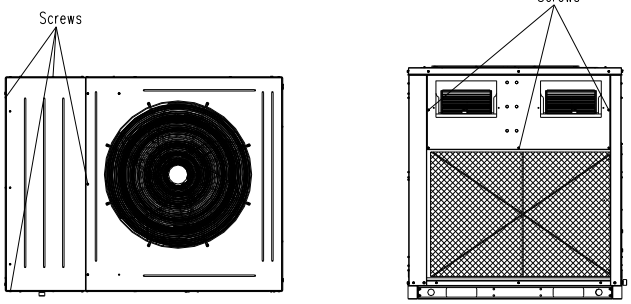
Disassembly and Assembly of Condenser Fan Motor		
Remark: Make sure that the unit is stopped running and power supply is cut off before removal of the motor.		
Step	Illustration	Handling Instruction
2. Take out the cover plate.		● Unscrew the screws fixing cover plate (indicated by arrows) to take it out.
3. Take out the fan blade.		● Unscrew the nuts (indcated by the arrow) fixing fan to take the fan out. **Note:** Fix fan blade when unscrew the holding bolt to avoid fan blade from rotating and thereby injury to people is caused.
4. Take down the motor from the bracket.		● Remove the holding bolt of motor firstly and then remove motor from bracket. **Note:** Loosen power cord fixed by bundles before removing motor.

Disassembly and Assembly of Condenser Fan Motor		
Remark: Make sure that the unit is stopped running and power supply is cut off before removal of the motor.		
Step	Illustration	Handling Instruction
5. Fix the new motor on to the bracket.		● Put the repaired or replaced motor onto brakcet as the direction during removing. Then screw down the holding bolt with a wrench. **Note:** Please keep the motor level and vertical during installation. After that, fix the power cord with bundles at original locations.
6. Install and fix fan blade.		● Re-install fan blade and screw down the holidng bolt indicated by the arrow with a wrench **Note:** Moment of force should be within 8-12N during screwing down bolt. After that, please charge glue into gap between bolt and hole to avoid loose of it.
7. Re-install the cover plate.		● Put the cover plate back and tighten the screws.
8. Re-connect power cord.		● Re-connect power cord according to circuit mark adhered on eletric box. **Note:** After connection, arrange leading wires and refix them with bundles at original locations. Close the cover plate of electric box hermetically. All cable can not contact the pipe and moving parts such as fan.

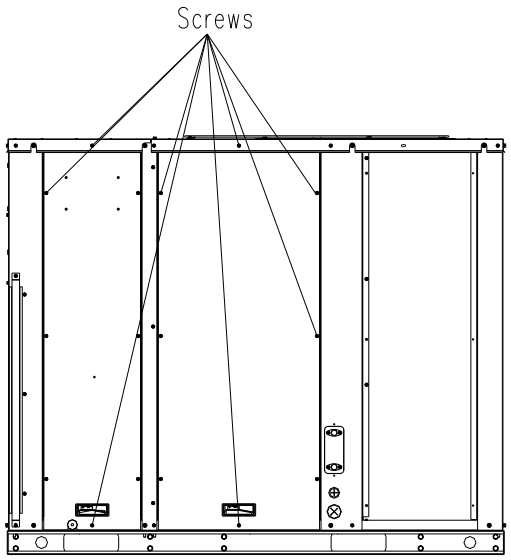
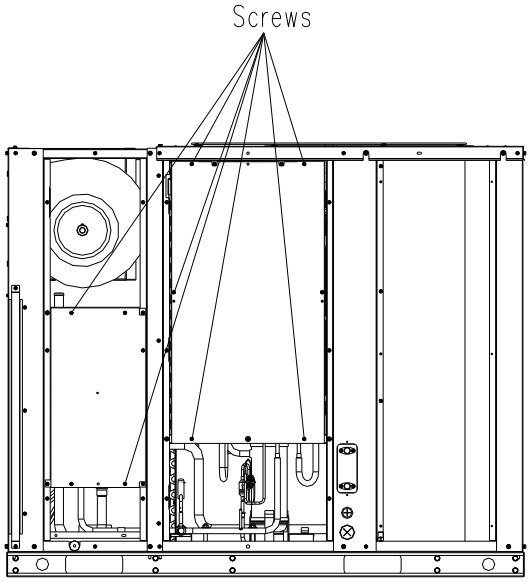
NOTE: Above diagrams may be different from actual model.

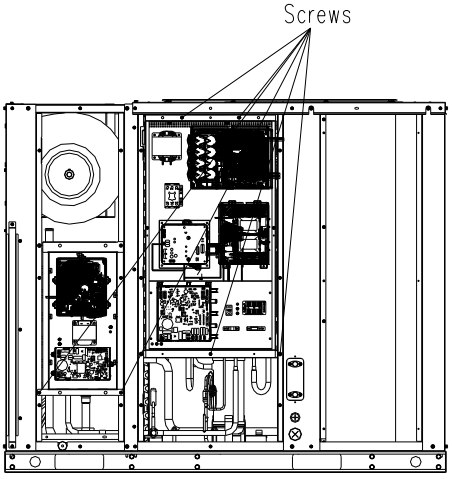
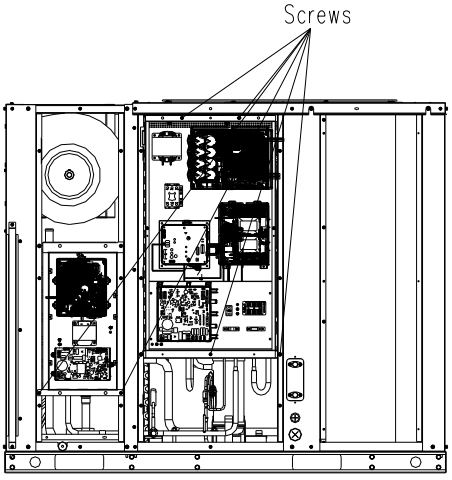
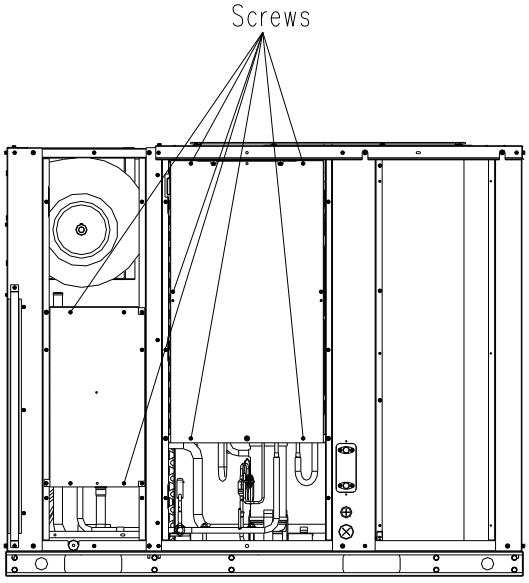
Disassembly and Assembly of Supply Blower Motor		
Remark: Make sure that the unit is stopped running and power supply is cut off before removal of the motor.		
Step	Illustration	Handling Instruction
1. Take out the cover plate		● Unscrew the screws fixing cover plate .Lift the handles, slightly pulling it outwards and downwards to take out the cover plate.
2. Disconnect all connection lines.		● Disconnect all connection lines between motor and elements in electric box. **Note:** Please refer to the schematic diagram which adhered on electric box for disconnection of connection lines of supply blower motor.
3. Take down the fan sub-assembly .		● Unscrew holding bolt(indicated by the arrow) of fan sub-assembly bracket with a wrench ●
4. Remove the screws on fan sub-assembly.		● Unscrew the nuts fixing cover plate (indicated by arrows)

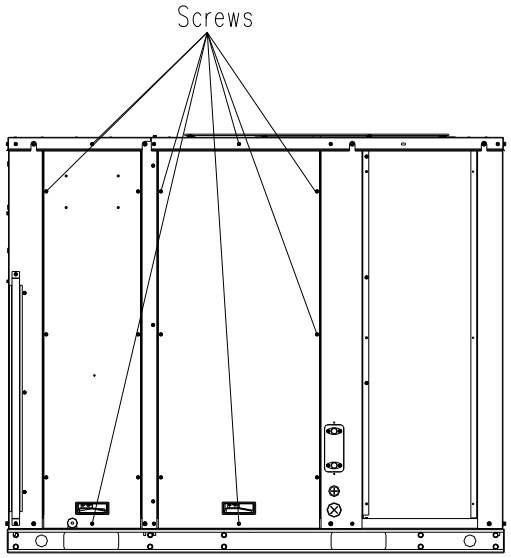
Disassembly and Assembly of Supply Blower Motor		
Remark: Make sure that the unit is stopped running and power supply is cut off before removal of the motor.		
Step	Illustration	Handling Instruction
5. Take down the fan and motor.		● Unscrew the holding screw of fan (indicated by the arrows) to loose connection between motor shaft and fan. **Note:** Fix fan blade when unscrewing hoiding nut of fan blade to avoid blade from rotating and thereby injury to people is caused.
6. Install the fan and motor		● Re-assemble repaired or replaced motor and the fan. Installation direction is the same as that during disassembly.

Disassembly and Assembly of Supply Blower Motor		
Remark: Make sure that the unit is stopped running and power supply is cut off before removal of the motor.		
Step	Illustration	Handling Instruction
7. Fix the fan sub-assembly on to the bracket.		● Then screw down the holding bolt with a wrench.
8. Re-connect power cord.		● Re-connect power cord according to wiring diagram adhered on eletric box. **Note:** After connection, arrange leading wires and refix them with bundles at original locations. All cable can not contact the pipe and moving parts such as fan. Close the cover plate of electric box hermetically.
9. Re-install the cover plate		● Put the cover plate back and tighten the screws.

NOTE: Above diagrams may be different from actual model.

Disassembly and Assembly of Electric Box		
Remark: Make sure that the unit is stopped running and power supply is cut off before removal.		
Step	Illustration	Handling Instruction
1. Take down the side plate		● Unscrew the screws fixing side plate. Lift the handles, slightly pulling it outwards and downwards to take out the side plate.
2. Disconnect the power cord.	/	● Pull out power cord or disconnect the power cord after unscrewing the screws. **Note:** Earmark the colour of wire corresponding to the terminal when removing the wire to avoid mistakes when renewing wire connection.
3. Take out the electric box cover.		● Unscrew the screws fixing cover (indicated by the arrows). Then take out the cover.
4. Disconnect all connection lines.	/	● Disconnect all connection lines between exterior electric component and elements in electric box. **Note:** Please refer to the schematic diagram which adhered on electric box for disconnection of connection lines of motor.

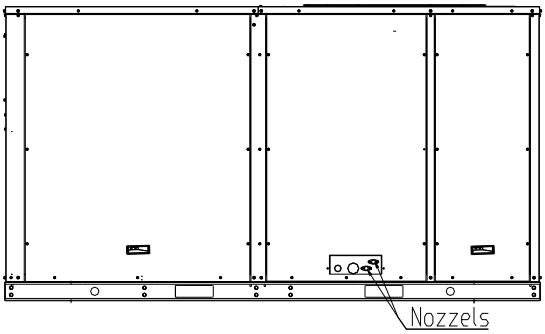
Disassembly and Assembly of Electric Box		
Remark: Make sure that the unit is stopped running and power supply is cut off before removal.		
Step	Illustration	Handling Instruction
5. Take down the electric box.		● Unscrew the screws (indicated by the arrows),and then take down the electric box. **Note:** Power cord may be fixed by bundles, so loose the bundles before taking out the electric box.
6. Re-install the electric box.		● Put the electric box back and tighten the screws. Then reconnect all connection lines that had been take down, and refix the Power cord with bundles at original locations. **Note:** The line connection must accord to the schematic diagram. All cable can not contact the pipe and moving parts such as fan.
7. Re-install the electric box cover.		● Put the electric box back and tighten the screws.

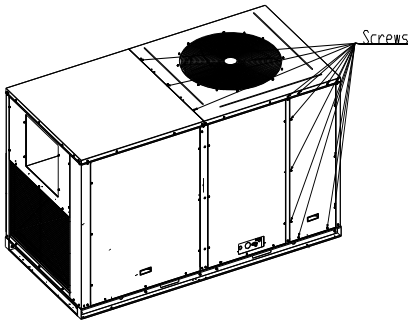
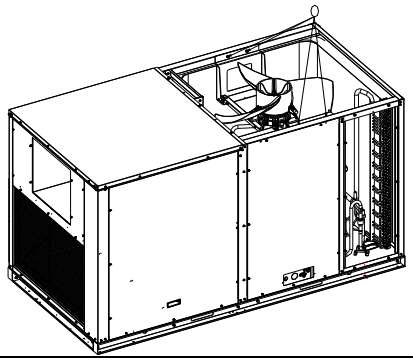
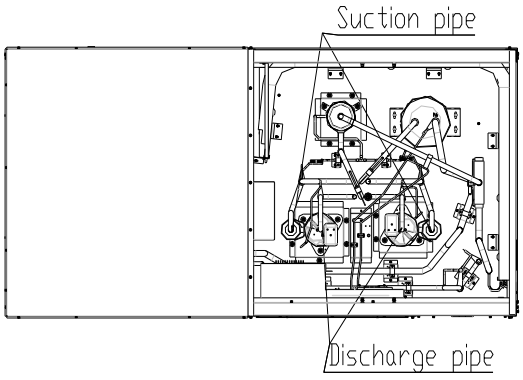
Disassembly and Assembly of Electric Box		
Remark: Make sure that the unit is stopped running and power supply is cut off before removal.		
Step	Illustration	Handling Instruction
8. Re-connect power cord.	/	● Re-connect power cord according to wiring diagram adhered on eletric box. **Note:** After connection, arrange leading wires and refix them with bundles at original locations. All cable can not contact the pipe and moving parts such as fan. Close the cover plate of electric box hermetically.
9. Re-install the side plate.		● Put the side plate back and tighten the screws.

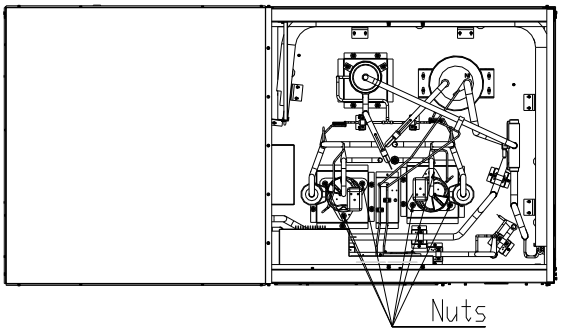
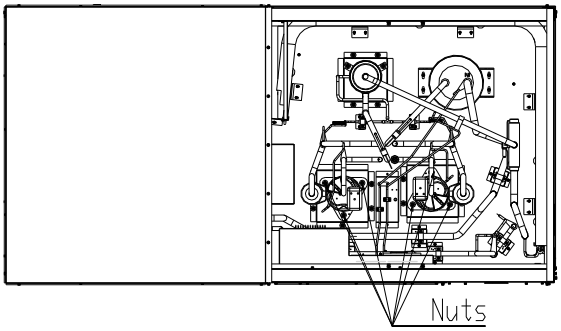
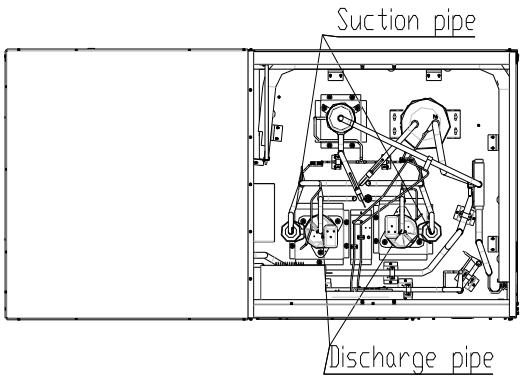
NOTE: Above diagrams may be different from actual model.

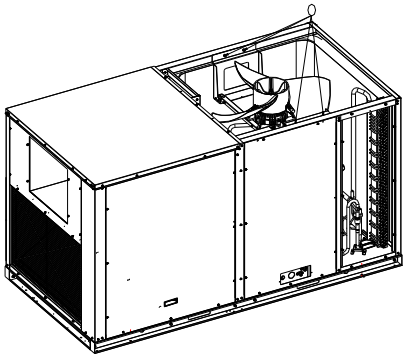
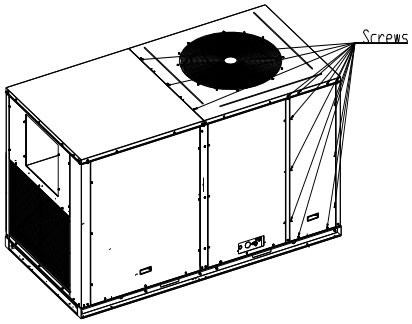
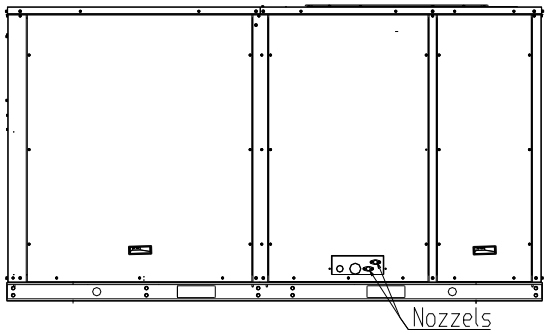
4.4 Model: GRIT15B

Model: GRIT15B

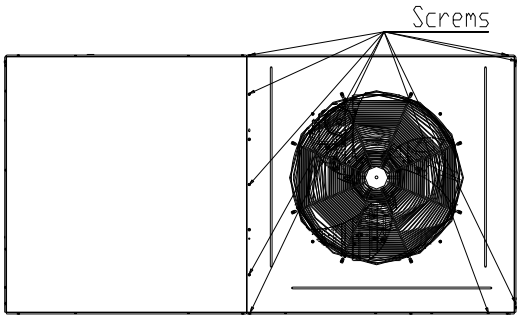
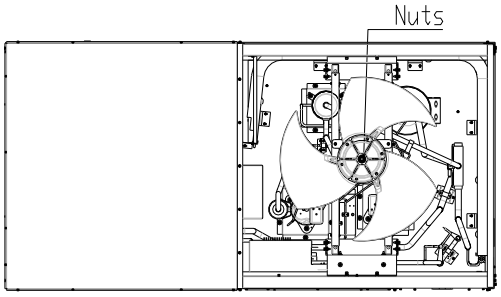
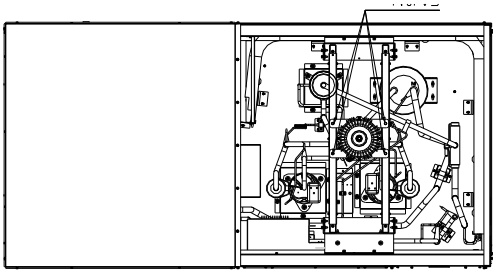
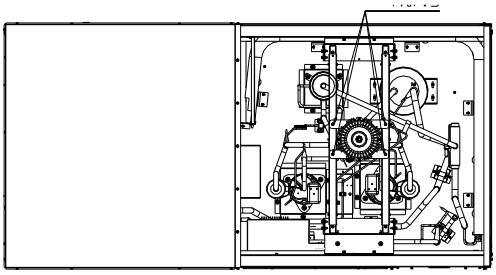
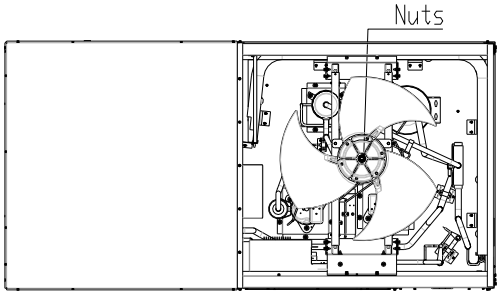
Disassembly and Assembly of Compressor		
Remark: Make sure there isn't any refrigerant in pipe system and the power supply is cut off before removal of the compressor.		
Step	Illustration	Handling Instruction
1. Recover refrigerant in the system.		● Connect vacuum recovery tank with nozzle for adding freon for recovery of refrigerant. **Note:** Recovery work must be complete because refrigerant is badly hurtful to environment and animals.

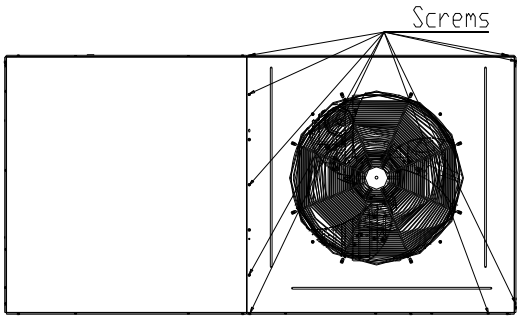
Disassembly and Assembly of Compressor		
Remark: Make sure there isn't any refrigerant in pipe system and the power supply is cut off before removal of the compressor.		
Step	Illustration	Handling Instruction
2. Take out the side plate.		● Unscrew the screws fixing side plate (indicated by arrows) to take it out.
3. Disconnect the power cord.	/	● Pull out power cord or disconnect the power cord after unscrewing the screws. **Note:** Earmark the colour of wire corresponding to the terminal when removing the wire to avoid mistakes when renewing wire connection.
4. Take out the axial fan assy.		● Unscrew the bolts (indcated by the arrow) to take the axial fan assy out with lifting ropes(indicated by arrows) **Note:** Be careful when lift the the axial fan assy to avoid injury to people is caused.
5. Cut off the connection between compressor and pipes.		● Heat the connection pipes indicated by arrows with fired heater and then draw out them. **Note:** Pay attention to things around to avoid burning out.

Disassembly and Assembly of Compressor		
Remark: Make sure there isn't any refrigerant in pipe system and the power supply is cut off before removal of the compressor.		
Step	Illustration	Handling Instruction
6. Take down the compressor from the base.		● Unscrew the nuts on compressor base with a wrench and then remove compressor from the base. **Note:** Keep compressor level and vertically out. Never invert it.
7. Fix the compressor on to the base.		● Put the repaired or new compressor on base as the direction during removing,and then screw down fixing nut on compressor base with a wrench. **Note:** Keep compressor level and vertically on to the base. Never incline or invert it.
8. Connect compressor with system pipes.		● Heat the connection pipes indicated by arrows and then weld them with unit pipes together. **Note:** Pay attention to things around to avoid burning out.

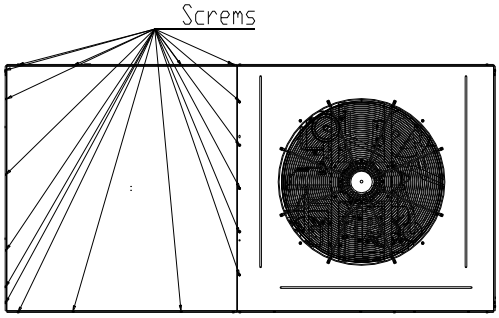
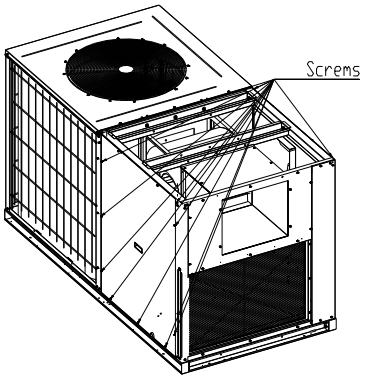
Disassembly and Assembly of Compressor		
Remark: Make sure there isn't any refrigerant in pipe system and the power supply is cut off before removal of the compressor.		
Step	Illustration	Handling Instruction
9. put the axial fan assy back.		● put the axial fan assy back with lifting ropes(indicated by arrows) and then screw down the bolts.
10. Reconnect power cord of compressor.		● Reconnect the power cord into compressor according to the procedure of disconnecting power cord. The line connection must accord to the schematic diagram. **Note:** The connection box of compressor must be re-covered to resisting water. All cable can not contact the pipe and moving parts such as fan.
11. Re-install the side plate.		● Put the side plate back and tighten the screws.
12. Recharge refrigerant.		● Connect refrigerant tank with nozzle of low pressure (indicated by the maker) for recharging refrigerant. **Note:** Check the leak after finishing the connectionpipes. Charge amount should be consistent with nameplate.

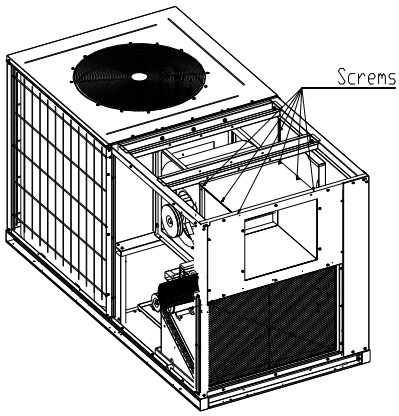
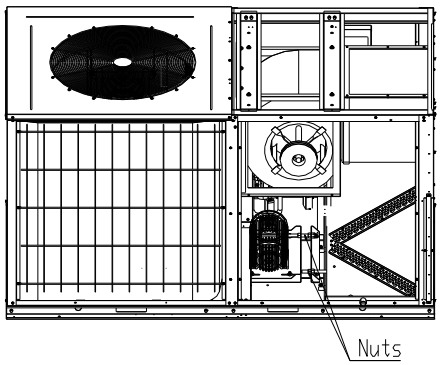
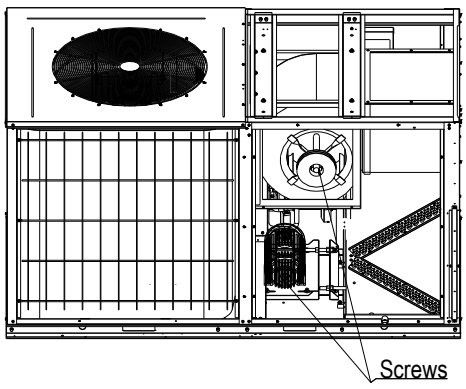
NOTE: Above diagrams may be different from actual model.

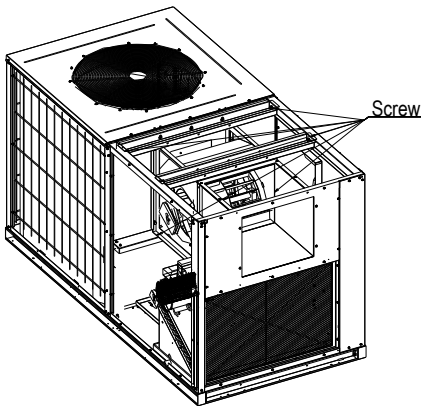
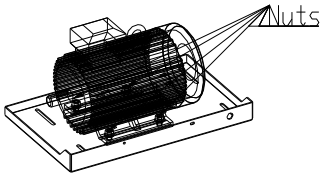
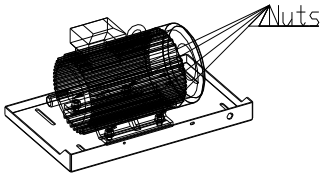
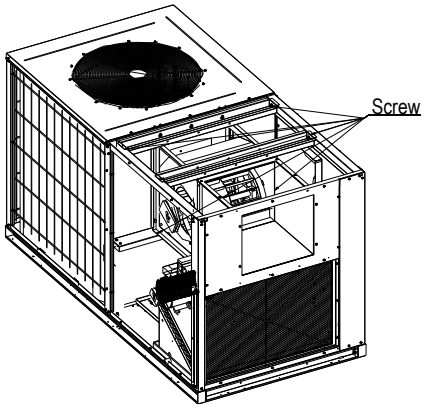
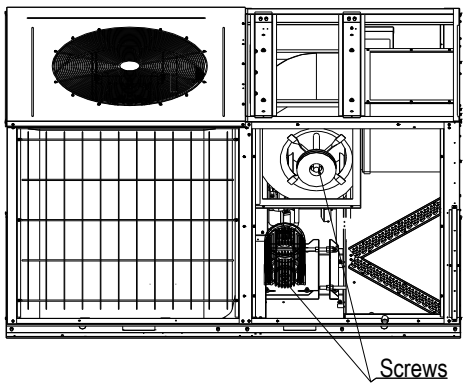
Disassembly and Assembly of Condenser Fan Motor		
Remark: Make sure that the unit is stopped running and power supply is cut off before removal of the motor.		
Step	Illustration	Handling Instruction
1. Disconnect the electrical source wire.	/	● Disconnect all connection lines between motor and elements in electric box. **Note:** Please refer to the schematic diagram which adhered on electric box for disconnection of connection lines of condenser fan motor.
2. Take out the cover plate.		● Unscrew the screws fixing cover plate (indicated by arrows) to take it out.
3. Take out the fan blade.		● Unscrew the screw (indcated by the arrow) fixing fan to take the fan out. **Note:** Fix fan blade when unscrew the holding bolt to avoid fan blade from rotating and thereby injury to people is caused.
4. Take down the motor from the bracket.		● Remove the holding bolt of motor firstly and then remove motor from bracket. **Note:** Loosen power cord fixed by bundles before removing motor.
5. Fix the new motor on to the bracket.		● Put the repaired or replaced motor onto brakcet as the direction during removing. Then screw down the holding bolt with a wrench. **Note:** Please keep the motor level and vertical during installation. After that,fix the power cord with bundles at original locations.
6. Install and fix fan blade.		● Re-install fan blade and screw down the holidng bolt indicated by the arrow with a wrench. **Note:** Moment of force should be within 8-12N during screwing down bolt. After that, please charge glue into gap between bolt and hole to avoid loose of it.

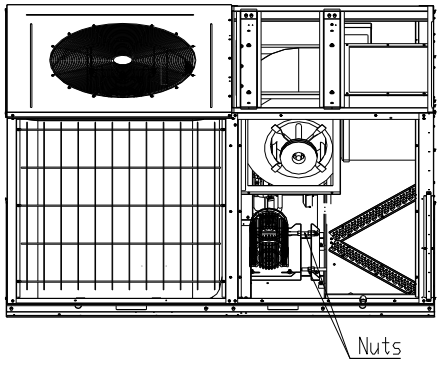
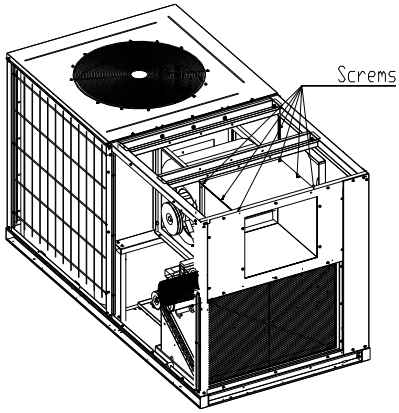
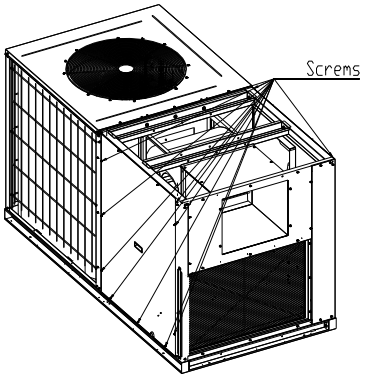
Disassembly and Assembly of Condenser Fan Motor		
Remark: Make sure that the unit is stopped running and power supply is cut off before removal of the motor.		
Step	Illustration	Handling Instruction
7. Re-install the cover plate.		● Put the cover plate back and tighten the screws.
8. Re-connect power cord.		● Re-connect power cord according to circuit mark adhered on eletric box. **Note:** After connection, arrange leading wires and refix them with bundles at original locations. Close the cover plate of electric box hermetically. All cable can not contact the pipe and moving parts such as fan.

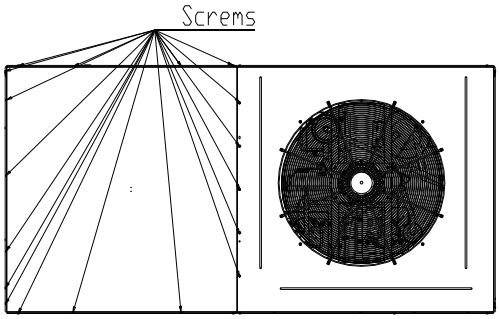
NOTE: Above diagrams may be different from actual model.

Disassembly and Assembly of Supply Blower Motor		
Remark: Make sure that the unit is stopped running and power supply is cut off before removal of the motor.		
Step	Illustration	Handling Instruction
1. Take out the cover plate.		● Unscrew the screws fixing cover plate (indicated by arrows) to take it out.
2. Take out the side plate.		● Unscrew the screws fixing side plate (indicated by arrows) to take it out.

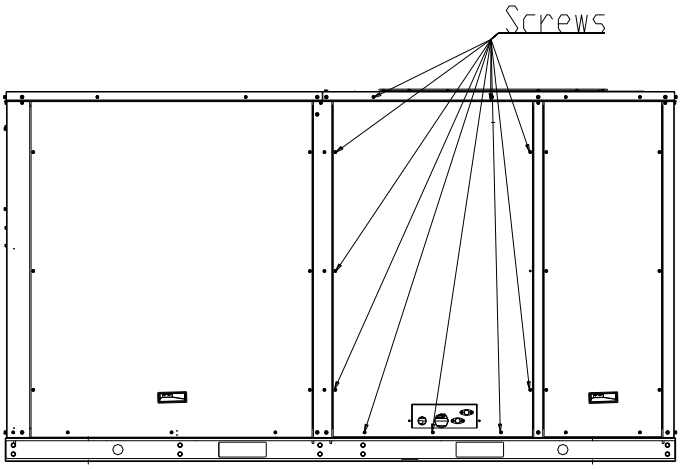
Disassembly and Assembly of Supply Blower Motor		
Remark: Make sure that the unit is stopped running and power supply is cut off before removal of the motor.		
Step	Illustration	Handling Instruction
3. Take out the air duct panel.		● Unscrew the screws fixing air duct panel (indicated by arrows) to take it out.
4. Disconnect all connection lines.		● Disconnect all connection lines between motor and elements in electric box. **Note:** Please refer to the schematic diagram which adhered on electric box for disconnection of connection lines of supply blower motor.
5. Take out the belt.		● Unscrew position control bolts of motors bracket (indicated by the arrows) to adjust distance between belt pulleys to loosen the belt and take it out.
6. Separate and take out the belt pulley and taper sleeve		● Anticlockwise screw the 2 bolts indicated by arrows with inner hexagon wrench, and then clockwise screw down the other bolt. Make belt pulleys close to motor and separate it from taper sleeve. Take out the taper sleeve with straight slot screwdriver, and then the belt pulley. **Note**: The sleeve has taper, so belt pulleys must be taken out after it.

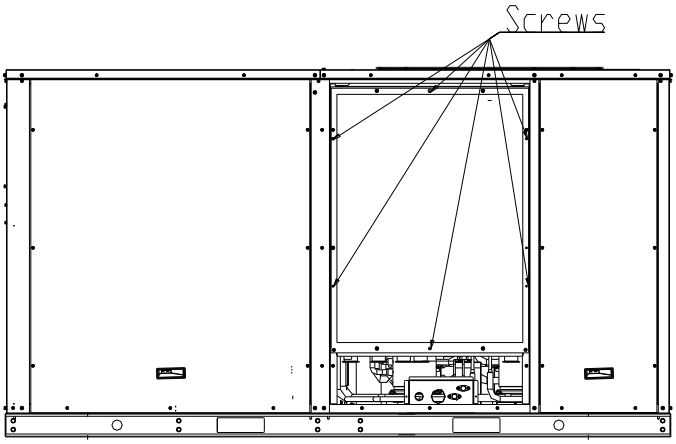
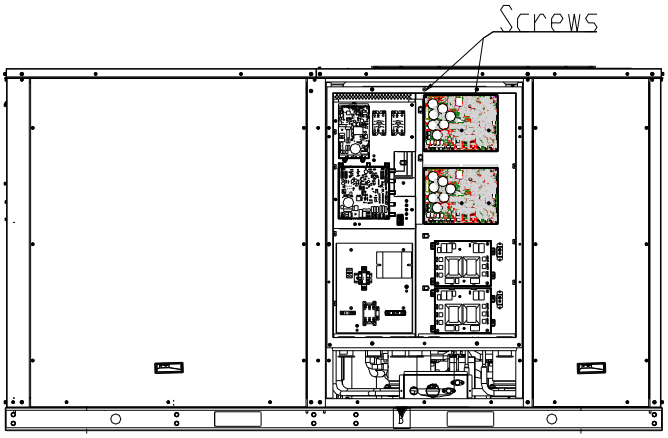
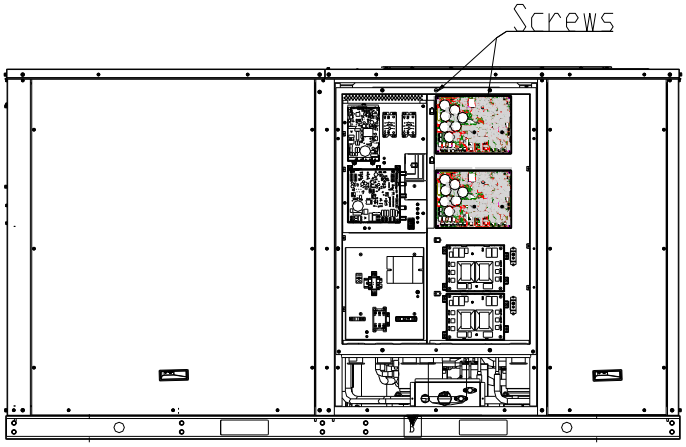
Disassembly and Assembly of Supply Blower Motor		
Remark: Make sure that the unit is stopped running and power supply is cut off before removal of the motor.		
Step	Illustration	Handling Instruction
7. Take out the fan.		● Unscrew the screws fixing fan (indicated by arrows) to take it out.
8. Take down the motor.		● Unscrew the nuts (indicated by arrows) to loosen the connection between motor and bracket.
9. Re-install the motor.		● Re-assemble repaired or replaced motor. Installation direction is the same as that during disassembly. Then screw down the holding bolts with a wrench.
10. Re-install the fan.		● Put the fan back and tighten the screws.
11. Re-install the belt pulley and taper sleeve.		● Put belt pulleys onto shaft and then put taper sleeve. After that, cover the belt pulleys onto taper sleeve. Clockwise screw down the 3 bolts. **Note:** The sleeve has taper, so belt pulleys must be installed first. Ensure the coplanarity of belt pulleys, and adjust the tightness level of belt.

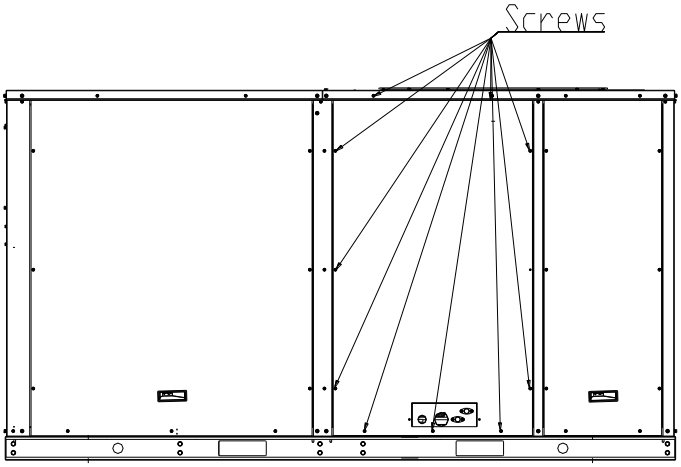
Disassembly and Assembly of Supply Blower Motor		
Remark: Make sure that the unit is stopped running and power supply is cut off before removal of the motor.		
Step	Illustration	Handling Instruction
12. Re-install the belt.		● Unscrew position control bolts of motors bracket (indicated by the arrows) to adjust distance between belt pulleys to re-install the belt. **Note:** Adjust the tightness level of belt.
13. Re-install the air duct.		● Put the air duct back and tighten the screws.
14. Re-connect power cord.	/	● Re-connect power cord according to wiring diagram adhered on eletric box. **Note:** After connection, arrange leading wires and refix them with bundles at original locations. All cable can not contact the pipe and moving parts such as fan. Close the cover plate of electric box hermetically.
15. Re-install the side plate.		● Put the side plate back and tighten the screws.

Disassembly and Assembly of Supply Blower Motor		
Remark: Make sure that the unit is stopped running and power supply is cut off before removal of the motor.		
Step	Illustration	Handling Instruction
16. Re-install the cover plate.		● Put the cover plate back and tighten the screws.

NOTE: Above diagrams may be different from actual model.

Disassembly and Assembly of Electric Box		
Remark: Make sure that the unit is stopped running and power supply is cut off before removal.		
Step	Illustration	Handling Instruction
1. Take down the side plate		● Unscrew the screws fixing side plate. Lift the handles, slightly pulling it outwards and downwards to take out the side plate.
2. Disconnect the power cord.	/	● Pull out power cord or disconnect the power cord after unscrewing the screws. **Note:** Earmark the colour of wire corresponding to the terminal when removing the wire to avoid mistakes when renewing wire connection.

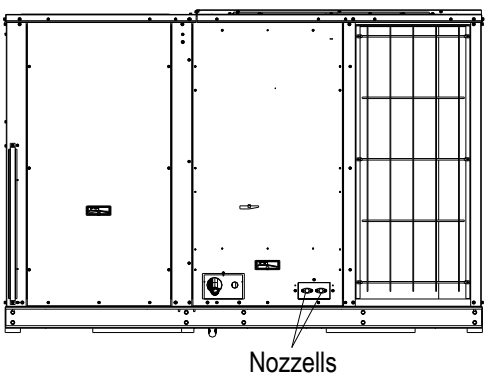
Disassembly and Assembly of Electric Box		
Remark: Make sure that the unit is stopped running and power supply is cut off before removal.		
Step	Illustration	Handling Instruction
3. Take out the electric box cover.		● Unscrew the screws fixing cover (indicated by the arrows).Then take out the cover.
4. Disconnect all connection lines.		● Disconnect all connection lines between exterior electric component and elements in electric box. **Note:** Please refer to the schematic diagram which adhered on electric box for disconnection of connection lines of motor.
5. Take down the electric box.		● Unscrew the screws (indicated by the arrows),and then take down the electric box. **Note:** Power cord may be fixed by bundles, so loose the bundles before taking out the electric box.
6. Re-install the electric box.		● Put the electric box back and tighten the screws. Then reconnect all connection lines that had been take down, and refix the Power cord with bundles at original locations. **Note:** The line connection must accord to the schematic diagram. All cable can not contact the pipe and moving parts such as fan.

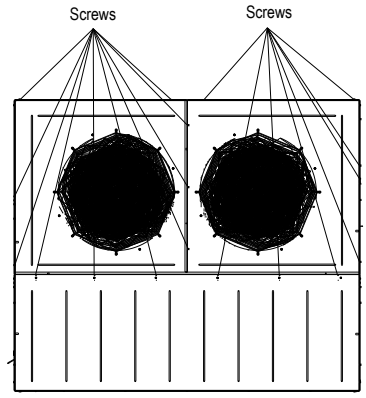
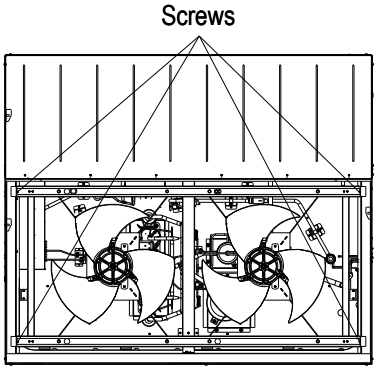
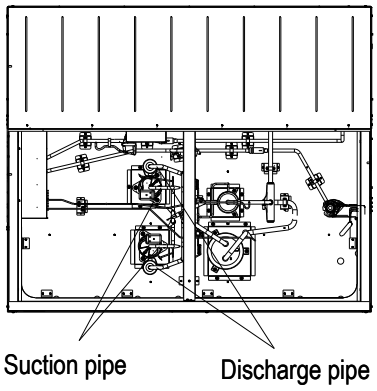
Disassembly and Assembly of Electric Box		
Remark: Make sure that the unit is stopped running and power supply is cut off before removal.		
Step	Illustration	Handling Instruction
7. Re-connect power cord.		● Re-connect power cord according to wiring diagram adhered on eletric box. **Note:** After connection, arrange leading wires and refix them with bundles at original locations. All cable can not contact the pipe and moving parts such as fan. Close the cover plate of electric box hermetically.
8. Re-install the side plate.		● Put the side plate back and tighten the screws.

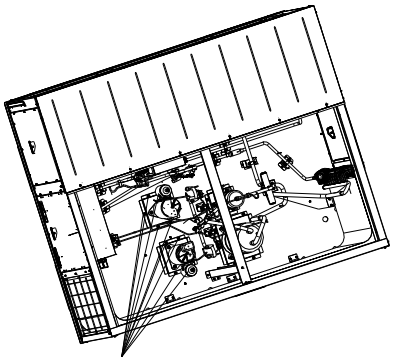
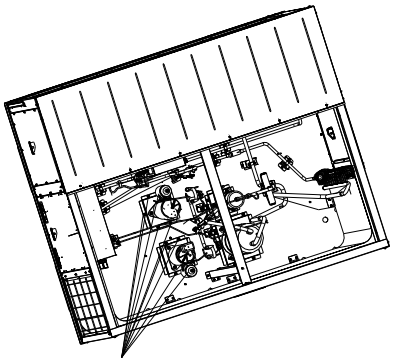
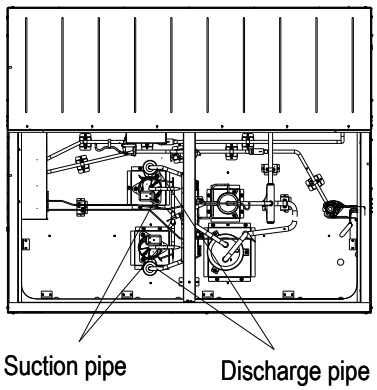
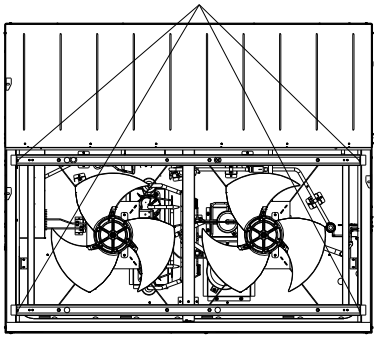
NOTE: Above diagrams may be different from actual model.

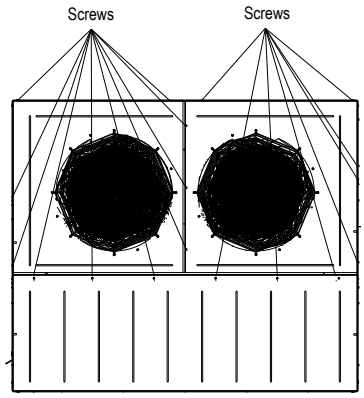
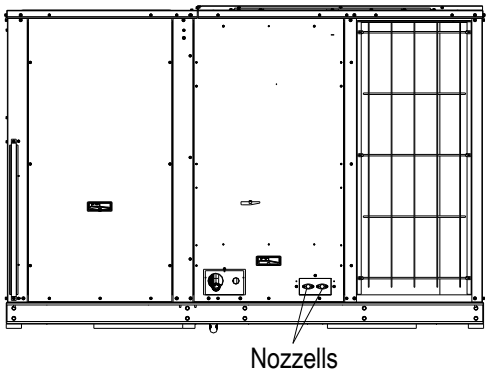
4.5 Model: GRIT20B

Model: GRIT20B

Disassembly and Assembly of Compressor		
Remark: Make sure there isn't any refrigerant in pipe system and the power supply is cut off before removal of the compressor.		
Step	Illustration	Handling Instruction
1. Recover refrigerant in the system.		● Connect vacuum recovery tank with nozzle for adding freon for recovery of refrigerant. **Note:** Recovery work must be complete because refrigerant is badly hurtful to environment and animals.

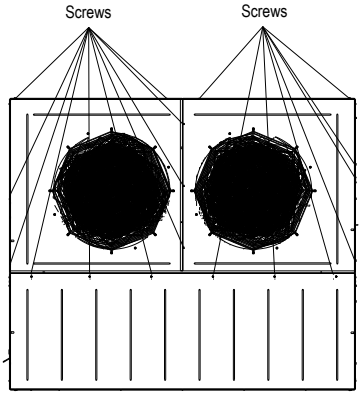
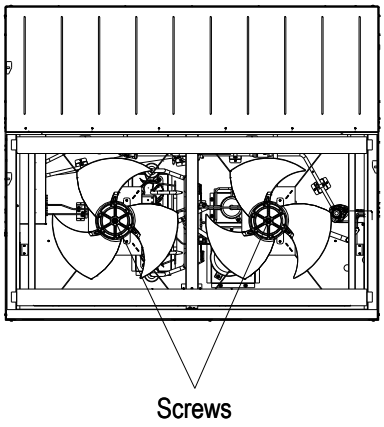
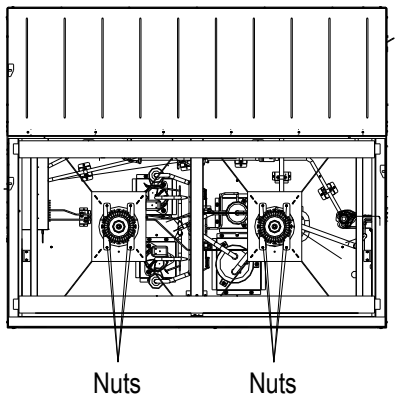
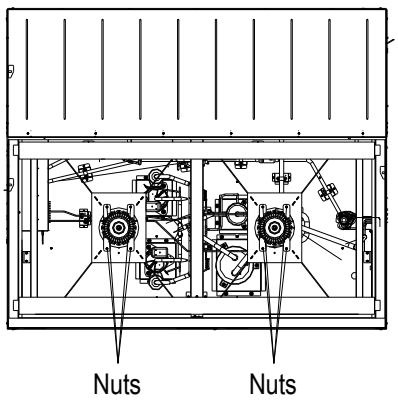
Disassembly and Assembly of Compressor		
Remark: Make sure there isn't any refrigerant in pipe system and the power supply is cut off before removal of the compressor.		
Step	Illustration	Handling Instruction
2. Take out the cover plate.		● Unscrew the screws fixing cover plate (indicated by arrows) to take it out.
3. Disconnect the power cord.		● Pull out power cord or disconnect the power cord after unscrewing the screws. **Note:** Earmark the colour of wire corresponding to the terminal when removing the wire to avoid mistakes when renewing wire connection.
4. Take out the axial fan assy.		● Unscrew the bolts (indcated by the arrow) to take the axial fan assy out with lifting ropes(indicated by arrows) **Note:** Be careful when lift the the axial fan assy to avoid injury to people is caused.
5. Cut off the connection between compressor and pipes.		● Heat the connection pipes indicated by arrows with fired heater and then draw out them. **Note:** Pay attention to things around to avoid burning out.

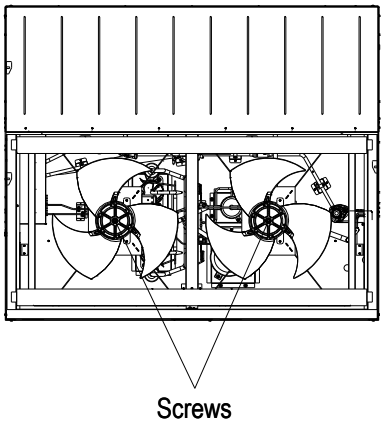
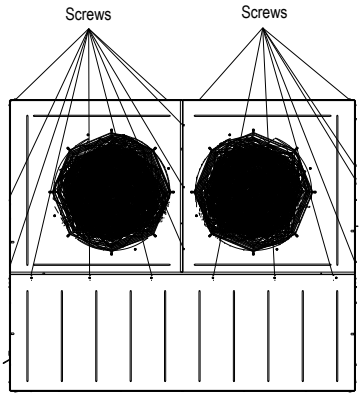
Disassembly and Assembly of Compressor		
Remark: Make sure there isn't any refrigerant in pipe system and the power supply is cut off before removal of the compressor.		
Step	Illustration	Handling Instruction
6. Take down the compressor from the base.	 Nuts	● Unscrew the nuts on compressor base with a wrench and then remove compressor from the base. **Note:** Keep compressor level and vertically out. Never invert it.
7. Fix the compressor on to the base.	 Nuts	● Put the repaired or new compressor on base as the direction during removing,and then screw down fixing nut on compressor base with a wrench. **Note:** Keep compressor level and vertically on to the base. Never incline or invert it.
8. Connect compressor with system pipes.	 Suction pipe Discharge pipe	● Heat the connection pipes indicated by arrows and then weld them with unit pipes together. **Note:** Pay attention to things around to avoid burning out.
9. put the axial fan assy back.	Screws 	● put the axial fan assy back with lifting ropes(indicated by arrows) and then screw down the bolts.

Disassembly and Assembly of Compressor		
Remark: Make sure there isn't any refrigerant in pipe system and the power supply is cut off before removal of the compressor.		
Step	Illustration	Handling Instruction
10. Reconnect power cord of compressor.	/	● Reconnect the power cord into compressor according to the procedure of disconnecting power cord. The line connection must accord to the schematic diagram. **Note:** The connection box of compressor must be re-covered to resisting water. All cable can not contact the pipe and moving parts such as fan.
11. Re-install the cover plate.		● Put the cover plate back and tighten the screws.
12. Recharge refrigerant.		● Connect refrigerant tank with nozzle of low pressure (indicated by the maker) for recharging refrigerant. **Note:** Check the leak after finishing the connectionpipes. Charge amount should be consistent with nameplate.

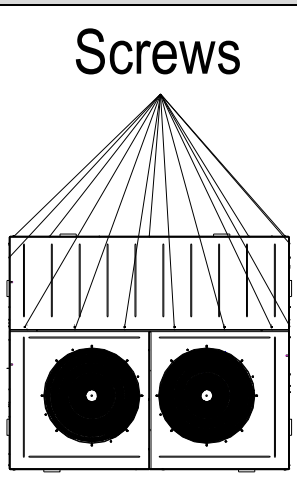
NOTE: Above diagrams may be different from actual model.

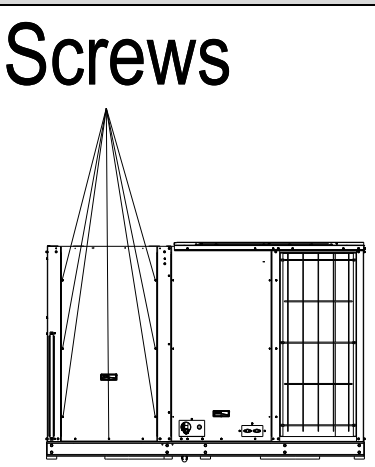
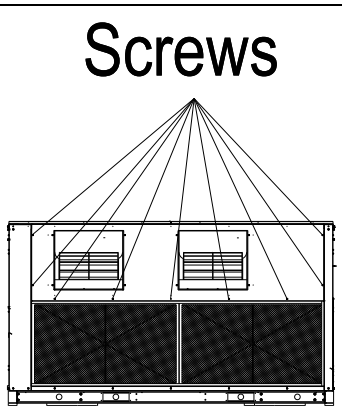
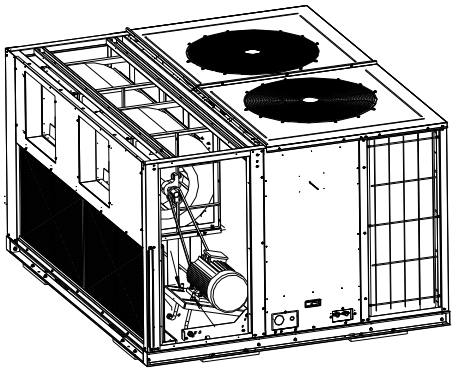
Disassembly and Assembly of Condenser Fan Motor		
Remark: Make sure that the unit is stopped running and power supply is cut off before removal of the motor.		
Step	Illustration	Handling Instruction
1. Disconnect the electrical source wire.	/	● Disconnect all connection lines between motor and elements in electric box. **Note:** Please refer to the schematic diagram which adhered on electric box for disconnection of connection lines of condenser fan motor.

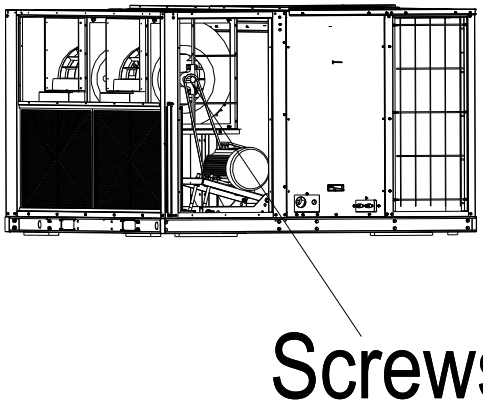
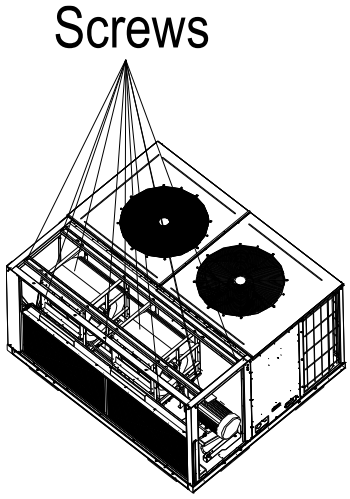
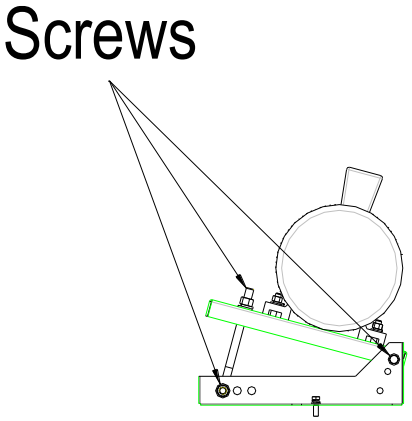
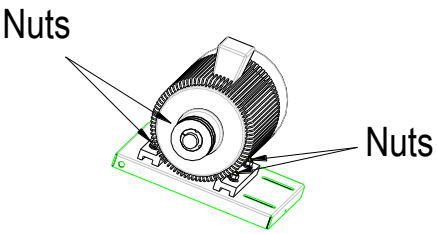
Disassembly and Assembly of Condenser Fan Motor		
Remark: Make sure that the unit is stopped running and power supply is cut off before removal of the motor.		
Step	Illustration	Handling Instruction
2. Take out the cover plate.		● Unscrew the screws fixing cover plate (indicated by arrows) to take it out.
3. Take out the fan blade.		● Unscrew the screw (indcated by the arrow) fixing fan to take the fan out. **Note:** Fix fan blade when unscrew the holding bolt to avoid fan blade from rotating and thereby injury to people is caused.
4. Take down the motor from the bracket.		● Remove the holding bolt of motor firstly and then remove motor from bracket. **Note:** Loosen power cord fixed by bundles before removing motor.
5. Fix the new motor on to the bracket.		● Put the repaired or replaced motor onto brakcet as the direction during removing. Then screw down the holding bolt with a wrench. **Note:** Please keep the motor level and vertical during installation. After that,fix the power cord with bundles at original locations.

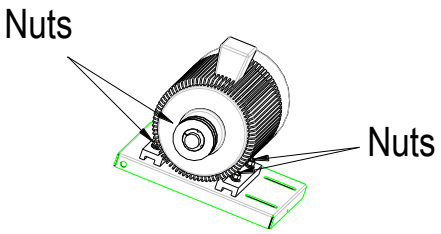
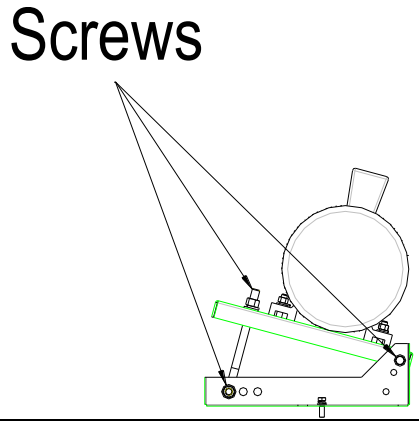
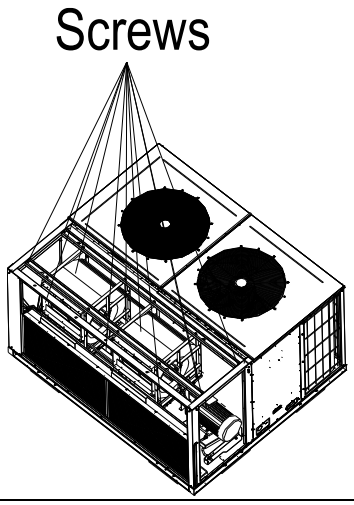
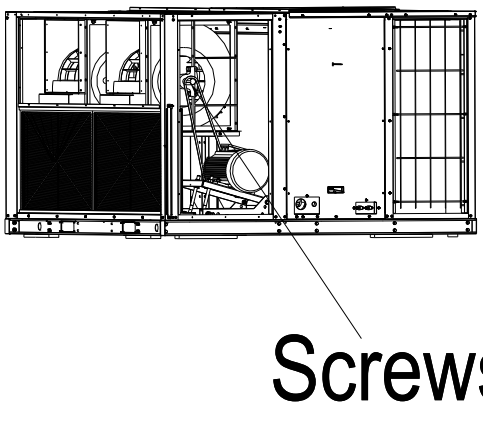
Disassembly and Assembly of Condenser Fan Motor		
Remark: Make sure that the unit is stopped running and power supply is cut off before removal of the motor.		
Step	Illustration	Handling Instruction
6. Install and fix fan blade.		● Re-install fan blade and screw down the holidng bolt indicated by the arrow with a wrench. **Note:** Moment of force should be within 8-12N during screwing down bolt. After that, please charge glue into gap between bolt and hole to avoid loose of it.
7. Re-install the cover plate.		● Put the cover plate back and tighten the screws.
8. Re-connect power cord.		● Re-connect power cord according to circuit mark adhered on eletric box. **Note:** After connection, arrange leading wires and refix them with bundles at original locations. Close the cover plate of electric box hermetically. All cable can not contact the pipe and moving parts such as fan.

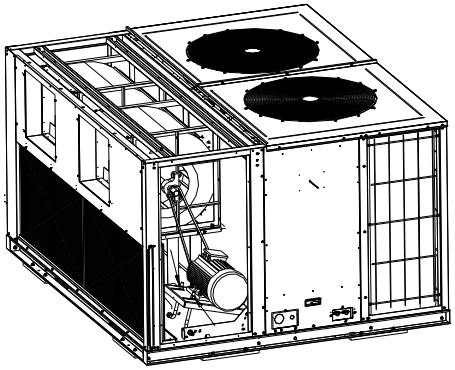
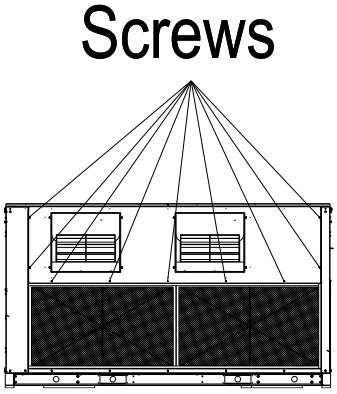
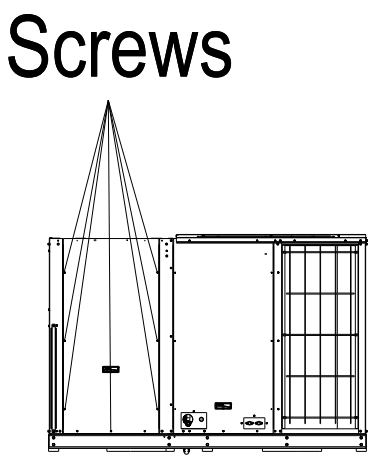
NOTE: Above diagrams may be different from actual model.

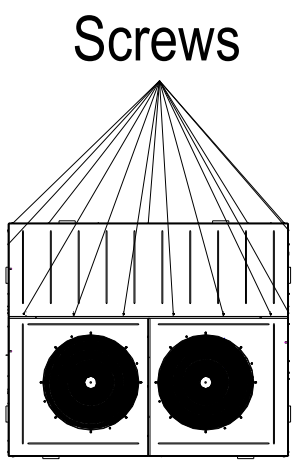
Disassembly and Assembly of Supply Blower Motor		
Remark: Make sure that the unit is stopped running and power supply is cut off before removal of the motor.		
Step	Illustration	Handling Instruction
1. Take out the cover plate.		● Unscrew the screws fixing cover plate (indicated by arrows) to take it out.

Disassembly and Assembly of Supply Blower Motor		
Remark: Make sure that the unit is stopped running and power supply is cut off before removal of the motor.		
Step	Illustration	Handling Instruction
2. Take out the side plate.		● Unscrew the screws fixing side plate (indicated by arrows) to take it out.
3. Take out the air duct panel.		● Unscrew the screws fixing air duct panel (indicated by arrows) to take it out.
4. Disconnect all connection lines.	/	● Disconnect all connection lines between motor and elements in electric box. **Note:** Please refer to the schematic diagram which adhered on electric box for disconnection of connection lines of supply blower motor.
5. Take out the belt.		● Unscrew position control bolts of motors bracket (indicated by the arrows) to adjust distance between belt pulleys to loosen the belt and take it out.

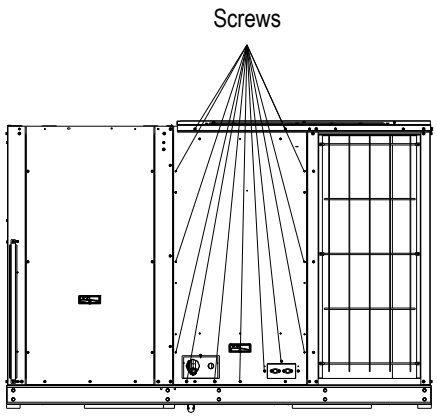
Disassembly and Assembly of Supply Blower Motor		
Remark: Make sure that the unit is stopped running and power supply is cut off before removal of the motor.		
Step	Illustration	Handling Instruction
6. Separate and take out the belt pulley and taper sleeve		● Anticlockwise screw the 2 bolts indicated by arrows with inner hexagon wrench, and then clockwise screw down the other bolt. Make belt pulleys close to motor and separate it from taper sleeve. Take out the taper sleeve with straight slot screwdriver, and then the belt pulley. **Note**: The sleeve has taper, so belt pulleys must be taken out after it.
7. Take out the fan.		● Unscrew the screws fixing fan (indicated by arrows) to take it out.
8. Take out motor and bracket sub-assy.		● Unscrew all screws fixing fans bracket (indicated by the arrows), and then disassemble motor and bracket. **Note:** Power cord may be fixed by bundles, so loose the bundles before pulling power cord to air box side.
9. Take down the motor.		● Unscrew the nuts (indicated by arrows) to loosen the connection between motor and bracket.

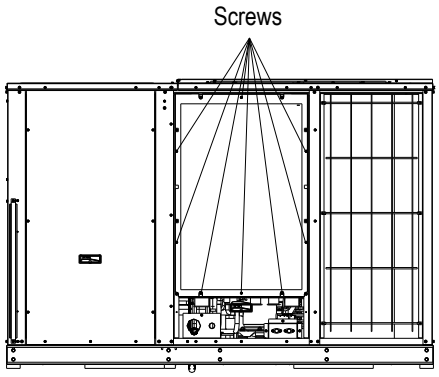
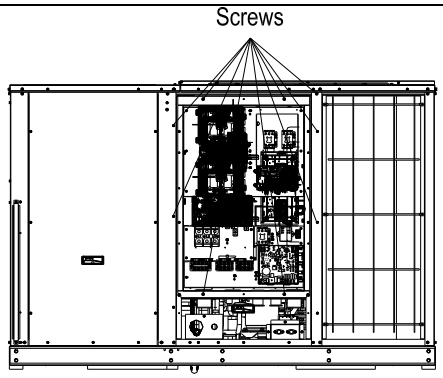
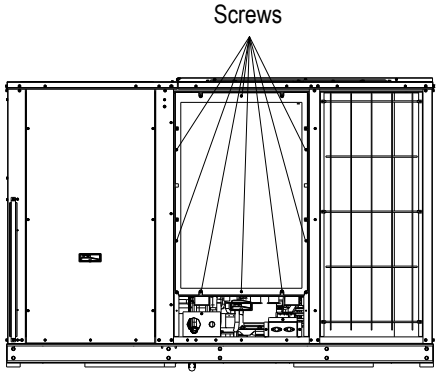
Disassembly and Assembly of Supply Blower Motor		
Remark: Make sure that the unit is stopped running and power supply is cut off before removal of the motor.		
Step	Illustration	Handling Instruction
10. Re-install the motor.		● Re-assemble repaired or replaced motor. Installation direction is the same as that during disassembly. Then screw down the holding bolts with a wrench.
11. Re-install motor and bracket sub-assy.		● During installation, screw the bolts indicated by arrows, but not screw them too tightly, so that the distance between belt pulleys can be adjusted during installation of belt.
12. Re-install the fan.		● Put the fan back and tighten the screws.
13. Re-install the belt pulley and taper sleeve.		● Put belt pulleys onto shaft and then put taper sleeve. After that, cover the belt pulleys onto taper sleeve. Clockwise screw down the 3 bolts. **Note:** The sleeve has taper, so belt pulleys must be installed first. Ensure the coplanarity of belt pulleys, and adjust the tightness level of belt.

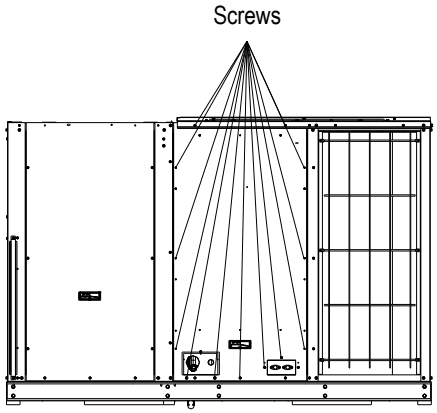
Disassembly and Assembly of Supply Blower Motor		
Remark: Make sure that the unit is stopped running and power supply is cut off before removal of the motor.		
Step	Illustration	Handling Instruction
14. Re-install the belt.		● Unscrew position control bolts of motors bracket (indicated by the arrows) to adjust distance between belt pulleys to re-install the belt. **Note:** Adjust the tightness level of belt.
15. Re-install the air duct panel.		● Put the air duct panel back and tighten the screws.
16. Re-connect power cord.	/	● Re-connect power cord according to wiring diagram adhered on eletric box. **Note:** After connection, arrange leading wires and refix them with bundles at original locations. All cable can not contact the pipe and moving parts such as fan. Close the cover plate of electric box hermetically.
17. Re-install the side plate		● Put the side plate back and tighten the screws.

Disassembly and Assembly of Supply Blower Motor		
Remark: Make sure that the unit is stopped running and power supply is cut off before removal of the motor.		
Step	Illustration	Handling Instruction
18. Re-install the cover plate.		● Put the cover plate back and tighten the screws.

NOTE: Above diagrams may be different from actual model.

Disassembly and Assembly of Electric Box		
Remark: Make sure that the unit is stopped running and power supply is cut off before removal.		
Step	Illustration	Handling Instruction
1. Take down the side plate		● Unscrew the screws fixing side plate. Lift the handles, slightly pulling it outwards and downwards to take out the side plate.
2. Disconnect the power cord.	/	● Pull out power cord or disconnect the power cord after unscrewing the screws. **Note:** Earmark the colour of wire corresponding to the terminal when removing the wire to avoid mistakes when renewing wire connection.

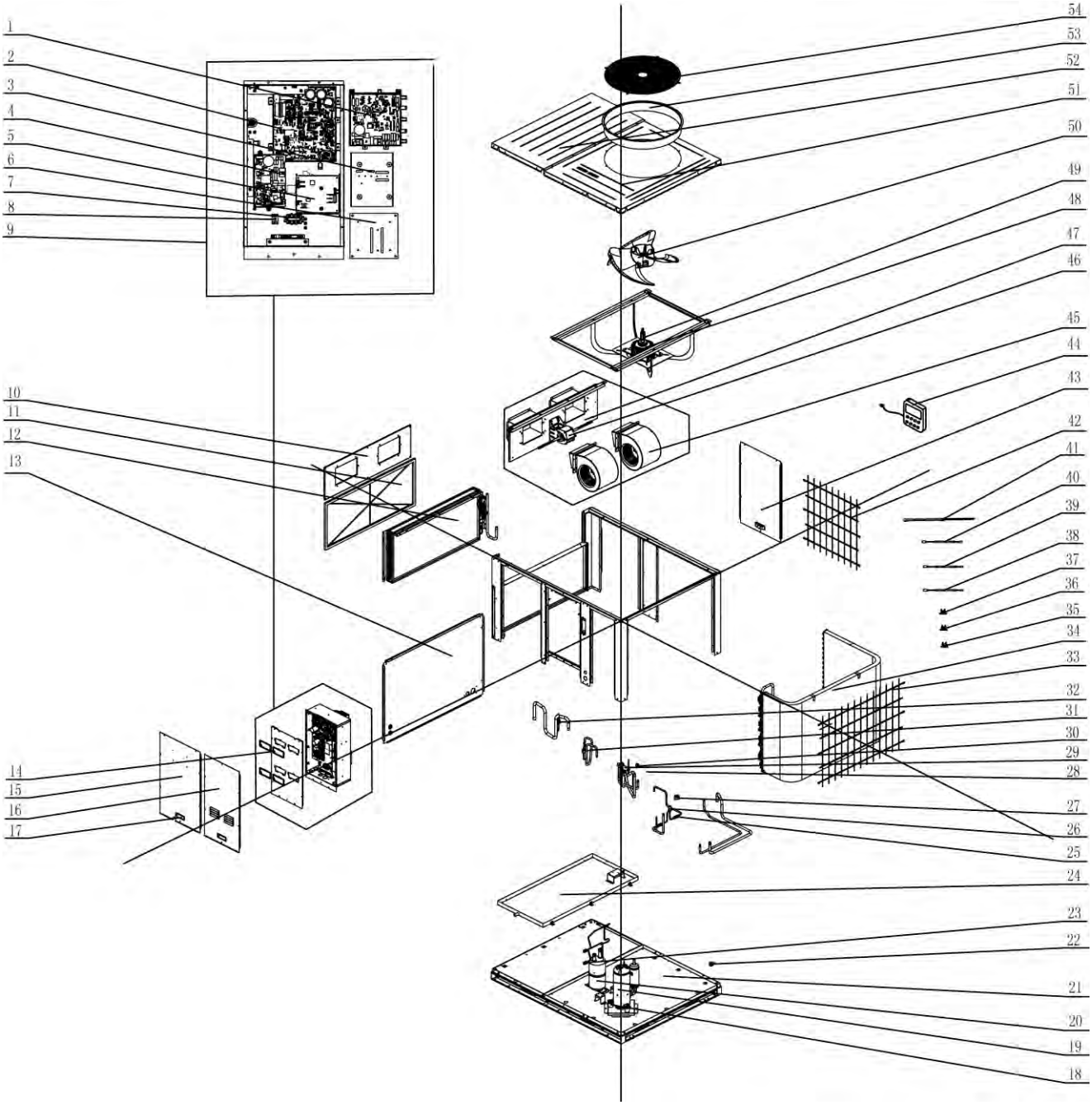
Disassembly and Assembly of Electric Box		
Remark: Make sure that the unit is stopped running and power supply is cut off before removal.		
Step	Illustration	Handling Instruction
3. Take out the electric box cover.		● Unscrew the screws fixing cover (indicated by the arrows).Then take out the cover.
4. Disconnect all connection lines.	/	● Disconnect all connection lines between exterior electric component and elements in electric box. **Note:** Please refer to the schematic diagram which adhered on electric box for disconnection of connection lines of motor.
5. Take down the electric box.		● Unscrew the screws (indicated by the arrows),and then take down the electric box. **Note:** Power cord may be fixed by bundles, so loose the bundles before taking out the electric box.
6. Re-install the electric box.		● Put the electric box back and tighten the screws. Then reconnect all connection lines that had been take down, and refix the Power cord with bundles at original locations. **Note:** The line connection must accord to the schematic diagram. All cable can not contact the pipe and moving parts such as fan.
7. Re-connect power cord.	/	● Re-connect power cord according to wiring diagram adhered on eletric box. **Note:** After connection, arrange leading wires and refix them with bundles at original locations. All cable can not contact the pipe and moving parts such as fan. Close the cover plate of electric box hermetically.

Disassembly and Assembly of Electric Box		
Remark: Make sure that the unit is stopped running and power supply is cut off before removal.		
Step	Illustration	Handling Instruction
8. Re-install the side plate.		● Put the side plate back and tighten the screws.

NOTE: Above diagrams may be different from actual model.

5 EXPLODED VIEWS AND SPARE PART LIST

Model: GRIT03A

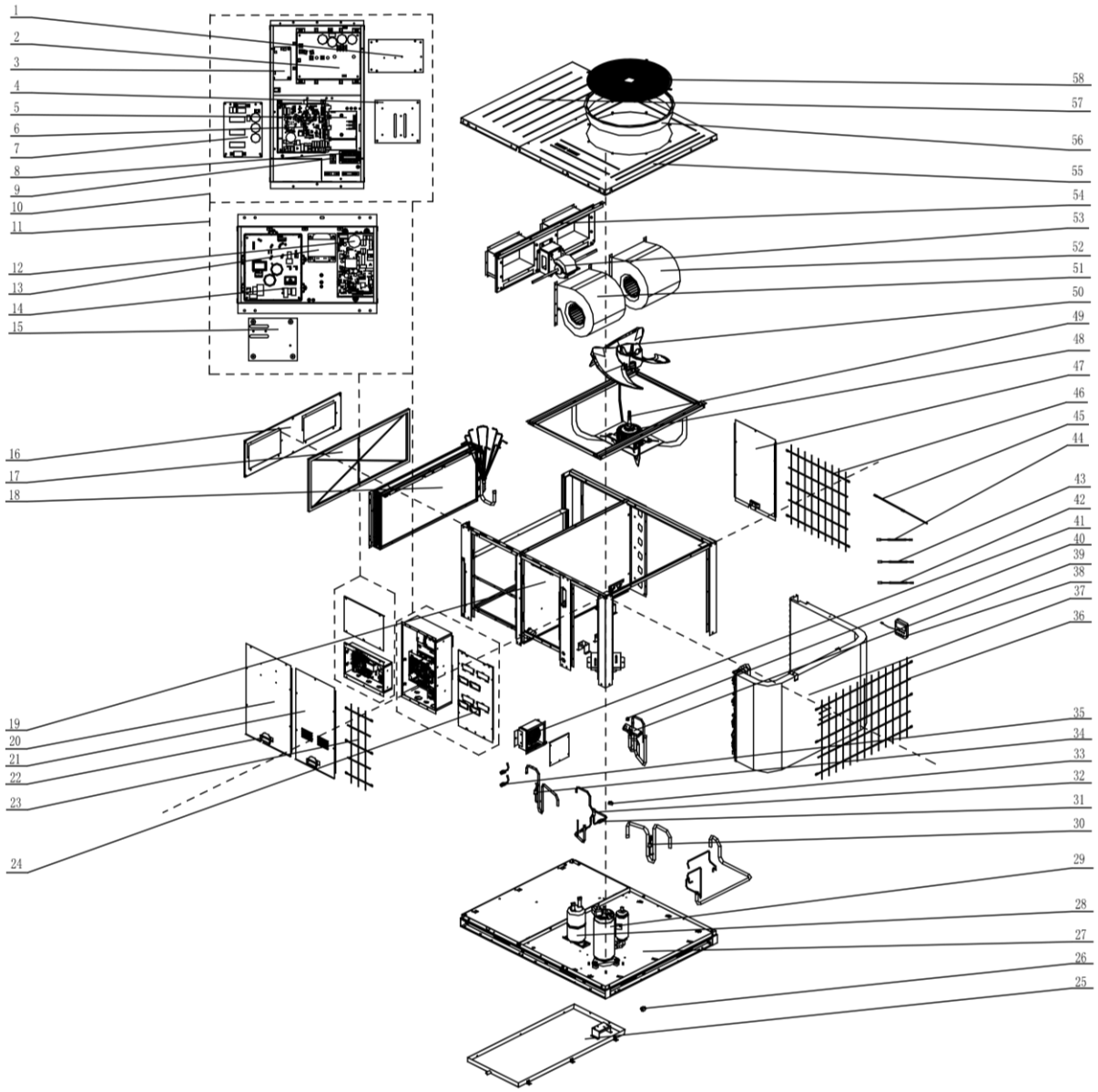


NO.	Name of Part	GK-H03NH3AS	
		Product Code	EJ51000660
		Part Code	Quantity
1	Main Board	'300027060219	1
2	Main Board	'30221000026	1
3	Radiator	430034000014	1
4	Main Board	'300002060345	1
5	Main Board	'30223000046	1
6	Radiator	49018000001	1
7	Terminal Board	'42200000001501	1

NO.	Name of Part	GRIT03A	
		Product Code	EJ51000660
		Part Code	Quantity
8	Terminal Board	'42200000000701	1
9	Electric Box Assy	'100002061827	1
10	Air Outlet Panel	'012233060008P	1
11	Filter Sub-Assy	'11100100000602	1
12	Evaporator Assy	'011001060257	1
13	Clapboard Sub-Assy	'017021060114P	1
14	Filter Sub-Assy	111001000086	2
15	Side Plate	'017110060027P	1
16	Side Plate	'017110060026P	1
17	Handle	'26235253	1
18	Compressor Gasket	'009012000004	1
19	Compressor and Fittings	'009001000231	1
20	Gas-Liquid Separator	'07423902	1
21	Base Plate Sub-Assy	'017000060116P	1
22	Choke Plug of Drain Pipe	'76712455	1
23	Nozzle for Adding Freon	'06130002	2
24	Water Tray Sub-Assy	'017055060072P	1
25	Strainer	'07216221	2
26	Electronic Expansion Valve	'072009000018	1
27	Electric Expand Valve Fitting	'43000344	1
28	4-Way Valve Sub-Assy	'030072060036	1
29	4-Way Valve	'4300008201	1
30	Magnet Coil	'4300040032	1
31	Pressure Protect Switch	'46020015113	1
32	Pressure Protect Switch	'46020015106	1
33	Rear Grill 1	'016001000005	1
34	Condenser Assy	'011002060246	1
35	Compressor Overload Protector(External)	'00183032	1
36	Compressor Overload Protector(External)	'00183031	1
37	Compressor Overload Protector(External)	'00180030	1
38	Temperature Sensor	'3900028030G	1
39	Temperature Sensor	'390001923	1
40	Temperature Sensor	'39000208	1
41	Electrical Heater(Compressor)	'7651873209	1
42	Rear Grill	'016001060014	1
43	Side Plate	'017110060025P	1
44	Display Board	'300001000204	1
45	Motor for Centrifugal Fan	'10454100002	2
46	Brushless DC Motor	'1570520001601	1
47	Mounting Plate Sub-Assy	'017018060051P	1
48	Fan Motor	'15704119	1
49	Axial Flow Fan Nesting	'02204102	1
50	Axial Flow Fan	'10434100002	1
51	Upper Cover Plate	'012148060025P	1
52	Upper Cover Plate	'012148060026P	1
53	Diversion Circle	'01523901P	1
54	Rear Grill	'01573702	1

Note: Above data is subject to change without notice.

Model: GRIT05A

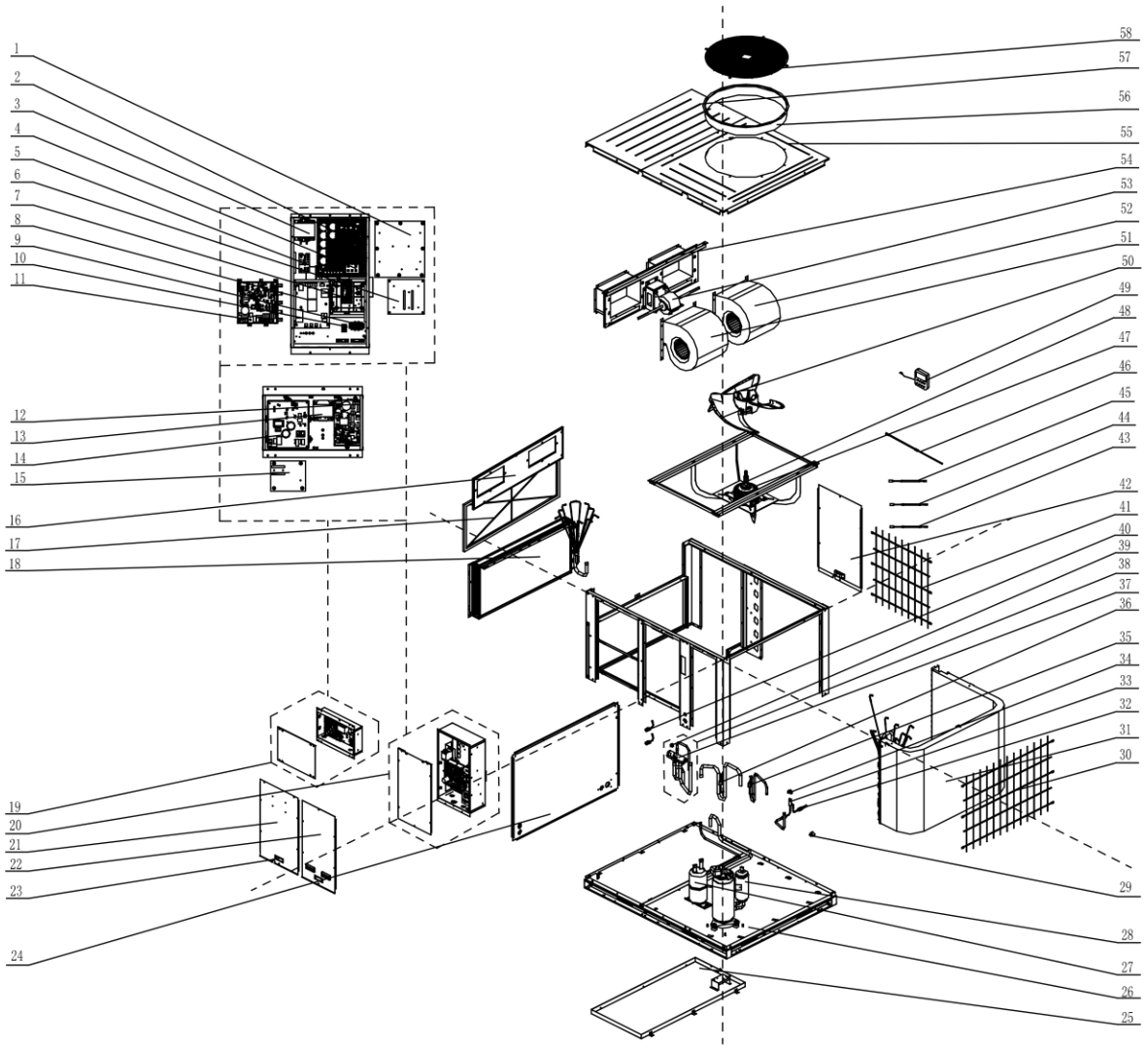


NO.	Name of Part	GRIT05A	
		Product Code	EJ51000740
		Part Code	Quantity
1	Radiator	'430034000004	1
2	Main Board	‘300027060479	1
3	Power Switch	'300012060010	1
4	Radiator	'49018000001	1
5	Main Board	’30223000046	1
6	Main Board	‘300027060219	1
7	Filter Board	'300020000003	1
8	Terminal Board	'422000060003	1
9	Terminal Board	'42200000000701	1
10	Electric Box Assy	'100002063732	1
11	Electric Box Assy	'100002061729	1
12	Main Board	‘300002060345	1
13	Reactor	'43130189	1
14	Main Board	’30221000023	1
15	Radiator	'49018000068	1
16	Air Outlet Panel	'012233060007P	1

NO.	Name of Part	GRIT05A	
		Product Code	EJ51000740
		Part Code	Quantity
17	Filter Sub-Assy	'11100100000602	1
18	Evaporator Assy	'011001060249	1
19	Clapboard Sub-Assy	'017021060114P	1
20	Side Plate	'017110060027P	1
21	Side Plate	'017110060026P	1
22	Handle	'26235253	1
23	Rear Grill	'016001060024	1
24	Filter Sub-Assy	'111001000086	4
25	Water Tray Sub-Assy	'017055060072P	1
26	Choke Plug of Drain Pipe	'76712455	1
27	Base Frame Assy	'000043060068	1
28	Gas-liquid Separator	'07423902	1
29	Compressor and Fittings	'00209400005	1
30	Pressure switch	'4602001555	1
31	Strainer	'07216221	2
32	Electronic Expansion Valve	'43044100172	1
33	Electric Expand Valve Fitting	'4304413207	1
34	Pressure switch	'4602001534	1
35	Nozzle for Adding Freon	'06130002	2
36	Rear Grill 1	'016001000005	1
37	Condenser Assy	'011002060237	1
38	Display Board	'300001000204	1
39	4-way Valve	'43000338	1
40	Magnet Coil	'4300040032	1
41	Inductance	'43120122	1
42	Temperature Sensor	'3900028032	1
43	Temperature Sensor	'390001923	1
44	Temperature Sensor	'39000208	1
45	Electrical Heater(Compressor)	'7651521238	1
46	Rear Grill	'016001060014	1
47	Side Plate	'017110060025P	1
48	Fan Motor	'15704119	1
49	Axial Flow Fan nesting	'02204102	1
50	Axial Flow Fan	'10434100002	1
51	Blower(Left)	'15704118	1
52	Blower(Right)	'1570411801	1
53	Brushless DC Motor	'15704100009	1
54	Motor Mounting Plate Sub-Assy	'017014060006P	1
55	Top Cover	'012148060076P	1
56	Diversion Circle	'01523901P	1
57	Upper Cover Plate	'012148060026P	1
58	Rear Grill	'016001060027	1

Note: Above data is subject to change without notice.

Model: GRIT05B

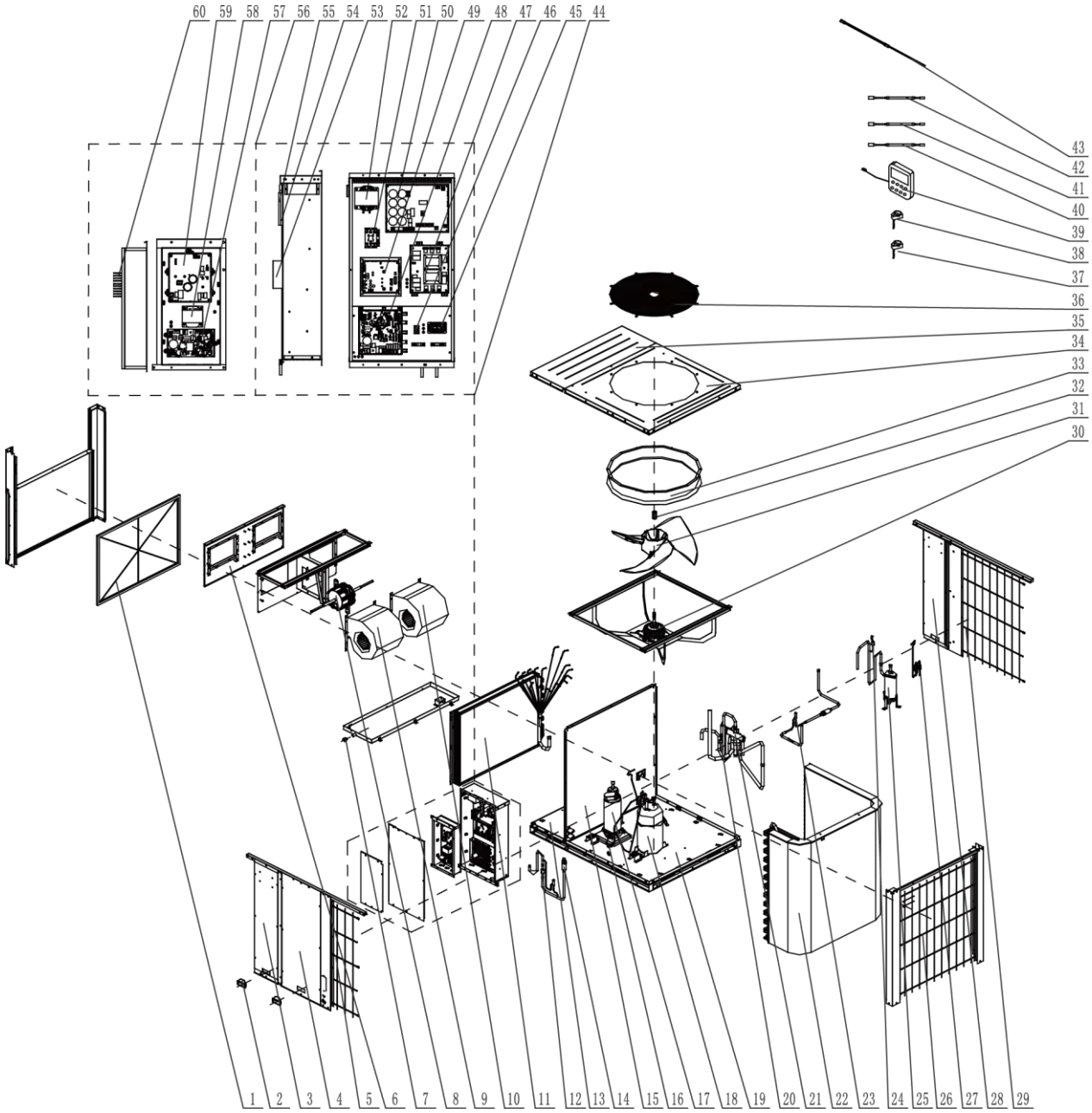


NO.	Name of Part	GRIT05B	
		Product Code	EJ51000650
		Part Code	Quantity
1	Radiator	'4901800000201	1
2	Main Board	'300027060204	1
3	Reactor	'43138000049	1
4	Rectifier	'46010604	1
5	AC Contactor	'44010265	1
6	Radiator	'49018000001	1
7	Main Board	'30223000046	1
8	Filter Board	'30228000032	1
9	Terminal Board	'42200006000303	1
10	Terminal Board	'42200000000701	1
11	Main Board	'300027060219	1
12	Main Board	'300002060345	1
13	Reactor	'43130189	1
14	Main Board	'30221000023	1
15	Radiator	'49018000068	1
16	Air Outlet Panel	'012233060007P	1
17	Filter Sub-Assy	011100100000602	1
18	Evaporator Assy	011001060249	1
19	Electric Box Assy	'100002061729	1
20	Electric Box Assy	'100002061730	1

NO.	Name of Part	GRIT05B	
		Product Code	EJ51000650
		Part Code	Quantity
21	Side Plate	'017110060027P	1
22	Side Plate	'017110060026P	1
23	Handle	'26235253	1
24	Clapboard Sub-Assy	'017021060114P	1
25	Water Tray Sub-Assy	'017055060072P	1
26	Base Plate Sub-Assy	'017000060116P	1
27	Gas-Liquid Separator	07423902	1
28	Compressor and Fittings	00209400005	1
29	Choke Plug of Drain Pipe	76712455	1
30	Rear Grill 1	'016001000005	1
31	Condenser Assy	'011002060237	1
32	Strainer	'07216221	2
33	Electronic Expansion Valve	'43044100172	1
34	Electric Expand Valve Fitting	'4304413207	1
35	Pressure Switch	'4602001534	1
36	Pressure Switch	'4602001555	1
37	4-Way Valve	'43000338	1
38	4-Way Valve Sub-Assy	'030072060034	1
39	Magnet Coil	'4300040032	1
40	Nozzle for Adding Freon	'06130002	2
41	Rear Grill	'016001060014	1
42	Side Plate	'017110060025P	1
43	Temperature Sensor	'3900028029G	1
44	Temperature Sensor	'390001923	1
45	Temperature Sensor	'39000186	1
46	Electrical Heater(Compressor)	'7651521238	1
47	Fan Motor	'15704119	1
48	Axial Flow Fan nesting	'02204102	1
49	Display Board	'300001000204	1
50	Axial Flow Fan	'10434100002	1
51	Blower(Left)	'15704118	1
52	Blower(Right)	'1570411801	1
53	Brushless DC Motor	'15704100009	1
54	Motor Mounting Plate Sub-Assy	'017014060006P	1
55	Upper Cover Plate	'012148060025P	1
56	Diversion Circle	'01523901P	1
57	Upper Cover Plate	'012148060026P	1
58	Rear Grill	'0157370201P	1

Note: Above data is subject to change without notice.

Model: GRIT10B

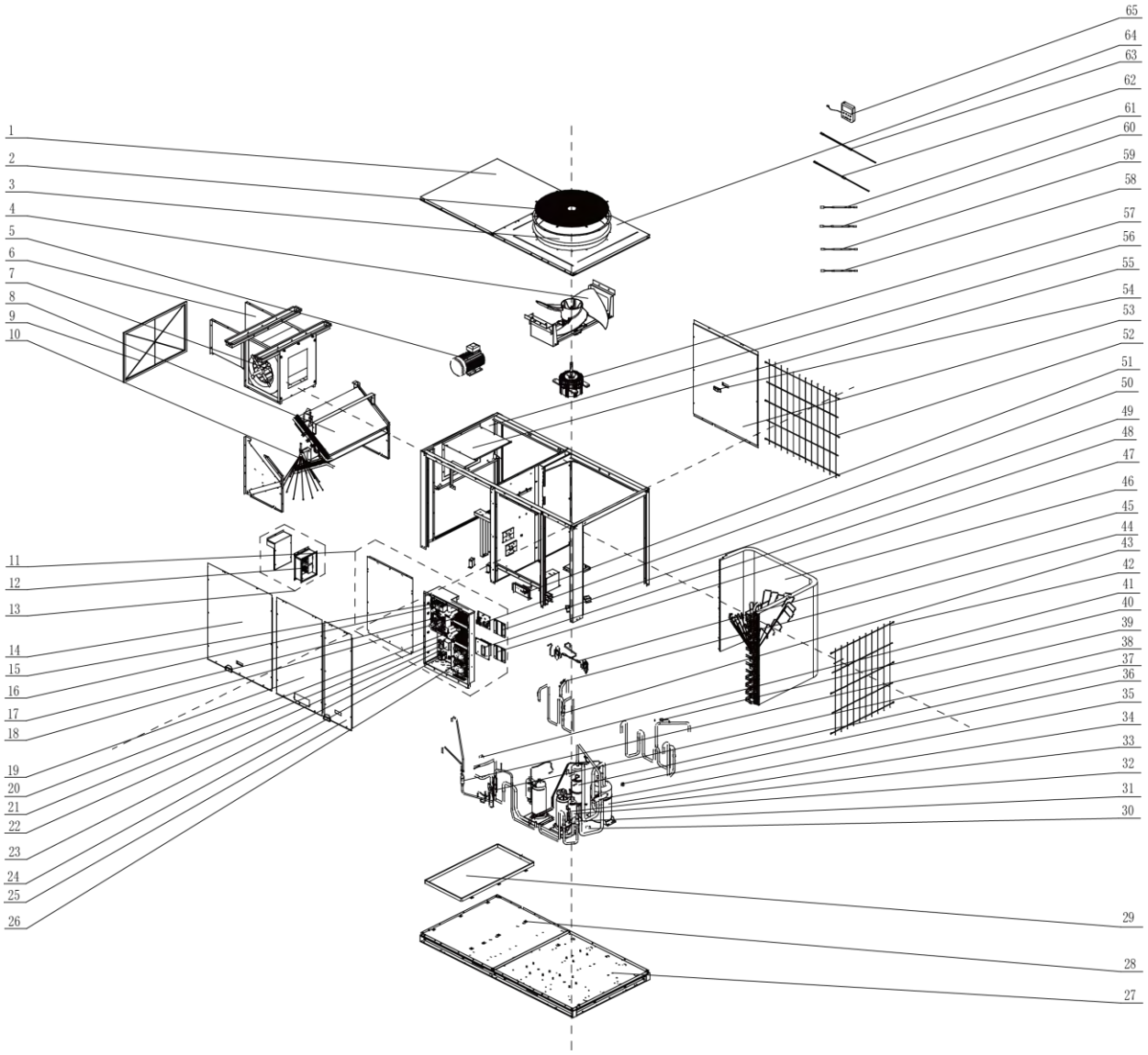


NO.	Name of Part	GRIT10B	
		Product Code	EJ51000710
		Part Code	Quantity
1	Filter Sub-Assy	'11100100000603	1
2	Handle	'26235253	1
3	Side Plate	'017110060045P	1
4	Side Plate	'017110060044P	1
5	Rear Grill	'016001060029	1
6	Air Outlet Panel Sub-Assy	'017097060008P	1
7	Choke Plug of Drain Pipe	'76712455	1
8	Brushless DC Motor	'150104060022	1
9	Blower(Left)	'15704118	1
10	Blower(Right)	'1570411801	1
11	Evaporator Assy	'011001060419	1
12	One Way Valve	'07333700032	1
13	Chassis Sub-Assy	'017000060193P	1
14	Bidirection Strainer	'0721004401	1

NO.	Name of Part	GRIT10B	
		Product Code	EJ51000710
		Part Code	Quantity
15	Clapboard Sub-Assy	'017021060182P	1
16	Nozzle for Adding Freon	'06130002	2
17	Compressor and Fittings	'009001060108	1
18	Gas-Liquid Separator	'07424188	1
19	Base Frame Assy	'000043060104	1
20	Pressure Switch	'4602001531	1
21	4-Way Valve	'43000339	1
22	Condenser Assy	'011002060387	1
23	Electronic Expansion Valve	'43044100190	1
24	Pressure Protect Switch	'46020015113	1
25	Oil Separator	'07424100023	1
26	Grill 2	'016001000012	1
27	Strainer	` 07415200002	1
28	Side Plate	'017110060046P	1
29	Rear Grill	'016001060022	1
30	Brushless DC Motor	'150104060021	1
31	Axial Flow Fan	'10434100007	1
32	Fan Nesting	'02204100011	1
33	Diversion Circle	'012193000001P	1
34	Top Cover	'012148060059P	1
35	Top Cover	'012148060058P	1
36	Rear Grill 1	'016001000006	1
37	Magnet Coil	'4300040061	1
38	Electric Expand Valve Fitting	'4304413236	2
39	Display Board	'300001000204	1
40	Temperature Sensor	'39000208	1
41	Temperature Sensor	'3900019204	1
42	Temperature Sensor	'3900028025G	1
43	Electrical Heater(Compressor)	'7651521215	1
44	Electric Box Assy	'100002063298	1
45	Terminal Board	'42200006000303	1
46	Terminal Board	'42200000000701	1
47	Filter Board	'30228000032	1
48	Main Board	'300027060219	1
49	Main Board	'300027060355	1
50	Main Board	'300027060235	1
51	AC Contactor	'441007000001	1
52	Reactor	'43138000049	1
53	Radiator	'49018000001	1
54	Radiator	'4901800008001	1
55	Radiator	'49018000088	1
56	Electric Box Assy	'100002063299	1
57	Main Board	'300002060345	1
58	Reactor	'43130189	1
59	Main Board	'300002060508	1
60	Radiator	'49018000068	1

Note: Above data is subject to change without notice.

Model: GRIT15B

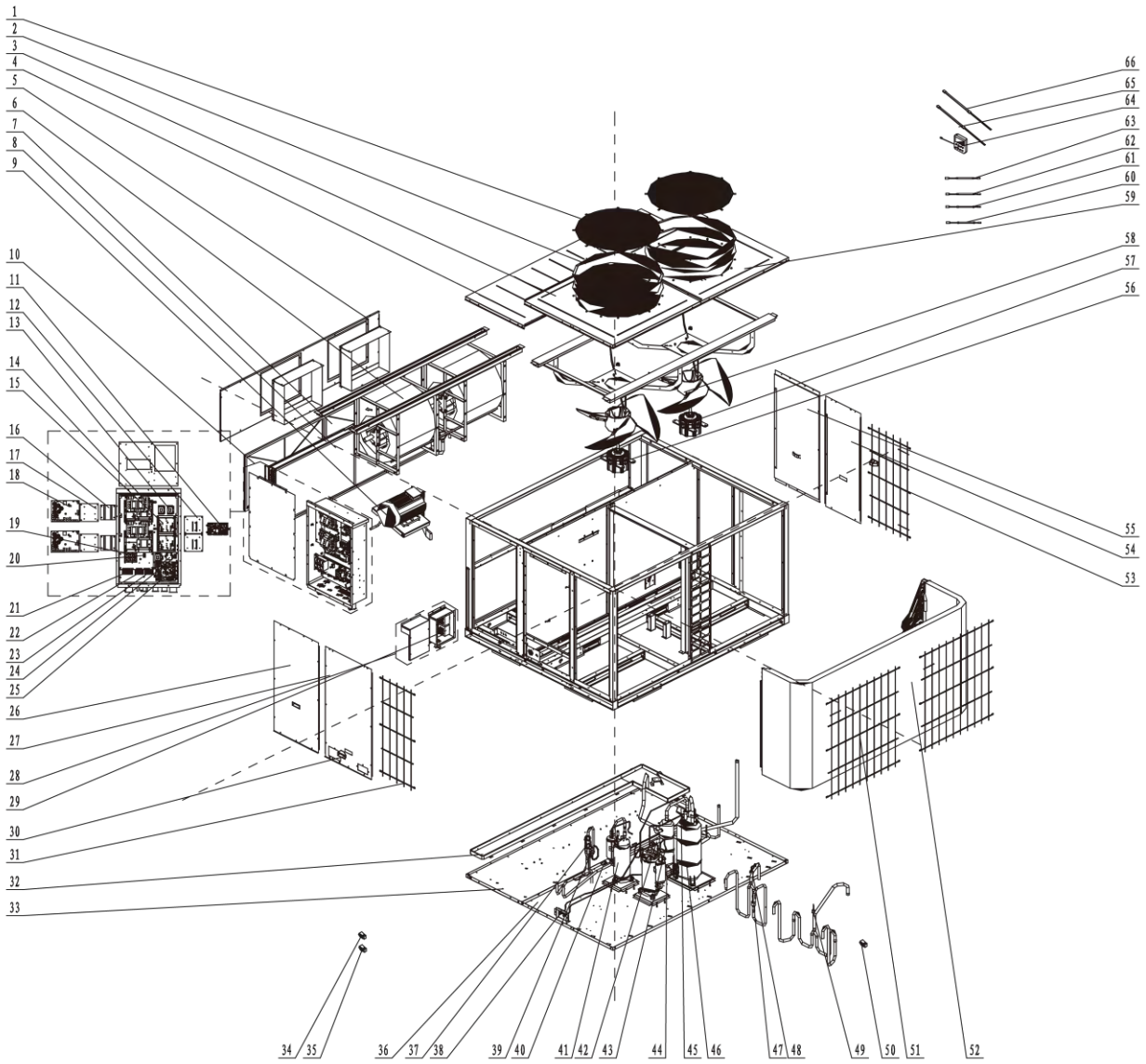


NO.	Name of Part	GRIT15B	
		Product Code	EJ51000700
		Part Code	Quantity
1	Coping	'012049060036P	1
2	Rear Grill 1	'016001000006	1
3	Diversion Circle	'012193000001P	1
4	Axial Flow Fan	'10434100007	1
5	Fan Motor	'150101000054	1
6	Air Scroll	'012277060013P	1
7	Blower	'15018317	1
8	Evaporator Assy	'011001060425	1
9	Filter Sub-Assy	'111001060058	1
10	Evaporator Assy	'011001060426	1
11	Electric Box Assy	'100002063335	1
12	Reactor	'4313800004902	2
13	Reactor Box	'012119060006	1
14	Right Side Plate Sub-Assy	'017038060040P	1
15	Main Board	300002060345	1
16	AC Contactor	'44010265	2
17	Main Board	'300027060219	1
18	Main Board	'300027060235	2
19	Right Side Plate Sub-Assy	'017038060039P	1

NO.	Name of Part	GRIT15B	
		Product Code	EJ51000700
		Part Code	Quantity
20	Terminal Board	'42011103	1
21	Terminal Board	'42200000000701	1
22	Phase Reverse Protector	'32214101	1
23	Terminal Board	'42018000558	1
24	AC Contactor	'44010226	1
25	Side Plate	'017110060050P	1
26	Filter Board	'30228000032	2
27	Chassis Sub-Assy	'017000060196P	1
28	Chassis Sub-Assy	'017000060197P	1
29	Water Tray Sub-Assy	'017055060170P	1
30	Electric Expand Valve Fitting	'4304413207	1
31	Strainer	'07413900026	1
32	Compressor And Fittings	'009001060142	2
33	Electronic Expansion Valve	'43044100190	2
34	Gas-Liquid Separator	'07424188	1
35	4-Way Valve	'43041100041	1
36	Magnet Coil	'4304000440	1
37	Oil Separator	'0742418601	1
38	One Way Valve	'07333700032	1
39	Strainer	'07411100014	1
40	Pressure Protect Switch	'46020015106	1
41	Electric Expand Valve Fitting	'4304413204	1
42	Grill 2	'016001000012	1
43	One Way Valve	'071001060007	2
44	Pressure Protect Switch	'46020015113	1
45	Strainer	'07415200002	2
46	Condenser Assy	'011002060394	1
47	Radiator	'49018000088	2
48	Radiator	'49018000001	1
49	Radiator	'4901800008001	2
50	Main Board	'300027060355	1
51	Nozzle For Adding Freon	'06130002	2
52	Rear Grill 3	'016001000009	1
53	Left Side Plate Sub-Assy	'017037060041P	1
54	Handle	'26235253	4
55	Air Scroll	'012277060014P	1
56	Side Plate	'017110060049P	1
57	Brushless DC Motor	'150104060021	1
58	Tube Sensor	'3900020720G	1
59	Ambient Temperature Sensor	'3900020721	1
60	Temperature Sensor	'3900007203	1
61	Temperature Sensor	'3900028030G	1
62	Electrical Heater	'7651873203	1
63	Electrical Heater	'7651540701	1
64	Coping	'012049060037P	1
65	Display Board	'300001000204	1

Note: Above data is subject to change without notice.

Model: GRIT20B



NO.	Name of Part	GRIT20B	
		Product Code	EJ51000720
		Part Code	Quantity
1	Rear Grill 1	'016001000006	1
2	Diversion Circle	'012193000001P	1
3	Top Cover	'012148060067P	1
4	Top Cover	'012148060066P	1
5	Air Outlet Panel	'012233060016P	1
6	Blower	'15018319	1
7	Filter Sub-Assy	'111001060061	2
8	Evaporator Assy	'011001060442	1
9	Fan Motor	'150101060016	1
10	Electric Box Assy	'100002063333	1
11	Main Board	'300002060345	1
12	Radiator	'49018000001	2
13	AC Contactor	'441007000001	2
14	Filter Board	'30228000032	2
15	Main Board	'300027060355	2
16	Radiator	'49018000088	2

NO.	Name of Part	GRIT20B	
		Product Code	EJ51000720
		Part Code	Quantity
17	Radiator	'4901800008001	2
18	Main Board	'300027060235	2
19	Terminal Board	'42018000558	1
20	Terminal Board	'42200000000701	1
21	Terminal Board	'42200000001601	1
22	Terminal Board	'42200006000303	2
23	Anti-phase Protector	'46020066	1
24	Terminal Board	'42011103	1
25	Main Board	'300027060219	1
26	Side Plate	'017110060058P	1
27	Side Plate	'017110060059P	1
28	Reactor Sub-Assy	'017036060023P	1
29	Reactor	'4313800004902	2
30	Handle	'26235253	1
31	Rear Grill 4	'016001000010	1
32	Water Tray Sub-Assy	'017055060173P	1
33	Chassis Sub-Assy	'017000060207P	1
34	Electric Expand Valve Fitting	'4300040048	1
35	Electric Expand Valve Fitting	'4300040048	1
36	Chassis Sub-Assy	'017000060208P	1
37	One Way Valve	'07333700032	1
38	Nozzle for Adding Freon	'06130002	2
39	Electronic Expansion Valve	'43044100190	1
40	Strainer	'07413900026	1
41	Compressor and Fittings	'009001060142	2
42	Strainer	'07210030	1
43	Oil Separator	'0742418601	1
44	Strainer	'07415200002	2
45	4-way Valve	'43000412	1
46	Gas-liquid Separator	'07424138	1
47	One Way Valve	'071001060007	1
48	Pressure Protect Switch	'46020015113	1
49	Pressure Protect Switch	'46020015106	1
50	Magnet Coil	'4300040048	1
51	Grill 2	'016001000012	2
52	Condenser Assy	'011002060408	1
53	Rear Grill 1	'016001000007	1
54	Side Plate	'017110060057P	1
55	Side Plate	'017110060055P	1
56	Brushless DC Motor	'150104060021	1
57	Brushless DC Motor	'15010406002101	1
58	Axial Flow Fan	'10434100007	2
59	Top Cover	'012148060083P	1
60	Temperature Sensor	'3900007203	1
61	Temperature Sensor	'390001923	1
62	Ambient Temperature Sensor	'3900020721	1
63	Temperature Sensor	'3900028037	1
64	Display Board	'300001000204	1
65	Electrical Heater(Compressor)	'7651521237	1
66	Electrical Heater	'7651521239	1

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