U-MATCH Air Conditioners

Service Manual

（T1/R22/50Hz）

GREE ELECTRIC APPLIANCES INC. OF ZHUHAI

CONTENTS

PRODUCT

PRODUCT

1 MODELS LIST

1.1 Outdoor Unit

Model	Ref.	Power Supply	Appearance
GUHN09NK1AO	R22	220-240～,1,50	
GUHN12NK1AO	R22	220-240～,1,50	
GUHN18NK1AO	R22	220-240～,1,50	
GUHN24NK1AO	R22	220-240～,1,50	
GUHN30NK1AO	R22	220-240～,1,50	
GUHN36NK1AO	R22	220-240～,1,50	
GUHN36NM1AO	R22	380-415～,3,50	
GUHN42NM1AO	R22	380-415～,3,50	
GUHN48NM1AO	R22	380-415～,3,50	
GUHN60NM1AO	R22	380-415～,3,50	

1.2 Indoor Unit

Type	Model	Nominal Capacity Cooling/Heating (Btu/h)	Ref.	Power Supply	Appearance
Duct Type	GFH09K3BI	8870/9720	R22	220-240～ 1Ph 50Hz	
	GFH12K3BI	11940/12283			
	GFH18K3BI	17060/19448			
	GFH24K3BI	23880/26270			
	GFH30K3BI	28400/33400			
	GFH36K3BI	36000/40000			
	GFH42K3BI	42000/48000			
	GFH48K3BI	45000/48000			
	GFH60K3BI	56000/62000			
Floor-Ceiling Type	GTH09K3BI	8870/9720	R22	220-240～ 1Ph 50Hz	
	GTH12K3BI	11940/12280			
	GTH18K3BI	17060/19448			
	GTH24K3BI	24000/26300			
	GTH30K3BI	27900/34100			
	GTH36K3BI	36000/40000			
	GTH42K3BI	42000/48000			
	GTH48K3BI	45000/48000			
Cassette Type	GKH12K3BI	11940/12280	R22	220-240～ 1Ph 50Hz	
	GKH18K3BI	17060/19450			
	GKH24K3BI	24000/25590			
	GKH30K3BI	29000/32400			
	GKH36K3BI	36000/40000			
	GKH42K3BI	42000/48000			
	GKH48K3BI	45000/48000			

Note:1Ton =12000Btu/h = 3.517kW

NOTES：

The universal outdoor units means that the customer can choose any of three kind of indoor unit to match the outdoor unit without any change with it.

2 NOMENCLATURE

G	U	H	N	09	N	M	1	A	O
1	2	3	4	5	6	7	8	9	10

NO.	Description	Options
1	Gree Electric Appliances Inc	Capital Letter :G
2	Unit Type	U=Match Outdoor Unit F=Duct Type K=Cassette Type T= Ceiling Type
3	Product Type	C=Cool Only H=Heat Pump without Aux Electric Heaters
4	Power Supply Code	N=Constant Frequency D=DC Inverter A=AC Inverter
5	Nominal Cooling Capacity	Nominal Cooling Capacity =Number×1000Btu/h
6	Climate Type	N=Climate T1 Condition T= Climate T3 Condition
7	Power Supply Code	K=1Ph 220~240V 50HZ M=3Ph 380~415V 50HZ
8	Refrigerant	1 =R22 2=R407C 3=R410A
9	Design Code	Design Code:A,B,C,D……
10	Unit Code for Condensing Unit or Indoor Unit	O=Outdoor I=Indoor Unit

3 FUNCTION

Function	Description
Memory function	when unit restart after power off, it will run on former status, the mode and parameter are kept the same
Remote control function	wireless controller and remote controller can be opted, and the maximum control distance of remote controller is 10m.
Timing function	it can timing ON/ OFF separately, meanwhile, it can also can timing on circularly
Self-diagnosis with alarm function	once unit has malfunction, the malfunction code will be indicated and alarm ring immediately
Sleep function	it can self control for saving energy in energy saving mode.
Automatic function	the fan of indoor unit can adjust fan speed automatically based on actual demand when cooling or heating under automatic mode
Cool air proof function	the fan starts only when the temperature of indoor unit heat exchanger is higher than indoor temperature under heating mode
Weekly Time	Centralized Control and Week Timer Functions: The centralized controller and the weekly timer are integrated in the same wire controller. The system has both the centralized control and the week timing functions. Up to 16 sets of units can be controlled simultaneously by the centralized controller (weekly timer). The weekly timer has the function of invalidating the lower unit. The weekly timing function is able to realized four timing ON/OFF periods for any unit every day, so as to achieve fully automatic operation. No timing control can be set for holidays.
High/low pressure protection	when suction pressure is too low or discharge pressure is too high, compressor will stop and unit display malfunction code
Overload protection	compressor has its own overheat protection, once the temperature of compressor is higher than allowable level, compressor will stop and only when temperature recovery, compressor restart
Over current protection	once the current of compressor is higher that normal level, compressor will stop and unit display malfunction code
Discharge high temperature protection	once the discharge temperature of compressor is higher than allowable value, compressor will stop and unit display malfunction code
Reverse (open) phase protection	once the phase sequence of power supply is incongruent or the phase is absent, unit can't work and display malfunction code
Anti-high temperature protection	once the heat exchanger temperature of indoor unit is too high, compressor stop and unit display malfunction code.
Timing ON/OFF display	display and timing turn ON/OFF time
Fan speed display	display the speed (high.medium.low) of fan
Function model display	cooling mode.dehumidifying mode.heating mode.fan mode
Testing display	display testing mode
Temperature display	display room temperature and set temperature

4 PRODUCT DATA

4.1 Product Data at Rated Condition

4.1.1 Duct Type

Model	Indoor unit		GFH09K3BI	GFH12K3BI	GFH18K3BI
	Outdoor unit		GUHN09NK1AO	GUHN12NK1AO	GUHN18NK1AO
Nominal Capacity	Cooling	kW	2.6	3.5	5.0
		Btu/h	8870	11940	17060
	Heating	kW	2.85	3.6	5.7
		Btu/h	9720	12283	19448
Power Input	Cooling	kW	1.1	1.4	2.1
	Heating	kW	0.95	1.1	1.9
EER/COP		W/W	2.3/2.93	2.63/3.22	2.38/2.93
Indoor Unit			GFH09K3BI	GFH12K3BI	GFH18K3BI
Power Supply		—	220-240V~/1 Ph/50HZ		
Heat Exchange		—	Cross Fin Coil		
Fan	Type	—	Centrifugal fan		
	Drive	—	Direct Driver		
	Motor Output	kW	0.02×2	0.02×2	0.07×2
	Air Flow	m^3/h	550	600	840
	Ext. Static Pressure	Pa	25	25	40
Sound Pressure Level（H/M/L）		dB(A)	37 / 36 /34	40/38/36	42/40/38
Air Filter		—	Standard washable synthetic		
Drain Piping		mm	φ20×1.2	φ20×1.2	φ30×1.5
Dimensions (H×W×D) (Outline/Package)		mm	220×913×680/ 258×995×750	220×913×680/ 258×995×750	266×1012×736 308×1120×795
Weight（Net/Gross）		kg	27/32	27/32	36/39
Outdoor Unit			GUHN09NK1AO	GUHN12NK1AO	GUHN18NK1AO
Power Supply		—	220-240V~/1Ph/50HZ		
Heat Exchange		—	Cross Fin Coil		
Fan	Type	—	Axial fan		
	Motor Output	kW	0.03	0.048	0.048
	Fan Motor Speed	rpm	850	900	900
Compressor	Type	—	ROTARY		
	Motor Output	kW	0.78	1.1	1.99
Refrigerant	Type	—	R22		
	Control	—	Capillary Tube		
	Charge	kg	0.88	1.1	1.9
Dimensions (H×W×D) (Outline/Package)		mm	558×848×320/ 590×878×360	558×848×320/ 590×878×360	558×848×320/ 590×878×360
Weight（Net/Gross）		kg	33/36	30/35	44/48
Piping	Liquid	mm	6.35	6.35	6.35

Connections	Gas	mm	9.52	12.7	12.7
	Max. Length	m	20	20	20
	Max. Height Difference	m	15	15	15

Continued

Model	Indoor unit		GFH24K3BI	GFH30K3BI
	Outdoor unit		GUHN24NK1AO	GUHN30NK1AO
Nominal Capacity	Cooling	kW	7.0	8.35
		Btu/h	23880	28500
	Heating	kW	7.7	9.8
		Btu/h	26270	33500
Power Input	Cooling	kW	2.5	3.2
	Heating	kW	2.4	3.5
EER/COP		W/W	2.93/3.22	2.63/2.75
Indoor Unit			GFH24K3BI	GFH30K3BI
Power Supply		—	220-240V~/1 Ph/50HZ	
Heat Exchange		—	Cross Fin Coil	
Fan	Type	—	Centrifugal fan	
	Drive	—	Direct Driver	
	Motor Output	kW	0.15×2	0.15×2
	Air Flow	m^3/h	1400	1500
	Ext. Static Pressure	Pa	80	80
Sound Pressure Level（H/M/L）		dB(A)	44 / 42 /40	49/48/45
Air Filter		—		
Drain Piping		mm	φ20×1.2	φ20×1.2
Dimensions (W×H×D) (Outline/Package)		mm	1270 ×268×504/ 1345×268×594	1270 ×268×504/ 1345×268×594
Weight（Net/Gross）		kg	37/45	36/42
Outdoor Unit			GUHN24NK1AO	GUHN30NK1AO
Power Supply		—	220-240V~/1Ph/50HZ	380-415V~/3Ph/50HZ
Heat Exchange		—	Cross Fin Coil	
Fan	Type	—	Axial fan	
	Motor Output	kW	0.092×1	0.090×1
	Fan Motor Speed(H/M/L)	rpm	910	780
Compressor	Type	—	ROTARY	ROTARY
	Motor Output	kW	2.380	3.08
Refrigerant	Type	—	R22	
	Control	—	Capillary Tube	
	Charge	kg	2.35	3.4
Dimensions (W×H×D) (Outline/Package)		mm	950×695× 412/ 1100 ×755× 450	920 ×790×427 1065×860×485
Weight（Net/Gross）		kg	64/68	73/77
Piping Connections	Liquid	mm	9.52	9.52
	Gas	mm	15.8	15.8
	Max. Length	m	30	30
	Max. Height Difference	m	15	15

Continued 1

Model	Indoor unit		GFH36K3BI	GFH36K3BI
	Outdoor unit		GUHN36NM1AO	GUHN36NK1AO
Nominal Capacity	Cooling	kW	10	10
		Btu/h	36000	36000
	Heating	kW	11.72	11.72
		Btu/h	40000	40000
Power Input	Cooling	kW	4.1	4.37
	Heating	kW	3.7	3.82
EER/COP		W/W	2.3/3.22	2.3/3.22
Indoor Unit			GFH36K3BI	GFH36K3BI
Power Supply		—	220-240V~/1 Ph/50HZ	
Heat Exchange		—	Cross Fin Coil	
Fan	Type	—	Centrifugal fan	
	Drive	—	Direct Driver	
	Motor Output	kW	0.5×2	0.5×2
	Air Flow	m^3/h	2000	2000
	Ext. Static Pressure	Pa	150	150
Sound Pressure Level（H/M/L）		dB(A)	50 / 48 /46	50 / 48 /46
Air Filter		—	Standard washable synthetic	
Drain Piping		mm	φ20×1.2	φ20×1.2
Dimensions (W×H×D) (Outline/Package)		mm	1251×290×744/ 1335× 290× 834	1251×290×744/ 1335× 290× 834
Weight（Net/Gross）		kg	57/67	57/67
Outdoor Unit			GUHN36NM1AO	GUHN36NK1AO
Power Supply		—	380-415V~/3Ph/50HZ	220-240V~/1Ph/50HZ
Heat Exchange		—	Cross Fin Coil	
Fan	Type	—	Axial fan	
	Motor Output	kW	0.092×1	0.092×1
	Fan Motor Speed(H/M/L)	rpm	900	900
Compressor	Type	—	SCROLL	SCROLL
	Motor Output	kW	3.8	3.75
Refrigerant	Type	—	R22	
	Control	—	Capillary Tube	
	Charge	kg	3.6	3.4
Dimensions (W×H×D) (Outline/Package)		mm	950×850×412 1110×985×450	950×850×412 1110×985×450
Weight（Net/Gross）		kg	91/96	95/100
Piping Connections	Liquid	mm	12.7	12.7
	Gas	mm	19.05	19.05
	Max. Length	m	50	50
	Max. Height Difference	m	30	30

Continued:2

Model	Indoor unit		GFH42K3BI	GFH48K3BI	GFH60K3BI
	Outdoor unit		GUHN42NK1AO	GUHN48NM1AO	GUHN60NM1AO
Nominal Capacity	Cooling	kW	12	13.2	16.4
		Btu/h	42000	45000	56000
	Heating	kW	14	14	18
		Btu/h	48000	48000	62000
Power Input	Cooling	kW	5.3	5.5	6.4
	Heating	kW	4.9	5.3	5.5
EER/COP		W/W	2.3/2.93	2.3/2.63	2.63/3.22
Indoor Unit			GFH42K3BI	GFH48K3BI	GFH60K3BI
Power Supply		—	220-240V~/1 Ph/50HZ		
Heat Exchange		—	Cross Fin Coil		
Fan	Type	—	Centrifugal fan		
	Drive	—	Direct Driver		
	Motor Output	kW	0.5×2		
	Air Flow	m^3/h	2000	2300	2500
	Ext. Static Pressure	Pa	150	150	150
Sound Pressure Level（H/M/L）		dB(A)	50 / 48 /46	50 / 48 /46	53 / 50 /48
Air Filter		—	Standard washable synthetic		
Drain Piping		mm	φ20×1.2	φ20×1.2	φ32×1.5
Dimensions (W×H×D) (Outline/Package)		mm	1251× 290 ×744/ 1335 × 290× 834	1251×290×744/ 1335× 290× 834	1251×330×788/ 1334 ×330 × 882
Weight（Net/Gross）		kg	57/67	57/67	66/76
Outdoor Unit			GUHN42NK1AO	GUHN48NM1AO	GUHN60NM1AO
Power Supply		—	380-415V~/3 Ph/50HZ		
Heat Exchange		—	Cross Fin Coil		
Fan	Type	—	Axial fan		
	Motor Output	kW	0.068×2		
	Fan Motor Speed(H/M/L)	rpm	840	940	940
Compressor	Type	—	SCROLL		
	Motor Output	kW	4.3	4.59	5.45
Refrigerant	Type	—	R22		
	Control	—	Capillary Tube		
	Charge	kg	3	5.0	5.6
Dimensions (W×H×D) (Outline/Package)		mm	950×1253×412 1110×1385×450	950×1253×412 1110×1385×450	950×1253×412 1110×1385×450
Weight（Net/Gross）		kg	95/106	107/114	121/132
Piping Connections	Liquid	mm	12.7	12.7	12.7
	Gas	mm	19.05	19.05	19.05
	Max. Length	m	50		
	Max. Height Difference	m	30		

Note：

① Nominal capacities are based on the follow conditions.

	Indoor	Outdoor
Cooling	DB：27℃(80.6℉) WB：19℃(66.2℉)	DB：35℃(95℉) WB：24℃(75.2℉)
Heating	DB：20℃(68℉) WB：--℃(--℉)	DB：7℃(44.6℉) WB：6℃(42.8℉)
Piping Length	5m	

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

③ Noise is tested in the Semi anechoic Room, so it should be slightly higher in the actual operation due to environmental change.

4.1.2 Ceiling Type

Models	Indoor unit		GTH09K3BI	GTH12K3BI	GTH18K3BI
	Outdoor unit		GUHN09NK1AO	GUHN12NK1AO	GUHN18NK1AO
Nominal Capacity	Cooling	kW	2.6	3.5	5.0
		Btu/h	8870	11940	17060
	Heating	kW	2.85	3.6	5.7
		Btu/h	9720	12280	19448
Power Input	Cooling	kW	1.1	1.4	2.1
	Heating	kW	0.95	1.2	2.1
EER/ COP		W/W	2.3/2.9	2.63/3.22	2.3/2.9
Indoor Unit			GTH09K3BI	GTH12K3BI	GTH18K3BI
Power Supply		—	220-240V~/1 Ph/50HZ		
Heat Exchange		—	Cross Fin Coil		
Fan	Type	—	Centrifugal fan		
	Drive	—	Direct Driver		
	Motor Output	kW	0.01×2	0.01×2	0.04×2
	Air Flow	m^3/h	550	550	700
Sound Pressure Level（H/M/L）		dB(A)	47/44/41	46/44/41	54/50/46
Air Filter		—	Standard washable synthetic		
Drain Piping		mm	φ28×1.5		
Dimensions (W×H×D) (Outline/Package)		mm	836×238×695/ 935×295×805	836×238×695/ 935×295×805	836×238×695/ 935×295×805
Weight（Net/Gross）		kg	27/35.5	27/35.5	32/36
Outdoor Unit			GUHN09NK1AO	GUHN12NK1AO	GUHN18NK1AO
Power Supply		—	220-240V~/1 Ph/50HZ		
Heat Exchange		—	Cross Fin Coil		
Fan	Type	—	Axial fan		
	Motor Output	kW	0.03	0.048	0.048
	Fan Motor Speed	rpm	850	900	900
Compressor	Type	—	ROTARY		
	Motor Output	kW	0.95	1.1	2.015
Refrigerant	Type	—	R22		
	Control	—	Capillary Tube		
	Charge	kg	0.88	1.1	1.9
Dimensions (W×H×D) (Outline/Package)		mm	848×558×320 878×590×360	848×558×320 878×590×360	848×558×320 /878×590×360
Weight（Net/Gross）		kg	33/36	30/35	44/48
Piping Connections	Liquid	mm	6.35	6.35	6.35
	Gas	mm	9.52	12.7	12.7
	Max. Length	m	20	20	20
	Max. Height Difference	m	15	15	15

Continued

Models	Indoor unit		GTH24K3BI	GTH30K3BI
	Outdoor unit		GUHN24NK1AO	GUHN30NK1AO
Nominal Capacity	Cooling	kW	7.0	8.2
		Btu/h	24000	28000
	Heating	kW	7.7	10.0
		Btu/h	26300	34100
Power Input	Cooling	kW	2.5	3.1
	Heating	kW	2.4	3.4
EER/ COP		W/W	2.3/3.22	2.63/3.22
Indoor Unit			GTH24K3BI	GTH30K3BI
Power Supply		—	220-240V~/1Ph/50HZ	
Heat Exchange		—	Cross Fin Coil	
Fan	Type	—	Centrifugal fan	
	Drive	—	Direct Driver	
	Motor Output	kW	0.1×4	0.1×4
	Air Flow	m^3/h	1170	1170
Sound Pressure Level（H/M/L）		dB(A)	50/48/46	53/50/49
Air Filter		—	Standard washable synthetic	
Drain Piping		mm	φ28×1.5	
Dimensions (H×W×D) (Outline/Package)		mm	1300×188×600 1414×248×724	1300×188×600 1414×248×724
Weight（Net/Gross）		kg	32/36	34/40
Outdoor Unit			GUHN24NK1AO	GUHN30NK1AO
Power Supply		—	220-240V~/1Ph/50HZ	380-415V~/3Ph/50HZ
Heat Exchange		—	Cross Fin Coil	
Fan	Type	—	Axial fan	
	Motor Output	kW	0.068×1	0.090×1
	Fan MotorSpeed(H/M/L)	rpm	910	780
Compressor	Type	—	ROTARY	ROTARY
	Motor Output	kW	2.38	2.97
Refrigerant	Type	—	R22	
	Control	—	Capillary Tube	
	Charge	kg	2.35	3.4
Dimensions (W×H×D) (Outline/Package)		mm	950 ×695×412 1100×755×450	920×790×427 1065×860×485
Weight（Net/Gross）		kg	64/68	73/77
Piping Connections	Liquid	mm	9.52	9.52
	Gas	mm	15.8	15.8
	Max. Length	m	30	30
	Max. Height Difference	m	15	15

Continued 1

Models	Indoor unit		GTH36K3BI	GTH36K3BI
	Outdoor unit		GUHN36NM1AO	GUHN36NK1AO
Nominal Capacity	Cooling	kW	10	10
		Btu/h	36000	36000
	Heating	kW	11.7	11.72
		Btu/h	40000	40000
Power Input	Cooling	kW	3.9	4.2
	Heating	kW	3.55	3.65
EER/ COP		W/W	2.3/3.22	2.3/3.22
Indoor Unit			GTH36K3BI	GTH36K3BI
Power Supply		—	220-240V~/1Ph/50HZ	
Heat Exchange		—	Cross Fin Coil	
Fan	Type	—	Centrifugal fan	
	Drive	—	Direct Driver	
	Motor Output	kW	0.085×2	0.085×2
	Air Flow	m^3/h	1800	1800
Sound Pressure Level（H/M/L）		dB(A)	54/51/48	54/51/48
Air Filter		—	Standard washable synthetic	
Drain Piping		mm	φ28×1.5	
Dimensions (H×W×D) (Outline/Package)		mm	1590×238×695/ 1714×330×830	1590×238×695/ 1714×330× 830
Weight（Net/Gross）		kg	42/51	42/51
Outdoor Unit			GUHN36NM1AO	GUHN36NK1AO
Power Supply		—	380-415V~/3Ph/50HZ	220-240V~/1Ph/50HZ
Heat Exchange		—	Cross Fin Coil	
Fan	Type	—	Axial fan	
	Motor Output	kW	0.092×1	0.092×1
	Fan MotorSpeed(H/M/L)	rpm	900	900
Compressor	Type	—	SCROLL	SCROLL
	Motor Output	kW	3.8	3.75
Refrigerant	Type	—	R22	
	Control	—	Capillary Tube	
	Charge	kg	3.6	3.4
Dimensions (W×H×D) (Outline/Package)		mm	950×850×412/ 1110×985×450	950×850×412/ 1110×985×450
Weight（Net/Gross）		kg	91/96	90/100
Piping Connections	Liquid	mm	12.7	12.7
	Gas	mm	19.05	19.05
	Max. Length	m	50	50
	Max. Height Difference	m	30	30

Continued 2

Models	Indoor unit		GTH42K3BI	GTH48K3BI
	Outdoor unit		GUHN42NM1AO	GUHN48NM1AO
Nominal Capacity	Cooling	kW	12	13.18
		Btu/h	42000	45000
	Heating	kW	14	14
		Btu/h	48000	48000
Power Input	Cooling	kW	5.2	5.3
	Heating	kW	4.8	5.1
EER/ COP		W/W	2.3/2.93	2.3/2.63
Indoor Unit			GTH42K3BI	GTH48K3BI
Power Supply		—	220-240V~/1Ph/50HZ	
Heat Exchange		—	Cross Fin Coil	
Fan	Type	—	Centrifugal fan	
	Drive	—	Direct Driver	
	Motor Output	kW	0.085×2	0.18×2
	Air Flow	m^3/h	1800	2100
Sound Pressure Level（H/M/L）		dB(A)	54/51/48	58/55/52
Air Filter		—	Standard washable synthetic	
Drain Piping		mm	φ28×1.5	
Dimensions (W×H×D) (Outline/Package)		mm	1590×238×695 1714×330×830	1590×238×695/ 1714×330×830
Weight（Net/Gross）		kg	42/51	42/51
Outdoor Unit			GUHN42NM1AO	GUHN48NM1AO
Power Supply		—	380-415V~/3 Ph/50HZ	
Heat Exchange		—	Cross Fin Coil	
Fan	Type	—	Axial fan	
	Motor Output	kW	0.068×2	0.092×2
	Fan MotorSpeed(H/M/L)	rpm	840	940
Compressor	Type	—	SCROLL	
	Motor Output	kW	4.3	4.59
Refrigerant	Type	—	R22	
	Control	—	Capillary Tube	
	Charge	kg	3	5
Dimensions (W×H×D) (Outline/Package)		mm	950×1253×412/ 1110 ×1385× 450	950×1253×412/ 1110 ×1385× 450
Weight（Net/Gross）		kg	95/106	107/114
Piping Connections	Liquid	mm	12.7	
	Gas	mm	19.05	
	Max. Length	m	50	
	Max. Height Difference	m	30	

Note：

① Nominal capacities are based on the follow conditions.

	Indoor	Outdoor
Cooling	DB：27℃(80.6℉) WB：19℃(66.2℉)	DB：35℃(95℉) WB：24℃(75.2℉)
Heating	DB：20℃(68℉) WB：--℃(--℉)	DB：7℃(44.6℉) WB：6℃(42.8℉)
Piping Length	5m	

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

③ Noise is tested in the Semianechoic Room, so it should be slightly higher in the actual operation due to environmental change.

4.1.3 Cassette Type

Models	Indoor unit		GKH12K3BI	GKH18K3BI	GKH24K3BI
	Outdoor unit		GUHN12NK1AO	GUHN18NK1AO	GUHN24NK1AO
Nominal Capacity	Cooling	kW	3.5	5.0	7.0
		Btu/h	11940	17060	24000
	Heating	kW	3.6	5.7	7.5
		Btu/h	12280	19450	25590
Power Input	Cooling	kW	1.4	2.1	2.5
	Heating	kW	1.1	2.0	2.4
EER/COP		W/W	2.6/3.2	2.3/2.9	2.9/3.2
Indoor Unit			GKH12K3BI	GKH18K3BI	GKH24K3BI
Power Supply		—	220-240V~/1 Ph/50HZ		
Heat Exchange		—	Cross Fin Coil		
Fan	Type	—	Centrifugal fan		
	Drive	—	Direct Driver		
	Motor Output	kW	0.011	0.011	0.035
	Air Flow	m^3/h	550	600	1180
Sound Pressure Level（H/M/L）		dB(A)	47/45/43		
Air Filter		—	Standard washable synthetic		
Drain Piping		mm	φ31×3	φ31×3	φ32×3
Indoor Unit Dimensions (Outline/Package) (W×H×D)		mm	600×230×600/ 848×310×678	600×230×600/ 848×310×678	840×260×840/ 960×310×960
Panel Dimensions (Outline/Package) (H×W×D)		mm	50×650×650/ 102×730×670	50×650×650/ 102×730×670	60×950×950/ 115×1040×1025
Weight（Net/Gross）		kg	20/27	20/27	30 / 38
Outdoor Unit			GUHN12NK1AO	GUHN18NK1AO	GUHN24NK1AO
Power Supply		—	220-240V~/1 Ph/50HZ		
Heat Exchange		—	Cross Fin Coil		
Fan	Type	—	Axial fan-1		
	Motor Output	kW	0.048	0.048	0.092
	Fan Motor Speed(H/M/L)	rpm	900	900	910
Compressor	Type	—	ROTARY		
	Motor Output	kW	1.1	2.015	2.38
Refrigerant	Type	—	R22		
	Control	—	Capillary Tube		
	Charge	kg	1.1	1.9	2.35
Dimensions (W×H×D) (Outline/Package)		mm	848×540×320/ 878×590×360	848×540×320/ 878×590×360	1018×700×412/ 1100×755×450
Weight（Net/Gross）		kg	30/35	44/48	64/68
Piping Connections	Liquid	mm	6.35	6.35	9.52
	Gas	mm	12.7	12.7	15.8
	Max. Length	m	20	20	30

	Max. Height Difference	m	15	15	15

Models	Indoor unit		GKH30K3BI
	Outdoor unit		GUHN30NK1AO
Nominal Capacity	Cooling	kW	8.5
		Btu/h	29000
	Heating	kW	9.5
		Btu/h	32400
Power Input	Cooling	kW	3.1
	Heating	kW	3.57
EER/COP		W/W	2.74/2.52
Indoor Unit			GKH30K3BI
Power Supply		—	220-240V~/1 Ph/50HZ
Heat Exchange		—	Cross Fin Coil
Fan	Type	—	Centrifugal fan
	Drive	—	Direct Driver
	Motor Output	kW	0.04
	Air Flow	m^3/h	1400
Sound Pressure Level（H/M/L）		dB(A)	51/49/48
Air Filter		—	Standard washable synthetic
Drain Piping		mm	φ32×3
Indoor Unit Dimensions (Outline/Package) (W×H×D)		mm	840×260×840/ 960×310×960
Panel Dimensions (Outline/Package) (H×W×D)		mm	60×950×950/ 115×1040×1025
Weight（Net/Gross）		kg	27 / 36
Outdoor Unit			GUHN30NK1AO
Power Supply		—	220-240V~/1 Ph/50HZ
Heat Exchange		—	Cross Fin Coil
Fan	Type	—	Axial fan
	Motor Output	kW	0.090
	Fan Motor Speed(H/M/L)	rpm	840/620/400
Compressor	Type	—	ROTARY
	Motor Output	kW	3.08
Refrigerant	Type	—	R22
	Control	—	Capillary Tube
	Charge	kg	3.4
Dimensions (W×H×D) (Outline/Package)		mm	980X790X427 1065X 860X 485
Weight（Net/Gross）		kg	59/64
Piping Connections	Liquid	mm	9.52
	Gas	mm	15.8
	Max. Length	m	30
	Max. Height Difference	m	15

Continued 1

Models	Indoor unit		GKH36K3BI	GKH36K3BI
	Outdoor unit		GUHN36NM1AO	GUHN36NK1AO
Nominal Capacity	Cooling	kW	10	10
		Btu/h	36000	36000
	Heating	kW	11.7	11.7
		Btu/h	40000	40000
Power Input	Cooling	kW	3.9	4.36
	Heating	kW	3.7	4.1
EER/COP		W/W	2.3/3.22	2.3/3.22
Indoor Unit			GKH36K3BI	GKH36K3BI
Power Supply		—	220-240V~/1 Ph/50HZ	
Heat Exchange		—	Cross Fin Coil	
Fan	Type	—	Centrifugal fan	
	Drive	—	Direct Driver	
	Motor Output	kW	0.06	
	Air Flow	m^3/h	1600	1800
Sound Pressure Level（H/M/L）		dB(A)	53/51 /48	
Air Filter		—	Standard washable synthetic	
Drain Piping		mm	φ32×3	
Indoor Unit Dimensions (Outline/Package) (W×H×D)		mm	840×320×840/ 960×394×960	
Panel Dimensions (Outline/Package) (H×W×D)		mm	60×950×950/ 115×1040×1025	
Weight（Net/Gross）		kg	38/46	
Outdoor Unit			GUHN36NM1AO	GUHN36NK1AO
Power Supply		—	380-415V~/3Ph/50HZ	220-240V~/1Ph/50HZ
Heat Exchange		—	Cross Fin Coil	
Fan	Type	—	Axial fan	
	Motor Output	kW	0.092×1	
	Fan Motor Speed(H/M/L)	rpm	900	
Compressor	Type	—	SCROLL	
	Motor Output	kW	3.8	3.75
Refrigerant	Type	—	R22	
	Control	—	Capillary Tube	
	Charge	kg	3.6	3.4
Dimensions (W×H×D) (Outline/Package)		mm	1018× 840 ×412 1110 ×985×450	
Weight（Net/Gross）		kg	91/96	95/100
Piping Connections	Liquid	mm	12.7	
	Gas	mm	19.05	
	Max. Length	m	50	

	Max. Height Difference	m	30

Continued 2

Models	Indoor unit		GKH42K3BI	GKH48K3BI
	Outdoor unit		GUHN42NM1AO	GUHN48NM1AO
Nominal Capacity	Cooling	kW	12	13.2
		Btu/h	42000	45000
	Heating	kW	14	14
		Btu/h	48000	48000
Power Input	Cooling	kW	5.25	5.5
	Heating	kW	4.85	5.3
EER/COP		W/W	2.3/2.9	2.3/2.67
Indoor Unit			GKH42K3BI	GKH48K3BI
Power Supply		—	220-240V~/1 Ph/50HZ	
Heat Exchange		—	Cross Fin Coil	
Fan	Type	—	Centrifugal fan	
	Drive	—	Direct Driver	
	Motor Output	kW	0.06	
	Air Flow	m^3/h	1650	1700
Sound Pressure Level（H/M/L）		dB(A)	53/ 51 /48	
Air Filter		—	Standard washable synthetic	
Drain Piping		mm	φ32×3	
Indoor Unit Dimensions (Outline/Package) (H×W×D)		mm	840×320×840/ 960×394×960	
Panel Dimensions (Outline/Package) (H×W×D)		mm	60×950×950/ 115×1040×1025	
Weight（Net/Gross）		kg	38/46	
Outdoor Unit			GUHN42NM1AO	GUHN48NM1AO
Power Supply		—	380-415V~/3 Ph/50HZ	
Heat Exchange		—	Cross Fin Coil	
Fan	Type	—	Axial fan	
	Motor Output	kW	0.092×2	
	Fan Motor Speed(H/M/L)	rpm	940/840/700	
Compressor	Type	—	SCROLL	
	Motor Output	kW	4.3	4.59
Refrigerant	Type	—	R22	
	Control	—	Capillary Tube	
	Charge	kg	3	5
Dimensions (W×H×D) (Outline/Package)		mm	950×1250×412/ 1110 × 1385 ×450	
Weight（Net/Gross）		kg	95/106	107/114
Piping	Liquid	mm	12.7	

Connections	Gas	mm	19.05
	Max. Length	m	50
	Max. Height Difference	m	30

Note：

① Nominal capacities are based on the follow conditions.

	Indoor	Outdoor
Cooling	DB：27℃(80.6℉) WB：19℃(66.2℉)	DB：35℃(95℉) WB：24℃(75.2℉)
Heating	DB：20℃(68℉) WB：--℃(--℉)	DB：7℃(44.6℉) WB：6℃(42.8℉)
Piping Length	5m	

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

③ Noise is tested in the Semianechoic room, so it should be slightly higher in the actual operation due to environmental change.

4.2 Operation Range

Mode	Range of Outdoor Temperature℃ (℉)
Cooling	18℃-43℃ -7℃-43℃(with low Ambient kit)
Heating	-7℃-24℃

4.3 Electrical Data

Model		Compressor				Fan Motor		Max. Fuse Breaker Size (Indoor/Outdoor)	Min. Disconnect Size (Indoor/Outoor)
		Power Supply	Qty.	LRA	RLA	Condenser Fan Motors	Supply Blower Motor		
		V,Ph,Hz	—	Each	Each	FLA Each	FLA Each	Amperes	mm^2
GUHN09NK1AO	GFH09K3BI	220-240 1 50	1	18	4.28	0.27	0.18	6/10	1/5.7
	GTH09K3BI						0.09	6/10	1/5.7
GUHN12NK1AO	GFH12K3BI		1	32	5.6	0.27	0.18	6/13	1/7.3
	GTH12K3BI						0.09	6/13	1/7.3
	GKH12K3BI						0.1	6/13	1/7.3
GUHN18NK1AO	GFH18K3BI		1	40	8.8	0.27	0.63	6/20	1.5/11.3
	GTH18K3BI						0.36	6/20	1/11.3
	GKH18K3BI						0.1	6/20	1/11.3
GUHN24NK1AO	GFH24K3BI		1	60	11.2	0.61	1.35	6/25	2.5/14.6
	GTH24K3BI						0.9	6/25	1.5/14.6
	GKH24K3BI						0.32	6/25	1/14.6
GUHN30NK1AO	GFH30K3BI		1	66	13.7	0.8	1.35	6/32	2.5/17.9
	GTH30K3BI						0.9	6/32	1.5/17.9
	GKH30K3BI						0.32	6/32	1/17.9
GUHN36NK1AO	GFH36K3BI		1	97	18.42	0.8	4.5	10/40	5.7/23.8
	GTH36K3BI						1.35	6/40	2.5/23.8
	GKH36K3BI						0.54	6/40	1/23.8
GUHN36NM1AO	GFH36K3BI	380-415~ 3 50	1	45	6.8	0.8	4.5	10/16	5.7/9.1
	GTH36K3BI						1.35	6/16	2.5/9.1
	GKH36K3BI						0.54	6/16	1/9.1
GUHN42NM1AO	GFH42K3BI		1	58	7.5	0.8	4.5	10/20	5.7/10.2
	GTH42K3BI						1.35	6/20	2.5/10.2
	GKH42K3BI						0.54	6/20	1/10.2
GUHN48NM1AO	GFH48K3BI		1	62	8.2	0.8	4.5	10/20	5.7/11.1
	GTH48K3BI						1.62	6/20	2.5/11.1
	GKH48K3BI						0.54	6/20	1/11.1
GUHN60NM1AO	GFH60K3BI		1	67	9.77	0.8	4.5	10/20	5.7/13

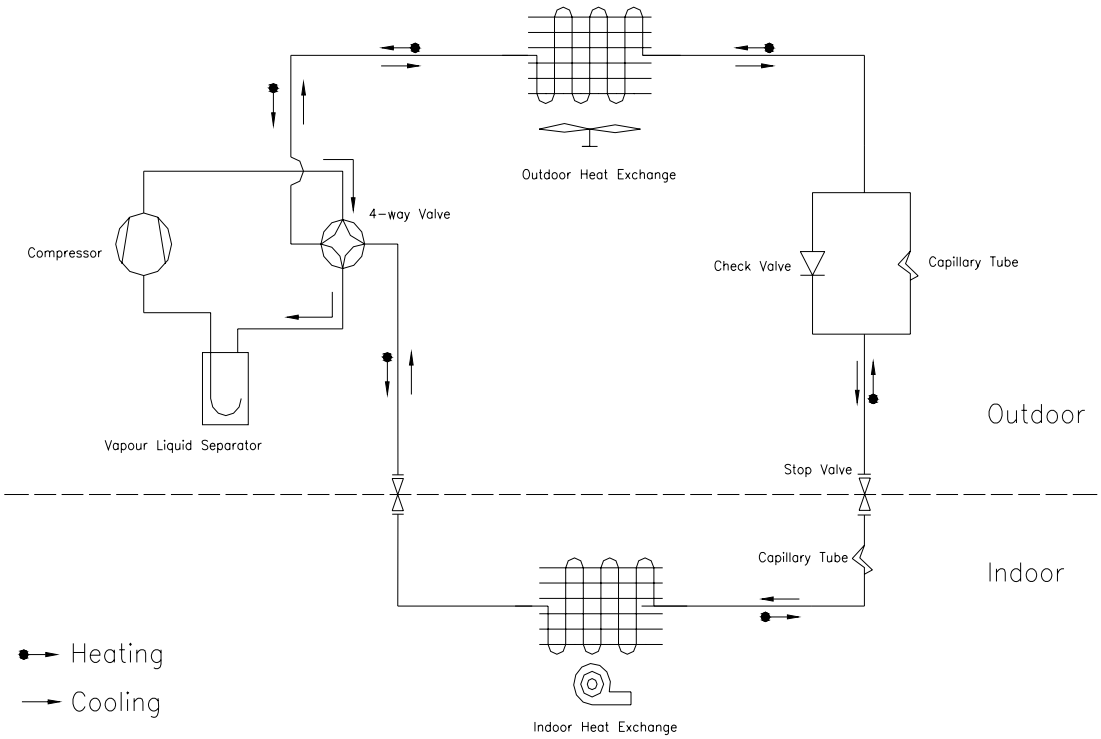
Notes：

RLA：Rated load amperes

LRA：Locked rotor amperes

FLA：Full load current

5 PIPING DIAGRAM

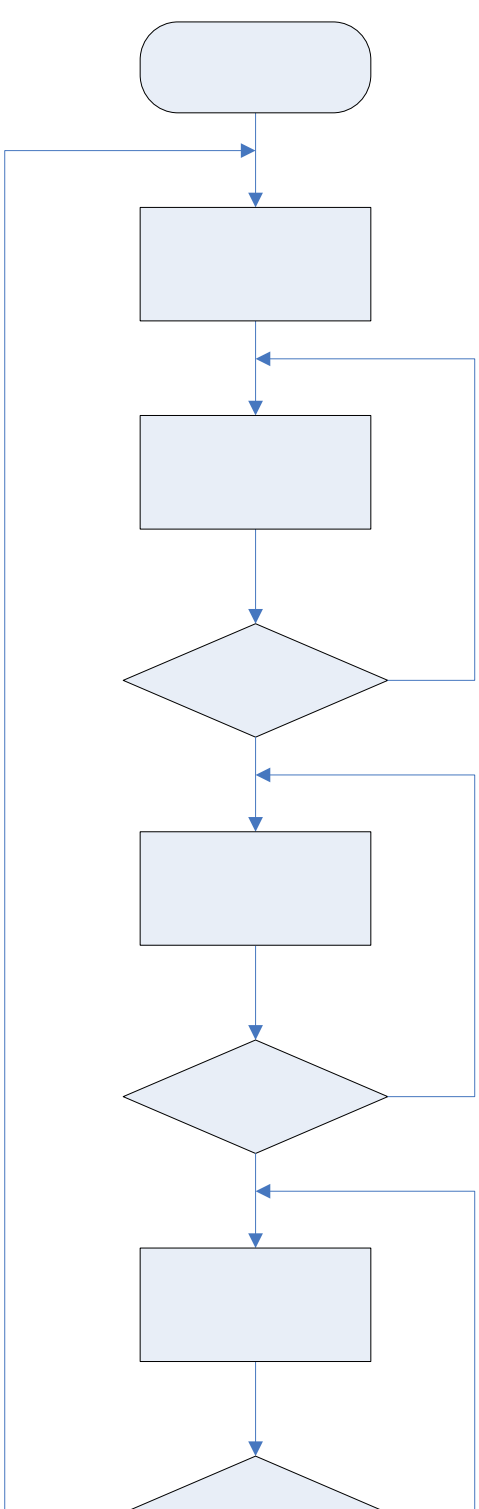


CONTROL

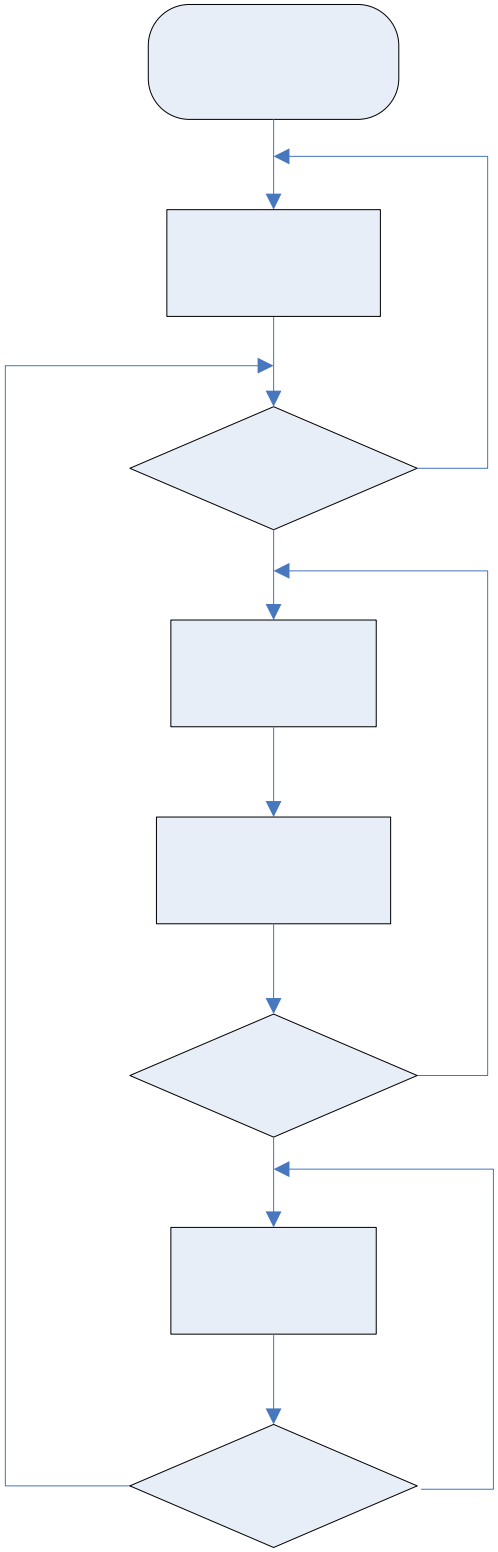
CONTROL

1 OPERATION FLOWCHART

1.1 Cooling/Dry Operation

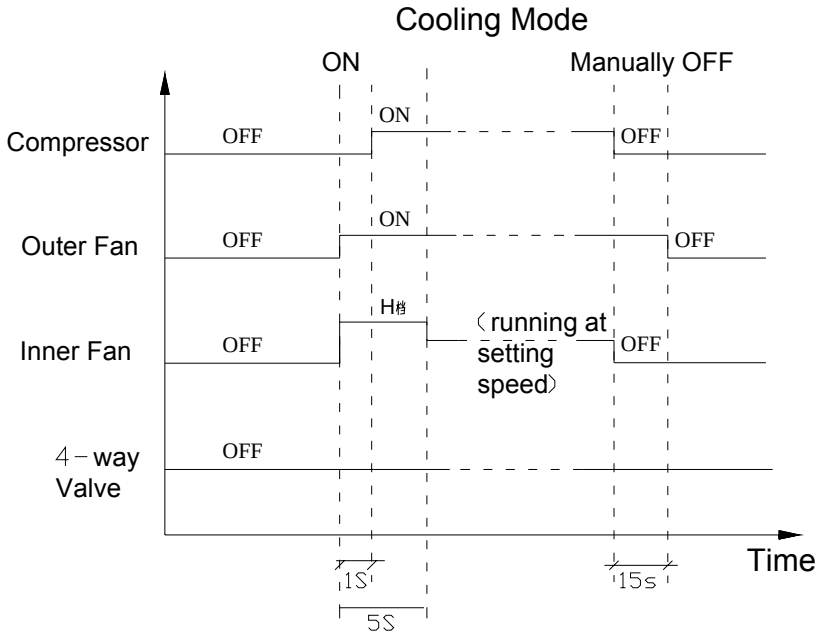


1.2 Heating Operation



2 MAIN LOGIC

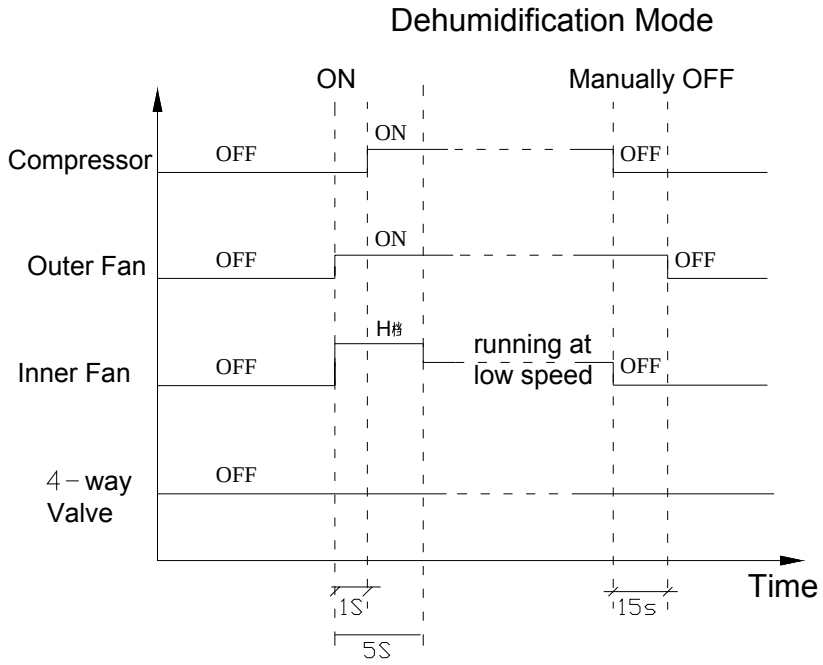
2.1 Cooling



$T_{amb} \geq T_{set}+1℃$: Cooling mode will be entered. In that case, compressor and outer fan run and inner fan is running at setting speed.

$T_{amb} \leq T_{set}-1℃$: Cooling OFF status will be entered. In that case, compressor and outer fan stop and inner fan is running at setting speed.

2.2 Dry Mode

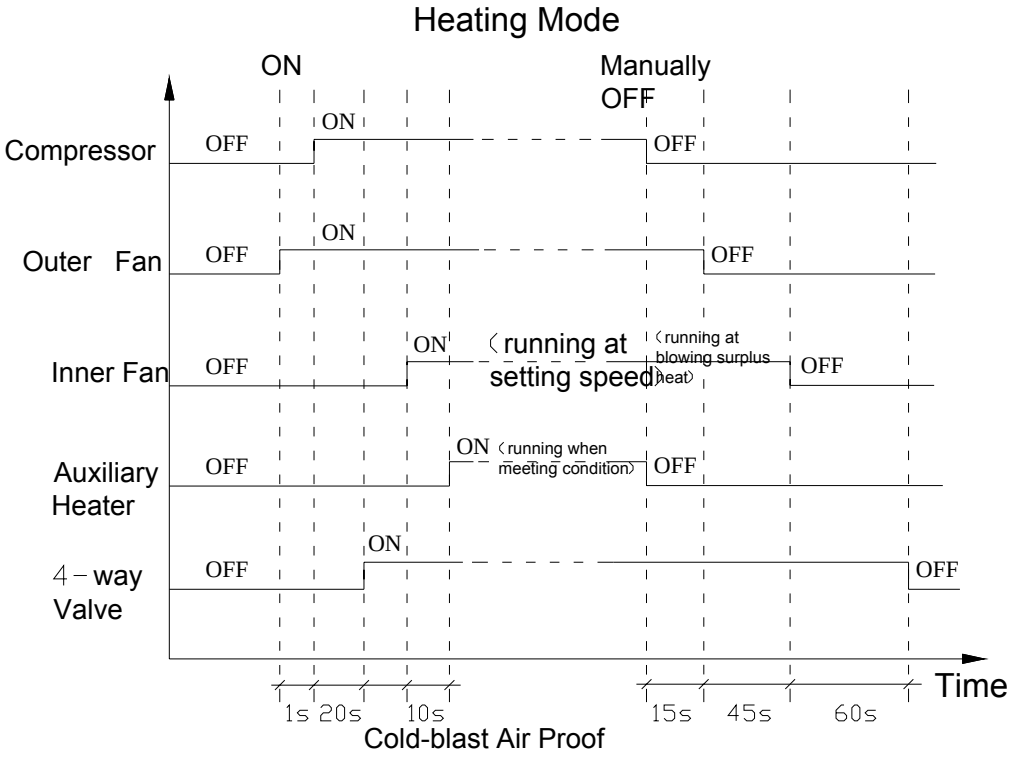


T_{amb}≥T_{set}+2℃: Cooling mode will be entered. In that case, compressor and outer fan run and inner fan is running at low speed.

T_{amb}≤T_{set}-2℃: Cooling OFF status will be entered. In that case, compressor and outer fan stop running.

T_{set}-2℃＜T_{amb}＜T_{set}+2℃: ON-OFF alternated status will be entered. In that case, after compressor is running for continuous 6min, it will stop for another continuous 4min, which will be circularly executed. The inner fan is running at low speed.

2.3 Heating Mode

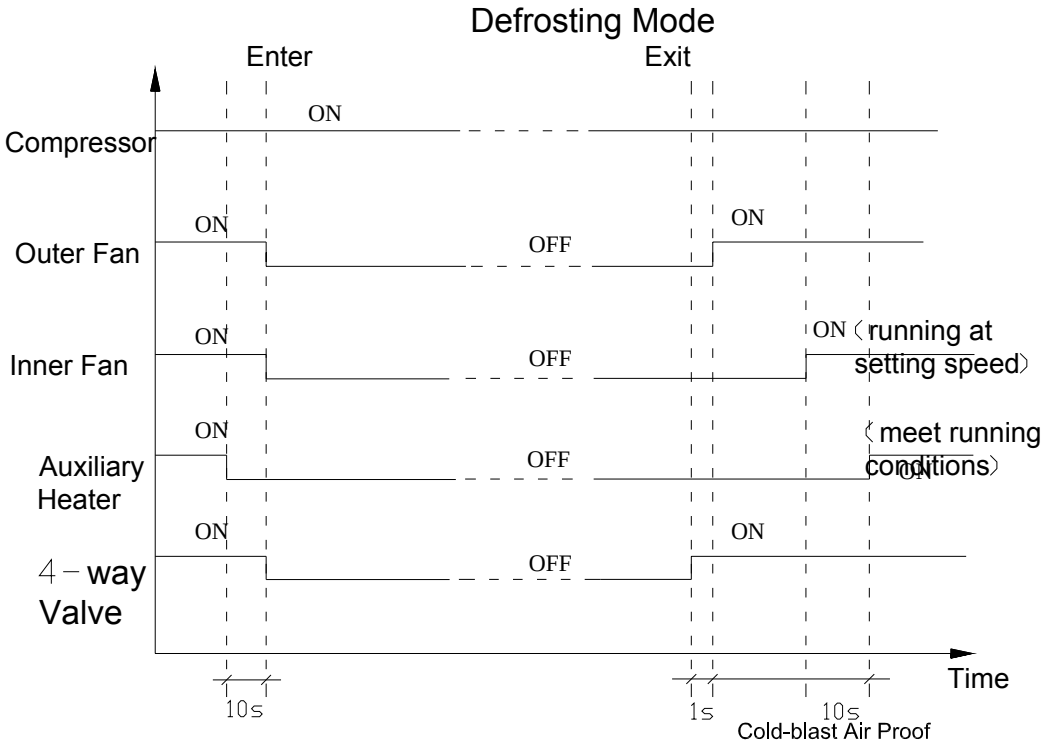


$T_{amb} \leq T_{set}$-1℃: Heating mode will be entered. Compressor and outer fan will run and inner fan will run at setting speed and the mode of cold-blast air proof.

$T_{amb} \geq T_{set}$+1℃: Compressor and outer fan will stop but the 4-way valve will be still energized. Inner fan will run at the mode of blowing surplus heat.

T_{set}-1℃＜T_{amb}＜T_{set}+1℃: Previous running status will be kept.

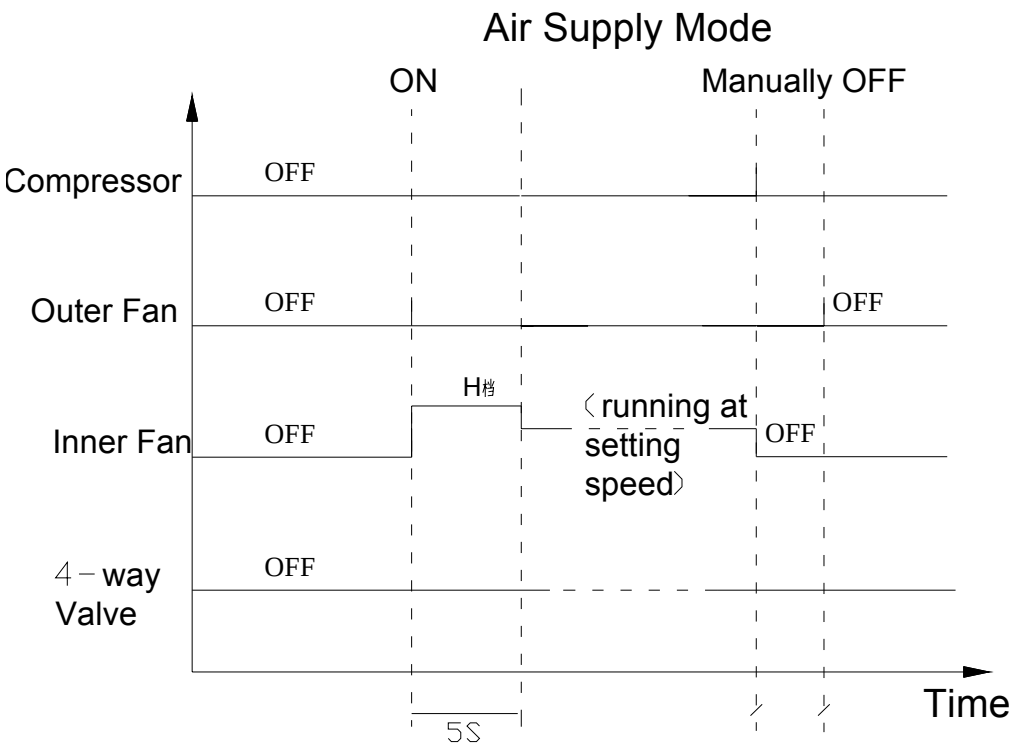
2.4 Defrosting



Conditions of Defrosting ON: When accumulated heating time has reached 44min, compressor has been running for continuous 4min and 50sec, and Tcon.≤-5℃ has been detected for continuous 1min, defrosting starts. If auxiliary heater is ON, it will be stopped firstly. 10s later, 4-way valve, inner and outer fans will be stopped while the compressor will compulsively run.

Conditions of Defrosting OFF: When defrosting has been running for 10min or Tcon. ≥10℃, defrosting finishes. 4-way valve and outer fan will run while compressor will compulsively run. Inner fan will run at the mode of cold-blast air proof.

2.5 Fan Mode

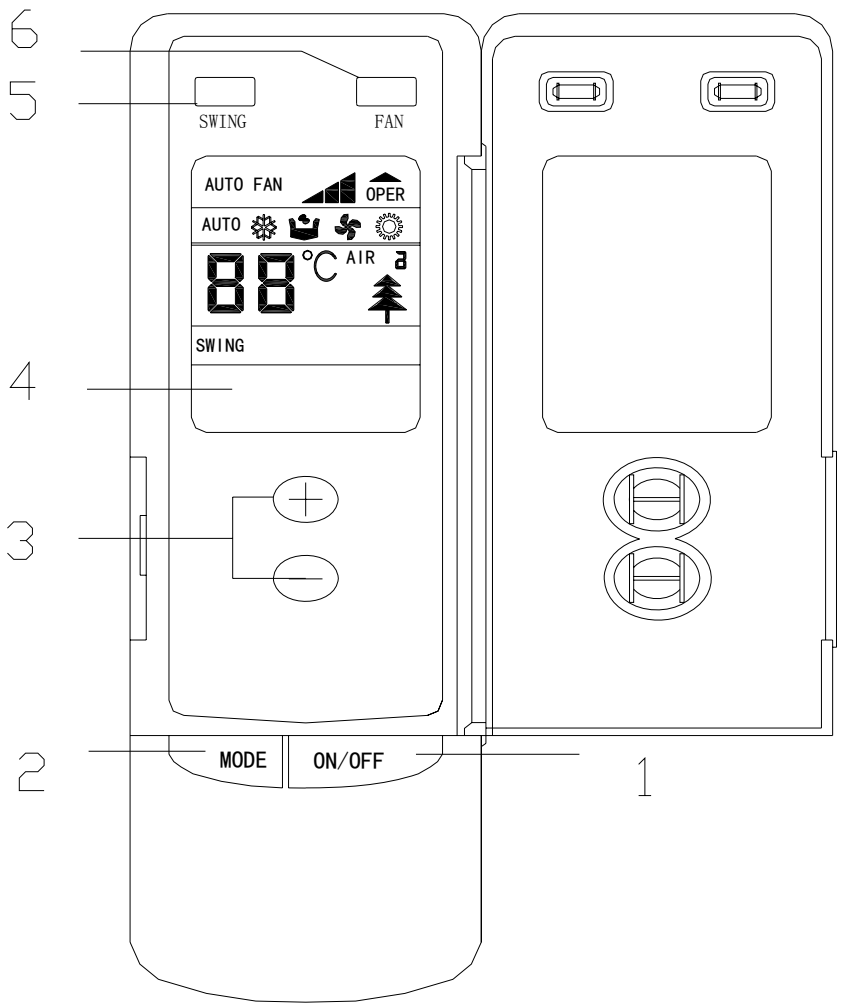


Inner fan will firstly run at high speed for 5s and then run at setting speed.

3 WIRELESS REMOTE CONTROLLER

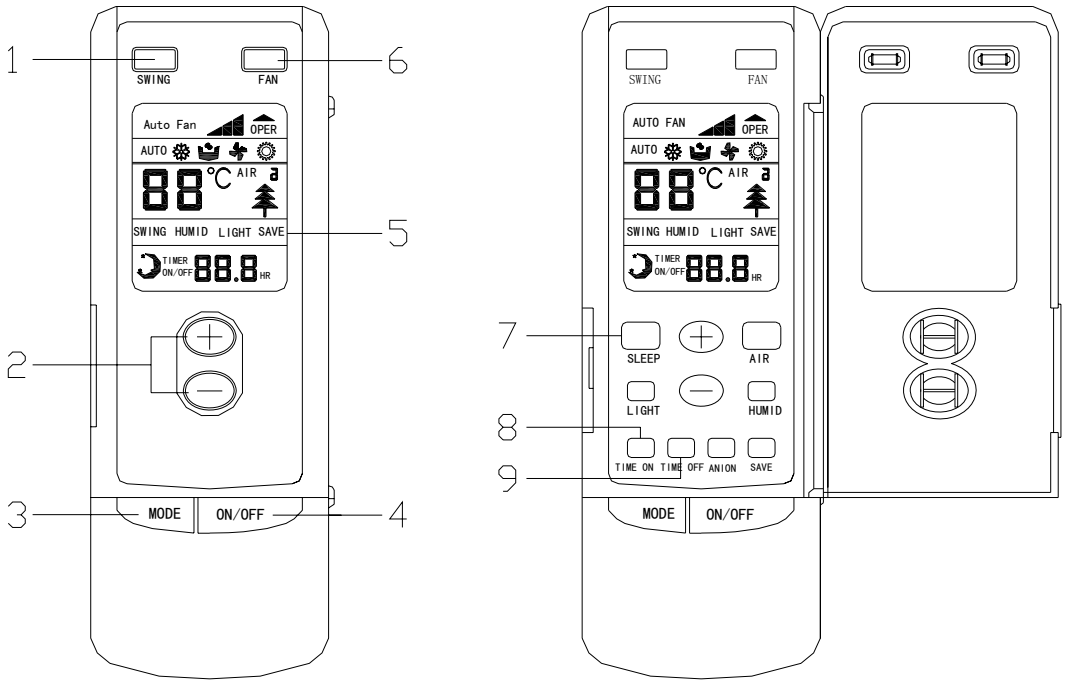
3.1 Operation View

(1) Controller-Duct Type



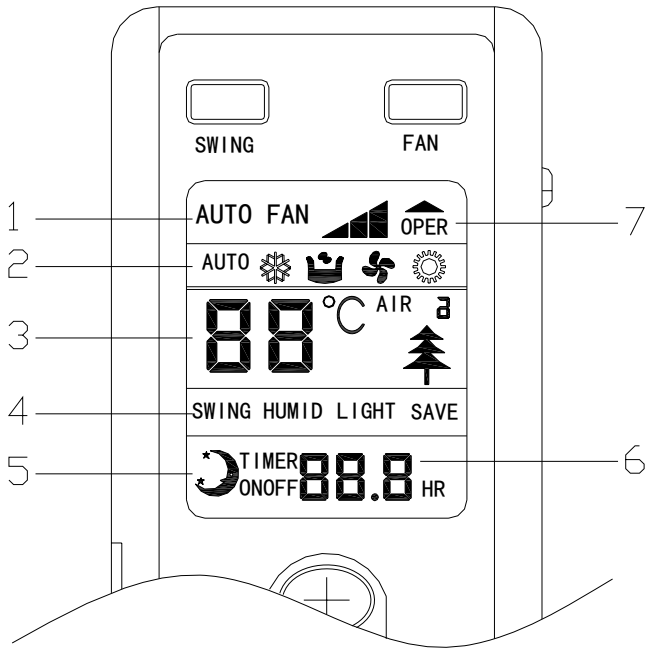
NO.	Name	Function description
1	ON/OFF button	Press the button to start or close unit
2	Mode button	Press the button to select the mode, including cooling , heating , fan or auto mode.
3	Increase/Decrease button	Press this button to increase/decrase the setting temp
4	LCD Screen	Display the status of remote information
5	Swing button	Press this button to set swing function
6	Fan speed button	Press this button to set fan speed

(2)Controller-Cassette Type and Ceiling Type



NO.	Name	Function description
1	Swing button	Press this button to set swing function
2	Increase/Decrease button	Press this button to increase/decrase the setting temp
3	Mode button	Press the button to select the mode,including cooling , heating , fan or auto mode.
4	ON/OFF button	Press the button to start or close unit
5	LCD Screen	Display the status of remote information
6	Fan speed button	Press this button to set fan speed
7	Sleep button	Press the button to set sleep function
8	Time on	Press the button to set time on function
9	Time off	Press the button to set time off function

3.2 Display View

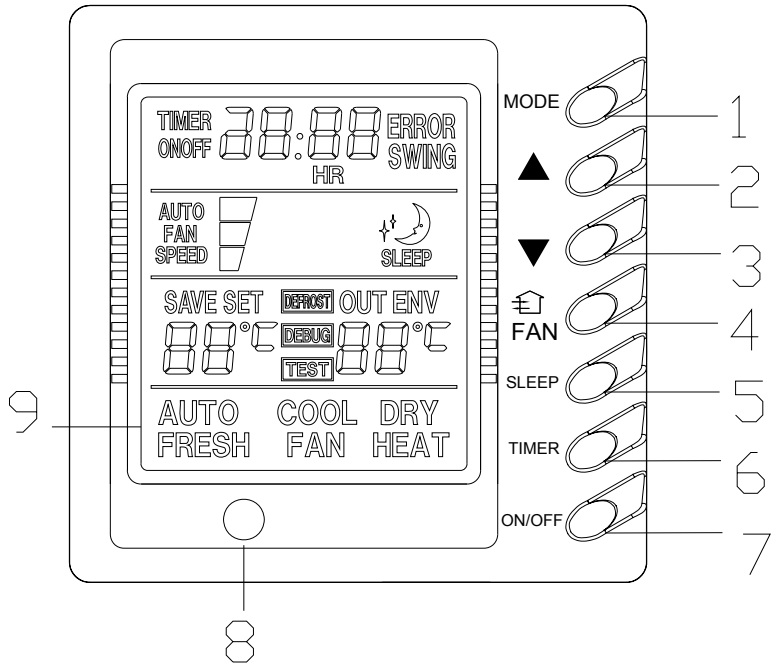


No.	Display	Function description
1	Fan Speed	AUTOFAN: auto fan speed. : low fan speed. : middle fan speed : high fan speed，
2	Run Mode	AUTO: Auto running; : Cool running; : Dry Running; : Fan Running; : Heat running (Heat and Cool unit only)
3	Setup temp	Temperature value of setting
4	Swing function	Swing is on
5	Sleep mode	Sleep mode is on
6	Time value	Timing value of setting
7	OPER	The controller is on

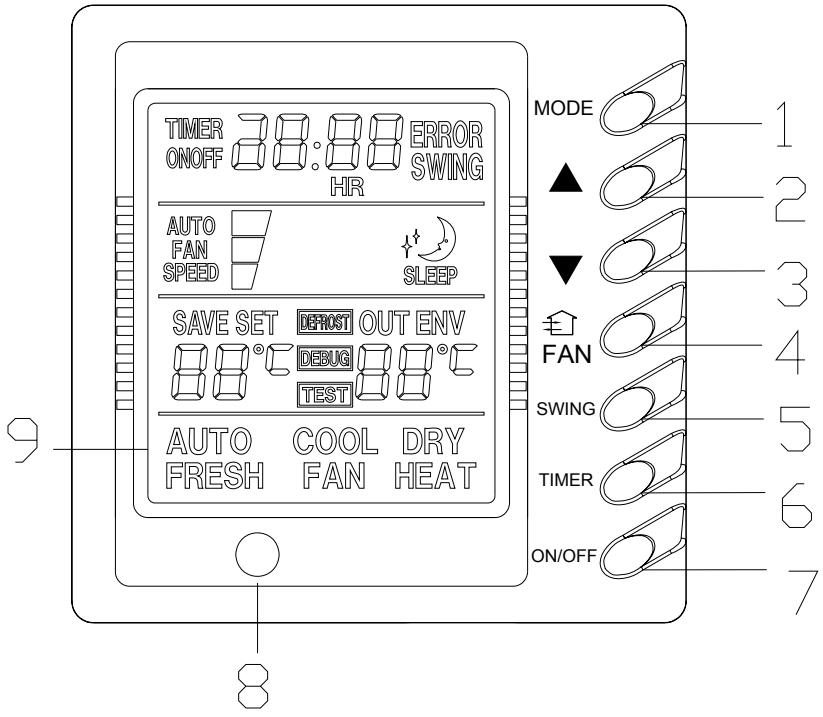
4 WIRED REMOTE CONTROLLER

4.1 Operation View

（1）Wired Controller-Duct Type



（2）Wired Controller-Cassette Type and Ceiling Type



NO.	Name	Function description
1	MODE button	Press the button to select the mode,including cooling , heating , fan or auto mode.
2	Increasing button	Press this button to increase the setting temp.
3	Decreasing button	Press this button to decrase the setup temp.
4	Fan speed button	Press this button to set fan speed
5	Sleep/SWING button	Press the button to set sleep/swing function
6	Timer button	Press the button to set timer function
7	On/off button	Press the button to start or close unit
8	Remote window	Get remote information
9	LCD display	Display unit information

Note：

（1） **SAVE set up ：** At unit turned off, to press the “FAN” +“▼” buttons for continuous 5 seconds, it can enter save set up interface and the unit will run at save mode.

（2） **FRESH valve set up :** When the unit is turned off, press the “ FAN” button for 5seconds,And set up the fresh air setup.

（3） **Outer ambient temperature display:** Under normal condition, “ENV” will display the room ambient temperature, at unit turned on, or unit turned off status, press “SLEEP/SWING” button last for 5 seconds, the LCD will display “OUT ENV”.

（4） **MEMORY function setup:** At unit turned off, press “MODE” button for 10 seconds, could switch whether turn on or off the unit state after powered off.

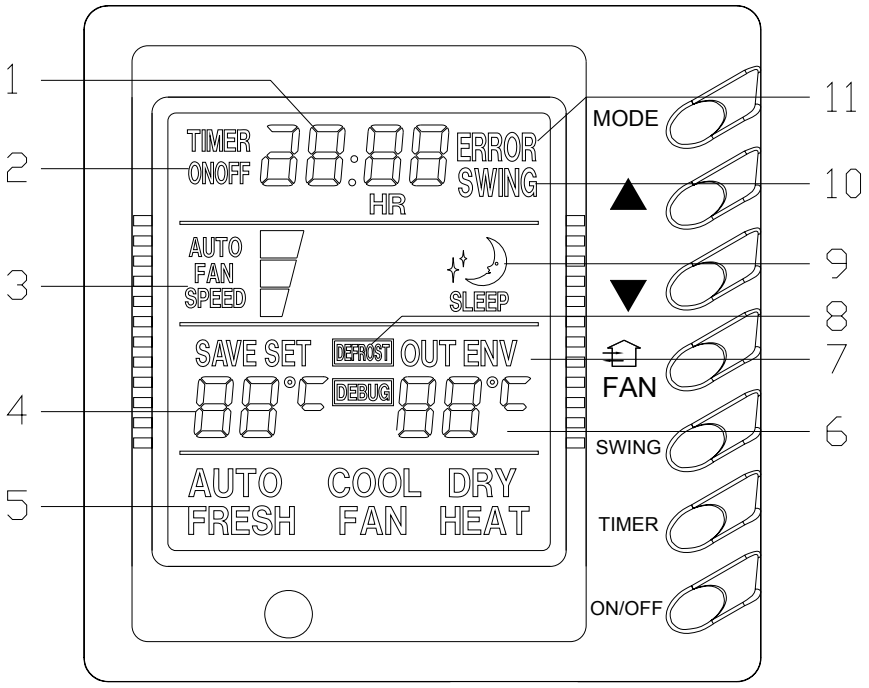
（5） **Debugging function:** At unit off, continuously press “FAN” + “SLEEP” buttons lasting for 10seconds, call out debugging menu, and displays “Debugging” icons, use “MODE” button adjust setting item, by pressing “▲”.“▼” button to set up the detailed value.

(A) Ambient sensor set up: it can set three kinds styles.

（6） **Lock function:** Press “▲”and“▼” at the same time for 5 seconds, the set temp. will display “EE” and shield, all buttons will sound; and repress the“▲”and “▼”at the same time for 5 seconds, the lock function will be released.

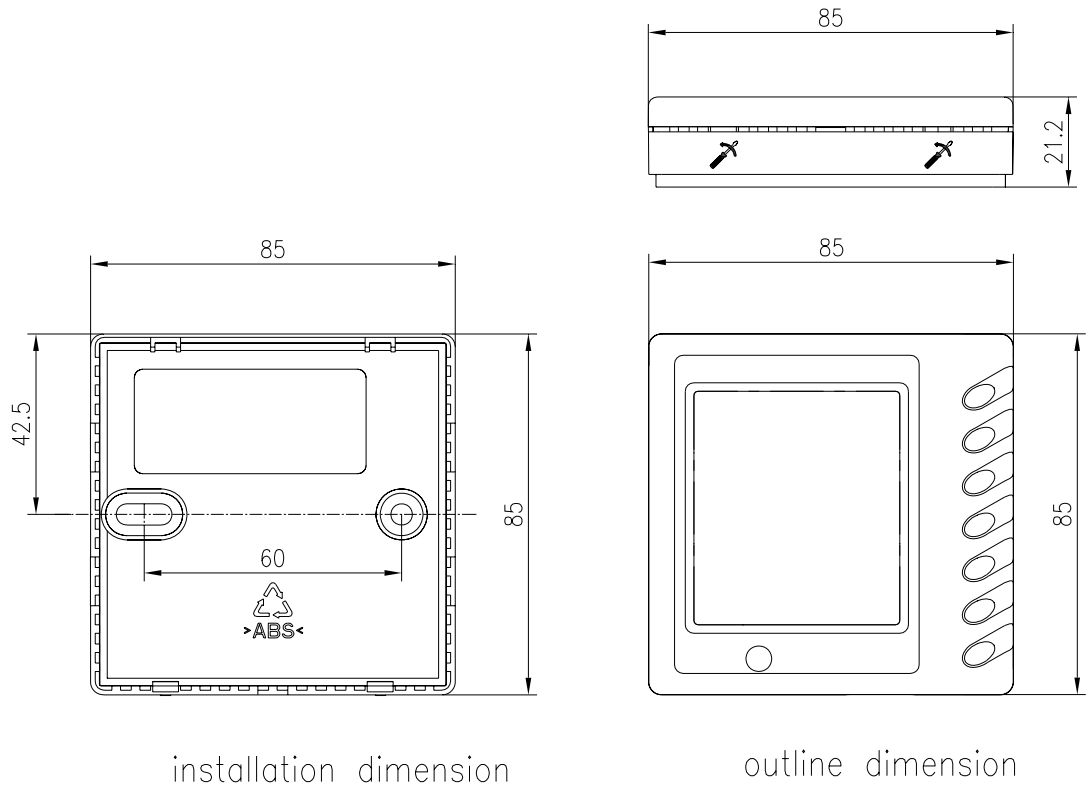
(for details, please read corresponding parts of manual).

4.2 Display View



NO.	Name	Function description
1	Timer value	Display time value
2	Timer on/off	TIMER ON ：display timer on， TIMER OFF :display timer off，
3	Fan speed display	AUTO FAN SPEED：auto fan speed， ：low fan speed， ：middle fan speed， ：high fan speed
4	Set temp display	Display set temp value，its range is 16~30 ℃
5	Run mode display	AUTO：auto mode，COOL：cool mode，DRY：dry mode，FRESH：fresh fan mode，FAN：fan mode，HEAT：heat mode(only cool and heat unit)
6	Indoor temp display	Display surrounding temp indoor
7	Outdoor temp display	Display surrounding temp outdoor
8	Frost display	When unit frosts ,it display
9	Sleep display	Display sleep at Sleep mode
10	Swing display	When setting swing function, it displays,
11	Error display	When unit error, error code display

4.3 Dimension



4.4 Installation

1. First select an installation position. According to the size of the communication line of the wire controller, leave a recess or a embedded wire hole to bury the communication line.
2. If the communication line between the wire controller (85×85×20) and the indoor unit is surface-mounted, use 1# PVC pipe and make matching recess in the wall (refer to Figure 6); If concealed installation is adopted, 1# PVC pipe can be used (Refer to Figure 7).
3. No matter if surface mounting or concealed mounting is selected, it is required to drill 2 holes (in the same level) which distance shall be the same as the distance (60mm) of installation holes in the bottom plate of the wire controller. Then insert a wood plug into each hole. Fix the bottom plate of the wire controller to the wall by using the two holes. Plug the communication line onto the control panel. Lastly install the panel of the wire controller.

Caution:

During the installation of the bottom plate of the wire controller, pay attention to the direction of the bottom plate. The plate's side with two notches must be at the lower

position, and otherwise the panel of the wire controller cannot be correctly installed.

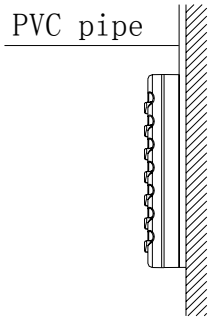


Fig6：Surface Mounting of Cable

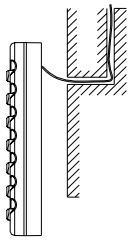


Fig7：Concealed mounting of Cable

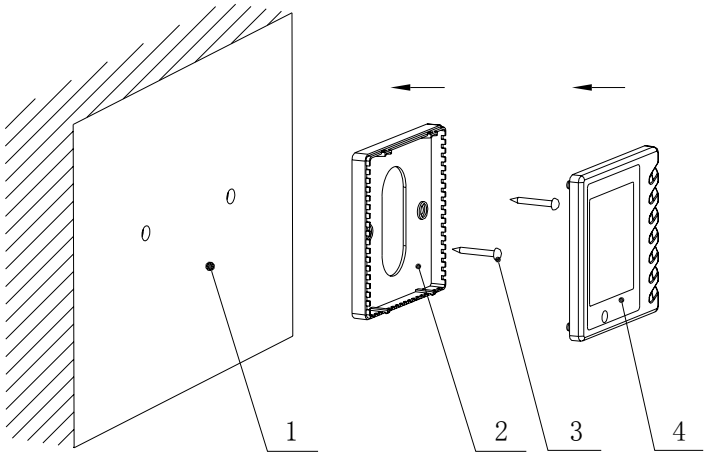


Fig 8 Schematic Diagram of Installation

No.	Name
1	Wall Surface
2	Bottom Plate of Wire Controller
3	Screw M4X10
4	Panel of Wire Controller

⚠ Caution:

1. The communication distance between the main board and the wire controller can be as far as 20m (The standard distance is 8m).

2. The wire controller shall not be installed in a place where there is water drop or large amount of water vapor.

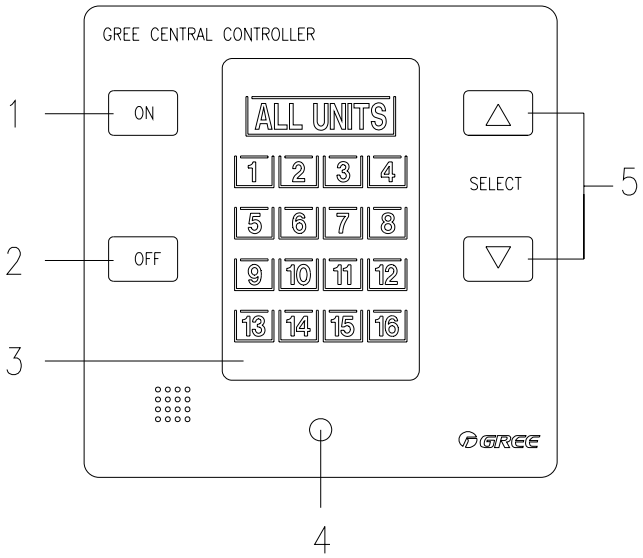
5 CENTRALIZED CONTROLLER

5.1 Centralized Controller-not with week timer

5.1.1 Function

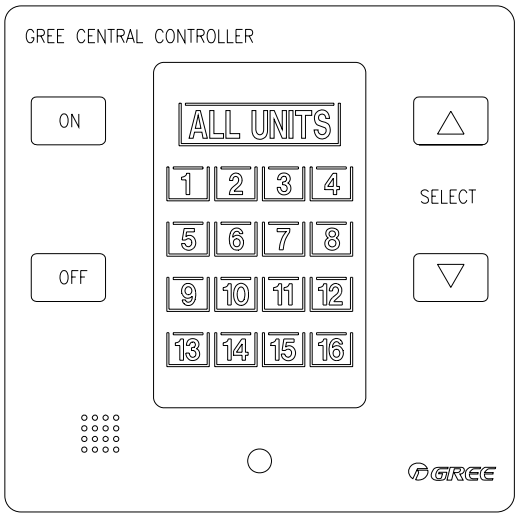
Centralized Controller-not with week timer only control on-off function of every unit. Up to 16 sets of units can be controlled simultaneously by the centralized controller-not with week timer.

5.1.2 Operation View



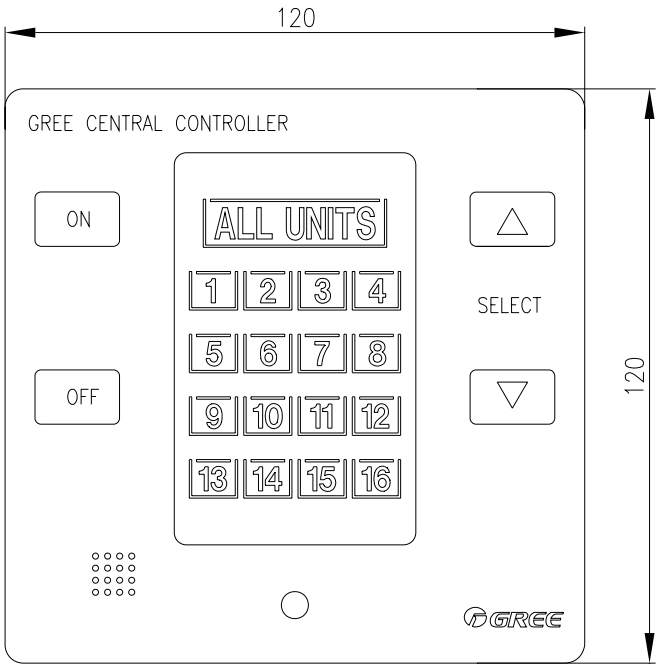
NO.	Name	Function description
1	ON button	Press the button to start unit
2	OFF button	Press the button to close unit
3	LCD display	Display unit information
4	LED	LED indication
5	Increasing / Decreasing button	Press buttons to select the unit

5.1.3 Display View



Display unit address value in the net.

5.1.4 Dimensions

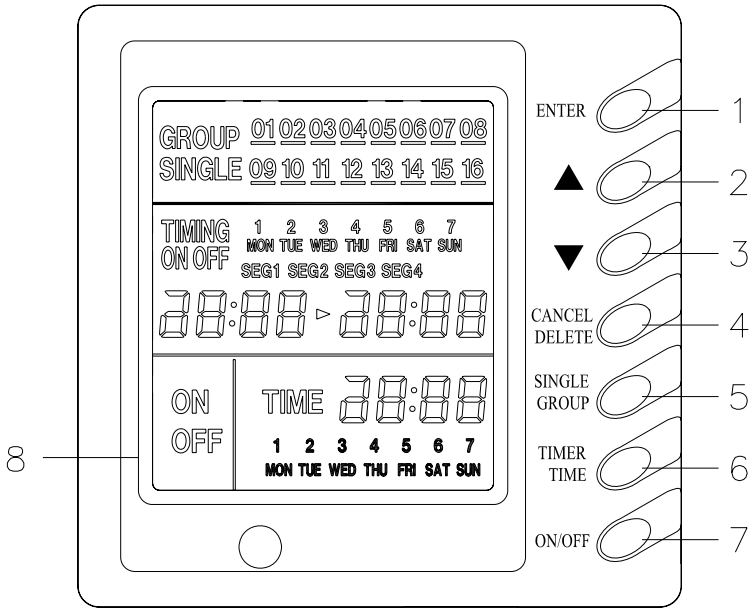


5.2 Centralized Controller-week timer

5.2.1 Function

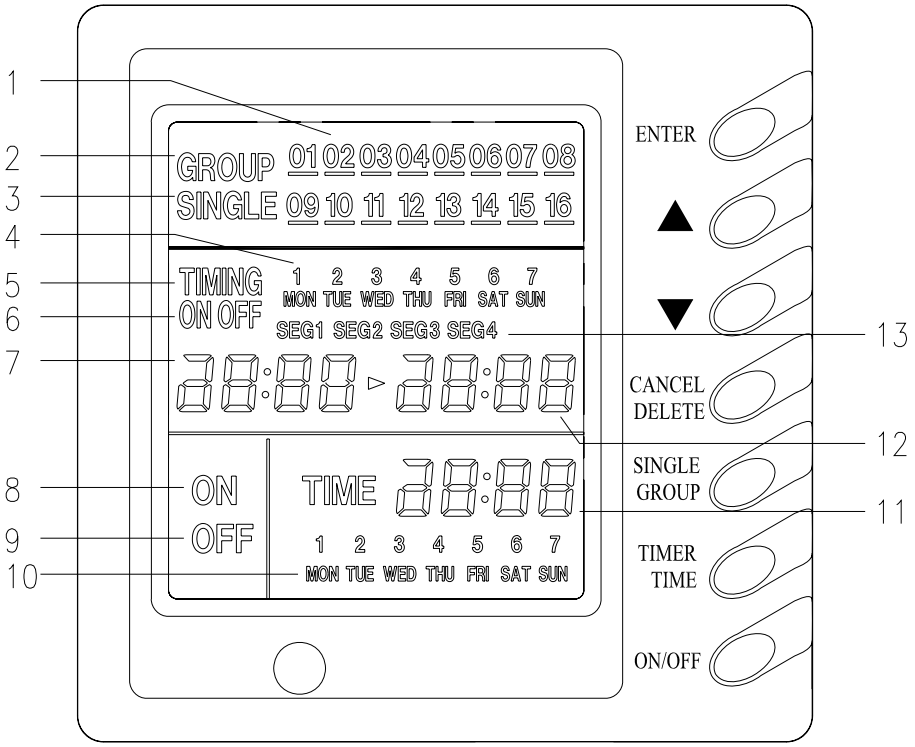
Centralized Control and Week Timer Functions: The centralized controller and the weekly timer are integrated in the same wire controller. The system has both the centralized control and the week timing functions. Up to 16 sets of units can be controlled simultaneously by the centralized controller (weekly timer). The weekly timer has the function of invalidating the lower unit. The weekly timing function is able to realized four timing ON/OFF periods for any unit every day, so as to achieve fully automatic operation. No timing control can be set for holidays. On and off of every duct type unit can be done through the Timer On / Off of this WEEKLY TIMER，it can not set other functions except on-off function of units.

5.2.2 Operation View



NO.	Name	Function description
1	ENTER button	when "**enter**" is pressed the setting is validate.
2	Increasing button	Press "▲" and selected the unit or a certain day in one week or specific value. Press "▲" can set week part of time.
3	Decreasing button	Press "▼" and selected the unit or a certain day in one week or specific value. Press "▼" can set week part of time.
4	CANCEL/DELETE button	short-press "**cancel/delete**" to back to default page or last process, long-press "**cancel/delete**" to cancel timer of a certain time period in a certain day
5	SINGLLE/GROUP button	short-press "**single/group**" to enter single control setting. "**SINGLE**" displayed. long-press "**single/group**" to enter group control setting. "**GROUP**" displayed
6	TIMER/TIME button	Short-press "**timer/time**" to enter timer setting. Long-press "**timer/time**" under default page can begin time setting.
7	On/off button	Control unit run or stop
8	LCD display	Display unit information

5.2.3 Display View

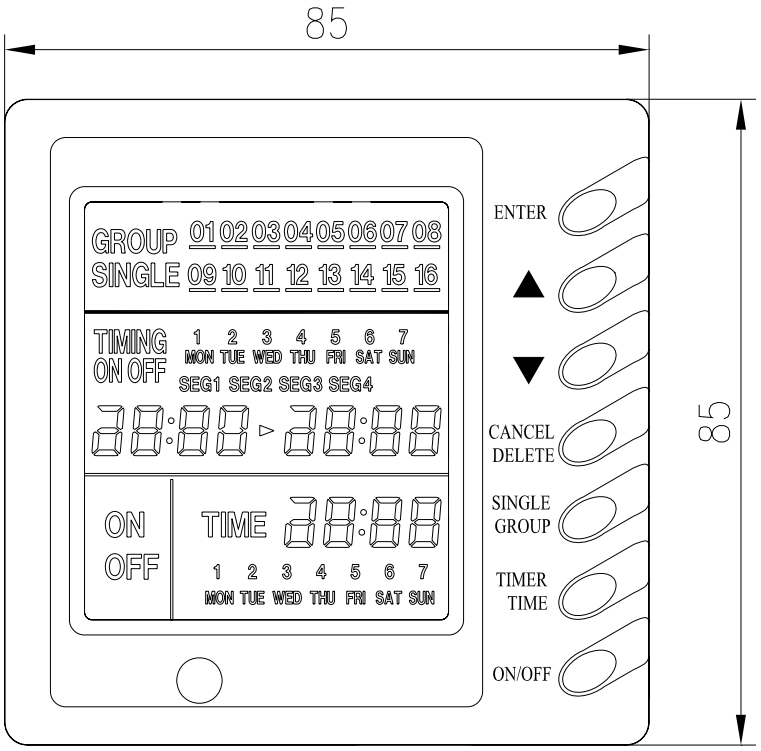


NO.	Name	Function description
1	unit's no. displays	Display unit's numbers
2	Group control displays	when group controls, it will display
3	Single control displays	when single unit controls, it will display
4	Timer time in week displays	Display time in week
5	Timer displays	Display time
6	timer state displays	"on": when set unit on, "on" will display; "off": when set unit off, "off" will display;
7	timer on time displays	Display starts time
8	on control displays	When set unit or group on, it will display,
9	off control displays	When set unit or group off, it will display,
10	present time in week display	Display present time of week.
11	present time in Hr:Min displays	Display time of hour and minute now
12	timer off time displays	Display over time
13	timer period displays	Set to different time segment

Note

Please read corresponding manual of weekly timer controller to be familiar with it.

5.2.4 Dimensions



5.3 Field Setting

S/N of each unit is displayed on centralized control device: S/N of the unit is decided by the position(on the back of wired controller) of DIP switch of wired controller of each air duct type unit. From right to left, code is corresponding to rod 4~1 of DIP switch. That dial it to “ON” position means “0”and that dial it to “OFF” position means “1”.

Example 1: Code “0111”means S/N “8”. Rods 1,2,3 are dialed to the opposite side of “ON” and rod 4 is dialed to the position “ON”.

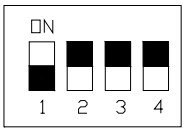
Example 2: Code “1010”means S/N “11”. Rods 2 and 4 are dialed to the opposite side of “ON” and rods 1 and 3 are dialed to the “ON” position.

Position	S/N	Position	S/N	Position	S/N	Position	S/N
0000	1	0100	5	1000	9	1100	13
0001	2	0101	6	1001	10	1101	14
0010	3	0110	7	1010	11	1110	15
0011	4	0111	8	1011	12	1111	16

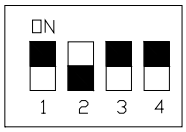
Please see the below:

Unit S/N:1
0000

Unit S/N:2
0001

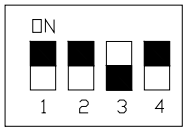


Unit S/N:3
0010

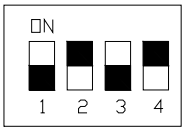


Unit S/N:4
0011

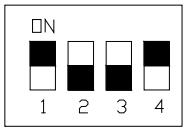
Unit S/N:5
0100



Unit S/N:6
0101

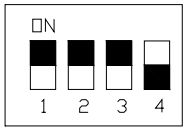


Unit S/N:7
0110

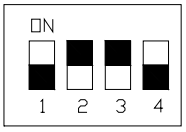


Unit S/N:8
0111

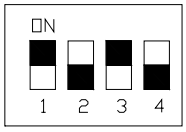
Unit S/N:9
1000



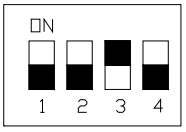
Unit S/N:10
1001



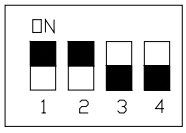
Unit S/N:11
1010



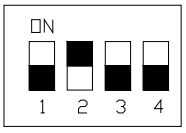
Unit S/N:12
1011



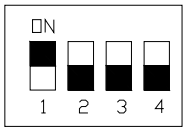
Unit S/N:13
1100



Unit S/N:14
1101

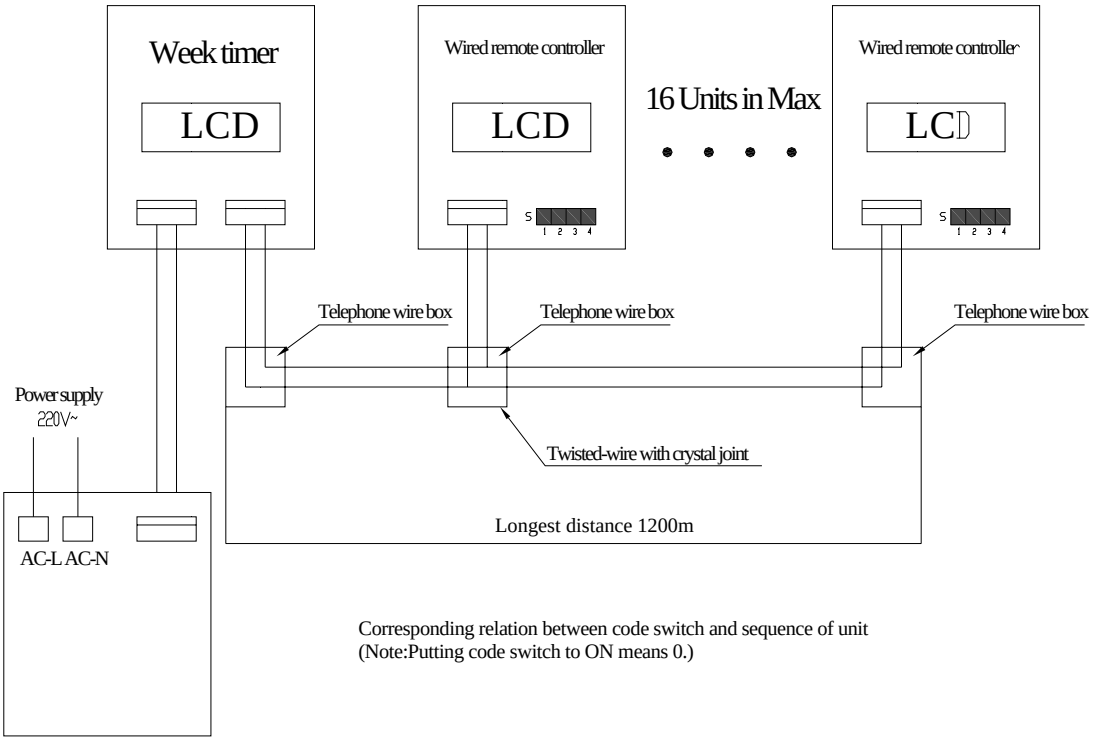


Unit S/N:15
1110



Unit S/N:16
1111

5.4 Control Wiring Design



Corresponding relation between code switch and sequence of unit
(Note:Putting code switch to ON means 0.)

P	S	P	S	P	S	P	S
0000	1	0010	5	0001	9	0011	13
1000	2	1010	6	1001	10	1011	14
0100	3	0110	7	0101	11	0111	15
1100	4	1110	8	1101	12	1111	16

INSTALLATION

INSTALLATION

1 INDOOR UNIT INSTALLATION

1.1 Installation of Duct Type

1.1.1 Before Installation

- After receiving the machine, check if there is any damage during transportation. If there is damage on the surface or inside, inform the carrier or equipment supplier in written form immediately.
- After receiving the machine, check the unit and its accessories according to the packing list. Confrim that the model is the same and the unit is intact. At the same time, check the specification and quantity of the accessories.
- Select the correct route and method of transportation to avoid damage of the unit and any accident incurred. Out of protecting the unit and security consideration, it is advised that move the unit with its package. Even if that is forbidden in special situation, don't remove the carton to avoid looseness and drop.
- Check if the installation base is solid. When the unit is installed in the metal part of the building, must make sure electric insulation and make sure that it conforms with related standards.
- Make sure that the installation site is far away from where the flammable or explosive substances are stored to avoid explosion or fire may occurred by leakage of such substances.

1.1.2 Installation Site

- Ensure the top hanging piece has strong strength to withstand the weight of the unit.
- The drainage pipe has convenient flow of water.
- There is no obstacle blocking the air intake and exhaust outlet, so as to ensure sound air circulation.
- The installation spaces required by the drawing must be ensured, so as to provide enough space for the service and maintenance.
- The installation site must be far away from heat source, leakage of inflammable gas or smoke.
- The indoor unit is of ceiling mount (indoor unit is hidden inside the ceiling).
- The indoor and outdoor units, the power cable and the connecting electrical lines must be at least 1 meter from any TV set or radio. This is to avoid image interference or noise of the TV set or radio. (Even if the distance is 1 meter, noise can also exist if there is strong electric wave.)

1.1.3 Caution for Installation

1） The unit is installed inside room and usually, by the way of ceiling-type.Make sure that the hanger on the ceiling can withstand the weight of the unit.

2） Rubber shock pad (thickness ≥20mm) and rubber junction shall be applied to meet the requirements of noise and vibration.

3） Insert a M10 expansion bolt into the hole. Drive a nail into the bolt. Refer to the profile dimensions drawing of the indoor unit for the distance between the holes. Refer to Figure 1 for the installation of the expansion bolt，as Figure 1-1-1 shows.

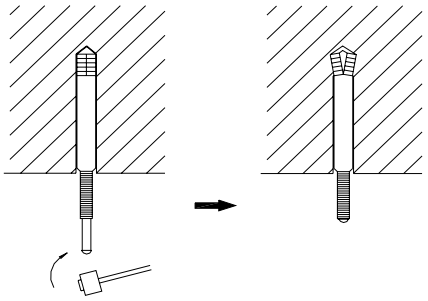


Figure 1-1-1

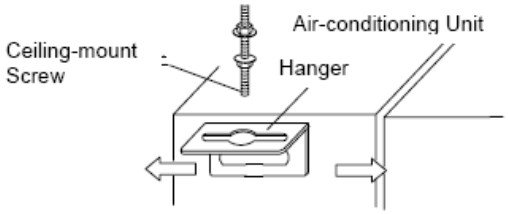


Figure 1-1-2

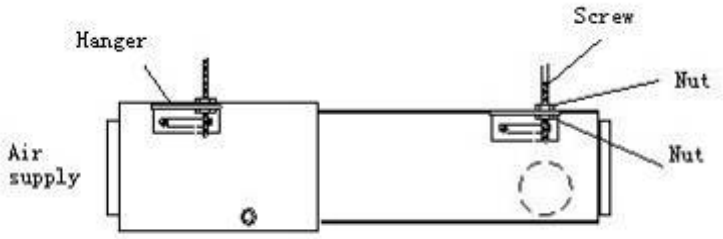


Figure 1-1-3

4） Install the hanger onto the indoor unit as Figure 1-1-2 and Figure 1-1-3 shows.

5） Install the indoor unit at the ceiling as Figure 1-1-5shows.

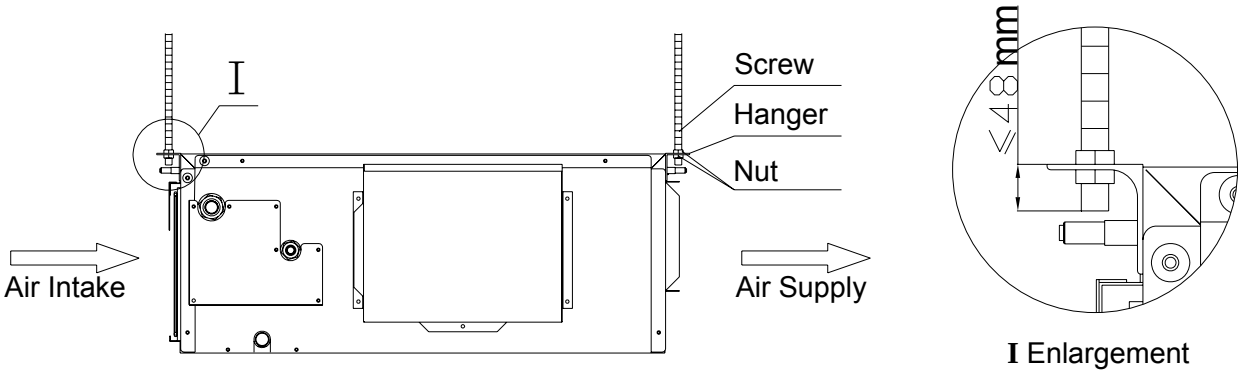


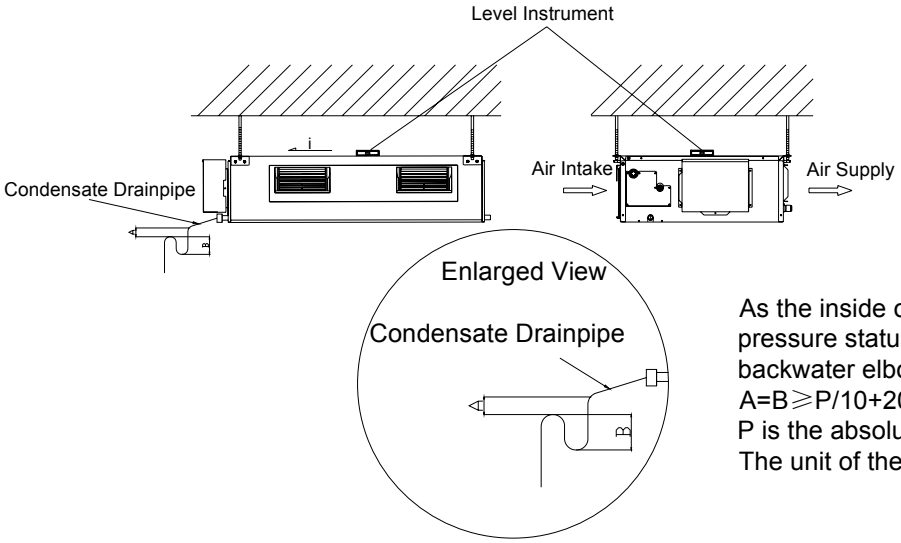
Figure 1-1-5

6） Precautions for unfavorable installation:

- The preparation of all pipes (connecting pipes and drainage pipes) and cables (connecting lines of wire controller, indoor unit and outdoor unit) must be ready before the installation, so as to achieve smooth installation.
- Drill an opening on the ceiling. Maybe it is required to support the ceiling to ensure the evenness of it and avoid the vibration of it. Consult with the user or a construction company for details.
- In case the strength of ceiling is not enough, use angle iron sections to set up a beam support. Place the unit at the beam and fix it.

7） Horizontal Survey of the Indoor Unit

After installation of the indoor unit is finished, horizontal survey of the complete unit must be executed to confirm the horizontal placement of the unit,which is shown as below:



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)
P is the absolute pressure inside the unit.
The unit of the pressure is Pa.

Figure 1-1-6

1.1.4 Dimension Data

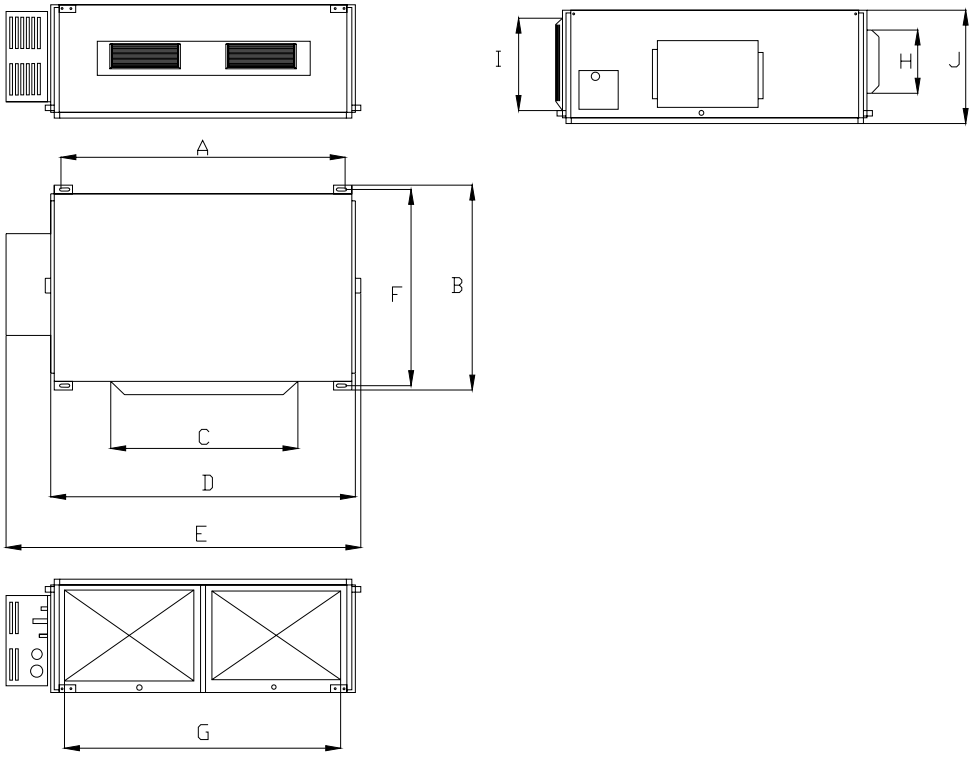


Figure 1-1-7

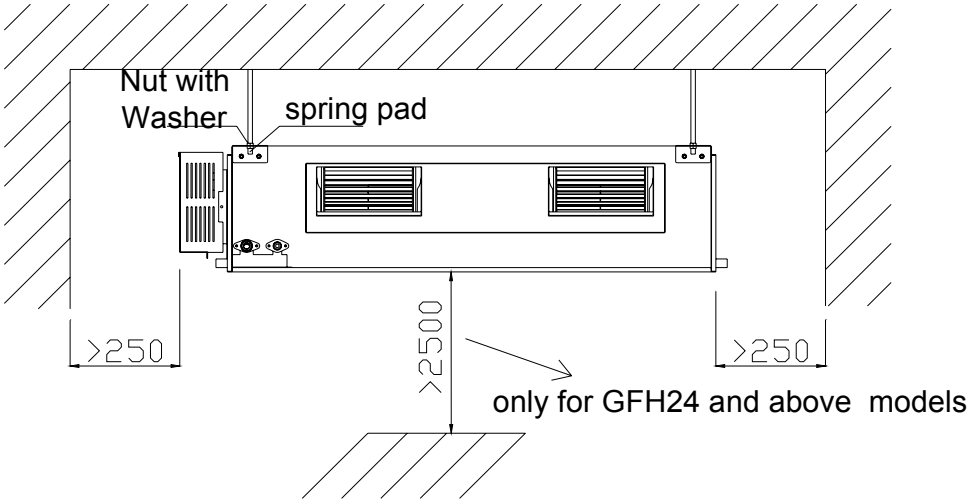
Unit：mm

Model	A	B	C	D	E	F	G	H	I	J
GFH09K3BI	856	571	515	790	913	680	750	100	172	220
GFH12K3BI										
GFH18K3BI	932	627	738	894	1012	736	738	125	207	266
GFH24K3BI	1101	395	820	1159	1207	504	1002	160	235	265
GFH30K3BI										
GFH36K3BI	1011	635	820	1115	1251	744	980	160	231	290
GFH42K3BI										
GFH48K3BI										
GFH60K3BI	1015	679	820	1115	1251	788	980	160	261	330

Accessories Sheet

Name	Qty	Description
Use and Installation Instruction	1	
Heat Insulator of Gas Pipe Joint	1	for gas joint of the indoor unit
Heat Insulator of Liquid Pipe Joint	1	for liquid joint of the indoor unit
Heat Insulator of drain Pipe	2	for wraping condensate pipe and rubber plug
Nut with Washer M8	8	for fixing hook hitch
Nut with Washer M10	4	4 sets; for installation of the indoor unit
Nut and Spring Pad	4	
Hanger	4	for installation of the indoor unit
Bundle of Threads	4 or 8pcs	4pcs for 2HP unit and 8pcs for others
Wired Controller	1	
Remote Controller	1	
Battery	2	
Accordion Pipe	0，2pcs or 4pcs	0 for 2HP unit， 2pcs for 2.5-3HP unit and 4pcs for 4-5HP unit
Power Cord	1－2pcs	2 pcs for 4-5HP unit and 1 pcs for others
Connecting Wire	2－3pcs	3pcs for 4-5HP unit and 2pcs for others

1.1.5 Installation Clearance Data



Indoor Unit Figure 1-1-8

1.1.6 Drain Piping Work

1） Installation of Drainage Pipeline

- A drainage outlet is located at both the left and right sides of the indoor unit. After selecting one drainage outlet, the other outlet shall be blocked by rubber plug. Bundle the blocked outlet with string to avoid l1eakage, and also use thermal insulation materials to wrap the blocked outlet.
- When shipped out from factory, both the Drainage outlets are blocked by rubber plugs.
- When connecting the drainage pipe with the unit, do not apply excessive force to the pipeline at the side of the unit. The fixing position of the pipeline shall be near the unit.
- Purchase general-purpose hard PVC pipe locally to be used as the drainage pipeline. When carrying out connection, place the end of the PVC pipeline into the drainage hole. Use flexible drainage tube and tighten it with thread loop. Never use adhesive to connect the drainage hole and the flexible drainage tube. (As shown in Figure 1-1-9)
- When the laid drainage pipe is used for multiple units, the common pipe shall be about 100mm lower than the drainage outlet of each set of unit. A pipe with thicker wall shall be used for such purpose.

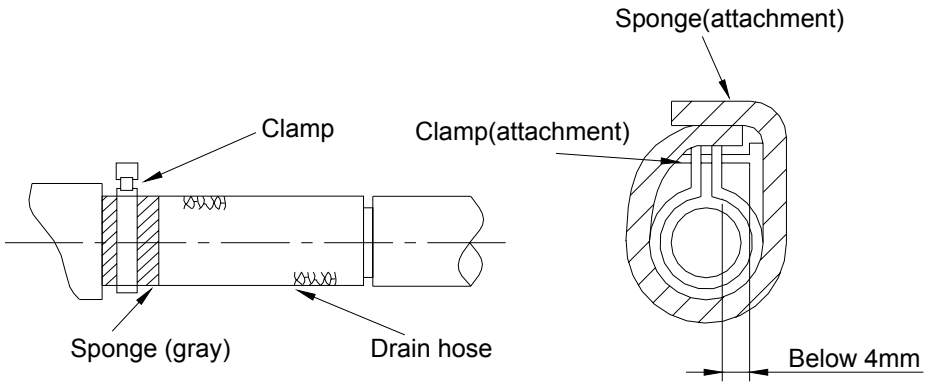


Figure 1-1-9

2） Testing of Drainage System

- After the electrical installation is completed, carry out the testing of the drainage system.
- During the test, check if the water correctly flows through the pipelines. Carefully observe the joints to ensure that there is no leakage. If the unit is to be installed in a new house, carry out testing before decorating the ceiling.

3） Matters of Attention

- The joint of Drainage Pipeline must not have leakage.
- The Drainage Pipeline shall be installed with an inclining angel of 5～10°, so as to facilitate the drainage of condensate. The joints of the Drainage Pipeline must be covered by thermal insulation materials to avoid generation of exterior condensate. (As shown in Figure 1-1-10)

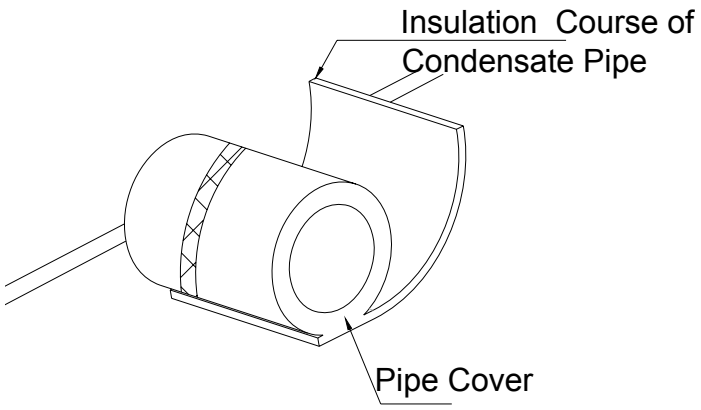


Figure 1-1-10

1.1.7 Installation of Air Duct and the opening

Caution:

- The air supply pipe, the air intake pipe and the fresh air pipe must be covered with a layer of thermal insulation, so as to avoid thermal leakage and condensation. Firstly apply liquid nail on the pipes, then attach the thermal insulation cotton with a layer of tinfoil. Use the liquid nail cover to fix it. Lastly use tinfoil adhesive tape to carefully seal the joints; other good thermal insulation materials can also be used.
- The air supply pipes and the air intake pipes shall be fixed to the prefabricated boards of the ceiling by using iron supports. The joints of the pipes must be sealed by glue so as to avoid leakage.
- The design and installation of air pipes must be in conformity with the relevant state engineering criteria.
- The edge of the air intake pipe must be at least 150mm away from the wall. The air intake must be covered with filter.
- Silencing and shock absorption shall be considered in the design and installation of the air pipes. 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.).

1） Installation of the Air Supply Pipe

◆ Installation of Rectangular Air Duct as shown in Figure 1-1-11

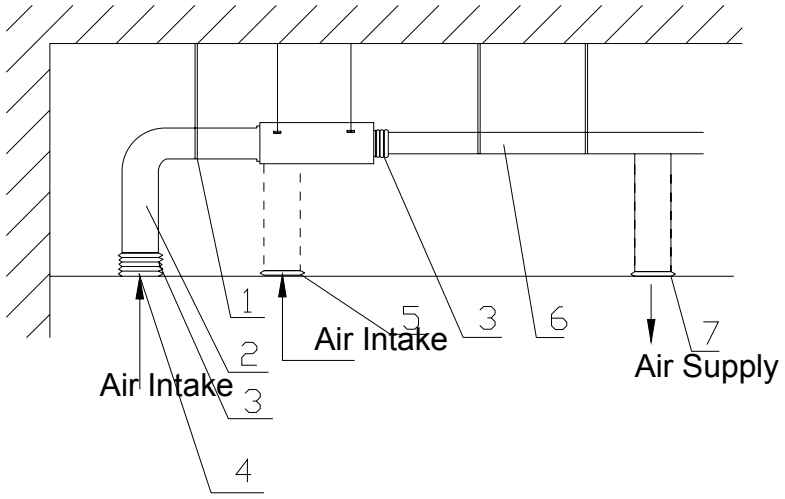


Figure 1-1-11

S/N	Name	S/N	Name
1	Hanger	5	Filter
2	Air Intake Pipe	6	Main Air Supply Pipe
3	Canvas Air Duct	7	Air Outlet
4	Air Inlet		

◆ Installation of Round Air Duct as shown in Figure 1-1-12

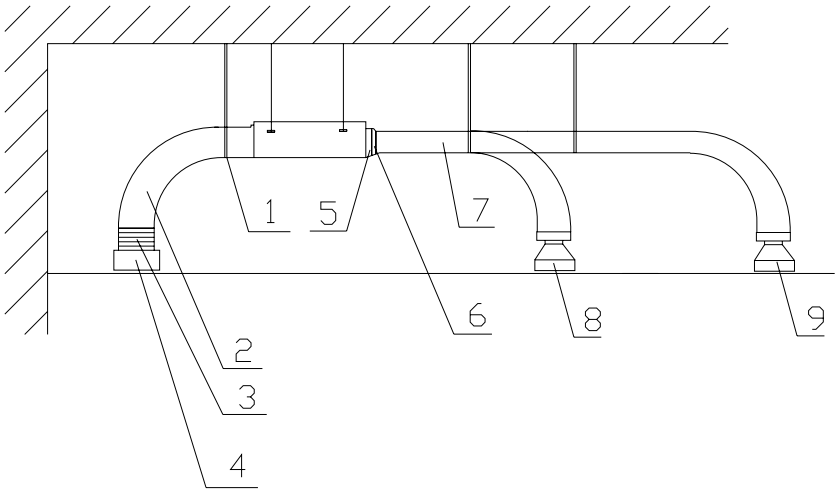


Figure 1-1-12

S/N	Name	S/N	Name
1	Hanger	6	Transition Air Duct
2	Air Intake Pipe	7	Air Supply Pipe

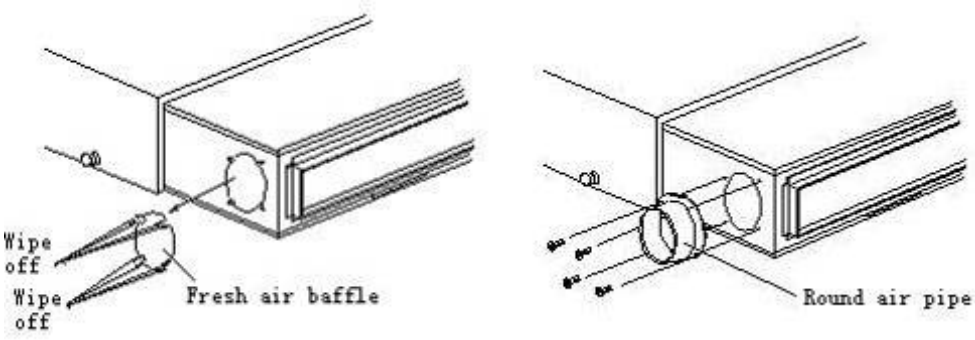
3	Canvas Air Duct	8	Restriction Chock
4	Air Intake Shutter	9	Joints of Restriction Chock
5	Air Outlet		

Note:

The above just shows the installation of back air inlet but bottom air inlet can be applied according to the actual situation. Its installation is similar to that of back air inlet. At least one air outlet shall keep open among all air outlets. Round air duct can also be adopted which supply air to room by round heat retaining hose. Both air supply pipe and air intake pipe need to be thermal insulated.

2） Installation of Fresh Air Duct (only for the models with 6000W cooling capacity

- When connecting fresh air duct, removel baffle plate of fresh air as Figure 1-1-13(a). If fresh air is not applied, seal the gap of baffle plate of fresh air with sponge.
- Install round flange to connect fresh air duct as Figure 1-1-14(b)
- Both air duct and round flange pipe need to be well sealed and thermal insulated.
- Fresh air shall be the air which has been filtered.



(a) (b)

Figure 1-1-13

3） Installation of Air Intake Pipe

- Rectangular flange has been installed on the back of the unit and air intake cover plate has been installed in the bottom when leaving the factory, which is shown as Figure 1-1-14.

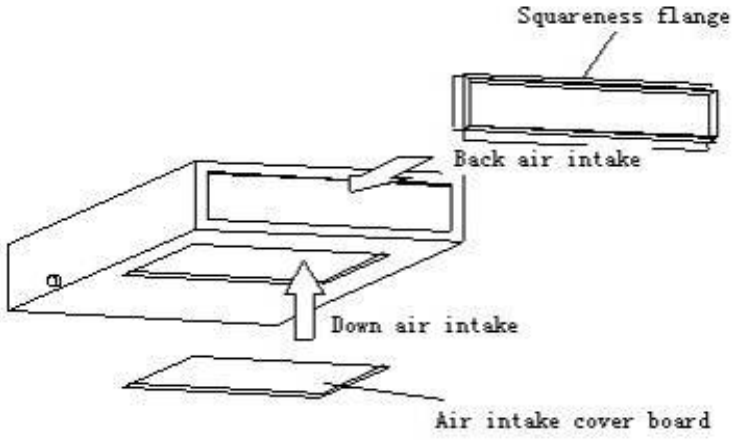
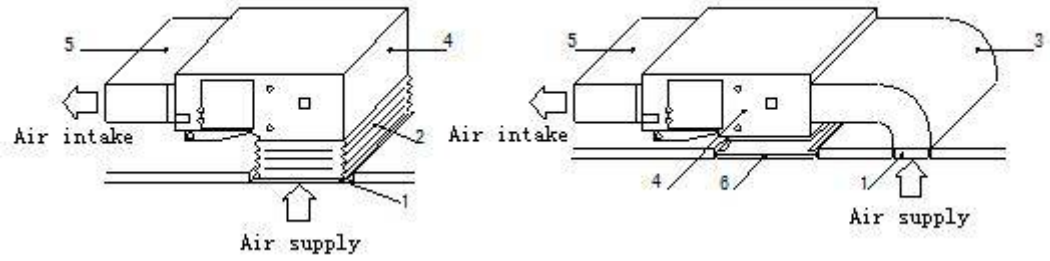


Figure 1-1-14

- If bottom air inlet shall be adopted, change the positions of rectangular flange and air intake cover plate.
- Connect air intake pipe with air inlet of the indoor unit by clinch bolts. The other end will connect air intake window. For freely adjusting height, canvas air duct can be made which is enhanced by 8# iron wire and shows as pucker shape. When selecting installation method, take the conditions of the building and maintenance of the unit into consideration.



S/N	Name	S/N	Name
1	Air Intake Window(with filter)	4	the Indoor Unit
2	Canvas Air Duct	5	Air Supply Pipe
3	Air Intake Pipe	6	Testing Grill

Figure 1-1-15

4） Installation of Round Air Outlet

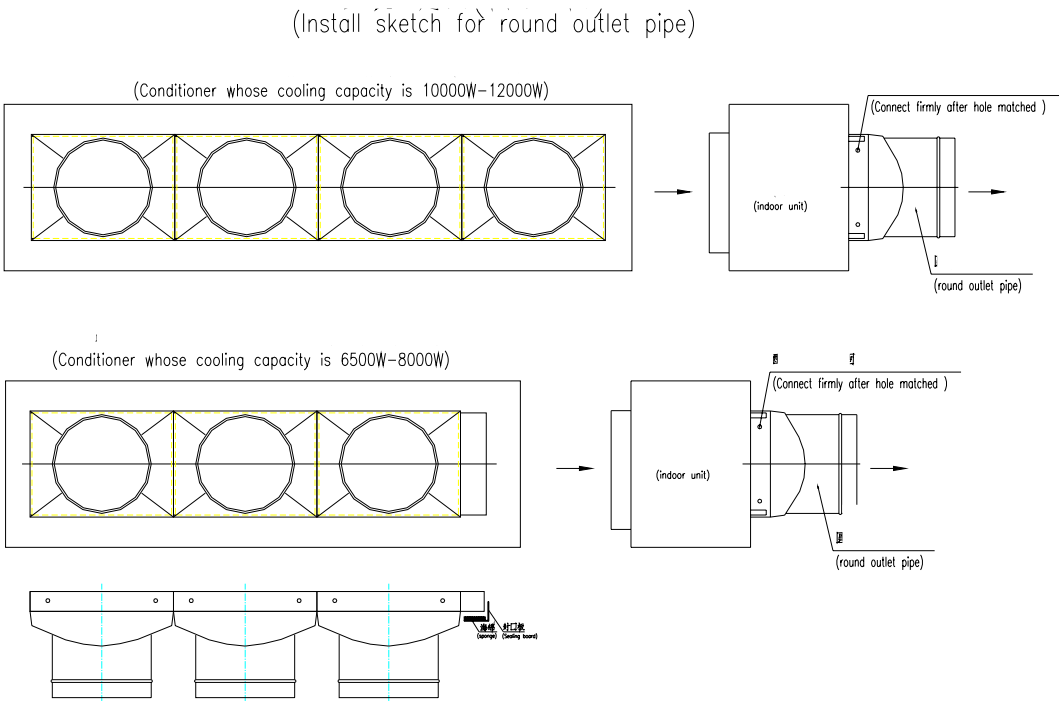


Figure 1-1-16

1.2 Installation of Ceiling Type

1.2.1 Before Installation

- After receiving the machine, check if there is any damage during transportation. If there is damage on the surface or inside, inform the carrier or equipment supplier in written form immediately.
- After receiving the machine, check the unit and its accessories according to the packing list. Confrim that the model is the same and the unit is intact. At the same time, check the specification and quantity of the accessories.
- Select the correct route and method of transportation to avoid damage of the unit and any accident incurred. Out of protecting the unit and security consideration, it is advised that move the unit with its package. Even if that is forbidden in special situation, don't remove the carton to avoid looseness and drop.
- Check if the installation base is solid. When the unit is installed in the metal part of the building, must make sure electric insulation and make sure that it conforms with related standards.

  Make sure that the installation site is far away from where the flammable or explosive substances are stored to avoid explosion or fire may occurred by leakage of such substances.

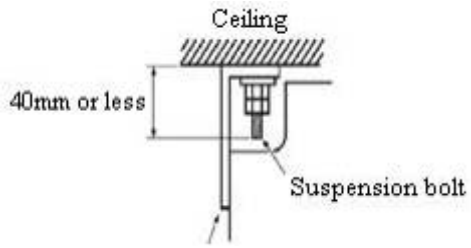
1.2.2 Installation Site

- Such a place where cool air can be distributed throughout the room.
- Such a place where is condensation water is easily drained out.

- Such a place that can handle the weight of indoor unit.
- Such a place which has easy access for maintenance.
- Such a place where is permitting easy connection with the outdoor unit.
- Such a place where is 1m or more away from other electric appliances such as television, audio device, etc.
- Avoid a location where there is heat source, high humidity or inflammable gas.
- Do not use the unit in the immediate surroundings of a laundry, a bath, a shower or a swimming pool.
- Be sure that the installation conforms to the installation dimension diagram.
- The space around the unit is adequate for ventilation

1.2.3 Caution for Installation

- Adjust the distance from the unit to the ceiling slab beforehand (Refer to Figure 1-2-1).
- Fix the hanger bracket to the suspension bolt (Refer to Figure 1-2-2).
- Make sure that extended suspension bolt from the ceiling stays inside the arrowed position. Readjust the hanger bracket when it is outside the arrowed position. (Refer to Figure 1-2-3)
- Suspension bolt stays inside the cap of indoor unit .Never remove the cap. Lift the unit and slide forward unit the dent. (Refer to Figure 1-2-4)
- Screw tightly both hanger bracket setting bolts (M8) (Refer to Figure 1-2-2)
- Screw tightly both hanger bracket fixing bolts (M6) to prevent the movement of the indoor unit. (Refer to Figure 1-2-2)
- Adjust the height by turning the nut with a spanner. Insert the spanner from the hanger bracket opening. (Refer to Figure 1-2-5)



Hanger bracket Figure 1-2-1

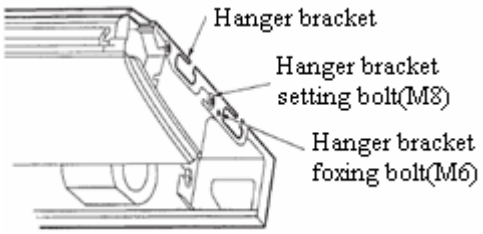


Figure 1-2-2

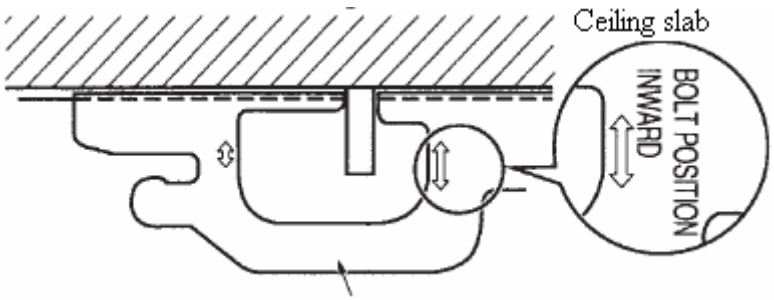


Figure 1-2-3 Hanger bracket

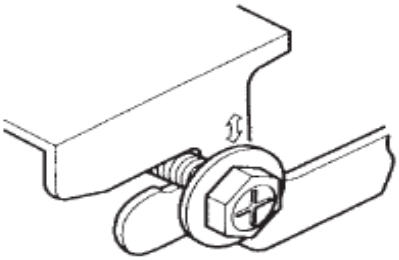


Figure 1-2-4

In case of hanging:

It is possible to install using inward facing hanger bracket by not removing the brackets from the indoor unit. (Refer to Figure 1-2-6) Be sure to use only the specified accessories and parts for installation work.

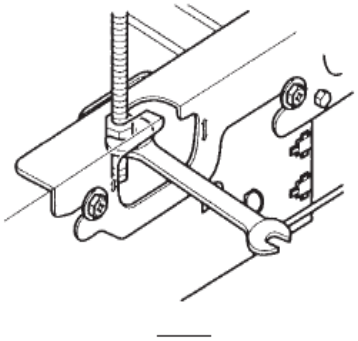


Figure 1-2-5

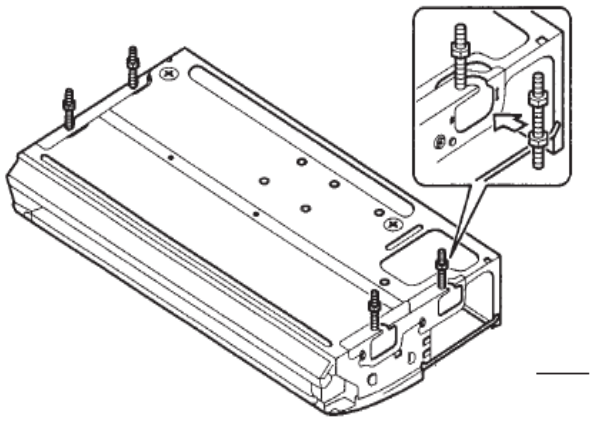


Figure 1-2-6

1.2.4 Dimension Data

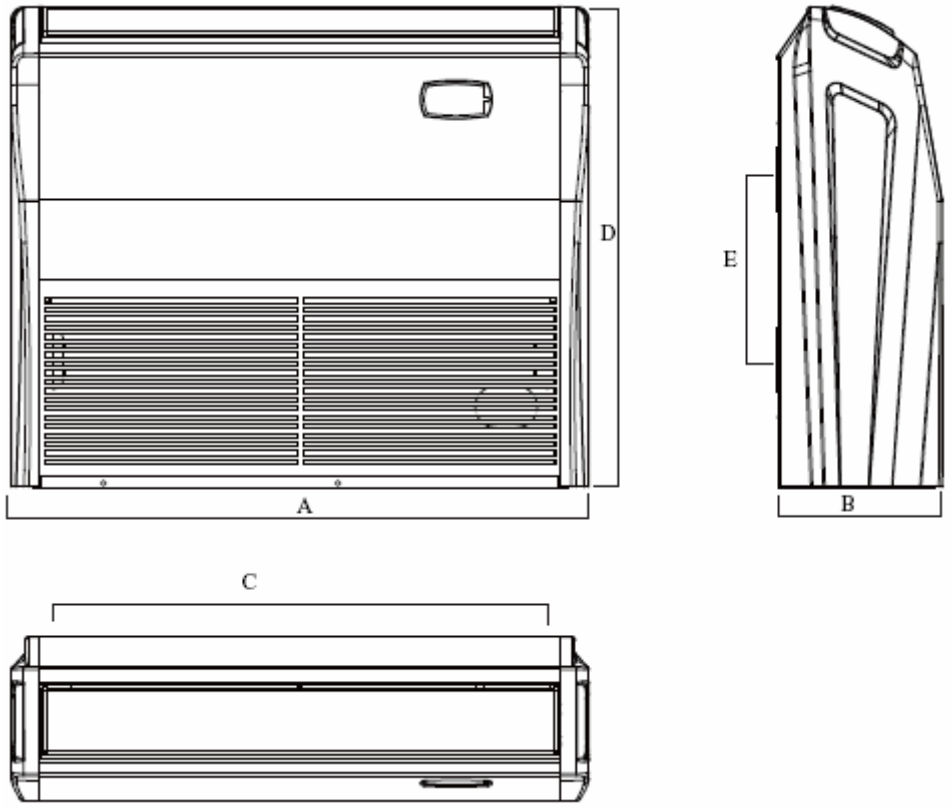


Figure 1-2-7

Unit: mm

Model	A	B	C	D	E
GTH09K3BI GTH12K3BI GTH18K3BI	836	238	745	695	260
GTH24K3BI GTH30K3BI	1300	188	1202	600	260
GTH36K3BI GTH42K3BI GTH48K3BI	1590	238	1491	695	260

1.2.5 Installation Clearance Data

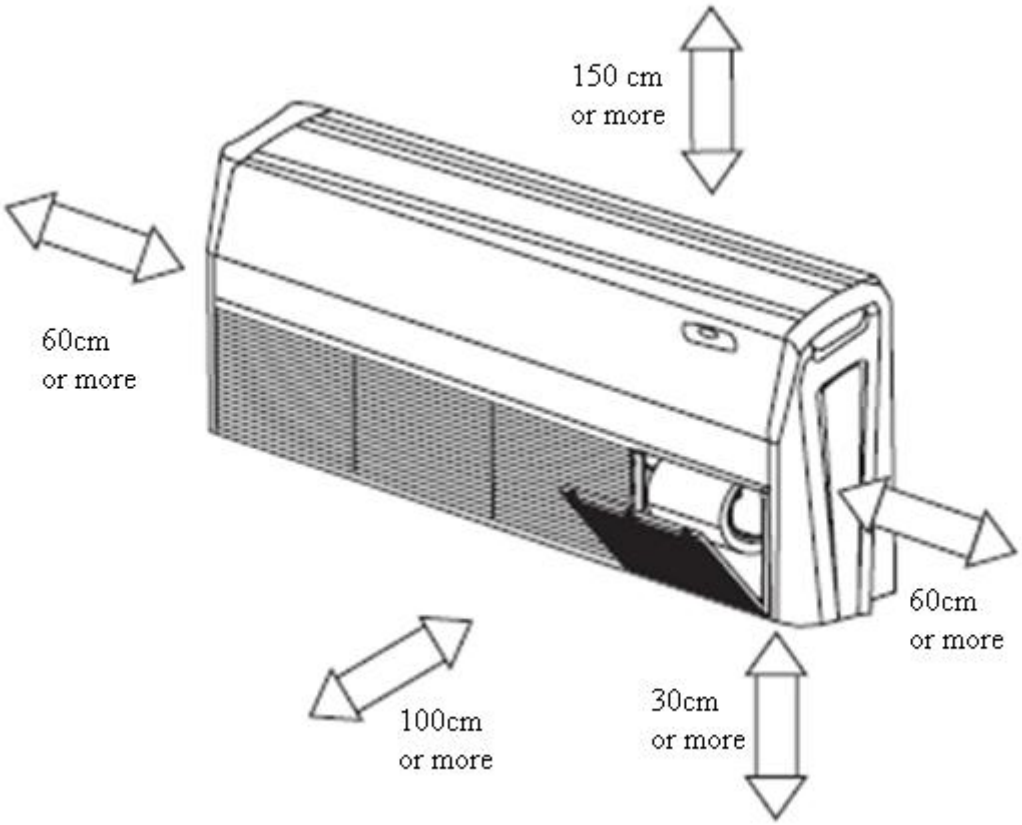


Figure 1-2-8

1.2.6 Drain Piping Work

1） Installation of Drainage Pipeline

- A Drainage outlet is located at both the left and right sides of the indoor unit. After selecting one Drainage outlet, the other outlet shall be blocked by rubber plug. Bundle the blocked outlet with string to avoid leakage, and also use thermal insulation materials to wrap the blocked outlet.
- When shipped out from factory, both the Drainage outlets are blocked by rubber plugs.
- When connecting the drainage pipe with the unit, do not apply excessive force to the pipeline at the side of the unit. The fixing position of the pipeline shall be near the unit.
- Purchase general-purpose hard PVC pipe locally to be used as the drainage pipeline. When carrying out connection, place the end of the PVC pipeline into the drainage hole. Use flexible drainage tube and tighten it with thread loop. Never use adhesive to connect the drainage hole and the flexible drainage tube. (As shown in Figure 1-2-9)
- When the laid drainage pipe is used for multiple units, the common pipe shall be about 100mm lower than the drainage outlet of each set of unit. A pipe with thicker wall shall be used for such purpose.

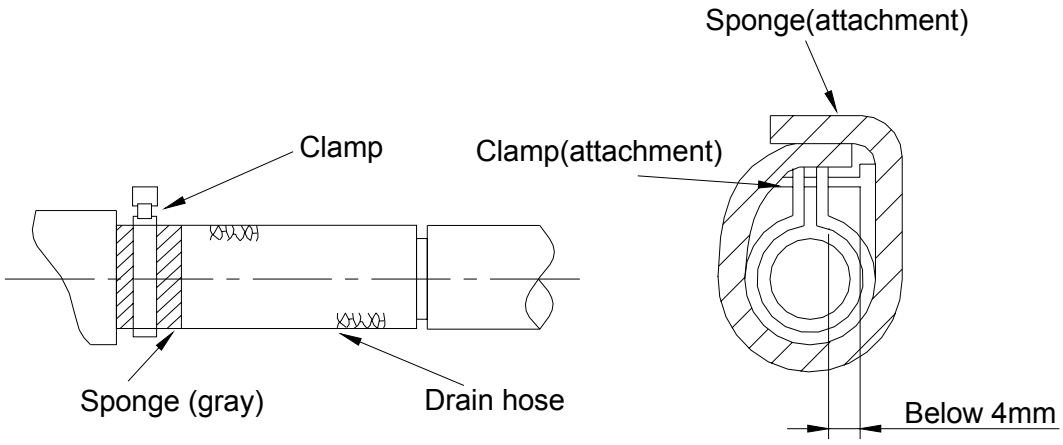


Figure 1-2-9

2） Testing of Drainage System

- After the electrical installation is completed, carry out the testing of the drainage system.
- During the test, check if the water correctly flows through the pipelines. Carefully observe the joints to ensure that there is no leakage. If the unit is to be installed in a new house, carry out testing before decorating the ceiling.

3） Matters of Attention

- The drain pipe outlet direction can be chosen from either the right rear or right.

The diameter of the drain pipe should be equal to or greater than the diameter of the connecting pipe. (Vinyl tube; pipe size: 20mm; outer dimension: 26mm)

Keep the drain pipe short and incline downwards at a gradient of at least 1/100 to prevent air pockets. (Refer to Figure 1-2-10)

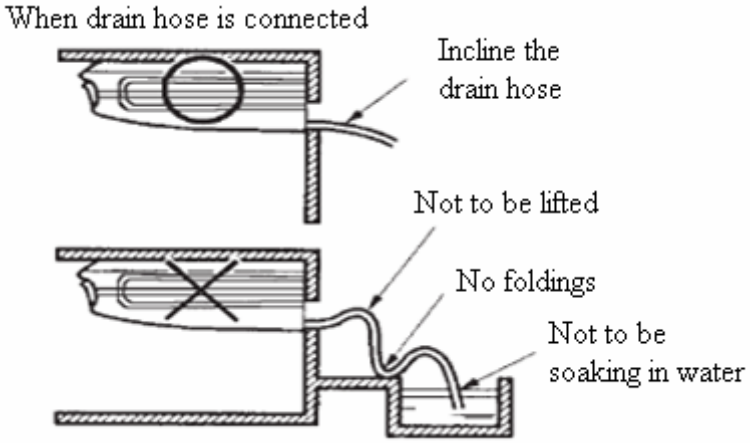


Figure 1-2-10

- No folding of drain hose inside the indoor unit. (Refer to Figure 1-2-11)
- Confirm that smooth drainage is achieved after the piping work. Pour 600 cc of water into the drain pan from the air outlet for confirming drainage. (Refer to Figure 1-2-12)

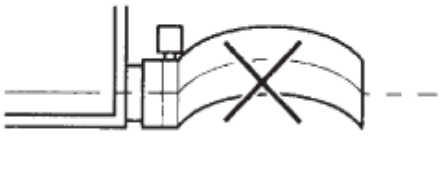


Figure 1-2-11

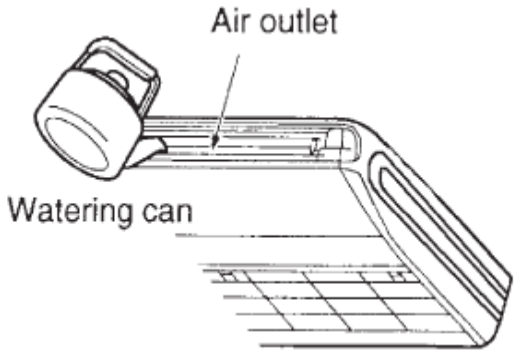


Figure 1-2-12

1.3 Installation of Cassette Type

1.3.1 Before Installation

- After receiving the machine, check if there is any damage during transportation. If there is damage on the surface or inside, inform the carrier or equipment supplier in written form immediately.
- After receiving the machine, check the unit and its accessories according to the packing list. Confirm that the model is the same and the unit is intact. At the same time, check the specification and quantity of the accessories.
- Select the correct route and method of transportation to avoid damage of the unit and any accident incurred. Out of protecting the unit and security consideration, it is advised that move the unit with its package. Even if that is forbidden in special situation, don't remove the carton to avoid looseness and drop.
- Check if the installation base is solid. When the unit is installed in the metal part of the building, must make sure electric insulation and make sure that it conforms with related standards.
- Make sure that the installation site is far away from where the flammable or explosive substances are stored to avoid explosion or fire may occurred by leakage of such substances.

1.3.2 Installation Site

- Obstruct should put away from the intake or outlet vent of the indoor unit so that the airflow can be blown though all the room.
- Make sure that the installation had accord with the requirement of the schematic diagram of installation spaces.
- Select the place where can stand 4 times of the weight of the indoor unit and would not increase the operating noise and oscillate.
- The horizontally of the installation place should be guaranteed.
- Select the place where is easy to drain out the condensate water, and connect with outdoor unit.
- Make sure that there are enough space for care and maintenance. Make sure that the weight between the indoor unit and ground is above 2300mm.
- When installing the steeve bolt, check if the install place can stand the weight 4 times of the unit's. If not, reinforce before installation. (Refer to the install cardboard and find where should be reinforced)

The appliance shall not be installed in laundry.

Cautions:

There will be lots of lampblack and dust stick on the acentric, heat exchanger and water pump in dining room and kitchen, which would reduce the capacity of heat exchanger, lead water leakage and abnormal operation of the water pump.

The following treatment should be taken under this circumstance:

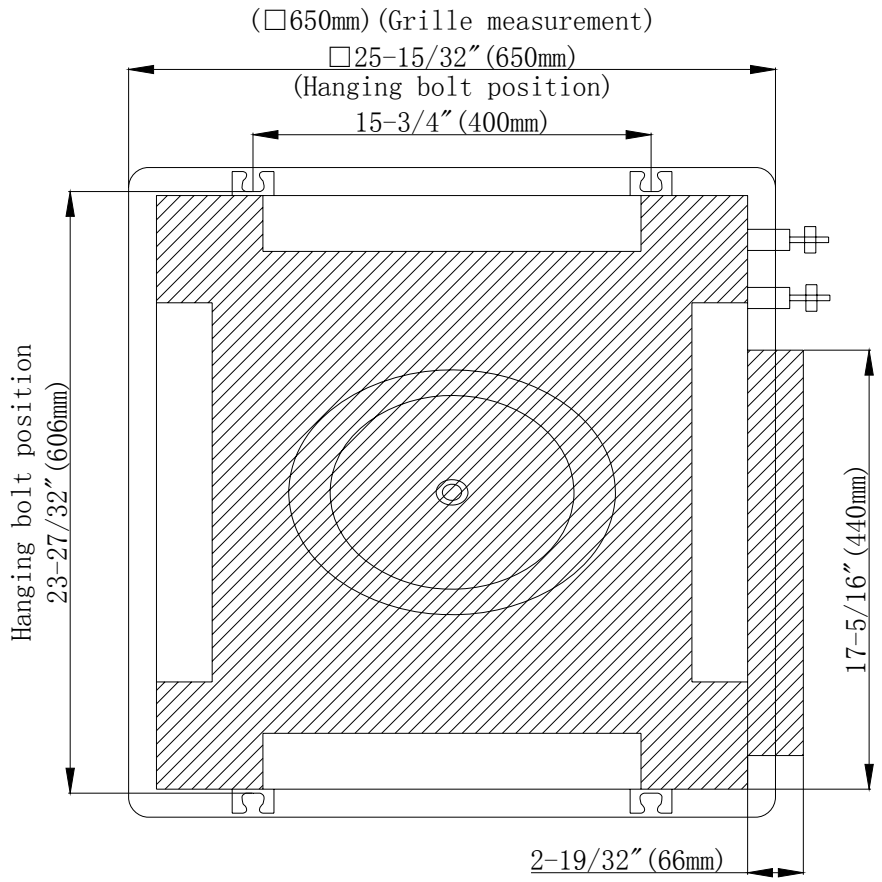
- Ensure that the smoke trap above cooker has enough capacity to obviate lampblack to prevent the indraft of the lampblack by the air conditioner.
- Keep the air conditioner far from the kitchen so that the lampblack would not be indraft by the air conditioner.

1.3.3 Caution for Installation

1） Important notice:

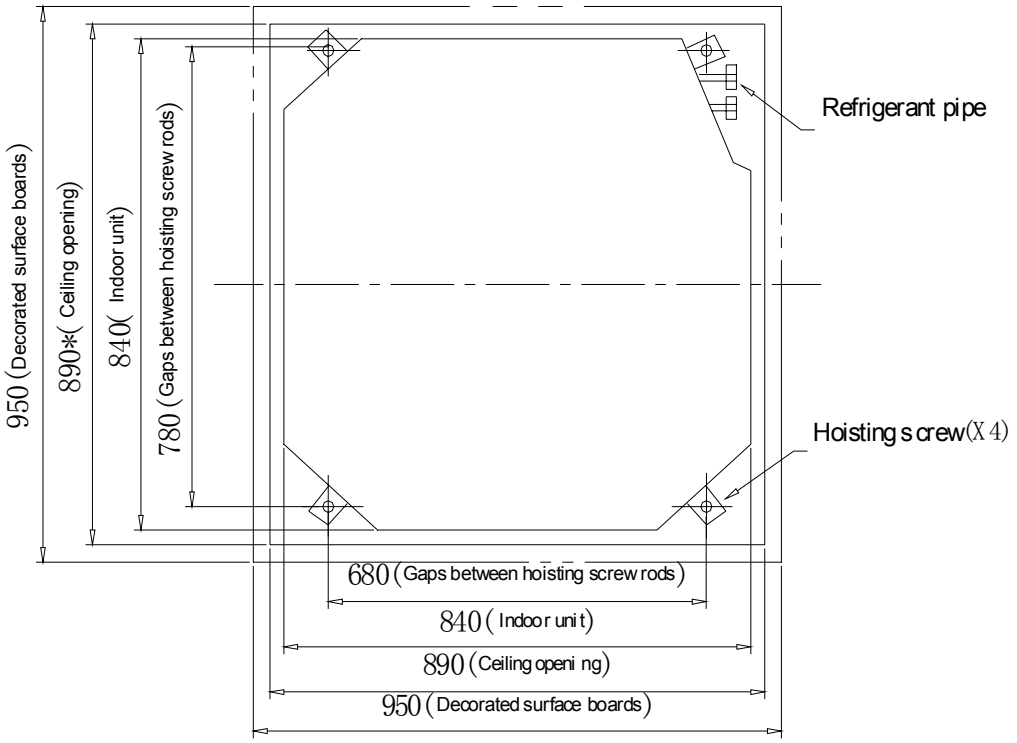
- To guarantee the good performance, the unit must be installed by professional personnel according with this instruction.
- Please contact the local Gree special nominated repair department before installation. Any malfunction caused by the unit that is installed by the department that is not special nominated by Gree would not deal with on time by the inconvenience of the business contact.

2） Dimension of ceiling opening and location of the hoisting screw (M10)



GKH12K3BI/GKH18K3BI

Figure 1-3-1



GKH24K3BI/ GKH30K3BI/GKH36K3BI/GKH42K3BI/GKH48K3BI

Figure 1-3-2

The drilling of holes in the ceiling must be done by the professional personnel.

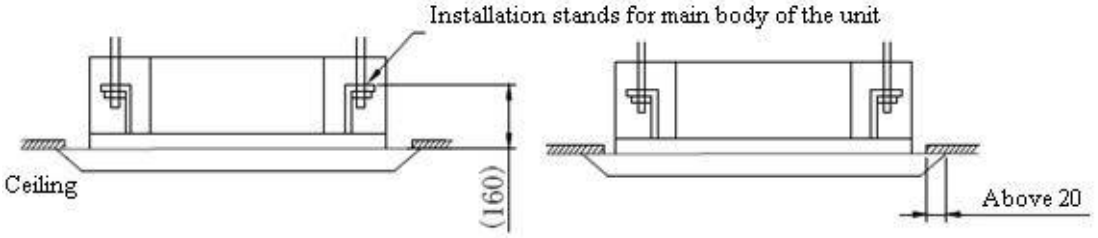


Figure 1-3-3

Cautions:

The dimension for the ceiling openings with * marks can be as large as 910mm. But the overlapping sections of the ceiling and the decorated surface boards should be maintained at no less than 20mm.

3） Main body of hoisting air conditioner

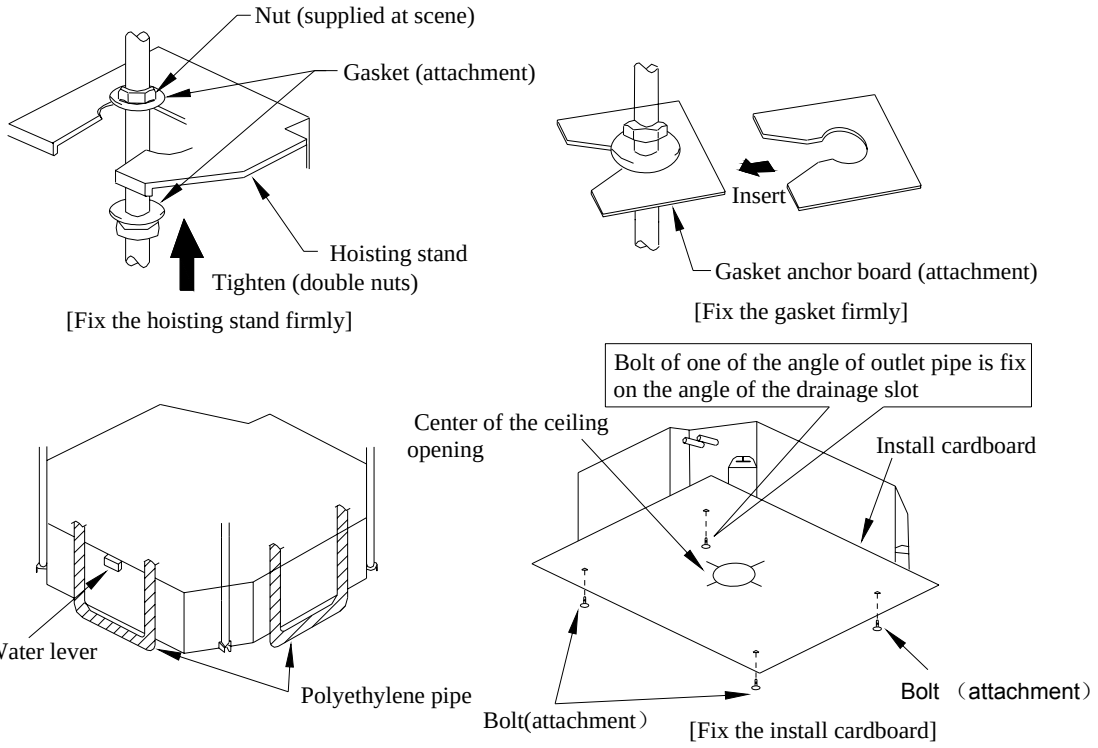


Figure 1-3-4

- The primary step for install the indoor unit.

When attach the hoisting stand on hoisting screw, do use nut and gasket individually at the upper and lower of the hoisting stand to fix it. The use of gasket anchor board can prevent gasket break off.

- Use install cardboard

Please refer to the install cardboard about the dimension of ceiling opening.

The central mark of the ceiling opening is marked on the install cardboard.

Install the install cardboard on the unit by bolt (3 piece), and fix the angle of the drainage pipe at the outlet vent by bolt.

- Adjust the unit to the suitable install place.
- Check if the unit is horizontal.

Inner drainage pump and bobber switch are included in the indoor unit, check if 4 angle of every unit are horizontal by water lever. (If the unit is slant toward the opposite of the coagulate water flow, there may be malfunction of the bobber switch and lead water drop.)

- Backout the gasket anchor board used to prevent gasket break off and tighten the nut on it.
- Backout the install cardboard.

Cautions:

Please do tighten the nuts and bolts to prevent air conditioner break off.

1.3.4 Dimension Data

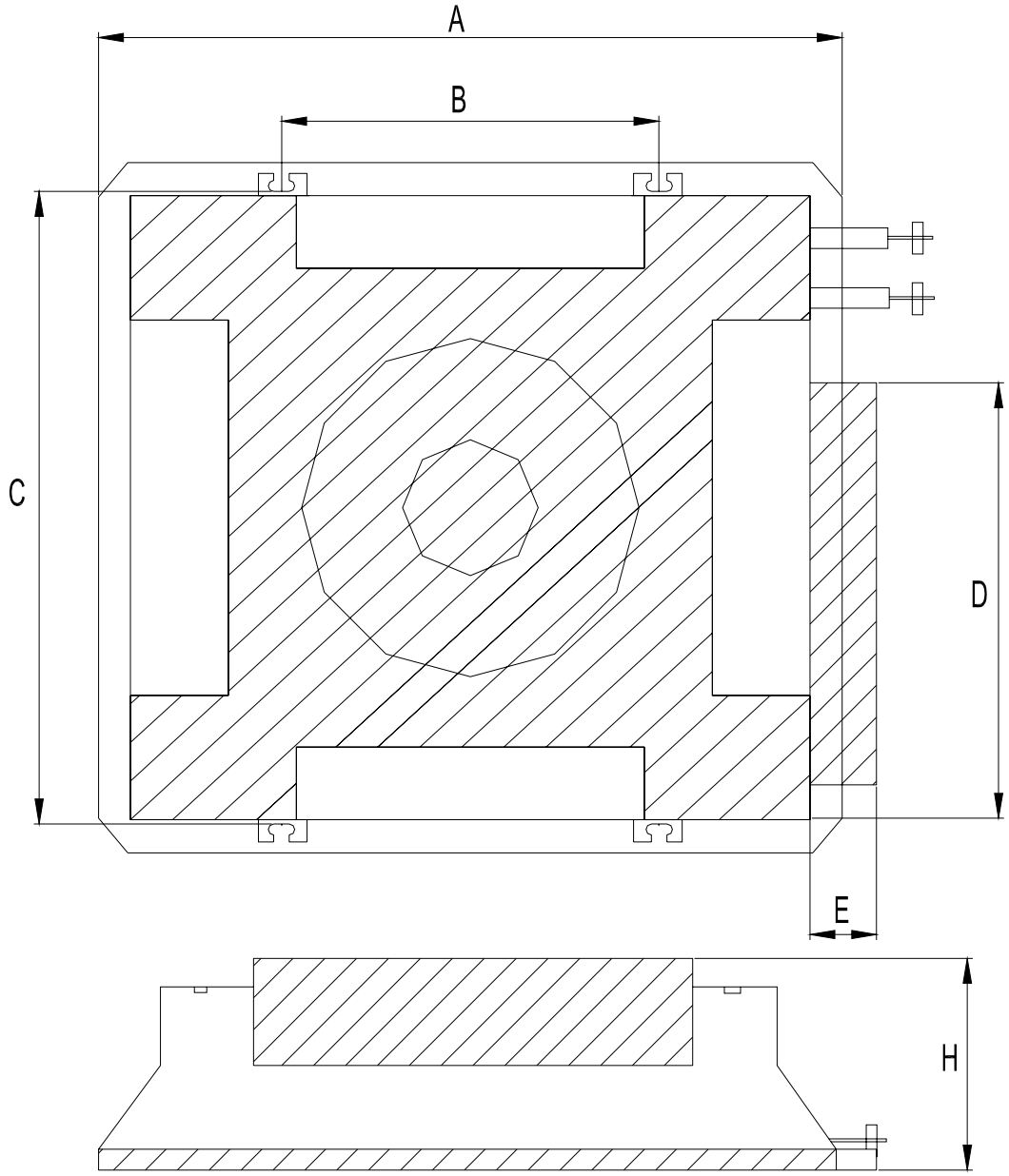


Figure 1-3-5

Model	H	A	B	C	D	E
GKH12K3BI	245	650	400	606	440	66
GKH18K3BI						
GKH24K3BI	275	950	680	840	720	76
GKH30K3BI						
GKH36K3BI	345	950	680	840	720	76
GKH42K3BI						
GKH48K3BI						

1.3.5 Installation Clearance Data

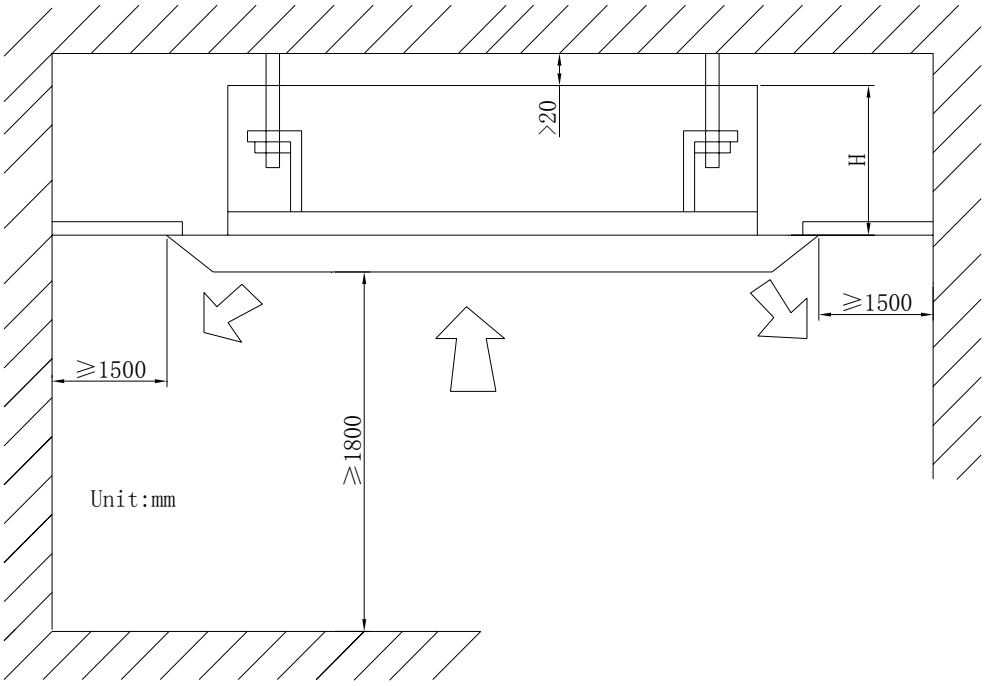


Figure 1-3-6

Models	H(mm)
GKH12K3BI GKH18K3BI	230
GKH24K3BI	260
GKH30K3BI	
GKH36K3BI GKH42K3BI GKH48K3BI	320

1.3.6 Drain Piping Work

1） Installation of Drainage Pipeline

- When connecting the drainage pipe with the unit, do not apply excessive force to the pipeline at the side of the unit. The fixing position of the pipeline shall be near the unit.
- Purchase general-purpose hard PVC pipe locally to be used as the drainage pipeline. When carrying out connection, place the end of the PVC pipeline into the drainage hole. Use flexible drainage tube and tighten it with thread loop. Never use adhesive to connect the drainage hole and the flexible drainage tube. (As shown in Figure 1-3-7)
- When the laid drainage pipe is used for multiple units, the common pipe shall be about 100mm lower than the drainage outlet of each set of unit. A pipe with thicker wall shall be used for such purpose.

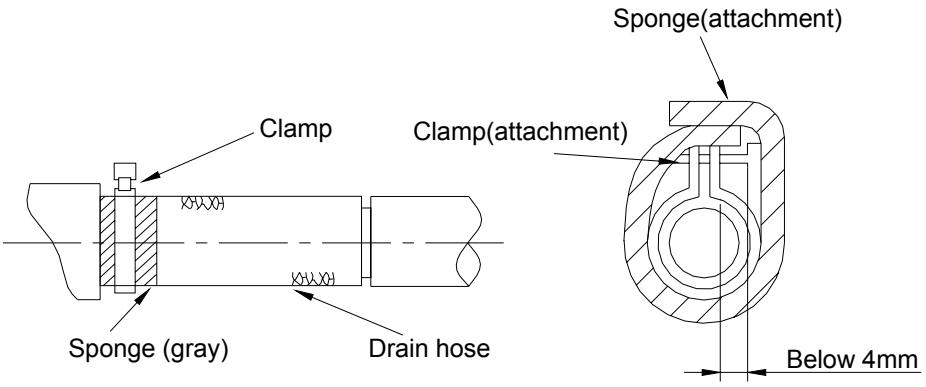


Figure 1-3-7

2） Testing of Drainage System

- After the electrical installation is completed, carry out the testing of the drainage system.
- During the test, check if the water correctly flows through the pipelines. Carefully observe the joints to ensure that there is no leakage. If the unit is to be installed in a new house, carry out testing before decorating the ceiling.

3） Matters of Attention

- The diameter of the drain hose should be equal or bigger than the connection pipe's. (The diameter of polythene pipe: Outer diameter 25mm Surface thickness ≥1.5mm)
- Drain hose should be short and drooping gradient should at less 1/100 to prevent the formation of air bubble.
- If drain hose cannot has enough drooping gradient, drain raising pipe should be added.
- To prevent bent of the drain hose, the distance between hoisting stand should is 1 to 1.5m. (As shown in Figure 1-3-8)

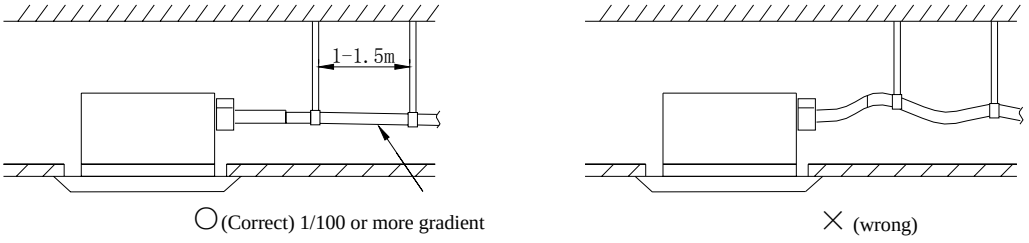


Figure 1-3-8

- The install height of the drain raising pipe should less than 280mm.
- The drain raising pipe should form a right angle with the unit, and distance to unit should not beyond 300mm. (As shown in Figure 1-3-9)

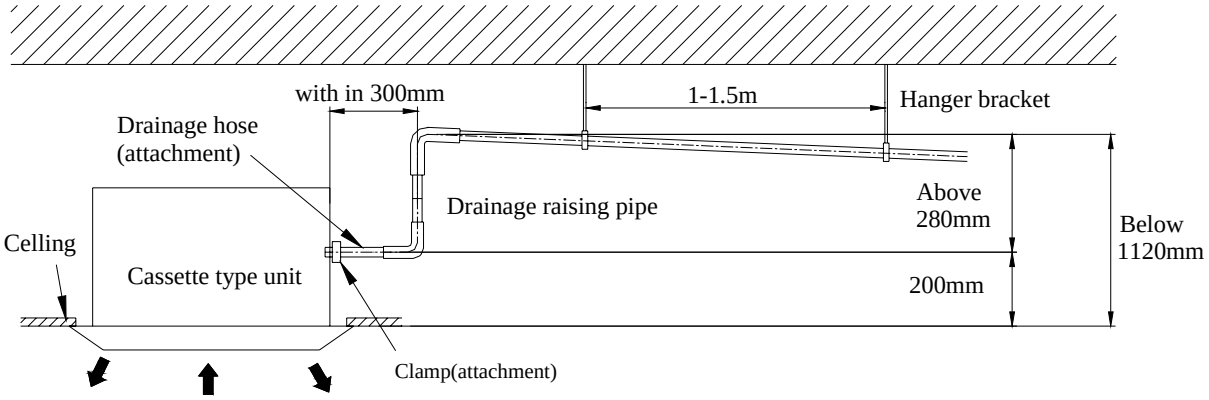


Figure 1-3-9

- The slant gradient of the attached drain hose should be within 75mm so that the drain hole doesn't has to endure the unnecessary outside force. (As shown in Figure 1-3-10)

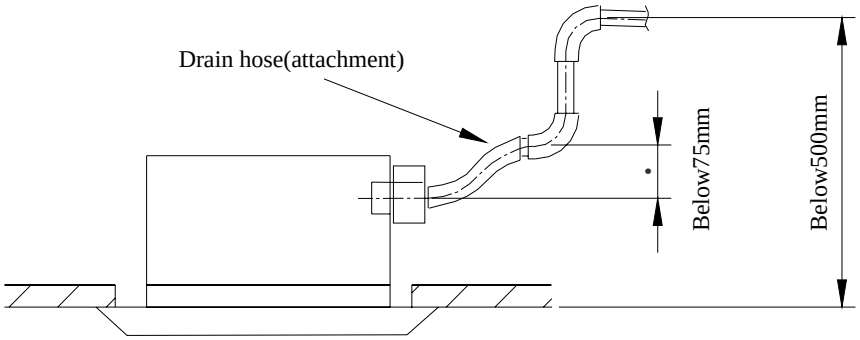
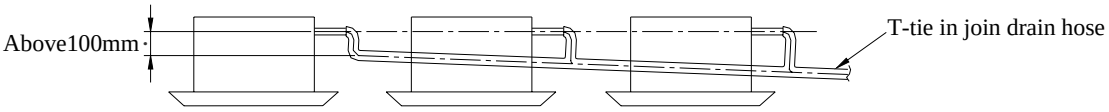


Figure 1-3-10

- Please install the drain hose according to the following process if several drain hoses join together. (As shown in Figure 1-3-11)



The specs of the selected join drain hose should fits the running capacity of the unit.

Figure 1-3-11

- Check the smoothness of drain after installation.
- Check the drain state by immiting 600cc water slowly from the outlet vent or test hole. (As shown in Figure 1-3-12)
- Check the drain in the state of refrigerating after installation of the electric circuit.

[Way of immiting]

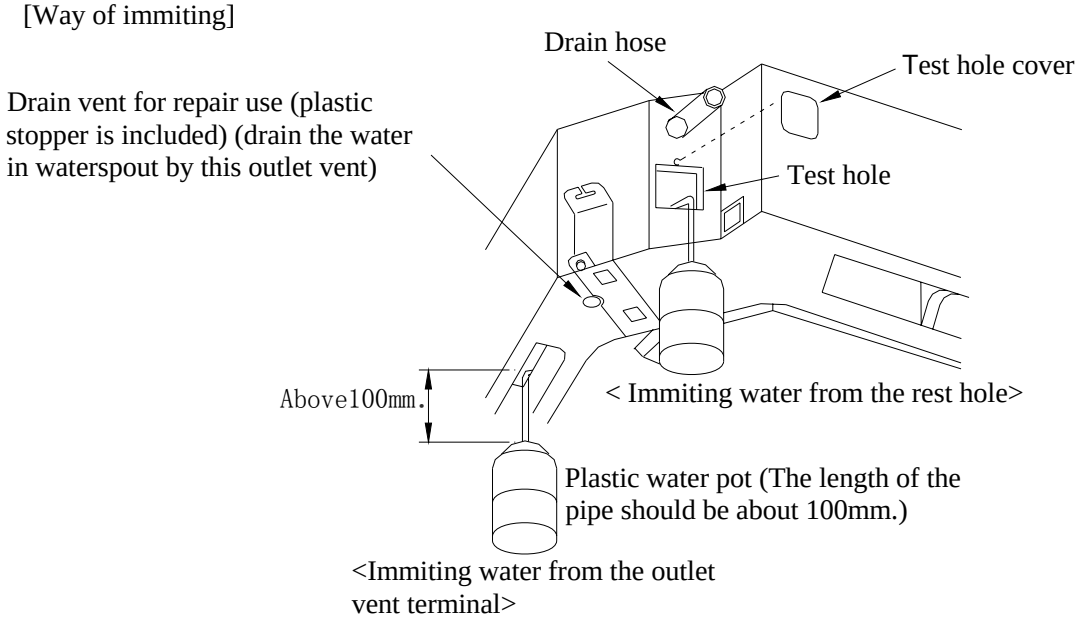


Figure 1-3-12

1.3.7 Installation of panel

1） Set the panel to the indoor unit body by matching the position of the swing flap motor of the decoration panel to the piping position of the panel to the piping position of the indoor unit as shown in Figure 1-3-13.

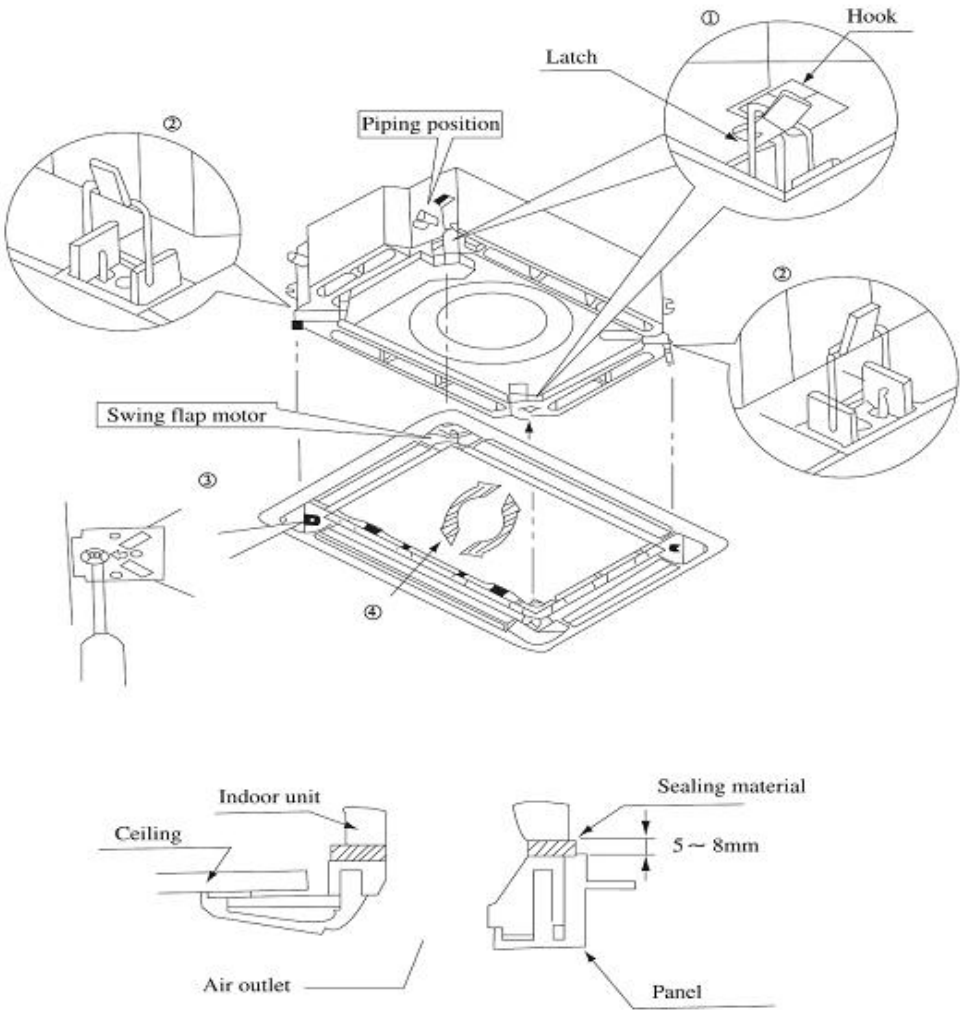


Figure 1-3-13

- Hang the latch, which is located on the opposite side of the swing flap motor on the panel, temporarily to the book of the indoor unit. (2 Positions)
- Temporarily hang the remaining 2 latches to the hooks on the sides of the indoor unit.(Be careful not to let the swing motor lead wire get caught in the sealing material.)
- Screw all 4 hexagon head screws located right beneath the latches in approximately 15mm.(Panel will rise)
- Adjust the panel by turning it to the arrowed direction in Fig.4 so that the ceiling opening is completely covered.
- Tighten the screws until the thickness of the sealing material between the panel and the indoor unit body is reduced to 5~8 mm.

2） Precautions:

◆ Improper screwing of the screws may cause the troubles shown in Figure 1-3-14.

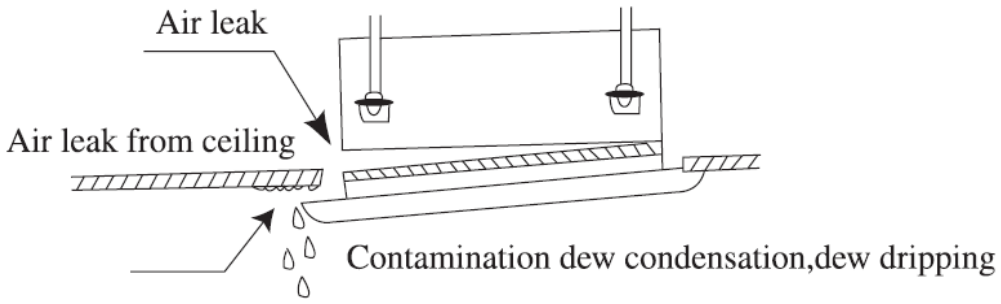


Figure 1-3-14

◆ If gap is still left between the ceiling and the panel after screwing the screws, readjust the height of the indoor unit body (Refer to Figure 1-3-15)

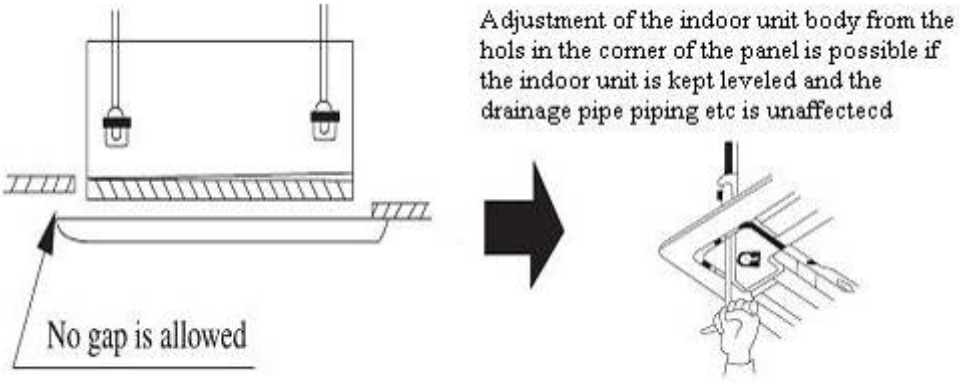


Figure 1-3-15

◆ After fixing be sure no gap left between the ceiling and the panel

3） Wiring of the decoration panel.

◆ Connect the joints for swing flap motor lead wire (at 2 places) installed on the panel (Refer to Figure 1-3-16)

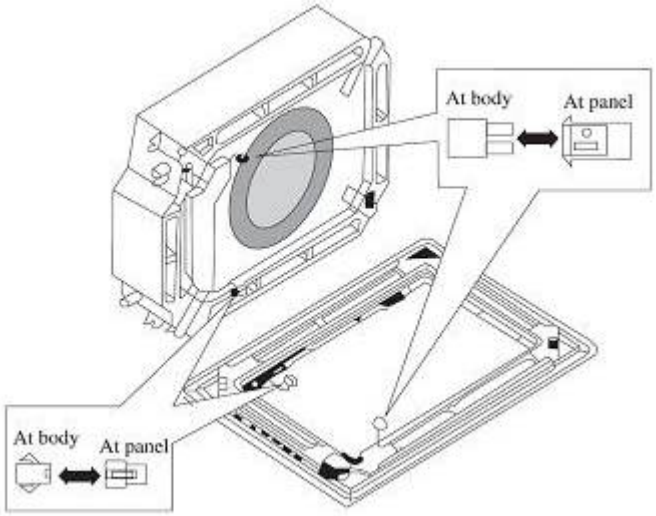


Figure 1-3-16

2 OUTDOOR UNIT INSTALLATION

2.1 Before Installation

- After receiving the machine, check if there is any damage during transportation. If there is damage on the surface or inside, inform the carrier or equipment supplier in written form immediately.
- After receiving the machine, check the unit and its accessories according to the packing list. Confirm that the model is the same and the unit is intact. At the same time, check the specification and quantity of the accessories.
- Select the correct route and method of transportation to avoid damage of the unit and any accident incurred. Out of protecting the unit and security consideration, it is advised that move the unit with its package. Even if that is forbidden in special situation, don't remove the carton to avoid looseness and drop.
- Check if the installation base is solid. When the unit is installed in the metal part of the building, must make sure electric insulation and make sure that it conforms with related standards.
- Make sure that the installation site is far away from where the flammable or explosive substances are stored to avoid explosion or fire may occurred by leakage of such substances.

2.2 Installation Site

- To ensure the unit in proper function, selection of installation location must be in accordance with following principles:
- Outdoor unit shall be installed so that the air discharged by outdoor unit will not r eturn and that sufficient space for repair shall be provided around the machine.
- The installation site must have good ventilation, so that the outdoor unit can take in and exhaust enough air. Ensure that there is no obstacle for the air intake and exhaust of the outdoor unit. If there is any obstacle blocking the air intake or exhaust, remove it.
- Place of installation shall be strong enough to support the weight of outdoor 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.
- Avoid direct sunshine over the unit. It is better to set up a sun shield as the protection.
- Place of installation must be able to drain the rainwater and defrosting water.
- Place of installation must ensure the machine will not be buried under snow or subject to the influence of rubbish or oil fog.
- The installation site must be at a place where the air exhaust outlet does not face strong wind.

- Lift the outdoor unit with indicated holes for hoist. Protect the unit from collision when lifting, in case it will rust.

  Rubber shock pad and rubber junction shall be applied to meet the requirements of noise and vibration.
- Installation demensions shall comply with the instruction manual and the outdoor unit shall be fixed.
- Installation of the unit shall be executed by professionals.

2.3 Cautions for Installation

- The installation of the outdoor unit shall guarantee that the discharged air will return and enough service space shall be reserved around the unit.
- Installation site shall be good ventilation so that the unit can intake and discharge adequate air. Make sure that there is no obstruction for air inlet and out let. If there is, please remove such obstructions.
- If the unit is installed on the solid surface, fix the unit with M10 bolts and nuts and make sure the erection and horizontality of the unit.
- Lift the outdoor unit with indicated holes for hoist. Protect the unit from collision when lifting, in case it will rust.
- Rubber shock pad and rubber junction shall be applied to meet the requirements of noise and vibration
- If drain pipe shall be installed, insert the joints of drainage into outlet in base plate of the outdoor unit. And then connect the joints with an drain pipe.
- Wall bushing shall be installed when pipe goes through the wall.
- Installation demensions shall comply with the instruction manual and the outdoor unit shall be fixed.
- Installation of the unit shall be executed by professionals.

2.4 Dimension Data

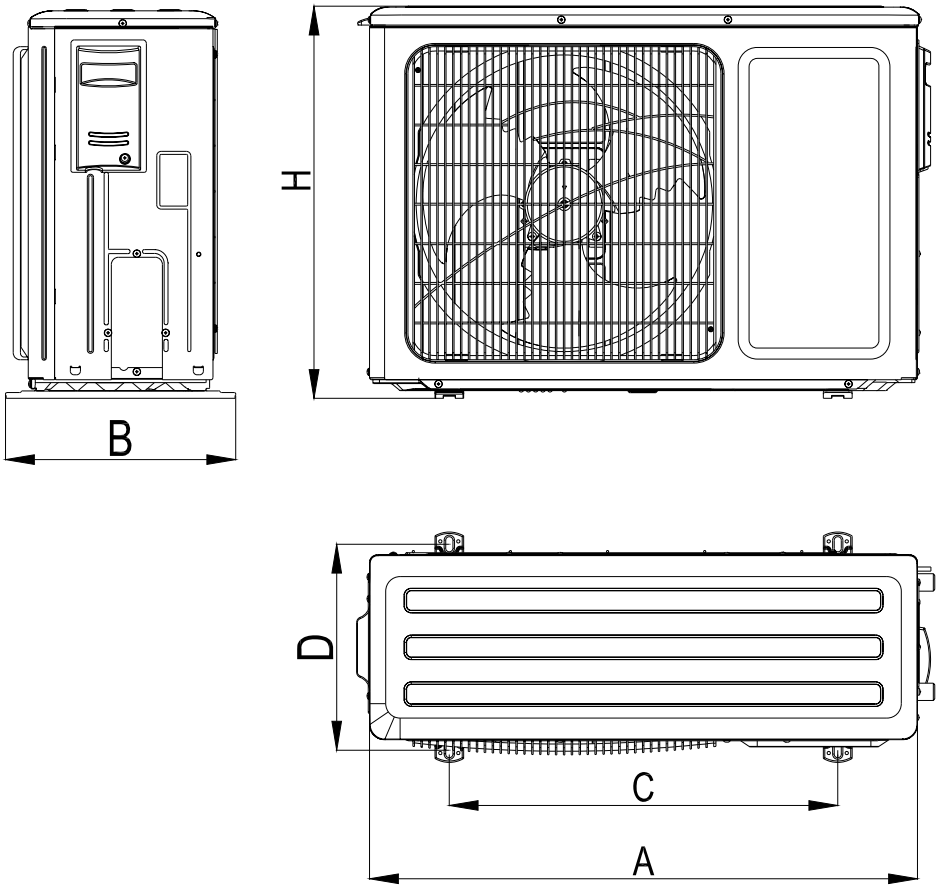


Figure 2-4-1

Unit：mm

Model	A	B	C	H	D
GUHN09NK1AO	780	320	540	558	286
GUHN12NK1AO					
GUHN18NK1AO					
GUHN24NK1AO	950	412	572	695	378
GUHN30NK1AO	920	440	610	790	400
GUHN36NK1AO	950	412	572	850	378
GUHN36NM1AO					
GUHN42NM1AO	950	412	572	1253	378
GUHN48NM1AO					
GUHN60NM1AO					

2.5 Installation Clearance Data

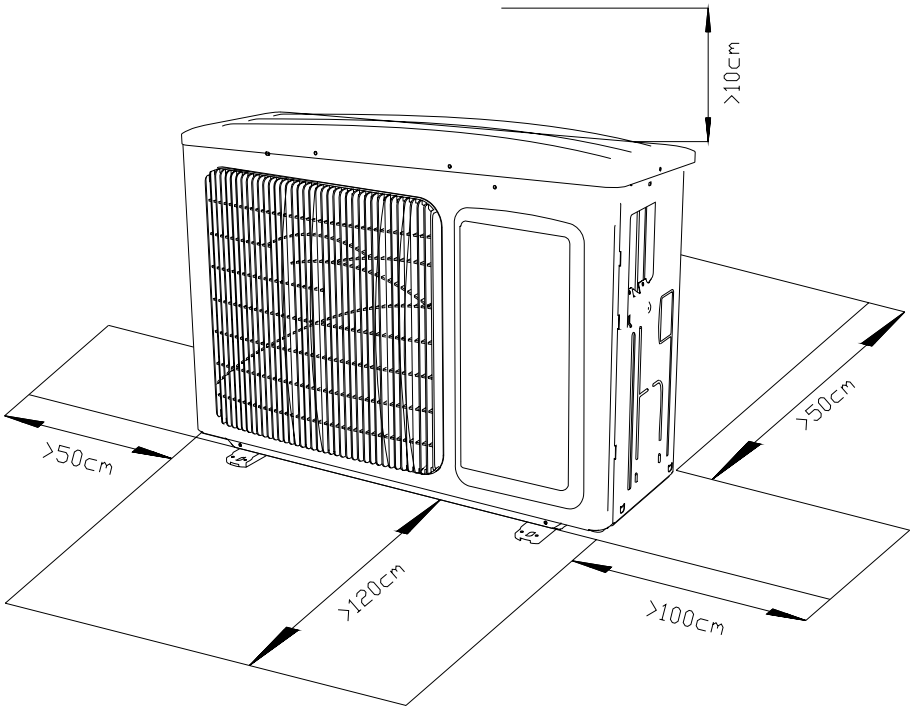


Figure 2-5-1

3 REFRIGERATION PIPING WORK

3.1 Refrigeration Piping Work Procedures

1） Connecting Pipe

◆ Connecting shall comply with the following requirements: keep dry inside the pipe; sanitary; no leakage.

The 3 principles of refrigerant piping

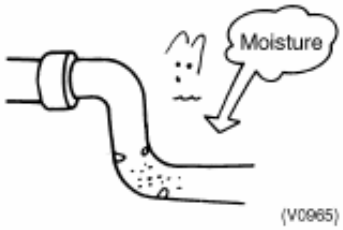
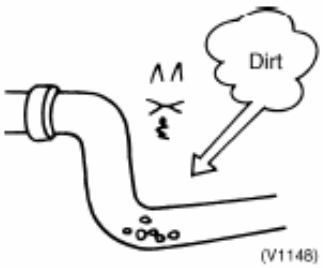
Dry	Clean	Air tight
Make sure there is no moisture inside the pipes	Make sure there is no dirt inside the pipe	Make sure the refrigerant does not leak out
		

Figure 3-1-1

- Match the flaring of copper pipe to the center of screwed connection, and then screw the flared nut up by hands.
- Screw flaring nut with spanner until the spanner sound,which is shown as figure 3-1-1.

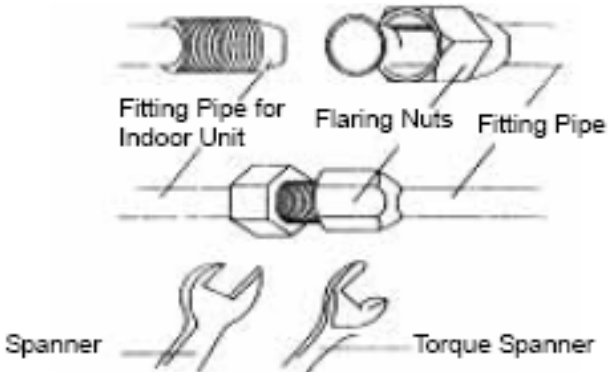


Figure 3-1-2

Form 3-1-1 the tightening torque needed for tightening nut

Diameter of Pipe	Moment of Torque
1/4 "	15-30 (N·m)
3/8 "	35-40 (N·m)
5/8 "	60-65 (N·m)
1/2 "	45-50 (N·m)
3/4 "	70-75 N·m)

- Degree of curvature of the tubing cannot be too small or the pipe might be broken up. When bend the piping, bending apparatus shall be applied.
- Welding port shall be upward and horizontal when welding the pipeline. Try to avoid the face-down boning as figure 3-1-3 which easily affects welding quality and causes leakage.

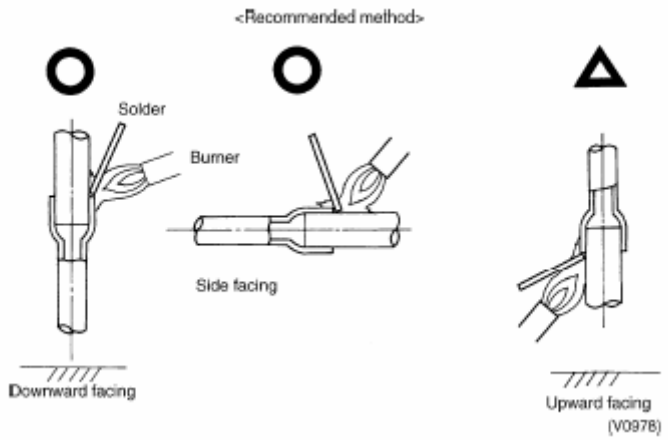


Figure 3-1-3

- Wrap connecting pipe and the joints that have not insulated with sponge and bind them up with plastic tape.

2） Vacuumization and leak test.

- Remove the bonnets of gas valve and liquid valve.
- Aim at the center of the pipe and screw the nut of connecting pipe tightly with hands
- Screw nuts tightly with spanner.
- Remove one-way bonnet of gas valve.
- Unscrew the spool of gas valve for 1/4 circle with inner hexagon spanner and at the same time, open the spool by screwdriver to discharge gas.
- Discharge the gas for 15s until gas of refrigerants appears. And then, shut the one-way valve and screw the bonnet tightly.
- Open spools of gas valve and liquid valve completely (as figure 3-1-4)

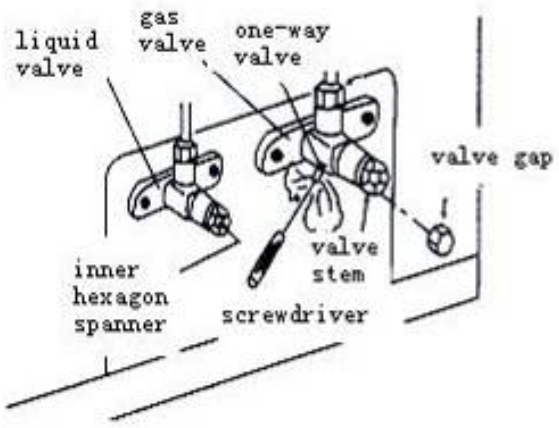


Figure 3-1-4

- Screw the bonnet tightly and then detect if there is any leakage on the joint connecting indoor and outdoor unit and pipeline by soapy water and Leakagemeter.

Caution：

If possible, it better to use vacuum pump to discharge the air inside the unit from the valve lead. The method of using vacuump is as follows:

- Take out the nut cover of the inlet for refrigerant.
- Connect the tube of the vacuum watch with the vacuum pump, having the low-pressure end linking to the inlet for refrigerant. (As shown in Figure 3-1-5)

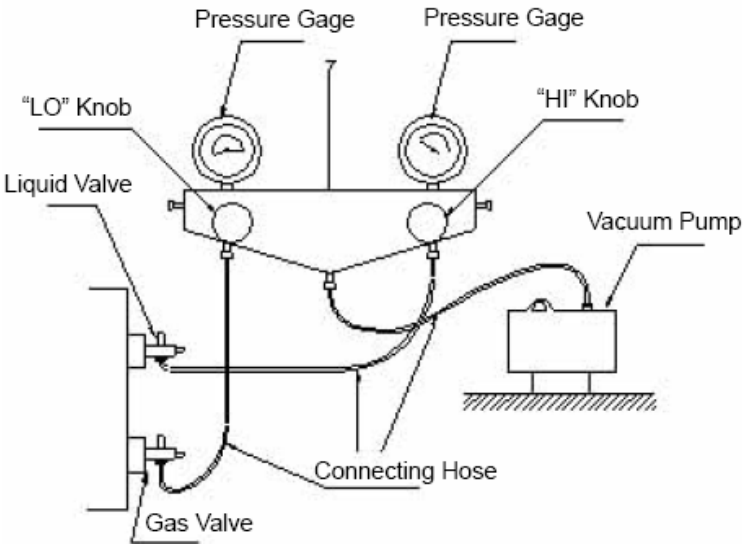


Figure 3-1-5

- Starting the vacuum pump, when the indicator turns to-1 bar, closing the low pressure handle and stopping vacuumize. Keep for 15 minutes, ensuring the pressure of the vacuum watch remains.
- Take out the valve cover of the gas valve together with the liquid valve.
- Loosing the cord of liquid valve until the pressure rise to 0 bar.
- Dismantle the tube from the cover of the inlet for refrigerant then, tighten the cover.
- Loose the valve cord of the gas valve as well as the liquid valve entirely.
- Tighten the valve cover of the gas valve and liquid valve so as to check whether leakage occurred.

3) Installation of Protective Layer of Connecting Pipe

- To avoid generation of condensate on the connecting pipe and avoid leakage, the big pipe and the small pipe of the connecting pipe must be covered by thermal insulation materials, be bundled by adhesive tape, and be isolated from air.
- The joint connecting to the indoor unit must be wrapped by thermal insulation material. There shall be no gap between the connecting pipe joint and the wall of the indoor unit. Refer to Figure 3-1-6.

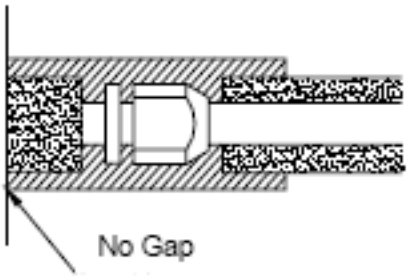


Figure 3-1-6

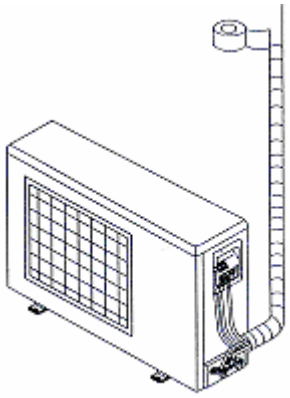


Figure 3-1-7

- Use adhesive tape to bundle the connecting pipe and the cables together. To prevent condensate from overflowing out from the drainage pipe, separate the drainage pipe firm the connecting pipe and the cables.
- Use thermal insulation tape to wrap the pipes from the bottom of the outdoor unit until the upper end of the pipe where the pipe enters the wall. When wrapping thermal insulation tape, the later circle of tape must cover half of the front circle of tape (Figure 3-1-7).
- Wrapped pipe must be fixed to wall using pipe clamps.

Caution:

- After the pipes are wrapped by protective materials, never bend the pipes to form very small angle, and otherwise the pipes may crack or break.
- Do not wrap the protective tape too tight, otherwise the efficiency of thermal insulation may be decreased. Ensure that the condensate drainage flexible tube is separate from the bundled pipes.
- After the protective work is completed and the pipes are wrapped, use seal material to block the hole in the wall, so as to prevent rain and wind from entering the room.

3.2 Caution in Connecting Pipes

Layout of connecting pipeline shall comply with the following principles according to actual situation.

- The length of connecting pipe shall be short as much as possible and it is better to restrain the length within 5m.
- Shortent the drop height of indoor and outdoor unit as much as possible.
- Lessen the quantity of elbows as much as possible.
- When the length of connecting pipe exceeds 20m, check if the lubricant of the system is enough. If not, add some lubricant properly.

- Refrigerants volume inside the unit suit for connectiong pipe with 7m. If connecting pipe shall be prolonged, refrigerants shall be added accordingly. Every 1m prolonged, the added volume of refirgerants can refer to the sheet below. Allowable max. length of pipe is 30m.
- When installing the unit, if drop heigh of indoor and outdoor unit exceeds 10m, one oil loop is required every 6m.
- When heights of indoor and outdoor units are different, please refer to Figure 3-2-1 for layout of pipeline.

————Liquid pipe (thin pipe)

- - - - - - Gas pipe (heavy pipe)

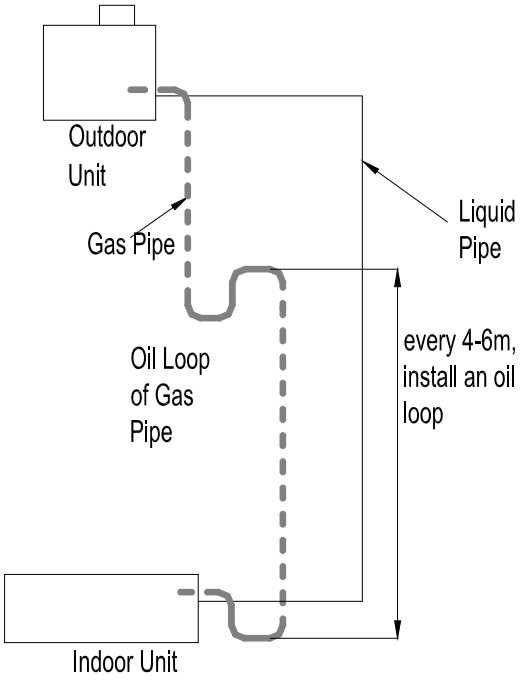


Figure 3-2-1

3.3 Specification of Connection Pipe

Model	External Diameter		Maximum Length of Connection Pipe	Maximum Difference in Height between Outdoor and Indoor Unit	Additional Charge of Refrigerant
	Gas Pipe	Liquid Pipe	(m)	(m)	(g/m)
GUHN09NK1AO	φ3/8 "	φ1/4 "	20	15	15
GUHN12NK1AO	φ1/2 "				
GUHN18NK1AO					

GUHN24NK1AO GUHN30NK1AO	φ5/8 "	φ3/8 "	30	15	60
GUHN36NK1AO GUHN36NM1AO GUHN42NM1AO GUHN48NM1AO	φ3/4 "	φ1/2 "	50	30	120
GUHN60NM1AO	φ7/8 "				

4 ELECTRIC WIRING WORK

4.1 Wiring Principle

4.1.1General

- Perform wiring of the power supply in conformance with the regulations of the local electric company.
- For the control wires connecting indoor units, and between indoor and outdoor units, use of double-core shield wires is recommended to prevent noise trouble.
- Be sure to set the earth leakage breaker and the switches to the power supply section of the indoor unit.
- Supply power to each outdoor unit and provide an earth leakage breaker or hand switch for each outdoor unit.
- Store wiring system for control and refrigerant piping system in the same line.
- Arrange the cables so that the electric wires do not come to contact with high-temperature part of the refrigerant pipe; otherwise coating melts and an accident may be caused.
- Do not turn on power of the indoor unit until vacuuming of the refrigerant pipe will finish.
- Installation should be conducted by National Wiring Regulation.
- The rated voltage and exclusive power supply must be adopted for the air conditioners.
- The power cable should be reliable and fixed, in order to avoid the wiring terminal be suffered from force. And do not drag the power cable forcibly.
- The wire diameter of power cable should be large enough, if power cable and connection wire be damaged; it should be replaced by the exclusive cable.
- All electric installation must be done by professional personnel according to local law, regulation and this manual.
- It should be reliably earthed, and it should be connected to the special earth device,

the installation work should be operated by the professional.

- The creepage protect switch and air switch must be installed.
- Air switch should have the thermal dropout and magnetic dropout function, in order to avoid the short circuit and overload.
- The on spot connection should refer to the circuit diagram, which is stuck on the unit body.
- The unit should be reliably earth, if it is improperly earthed that may cause electric shock or fire.
- Air conditioner is the “I” class electric appliance, thus please do conduct reliable grounding measure.
- The yellow-green two-color wiring of air conditioner is grounding wire and cannot be used for other purposes. It cannot be cut off and be fixed by screw, otherwise it would cause electric shock.
- The user must offer the reliable grounding terminal. Please don’t connect the grounding wire to the following places:
  ① Water pipe；
  ② Gas pipe；
  ③ Blowing pipe；
  ④ Other places that professional personnel consider them unreliable.

4.1.2 Connection between wire and terminal of patch board.

1） Caution

Before installing the electrical equipment, please pay attention to the following matters which have been specially pointed out by our designers:

① Check to see if the power supply used conforms to the rated power supply specified on the nameplate.
② The capacity of the power supply must be large enough. The section area of fitting line in the room shall be larger than 2.5mm2.
③ The lines must be installed by professional personnel.
④ An electricity leakage protection switch and an air switch with gap between electrode heads larger than 3 mm shall be installed in the fixed line.

2） Connection of single wire

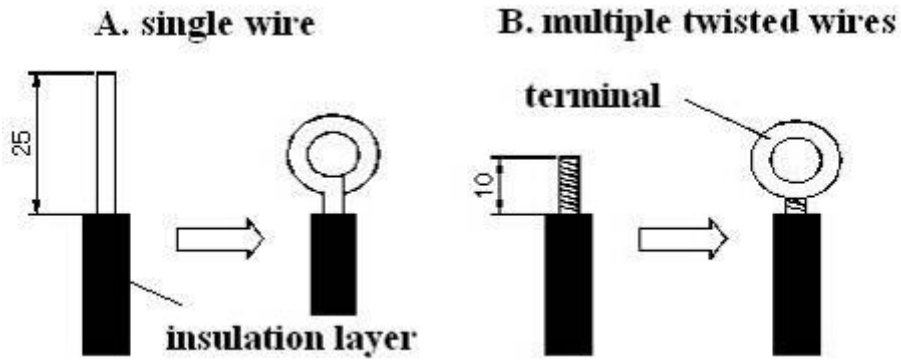
① Use wire stripper to strip the insulation layer (25mm long) from the end of the single wire.
② Remove the screw at the terminal board of the air-conditioning unit.
③ User pliers to bend the end of the single wire so that a loop matching the screw size is formed.
④ Put the screw through the loop of the single wire and fix the loop at the terminal board.

3） Connection of multiple twisted wires

① Use wire stripper to strip the insulation layer (10mm long) from the end of the multiple twisted wires.
② Remove the screw at the terminal board of the air-conditioning unit.

③ Use crimping pliers to connect a terminal (matching the size of the screw) at the end of the multiple twisted wires.

④ Put the screw through the terminal of the multiple twisted wires and fix the terminal at the terminal board.



Warning:

- If the power supply flexible line or the signal line of the equipment is damaged, only use special flexible line to replace it.
- Before connecting lines, read the voltages of the relevant parts on the nameplate. Then carry out line connection according to the schematic diagram.
- 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.
- The air-conditioning unit must have grounding to avoid hazard owing to insulation failure.
- All fitting lines must use crimp terminals or single wire. If multiple twisted wires are connected to terminal board, arc may arise.
- All line connections must conform to the schematic diagram of lines. Wrong connection may cause abnormal operation or damage of the air-conditioning unit.
- Do not let any cable contact the refrigerant pipe, the compressor and moving parts such as fan.
- 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.

4.1.3 Power Cable Connection

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

① Remove the front-side panel of the outdoor unit.

② Pass the cable though rubber ring.

③ Connect the power supply cable to the “L, N” terminals 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 front-side panel of the outdoor unit.
② Attach rubber ring to the cable-cross hole of the outdoor unit.
③ Pass the cable though rubber ring.
④ Connect the power cable to the terminal and earthing screws marked “L1, L2, L3 & N”.
⑤ Use cable fastener to bundle and fix the cable.

Caution:

◆ For air-conditioner with auxiliary heater, it is required to connect the power cable to the “L1, L2 L3”terminals and the grounding screw.

4.1.4 Connection of Signal Line of Wire Controller

Caution:

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

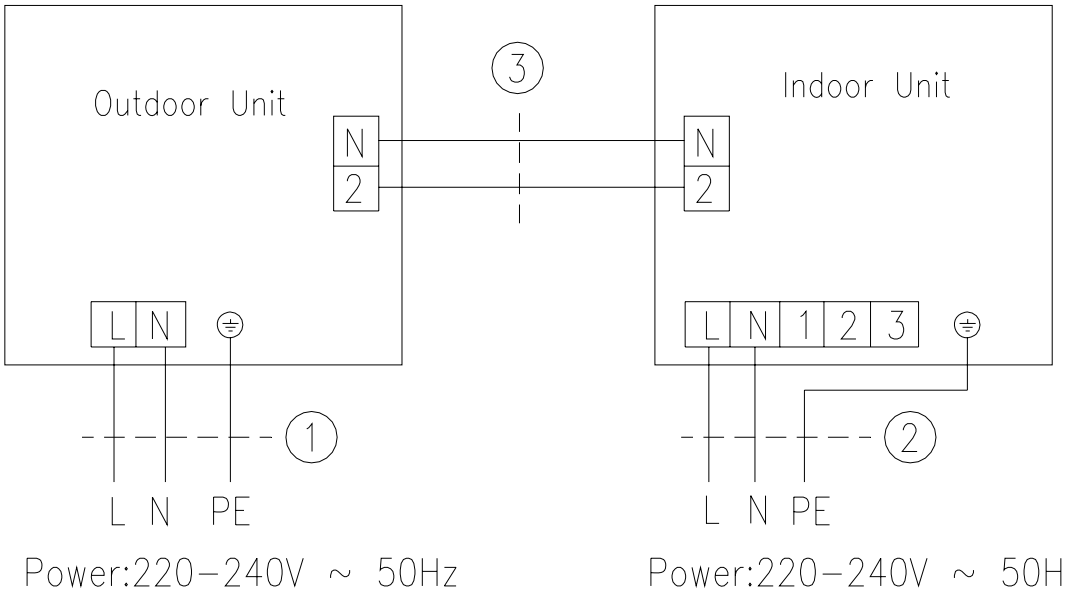
◆ The signal line of the wire controller must be separated from the power line and the connecting line between the indoor unit and the outdoor unit.
◆ ◆ In case the unit is installed in a place vulnerable by electromagnetic interference, it is better to use shielded cable or double-twisted cable as the signal line of the wire controller.
◆ Open the cover of the electric box of the indoor unit.
◆ Pull the signal cable of the wire controller through the rubber ring.
◆ Plug the signal line of the wire controller onto the 4-bit pin socket at the circuit board of the indoor unit.
◆ Use cable fastener to bundle and fix the signal cable of the wire controller.

4.1.5 Connection of Wiring

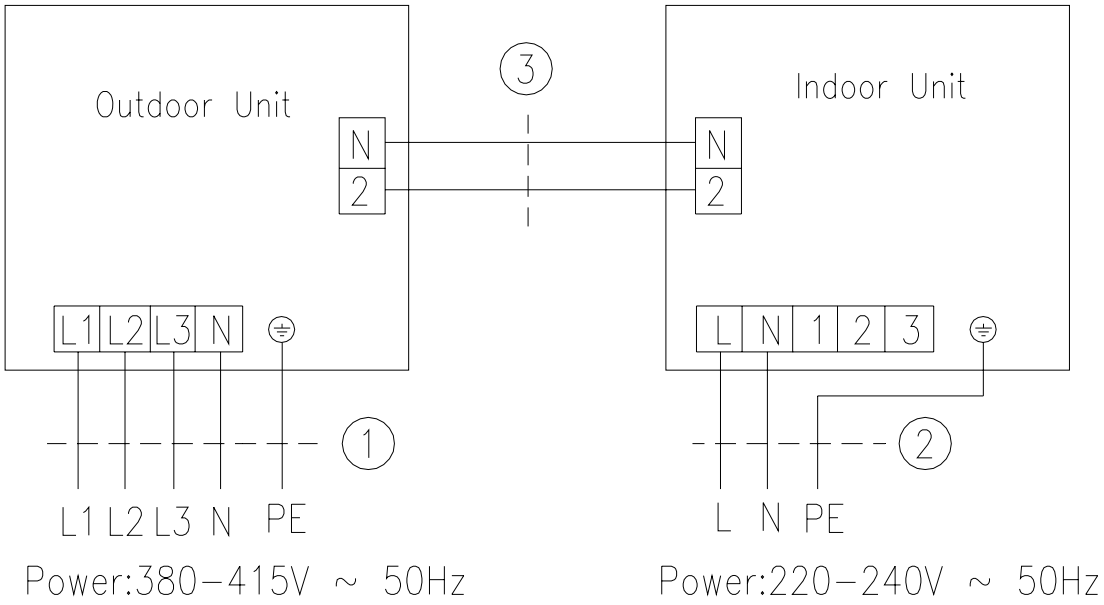
① Disassemble right side panel and blow out hole for crossing wire on outdoor unit and cover it with cushion rubber.
② Remove cable cleat, connect the connecting wire of power supply to the terminal and fix it.
③ Fix connecting wire of power supply and signal control wire by cable cleat, and then connect the corresponding connector.
④ Make sure that the wiring has been fixed.
⑤ Install the front side plate.

4.2 Electric Wiring Design

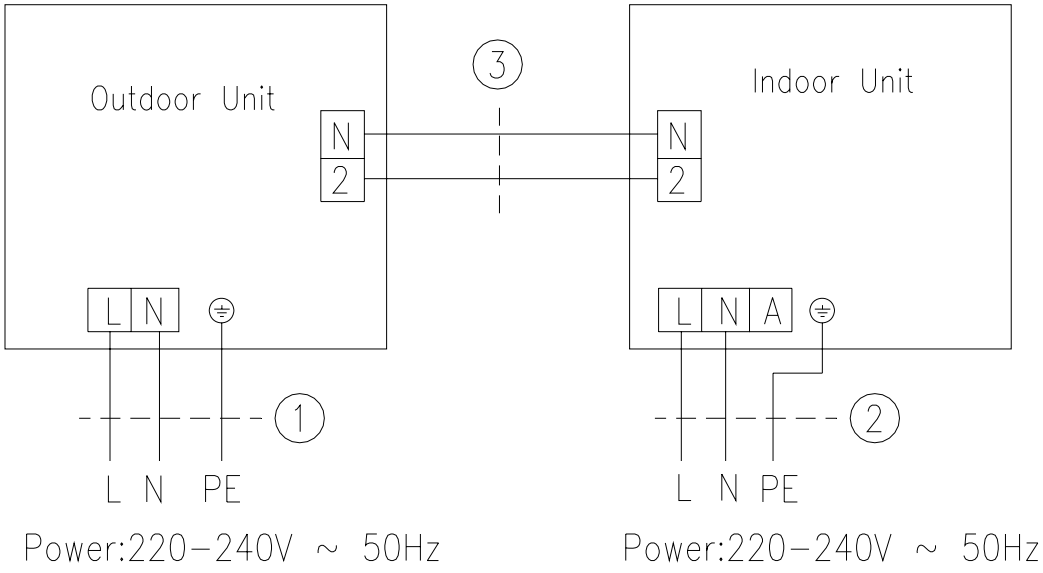
4.2.1 GUHN09NK1AO+GFH09K3BI.GUHN12NK1AO+GFH12K3BI. GUHN18NK1AO+GFH18K3BI.GUHN24NK1AO+GFH24K3BI. GUHN36NK1AO+GFH36K3BI.GUHN30NK1AO+GFH30K3BI



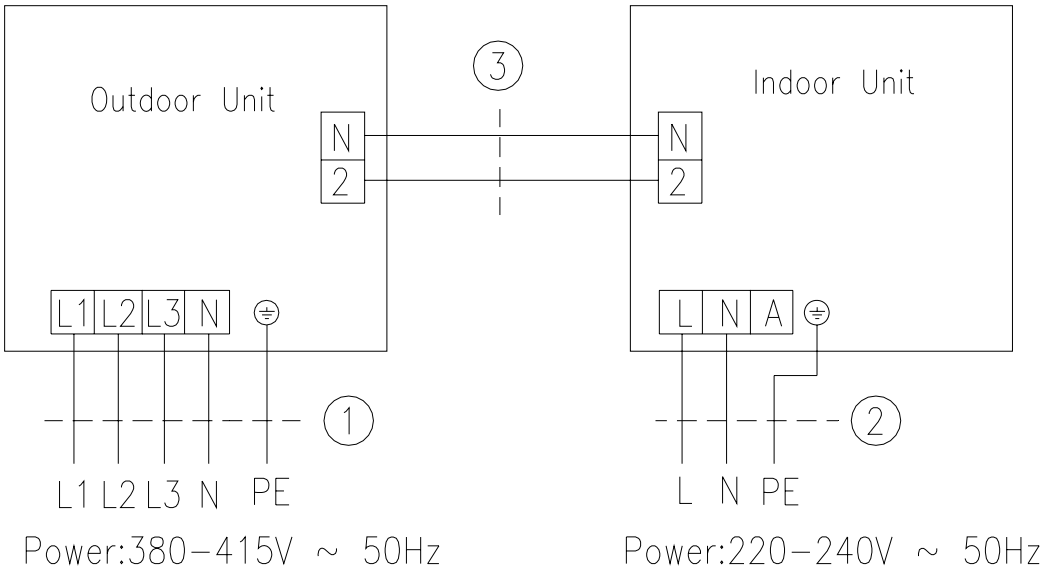
GUHN36NM1AO+GFH36K3BI.GUHN42NM1AO+GFH42K3BI. GUHN48NM1AO+GFH48K1BI.GUHN60NM1AO+GFH60K3BI



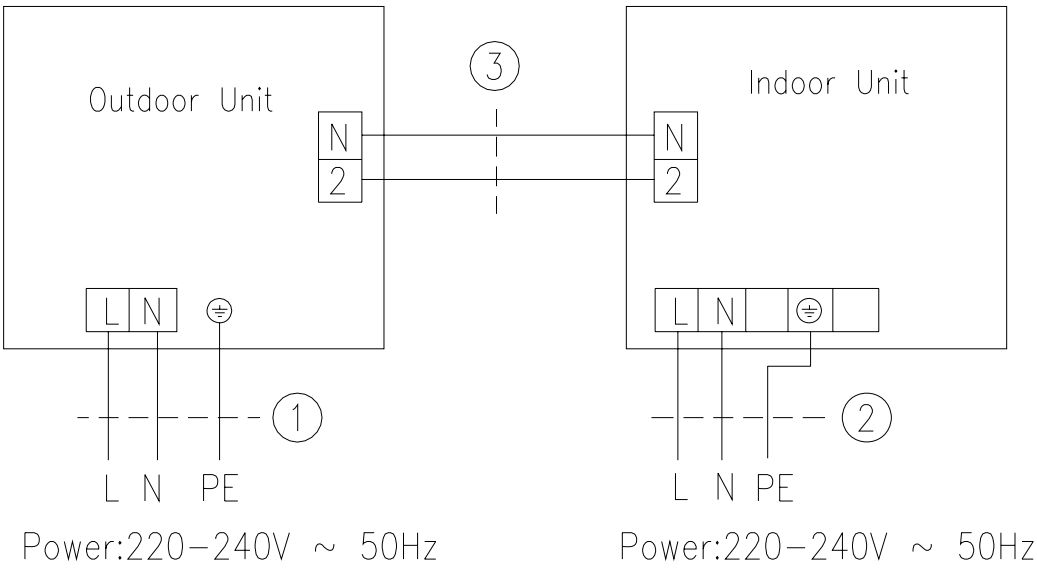
4.2.2 GUHN09NK1AO+GTH09K3BI.GUHN12NK1AO+GTH12K3BI.
GUHN18NK1AO+GTH18K3BI.GUHN24NK1AO+GTH24K3BI.
GUHN36NK1AO+GTH36K3BI.GUHN30NK1AO+GTH30K3BI



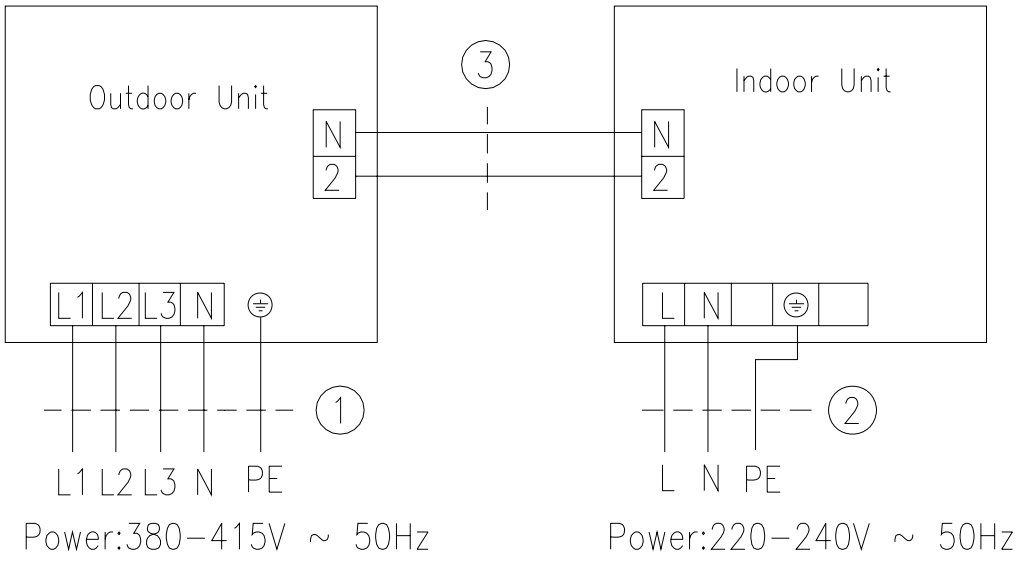
GUHN36NM1AO+GTH36K3BI.GUHN42NM1AO+GTH42K3BI.
GUHN48NM1AO+GTH48K3BI.GUHN60NM1AO+GTH60K3BI



4.2.3 GUHN09NK1AO+GKH09K3BI.GUHN12NK1AO+GKH12K3BI.
GUHN18NK1AO+GKH18K3BI.GUHN24NK1AO+GKH24K3BI.
GUHN36NK1AO+GKH36K3BI.GUHN30NK1AO+GKH30K3BI



GUHN36NM1AO+GKH36K3BI.GUHN42NM1AO+GKH42K3BI.
GUHN48NM1AO+GKH48K3BI.GUHN60NM1AO+GKH60K3BI



4.3 Specification of Power Supply Wire and Air Switch

4.3.1 Outdoor Unit

Model	Power Supply （V，Ph，Hz）	Capability of Air Swith	Minimum Sectional Area of Earth Wire	Minimum Sectional Area of Power Supply Wire
		(A)	(mm^2)	(mm^2)
GUHN09NK1AO	220-240，1，50	10	1.5	1.5
GUHN12NK1AO	220-240，1，50	13	1.5	1.5
GUHN18NK1AO	220-240，1，50	20	2.5	2.5
GUHN24NK1AO	220-240，1，50	25	4.0	4.0
GUHN30NK1AO	220-240，1，50	25	4.0	4.0
GUHN36NK1AO	220-240，1，50	40	6.0	6.0
GUHN36NM1AO	380-415，3，50	16	2.5	2.5
GUHN42NM1AO	380-415，3，50	20	2.5	2.5
GUHN48NM1AO	380-415，3，50	20	2.5	2.5
GUHN60NM1AO	380-415，3，50	20	2.5	2.5

4.3.2 Indoor Unit

- Duct Type

Model	Power Supply （V，Ph，Hz）	Capability of Air Swith	Minimum Sectional Area of Earth Wire	Minimum Sectional Area of Power Supply Wire
		(A)	(mm^2)	(mm^2)
GFH09K3BI	220-240，1，50	6	1.0	1.0
GFH12K3BI	220-240，1，50	6	1.0	1.0
GFH18K3BI	220-240，1，50	6	1.0	1.0
GFH24K3BI	220-240，1，50	6	1.0	1.0
GFH30K3BI	220-240，1，50	6	1.0	1.0
GFH36K3BI	220-240，1，50	10	1.5	1.5
GFH42K3BI	220-240，1，50	10	1.5	1.5
GFH48K3BI	220-240，1，50	10	1.5	1.5
GFH60K3BI	220-240，1，50	10	1.5	1.5

- Ceiling Type

Model	Power Supply （V，Ph，Hz）	Capability of Air Swith	Minimum Sectional Area of Earth Wire	Minimum Sectional Area of Power Supply Wire
		(A)	(mm^2)	(mm^2)
GTH09K3BI	220-240，1，50	6	1.0	1.0
GTH12K3BI	220-240，1，50	6	1.0	1.0
GTH18K3BI	220-240，1，50	6	1.0	1.0
GTH24K3BI	220-240，1，50	6	1.0	1.0
GTH30K3BI	220-240，1，50	6	1.0	1.0
GTH36K3BI	220-240，1，50	6	1.0	1.0
GTH42K3BI	220-240，1，50	6	1.0	1.0
GTH48K3BI	220-240，1，50	6	1.0	1.0

- Cassette Type

Model	Power Supply （V，Ph，Hz）	Capability of Air Swith	Minimum Sectional Area of Earth Wire	Minimum Sectional Area of Power Supply Wire
		(A)	(mm^2)	(mm^2)
GKH12K3BI	220-240，1，50	6	1.0	1.0
GKH18K3BI	220-240，1，50	6	1.0	1.0
GKH24K3BI	220-240，1，50	6	1.0	1.0
GKH30K3BI	220-240，1，50	6	1.0	1.0
GKH36K3BI	220-240，1，50	6	1.0	1.0
GKH42K3BI	220-240，1，50	6	1.0	1.0
GKH48K3BI	220-240，1，50	6	1.0	1.0

MAINTENANCE

MAINTENANCE

1 TROUBLE TABLE

Trouble Code	rouble Name	Origin of Trouble Signal	Control Description
E0	Pump Failure	Water Pump	If full water protection has not been recovered for continuous 2 hours, it is believed that there is water pump error. All loads will be turned off and it cannot be automatically recovered.
E1	Compressor High Pressure Protection	High Pressure Switch	When high pressure protection has been detected for continuous 3s, all loads will be turned off(except for 4-way valve for heating). Sheild all buttons and remote signal except ON/OFF button. They cannot be recovered automatically. The error cannot be cleared until turn on/off the unit or de-energized error has been recovered.
E2	Indoor Frost-Proof Protection	Evaporator Temp.Sensor of indoor unit	When defrosting and dehumidifying have been executed for a period of time, if detect that evaporator temp. sensor is lower than -2℃, the unit will warn and ompressor and outer fan will stop. When the temp. ≥10℃ and the compressor has been stopped for 3min, the unit can run.
E3	Compressor Low Pressure Protection	Low Pressure Switch	When the unit is on or standby(if the compressor is on, detection will be executed after 3min of the running), if detect that low pressure switch breaks up for continuous 30s, this error will be warned. The first 2 times of errors within 30min can be recovered automatically, but over 3 times, the error cannot be automatically recovered.
E4	Compressor Exhaust High Temperature Protection	Discharge Temp. Sensor	After the running of compressor, if detect that discharge temp. is higher that 130℃ in continuously 30s, error code “E4”will de displayed and all loads will be turned off. After 3min stop of compressor, if detect that the discharge temp. is lower than 90℃ for continuously 5s, the compressor will resume running. if detect that there are 3 times of high temp. protections, it cannot be recovered automatically.
E5	Compressor Overheat	Compressor	After running of compressor, if detect that overload switch of compressor breaks for continuous 3s, this error will be warned. All loads will be turned off(except 4-way valve for heating) and the error will be displayed. After the compressor has been stopped for 3min, if the error has been recovered, it will resume running. From the first error detected, if 3 times of compressor overload protections

Trouble Code	rouble Name	Origin of Trouble Signal	Control Description
			have been detected within 30min, it cannot be recovered automatically and buzzer will sound. Press ON/OFF button to clear the sound. By press it again, it will resume running if high pressure protection disappears. If not, error will be displayed.
E6	Communications Failure	Communication	After energization, if the outdoor unit has not received any data from indoor unit for continuous 30s, there is communication error of indoor unit. Compressor and outer fan will stop and when heating, 4-way valve will stop after 2m stop of compressor If indoor unit has not received the data from outdoor unit, there is communication error. Indoor unit will stop and LED will blink. If display panel has not received any data from outdoor unit, it will judge as communication error and display the error. The unit will stop but after the communication becomes normal, the system will run at the previous status, which can be recovered automatically.
E8	Indoor Fan Protection	Inner Fan	If fan overload protection has been detected for continuos 3s, compressor and fan will stop immediately, E8 will be displayed and buzzer will sound. If the error is cleared, press ON/OFF button and the error display will disappear. Press it again to restart it.
E9	Full Water Protection	Liquid Level Switch	After energization, full water is detected for continuous 8sm, full water protection will be entered and LED will blink (or E9 will be displayed): Under cooling and dehumidifying, outer fan and compressor will stop and inner fan will stop 1min later; under heating, outer fan and compressor will stop, 4-way valve keep previous status and inner fna will stop 1min delay; under air supply mode, loads of indoor unit will not be turned off.
F0	Failure of Indoor Room Sensor at Air Intake	Indoor Ambient Temp. Sensor	If detect that indoor temp sensor is short circuit or open circuit for continuous 5s, indoor ambient temp will be compulsively set as 24℃and there is no any performance of the system..LED will blink or display error code F0. After clearing the error, it can automatically resume running. Under air supply mode, just display error code which will disappear after error is cleared and inner fan will normaly run.
F1	Failure of Evaporator Temp. Sensor	Indoor Evaporator Temp Sensor	If detect evaporator temp sensor is open circuit or short circuit for continuous 5s, system will be turned off when cooling and dehumidifying, and all loads will be turned off

Trouble Code	rouble Name	Origin of Trouble Signal	Control Description
			except for 4-way valve when heating. LED will blink or display error code F1. When error is cleared, it can resume running automatically and clear error display. Under air supply mode, only display error and inner fan runs normally. After error is cleared, error display disappears.
F2	Failure of Condenser Temp. Sensor	Outdoor Condenser Temp Sensor	If detect that condenser temp sensor is open circuit or short circuit for 5s, system will be turned off when cooling and dehumidifying, and all loads will be turned off except for 4-way valve when heating. LED will blink or display error code F2. When error is cleared, it can resume running automatically and clear error display. Under air supply mode, only display error and inner fan runs normally. After error is cleared, error display disappears. For cooling-only unit, no models but air duct type unit detect the condenser temp sensor error.
F3	Failure of Outdoor Ambient Sensor	Outdoor Ambient Temp Sensor	If detect that outdoor ambient temp sensor is open circuit or short circuit for 5s, system will be turned off when cooling and dehumidifying, and all loads will be turned off except for 4-way valve when heating. LED will blink or display error code F3. When error is cleared, it can resume running automatically and clear error display. Under air supply mode, only display error and inner fan runs normally. After error is cleared, error display disappears.
F4	Failure of Exhaust Temp. Sensor	Discharge Temp Sensor	After startup of compressor, if detect that discharge temp sensor is open circuit for continuous 5s, Under cooling and dehumidifying, all loads will be turned off. When heating, all loads will be turned off except for 4-way valve when heating. LED will blink and E4 will be displayed.At the same time, buzzer will sound. When error is cleared, it can resume running and erase the error code. If discharge temp sensor is short circuit, Under cooling and dehumidifying, all loads will be turned off. When heating, all loads will be turned off except for 4-way valve when heating. LED will blink and E4 will be displayed.At the same time, buzzer will sound. When error is cleared, it can resume running and erase the error code.
F5	Failure of Indoor Room Sensor at Wire Controller	Wired Controller	If detect that temp sensor of wired controller is open circuit or short circuit for continuous 5s, ambient temp will be compulsively set as 24 ℃, and there is no any performance of the system. Only LED blinks or display error

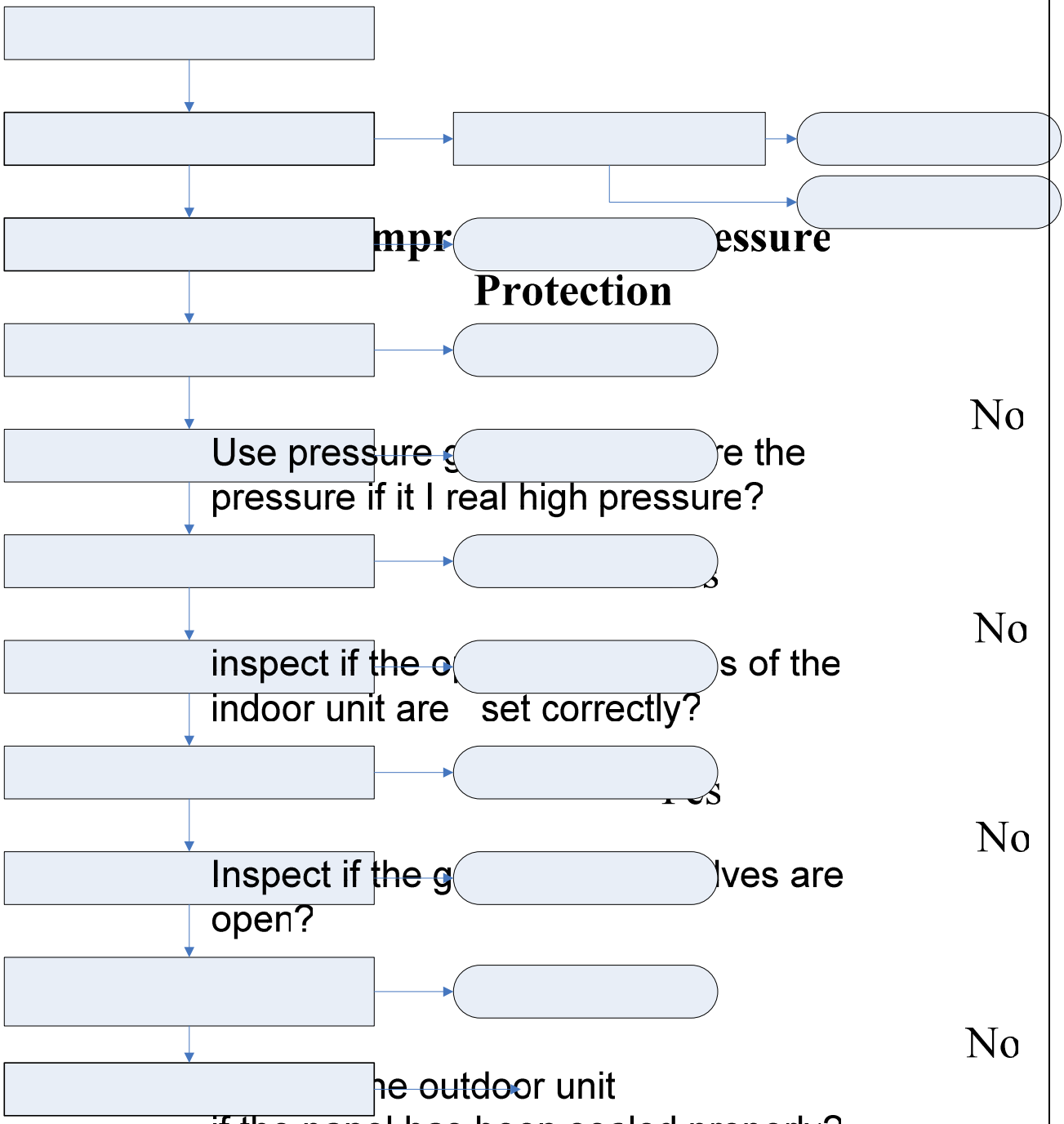
Trouble Code	rouble Name	Origin of Trouble Signal	Control Description
			code F0. When error is cleared, it can resume running automatically and clear error display. Under air supply mode, only display error and inner fan runs normally. After error is cleared, error display disappears.

2 FLOW CHART OF TROUBLESHOOTING

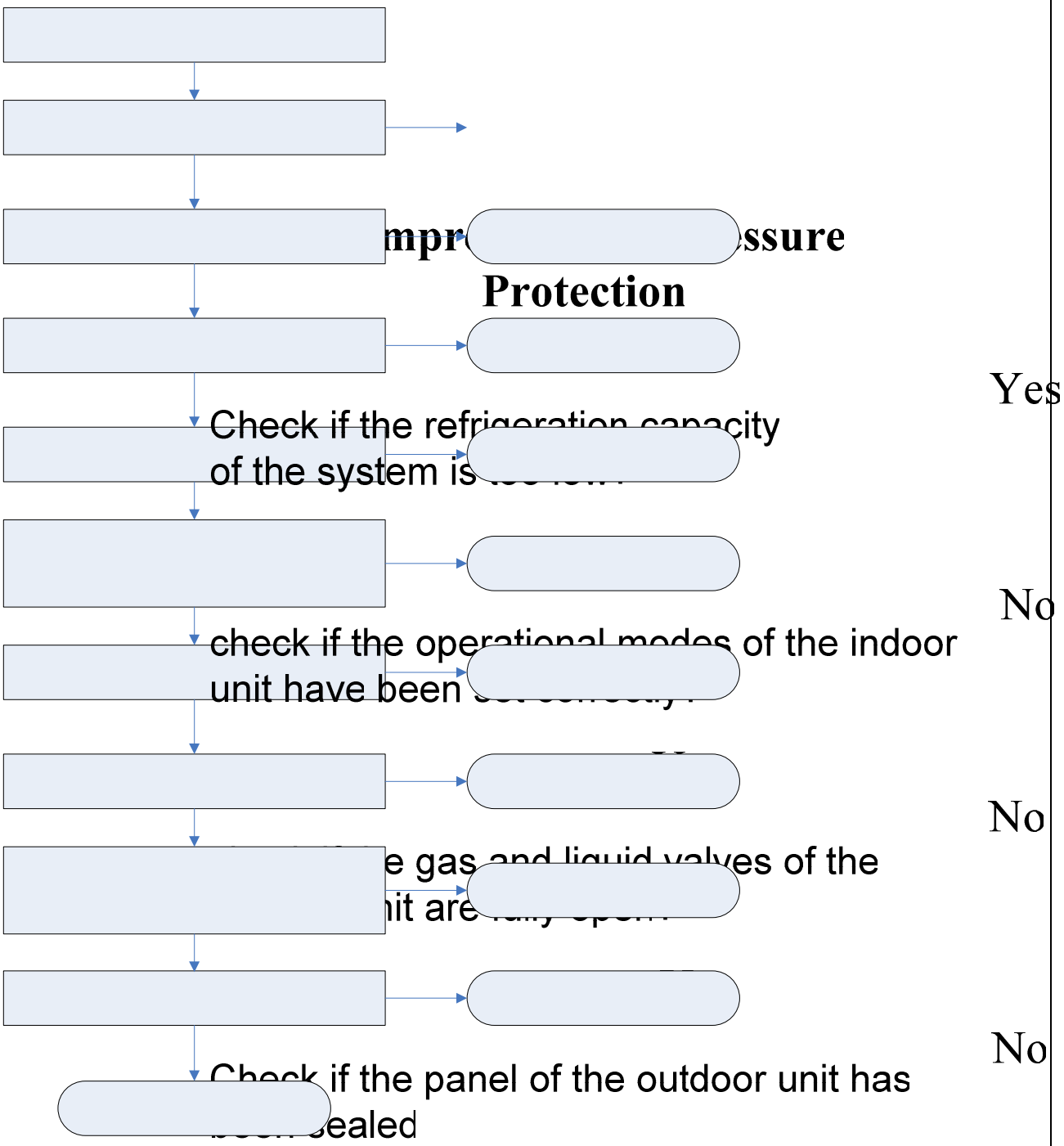
Service personnel shall collect the malfunction information as much as possible and research them thoroughly, list these electrical parts which may cause malfunction, service personnel shall be able to determine the specific reason and solve the faulted parts.

- Observe the status of the complete device and do not observe the partial
- It is advised to start from the simple operation during analyzing, judging and confirming malfunction reason, then conduct the complicated operations such removal of device, part replacement and refrigerant filling.
- Find the malfunction reason carefully as unit may occur several malfunction at the same time and one malfunction may develop into several malfunction, so entire system analysis shall be established to make the judged result exact and credible.

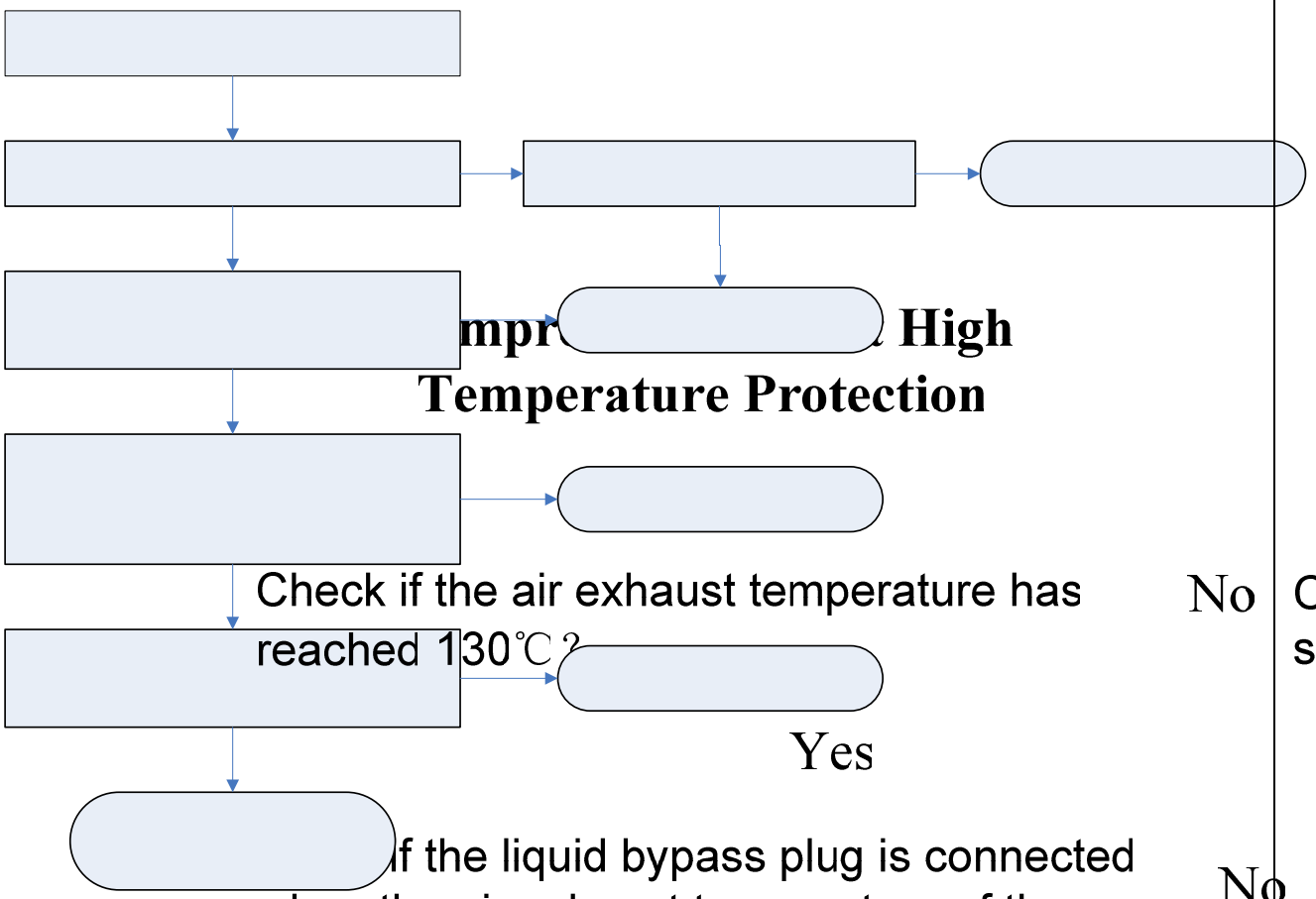
◆ Malfunction display: E1 Compressor High Pressure Protection



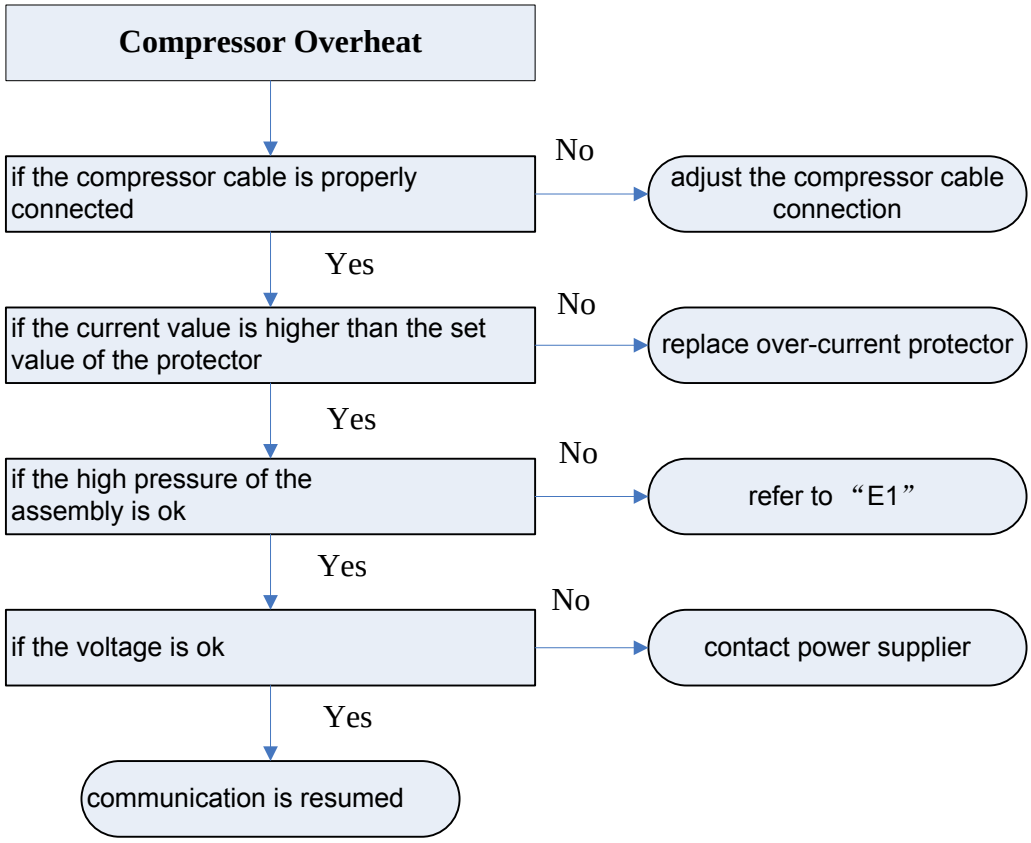
◆ Malfunction display: E3 Compressor Low Pressure Protection



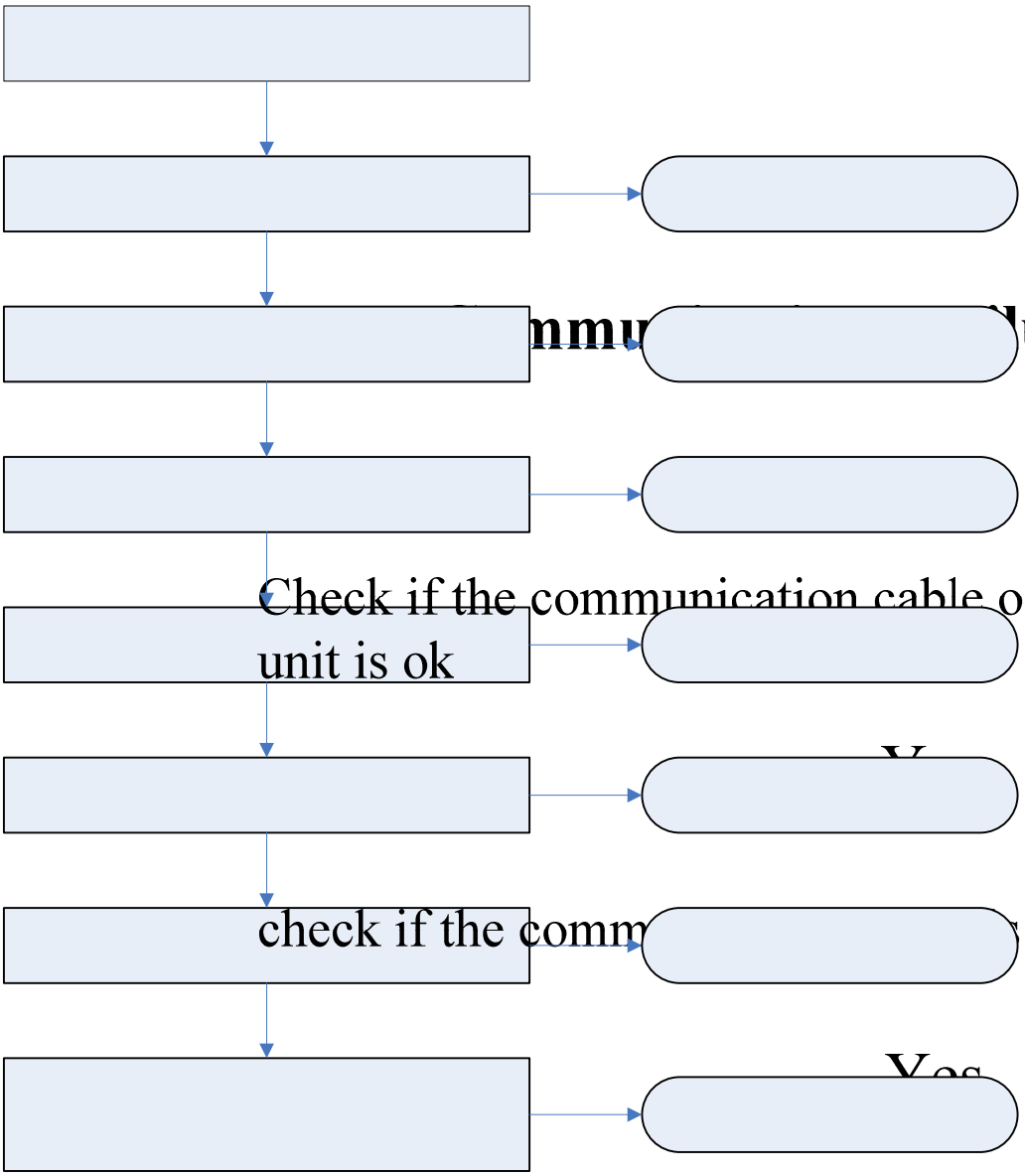
◆ Malfunction display: E4 Compressor Exhaust High Temperature Protection



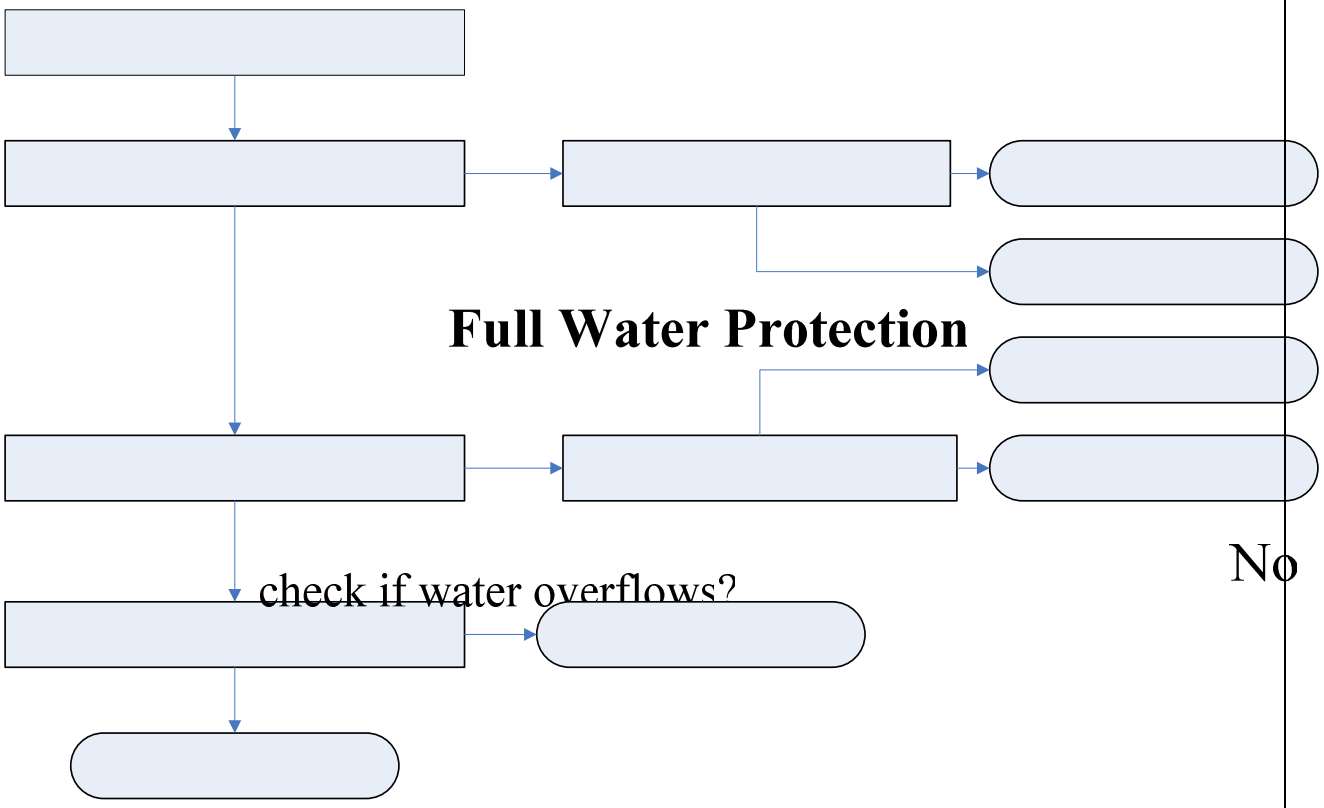
◆ Malfunction display: E5 Compressor Overheat



◆ Malfunction display: E6 Communications Failure



◆ Malfunction display: E9 Full Water Protection



Yes

No

check if the water drainage pump works?

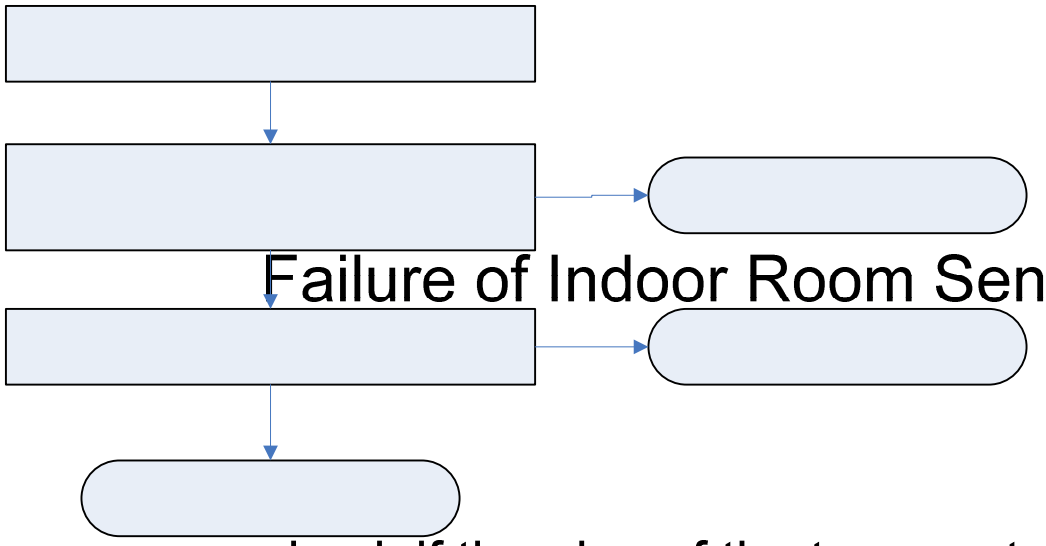
Yes

check if the water drainage pipe is jammed or if water flows smoothly? No

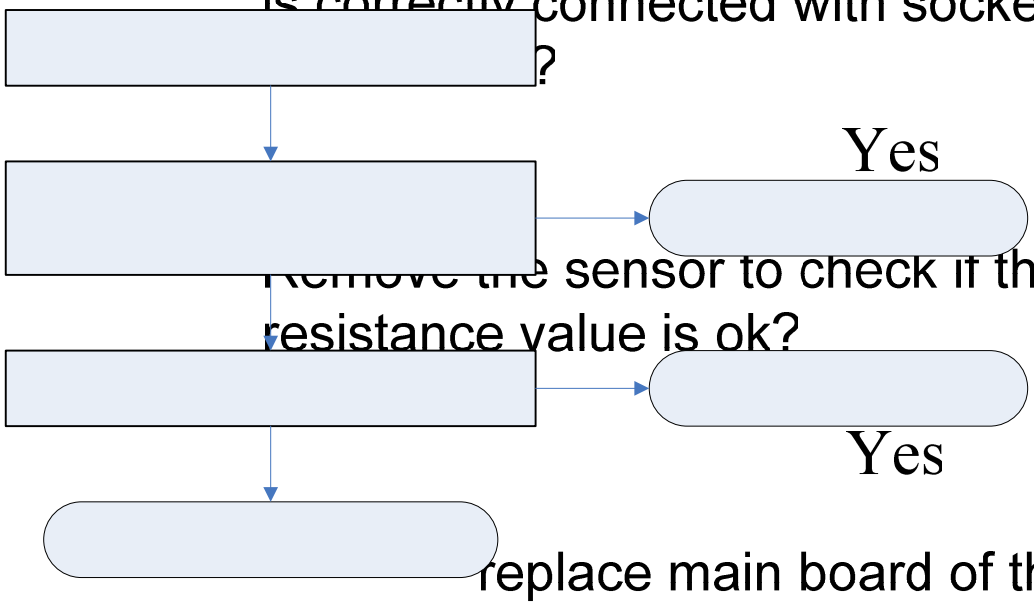
Yes

check the water drainage pipe

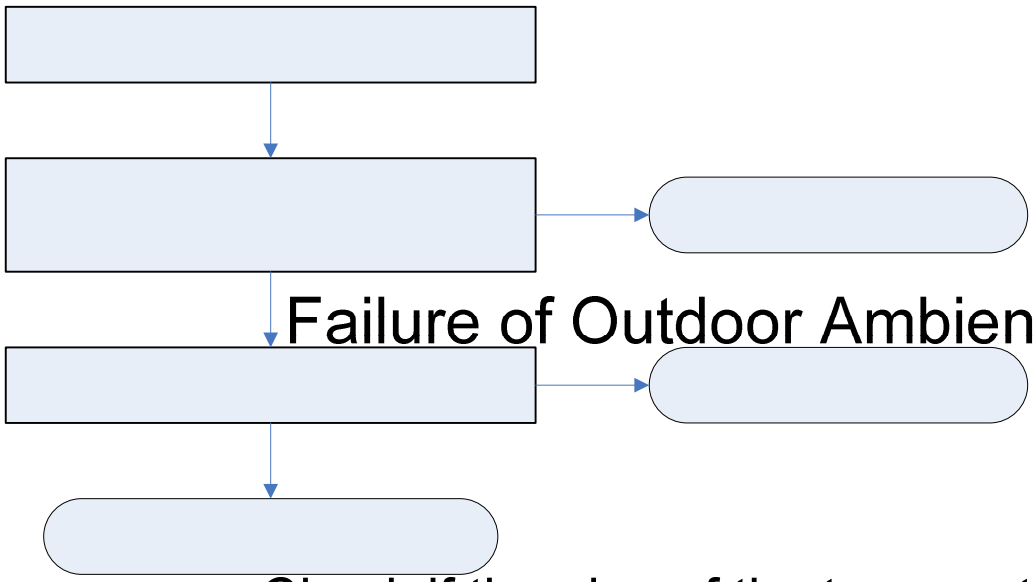
◆ Malfunction display: F0 Failure of Indoor Room Sensor at Air Intake



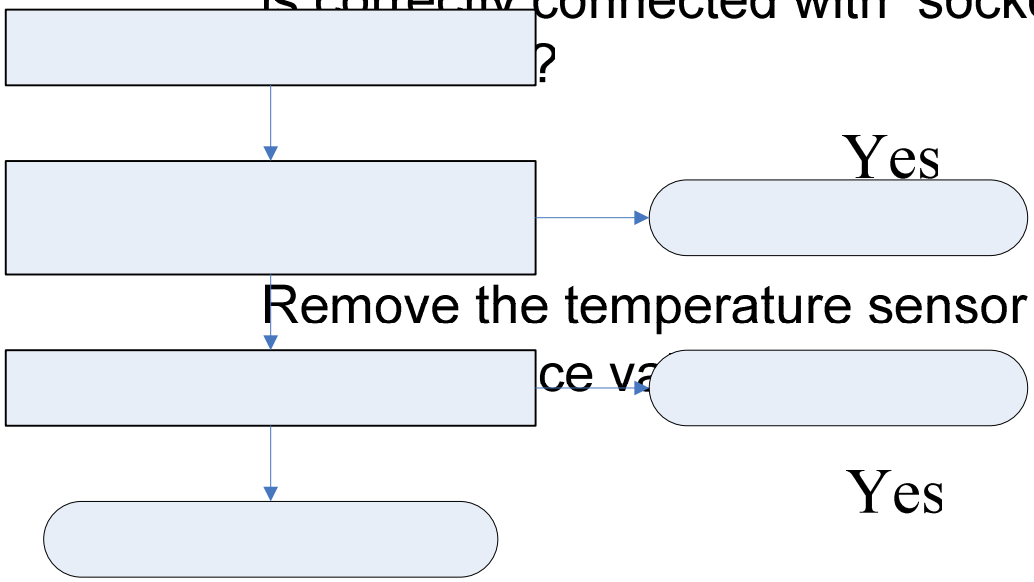
◆ Malfunction display: F1 Failure of Evaporator Temp. Sensor



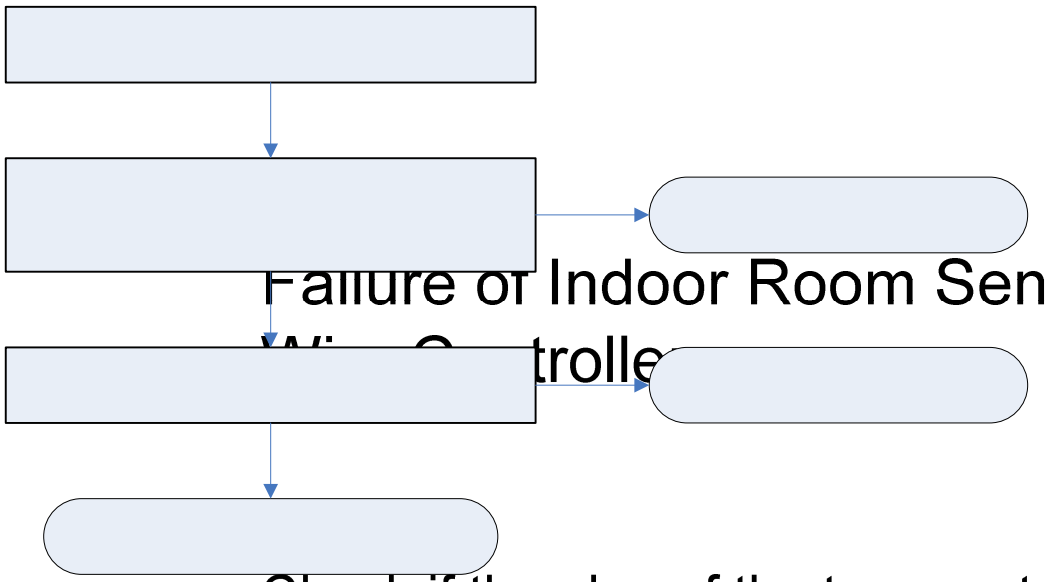
◆ Malfunction display: F3 Failure of Outdoor Ambient Sensor



◆ Malfunction display: F4 Failure of Exhaust Temp. Sensor



◆ Malfunction display: F5 Failure of Indoor Room Sensor at Wire Controller



Check if the plug of the temperature sensor is correctly connected with socket on the main board?

Yes

Remove the temperature sensor to check if the resistance value is ok?

Yes

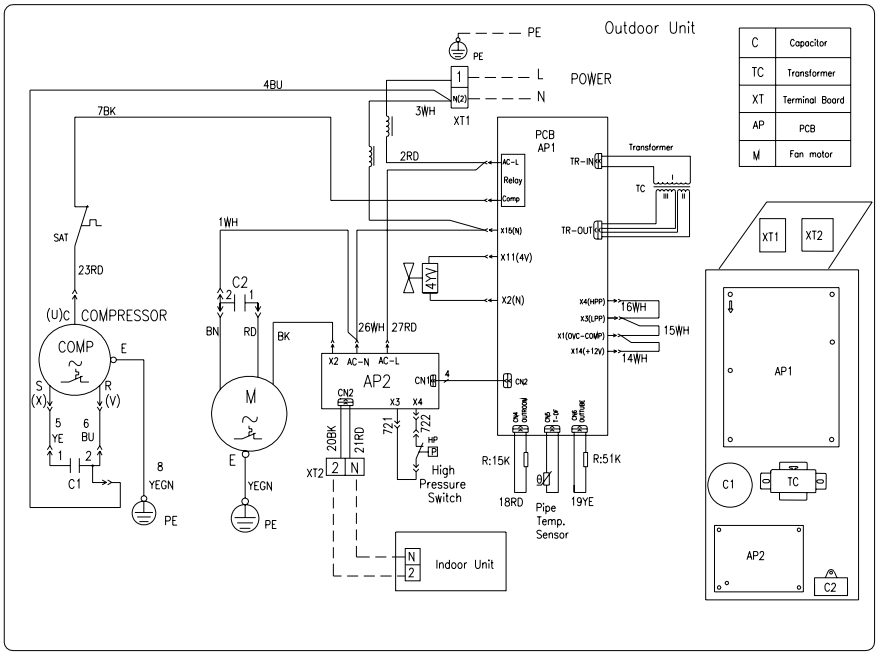
replace the main board of the outdoor unit

3 WIRING DIADRAM

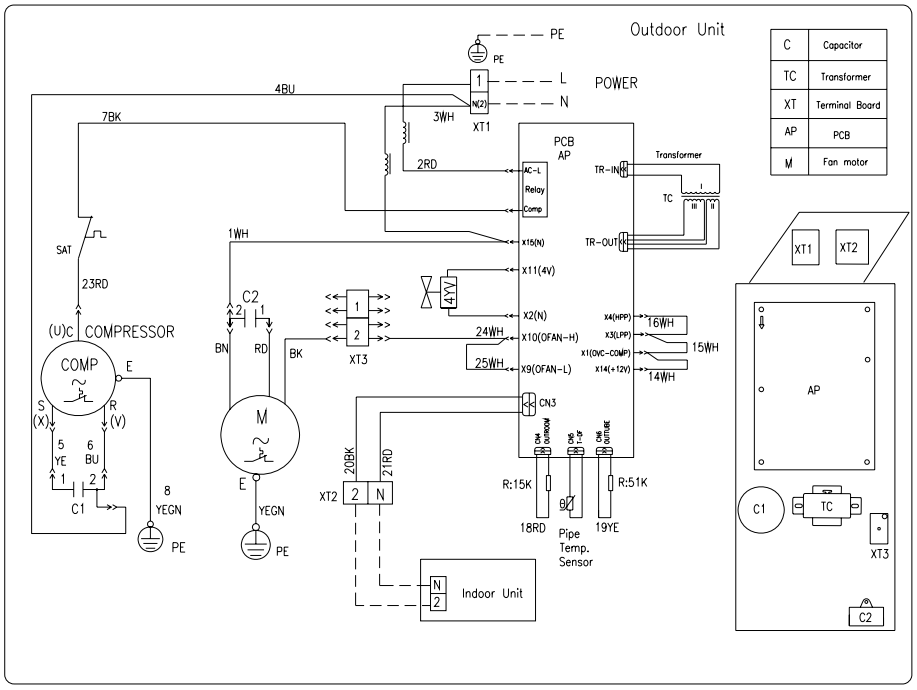
3.1 Wiring Diagram-Outdoor Units

1.**GUHN09NK1AO**

WITH FUNCTION OF LOW TEMP. COOLING:

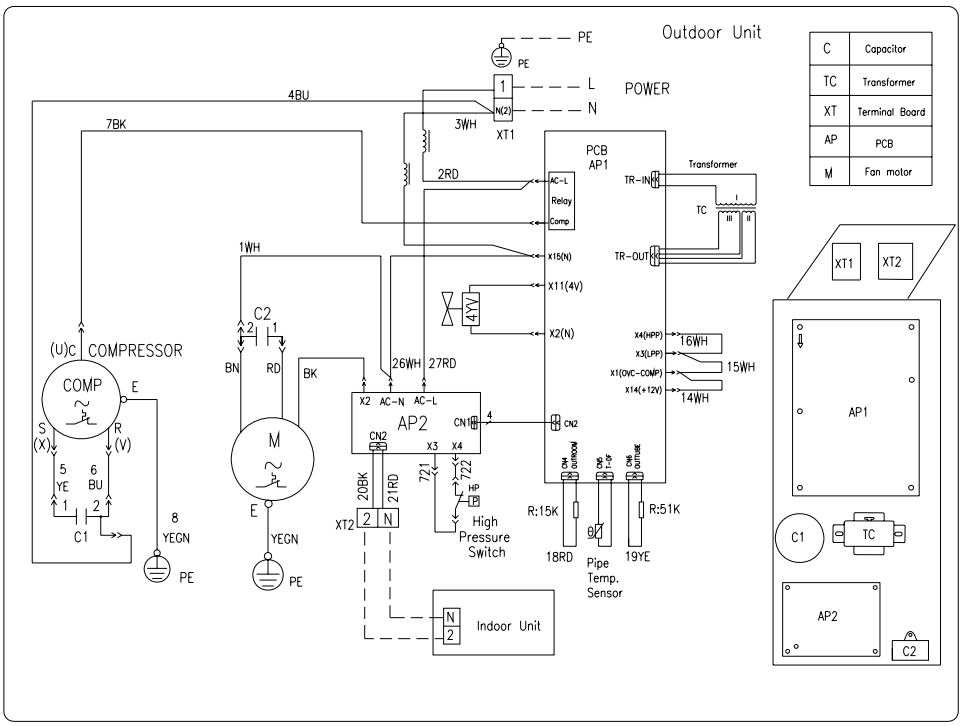


WITHOUT FUNCTION OF LOW TEMP. COOLING:

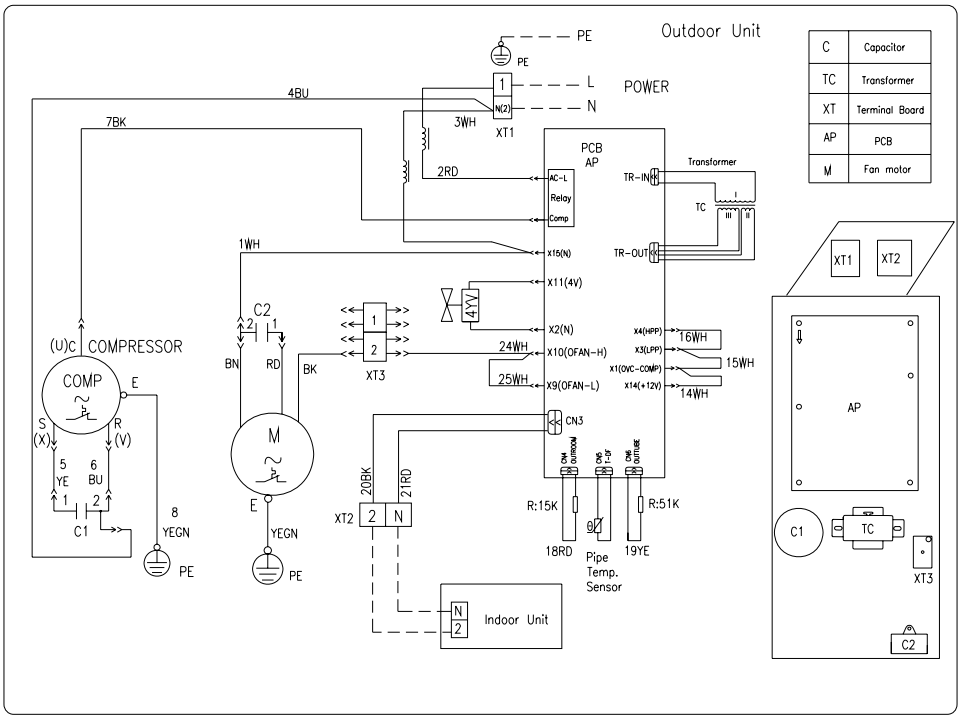


2.GUHN12NK1AO

WITH FUNCTION OF LOW TEMP. COOLING:

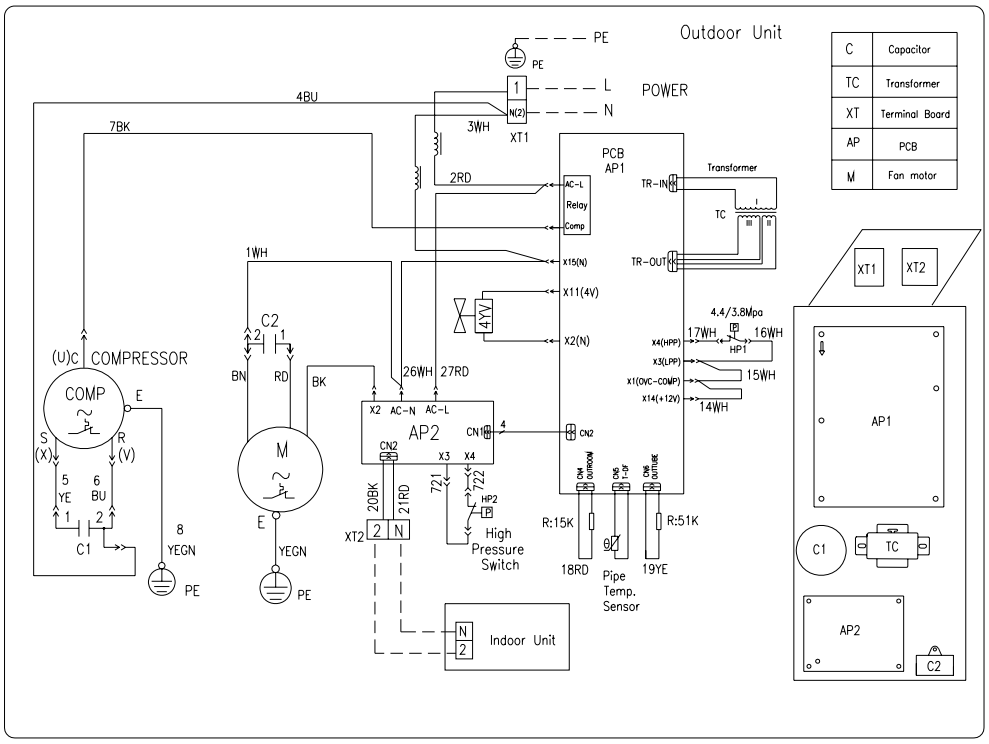


WITHOUT FUNCTION OF LOW TEMP. COOLING:

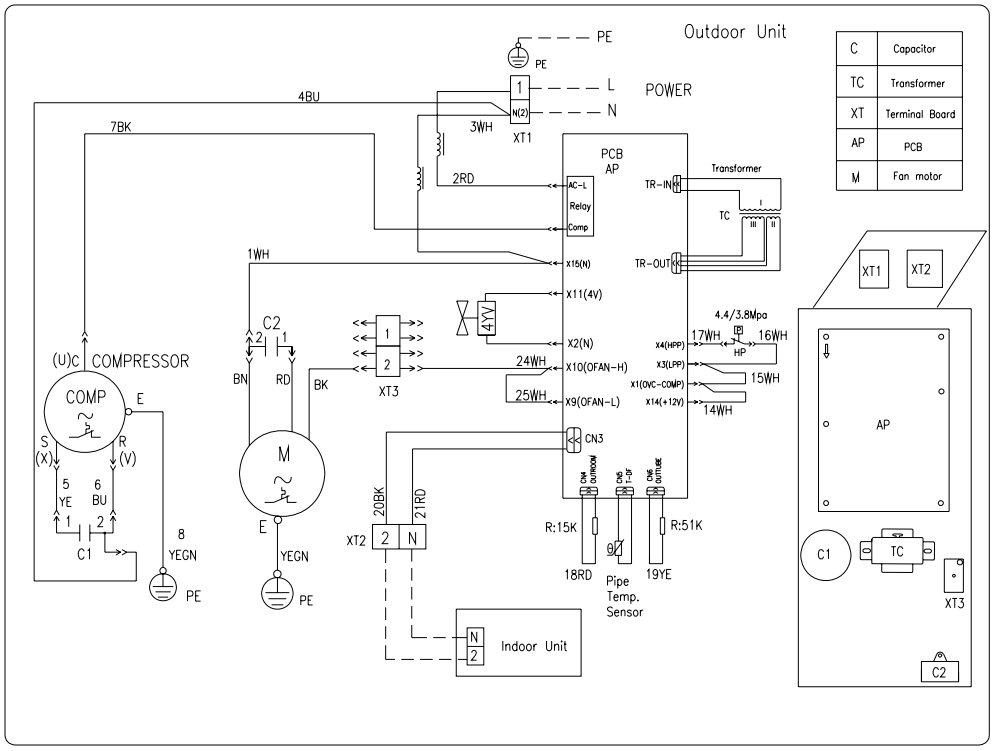


3.GUHN18NK1AO

WITH FUNCTION OF LOW TEMP. COOLING:

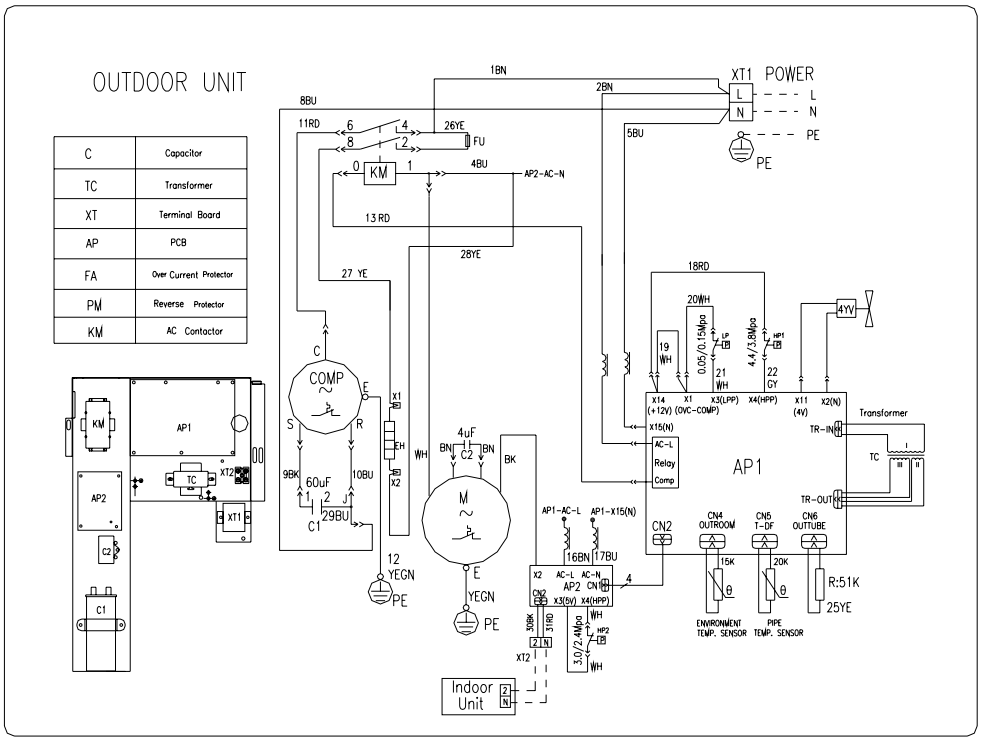


WITHOUT FUNCTION OF LOW TEMP. COOLING:

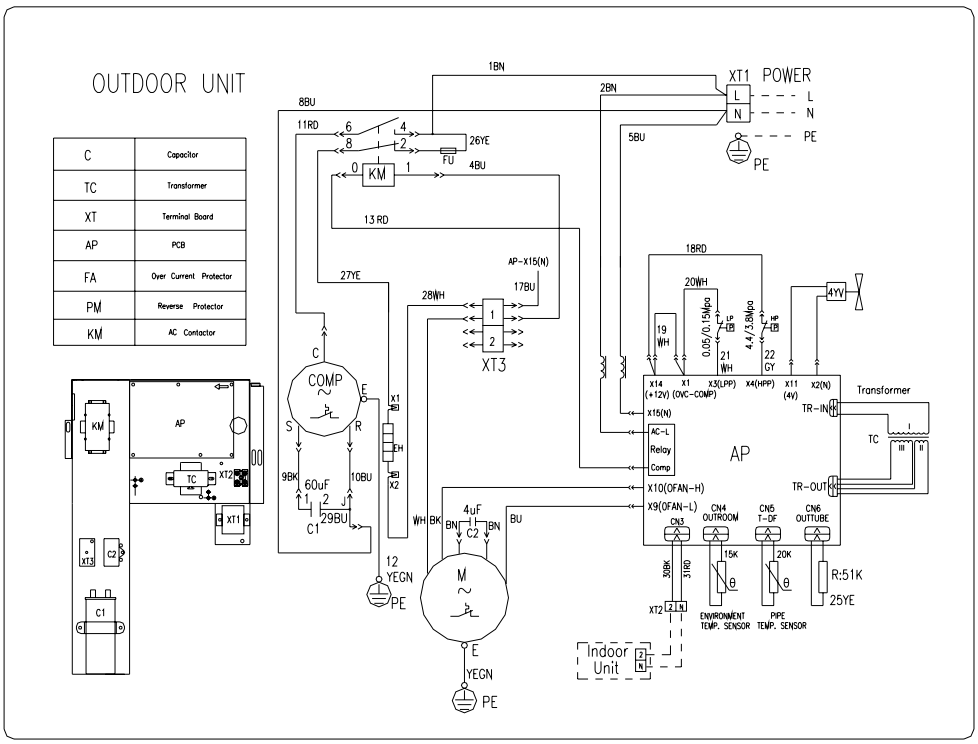


4.GUHN24NK1AO ;GUHN30NK1AO

WITH FUNCTION OF LOW TEMP. COOLING:

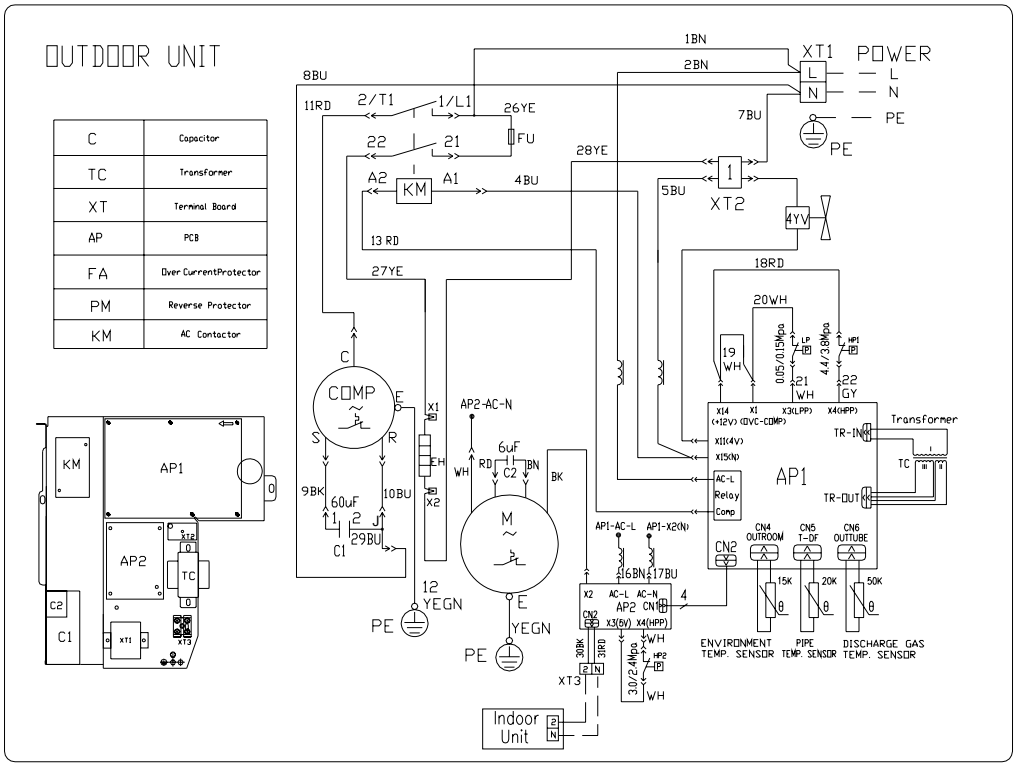


WITHOUT FUNCTION OF LOW TEMP. COOLING:

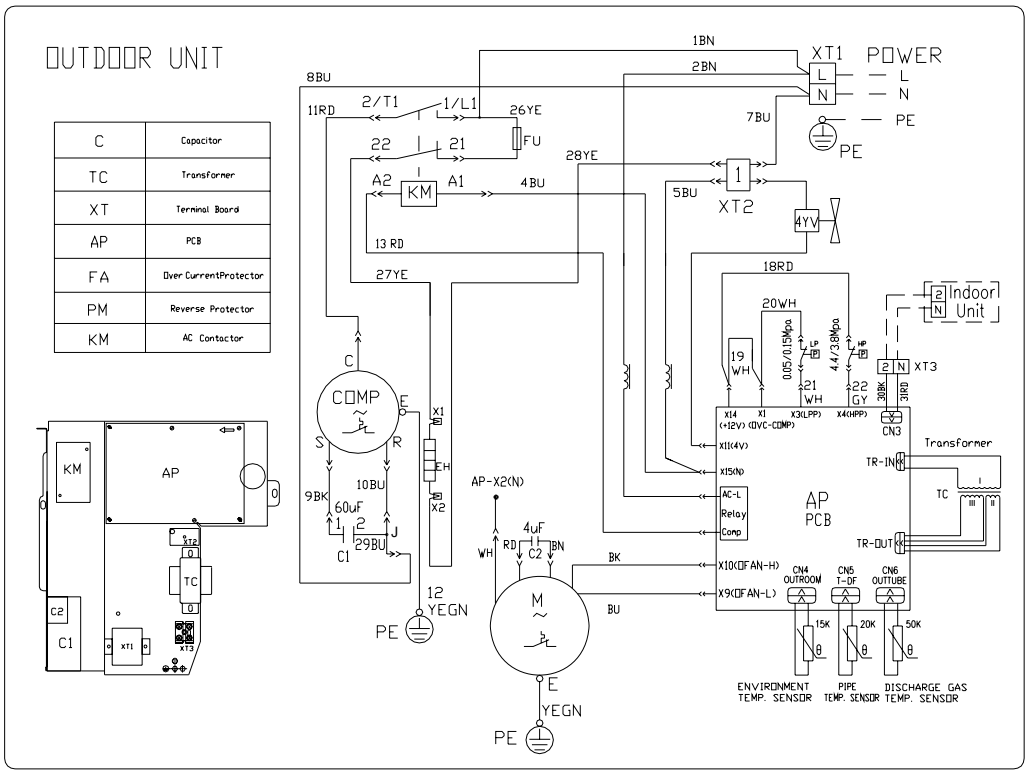


5.GUHN36NK1AO

WITH FUNCTION OF LOW TEMP. COOLING:

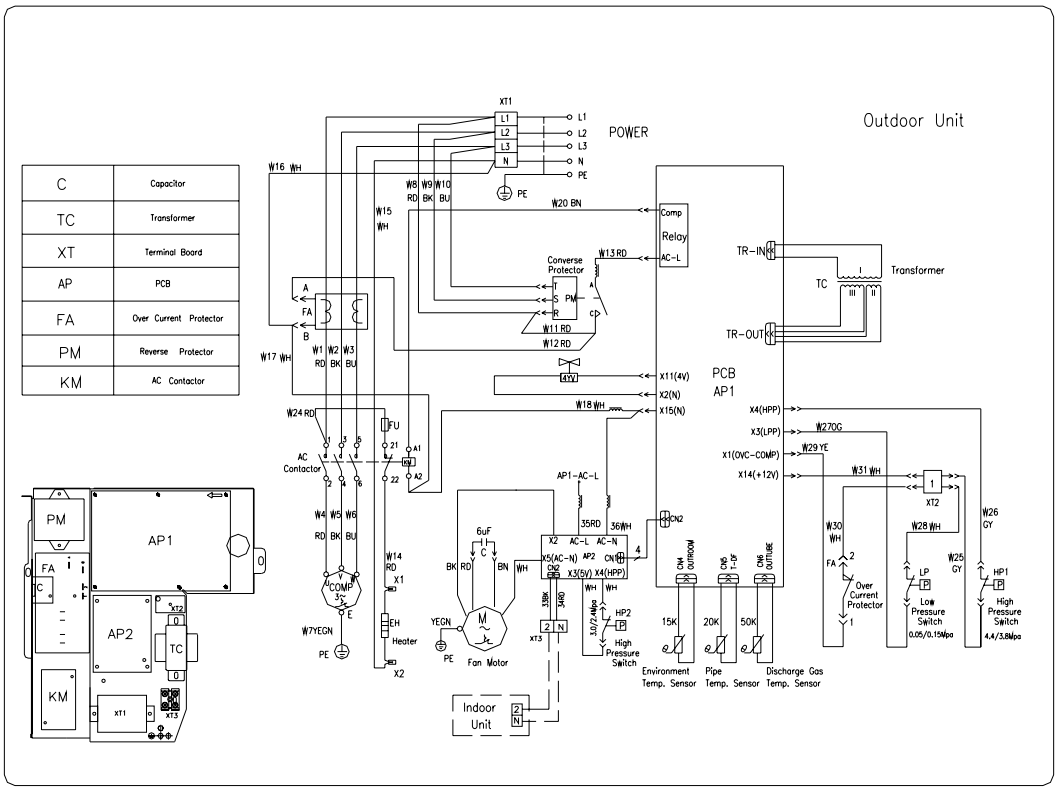


WITHOUT FUNCTION OF LOW TEMP. COOLING:

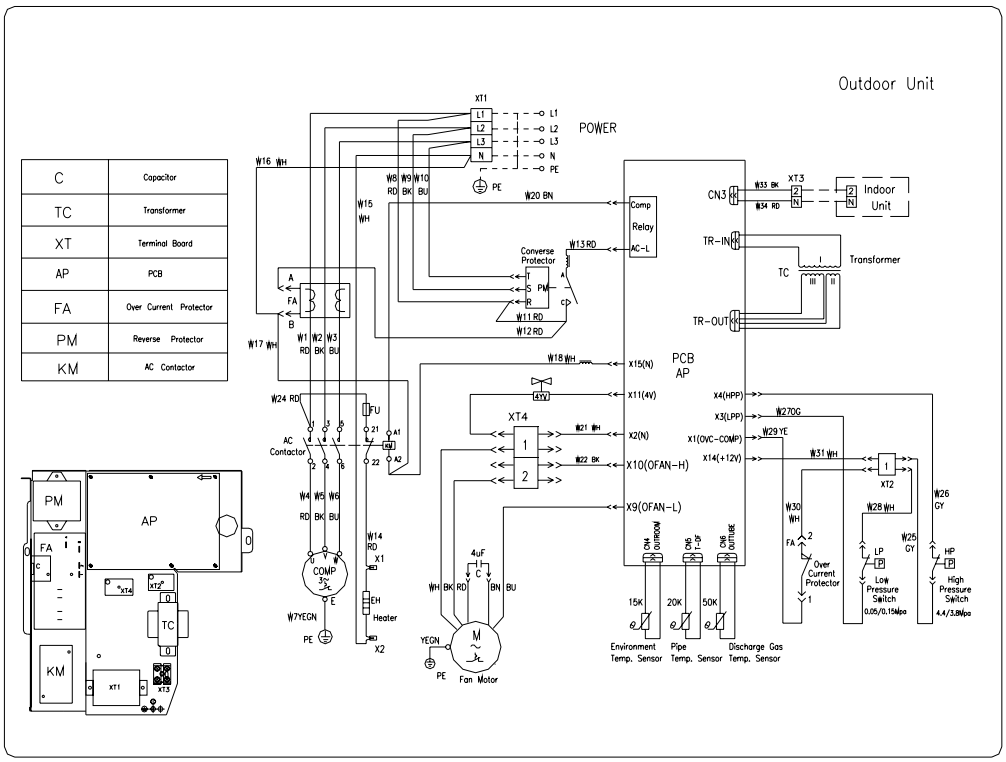


6.GUHN36NM1AO

WITH FUNCTION OF LOW TEMP. COOLING:

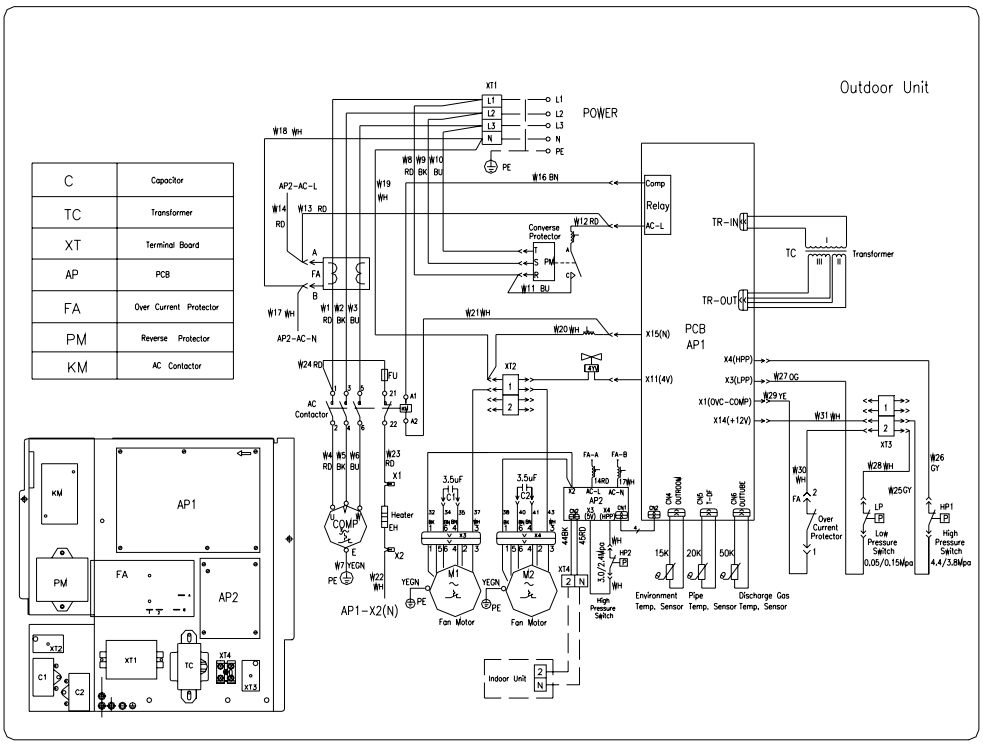


WITHOUT FUNCTION OF LOW TEMP. COOLING:

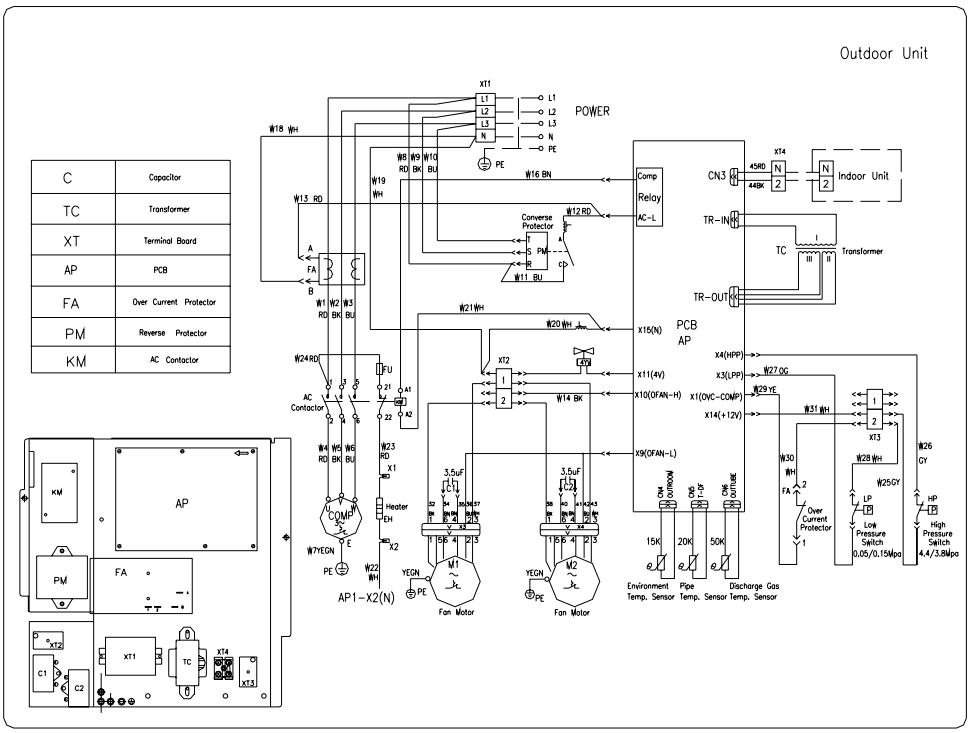


7.GUHN42NM1AO

WITH FUNCTION OF LOW TEMP. COOLING:

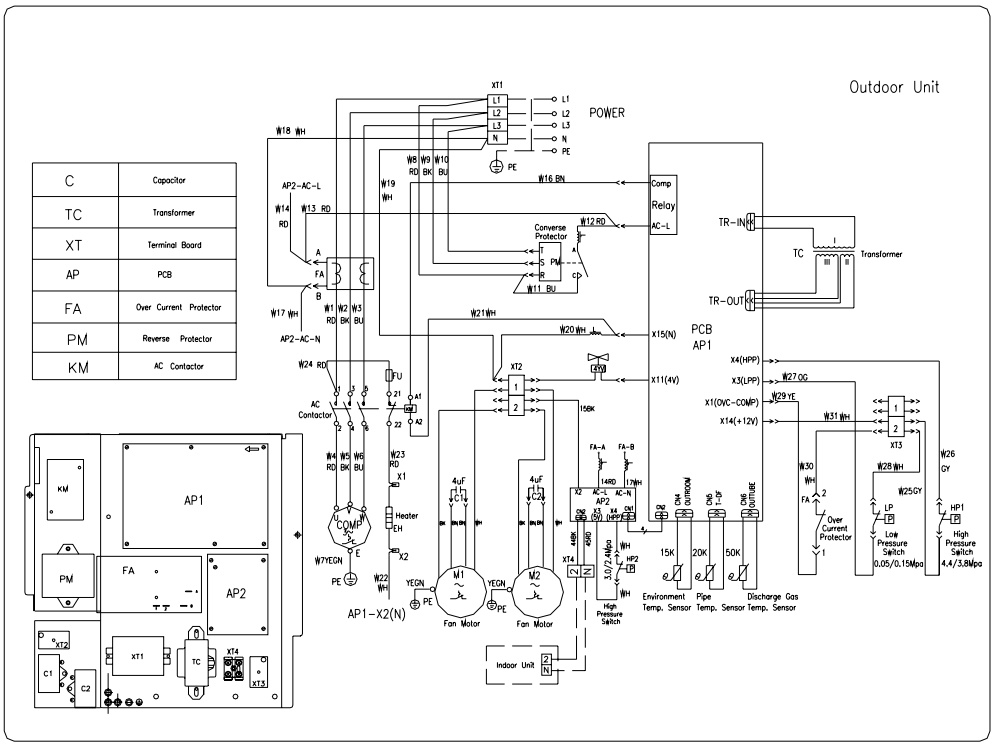


WITHOUT FUNCTION OF LOW TEMP. COOLING:

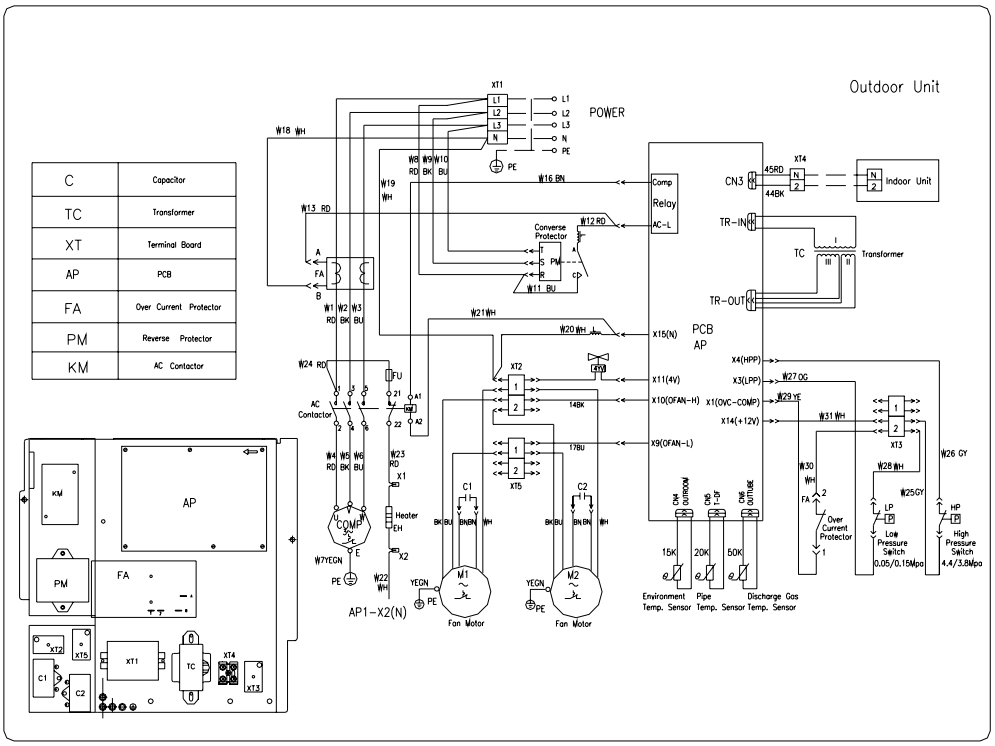


8.GUHN48NM1AO；GUHN60NM1AO

WITH FUNCTION OF LOW TEMP. COOLING:



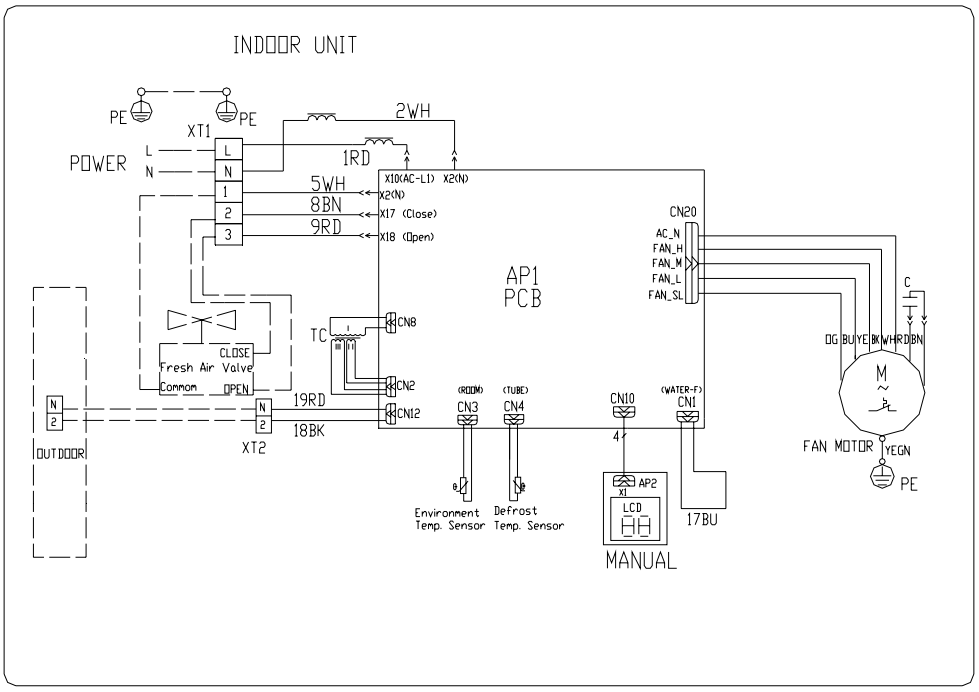
WITHOUT FUNCTION OF LOW TEMP. COOLING:



3.2 Wiring Diagram-Indoor units

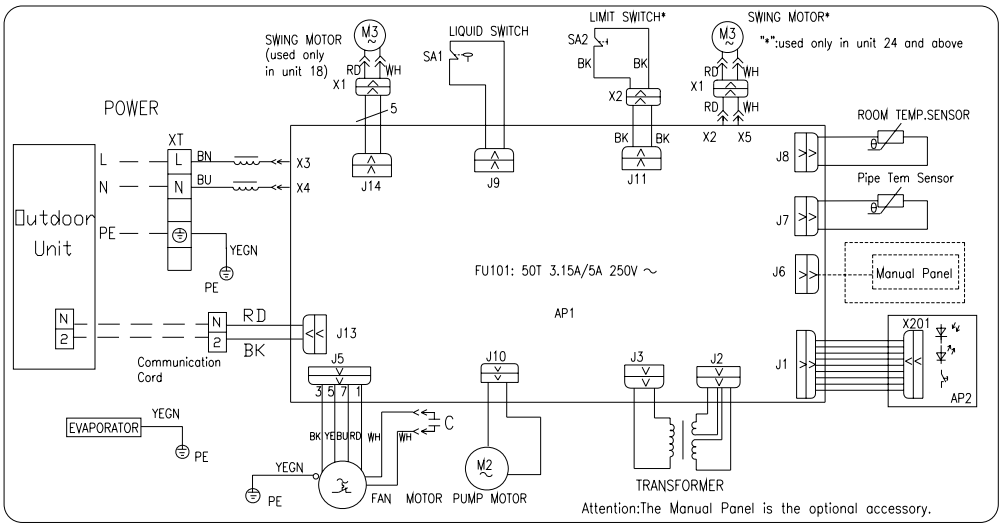
3.2.1 Duct Type

Model:**GFH09K3BI ； GFH12K3BI ； GFH18K3BI ； GFH24K3BI ； GFH30K3BI ； GFH36K3BI ； GFH42K3BI；GFH48K3BI；GFH60K3BI；**



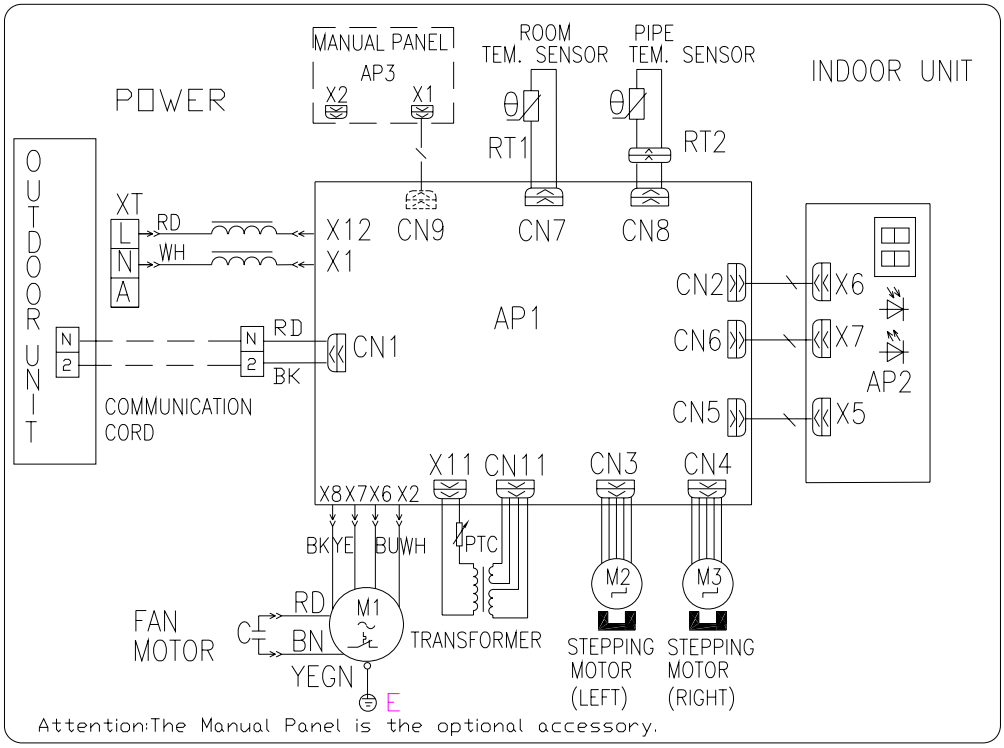
3.2.2 Ceiling Type

Model:**GKH12K3BI；GKH18K3BI；GKH24K3BI；GKH30K3BI；GKH36K3BI；GKH42K3BI；GKH48K3BI**



3.2.3 Cassettle Type

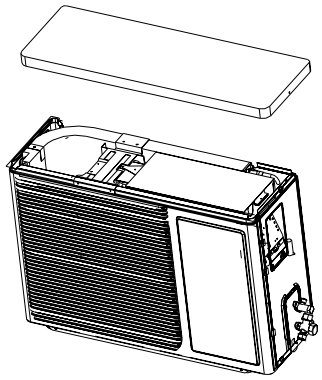
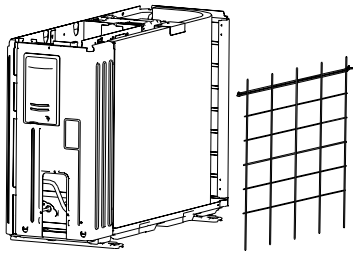
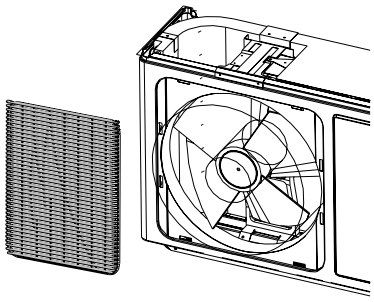
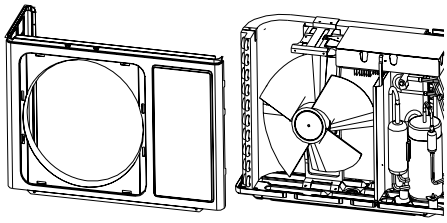
Model:**GTH09K3BI； GTH12K3BI； GTH18K3BI； GTH24K3BI； GTH30K3BI GTH36K3BI；GTH42K3BI；GTH48K3BI；**

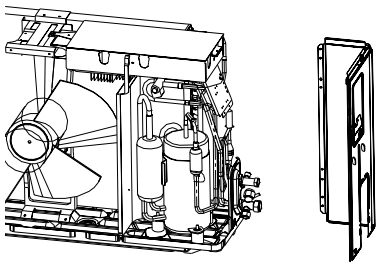
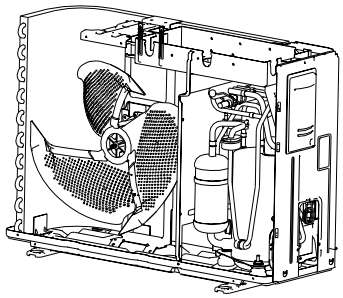
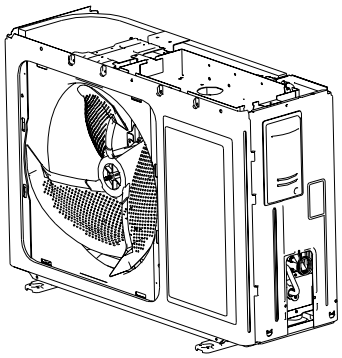
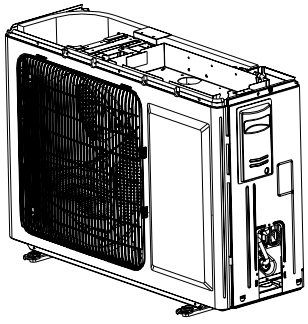


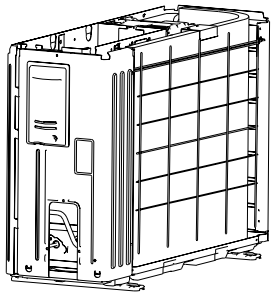
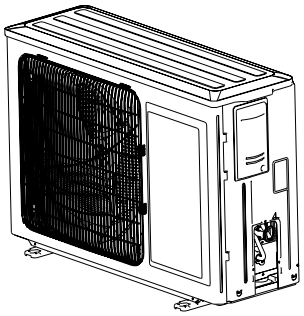
4 DISASSEMBLY AND ASSEMBLY PROCEDURE OF MAIN PARTS_

4.1 Outdoor Unit

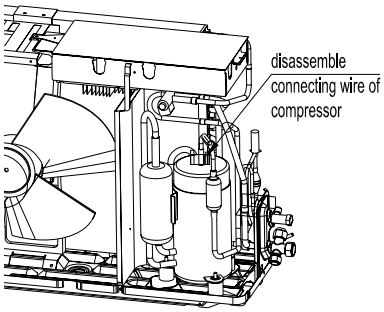
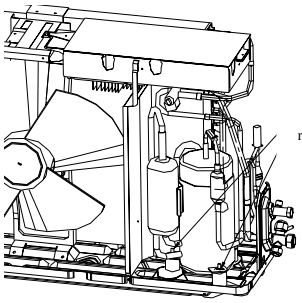
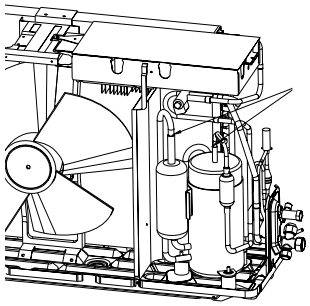
GUHN09NK1AO~ GUHN36NK1AO

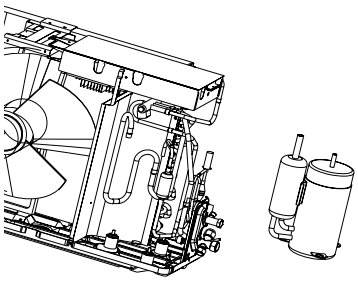
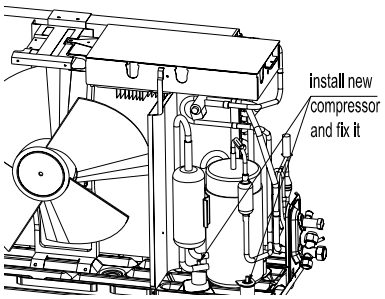
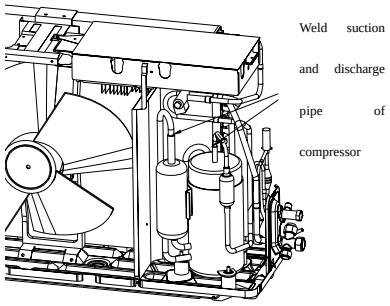
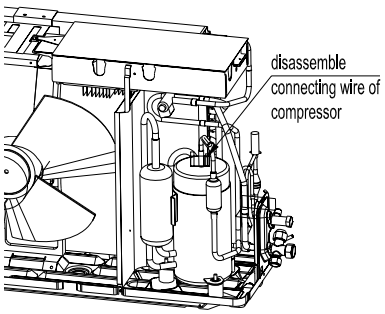
Disassembly and Assembly of external casing		
Remark :。Make sure that the power supply is cut off before disassemble of the external casing.		
Step	Illustration	Handling Instruction
1.Disassembly of the top cover		●Unscrew retaining srcews on top cover ●Remove it from the unit.
2. Disassembly of rear grill		● Loose retaining screw on the rear grill with screwdriver. ●Remove rear grill from the unit.
3. Disassembly of front grill		●Disassemble the screws of the front grill with screwdriver ● Disassemble and remove the front grill from the panel (external casing).
4. Disassembly of panel (external casing)		●Disassemble the retaining screws on the panel (external casing); ●Remove the panel (external casing) from the unit. ●Some models (24k and above) require disassembling the front

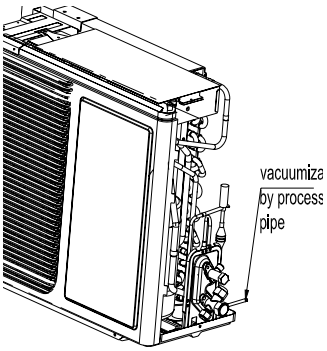
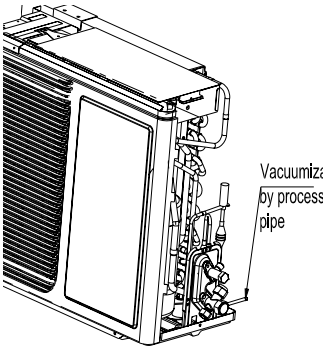
		panel outside the external casing first before removing it.
5. Disassembly of right (back) panel		●Disassemble the screws on the right (back) panel with screwdriver. ●Remove the right (back) panel from the unit.
6. Installation of new right (back) panel		●Put new right (back) panel into right position. ●Screw down the surrounding retaining screws with screwdriver.
7. Installation of new panel (external casing)		●Put new panel (external casing) into right position on the unit; ●Screw down the surrounding retaining screws with screwdriver. ●Some models (24k and above) need to be equipped with front panel outside the external casing
8. Installation of front grill		●Put new front grill into correct position on the unit ●Screw down the surrounding retaining screws with screwdriver.

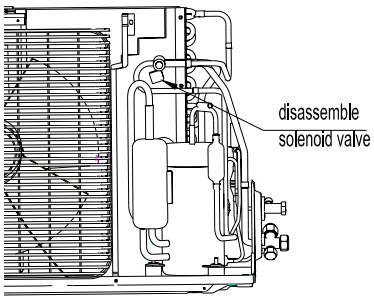
9. Installation of new rear grill		●Put new rear grill into the right position on the unit ●Screw down the surrounding retaining screws with screwdriver.
10. Installation of new top cover		●Put the new top cover into the correct position on the unit ●Screw down the surrounding retaining screws with screwdriver

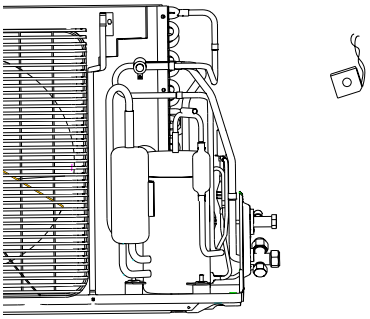
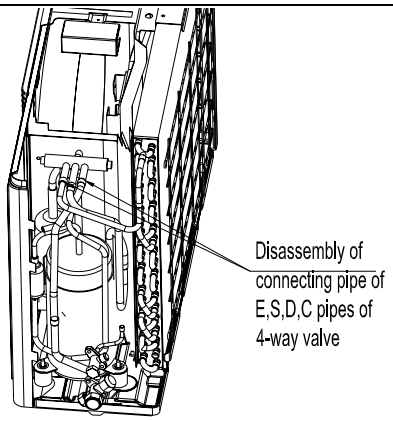
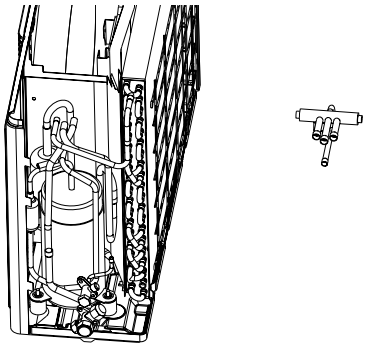
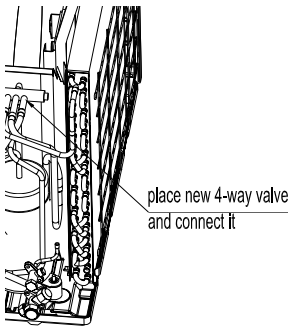
Disassembly and Assembly of Compressor		
Remark : Make sure there isn't any refrigerant in pipe system and the power supply is cut off before removal of the compressor..		
Step	Illustration	Handling Instruction

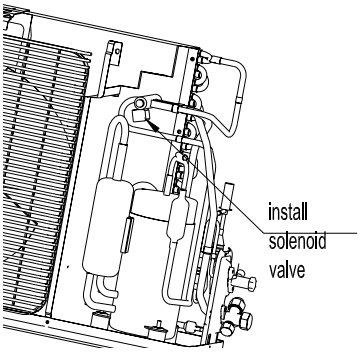
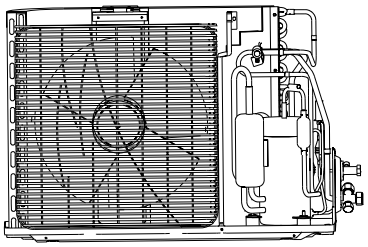
1. Disconnect the power cord		●Unscrew the retaining screw of power cord with screwdriver. ●Unplug the power cord. Note:Earmark the colour of wire corresponding to the terminal when Removing the wire , and the mixture can be avoided when recovering the wire connection.
2. Disassembly of retaining nuts on compressor		●Disassemble the retaining nuts on the compressor with wrench
3. Dismantle the discharge pipe and the suction pipe of compressor		●Heat the suction and discharge pipe with gas welding before removing compressor. ●Conduct nitrogen-fill protection when welding and the pressure of nitrogen is 0.5±0.1kgf/c ㎡ (relative pressure) ●Heating with caution in case the surroundings get burning due to high temperature.

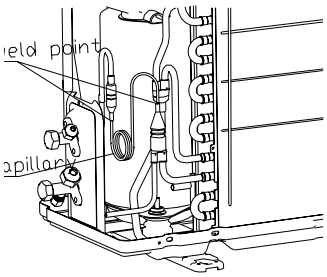
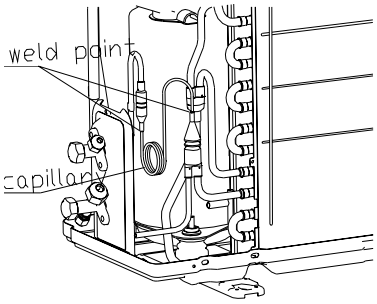
4. Remove compressor		●Remove compressor from chassis.
5. 上 Fix the new compressor on base plate		●Position accurately the new compressor. ●Screw down fixing nuts for compressor with wrench. ●Do not up-side-down compressor during assembly.
6. Connection of suction and discharge pipe with pipeline system		●Heat the suction and discharge pipe with gas welding before removing compressor. ●Provide nitrogen protection during gas welding and the nitrogen pressure should be 0.5±0.1kgf/cm^2（relative pressure） ●Please pay attention to heating in case that surrounding materials should be burnt by high temperature.
7. Connection power supply wires of compressor		●Assemble the power supply wires onto right position according to the order of disassembly. ●Screw down the retaining screw for the power supply wires with screwdriver.

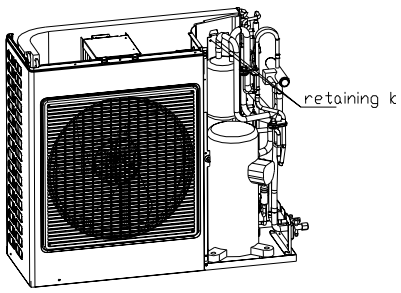
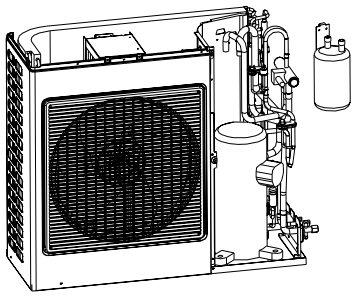
8. Vacuumization by fluorin-feeding nozzle		●Vacuumize the system by fluorin-feeding nozzle
9. Recharge refrigerants by fluorin-feeding nozzle		●recharge refrigerants to the system by fluorin-feeding nozzle ●Volume of refilling should be in accordance with the requirement on the unit nameplate.

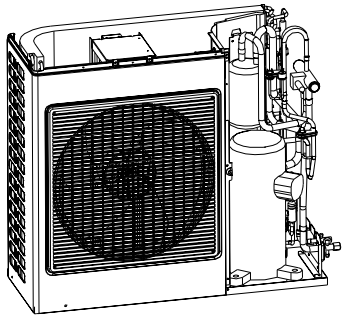
Disassembly and Assembly of 4-way valve		
Remark : Make sure that there isn't any refrigerant in pipe system and the power supply is cut off before removal of 4-way valve.		
Step	Illustration	Handling Instruction
1. Disassembly of solenoid valve		●Cut off power supply and reclaim refrigerants properly. ●Disassemble solenoid valve with wrench

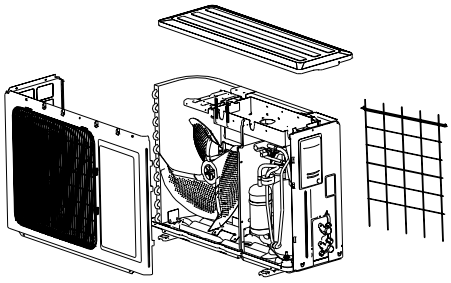
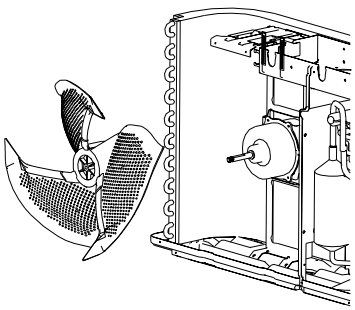
2. Removal of solenoid valve		●Remvoe the solenoid valve from 4-way valve.
3. Disassembly of 4-way valve		●Heat connection pipes for 4 pipes of 4-way valve with gas welding before removal of 4-way valve. ●Record the direciton of the 4-way valve and installation postition of each pipe before welding away 4-way valve.
4. Removal of 4-way valve		●Remove the old 4-way valve from the pipe line.
5. Installation of New 4-way valve		●Position accurately the new 4-way valve. ●Connect new 4-way valve with pipe line. ●Wrap the valve with wet cloth when welding 4-way valve in case sliding block inside the valve should be burnt and water flow into the pipe line. ●Welding with nitrogen and the nitrogen pressure shall be 0.5±0.1kgf/c ㎡ (relative pressure).

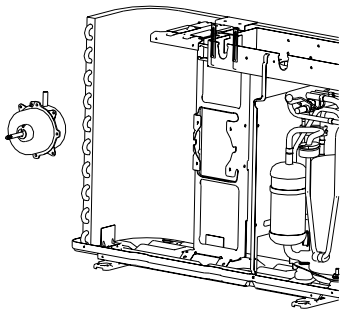
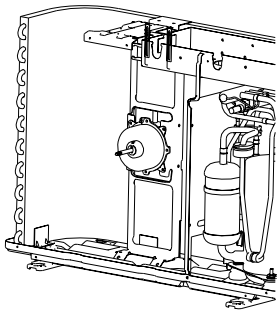
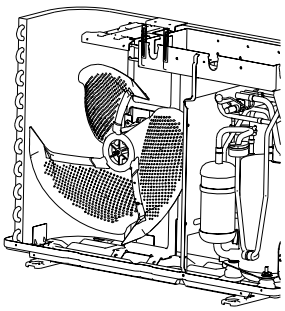
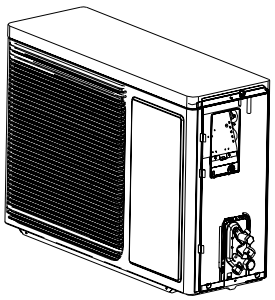
6. Assembly of solenoid valve		●Assemble solenoid valve onto the new 4-way valve in order of disassembly.
7. Examination of System and cooling medium fillin		●Pump vacuum and fill cooling medium if the system leak test passes.

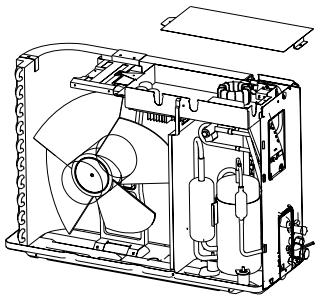
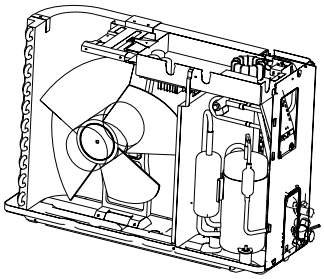
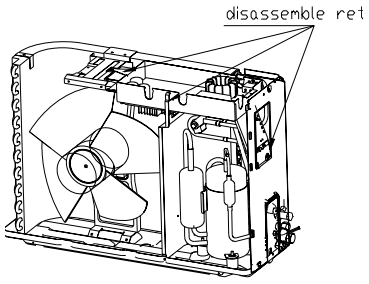
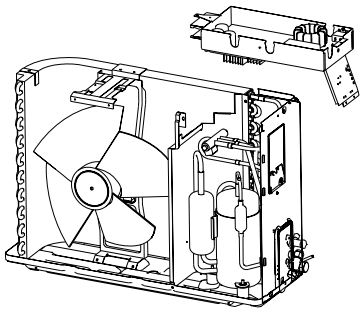
Disassembly and Assembly of capillary		
Remark : Make sure that there isn't any refrigerant in pipe system and the power supply is cut off before removal of the capillary		
Step	Illustration	Handling Instruction
1. Disassembly of Capillary		●Weld two welding points connecting capillary with other pipe lines. ●Remove capillary.
2. Assembly of New capillary		●Install new capillary. ●Weld the points connected with other pipe lines. ●Re-conduct the system leak test. Pump vacuum and fill the refrigerants.

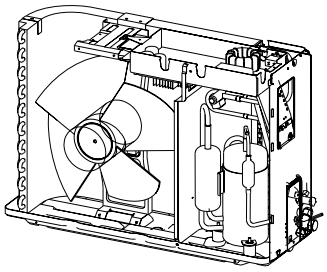
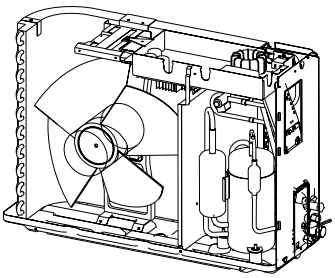
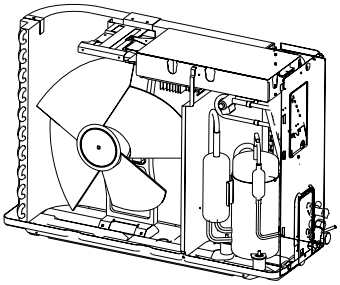
Disassembly and Assembly of Vapour Liquid Separator		
Remark : Make sure that there isn't any refrigerant in pipe system and the power supply is cut off before removal of the vapor liquid separator. (the models lowering than 24kBtu/h have no such steps.)		
Step	Illustration	Handling Instruction
1. Disassembly of retaining bolts for liquid reservoir		●Disassemble the retaining screws on the pothooks of the reservoir with screwdriver.
2. Disassembly of vapor liquid separator		●Weld open two pipes connecting vapor liquid separator with pipe line with gas welding. ●Remove vapor liquid separator.

3. Installation of new vapor liquid separator		●Position accurately new vapor liquid separator. ●Connect new vapor liquid separator with pipe line using gas welding ●screw down the retaining bolts on pothook.

Disassembly and Assembly of Axial Flow Fan and motor		
Remark : Make sure that power supply of the unit is cut down before removal of axial flow fan and motor.		
Step	Illustration	Handling Instruction
1. Disassembly of outer parts		●Disassemble outer parts of unit top cover, panel(external casing), screen,etc. according to the discription above in order to disassemble axial flow fan and motor conveniently.
2. Disassembly of axial flow fan		●Hold the fans without movement. ●Disassemle retaining nuts for the fans with wrench. ●Take down and remove fans from motor.

3. Disassembly of fan motor		●Open the cover plate of electric box ●Loose the connecting plug for motor wires and pull out the wires through the hole ●Disassemble retaining screws for motor support and remove the motor
4. Installation of new motor		●Position accurately the new motor on the motor support. ●Screw down the retaining screw for motor. ●Connect the motor wire through the hole with the corresponding position inside the electrical parts box and fasten the connecting plug. ●Cover the cover plate of electric box and screw it down by bolts.
5. Assembly of new axial flow fan		●Position reliably the new fan on the motor axis ●Hold the fans without movement. ●Screw down retaining screws for fan with wrench.
6. Assembly of outer parts		●Re-assemble the outer parts of unit top cover, panel (external casing) and rear grill, etc. according to the discription before.

Disassembly and Assembly of electrical parts box		
Remark : Make sure that power supply of the unit is cut down before removal of electrical parts box or electrical parts box modules.		
Step	Illustration	Handling Instruction
1. Disaasembly of cover of electrical box.		●Cut off power supply ●Disassemble retaining screws between cover and electric box ●Remove the cover.
2. Pull away the power supply wires for components like motor, etc.		●Disassemble electrical components, like mainboard inside the electrical parts box connected with outer componets (power-loaded wires for componets like compressor, motor). Attention: Record right position for wire connection during disassembly of connecting wires.
3. Disaasembly of sub-assy of electrical box.		●Disassemble retaining screws between electrical parts box and middle clapbord, motor support as well as right panel with screwdriver.
4. Removal of sub-assy of electrical box		●Hold and remove them upward to disconnect them with middle partition ●Remove sub-assy of electric box.

5. Install new sub-assy of electric box		●Position accurately the new sub-assy of electrical box. ●Re-fasten the sub-assy of electrical box and screw down with screwdriver
6. Connection of power supply wires of each component		●Re-connect the connection wires of components with right position according to the order of disassembly.
7. Install cover of electric box		●Position accurately the new cover of electrical box. ●Re-fasten and screw down retaining screws with screwdriver

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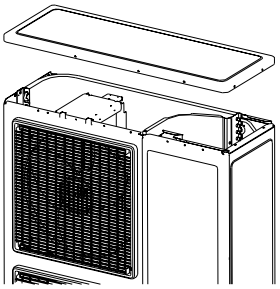
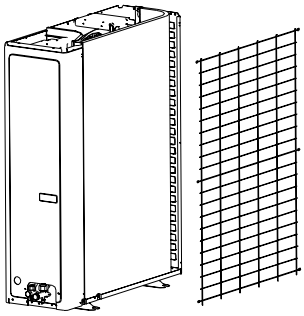
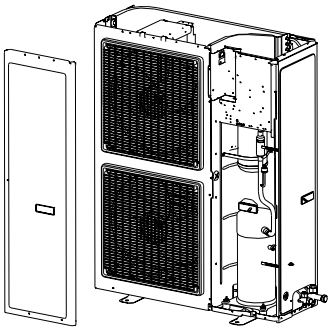
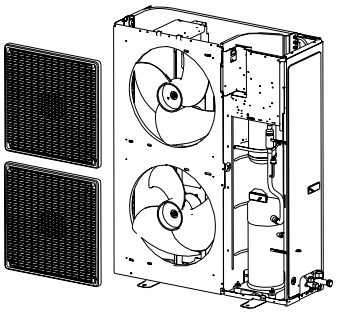
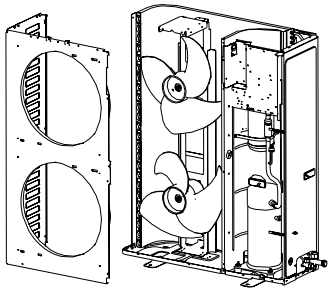
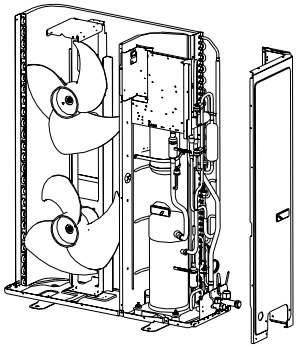
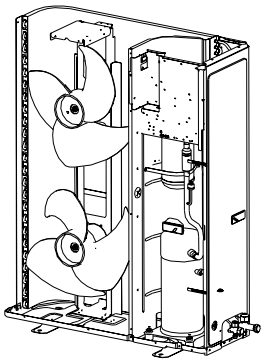
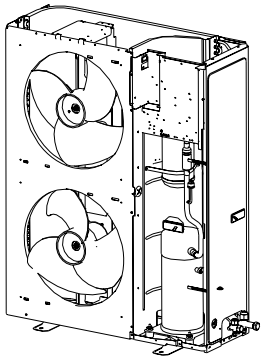
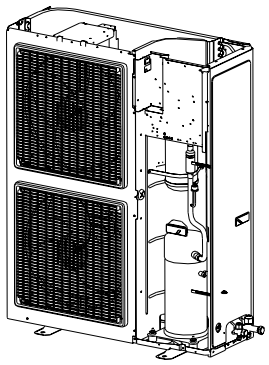
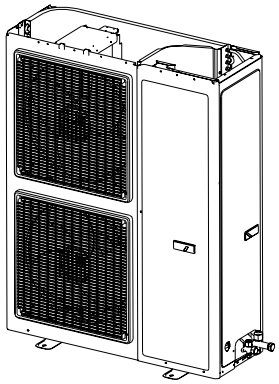
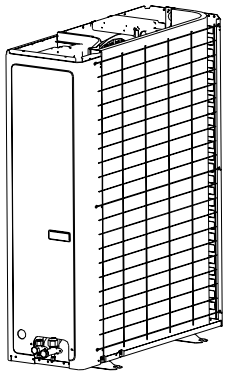
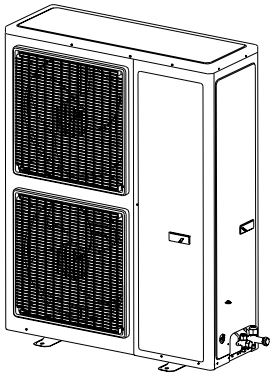
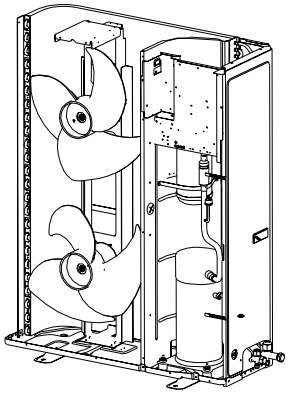
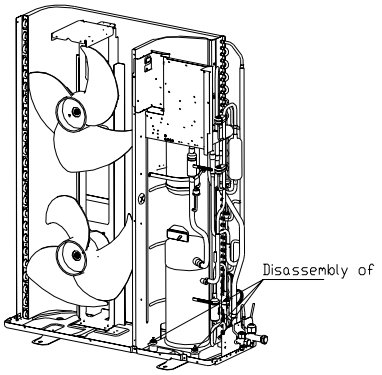
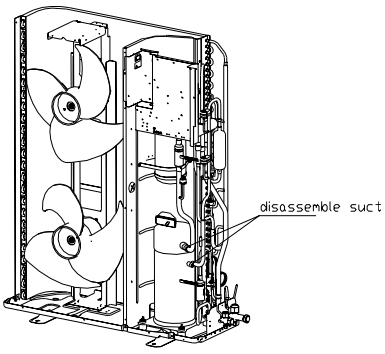
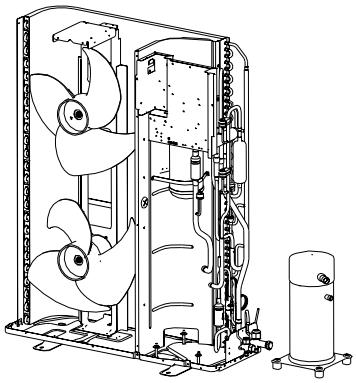
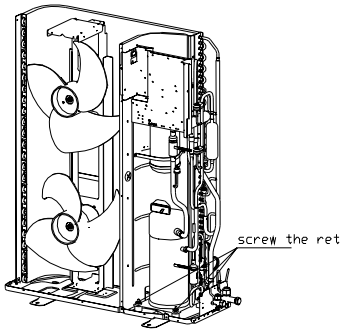
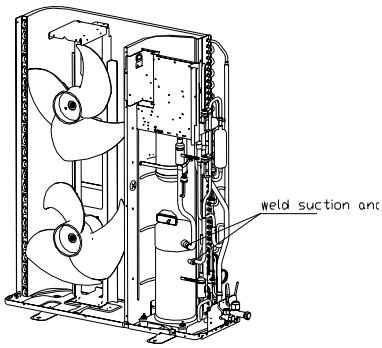
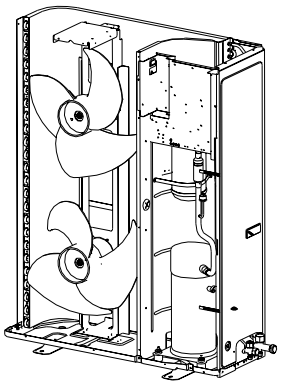
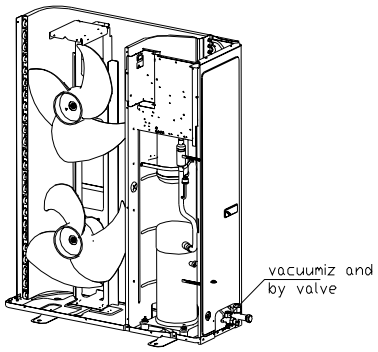
Disassembly and Assembly of external casing		
Remark : Make sure that the power supply is cut off before disassemble of the external casing.		
Step	Illustration	Handling Instruction
1. Disassembly of the top cover		●Unscrew retaining srcews on top cover ●Remove it from the unit.
2. Disassembly of rear grill		●Loose retaining screw on the rear grill with screwdriver. ●Remove rear grill from the unit.
2. Disassembly of front panel		●Disassemble the screws on the front panel with screwdriver. ●Remove the front panel from the unit.
3. Disassembly of front grill		●Disassemble the screws of the front grill with screwdriver ●Disassemble and remove the front grill from the panel (external casing).

4. Disassembly of panel (external casing)		●Disassemble the retaining screws on the panel (external casing); ●Remove the external casing from the unit.
5. Disassembly of back panel		●Disassemble the screws on the back panel with screwdriver. ●Remove the back panel from the unit.
6. Installation of new back panel		●Put new back panel into right position. ●Screw down the surrounding retaining screws with screwdriver.
7. Installation of external casing		●Put new panel into right position on the unit; ●Screw down the surrounding retaining screws with screwdriver.

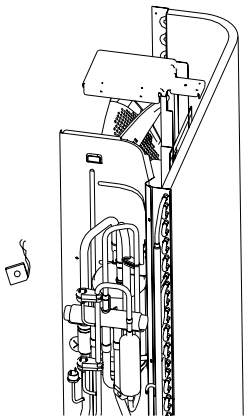
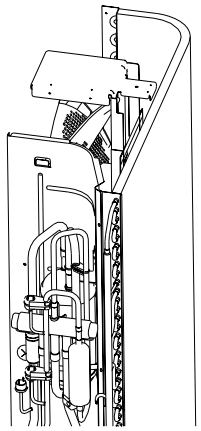
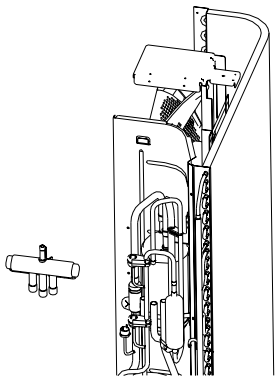
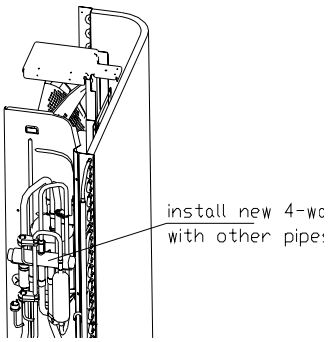
8. Installation of front grill		●Put new front grill into correct position on the unit ●Screw down the surrounding retaining screws with screwdriver
8. Installation of new front panel		●Put new front panel into right position. ●Screw down the surrounding retaining screws with screwdriver.
9. Installation of new rear grill		●Put new rear grill into right position on the unit; ●Screw down the surrounding retaining screws with screwdriver.
10. Installation of new top cover		●Put the new top cover into the correct position on the unit ●Screw down the surrounding retaining screws with screwdriver

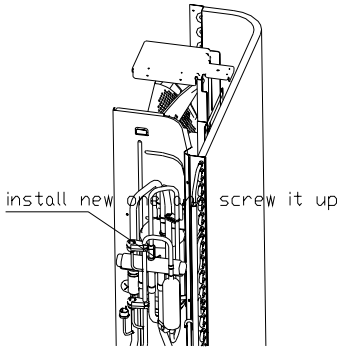
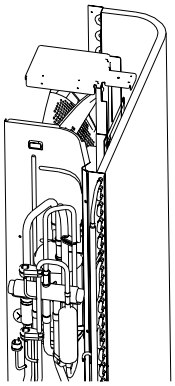
Disassembly and Assembly of Compressor		
Remark : Make sure there isn't any refrigerant in pipe system and the power supply is cut off before removal of the compressor..		
Step	Illustration	Handling Instruction
1. Disconnect the power cord		●Unscrew the retaining screw of power cord with screwdriver. ●Unplug the power cord. Note:Earmark the colour of wire corresponding to the terminal when Removing the wire , and the mixture can be avoided when recovering the wire connection.
2. Disassembly of retaining nuts on compressor		●Disassemble the retaining nuts on the compressor with wrench
3. Dismantle the discharge pipe and the suction pipe of compressor		● Heat the suction and discharge pipe with gas welding before removing compressor. ●Conduct nitrogen-fill protection when welding and the pressure of nitrogen is 0.5±0.1kgf/c ㎡ (relative pressure) ●Heating with caution in case the surroundings get burning due to high temperature.

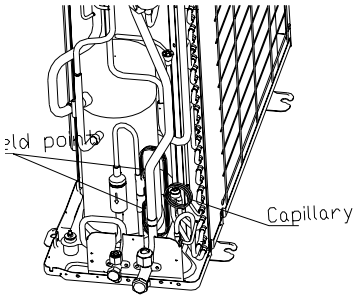
4. Remove compressor		●Remove compressor from chassis
5. Fix the new compressor on base plate		●Position accurately the new compressor. ●Screw down fixing nuts for compressor with wrench. ●Do not up-side-down compressor during assembly.
6. Connection of suction and discharge pipe with pipeline system		●Heat the suction and discharge pipe with gas welding before removing compressor. ●Provide nitrogen protection during gas welding and the nitrogen pressure should be 0.5±0.1kgf/cm^2（relative pressure） ●Please pay attention to heating in case that surrounding materials should be burnt by high temperature.

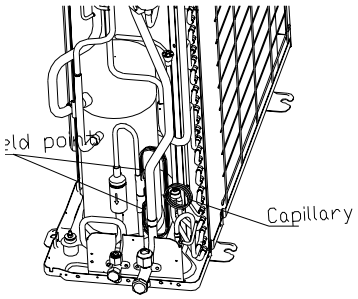
7. Connection power supply wires of compressor		●Assemble the power supply wires onto right position according to the order of disassembly. ●Screw down the retaining screw for the power supply wires with screwdriver.
8.Vacuumization and recharge refrigerants by valve		●Vacuumize the system and then recharge refrigerants by valve ●Volume of refilling should be in accordance with the requirement on the unit nameplate.

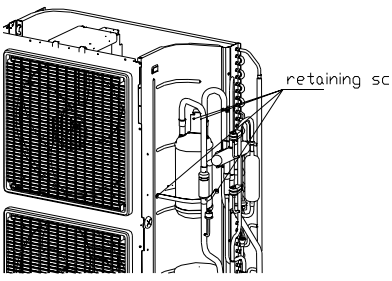
Disassembly and Assembly of 4-way valve		
Remark : Make sure that there isn't any refrigerant in pipe system and the power supply is cut off before removal of 4-way valve.		
Step	Illustration	Handling Instruction

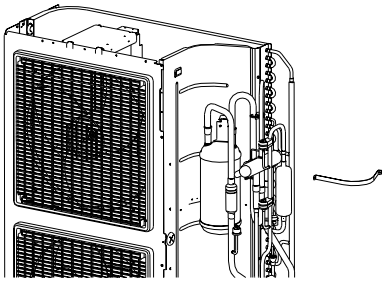
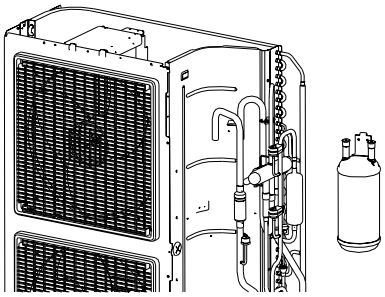
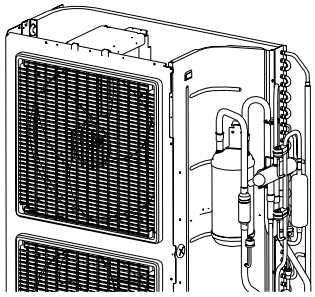
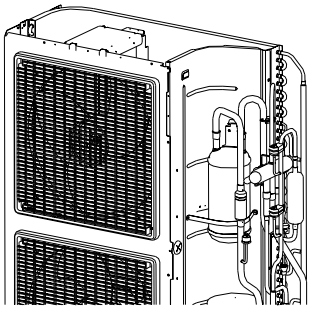
1. Disassembly of solenoid valve		●Cut off power supply and reclaim refrigerants properly. ●Unscrew the bolts of solenoid valve ●Remove it from 4-way valve.
3. Disassembly of 4-way valve		●Heat connection pipes for 4 pipes of 4-way valve with gas welding before removal of 4-way valve. ●Record the direciton of the 4-way valve and installation postition of each pipe before welding away 4-way valve.
4. Removal of 4-way valve		●Remove the old 4-way valve from the pipe line.
5. Installation of New 4-way valve		●Position accurately the new 4-way valve. ●Connect new 4-way valve with pipe line. ●Wrap the valve with wet cloth when welding 4-way valve in case sliding block inside the valve should be burnt and water flow into the pipe line.

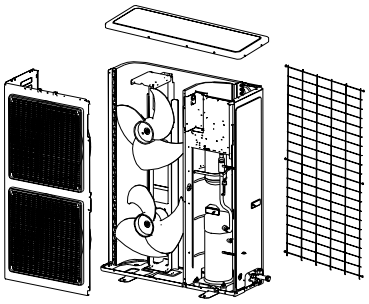
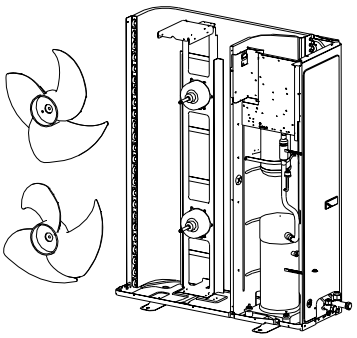
		●Welding with nitrogen and the nitrogen pressure shall be 0.5±0.1kgf/c ㎡ (relative pressure)
6. Assembly of solenoid valve		●Assemble solenoid valve onto the new 4-way valve in order of disassembly.
7. Examination of System and cooling medium fillin		●Pump vacuum and fill refrigerants if the system leak test passes.

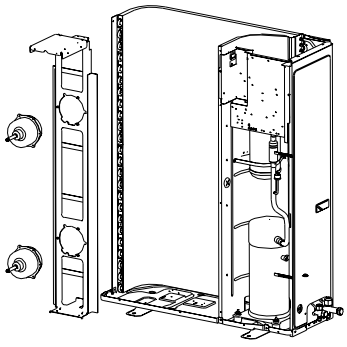
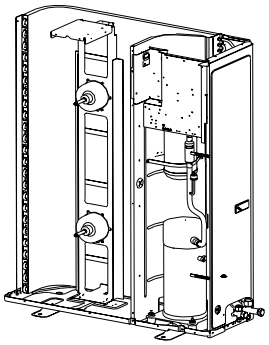
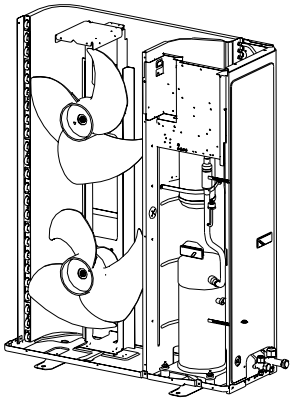
Disassembly and Assembly of capillary		
Remark : Make sure that there isn't any refrigerant in pipe system and the power supply is cut off before removal of the capillary		
Step	Illustration	Handling Instruction
1. Disassembly of Capillary		●Weld two welding points connecting capillary with other pipe lines. ●Remove capillary.

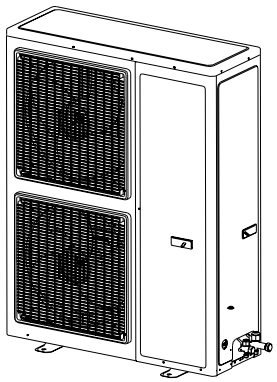
2. Assembly of New capillary		●Install new capillary. ●Weld the points connected with other pipe lines. ●Re-conduct the system leak test. Pump vacuum and fill the refrigerants.

Disassembly and Assembly of Vapour Liquid Separator		
Remark : Make sure that there isn't any refrigerant in pipe system and the power supply is cut off before removal of the vapor liquid separator.		
Step	Illustration	Handling Instruction
1. Disassembly of attaching clamp for liquid reservoir		●Disassemble the retaining screws on the pothooks and attaching clamp of the reservoir with screwdriver.

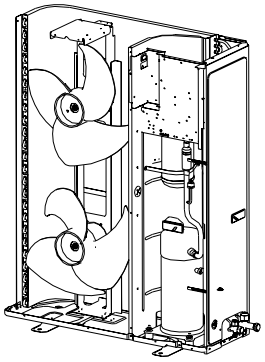
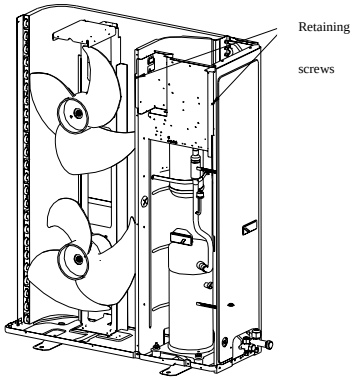
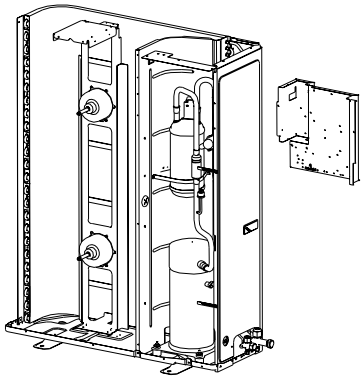
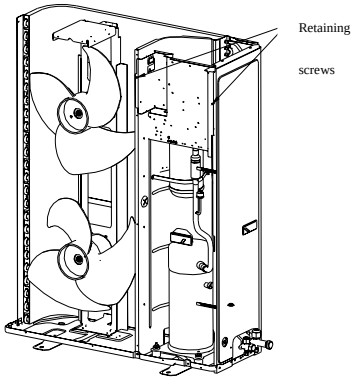
2. Removal of attaching clamp for liquid reservoir		●Remove attaching clamp for liquid reservoir
3. Disassembly of vapor liquid separator		●Weld open two pipes connecting vapor liquid separator with pipe line with gas welding. ●Remove vapor liquid separator.
4. Installation of new vapor liquid separator		●Position accurately new vapor liquid separator. ●Connect new vapor liquid separator with pipe line using gas welding
5. Install attaching clamp of liquid reservoir		●Reinstall attaching clamp of liquid reservoir and screw the retaining bolts up.

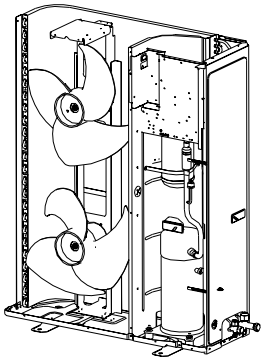
Disassembly and Assembly of Axial Flow Fan and motor		
Remark : Make sure that power supply of the unit is cut down before removal of axial flow fan and motor.		
Step	Illustration	Handling Instruction
1. Disassembly of outer parts		●Disassemble outer parts of unit top cover, panel(external casing), screen,etc. according to the discription above in order to disassemble axial flow fan and motor conveniently
2. Disassembly of axial flow fan		●Hold the fans without movement. ●; Disassemle retaining nuts for the fans with wrench. ●Take down and remove fans from motor.

3. Disassembly of fan motor		●Loose the connecting plug for motor wires and pull out the wires through the hole ●Disassemble retaining screws for motor support and remove the motor support. ●Disassemble the fixing screws for motor on the motor support and remove the motor.
4. Assembly of new motor		●Position accurately the new motor on the motor support. ●Screw down the fixing screw for motor. ●Assemble the whole motor support onto the underpan using fixing screws. ●Connect the motor wire through the hole with the corresponding position inside the electrical parts box and fasten the connecting plug.
5. Assembly of new axial flow fan		●Position reliably the new fan on the motor axis. ●Hold the fans without movement. ●Screw down fixing screws for fan with wrench.

6. Assembly of outer parts		●Re-assemble the outer parts of unit coping, panel (external casing) and screen, etc. according to the discription before.

Disassembly and Assembly of electrical parts box		
Remark : Make sure that power supply of the unit is cut down before removal of electrical box or its sub-assy.		
Step	Illustration	Handling Instruction

1. Pull away the power supply wires for components like motor, etc.		●Disassemble electrical components, like mainboard inside the electrical parts box connected with outer componets (power-loaded wires for componets like compressor, motor). Attention: Record right position for wire connection during disassembly of connecting wires.
2. Disaasembly of sub-assy of electrical box.		●Disassemble fixing screws between electrical parts box and middle clapbord, motor support as well as right panel with screwdriver
3. Removal of sub-assy of electrical box		● 将 电 器 盒 组 件 移 开 。 Remove sub-assy of electrical box.
4. Assembly of new sub-assy of electric box		●Position accurately the new sub-assy ●Re-fasten the sub-assy and screw down with screwdriver.

5. Connection of power supply wires of each component		●Re-connect the connection wires of each component with right position according to the order of disassembly.

4.2 Indoor Unit

4.2.1 Duct Type

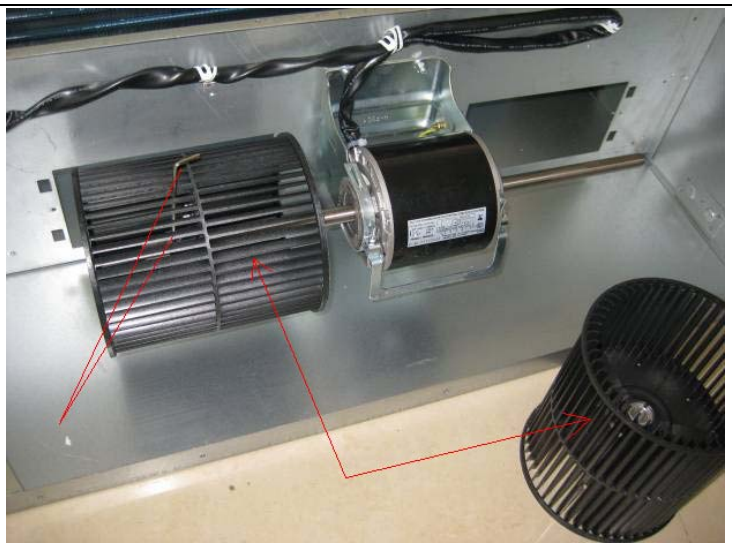
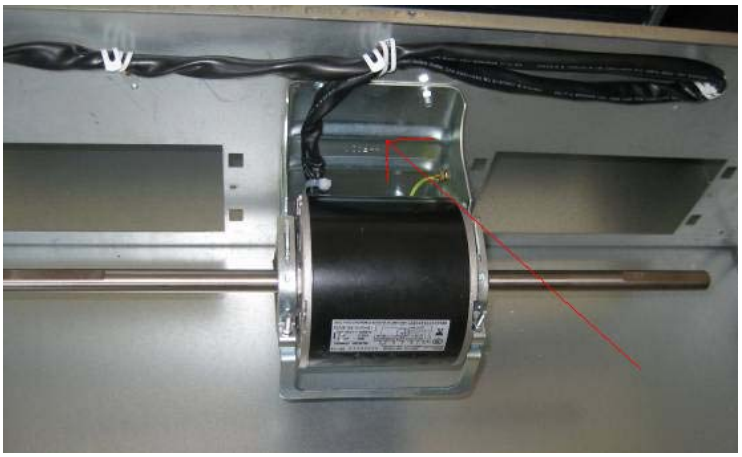
GFH09K3BI, GFH12K3BI, GFH18K3BI

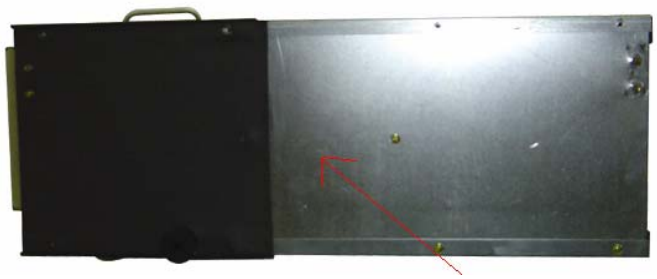
Disassembly of External Casing of Group		
Remark: Make sure that the power supply is cut off before removal and protect all the parts during disassembly, especially the screws that should be collected together, in case of missing them.		
Step	Illustration	Handling Instruction
1. Disassembly of filter screen for back air inlet		●Pull two filter screens for back return air（As shown in the graph, the arrow represents filter screens for back return air）
2. Disassembly of side panel for back return air		·●Disassemble the fastening screws for back return air and take away the back return air side panel（as shown in the graph）。
3. Disassembly of cover plate for return air		●Disassemble the fastening screws for return air cover plates and take away the return air cover plate（As shown in the graph, the arrow represents cover plates for return air）

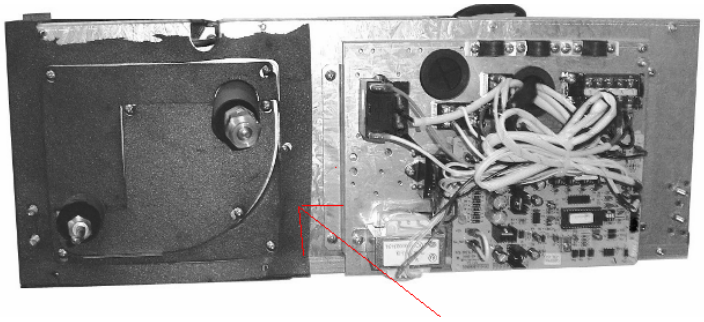
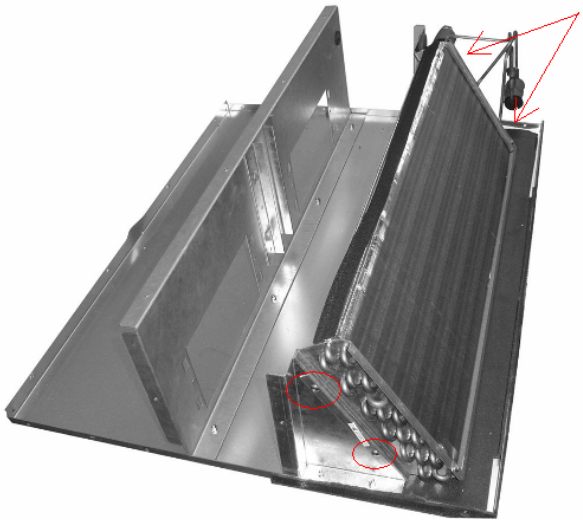
4. Disassembly of cover plate		●Disassemble the fastening screws for cover plate and take away the cover plate（As shown in the graph, the arrow represents cover plates）

Disassembly of water-containing plate		
Remark：Make sure the power supply is cut off before disassembling and protect all the parts during disassembly.		
Step	Illustration	Handling Instruction
1. Removal of water-containing plate		●Disassemble the fastening screws for water-containing plate and take away the water-containing plate（As shown in the graph, the arrow represents water-containing plate）

<table>
<tr><td colspan="3">Disassembly of fans and motors</td></tr>
<tr><td colspan="3">Remark: Make sure that the power supply is cut off before disassembling and protect all the parts during disassembly, especially the fastening screws for fans.</td></tr>
<tr><td>Step</td><td>Illustration</td><td>Handling Instruction</td></tr>
<tr><td>1. Disassembly of front and back scroll cases</td><td>  </td><td>●Disassemble the fastening screws for scroll cases and take away the front and back scroll cases（As shown in the graph, the arrow represents front and back scroll cases）</td></tr>
</table>

2. Disassembly of centrifugal fan		●Disassemble the fastening screws for fans with inner hexagonal. Remove the centrifugal fan. (As is shown in Grapgh 7, the line without an arrow represents inner hexagonal and the position of fastening screws under its influence, and arrow represents centrifugal fan.)
3. Disassembly of motor support module		●Disassemble the fastening screws for motor support and take away the motor support modules （ As shown in the graph, the arrow represents motor support）
4. Disassembly of motor		●Disassemble the connecting wires for motor inside the electrical parts box and remove the motor.

Disassembly of evaporator		
Remark: Make sure that the power supply is cut off and protect the copper tube and aluminum fin. If the time for disassembly shall be long, make the copper tube sealed.		
Step	Illustration	Handling Instruction
1. Disassembly of right panel		●Disassemle the fastening screws on the right panel and remove right panel(as is shown in the graph, arrow represents right panel).

2. Disassembly of left panel		●Disassemle the fastening screws on the left panel and remove left panel(as is shown in the graph, arrow represents left panel).
3. Disassembly of evaporator		●Disassemle the fastening screws on the evaporator. (As is shown in the graph, in the circle there are two fastening screws and in the direction of arrow, two more.) ●Remove the evaporator.
4. Disassembly of evaporator support		●Disassemble the self-tapping screw on the evaporator support and remove the evaporator support.(As is shown in the graph, in the circle there are two fastening screws and in the similar position in the direction of arrow, two more.)

GFH24K3BI, GFH30K3BI；GFH36K3BI, GFH42K3BI, GFH48K3BI, GFH60K3BI

Disassembly of filter screen for return air		
Remark: Make sure that the power supply is cut off before disassembling and protect all the parts during disassembly. Do not put filter screen near the high temperature heat source		
Step	Illustration	Handling Instruction

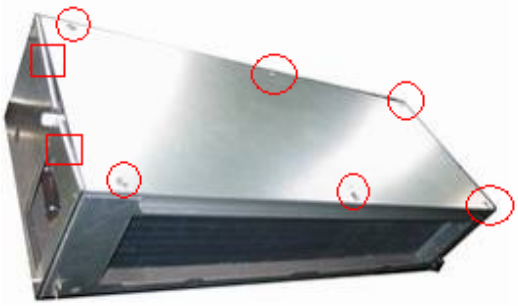
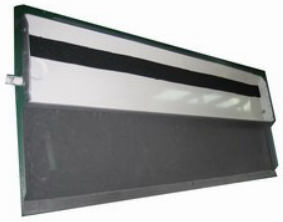
Disassembly of filter screen for return air	 	●Compress the filter screen for return air down on the guide slot sponge, and remove according to the direction shown by the arrow. There are 2 filter screen for return air

Disassembly of electrical parts box cover panel and electrical parts box		
Remark: Make sure that the power supply is cut off before disassembling and protect all the parts during disassembly, especially the electrical components. Do not dampen or hit them		
Step	Illustration	Handling Instruction
1. Disassembly of electric box cover		●Disassemble the screw according to the position shown in the circle and the box and remove the electric box in the direction of the arrow.
2. Disassembly of electric parts box		●Disassemble the fastening screw and remove the electrical parts box. (As is shown in the graph, there are 2 fastening screws in the circle and the screws in the direction of arrow shall be disassembled

		too.)

Disassembly of drainage pump		
Remark: Make sure that the power supply is cut off before disassembling and protect all the parts during disassembly.		
Step	Illustration	Handling Instruction
1. Disassembly of fastening screws on seal-plates of inner panels and the drainage pipe		●Disassemble the fastening screws on seal-plates of inner panels and the pump drainage pipe. Remove the seal-plates.(As is shown in the graph, the circle represents fastening screws on seal-plates and box the fastening screws on drainage pipe. All the 8 screws shall be disassembled.)
2. Disassembly of fastening screws on the drainage pump		●Disassemble the fastening screws on the dreainage pump. (As is shown in the graph, the circle represents the position of screws.)
3. Removal of condensed water drainage pump		●Removed condensed water drainage pump is shown in the graph.

Disassembly of water-containing plate

Remark: Make sure that the power supply is cut off before disassembling and protect all the parts during disassembly.		
Step	Illustration	Handling Instruction
1. Disassembly of cover plate		●Disassemble the fastening screws on the cover plate and remove the cover plate. (As is shown in the graph, circle represents 6 fastening screws under the cover plate and the box represents two fastening screws on water-containing plate symmetrically arranged both on left and right.)
2. Disassembly of water-containing plate		●Disassemble the fastening screws on the water-containing plate, pull upward and remove the water-containing plate. Disassembled water-containing plate is shown in the graph.

Disassembly of fan and motor		
Remark: Make sure that the power supply is cut off before disassembling and protect all the parts during disassembly.		
Step	Illustration	Handling Instruction

1. Disassembly of fan		●Disassemble the fixing screws on the fan components. (As is shown in Graph 10, circle represents 6 screws.)
2. Disassembly of motor		●Disassemble the fastening screws on the fan and motor. Remove the fan. (As is shown in Graph 11, box represents screws.)

Disassembly of evaporator

Remark: Make sure that the power supply is cut off and protect the copper tube and aluminum fin. If the time for disassembly shall be long, put the copper tube under pressurized condition.

Step	Illustration	Handling Instruction
1. Disassembly of fixing screws on the side panels of evaporator		●Disassemble the fastening screw connecting left and right side panels on the evaporator and the upper cover plate. (As is shown in the arrow's direction in Graph 12.)
2. Disassemble fastening screws connecting evaporator valve seal-plate and joint flange		●Disassemble the fastening screws on the valve seal-plate and remove the valve seal-plate. Disassemble the fastening screws on the evaporator's joint flange. (As is shown in the graph, box represents fastening screws on seal-plates while circle the fastening screws on joing flange.
3. Removal of evaporator		●Remove the evaporator. Removed evaporator is shown in the graph.

Disassembly of External casing cabinet		
Remark: Make sure the power supply is cut off before disassembling and protect all the parts during disassembly.		
Step	Illustration	Handling Instruction
1. Disassembly of fastening screws between cover plates		●Disassemble the fastening screws between right and left panels and upper cover plates. Disassemble right and left panels. (As is shown in the graph, circle represents screws.)
2. Disassembly ofexternal casing cabinet	  	●Disassembled external casing cabinet is shown in the graph.

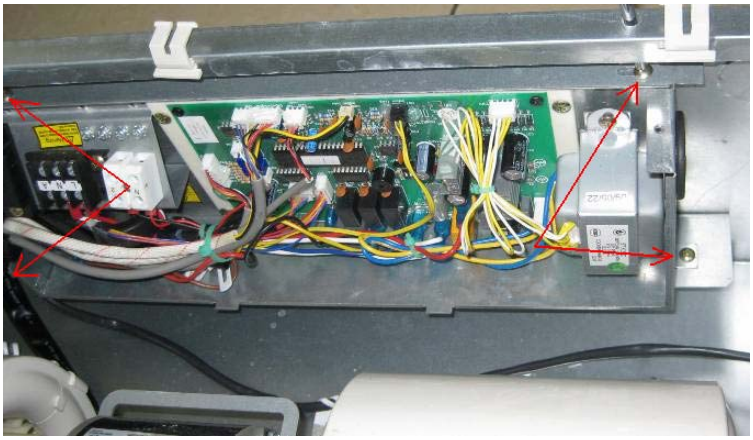
4.2.2 Ceiling Type

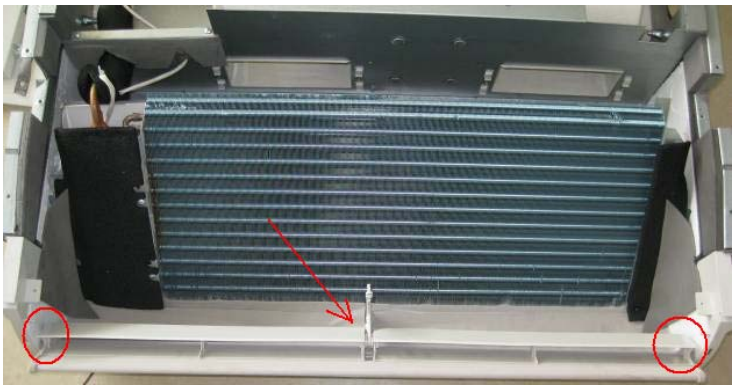
Disassembly of panel grating module		
Remark: Make sure that the power supply is cut off before disassembling and protect all the parts during disassembly. Do not put filter screen near the high temperature heat source.		
Step	Illustration	Handling Instruction
Disassembly of sub-assy of front grill		●Move down the clip of the sub-assy of fromt grill until the front grill is open. (As is shown in the graph, arrow represents the position of bottons. There are two clips for each grating.)
Disassembly of right and left finishing plates		
Remark: Make sure the power supply is cut off before disassembling and protect all the parts during disassembly. Do not scratch the outer parts.		
Step	Illustration	Handling Instruction
Disassembly of right and left finishing plates		●Disassemble the screws as shown in the graph with screwdriver and then push upward to remove the right and left finishing plates.(As is shown in the graph, arrow represents the position of screws.)

Disassembly of panel parts		
Remark: Make sure the power supply is cut off before disassembling and protect all the parts during disassembly. Do not scratch the outer parts.		
Step	Illustration	Handling Instruction

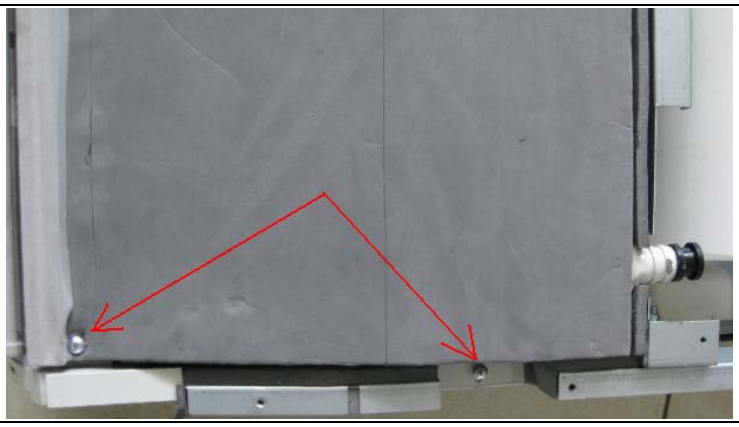
Disassembly of panel parts		●Disassemble the 8 screws shown by the arrow in the graph with screwdriver (two on both right and left and 4 in the front) and then remove the panel parts.

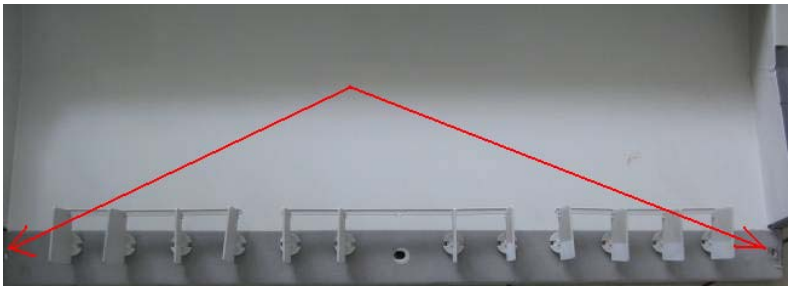
Disassembly of sub-assy of electric box		
Remark: Make sure that the power supply is cut off before disassembling and protect all the parts during disassembly, especially the components inside the box in case of water and hit.		
Step	Illustration	Handling Instruction
1. Disassembly of electric box cover		●Disassemble 2 screws as shown by the arrow in the graph on left and remove the electric box cover.

2. Disassembly of sub-assy of electric box.		●Disassemble 4 screws as shown by the arrow in the graph on left (two screws on both sides)and remove the sub-assy of electric box and the wires.

Disassembly of air deflecting plate modules		
Remark: Make sure the power supply is cut off before disassembling and protect all the parts during disassembly, especially the joints of the air deflecting plate.		
Step	Illustration	Handling Instruction
Disassembly of sub-assy of air deflecting plate		●Remove the air deflecting plates from the air deflecting plate support assembly, and then remove both ends from the air sweeping motor. joint (As is shown in the graph, arrow represents the support assembly and circle the air sweeping motor joint.)

Disassemble of water-containing plate modules		
Remark: Make sure the power supply is cut off before disassembling and protect all the parts during disassembly.		
Step	Illustration	Handling Instruction

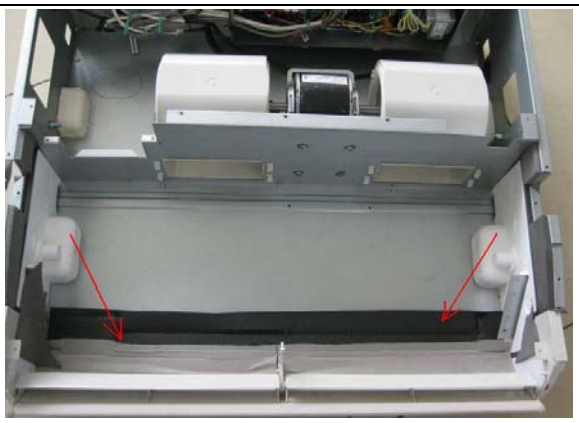
Disassemble of water-containing plate modules		●Disassemble 4 screws shown in the graph with screwdriver (two screws on both left and right), and remove the water-containing plate modules.

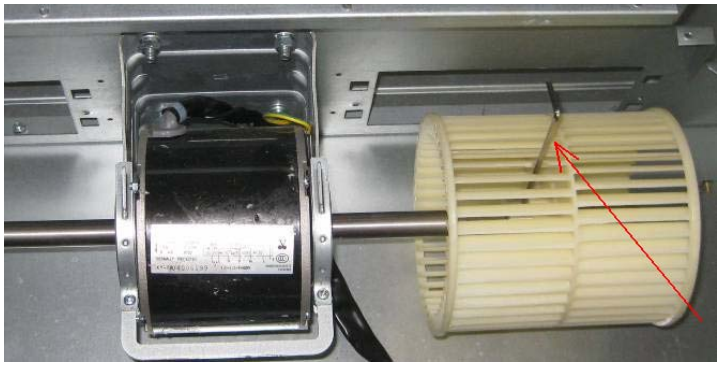
Disassembly of fixing plate sub-assy for air sweeping fans		
Remark: Make sure that the power supply is cut off before disassembling and protect all the parts during disassembly, especially the connection part of air sweeping fans.		
Step	Illustration	Handling Instruction
Disassembly of fixing plate sub-assy for air sweeping fans		●Disassemble the screws on both ends of fixing plate sub-assy for air sweeping fans (1 for both sides) and remove the fixing plate modules for air sweeping fans from the air deflecting support.

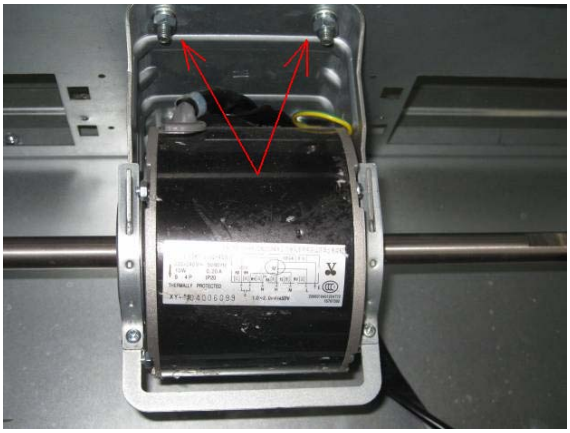
Disassembly of evaporator components		
Remark: Make sure that the power supply is cut off and protect the copper tube and aluminum fin. If the time for disassembly shall be long, seal the copper tube .		
Step	Illustration	Handling Instruction

Disassembly of evaporator components		●Disassemble the screws as shown by the arrow in the graph with screwdriver. (There are 4 screws on left and right of the evaporator and 2 on evaporator outlet press plate modules)

Disassembly of fixing plate sub-assy for air sweeping fans		
Remark: Make sure that the power supply is cut off before disassembling and protect all the parts during disassembly.		
Step	Illustration	Handling Instruction
Disassembly of fixing plate sub-assy for air sweeping fans		●Disassemble the screws shown in the graph with screwdriver.

Disassembly of right and left polystyrene foam plates sub-assy		
Remark: Make sure that the power supply is cut off before disassembling and protect all the parts during disassembly. Do not heat or hit polystyrene foam sub-assy.		
Step	Illustration	Handling Instruction
Disassembly of right and left polystyrene foam plates modules		●Remove the right and left polystyrene foam plates modules in the direction given by the graph.

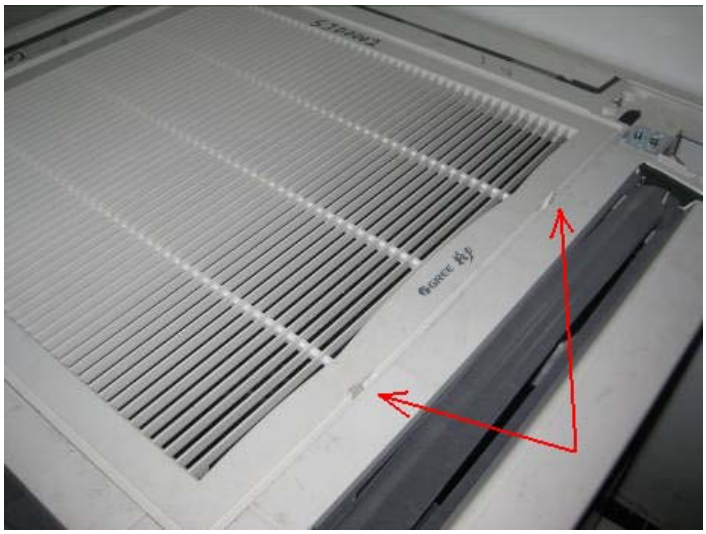
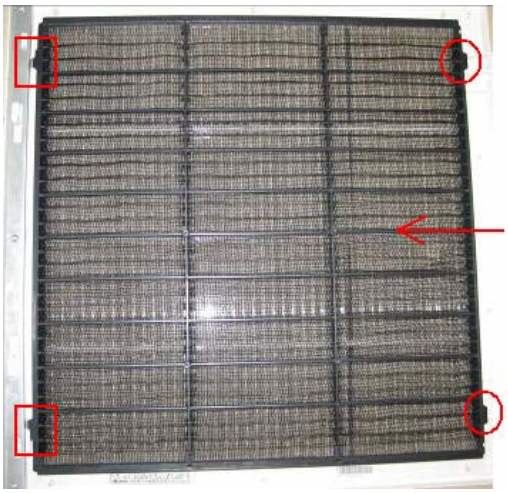
Disassembly of fan and motor components		
Remark: Make sure that the power supply is cut off before disassembling and protect all the parts during disassembly, especially the fastening screws for fans.		
Step	Illustration	Handling Instruction
1. Disassembly of front and back scroll cases		●Press the buckle at the joints of front and back scroll cases with hands and pull upward to remove the front scroll case. Then remove the screws on the back scroll case. Lift the buckle of back scroll case with hands and remove it.(As is shown in the graph, circle represents 2 screws on left and right.)
2. Disassembly of fans		●Disassemble the fixing screws of fan wheel with inner hexagonal and remove the wheel. The inner hexagonal and its direction of effect are shown by the arrow in the graph.
3. Disassembly of bearing fixing plates		●Disassemble 4 screws on the bearing fixing plates with screwdriver. (As shown in the box in the graph)

4. Disassembly of motor		●Disassemble the bolt shown in the graph with screwdriver and remove the motor press plate and retaining clio for motor.

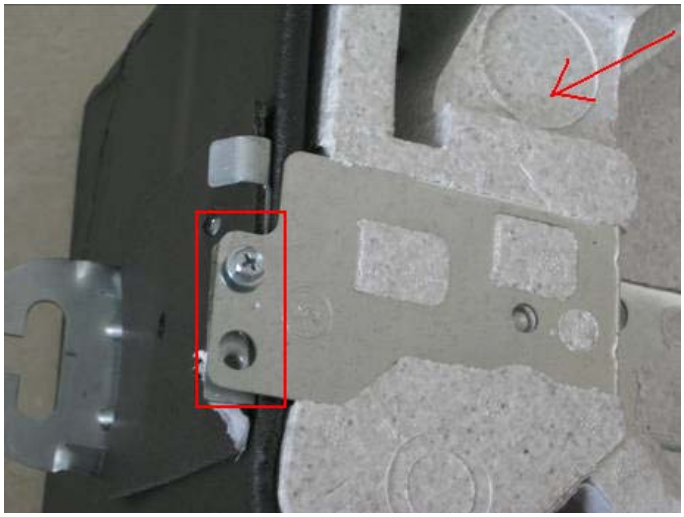
Disassembly of right and left fixing plates		
Remark: Make sure that the power supply is cut off before disassembling and protect all the parts during disassembly.		
Step	Illustration	Handling Instruction

Disassembly of right and left fixing plates		●Disassemble the bolts on right and left fixing plates with tools. (As is shown by the arrow in the graph.)

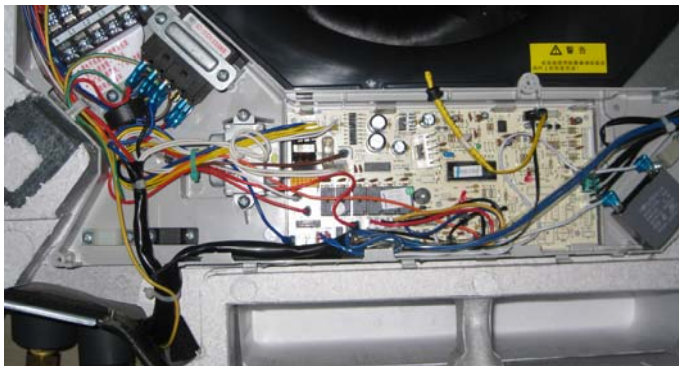
4.2.3 Cassette Type

Disassembly of fromt grill and filter screen		
Remark: Cut off the power supply and make sure the front grill in good condition during assembly.		
Step	Illustration	Handling Instruction
1. Disassembly of grill		●Push the right and left clips on the panel to the middle and pull upward at the same time. Pull backward when at 45°. (The position of clips is shown by the arrow in the graph.)
2. Disassembly of filter screen		●As directed by the graph, push two clips represented by circles in the direction of arrow with hands. Take filter screen off the pothook represented by the box when it becomes loose. Remove the filter screen.

Disassembly of panels		
Remark: Cut off the power supply and make sure the panels and angular shell in good condition.		
Step	Illustration	Handling Instruction
1. Disassembly of angular shell		●Pull angular shell outside with hands and remove it.
2. Disassembly of screws		●Disassemble the screws with screwdriver and loose the fixing clip on the panels. (The position of screws is represented by the arrow.) ●There are 4 fixing clips on panel's four corners. When loosed completely, panel shall be removed by pulling upward.

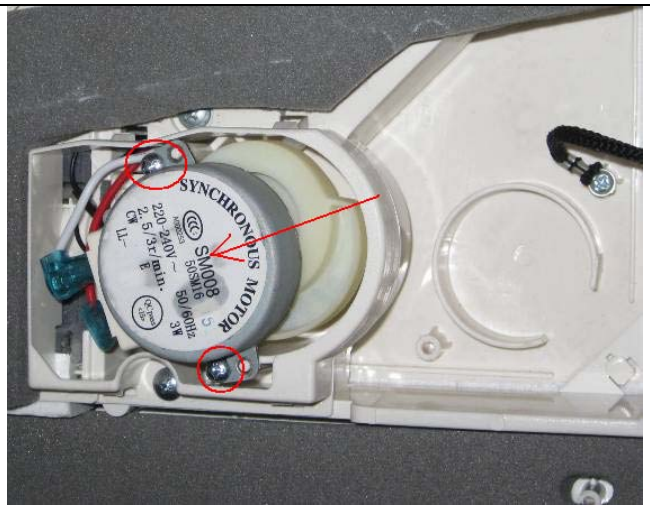
Disassembly of water-containing plate		
Remark: Cut off the power supply and make sure the power supply wires, signal wires and water-containing plate in good condition.		
Step	Illustration	Handling Instruction
1. Disassembly of cover panel of electrical parts box and flow deflecting ring		●Disassemble the screws on the electical parts box cover panel and flow deflectin ring. Remove the electrical parts box and the power supply wires and signal wires inside the electrical parts box connecting with the electrical componets under the water-containing plate.
2. Disassembly of water-containing plate		●Disassemble the screws on the four corners and pull outside the water-containing plate.(As is shown in the graph, arrow represents the water-containing plate. The postition of screws are shown in the box .)

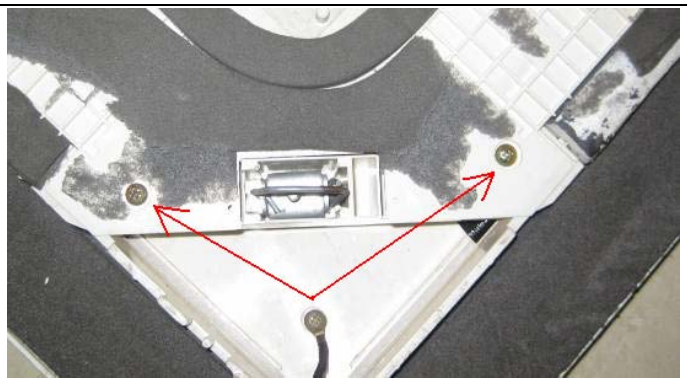
Disassembly of electric box		
Remark: Cut off the power supply and make sure the power supply wires, signal wires and electrical parts box in good condition.		
Step	Illustration	Handling Instruction

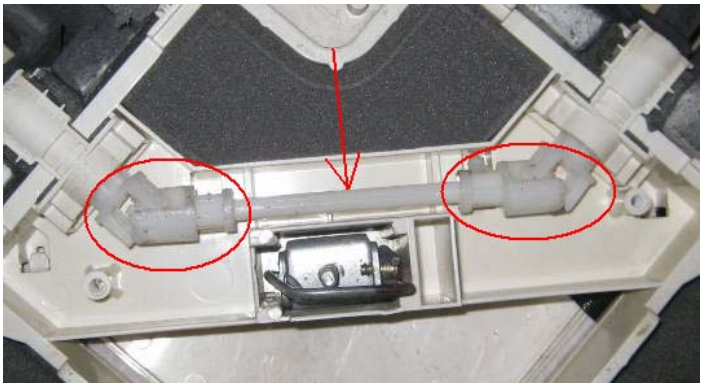
Disassembly of electrical parts box		●Disassemble 4 assembling screws and pull upward to remove the electric box.

Disassembly of fan		
Remark: Cut off the power supply and make sure the fan is in good condition and shape.		
Step	Illustration	Handling Instruction
Disassembly of fan		●Disassemble the nuts with wrench and pull upper side to remove the fan (The position of washer nuts is shown by the arrow in the graph.).

Disassembly of motor		
Remark: Cut off the power supply and make sure the motor is in good condition.		
Step	Illustration	Handling Instruction
Disassembly of motor		●Disassemble the screws with wrench and pull upper side to remove the motor.

Disassembly of air-deflecting motor		
Remark: Make sure the air-deflecting motor in good condition and the power supply is cut off.		
Step	Illustration	Handling Instruction
Disassembly of air-deflecting motor		●Disassemble two fitting screws on the air-deflecting motor and remove the motor.

Disassembly of connection rod modules on air-deflecting plate		
Remark: Make sure that the air-deflecting plate is in good condition and the power supply is cut off.		
Step	Illustration	Handling Instruction
1. Disassembly of screws		●Remove part of the insulating sponge on four corners on the panel and remove the two exposed screws.

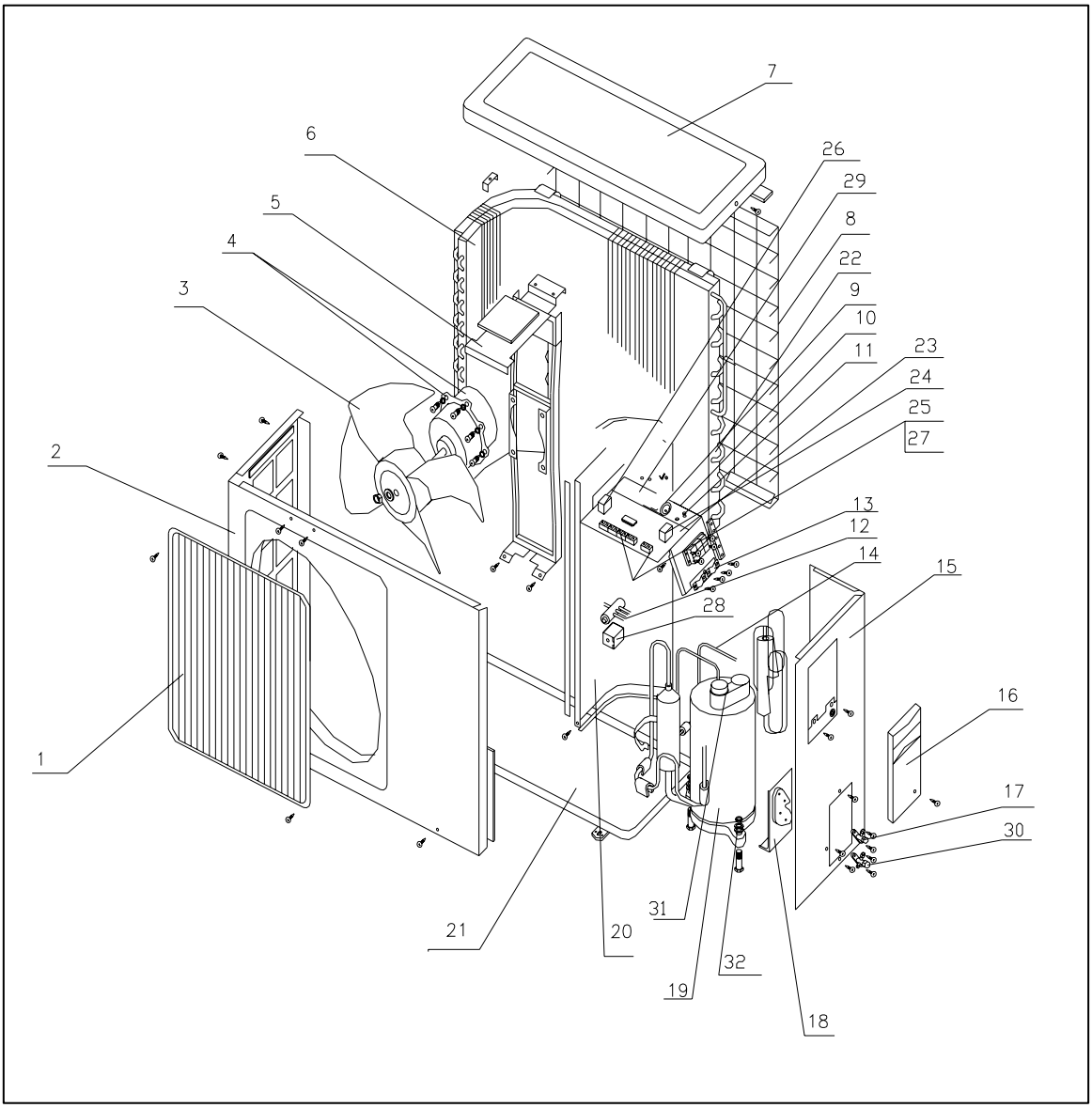
		The connection rod modules on the air-deflecting plate shall be seen. (The position of screws is shown in the graph.)
2. Disassembly of connection rod module		●Pull up the connection rod and separate the connection rod and connection rod modules with hands. Disassemble the connecting screws with screwdriver. (As is shown in the graph, arrow represents the connetion rod and circle the univeral joints.)

5 EXPLODED VIEWS AND PART LIST

5.1 Outdoor Unit

Model:GUHN09NK1AO；GUHN12NK1AO；GUHN18NK1AO；

Exploded Views



Spare Parts List

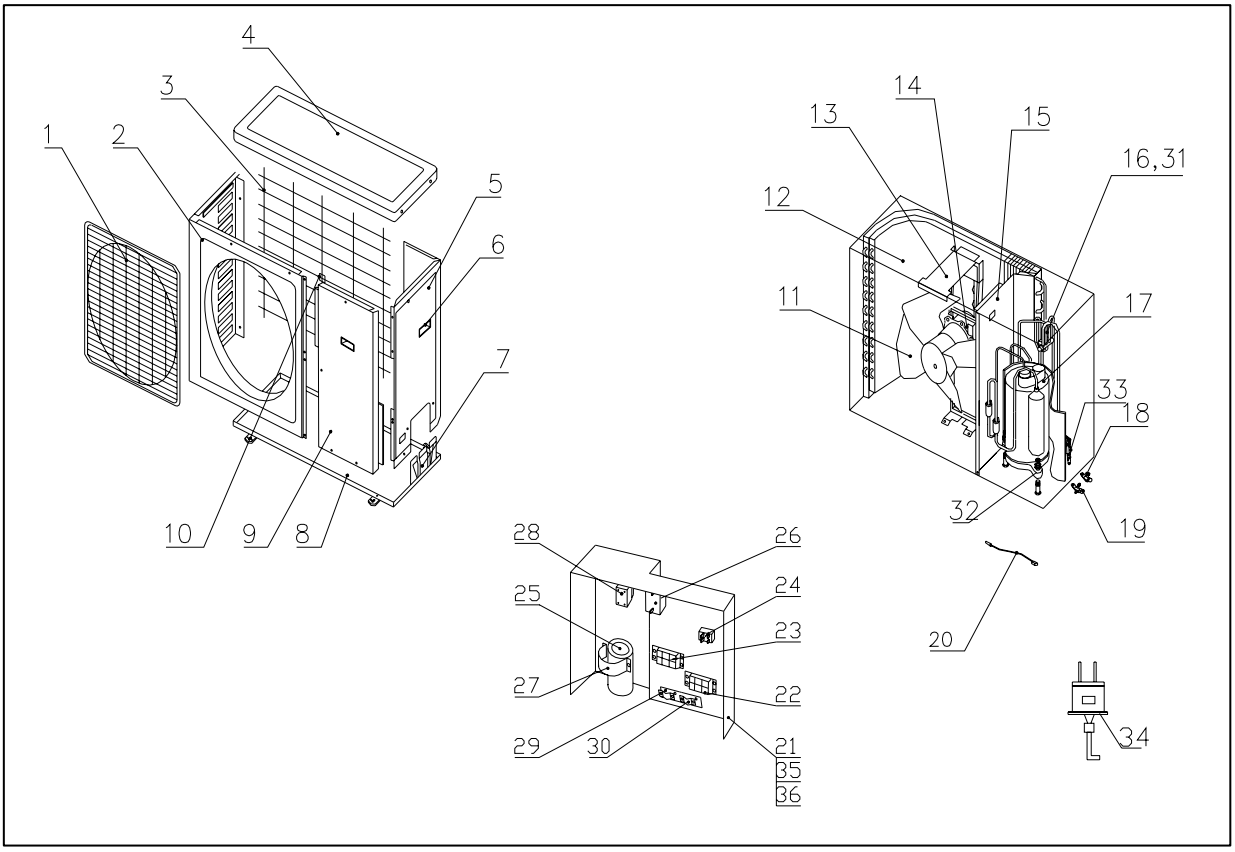
No.	Name of part	Part code	Quanti ty
1	panel grill	22413431	1
2	panel	01533012	1
3	axial flow fan(propeller fan)	10333413 ①③	1
		10333414 ②	
4	Motor FW30K	15013067 ①	1
		15013071 ②③	
5	motor support	01703068 ①	1
		01703020 ②	
		01703391 ③	
6	Condenser Assy	01125241 ①	1
		01125244 ②	
		01125252 ③	
7	Top Cover	01253443	1
8	protection grill nets	01473014 ①②	1
		01473023 ③	
9	Capacitor CBB65 35uF/450V TUV	33010743 ①②	1
	Capacitor CBB65 50uF/450V	33000001 ③	
10	Electric Box	01425307 ①②	1
		0142530701 ③	
11	Isolation Washer C	70410523	1
12	4-way Valve Coil	43000402 ①	1
		43000403 ②③	
13	Wire Clamp	71010103	1
14	discharge pipe	04635715 ①	1
		04635713 ②	
		04635714 ③	
15	Right Side Plate	0130200401	1
16	Handle	26233433	1
17	Valve 1/4"	07100025 ①②	1
		07130211 ③	
18	Valve Support	01713041	1
19	Compressor QX-B172C030g	00103731 ①	1
	Compressor QX-23E030gA	00102002 ②	
	Compressor SHW33TC4-U	00100131③	
20	inner cover	01233381	1
21	chassis	01213429	1
22	Temp sensor	3900012121	1

23	Main Board WZ4C352M	30224033	1
24	Transformer 57X25D	4311024001	1
25	Terminal Board	420111531	1
26	AC Contactor CJX9B-25S/D	44010245	1
27	Terminal Board 2-8	42011103	1
28	4-way Valve Coil	43000400	1
29	Capacitor CBB611A 3uF/450V (UL/VDE/TUV)	33010026 ①	1
	Capacitor CBB61 3uF/450V(VDE)(TUV	33010027 ②③	
30	Valve 3/8"	07100145①	1
	Valve 1/2"	07100025②③	

Note：① only is part of GUHN09NK1AO Model.
② only is part of GUHN12NK1AO Model.
③ only is part of GUHN18NK1AO Model.

Model:GUHN24NK1AO；GUHN30NK1AO

Exploded Views



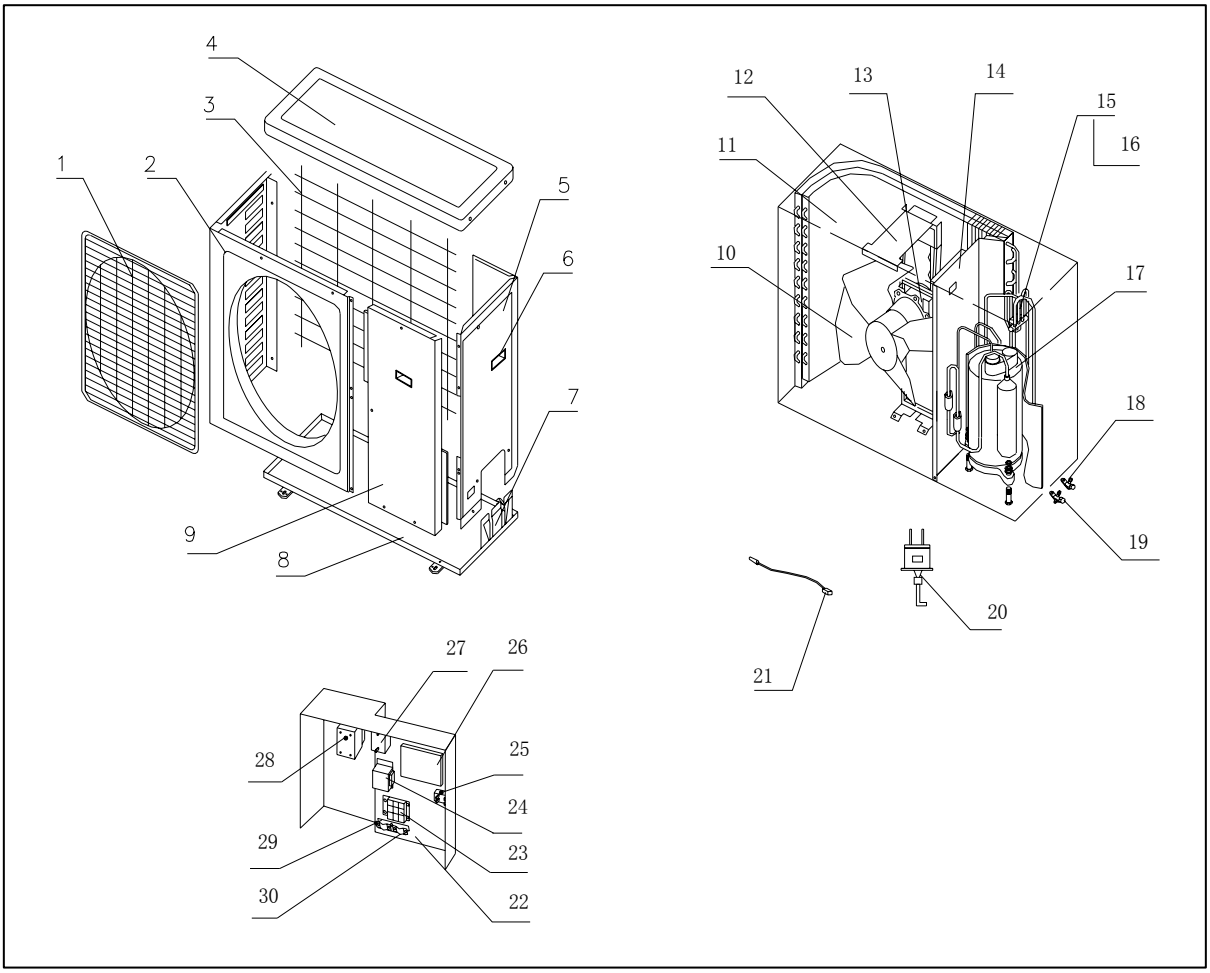
Spare Parts List

No.	Name of part	Part code	Quantity
1	Front Panel Grill	22414102	1
2	Front Plate	01433017P	1
3	Protection Grill	01473028	1
4	Top Cover	01255262	1
5	Back Side Plate	01305036	1
6	Handle	26235253	2
7	Valve Support	01715001	1
8	Metal Base	01205201	1
9	Front Side Plate	01303023	1
10	Protection Grill Gasket	12123093	1
11	Axial Flow Fan	10335253	1
12	Condenser Assy	01125262	1
13	Motor Support	01705103	1
14	Motor LW92H	150154512	1
15	Isolation Plate	01233024	1

16	4-way Valve	43000404	1
17	Compressor TH446RV-C9EU	00105224	1
18	Gas Valve	07103030	1
19	Liquid Valve	07130209	1
20	Temperature Sensor 20K	3900012121	1
	Temperature Sensor15K	390002064	1
21	Electric Box	01395523	1
22	Terminal Board	420111451	1
23	Terminal Board	42011103	3
24	PTC Heater	34060008	1
25	Capacitor CBB61 4μF/500V	33010013	1
26	Capacitor CBB65 50uF/450V	33000001	1
27	Capacitor Clamp	02141375	1
28	AC Contactor CJX9B-25S/01	44010222	1
29	Isolation WasherC	70410523	1
30	Wire Clamp	71010102	1
31	4-way Valve Coil	430004002	1
32	Compressor Gasket		0
33	High pressure switch	460200061	1
34	Transformer 57X25D	43110240	1
35	Main PCB1 WZ4C352	30224033	1
36	Capillary Assy	04105257	1

Model:GUHN36NK1AO；GUHN36NM1AO；

Exploded Views



Spare Parts List

No.	Name of part	Part code	Quantity
1	Front Grill	22265401	1
2	Front Plate	01435402	1
3	Protection Grill	01475401	1
4	Top Cover	01255402	1
5	Back Side Plate	01305401	1
6	Handle	26235253	2
7	Valve Support	01715402	1
8	Metal Base	01205402	1
9	Front Side Plate	01305403	1
10	Axial Flow Fan	10335401	1
11	Condenser Assy	01125245	1

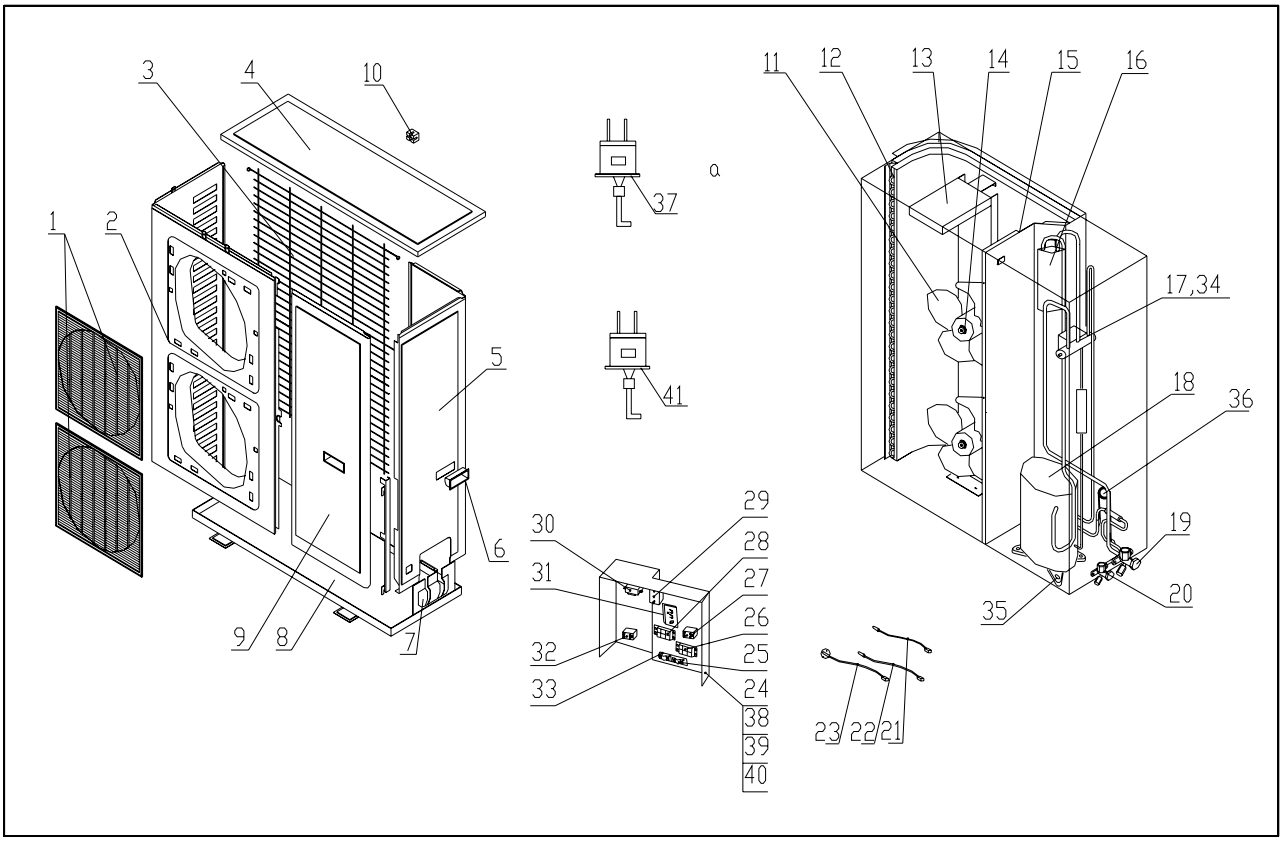
12	Motor Support	017054020	1
13	Motor LW92D	150154011	1
14	Isolation Plate	01235403	1
15	4-way Valve (SHF-20H)	43000405	1
16	4-way Valve Coil	430004005	1
17	Compressor C-SB301H5A	00120121①	1
	Compressor C-SB303H8A	00120043②	
18	Gas Valve	07130212	1
19	Liquid Valve	07130210	1
20	High pressure switch	460200061	1
21	Temp Sensor	3900012128	1
22	Electric Box	01395711 ①	1
	Electric Box	01405720 ②	
23	Terminal Board	420111451 ①	1
	Terminal Board	42011044 ②	
24	Transformer 57X25D	43110240	1
25	Terminal Board	42011103	2
26	Main PCB WZ4C352	30224033	1
27	Capacitor CBB61 4uF/500V	33010013	1
28	AC Contactor GC6-45S/01C3	44010254 ①	1
	AC Contactor GC3-18/01KK/3TF4211	44010226 ②	
29	Isolation WasherD	70410523	2
30	Wire Clamp	71010102	1

Note：① only is part of GUHN36NK1AO Model.

② only is part of GUHN36NM1AO Model.

Model:GUHN42NM1AO；

Exploded Views



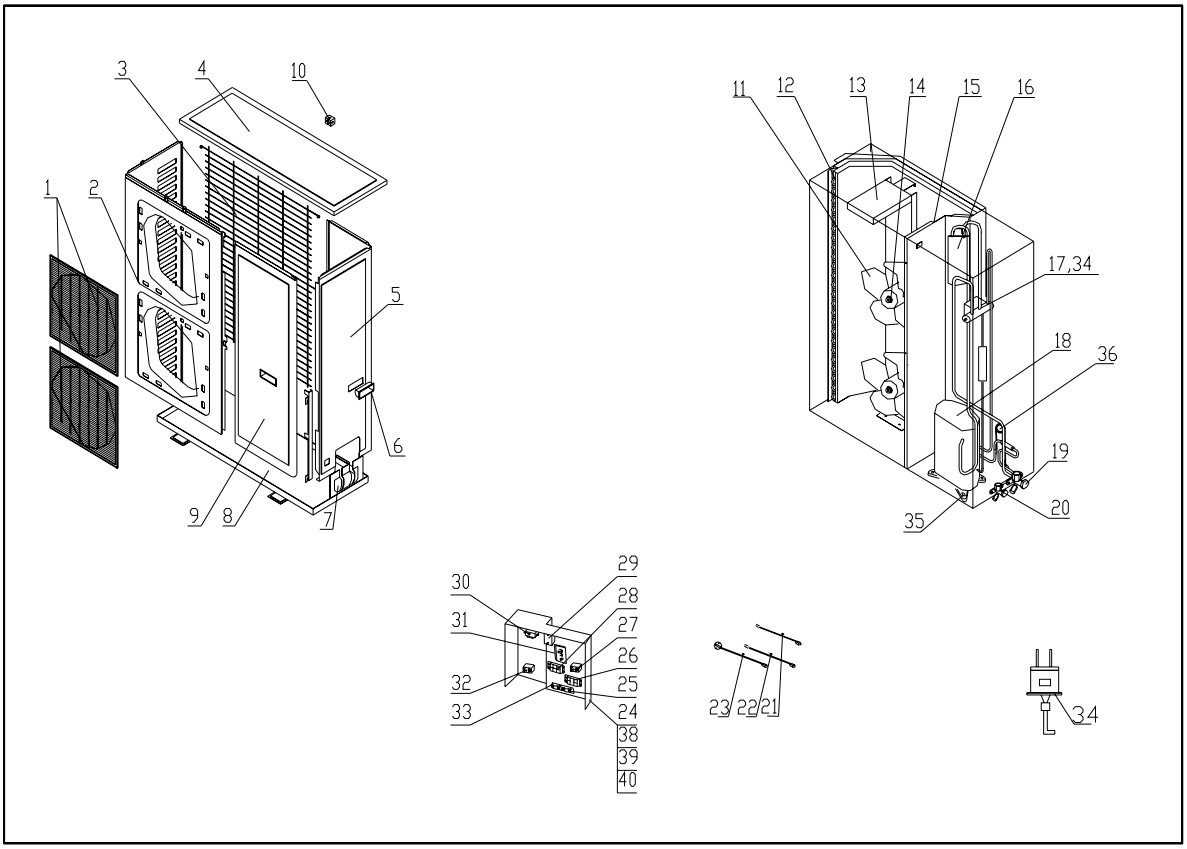
Spare Parts List

No.	Name of part	Part code	Quantity
1	Front Grill	22414102	2
2	Front Plate	01435436	1
3	Protection Grill	01475432	1
4	Top Cover	01255262	1
5	Back Side Plate	01305434	1
6	Handle	26235253	3
7	Valve Support	01715001	1
8	Metal Base	01205433	1
9	Front Side Plate	01305431	1
10	Protection Grill Gasket		0
11	Axial Flow Fan	10338731	2
12	Condenser Assy	01125246	1
13	Motor Support	01705431	1
14	Motor FW68G	15013110	2

15	Isolation Plate	01235440	1
16	Liquid-gas Support	07225011	1
17	4-way Valve	4300045	1
18	Compressor C-SB373H8A	00202237	1
19	Gas Valve	07130212	1
20	Liquid Valve	071302392	1
21	Ambient Sensor(15K)	3900012126	1
22	Temperature Sensor (20K)	3900012121	1
23	Temperature Sensor (50K)	3900012129	1
24	Electric Box	01395463	1
25	Wire Clamp	71010102	1
26	Terminal Board	42011044	1
27	Terminal Board	42011103	2
28	Terminal Board	420101851	1
29	Capacitor CBB61 3.5μF/450V	33010010	2
30	AC Contactor GC3-18/01KK/3TF4211	44010226	1
31	Overcurrent Protector HD-13.2-22/UO-10-13	46020112	1
32	Phase Reverse Protector	46020052	1
33	Isolation Washer D	70410525	2
34	4-way Valve Coil	430004005	1
35	Compressor Gasket	-	0
36	Capillary Assy	04105242	1
37	High pressure switch	460200061	1
38	Capacitor Clamp	-	0
39	Transformer 57X25D	43110240	1
40	Main PCB WZ4C352	30224033	1
41	Low pressure switch	46020007	1

Model:GUHN48NM1AO；

Exploded Views



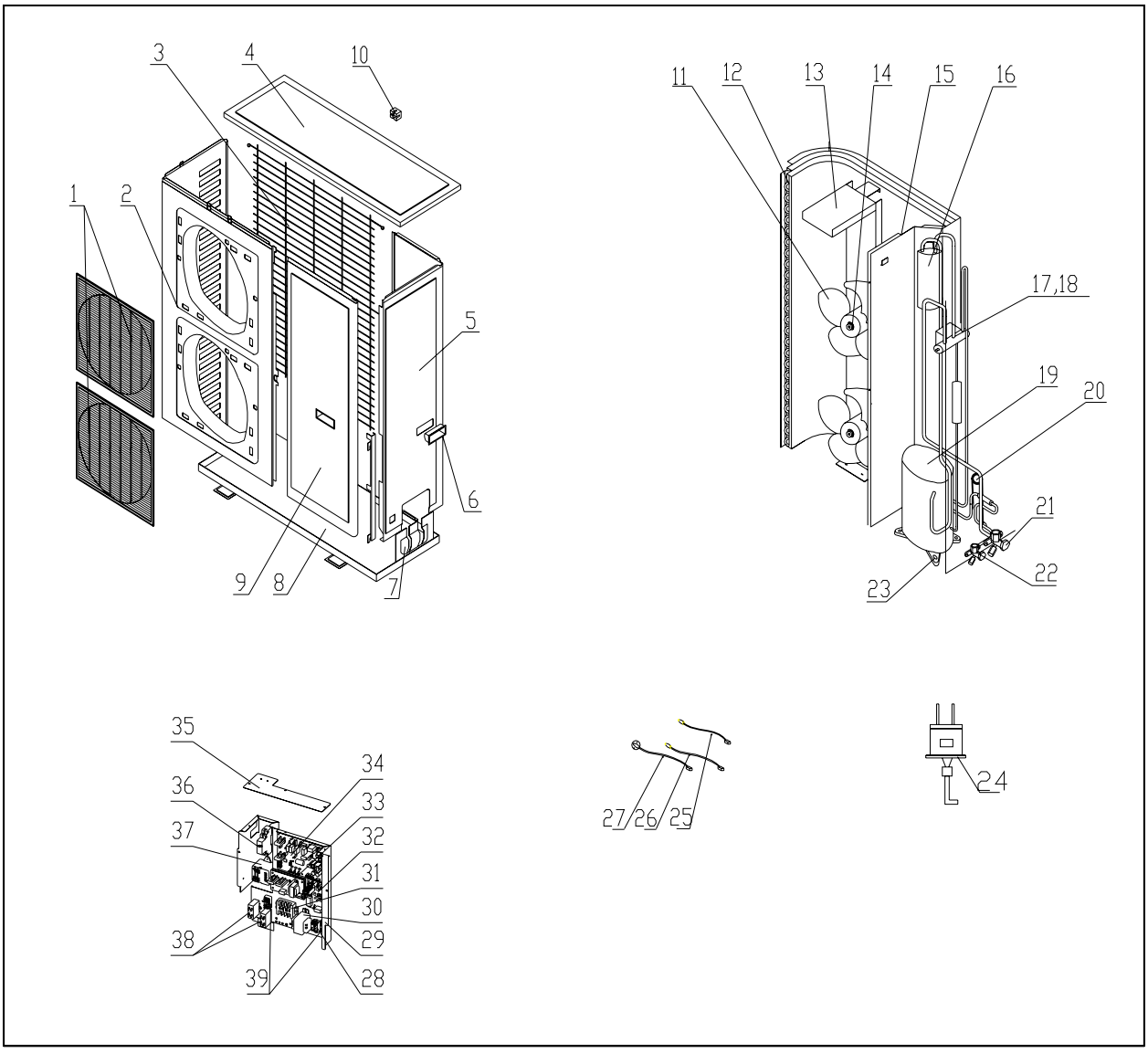
Spare Parts List

No.	Name of part	Part code	Quantity
1	Front Grill		0
2	Front Plate	01435436	1
3	Protection Grill	01475432	1
4	Top Cover	01255262	1
5	Back Side Plate	01305434	1
6	Handle	26235253	3
7	Valve Support	01715001	1
8	Metal Base	012054332	1
9	Front Side Plate	01305431	1
10	Protection Grill Gasket		0

11	Axial Flow Fan	10338731	2
12	Condenser Assy	01125257	1
13	Motor Support	01705431	1
14	Motor FW68G	150154512	2
15	Isolation Plate	01235440	1
16	Liquid-gas Separator	07225011	1
17	4-way Valve	43000405	1
18	Compressor C-SB373H8A	00202237	1
19	Gas Valve	07130212	1
20	Liquid Valve	07130210	1
21	Ambient Sensor(15K)	3900012126	1
22	Temperature Sensor (20K)	3900012121	1
23	Temp. Limiter		0
24	Electric Box	01395463	1
25	Wire Clamp	71010102	1
26	Terminal Board	42011044	1
27	Terminal Board	42011103	3
28	Terminal Board		0
29	Capacitor CBB61 4μF/500V	33010013	2
30	AC Contactor LC1D2501M7C	44010213	1
31	Overcurrent Protector HD-13.2-22/UO-10-13	46020112	1
32	Phase Reverse Protector	46020052	1
33	Isolation Washer C	70410523	1
34	4-way Valve Coil	430004005	1
35	Compressor Gasket		0
36	Capillary Assy	04105255	1
37	High pressure switch	460200061	1
38	Capacitor Clamp		0
39	Transformer 57X25D	43110240	1
40	Main PCB WZ4C352	30224033	1

Model:GUHN60NM1AO；

Exploded Views



Spare Parts List

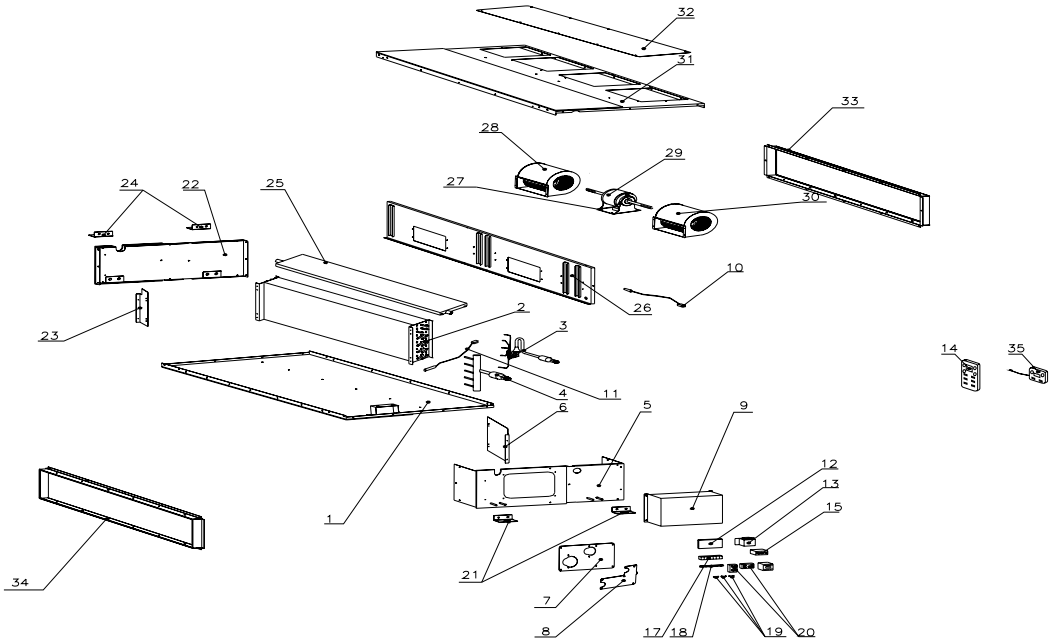
No.	Name of part	Part code	Quantity
1	Front Grill	22414102	2
2	Front Plate	01435436	1
3	Protection Grill	01475432	1
4	Top Cover	01255472	1
5	Back Side Plate	01305434	1
6	Handle	26235253	3
7	Valve Support	01715001	1
8	Metal Base	01205472	1
9	Front Side Plate	01305431	1
11	Axial Flow Fan	10335253	2
12	Condenser Assy	01109107	1
13	Motor Support	01705471	1
14	Motor LW92R	15701108	2
15	Isolation Plate	01235473	1
16	Liquid-gas Separator	07225479	1
17	4-way Valve	43000405	1
18	Compressor C-SB453H8A	00100331	1
19	Gas Valve	07130212	1
20	Liquid Valve	071302335	1
21	Ambient Sensor(15K)	3900012126	1
22	Temperature Sensor (20K)	3900012121	1
23	Temp. Senser	3900012129	1
24	High pressure switch	460200061	1
25	Electric Box	01395463	1
26	Wire Clamp	71010102	2
27	Terminal Board	42011044	1
28	Terminal Board	42011103	3
29	Terminal Board	420101851	1
30	Capacitor 6uF/500V	33010037	2
31	AC Contactor LC1D2501M7C	44010213	1
32	Overcurrent Protector UO-10-16A/16A	46020103	1
33	Phase Reverse Protector 380V	46020052	1
34	Isolation WasherC	70410523	1
36	4-way Valve Coil	430004005	1
37	Capillary Assy	03009105	1
39	Transformer 57X25D	43110240	1

5.2 Indoor Unit

5.2.1 Duct Type

1) Model:GFH09K3BI；GFH12K3BI；GFH18K3BI；

Exploded Views



Parts List

No.	Name of part	Part code	Quantity
1	Top Cover	01259051 ①②	1
		01259064 ③	
2	Evaporator Assy	01039051 ①	1
		01039055 ②	
		01038623 ③	
3	Liquid Inlet Pipe	032390521 ①	1
		036324561 ②	
		03239074 ③	
4	Collecting Gas Pipe	03829073 ①	1
		036324551 ②	
		03639072 ③	
5	Left Side Plate	0130905101①②	1
		0130866801③	
6	Left Support of Evaporator	01079055 ①②	1
		01078629 ③	
7	Seal of Left Side Plate	01499051 ①②	1
		01498640 ③	
8	Seal of Connection Pipe	01499054c	1
		01498644 ③	
9	Electric Box	01425703	1
10	Room Temp Sensor	3900012123	1
11	Tube Temp Sensor	390001921	1
12	Main Z8235	30228204	1
13	Transformer 54X25C	43110239	1
14	Remote controller	305050031	0
15	Capacitor CBB611A 1uF/500V	33010089 ①	1
	Capacitor CBB611A 3uF/450V	33010027 ②	
	Capacitor CBB611A 3.5uF/450V	33010010 ③	
17	Terminal Board	42010194	1
18	Isolation Washer C	70410523	1
19	Wire Clamp	71010102	1
20	Terminal Board 2-8	42011103	2
21	Hook	02112446	2
22	Right Side Plate	01309055	1
23	Left Support of Evaporator	01079056	1
24	Hook	02112446	2
25	Water Tray	01279051 ①②	1
		01278633 ③	
26	Fan Fixed Plate	01339095 ①②	1
		01339058 ③	

27	Motor Support	01709058 ①②	2
		01709056 ③	
28	Fan	22202030 ①②	2
		15002401 ③	
29	Motor FG20C	15019053 ①	1
	Motor FG20E	15019522 ②	
	Motor FG70B	15018322 ③	
30	Fan	22202029 ①②	2
31	Bottom Cover	01259086 ①②	1
		01265296 ③	
32	Bottom Cover Assy	01259054 ①②	1
33	Cover of Air-in	01259056 ①②	1
		01258650 ③	
34	Side Plate of Air intake	01499055 ①②	1
		01499061 ③	
35	Display Board Z4B351	30294213	1

Note：

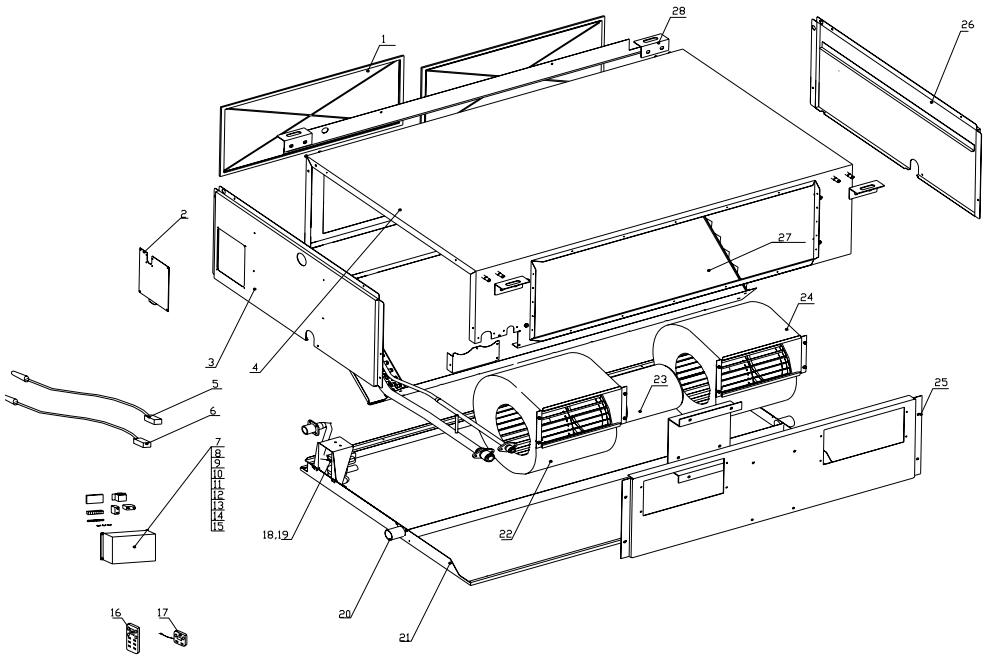
① only is part of GFH09K3BI Model.

② only is part of GFH12K3BI Model.

③ only is part of GFH18K3BI Model

2) Model:GFH24K3BI；GFH30K3BI

Exploded Views

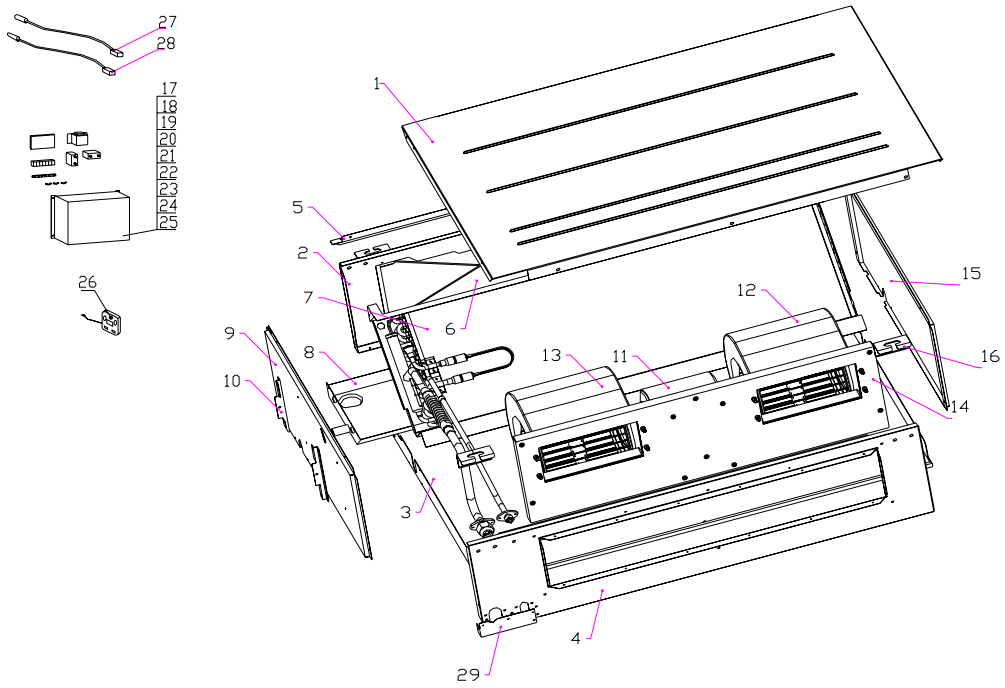


Parts List

No.	Name of part	Part code	Quantity
1	air filter	11125303	2
2	Seal of Connection Pipe	01495302	1
3	Left Side Plate	01315328	1
4	Top Cover	01265301	1
5	temp.sensor (15K)	3900012123	1
6	temp.sensor (20K)	3900012121	1
7	Electric Box	01395490	1
8	Main PCB2 Z4B35	30228204	1
9	Transformer SC31	43110239	1
10	Capacitor CBB611A8uF/450V	33010014	1
12	Terminal Board 2-8	42011103	2
13	Terminal Board (5位)	42010194	1
14	Isolation Washer C	70410523	1
15	Wire Clamp	71010102	1
16	Remote controller	305050031	0
17	Display board Z4B351	30294213	1
20	Water Tray	01285301	1
21	Bottom Cover	01265304	1
22	Fan (right) SYP-160/200J	15012458	1
23	Motor FG500A	15705301	1
24	Fan (left) SYP-160/200J	15012454	1
25	Fan Fixed Plate	01325301	1
26	Right Side Plate	01315304	1
27	Evaporator Assy	01025301	1
28	Hook	02112446	4

3) Model:GFH36K3BI；GFH42K3BI；GFH48K3BI；

Exploded Views



Parts List

No.	Name of part	Part code	Quantity
1	Top Cover 3	01265240	1
2	Top Cover 2	01265242	1
3	Bottom Cover	15265302	1
4	Top Cover 1	01265239	1
5	end plate of air intake door	01375301	1
6	air filter	111253031	2
7	Evaporator Assy	01025249 ①②	1
		01025274 ③	
8	Water Tray Panel	01285306	1
9	Right Side Plate	01315311	1
10	Electric support	01729160	2
11	Motor FG500A	15019063	1
12	Fan (left) SYP-200/190J-1	15018603	1
13	Fan (right) SYP-200/190J-1	15018604	1
14	Fan Fixed Plate	01325220	1
15	Left Side Plate	01315308	1
16	Hook	02112466	4
17	Electric Box	01399152	1
18	Main PCB Z8235	30228204	1
19	Transformer 54X25C	43110239	1
20	Capacitor CBB611A 12uF/450V	33010734.	1
21	Electric Box cover	01425226	1
22	Terminal Board 2-8	42011103	3
23	Terminal Board (5孔)	42010194	1
24	Isolation Washer C	70410523	1
25	Wire Clamp	71010102	2
26	Display board Z4B351	30294213	1
27	temp.sensor (15K)	3900012123	1
28	temp.sensor (20K)	390001921	1
29	Seal of Connection Pipe(Valve)	01495305	1

Note：

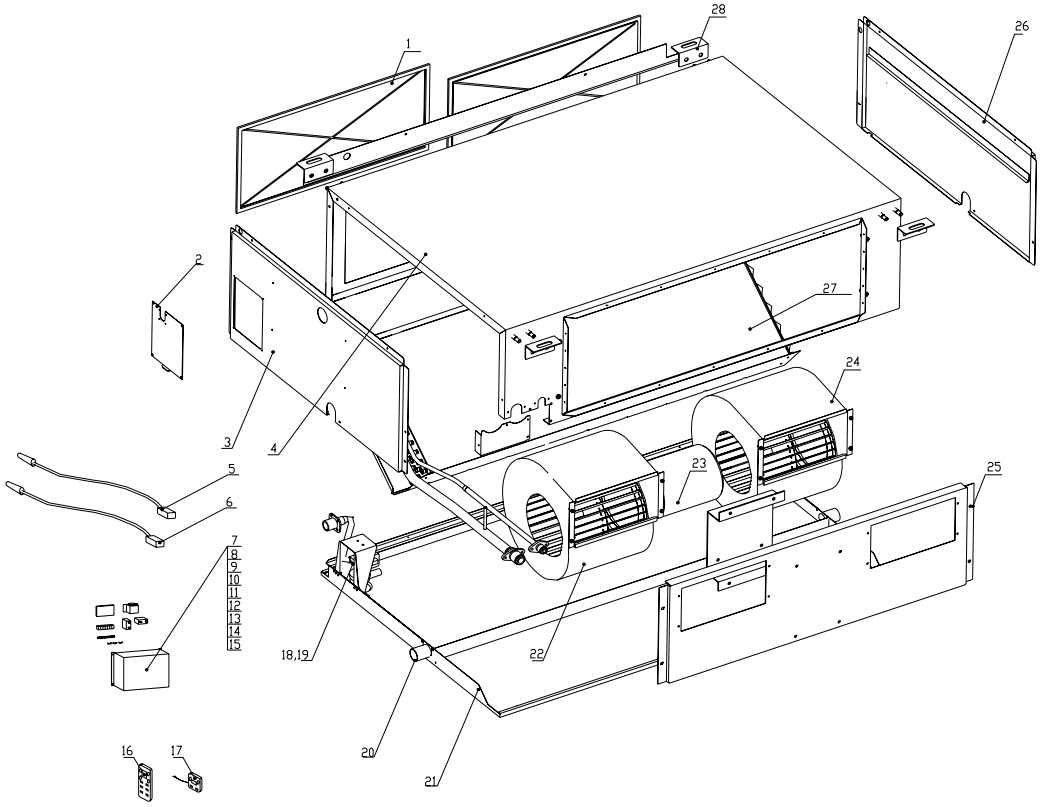
① only is part of GFH36K3BI Model.

② only is part of GFH42K3BI Model.

③ only is part of GFH48K3BI Model.

4) Model:GFH60K3BI；

Exploded Views



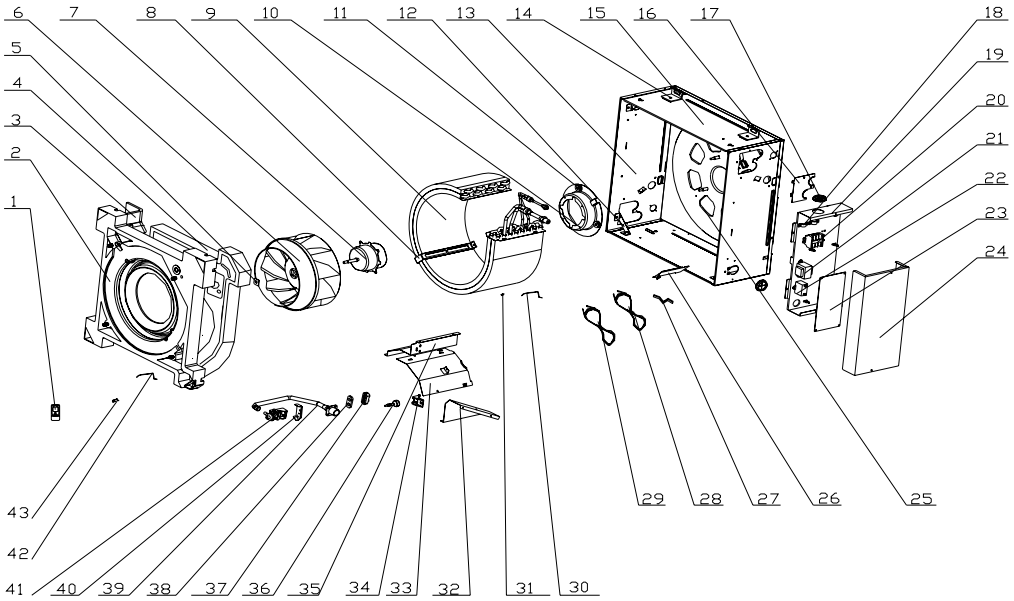
Parts List

No.	Name of part	Part code	Quantity
1	air filter	111253032	2
2	Seal of Connection Pipe	01495226	1
3	Left Side Plate	01309109	1
4	Top Cover	01259112	1
5	temp.sensor (15K)	3900012123	1
6	temp.sensor (20K)	3900012121	1
7	Electric Box	01399152	1
8	Main PCB2 Z8235	30228204	1
9	Transformer 54X25C	43110239	1
10	Capacitor CBB611A 12uF/450V	33010734	1
12	Terminal Board 2-8	42011103	2
13	Terminal Board (5位)	42010194	1
14	Isolation Washer C	70410523	1
15	Wire Clamp	71010102	1
16	Remote controller	305050031	0
17	Display board Z4B351	30294213	1
20	Water Tray	01285270	1
21	Bottom Cover	01259114	1
22	Fan (right) SYP-200/190J-3	15019066	1
23	Motor FG500A	15019063	1
24	Fan (left) SYP-200/190J-3	15019065	1
25	Fan Fixed Plate	01339110	1
26	Right Side Plate	01309111	1
27	Evaporator Assy	01025317	1
28	Hook	02112466	4

5.2.2 Cassette Type

1) Model:GKH12K3BI；GKH18K3BI；

Exploded Views



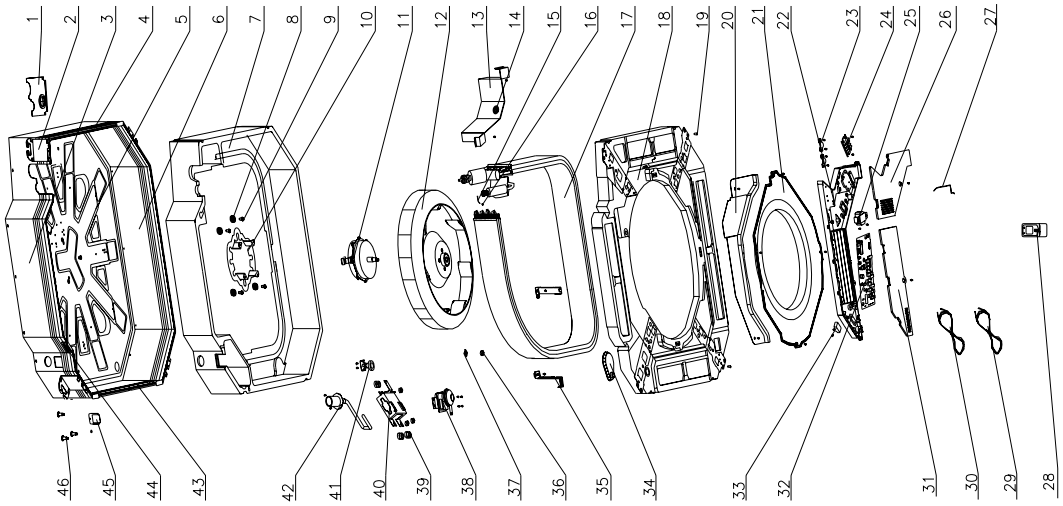
Parts List

No.	Name of part	Part code	Quantity
1	Remote Controller Y512	305125063	0
2	Water Tray	20182703	1
3	Water Tray Foam for Fresh Air Intaking	12312702	1
4	Water Tray Foam	12312703	1
5	Fan Fixer	76712709	1
6	Centifugal Fan	10312702	1
7	Motor FN11T	15012707	1
8	Evap Support	01072714	1
9	Evaporator Assy	01029608	1
10	Motor Support	01702702	1
11	Motor Gasket	76712705	3
12	Water Tray support	01332706	4
13	Front Side Plate	01302741	2
14	Body Fixer	01332705	4
15	Right Side Plate	01302743	2
16	Tube-exit plate	01382719	1
17	Cable-cross Loop	76515202	2
18	Wire Clamp	71010103	1
19	Electric Box Assy	0140270501	1
20	Terminal Board	42010258	1
21	Transformer 48X26G	43110233	1
22	Capacitor CBB61 2.5uF/450VAC	33010026	1
23	Main PCB Z71351D	30227110	1
24	Electric Box Cover	01412723	1
25	Base Plate	01222712	1
26	Cord Baffle Plate	01362701	1
27	Connecting Wire	40030232	1
28	Connecting Cable		0
29	Connecting Cable		0
30	Tube Sensor	390000592	1
31	Sensor Insert B	42020063	1
32	Left Baffle Plate	01362703	1
33	Evap Connection	01072713	1
34	Water Level Switch Support	24212705	1
35	Right Baffle Plate	01362702	1
36	Water Level Switch	450127011	1
37	Pump Gasket 1	76712707	1
38	Pump Gasket 2	76712708	1
39	Pump Drainage	05232722	1
40	Pump Support	01332707	1
41	Water Pump PSB-7	43130320	1

42	Room Sensor	39000191	1
43	Wire Clamp	71010105	1

2) Model:GKH24K3BI；GKH30K3BI；GKH36K3BI；GKH42K3BI;GKH48K3BI；

Exploded Views



Parts List

No.	Name of part	Part code	Quantity
1	Tube Exit Plate	01382715	1
2	Body Fixed Plate	01332701	4
3	Front Side Plate	01302713	1
4	Left Side Plate	01302711	1
5	Base Plate	01222701	1
6	Rear Side Plate	01302709	1
7	Bottom Foam	52012721	1
8	Motor Gasket	76712711	4
9	Bolt	70212701	3
10	Motor Support	01702701	1
11	Motor FN35B	15012706	1
12	Centifugal Fan	10310101	1
13	Evaporator Linkage	01072732	1
14	Cable-cross Loop	76512702	1
15	Tube sensor	390001921	1
16	sensor insert B	42020063	1
17	Evaporator Assy	010027101 ①	1
		01029402 ②	
		01029405 ③	
		01029409 ④	
18	Water Tray Assy	20182701	1
19	Rubber Stem		0
20	Electric Base Plate	01412721	1
21	Flow-guide Loop	10372722	1
22	Electric Box	01399621	1
23	Wire Clamp	71010102	1
24	Terminal Board (5)	42010258	1
25	Transformer	43110233	1
26	Electric Box Cover I	20102702	1
27	Room Sensor	390001911	1
28	Remote Controller Y512	305125063	0
29	Signal Cable		0
30	Signal Cable		0
31	Electric Box Cover II	20102703	1
32	Mainboard Z71351E	30227111	1
33	Capacitor CBB61 3.5uF/450V	33010012	1
34	Drainage Plastic	05230025	1
35	Evap Support	01072707	2
36	Nut with Washer M6	70310012	7
37	Fan Fixer	10312701	1
38	Water Pump	43130324	1

39	Pump Gasket	76712702	3
40	Pump Support	01332721	1
41	Water Level Switch	45010201	1
42	Pump Drainpipe	05230026	1
43	Right Side Plate	01302712	1
44	Cable-cross Block		0
45	Pump Cover Plate	01252713	1
46	Bolt		0

Note：

① only is part of GKH24K3BI .GKH30K3BI Model.

② only is part of GKH42K3BI Model.

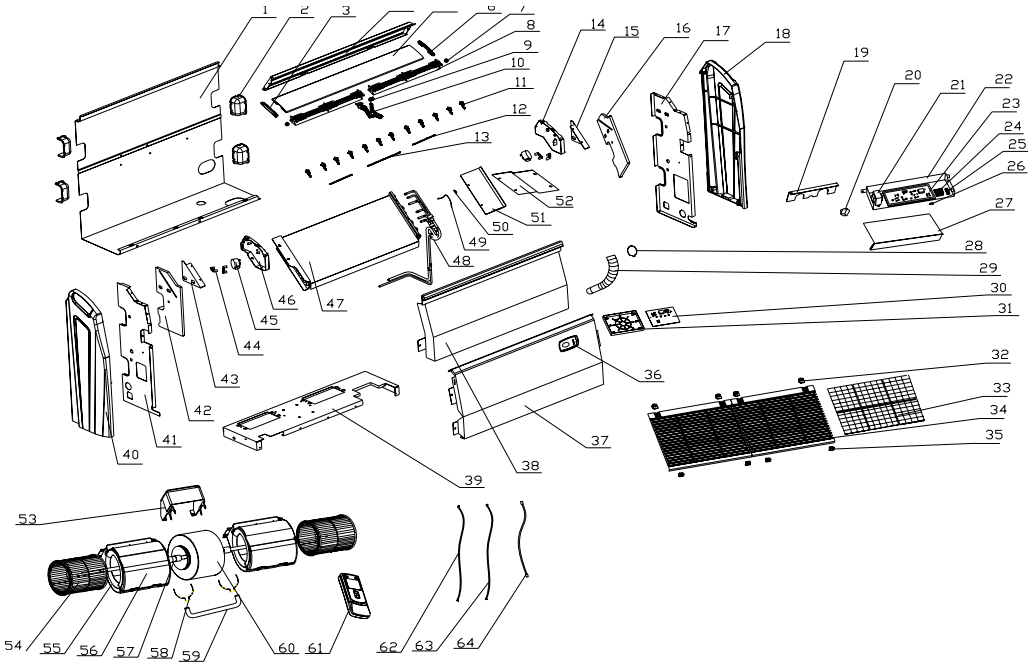
③ only is part of GKH36K3BI Model

④ only is part of GKH48K3BI Model.

5.2.3 Ceiling Type

1) Model:GTH09K3BI；GTH12K3BI；GTH18K3BI；

Exploded Views



Parts List

No.	Name of part	Part code	Quantity
1	Rear Side Plate	01302013	1
2	Handle	26232001	4
3	Left Decoration Plate	261124152	1
4	Rear Side Plate of Air Outlet	0130201501	1
5	Louver	1051953202	1
6	Right Decoration Plate	261124162	1
7	Shaft of Louver II	10512026	2
8	Louver Support	24212019	2
9	Shaft of Louver I	10512025	1
10	Louver Fixer	24212018	1
11	Swing Louver	10512027	12
12	Connecting Lever	10582009	1
13	Connecting Lever	10582008	2
14	Right Swing Motor Fixer	26152006	1
15	Right Fixing Plate of Evaporator	01072411	1
16	Foam of Right Side Plate	12312404	1
17	Right Fixing Plate	01332404	1
18	Right Decoration Panel	26112027	1
19	Pipe Clamp Plate	0107243701	1
20	Capacitor CBB611A 1uF/450	33010089 ①	1
	Capacitor CBB611A 1.5uF/450V	33010020 ②	
	Capacitor CBB611A 3uF/450V	33010027 ③	
21	Transformer 57X25C	43110237	1
22	Electric Box	01402407 ①	1
		0140240701 ②③	
23	Main PCB Z7A251B	30227021	1
24	Terminal Board	42011159	1
25	Wire Base	24253001	1
	Wire Clamp	24253002	1
26	Fuse 5A 250VAC	46010013 ②③	1
27	Cover of Electric Box	01412408	1
28	Pipe Clip	70812001	1
29	Drainage Pipe	05235433	1
30	Display Board 5T52	30545654	1
31	Electric Box	20102138	1
32	Front Grill Clip 1	26252002	2
33	Filter	11122013	1
34	Front Grill	22412010	1
35	Front Grill Clip 2	26252003	2
36	Buttons Panel	201620041	1
37	Front Panel	01532001 ①	1

		01532001P ②③	
38	Water Tray Panel	01272205 ①	1
		01272205P ②③	
39	Motor Support	01709532	1
40	Left Decoration Panel	26112028	1
41	Left Fixing Plate	01332405	1
42	Left Side Foam	12312403	1
43	Left Fixing Plate of Evaporator	01072410	1
44	Motor Clamp	26112026	4
45	Step Motor MP35CA	15212402	2
46	Left Swing Motor Fixer	26152005	1
47	Evaporator Assy	01032466 ①	1
		01032467 ②	
		01032468 ③	
48	Liquid-intake Pipe Components	03222465 ①	1
		03222519 ②	
		03222520 ③	
	Air Collecting Pipe Components	03533200 ①	1
		03533425 ②	
		03533428 ③	
49	Temp Sensor （20K）	39000194	1
50	Temp Sensor Insert	42020063	1
51	Water Lead Panel	01362001	1
52	Cover of Evaporator	01072409	1
53	Fixed Mount	01708763	1
54	Centrifugal Fan	10312401	2
55	Rear Snail Shell	22202032	2
56	Front Snail Shell	22202031	2
57	Axes Connector		0
58	Bar Clasp	70819522	4
59	Hoop	70819521	1
60	Motor PG10H	15707302 ①②	1
	Motor PG40F	157073024 ③	
61	Remote Controller Y512	305125063	0
62	Connecting Cable		0
63	Connecting Cable		0
64	Signal Cable	4001023214	1

Note：

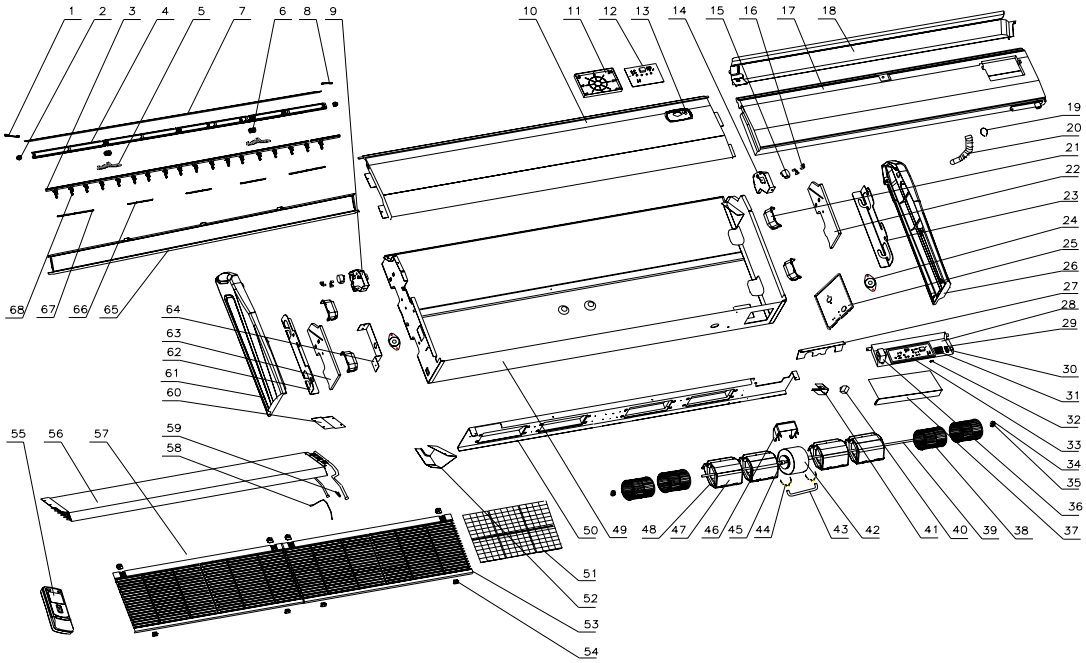
① only is part of GTH09K3BI Model.

② only is part of GTH12K3BI Model.

③ only is part of GTH18K3BI Model.

2) Model:GTH24K3BI；GTH30K3BI

Exploded Views



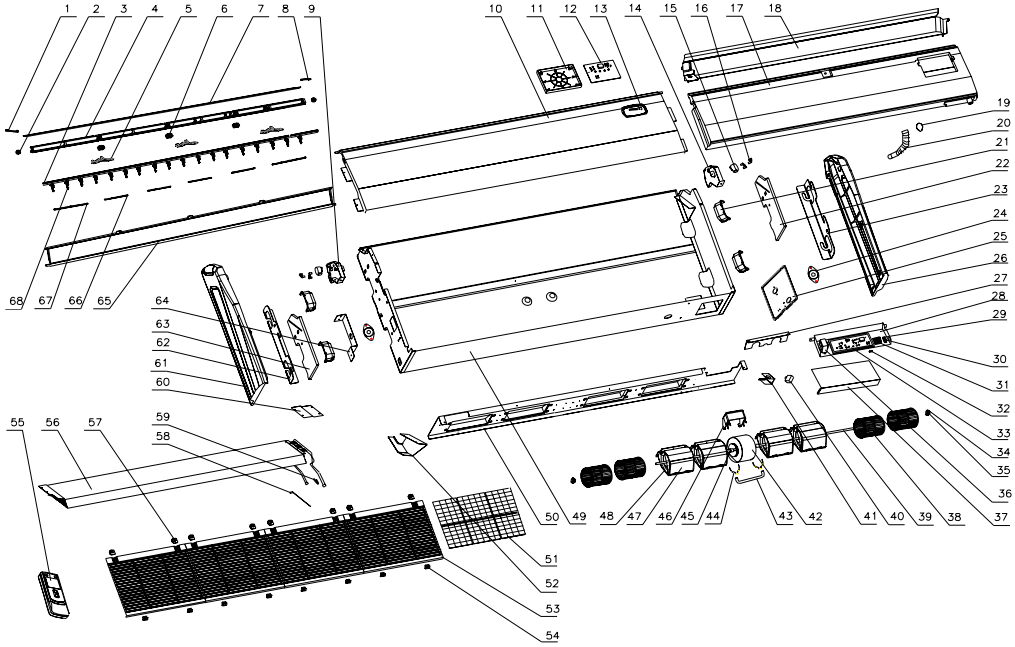
Parts List

No.	Name of part	Part code	Quantity
1	Left Decoration Plate	261124172	1
2	Shaft of Louver I	10512025	2
3	Swing Louver Fixer	013324232	1
4	Louver Support	24212020	3
5	Louver Fixer	24222016	4
6	Louver	105124042	1
7	Shaft of Louver II	10512026	2
8	Right Decoration Plate	261124212	1
9	Left Swing Motor Fixer	26152007	1
10	Front Panel	01532414	1
11	Electric Box	20102138	1
12	Display Board 6152BJ	30545654	1
13	Buttons Panel	20162004	1
14	Right Swing Motor Fixer	26152408	1
15	Step Motor MP35CA	15212402	2
16	Motor Clamp	26112026	4
17	Water Tray	01272412	1
18	Auxiliary Water Tray	01272413	1
19	Pipe Clip	70812001	1
20	Drainage Pipe	05235433	1
21	Handle	26232001	4
22	Foam of Right Side Plate	12312408	1
23	Right Fixing Palte	01332404	1
24	Support of Motor Bearing	01792408	2
25	Fixer of Motor Support	01792409	1
26	Right Decoration Panel	26112033	1
27	Pipe Clamp	01072424	1
28	Electric Box	0140240701	1
29	Wire Base	24253001	1
30	Wire Clamp	24253002	1
31	Terminal Board RS9413G	42011159	1
32	Fuse 5A 250VAC		0
33	Main PCB Z7A251B	`30227021	1
34	Ring of Bearing	76512404	2
35	Fan Bearing	76512210	2
36	Transformer 57X25C	43110237	1
37	Cover of Electric Box	01412408	1
38	Centrifugal Fan	10312401	4
39	Rotary Axis	73012401	2
40	Capacitor CBB61 3uF/450V	33010027	1

41	Capacitor Fixer		0
42	Motor FN100B	`15012406	1
43	Motor Fixer	01722409	1
44	Motor Clamp	01702405	3
45	Axes Connector	73012403	2
46	Motor Fixing Plate	01332426	1
47	Front Snail Shell	22202031	4
48	Rear Snail Shell	22202032	4
49	Rear Side Plate	01302430	1
50	Motor Support	01702410	1
51	Filter	11122012	1
52	Water Lead Plate	01362401	1
53	Front Grill	22412011	1
54	Front Grill Clip 2	26252003	2
55	Remote Controller Y512	305125063	0
56	Evaporator Assy	010024052	1
57	Front Grill Clip 1	26252002	2
58	Temp Sensor	390001215	1
59	Temp Sensor Insert	42020063	1
60	Cover of Evaporator	01072417	1
61	Left Decoration Panel	26112032	1
62	Left Fixing Plate	01332405	1
63	Left Side Foam	12312405	1
64	Bearing Fixing Plate	01332407	1
65	Rear Side Plate of Air Outlet	01302405	1
66	Connecting Lever	10582008	3
67	Connecting Lever	10582009	2
68	Swing Louver	10512028	22

3)Model:GTH36K3BI；GTH42K3BI；GTH48K3BI；

Exploded Views



Parts List

No.	Name of part	Part code	Quantity
1	Left Decoration Plate	261124151 ① 261124152 ②③	1
2	Shaft of Louver I	10512025	3
3	Swing Louver Fixer	0133241801 ① 0133241802 ②③	1
4	Louver Support	24212019	4
5	Louver Fixer	24212018	3
6	Shaft of Louver II	10512026	2
7	Louver	105124081 ① 105124082 ②③	1
8	Right Decoration Plate	261124161 ① 261124162 ②③	1
9	Left Swing Motor Fixer	26152005	1
10	Front Panel	015324091	1
11	Display Box	20102138	1
12	Display Board 5T52	30545654	1
13	Buttons Panel	01544106 ① 20162003 ②③	1
14	Right Swing Motor Fixer	26152006	1
15	Step Motor MP35CA	15212402	1
16	Motor Clamp	26112026	4
17	Water Tray	01272410	1
18	Auxiliary Water Tray	01272409	1
19	Pipe Clip	70812001	1
20	Drainage Pipe	05235433	1
21	Handle	26232001	4
22	Foam of Right Side Plate	12312402	1
23	Right Fixing Palte	01332404	1
24	Support of Motor Bearing	01792408	2
25	Fixer of Motor Support	01792407	1
26	Right Decoration Panel	26112027	1
27	Pipe Clamp	01072425	1
28	Electric Box	01402407 ① 0140240701 ②③	1
29	Wire Base	24253001	1
30	Wire Clamp	24253002	1
31	Terminal Board	42011159	1
32	Fuse 5A 250VAC		0
33	Main PCB Z7A251B	30227021	1
34	Ring of Bearing	76512404	2

35	Fan Bearing	76512210	2
36	Transformer 57×25C	43110237	1
37	Cover of Electric Box	01412408	1
38	Centrifugal Fan	10319051	4
39	Rotary Axis	73012402	2
40	Capacitor CBB611A 6uF/500V	33010037	1
41	Capacitor Fixer		0
42	Motor FN150A	15012405	1
43	Motor Fixer	01722410	1
44	Motor Clamp	01702409 ①②	2
		01702405 ③	
45	Axes Connector	73012403	2
46	Motor Fixing Plate	01332425	1
47	Front Snail Shell	22202030	4
48	Rear Snail Shell	22202029	4
49	Rear Side Plate	01302431	1
50	Motor Support	01702411	1
51	Filter	11122013	1
52	Water Lead Plate	01362407	1
53	Front Grill	22412010	4
54	Front Grill Clip 2	26252003	2
55	Remote Controller Y512	305125063	0
56	Evaporator Assy	01029610 ①	1
		01029612 ②	
		01029613 ③	
57	Front Grill Clip 1	26252002	2
58	Temp Sensor	39000194	1
59	Temp Sensor Insert	42020063	1
60	Cover of Evaporator	01072409	1
61	Left Decoration Panel	26112028	1
62	Left Fixing Plate	01332405	1
63	Left Side Foam	12312401	1
64	Bearing Fixing Plate	01332406	1
65	Rear Side Plate of Air Outlet	01302416	1
66	Connecting Lever	10582008	2
67	Connecting Lever	10582009	4
68	Swing Louver	10512027	26

Note：

④ only is part of GTH36K3BI Model.

⑤ only is part of GTH42K3BI Model.

⑥ only is part of GTH48K3BI Model.