



U-MATCH AIR CONDITIONERS SERVICE MANUAL

**T1/R410A/50Hz
(GC201109-I)**

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PRODUCT

PRODUCT 1 MODELS LIST

1.1 Outdoor Unit

Model	Code	Ref.	Power Supply	Appearance	
GUHN09NK3AO	CF021W0012	R410a	220-240~,1,50		
	CF021W0013				
GUHN12NK3AO	CF021W0022	R410a	220-240~,1,50		
	CF021W0023				
GUHN18NK3AO	CF021W0052	R410a	220-240~,1,50		
	CF021W0053				
GUHN24NK3AO	CF021W0092	R410a	220-240~,1,50		
	CF021W0093				
GUHN30NK3AO	CF021W0311	R410a	220-240~,1,50		
	CF021W0310				
GUHN36NK3AO	CF021W0062	R410a	220-240~,1,50		
	CF021W0063				
GUHN36NM3AO	CF021W0032	R410a	380-415~,3,50		
	CF021W0033				
GUHN42NM3AO	CF021W0042	R410a	380-41~,3,50		
	CF021W0043				
GUHN48NM3AO	CF021W0072	R410a	380-415~,3,50		
	CF021W0073				
GUHN60NM3AO	CF021W0082	R410a	380-415~,3,50		
	CF021W0083				



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

1.2 Indoor Unit






1.2.1 Duct Type

Type	Model	Code	Nominal Capacity Cooling/Heating (Btu/h)	Ref.	Power Supply	Appearance
Duct Type	GFH09K3BI	CF022N0011	8870/9720	R410a	220-240~ 1Ph 50Hz	
	GFH12K3BI	CF022N0031	11940/12280			
	GFH18K3BI	CF022N0051	17060/19450			
	GFH24K3BI	CF022N0081	23880/27300			
	GFH30K3BI	CF022N0110	28320/31050			
	GFH36K3BI	CF022N0021	33440/37530			
	GFH42K3BI	CF022N0041	40940/47770			
	GFH48K3BI	CF022N0061	47770/52890			
	GFH60K3BI	CF022N0071	54600/63120			

1.2.2 Floor- Ceiling Type

Type	Model	Code	Nominal Capacity Cooling/Heating (Btu/h)	Ref.	Power Supply	Appearance
Floor- Ceiling Type	GTH09K3BI	ED010N0090	8870/9720	R410a	220-240~ 1Ph 50Hz	
	GTH12K3BI	ED010N0120	11900/12280			
	GTH18K3BI	ED010N0130	17060/19450			
	GTH24K3BI	ED010N0150	23880/27300			
	GTH30K3BI	ED010N0080	28320/31050			
	GTH36K3BI	ED010N0100	34120/37530			
	GTH42K3BI	ED010N0110	40940/47770			
	GTH48K3BI	ED010N0140	47770/52890			

1.2.3 Cassette Type

Type	Model	Code	Nominal Capacity Cooling/Heating (Btu/h)	Ref.	Power Supply	Appearance	
Cassette Type	GKH12K3BI	ET020N0060	11940/12280	R410a	220-240~1Ph 50Hz		
	GKH18K3BI	ET020N0030	17060/19450				
	GKH24K3BI	ET020N0050	23200/25600				
	GKH30K3BI	ET010N0060	28320/30020				
	GKH36K3BI	ET020N0010	34120/37530				
	GKH42K3BI	ET020N0020	40940/47770				
	GKH48K3BI	ET020N0040	47770/52890				

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

Notes:

The universal outdoor unit 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	9	N	M	3	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
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 Timer	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
Anti-high temperature protection	once the heat exchanger temperature of indoor unit is too high, compressor stop.
Timing ON/OFF display	display and timing turn ON/OFF time (only with wired controller have this function)
Fan speed display	display the speed (high, medium, low) of fan(only with wired controller have this function)
Function model display	cooling mode, dehumidifying mode, heating mode, fan mode (only with wired controller have this function)
Testing display	display testing mode(only with wired controller have this function)
Temperature display	display room temperature and set temperature (with wired controller or remoter board have this function)

4 PRODUCT DATA

4.1 Product Data at Rated Condition

4.1.1 Duct Type

Model	Indoor unit		GFH09K3BI	GFH12K3BI	GFH18K3BI
	Outdoor unit		GUHN09NK3AO	GUHN12NK3AO	GUHN18NK3AO
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	19450
Power Input	Cooling	kW	1.0	1.2	2.1
	Heating	kW	0.97	1.1	1.8
EER/COP		W/W	2.60/2.94	2.92/3.27	2.38/3.17
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	0.03	0.037	0.06
	Air Flow	m ³ /h	830/640/550	1130/960/830	1000/920/780
	Ext. Static Pressure	Pa	25	25	25
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 (W×D×H) (Outline/Package)		mm	913×680×220 998×753×273	913×680×220/ 998×753×273	1012×736×266 1123×798×323
Weight(Net/Gross)		kg	24/29	25/30	34/41
Outdoor Unit			GUHN09NK3AO	GUHN12NK3AO	GUHN18NK3AO
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	0.922	1.185	1.9
Refrigerant	Type	-	R410A		
	Control	-	Capillary Tube		
	Charge	kg	1.1	1.0	1.5
Dimensions (W×D×H) (Outline/Package)		mm	820×320×540/ 873×363×605	820×320×540/ 873×363×605	820×320×540/ 873×363×605
Weight(Net/Gross)		kg	32/37	32/37	40/45
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

Model	Indoor unit		GFH24K3BI
	Outdoor unit		GUHN24NK3AO
Nominal Capacity	Cooling	kW	7.0
		Btu/h	23880
	Heating	kW	8.0
		Btu/h	27300
Power Input	Cooling	kW	2.66
	Heating	kW	2.51
EER/COP		WW	2.63/3.19
Indoor Unit			GFH24K3BI
Power Supply		-	220-240V~/1 Ph/50HZ
Heat Exchange		-	Cross Fin Coil
Fan	Type	-	Centrifugal fan
	Drive	-	Direct Driver
	Motor Output	kW	0.15
	Air Flow	m ³ /h	1250/1220/1060
	Ext. Static Pressure	Pa	25
Sound Pressure Level(H/M/L)		dB(A)	47/44/42
Air Filter		-	Standard washable synthetic
Drain Piping		mm	φ20×1.2
Dimensions (W×D×H) (Outline/Package)		mm	1270×530×268/ 1348×597×283
Weight(Net/Gross)		kg	37/43
Outdoor Unit			GUHN24NK3AO
Power Supply		-	220-240V~/1Ph/50HZ
Heat Exchange		-	Cross Fin Coil
Fan	Type	—	Axial fan
	Motor Output	kW	0.092
	Fan Motor Speed(H/M/L)	rpm	940
Compressor	Type	-	ROTARY
	Motor Output	kW	2.475
Refrigerant	Type	-	R410A
	Control	-	Capillary Tube
	Charge	kg	2.2
Dimensions (W×D×H) (Outline/Package)		mm	1018×412×695/ 1103 ×453×770
Weight(Net/Gross)		kg	59/64
Piping Connections	Liquid	9.52	9.52
	Gas	mm	15.9
	Max. Length	m	30
	Max. Height Difference	m	15

Model	Indoor unit		GFH30K3BI	GFH36K3BI	GFH36K3BI
	Outdoor unit		GUHN30NK3AO	GUHN36NK3AO	GUHN36NM3AO
Nominal Capacity	Cooling	kW	8.3	9.8	9.8
		Btu/h	28320	33440	33440
	Heating	kW	9.1	11	11
		Btu/h	31050	37530	37530
Power Input	Cooling	kW	3.0	4.0	4.0
	Heating	kW	3.0	3.5	3.5
EER/COP		W/W	2.77/3.03	2.45/3.14	2.45/3.14
Indoor Unit			GFH30K3BI	GFH36K3BI	GFH36K3BI
Power Supply		-	220-240V~/1 Ph/50HZ		
Heat Exchange		-	Cross Fin Coil		
Fan	Type	-	Centrifugal fan		
	Drive	-	Direct Driver		
	Motor Output	kW	0.15	0.45	0.5
	Air Flow	m ³ /h	1250/1220/1060	1320/1090/910	1320/1090/910
	Ext. Static Pressure	Pa	37	37	37
Sound Pressure Level(H/M/L)		dB(A)	47/44/42	50/48/46	50/48/46
Air Filter		-	Standard washable synthetic		
Drain Piping		mm	φ20×1.2	φ26×2	φ20×1.2
Dimensions (W×D×H) (Outline/Package)		mm	1270×530×268/ 1348×597×283	1226×775×290/ 1338×837×305	1226×775×290/ 1338×837×305
Weigh(Net/Gross)		kg	37/43	54/61	54/61
Outdoor Unit			GUHN30NK3AO	GUHN36NK3AO	GUHN36NM3AO
Power Supply		-	220-240V~/1Ph/50HZ	220-240V~/1Ph/50HZ	380-415V~/3Ph/50 HZ
Heat Exchange		-	Cross Fin Coil		
Fan	Type	-	Axial fan		
	Motor Output	kW	0.13	0.092	0.092
	Fan Motor Speed(H/M/L)	rpm	780/500	920/780	920/780
Compressor	Type	-	ROTARY	SCROLL	SCROLL
	Motor Output	kW	2.88	3.9	3.65
Refrigerant	Type	-	R410A		
	Control	-	Capillary Tube		
	Charge	kg	3.6	3.2	3.2
Dimensions (W×D×H) (Outline/Package)		mm	980×427×790/ 1083×488×855	1018 ×412×840/ 1103×453×1000	1018 ×412×840/ 1103×453×1000
Weight(Net/Gross)		kg	70/75	90/100	90/100
Piping Connections	Liquid	mm	9.52	12.7	12.7
	Gas	mm	15.9	19.05	19.05
	Max. Length	m	30	50	50
	Max. Height Difference	m	15	30	30

Continued 3

Model	Indoor unit		GFH42K3BI	GFH48K3BI	GFH60K3BI
	Outdoor unit		GUHN42NM3AO	GUHN48NM3AO	GUHN60NM3AO
Nominal Capacity	Cooling	kW	12	14	16
		Btu/h	40940	47770	54600
	Heating	kW	14	15.5	18.5
		Btu/h	47770	52890	63120
Power Input	Cooling	kW	5.3	5.8	6.5
	Heating	kW	4.9	5.4	5.5
EER/COP		W/W	2.26/2.86	2.41/2.87	2.46/3.36
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		
	Air Flow	m ³ /h	1320/1090/910	1320/1090/910	2500/2070/1730
	Ext. Static Pressure	Pa	37	50	50
Sound Pressure Level(H/M/L)		dB(A)	50/48/46	53/50/46	53/50/48
Air Filter		-	Standard washable synthetic		
Drain Piping		mm	φ20×1.2	φ20×1.2	φ32×1.5
Dimensions (W×D×H) (Outline/Package)		mm	1226×775×290/ 1338×837×305	1226×775×290/ 1338×837×305	1226×815×330/ 1338×885×345
Weight(Net/Gross)		kg	54/61	57/67	66/76
Outdoor Unit			GUHN42NM3AO	GUHN48NM3AO	GUHN60NM3AO
Power Supply		-	380-415V~/3 Ph/50HZ		
Heat Exchange		-	Cross Fin Coil		
Fan	Type	-	Axial fan		
	Motor Output	kW	0.15	0.092	0.092
	Fan Motor Speed(H/M/L)	rpm	840	940/510	940/700
Compressor	Type	-	SCROLL		
	Motor Output	kW	4.75	5.2	5.75
Refrigerant	Type	-	R410A		
	Control	-	Capillary Tube		
	Charge	kg	3.55	3.8	5.0
Dimensions (W×D×H) (Outline/Package)		mm	1032×412×1250 /1113×453×1400	1032×412×1250 /1113×453×1400	1032×412×1250 /1113×453×1400
Weight(Net/Gross)		kg	112/123	112/123	123/134
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:

a. Nominal capacities are based on the follow conditions.

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

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

c. 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		GUHN09NK3AO	GUHN12NK3AO	GUHN18NK3AO
Nominal Capacity	Cooling	kW	2.6	3.5	5.0
		Btu/h	8870	11940	17000
	Heating	kW	2.85	3.6	5.7
		Btu/h	9720	12280	19400
Power Input	Cooling	kW	1.0	1.17	2.03
	Heating	kW	1.0	1.1	2.07
EER/ COP		W/W	2.60/2.85	2.99/3.27	2.46/2.75
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	0.01	0.04
	Air Flow	m ³ /h	790/670/550	550/470/380	1070/970/870
Sound Pressure Level(H/M/L)		dB(A)	47/44/41	47/44/41	54/50/46
Air Filter		-	Standard washable synthetic		
Drain Piping		mm	φ17×1.75	φ17×1.75	φ17×1.75
Dimensions (W×D×H) (Outline/Package)		mm	836×695×238/ 938×808×310	836×695×238/ 938×808×310	836×695×238/ 938×808×310
Weight(Net/Gross)		kg	25/32	26/33	26/33
Outdoor Unit			GUHN09NK3AO	GUHN12NK3AO	GUHN18NK3AO
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	0.922	1.185	1.9
Refrigerant	Type	-	R410A		
	Control	-	Capillary Tube		
	Charge	kg	1.1	1.0	1.5
Dimensions (W×D×H) (Outline/Package)		mm	820×320×540 /873×363×605	820×320×540 /873×363×605	820×320×540 /873×363×605
Weight(Net/Gross)		kg	32/37	32/37	40/45
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

Models	Indoor unit		GTH24K3BI
	Outdoor unit		GUHN24NK3AO
Nominal Capacity	Cooling	kW	7.0
		Btu/h	24000
	Heating	kW	8.0
		Btu/h	27300
Power Input	Cooling	kW	2.61
	Heating	kW	2.59
EER/ COP		W/W	2.68/3.09
Indoor Unit			GTH24K3BI
Power Supply		-	220-240V~/1 Ph/50HZ
Heat Exchange		-	Cross Fin Coil
Fan	Type	-	Centrifugal fan
	Drive	-	Direct Driver
	Motor Output	kW	0.05
	Air Flow	m ³ /h	1170/1080/1000
Sound Pressure Level(H/M/L)		dB(A)	50/48/46
Air Filter		-	Standard washable synthetic
Drain Piping		mm	φ17×1.75
Dimensions (W×D×H) (Outline/Package)		mm	1300×600×188 /1417×727×263
Weight(Net/Gross)		kg	33/40
Outdoor Unit			GUHN24NK3AO
Power Supply		-	220-240V~/1 Ph/50HZ
Heat Exchange		-	Cross Fin Coil
Fan	Type	-	Axial fan
	Motor Output	kW	0.092
	Fan Motor Speed	rpm	940/510
Compressor	Type	-	ROTARY
	Motor Output	kW	2.475
Refrigerant	Type	-	R410A
	Control	-	Capillary Tube
	Charge	kg	2.2
Dimensions (W×D×H) (Outline/Package)		mm	1018×412×695/ 1103×453×770
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		GTH30K3B1I	GTH36K3BI	GTH36K3BI
	Outdoor unit		GUHN30NK3AO	GUHN36NK3AO	GUHN36NM3AO
Nominal Capacity	Cooling	kW	8.8	10	9.8
		Btu/h	30030	34120	33430
	Heating	kW	9.8	11	10.78
		Btu/h	33400	37500	36780
Power Input	Cooling	kW	3.0	3.6	3.6
	Heating	kW	2.85	3.3	3.3
EER/ COP		W/W	2.93/3.44	2.78/3.33	2.72/3.27
Indoor Unit			GTH30K3B1I	GTH36K3BI	GTH36K3BI
Power Supply		-	220-240V~/1Ph/50HZ		
Heat Exchange		-	Cross Fin Coil		
Fan	Type	-	Centrifugal fan		
	Drive	-	Direct Driver		
	Motor Output	kW	0.075	0.082	0.082
	Air Flow	m ³ /h	1600/1450/1300	1100/1000/930	1100/1000/930
Sound Pressure Level(H/M/L)		dB(A)	52/51/49	54/51/48	54/51/48
Air Filter		-	Standard washable synthetic		
Drain Piping		mm	φ17×1.75	φ17×1.75	
Dimensions (W×D×H) (Outline/Package)		mm	1420×700×245/ 1548×828×345	1590×695×238/ 1717×833×345	1590×695×238/ 1717×833×345
Weight(Net/Gross)		kg	48/58	48/58	48/58
Outdoor Unit			GUHN30NK3AO	GUHN36NK3AO	GUHN36NM3AO
Power Supply		-	220-240V~/1Ph/50HZ	220-240V~/1Ph/50HZ	380-415V~/3Ph/50HZ
Heat Exchange		-	Cross Fin Coil		
Fan	Type	-	Axial fan		
	Motor Output	kW	0.125	0.092	0.092
	Fan MotorSpeed(H/M/L)	rpm	780/500	920/780	920/780
Compressor	Type	-	ROTARY	SCROLL	SCROLL
	Motor Output	kW	2.88	3.9	3.65
Refrigerant	Type	-	R410A		
	Control	-	Capillary Tube		
	Charge	kg	3.6	3.2	3.2
Dimensions (W×H×D) (Outline/Package)		mm	980×427×790/ 1083×488×855	1018×412×840/ 1103×453×1000	1018×412×840/ 1103×453×1000
Weight(Net/Gross)		kg	70/75	90/100	90/100
Piping Connections	Liquid	mm	9.52	12.7	12.7
	Gas	mm	15.9	19.05	19.05
	Max. Length	m	30	50	50
	Max. Height Difference	m	15	30	30

Models	Indoor unit		GTH42K3BI	GTH48K3BI
	Outdoor unit		GUHN42NM3AO	GUHN48NM3AO
Nominal Capacity	Cooling	kW	12	14
		Btu/h	40940	47770
	Heating	kW	14	15.5
		Btu/h	47770	52890
Power Input	Cooling	kW	4.8	6.1
	Heating	kW	4.7	5.8
EER/ COP		W/W	2.50/2.98	2.30/2.67
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	0.082	0.09
	Air Flow	m ³ /h	1100/1000/930	1320/1280/1240
Sound Pressure Level(H/M/L)		dB(A)	54/51/48	58/55/52
Air Filter		-	Standard washable synthetic	
Drain Piping		mm	φ17×1.75	
Dimensions (W×D×H) (Outline/Package)		mm	1590×695×238/ 1717×833×345	1590×695×238/ 1717×833×345
Weight(Net/Gross)		kg	48/58	48/58
Outdoor Unit		GUHN42NM3AO		GUHN48NM3AO
Power Supply		-	380-415V~/3 Ph/50HZ	
Heat Exchange		-	Cross Fin Coil	
Fan	Type	-	Axial fan	
	Motor Output	kW	0.15	0.092
	Fan Motor Speed(H/M/L)	rpm	840	940/510
Compressor	Type	-	SCROLL	
	Motor Output	kW	4.75	5.2
Refrigerant	Type	-	R410A	
	Control	-	Capillary Tube	
	Charge	kg	3.55	3.8
Dimensions (W×D×H) (Outline/Package)		mm	1032×412×1250/ 1113× 453 ×1400	1032×412×1250/ 1113× 453 ×1400
Weight(Net/Gross)		kg	112/123	
Piping Connections	Liquid	mm	12.7	
	Gas	mm	19.05	
	Max. Length	m	50	
	Max. Height Difference	m	30	

Note:

a. Nominal capacities are based on the follow conditions.

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

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

c. 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		GUHN12NK3AO	GUHN18NK3AO	GUHN24NK3AO
Nominal Capacity	Cooling	kW	3.5	5.0	6.8
		Btu/h	11940	17060	23200
	Heating	kW	3.6	5.4	7.5
		Btu/h	12280	18430	25600
Power Input	Cooling	kW	1.17	2.0	2.62
	Heating	kW	1.1	1.9	2.5
EER/COP		W/W	2.99/3.27	2.50/2.84	2.60/3.00
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	0.01	0.01	0.037
	Air Flow	m ³ /h	820/720/620	820/720/620	1180/1080/1000
Sound Pressure Level(H/M/L)		dB(A)	47/45/43		
Air Filter		-	Standard washable synthetic		
Drain Piping		mm	φ31×3	φ32×3	φ32×3
Indoor Unit Dimensions (Outline/Package) (W×D×H)		mm	600×600×230/ 851×681×325	600×600×230/ 851×681×325	840×840×240/ 963×963×325
Panel Dimensions (Outline/Package) (W×D×H)		mm	650×650×50/ 733×673×117	650×650×50/ 733×673×117	950×950×60/ 1028×1043×130
Weight(Net/Gross)		kg	20/27	20/27	27/36
Outdoor Unit			GUHN12NK3AO	GUHN18NK3AO	GUHN24NK3AO
Power Supply		-	220-240V~/1 Ph/50HZ		
Heat Exchange		-	Cross Fin Coil		
Fan	Type	-	Axial fan		
	Motor Output	kW	0.048	0.048	0.092
	Fan Motor Speed(H/M/L)	rpm	900	900	940/510
Compressor	Type	-	ROTARY		
	Motor Output	kW	1.185	1.9	2.475
Refrigerant	Type	-	R410A		
	Control	-	Capillary Tube		
	Charge	kg	1.0	1.5	2.2
Dimensions (W×D×H) (Outline/Package)		mm	820×320×540/ 873×363×605	820×320×540/ 873×363×605	1018×412×695/ 1103×453×770
Weight(Net/Gross)		kg	32/37	40/45	59/64
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

Continued

Models	Indoor unit		GKH30K3BI
	Outdoor unit		GUHN30NK3AO
Nominal Capacity	Cooling	kW	8.3
		Btu/h	28320
	Heating	kW	8.8
		Btu/h	30020
Power Input	Cooling	kW	2.9
	Heating	kW	3.15
EER/COP		W/W	2.86/2.79
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	670/620/570
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×D×H)		mm	840×840×240/ 963×963×325
Panel Dimensions (Outline/Package) (W×D×H)		mm	950×950×60/ 1028×1043×130
Weight(Net/Gross)		kg	27/36
Outdoor Unit			GUHN30NK3AO
Power Supply		-	220-240V~/1 Ph/50HZ
Heat Exchange		-	Cross Fin Coil
Fan	Type	-	Axial fan
	Motor Output	kW	0.13
	Fan Motor Speed(H/M/L)	rpm	780/500
Compressor	Type	-	SCROLL
	Motor Output	kW	2.88
Refrigerant	Type	-	R410A
	Control	-	Capillary Tube
	Charge	kg	3.6
Dimensions (W×D×H) (Outline/Package)		mm	980×427×790/ 1083×488×855
Weight(Net/Gross)		kg	70/75
Piping Connections	Liquid	mm	9.52
	Gas	mm	15.9
	Max. Length	m	30
	Max. Height Difference	m	15

Models	Indoor unit		GKH36K3BI	GKH36K3BI
	Outdoor unit		GUHN36NK3AO	GUHN36NM3AO
Nominal Capacity	Cooling	kW	10	10
		Btu/h	34120	34120
	Heating	kW	11	11
		Btu/h	37530	37530
Power Input	Cooling	kW	3.6	3.6
	Heating	kW	3.3	3.1
EER/COP		W/W	2.78/3.33	2.78/3.55
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	710/660/610	
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×D×H)		mm	840×840×320/ 963×963×409	
Panel Dimensions (Outline/Package) (W×D×H)		mm	950×950×60/ 1028×1043×130	
Weight(Net/Gross)		kg	32/43	
Outdoor Unit			GUHN36NK3AO	GUHN36NM3AO
Power Supply		-	220-240V~/1Ph/50HZ	380-415V~/3Ph/50HZ
Heat Exchange		-	Cross Fin Coil	
Fan	Type	-	Axial fan	
	Motor Output	kW	0.092	
	Fan Motor Speed(H/M/L)	rpm	920/780	
Compressor	Type	-	SCROLL	
	Motor Output	kW	3.9	3.60
Refrigerant	Type	-	R410A	
	Control	-	Capillary Tube	
	Charge	kg	3.2	
Dimensions (W×D×H) (Outline/Package)		mm	1018×412×840/ 1103×453×1000	
Weight(Net/Gross)		kg	90/100	
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		GUHN42NM3AO		GUHN48NM3AO	
Nominal Capacity	Cooling	kW	12		14	
		Btu/h	40940		47770	
	Heating	kW	14		15.5	
		Btu/h	47770		52890	
Power Input	Cooling	kW	4.8		5.8	
	Heating	kW	5.0		6.2	
EER/COP		W/W	2.5/2.8		2.41/2.50	
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	710/660/610		710/660/610	
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×D×H)		mm	840×840×320/ 963×963×409			
Panel Dimensions (Outline/Package) (W×D×H)		mm	950×950×60/ 1028×1043×130			
Weight(Net/Gross)		kg	32/43			
Outdoor Unit			GUHN42NM3AO		GUHN48NM3AO	
Power Supply		-	380-415V~/3 Ph/50HZ			
Heat Exchange		-	Cross Fin Coil			
Fan	Type	-	Axial fan			
	Motor Output	kW	0.14		0.092	
	Fan Motor Speed(H/M/L)	rpm	840			
Compressor	Type	-	SCROLL			
	Motor Output	kW	4.75		5.2	
Refrigerant	Type	-	R410A			
	Control	-	Capillary Tube			
	Charge	kg	3.55		3.8	
Dimensions () (Outline/Package) (W×D×H)		mm	1032×412×1250/ 1113×453×1400			
Weight(Net/Gross)		kg	112/123			
Piping Connections	Liquid	mm	12.7			
	Gas	mm	19.05			
	Max. Length	m	50			
	Max. Height Difference	m	30			

Note:

a. Nominal capacities are based on the follow conditions.

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

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

c. 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°C (°F)
Cooling	18°C-43°C -7°C-43°C(with low Ambient kit)
Heating	-7°C-24°C

4.3 Electrical Data

Model		Compressor				Fan Motor		Max. Fuse Breaker Size (Indoor/Outdoor)	Min. Disconnect Size (Indoor/Outdoor)
		Power Supply	Qty.	LRA	RLA	Condenser Fan Motors	Supply Blower Motor		
		V,Ph,Hz	-	Each	Each	FLA Each	FLA Each	Amperes	Amperes
GUHN09NK3AO	GFH09K3BI	220-240, 1, 50	1	18	4.28	0.27	0.18	6/16	6/16
	GTH09K3BI						0.09	6/16	6/16
GUHN12NK3AO	GFH12K3BI		1	32	5.6	0.27	0.18	6/16	6/16
	GTH12K3BI						0.09	6/16	6/16
	GKH12K3BI						0.1	6/16	6/16
GUHN18NK3AO	GFH18K3BI		1	40	8.8	0.27	0.63	6/20	6/20
	GTH18K3BI						0.36	6/20	6/20
	GKH18K3BI						0.1	6/20	6/20
GUHN24NK3AO	GFH24K3BI		1	60	11.2	0.61	1.35	6/25	6/25
	GTH24K3BI						0.9	6/25	6/25
	GKH24K3BI						0.32	6/25	6/25
GUHN30NK3AO	GFH30K3BI		1	68	13.5	0.8	1.1	6/25	6/25
	GTH30K3BI	0.45					6/25	6/25	
	GKH30K3BI	0.7					6/25	6/25	
GUHN36NK3AO	GFH36K3BI	1	112	18.32	0.8	4.5	10/32	10/32	
	GTH36K3BI					1.35	6/32	6/32	
	GKH36K3BI					0.54	6/32	6/32	
GUHN36NM3AO	GFH36K3BI	1	67	6.58	0.8	4.5	10/16	10/16	
	GTH36K3BI					1.35	6/16	6/16	
	GKH36K3BI					0.54	6/16	6/16	
GUHN42NM3AO	GFH42K3BI	1	66	8.22	0.8	4.5	10/20	10/25	
	GTH42K3BI					1.35	6/20	6/25	
	GKH42K3BI					0.54	6/20	6/25	
GUHN48NM3AO	GFH48K3BI	1	59.4	8.9	0.8	4.5	10/25	10/25	
	GTH48K3BI					1.62	6/25	6/25	
	GKH48K3BI					0.54	6/25	6/25	
GUHN60NM3AO	GFH60K3BI	1	67	9.77	0.8	4.5	10/25	10/25	

Notes:

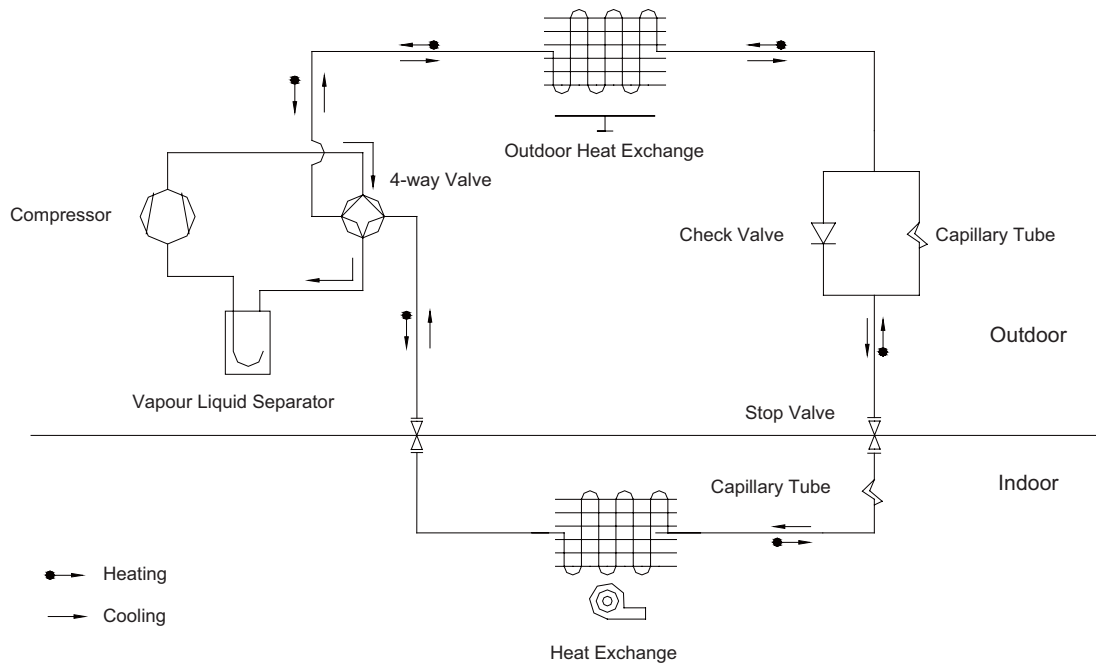
RLA:Rated load amperes

LRA:Locked rotor amperes

FLA:Full load current



5 PIPING DIAGRAM

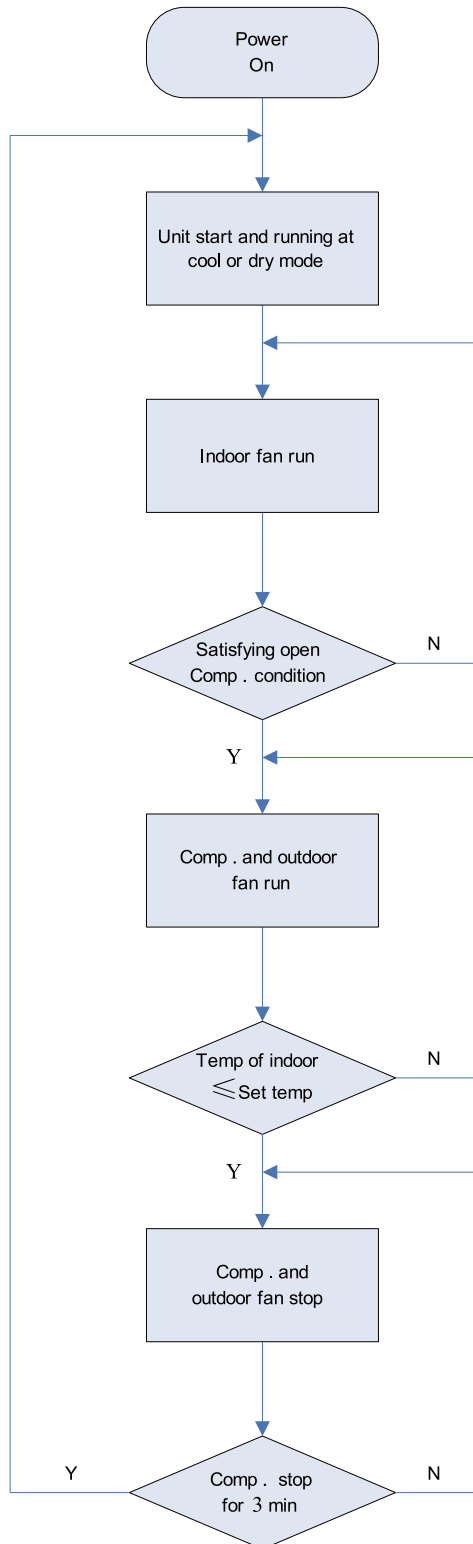


CONTROL

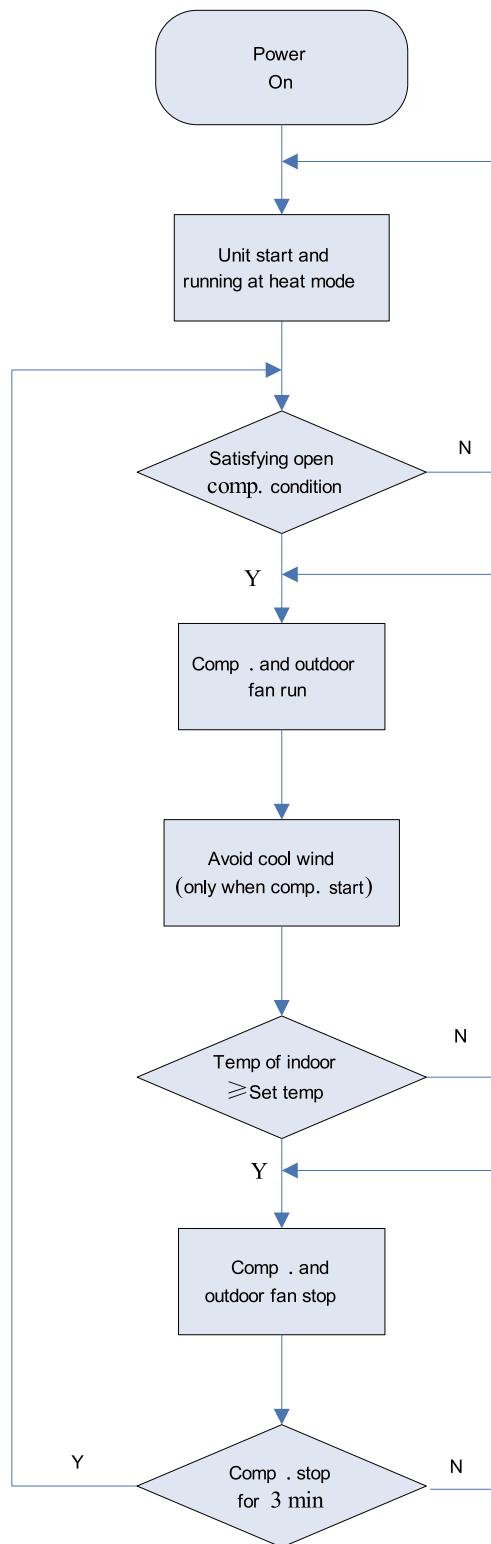
CONTROL

1 OPERATION FLOWCHART

1.1 Cooling/Dry Operation

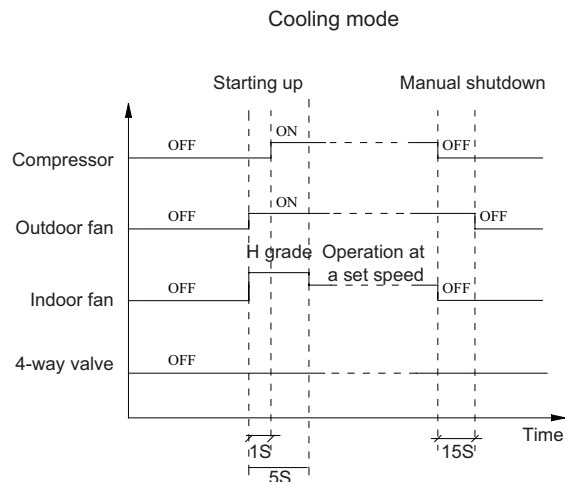


1.2 Heating Operation



2 MAIN LOGIC

2.1 Cooling

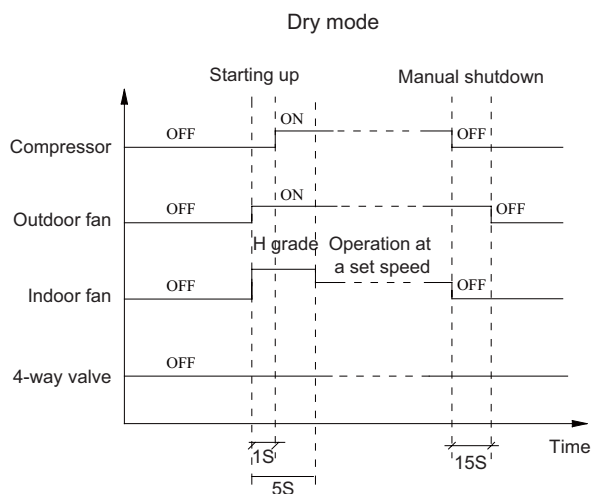


When $T_{amb.} \geq T_{preset} + 1^{\circ}\text{C}$, the unit begins cooling operation and the compressor and the outdoor fan are running; and the indoor fan is running at a set speed.

When $T_{amb.} \leq T_{preset} - 1^{\circ}\text{C}$, the unit is in the cooling shutdown state, and the compressor and the outdoor fan stop running; and the indoor fan is running at a set speed.

When $T_{preset} - 1^{\circ}\text{C} < T_{amb.} < T_{preset} + 1^{\circ}\text{C}$, the unit keeps in the operation state.

2.2 Dry Mode

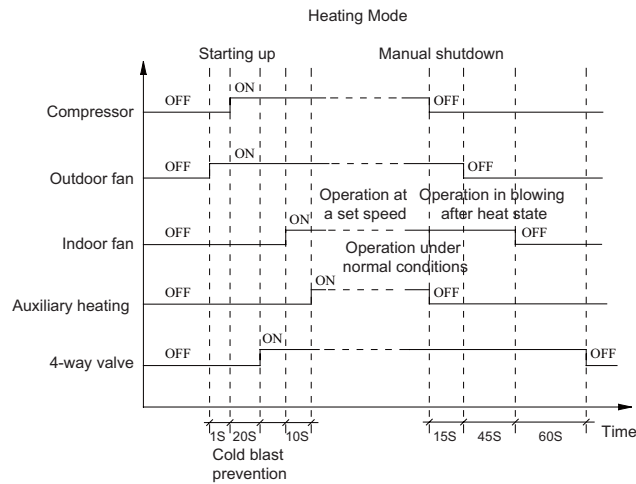


When $T_{amb.} \geq T_{preset} + 2^{\circ}\text{C}$, the unit begins cooling operation and the compressor and the outdoor fan are running; and the indoor fan is running at a low speed.

When $T_{amb.} \leq T_{preset} - 2^{\circ}\text{C}$, the unit is in the cooling shutdown state and the compressor and the outdoor fan stop running.

When $T_{preset} - 2^{\circ}\text{C} < T_{amb.} < T_{preset} + 2^{\circ}\text{C}$, the unit is in the six-minute stop and four-minute operation state, that is, the compressor runs for 6 minutes and then stops for 4 minutes, in such cycle repeatedly; and the indoor fan operates at a low speed.

2.3 Heating Mode

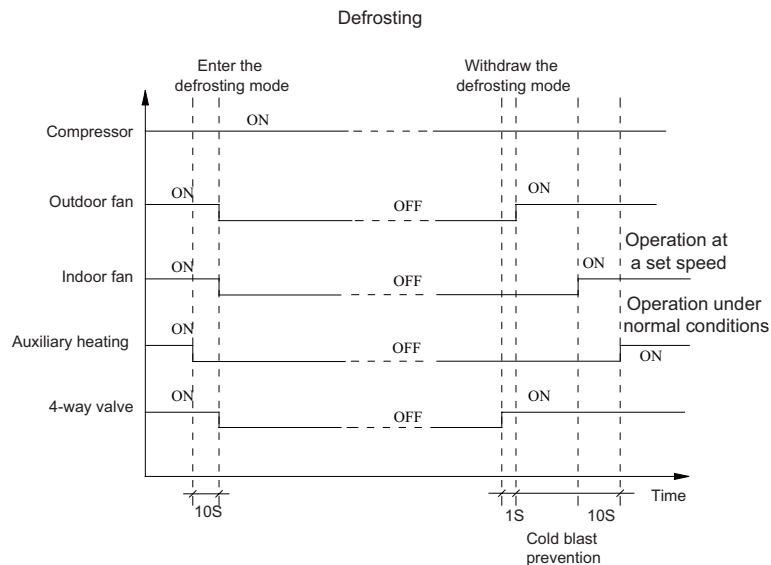


When $T_{amb.} \leq T_{preset} - 1^{\circ}\text{C}$, the unit begins heating operation and the compressor and the outdoor fan are running; and the indoor fan is running at a set speed according to cold fan prevention conditions.

When $T_{amb.} \geq T_{preset} + 1^{\circ}\text{C}$, the compressor and the outdoor fan stop running and the four-way valve keeps energized; and the indoor fan is running according to afterheat blowing conditions.

When $T_{Set} - 1^{\circ}\text{C} < T_{amb.} < T_{preset} + 1^{\circ}\text{C}$, the unit keeps in the previous operation state.

2.4 Defrosting

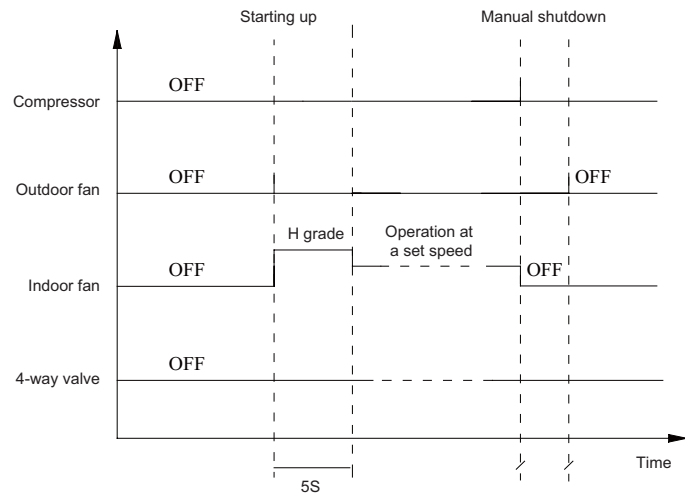


Defrosting start conditions: after the heating operation runs for an accumulated period of 44 minutes and the compressor continues to operate for 4 hours and 50 seconds, and a one-minute duration of $T_{cond.} \leq -5^{\circ}\text{C}$ is detected, the unit begins defrosting. If an auxiliary heater is available, it must be stopped firstly, and after 10 seconds, the four-way valve, the indoor fan, the outdoor fan and the compressor will run compulsively.

Defrosting completion conditions: when defrosting runs 10 minutes or $T_{cond.} \geq 10^{\circ}\text{C}$, defrosting will be completed. In such case, the four-way valve is running, the outdoor fan is running, the compressor is running compulsively, and the indoor fan operates according to cooling fan proof conditions.



Fan Mode

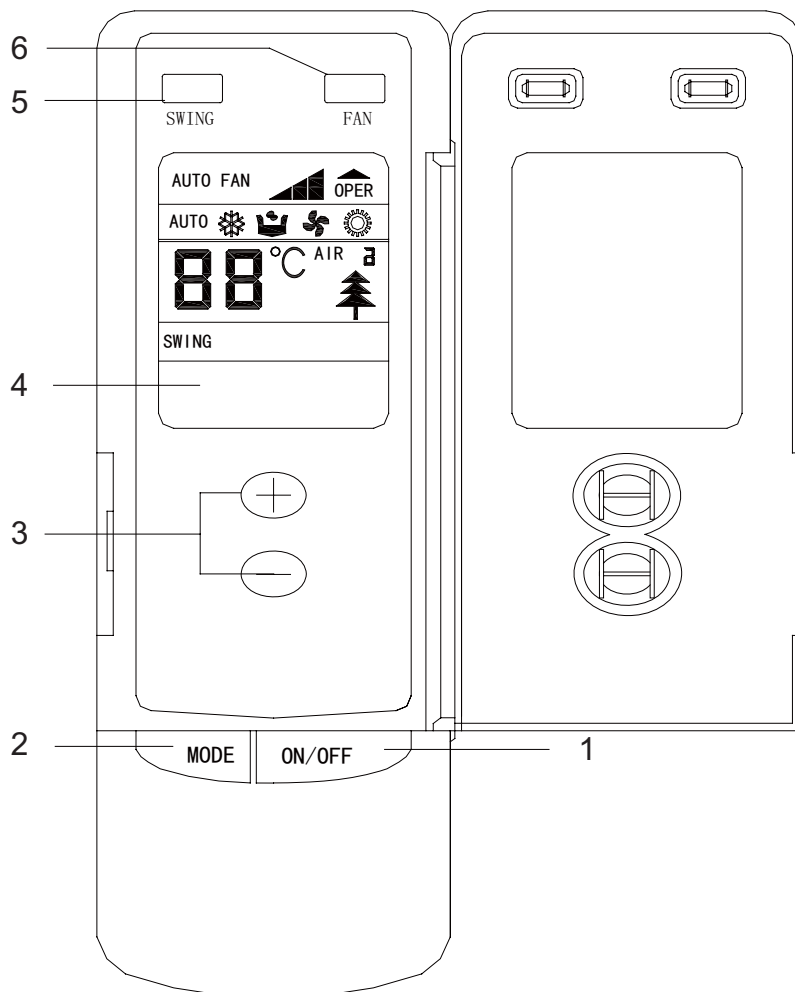


The indoor fan runs at a fast speed for 5s and then runs at a set speed.

3 WIRELESS REMOTE CONTROLLER

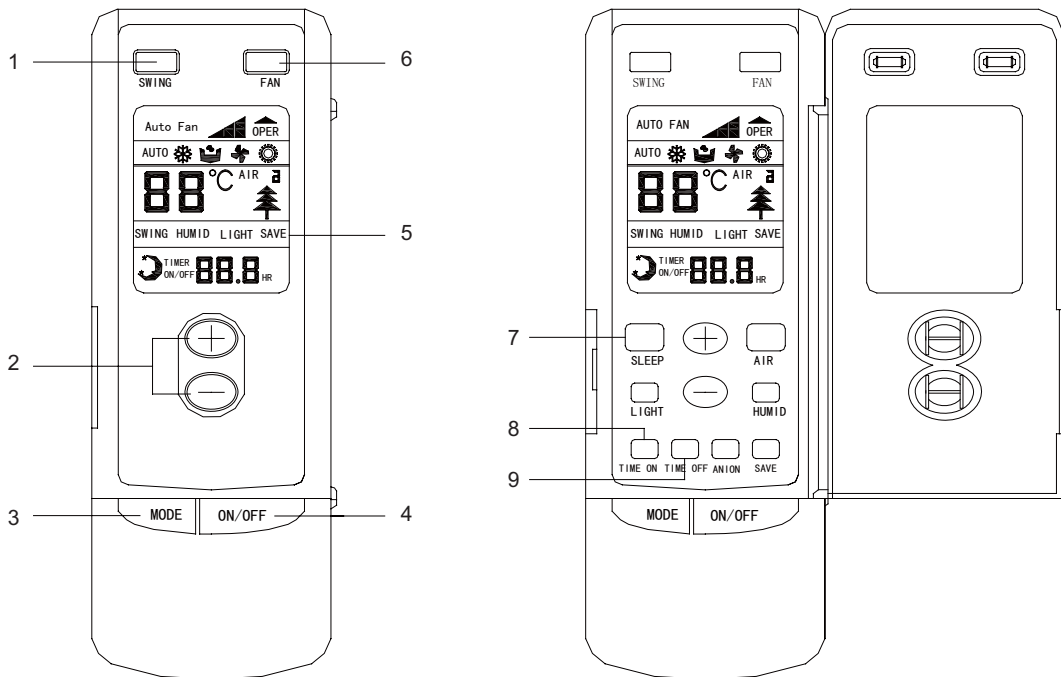
3.1 Operation View

(1) Controller-Duct Type



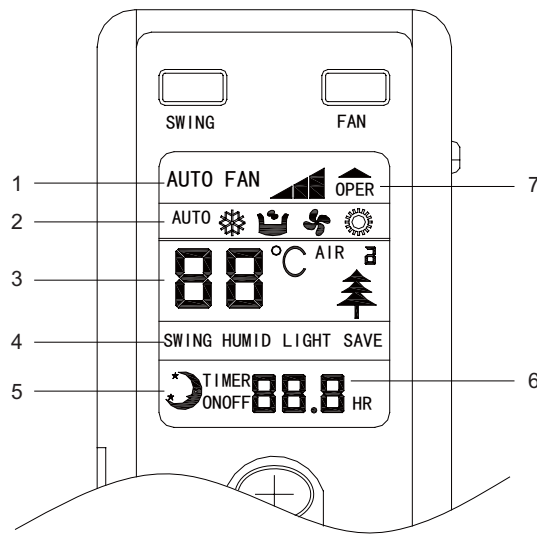
NO.	Name	Function description
1	ON/OFF button	Press the button to set start or close unit
2	Mode button	Press the button to select the mode, cooling , heating , fan or auto mode.
3	Increase/Decrease button	Press this button to increase/decrease the setup temp
4	LCD Screen	Display the status of remote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

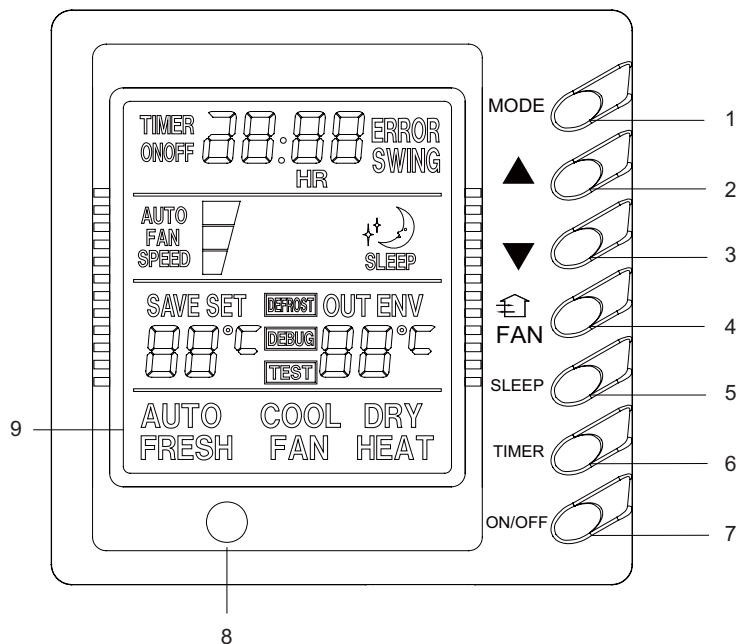


No.	Display	Function description
1	Fan Speed	AUTO FAN : auto fan speed; : low fan speed; : middle fan speed; : high fan speed;
2	Run Mode	AUTO : Auto running; : Cool running; : Dry Running; : Fan Running; : Heat running (Heat and Cool unit only)
3	Setup temp	Temperature value of setting
4	Swing function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

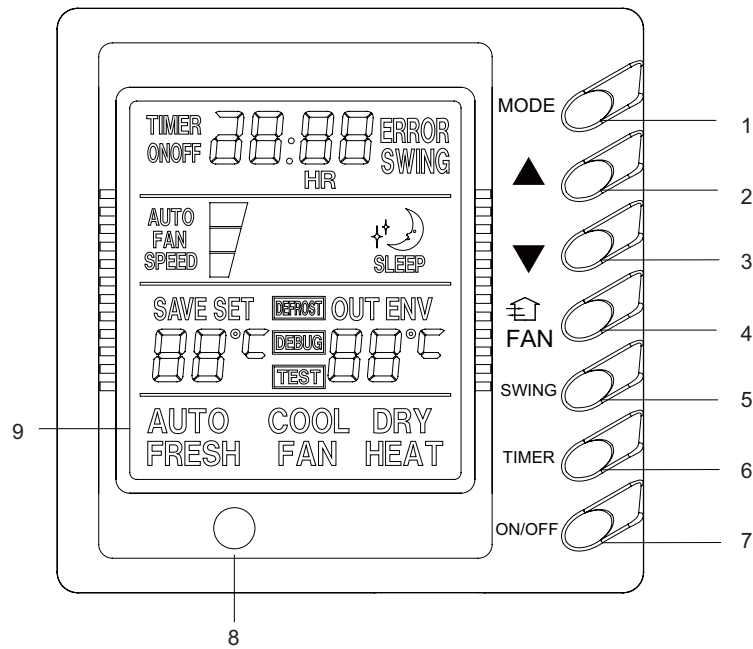
4 WIRED REMOTE CONTROLLER

4.1 Operation View

(1) Wired Controller-Duct Type



(2) Wired Controller-Cassette Type and Ceiling Type

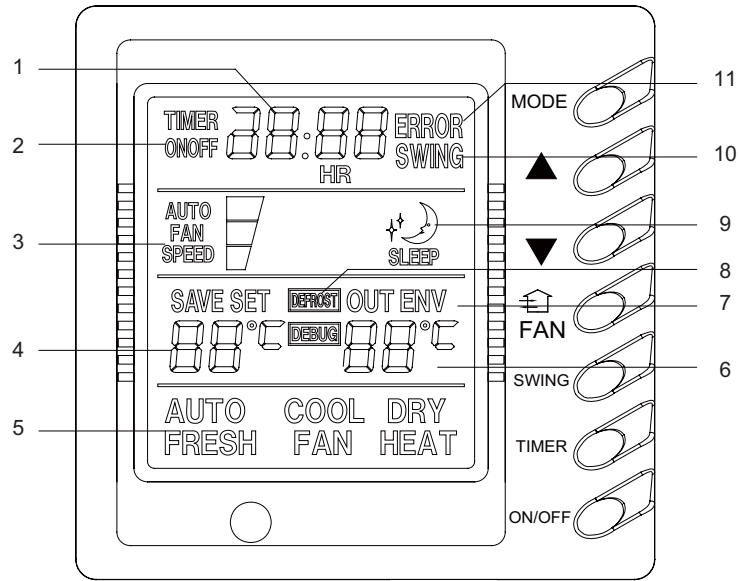


NO.	Name	Function description
1	MODE button	Press the button to select the mode, cooling , heating , fan or auto mode.
2	Increasing button	Press this button to increase the setup temp.
3	Decreasing button	Press this button to decrease the setup temp.
4	Fan speed button	Press this button to set fan speed
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 set start or close unit
8	Remote window	Get remote information
9	LCD display	Display unit information

Note:

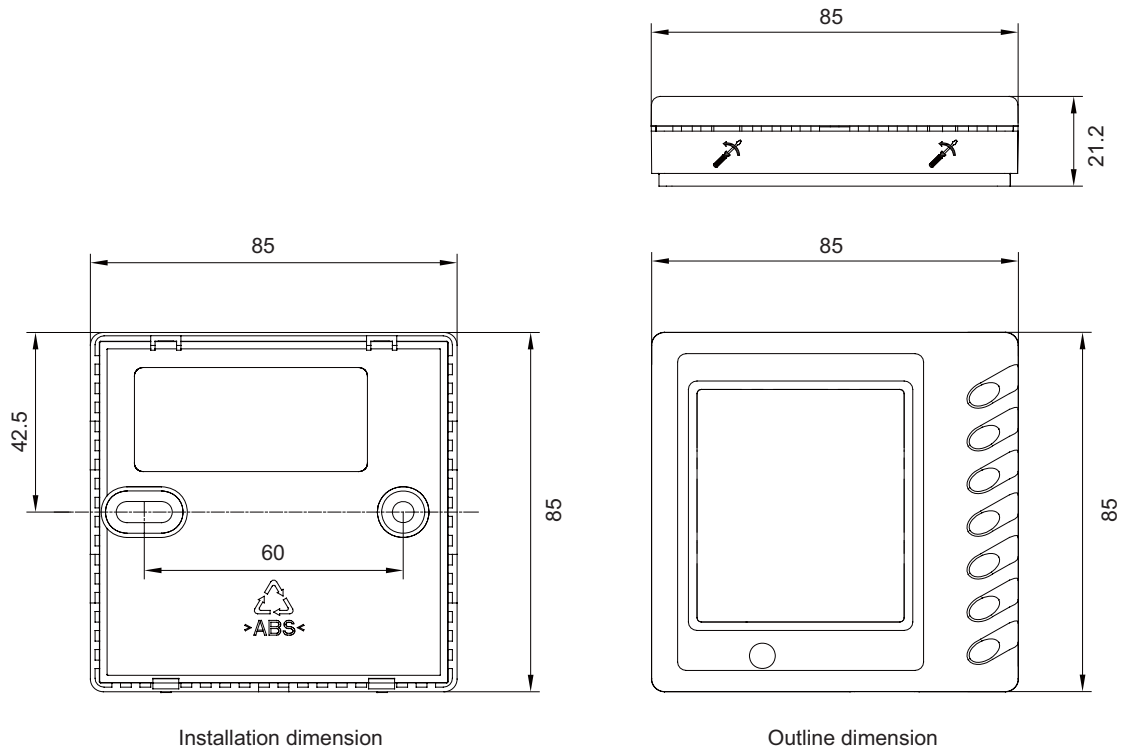
- a. SAVE set up: At unit turned off, to press the “FAN” + “▼” buttons continuously 5 seconds, it can come enter save set up interphase, the unit will run at save mode.
- b. FRESH valve setup : At unit is turned off, press the “ FAN” button for 5seconds,And set up the fresh air setup.
- c. Outer ambient 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”.
- d. 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.
- e. 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.
- f. 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; 7:low fan speed; □:middle fan speed; ▨:high fan speed
4	Set temp display	Display set temp value, its range is 16~30 °C
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



Installation dimension

Outline 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.

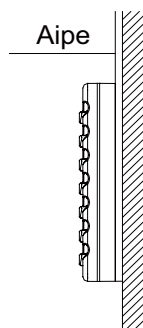


Fig6:Surface Mounting of Cable

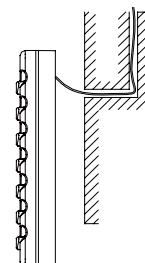


Fig7:Concealed mounting of Cable

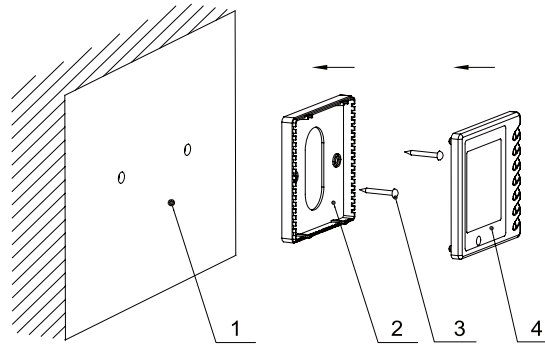


Fig 8 :Schematic Diagram of Installation

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



Caution:

- The communication distance between the main board and the wire controller can be as far as 20m (The standard distance is 8m).
- The wire controller shall not be installed in a place where there is water drop or large amount of water vapor.

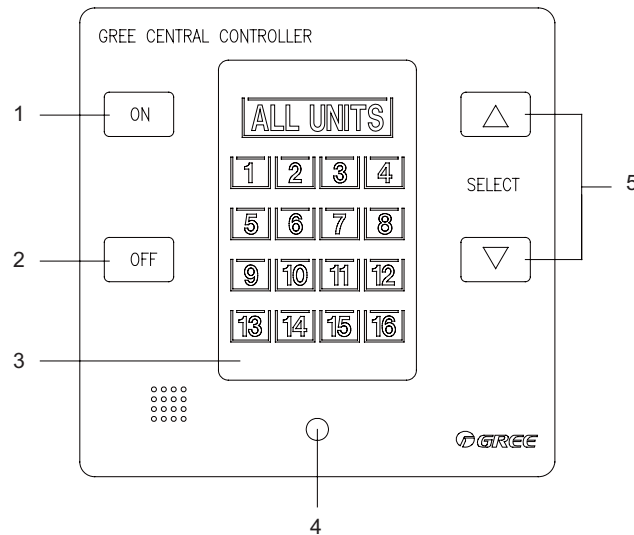
5 CENTRALIZED CONTROLLER

5.1 Centralized Controller-not with week timer

5.1.1 Function

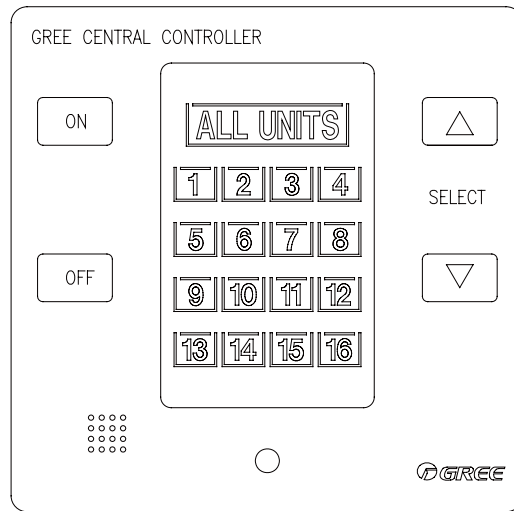
Centralized Controller-not with week timer only control on-off function of every units. Up to 16 sets of units can be controlled simultaneously by the centralized controller-not with week timer.

5.1.2 Operation View



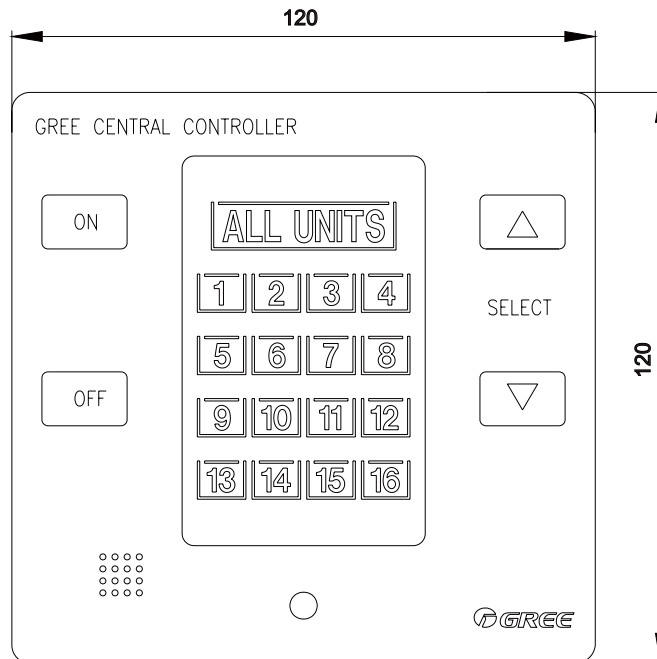
NO.	Name	Function description
1	ON button	Press the button to set start unit
2	OFF button	Press the button to set close unit
3	LCD display	Display unit information
4	LED	LED indication
5	Increasing / Decreasing button	Press buttons select the unit

5.1.3 Display View



Display unit address value in the net.

5.1.4 Dimensions

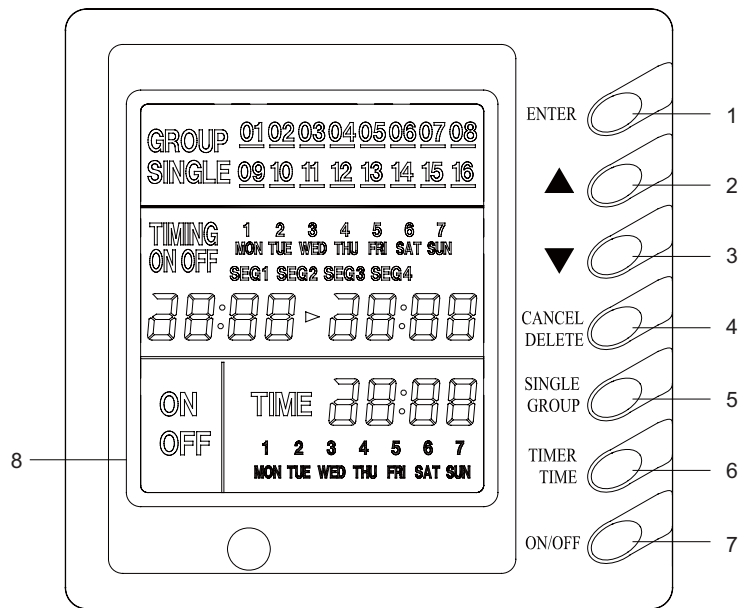


5.2 Centralized Controller-week timer

5.2.1 Function

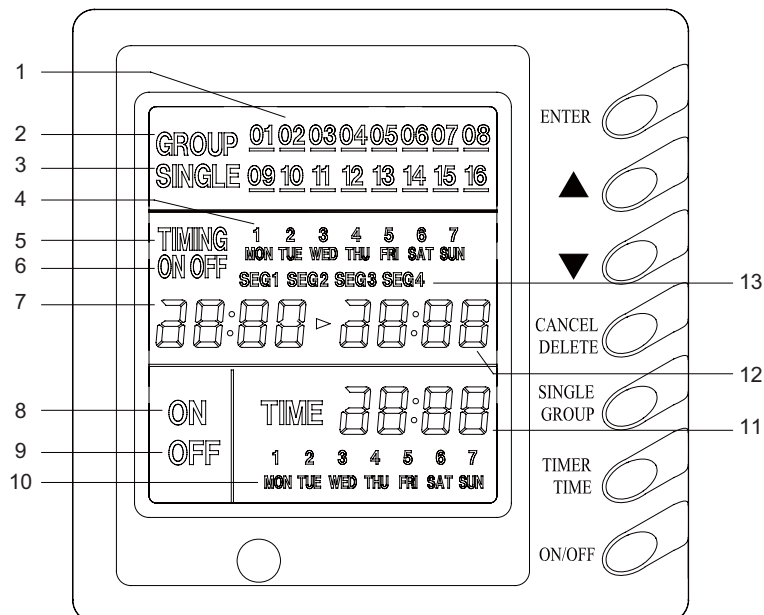
Centralized Control and Week Timer Functions: The centralized controller and the weekly timer are integrated in the same wire controller. The system has both the centralized control and the week timing functions. Up to 16 sets of units can be controlled simultaneously by the centralized controller (weekly 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

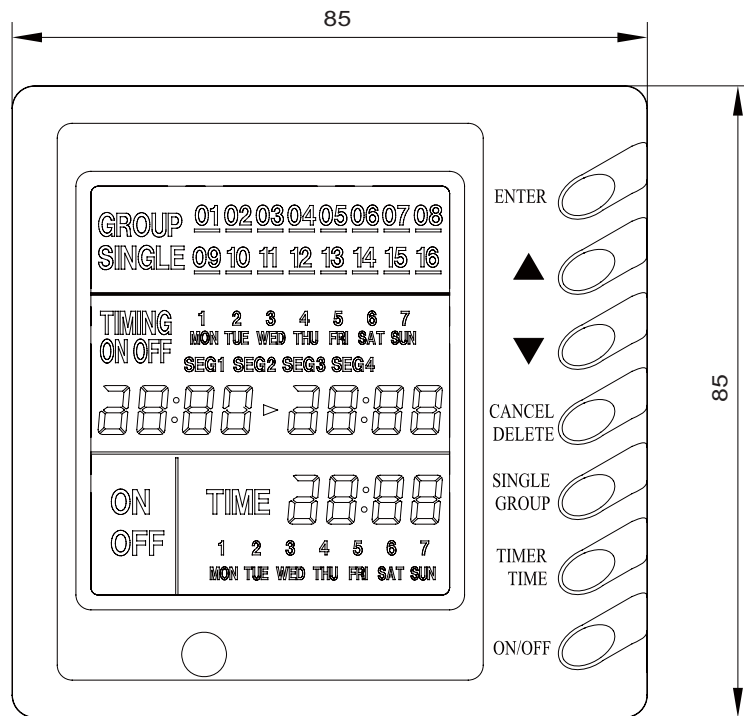


NO.	Name	Function description
1	unit's no. displays	Display unit's numbers
2	Group control displays	when group controls, it will display
3	Single control displays	when single unit controls, it will display
4	Timer time in week displays	Display time in week
5	Timer displays	Display time
6	timer state 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

The centralized controller displays code of various units: unit code is determined by the position (on the back of the manual operator) of the toggle switch of the manual operator on each flue pipe air conditioner. Toggling values are corresponding to the 4-1 feet from the right to left of the toggle switch. "ON" stands for "0", and conversely, "OFF" stands for "1"

Example 1: to get "0111", which represents the serial number "8", you can put foot 1, 2 and 3 of the toggle switch to the opposite of "ON" and foot 4 to "ON".

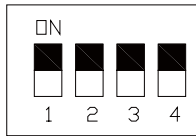
Example 2: to get "1010", which represents the serial number "11", you can put foot 2 and 4 of the toggle switch to the opposite of "ON" and foot 1 and 3 to "ON".



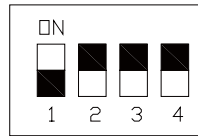
Position	Serial No.	Position	Serial No.	Position	Serial No.	Position	Serial No.
0000	1	0100	5	1000	9	1100	13
0001	2	0101	6	1001	10	1101	14
0010	3	0110	7	1010	11	1110	15
0011	4	0111	8	1011	12	1111	16

As shown in the following diagram:

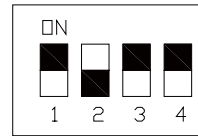
Unit code:1
0000



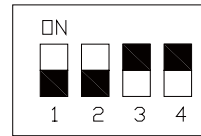
Unit code:2
0001



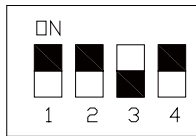
Unit code:3
0010



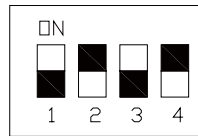
Unit code:4
0011



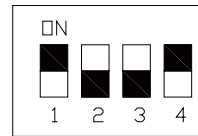
Unit code:5
0100



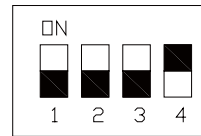
Unit code:6
0101



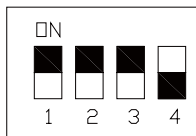
Unit code:7
0110



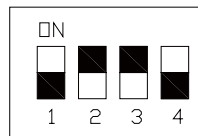
Unit code:8
0111



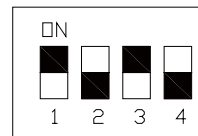
Unit code:9
1000



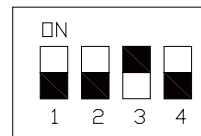
Unit code:10
1001



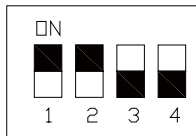
Unit code:11
1010



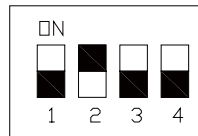
Unit code:12
1011



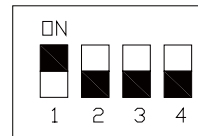
Unit code:13
1100



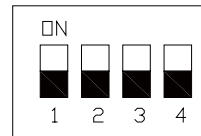
Unit code:14
1101



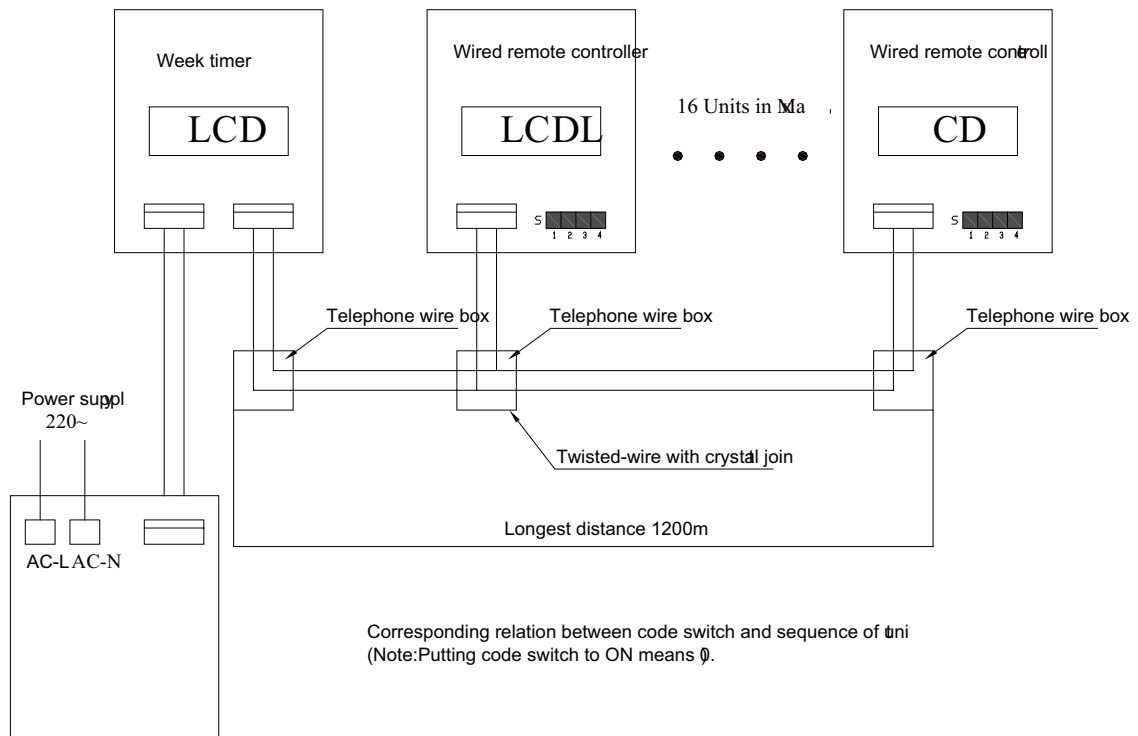
Unit code:15
1110



Unit code:16
1111



5.4 Control Wiring Design



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

- ◆ When the unit arrives, please check if any damage due to transport is existent. If any hurt is found on the surface or inside, please declare to the transport company or the manufacturer in writing.
- ◆ Upon receipt of the unit, the unit and accessories shall be checked in accordance with the packing list. Before acceptance, it must be confirmed that the model is correct and the unit is in good shape and specification and quantity of accessories are right.
- ◆ Correct handling route and method shall be decided to prevent damage to the unit. For protecting the unit and ensuring its safety, carrying the unit with its package is recommended. If such carrying method is difficult under particular conditions, the carton shall not be removed to avoid looseness or falling during handling
- ◆ Confirm the foundation is secure. When the unit is installed on the metal part of a building, electrical insulation must be in compliance with relevant standards.
- ◆ Confirm the installation position is away from storage zone of inflammable and explosive substances, or otherwise leakage of inflammable and explosive substances may lead to explosion or a fire.

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. Ceiling installation mode is applicable to units indoors. The suspender on the ceiling must have sufficient intensity to bear the weight of the unit.
2. Rubber cushion pads (thickness $\geq 20\text{mm}$) and flexible rubber connectors must be used in the installation of units to meet noise and vibration prevention requirements.
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.

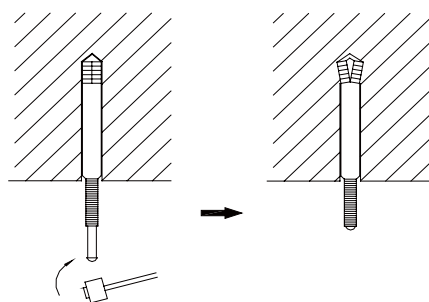


Figure 1-1-1

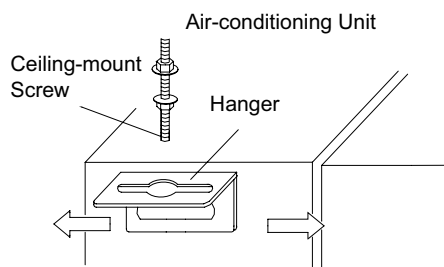


Figure 1-1-2

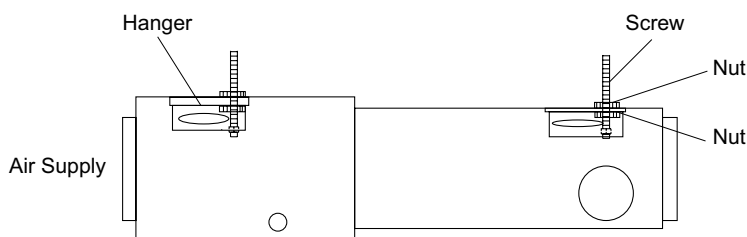


Figure 1-1-3

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 1-1-5 shows.

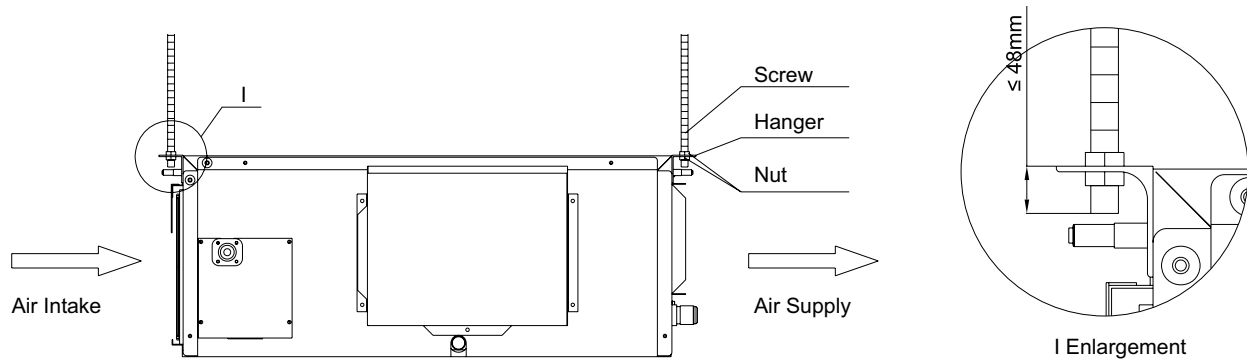


Figure 1-1-5

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. Level detection of indoor unit

After installation of indoor unit, level detection for the complete unit must be done to ensure levelness, as shown in Fig. 1-1-6.

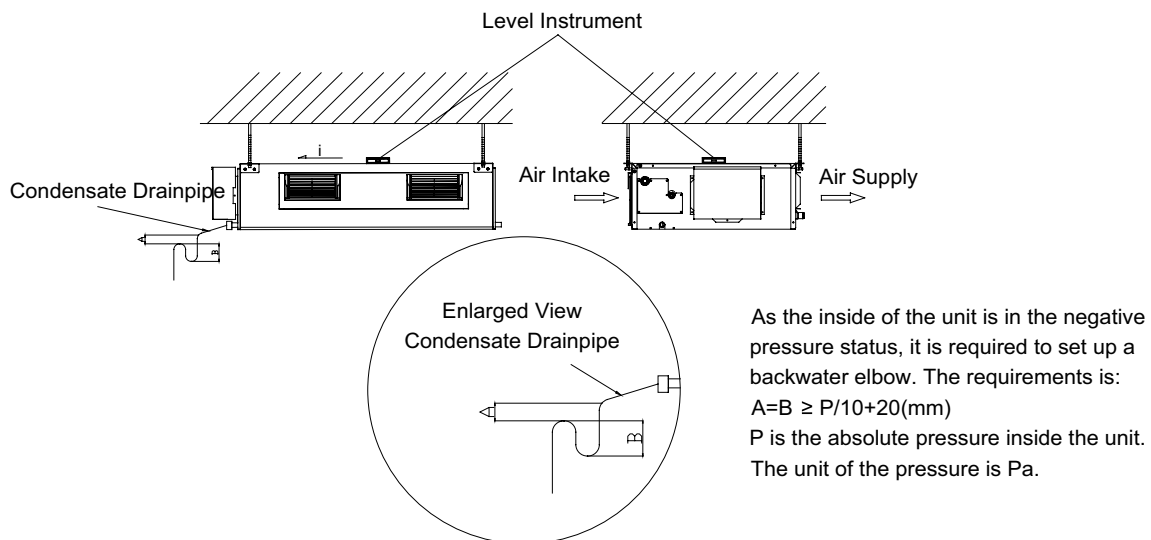


Figure 1-1-6

1.1.4 Dimension Data

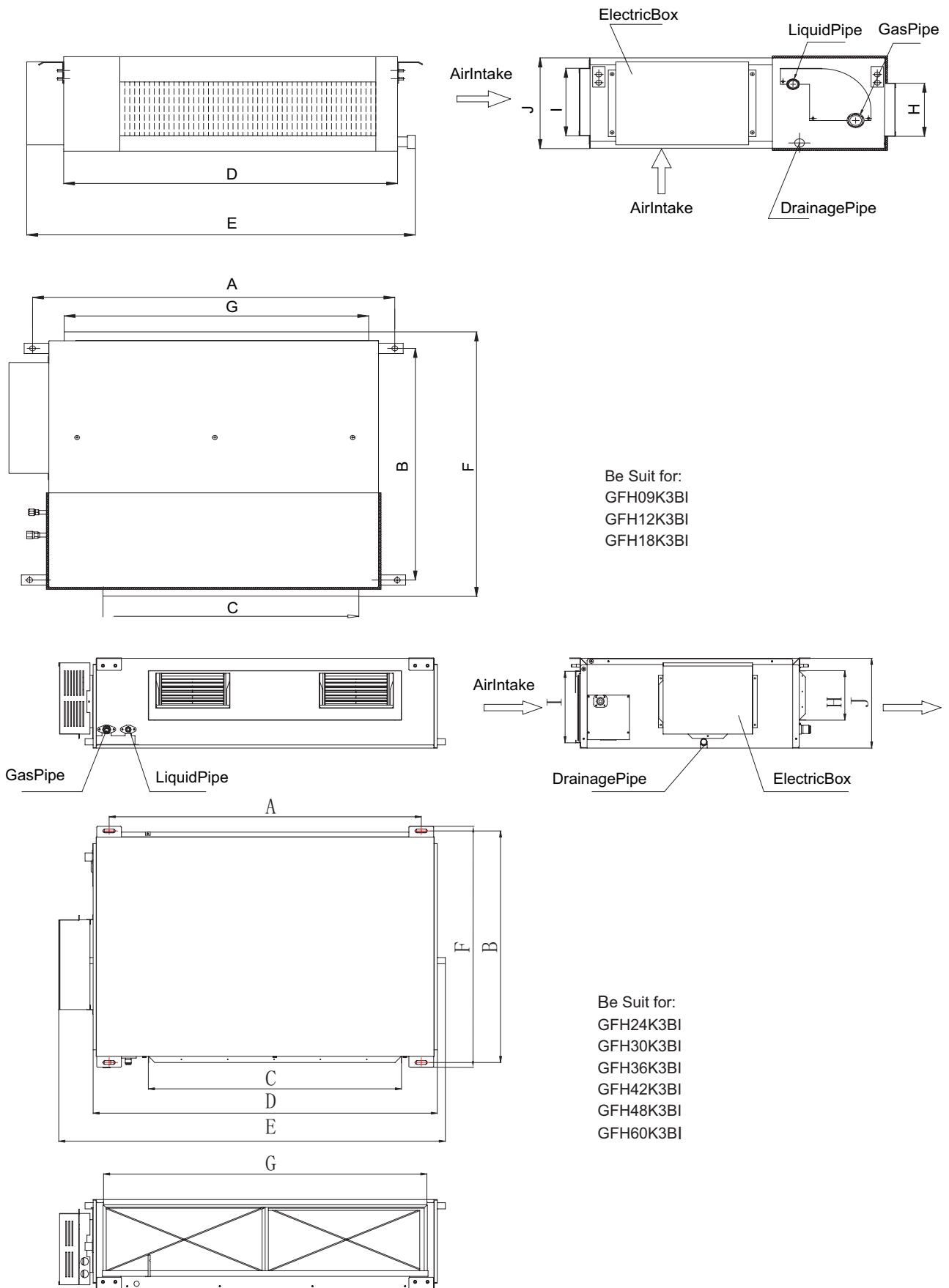


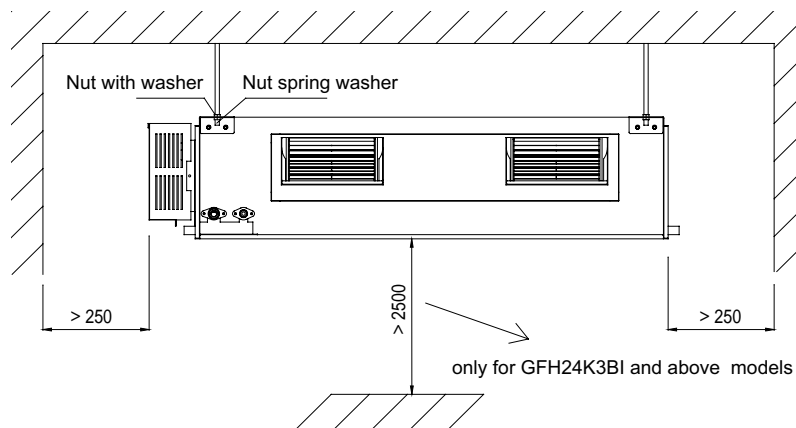
Figure 1-1-7

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	430	738	894	1012	736	738	125	207	266
GFH24K3BI	1101	515	820	1159	1270	530	1002	160	235	268
GFH30K3BI										
GFH36K3BI	1011	748	820	1115	1226	775	979	160	231	290
GFH42K3BI										
GFH48K3BI										
GFH60K3BI	1015	788	820	1115	1226	815	979	160	261	330

List of Accessories for Installation of Indoor Unit

Designation and shape	Qty	Description
Operation and installation instructions	1	
Heat insulating material for large connector	1	For air pipe connector of indoor unit
Heat insulating material for small connector	1	For refrigerant pipe connector of indoor unit
Heat insulation material for drain pipe	2	For packing condensate pipe and rubber plug
Nut with washer M8	8	For fixing the hanging hook Four sets, for hoisting the unit on the ceiling
Nut with washer M10	4	
Nut and spring washer	4	
Hanging hook	4	
Wire binding tie	4or 8	4 for a two-horsepower unit, 8 for other unit.
Wire controller	1	
Remote controller	1	
Battery	2	
Bellow	0-2 or 4	0 for a 2-powerhorse unit, 2 for a 2.5-3 horsepower unit, 4 for a 4-5 horsepower unit.
Power cable	1-2	2 for a 4-5 horsepower unit and 1 for other unit.
Connecting cable	2-3	3 for a 4-5 horsepower unit and 2 for other unit.

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 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 1-1-9)
- ◆ 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.

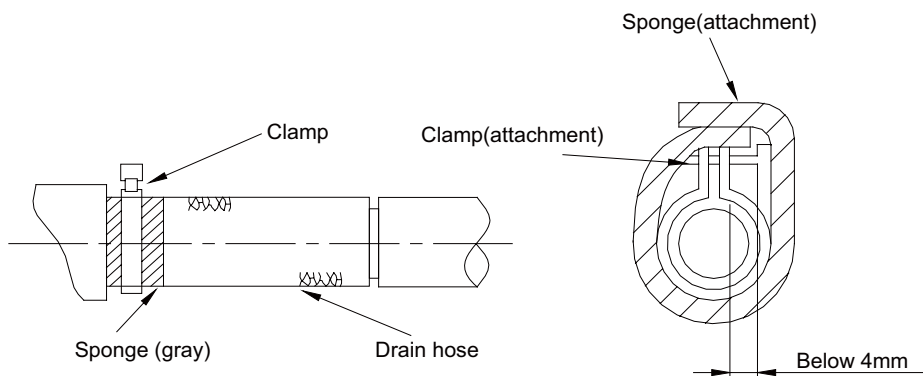


Figure 1-1-9

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.
- ◆ 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)

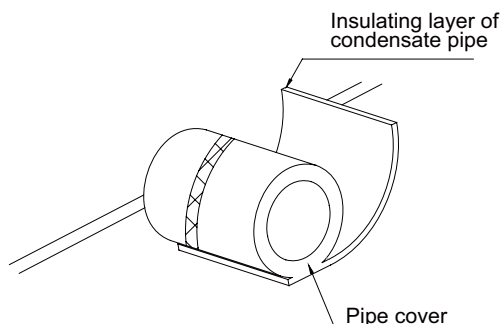


Figure 1-1-10

1.1.7 Installation of air pipes and openings

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 air supply duct

- ◆ Installation of rectangular air duct, as shown in Figure 1-1-11

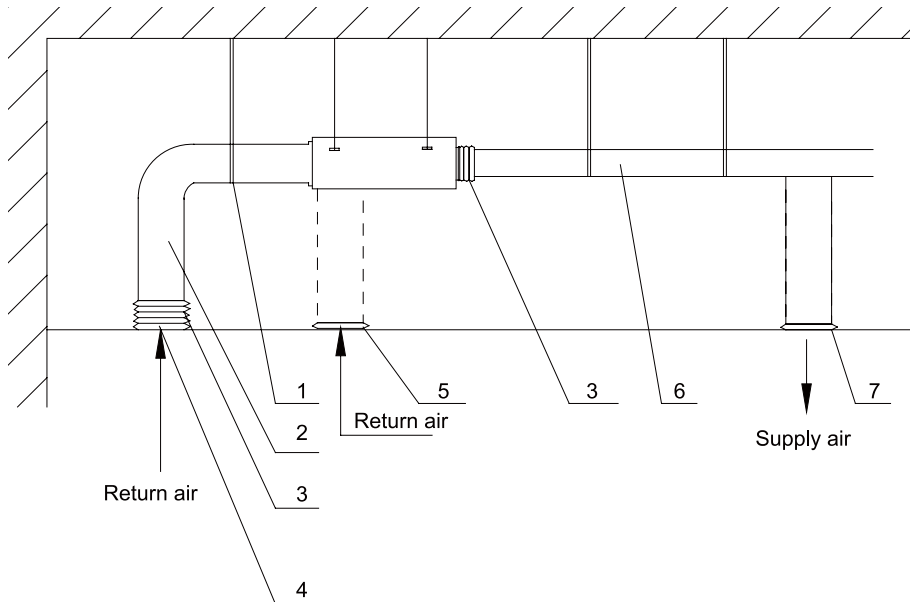
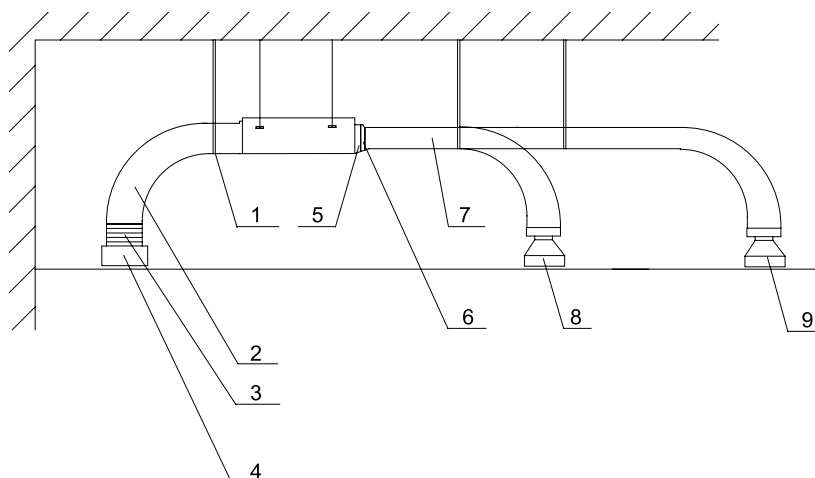


Figure 1-1-11

No.	Designation	No.	Designation
1	Hanger rod	5	Filter screen
2	Return duct	6	Main air supply duct
3	Canvas duct	7	Air outlet
4	Return air inlet		

- ◆ Installation of circular duct, as shown in Figure 1-1-12



No.	Designation	No.	Designation
1	Hanger rod	6	Transition duct
2	Air return duct	7	Air supply duct
3	Canvas duct	8	Air diffuser
4	Return air shutter	9	Connector of air diffuser
5	Air outlet		

Note:

The above two diagrams show how back return air inlets are installed. Lower return air inlets shall be used according to actual installation demands. The installation method is similar to the back return air inlets. Among all air outlets, at least one keeps open. If circular duct is in use, air shall be supplied to rooms through circular flexible insulating duct. Air supply duct and return duct shall be heat insulated.

2. Installation of fresh air duct (only limited to excessive pressure units with refrigerating output over 6000W)

- ◆ The fresh air baffle, as shown in Figure 1-1-13(a), must be removed for mounting the fresh air duct. If the fresh air duct is not in use, gaps around the baffle shall be sealed by sponge.
- ◆ Circular flanges are mounted for convenient connection of the fresh air duct, as shown in Figure 1-1-14(b)
- ◆ Ducts and circular flanges must be sealed and insulated sufficiently.
- ◆ Fresh air must be filtered air.

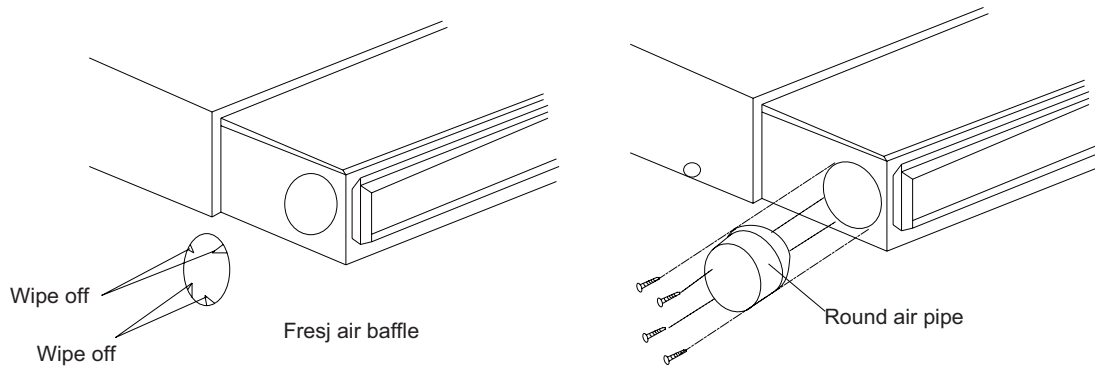


Figure 1-1-13

3. Installation of air return duct

- ◆ Square flanges at ex-factory shall be defaulted to installation at the back and the air return cover plate shall be mounted at the lower, as shown in figure 1-1-14.

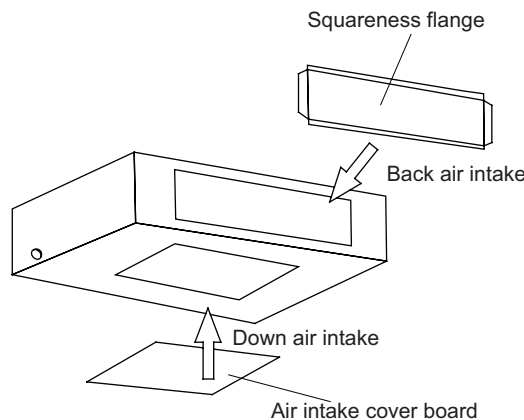
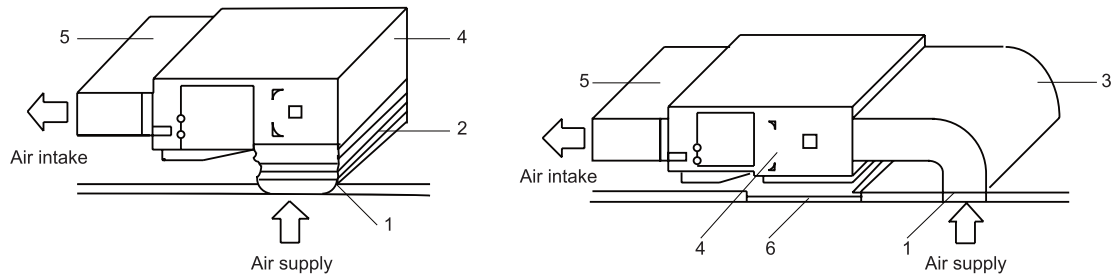


Figure 1-1-14

- ◆ If lower air return is demanded, the square flange and the air return cover plate should be exchanged in their respective position.
- ◆ The air return duct shall be connected to the air return inlet on the indoor unit with rivets, and the other end of the air return duct is connected to an air return window. To freely adjust the height, a section of canvas duct can be fabricated and reinforced by 8# iron wires in the folding shape. A proper installation method shall be selected by taking into overall consideration of building and maintenance conditions.



No.	Designation	No.	Designation
1	Air return window (with filter screen)	4	Indoor unit
2	canvas duct	5	Air supply duct
3	Air return duct	6	Check grating

Figure 1-1-15

4. Installation of circular air supply outlet

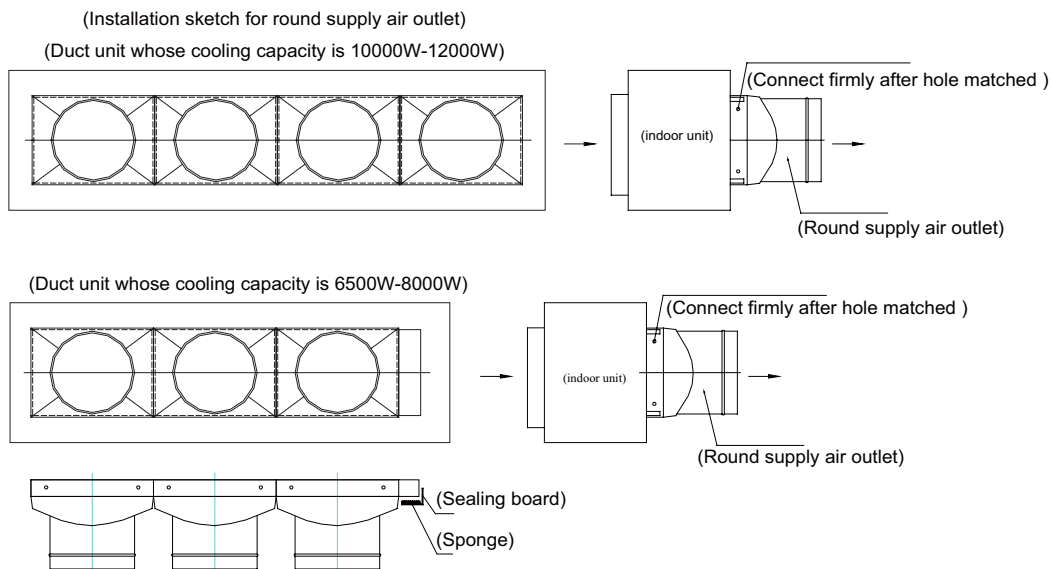


Figure 1-1-16

1.2 Installation of Ceiling Type

1.2.1 Before Installation

- ◆ When the unit arrives, please check if any damage due to transport is existent. If any hurt is found on the surface or inside, please declare to the transport company or the manufacturer in writing.
- ◆ When the unit arrives, please check if any damage due to transport is existent. If any hurt is found on the surface or inside, please declare to the transport company or the manufacturer in writing.
- ◆ Correct handling route and method shall be decided to prevent damage to the unit. For protecting the unit and ensuring its safety, carrying the unit with its package is recommended. If such carrying method is difficult under particular conditions, the canton shall not be removed to avoid looseness or falling during handling.
- ◆ Confirm the foundation is secure. When the unit is installed on the metal part of a building, electrical insulation must be in compliance with relevant standards.
- ◆ Confirm the installation position is away from storage zone of inflammable and explosive substances, or otherwise leakage of inflammable and explosive substances may lead to explosion or a fire.

1.2.2 Installation Site

- ◆ Such a place where cool air can be distributed throughout the room.
- ◆ Such a place where 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)
- ◆

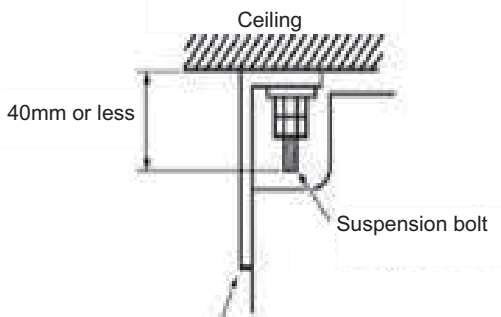


Figure 1-2-1 Hanger bracket

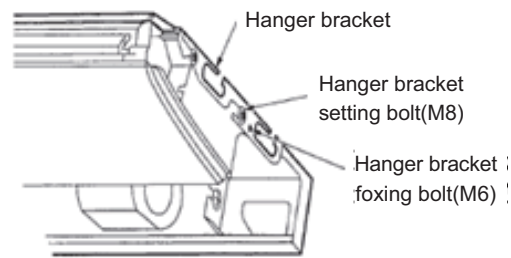


Figure 1-2-2

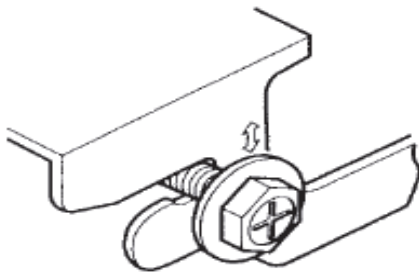


Figure 1-2-3 Hanger bracket

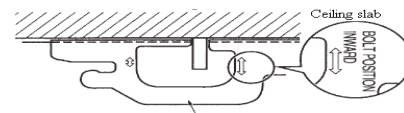


Figure 1-2-4

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.

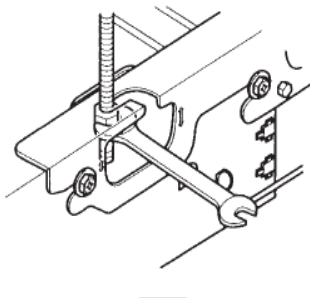


Figure 1-2-5

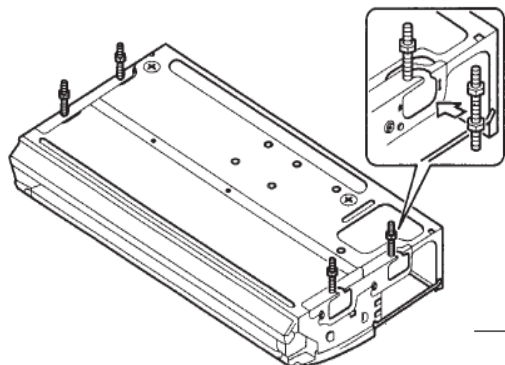


Figure 1-2-6

1.2.4 Dimension Data

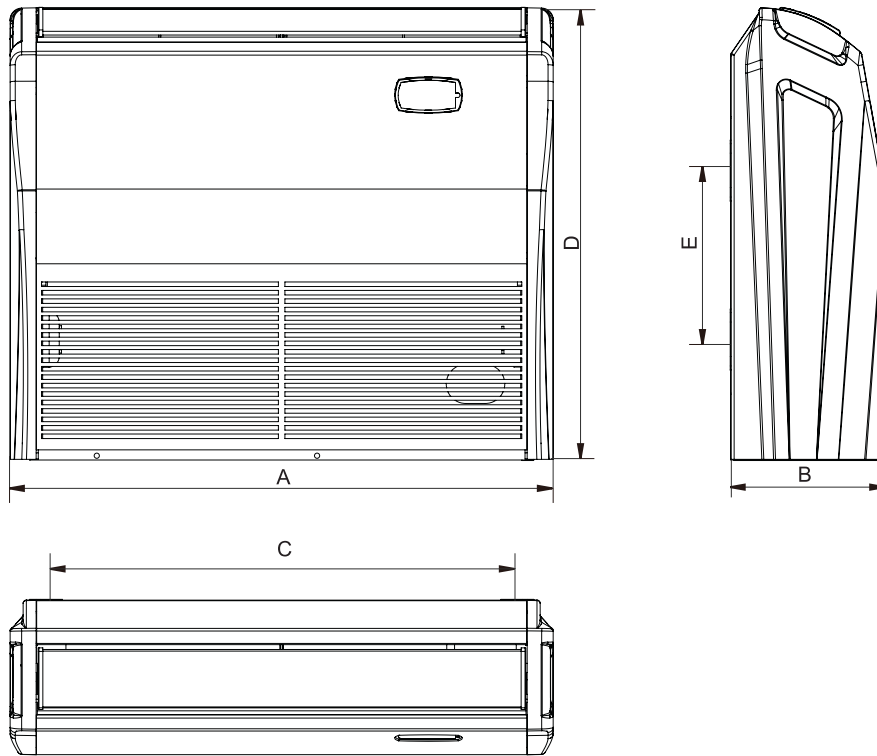


Figure 1-2-7

Unit: mm

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

1.2.5 Installation Clearance Data

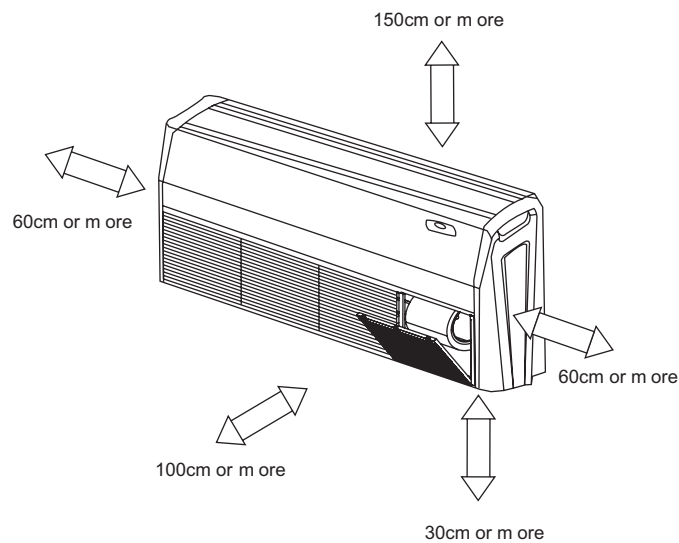


Figure 1-2-8

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.

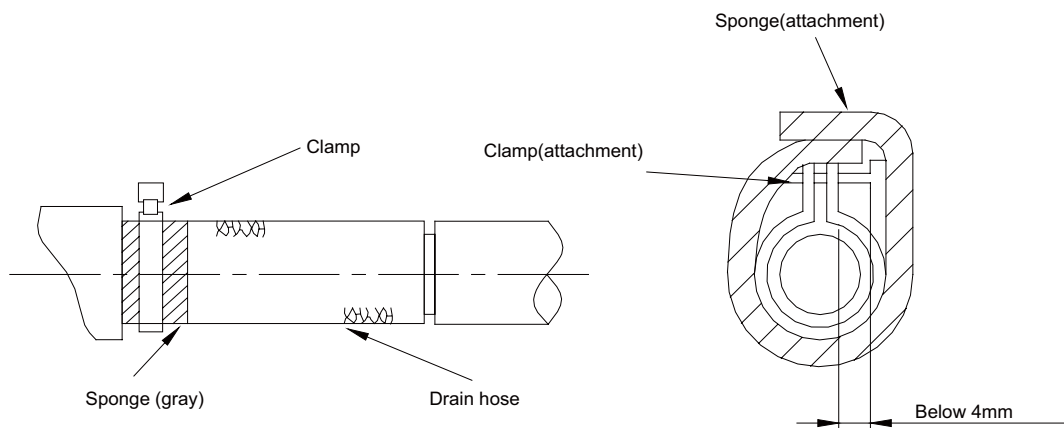


Figure 1-2-9

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) .

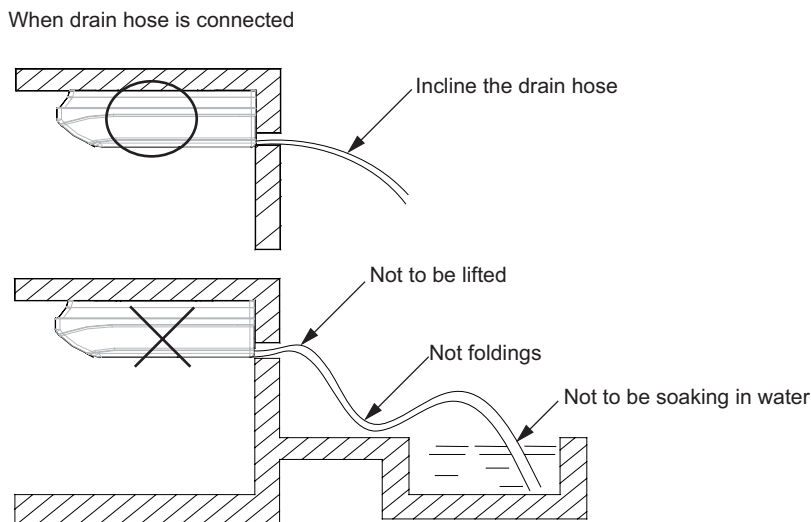


Figure 1-2-10

- ◆ 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).

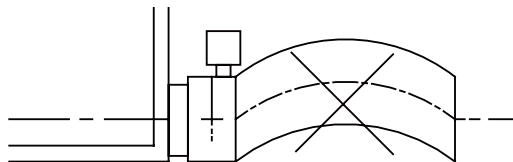


Figure 1-2-11

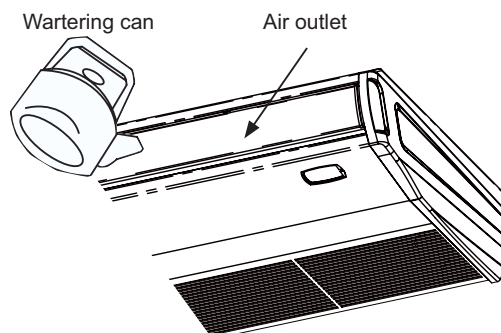


Figure 1-2-12

1.3 Installation of Cassette Type

1.3.1 Before Installation

- ◆ When the unit arrives, please check if any damage due to transport is existent. If any hurt is found on the surface or inside, please declare to the transport company or the manufacturer in writing.
- ◆ Upon receipt of the unit, the unit and accessories shall be checked in accordance with the packing list. Before acceptance, it must be confirmed that the model is correct and the unit is in good shape and specification and quantity of accessories are right.
- ◆ Correct handling route and method shall be decided to prevent damage to the unit. For protecting the unit and ensuring its safety, carrying the unit with its package is recommended. If such carrying method is difficult under particular conditions, the carton shall not be removed to avoid looseness or falling during handling.
- ◆ Confirm the foundation is secure. When the unit is installed on the metal part of a building, electrical insulation must be in compliance with relevant standards.
- ◆ Confirm the installation position is away from storage zone of inflammable and explosive substances, or otherwise leakage of inflammable and explosive substances may lead to explosion or a fire.

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 through 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

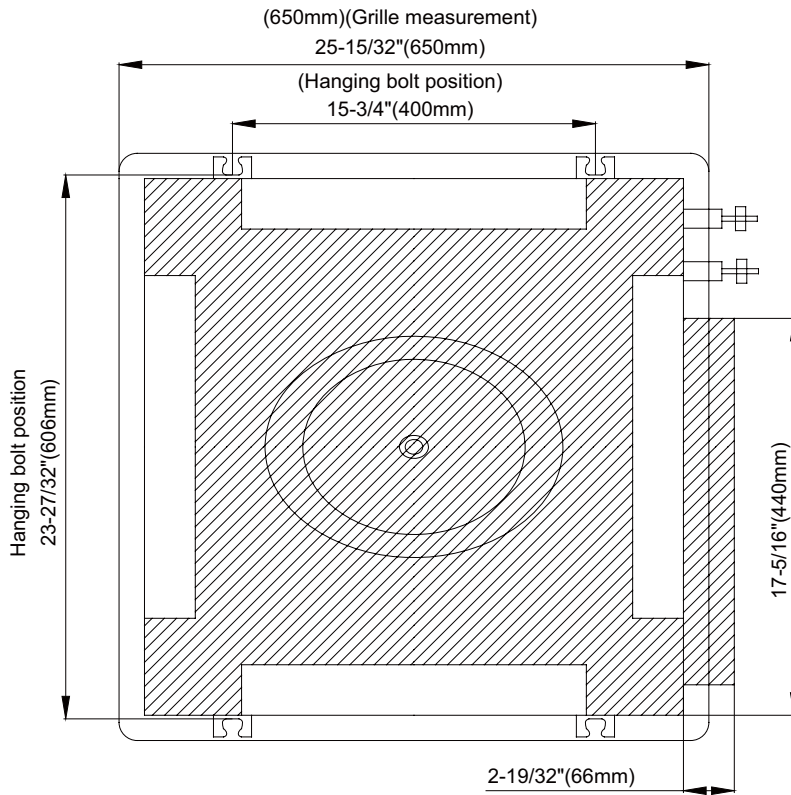
1. Important notice:

- ◆ To guarantee the good performance, the unit must be installed by professional personnel according with

this instruction.

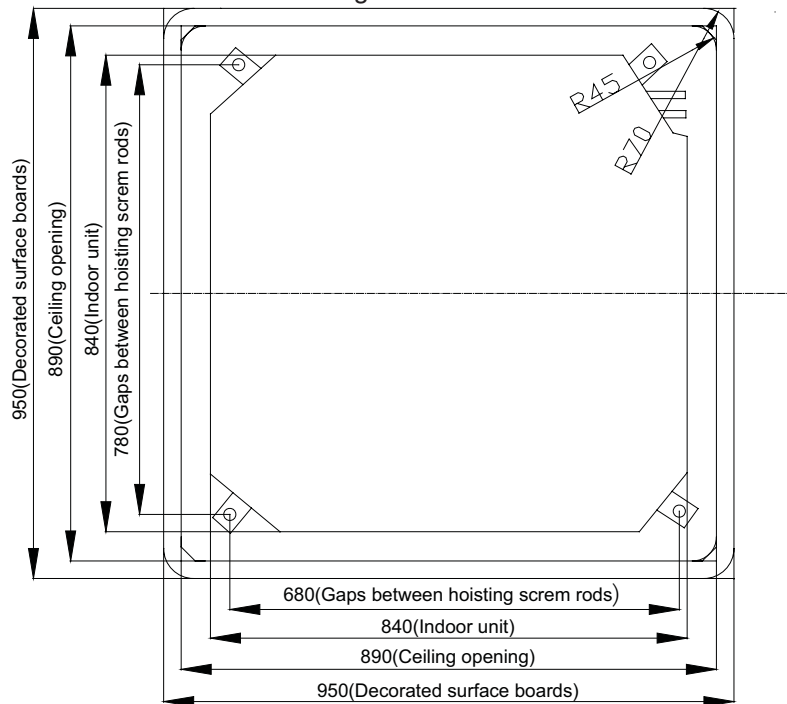
- ◆ Please contact the local Gree special nominated repair department before installation. Any malfunction caused by the unit that is installed by the department that is not special nominated by Gree would not deal with on time by the inconvenience of the business contact.

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



GKH12K3BI/GKH18K3BI

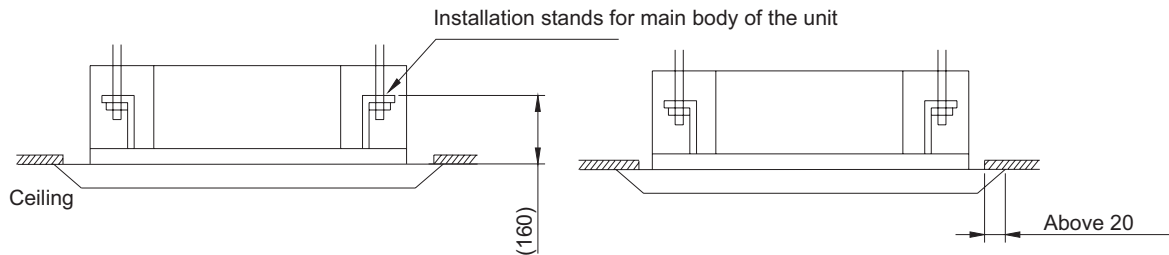
Figure 1-3-1



GKH24K3BI/GKH36K3BI/GKH42K3BI/GKH48K3BI

Figure 1-3-2

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



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

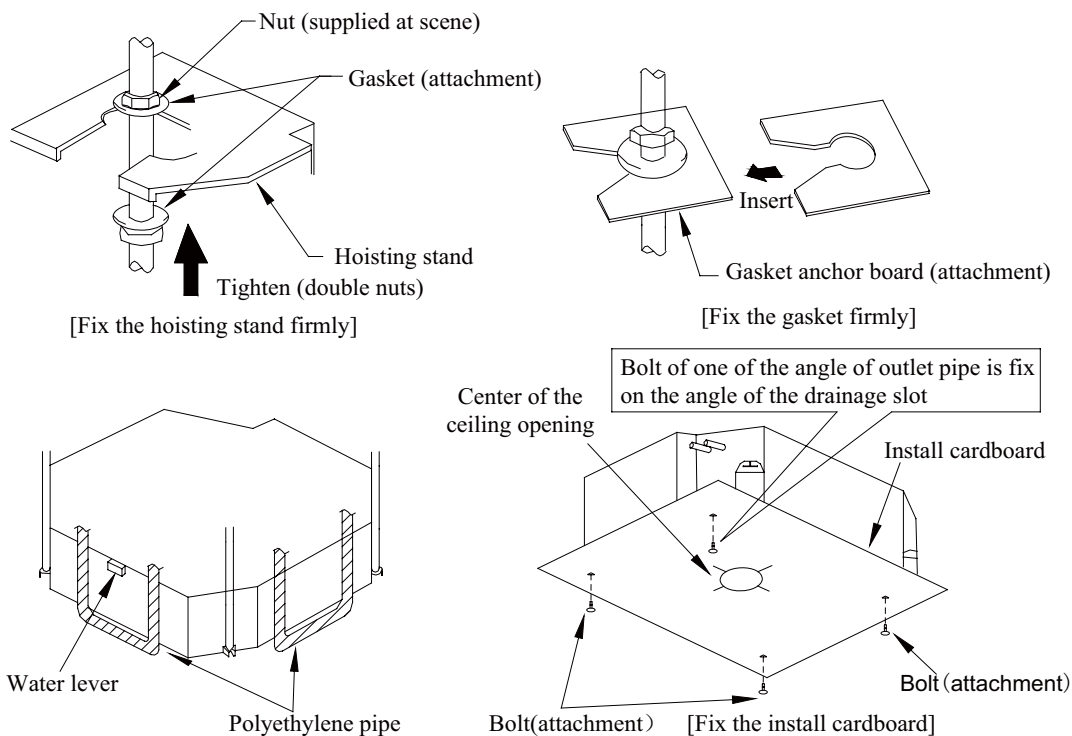


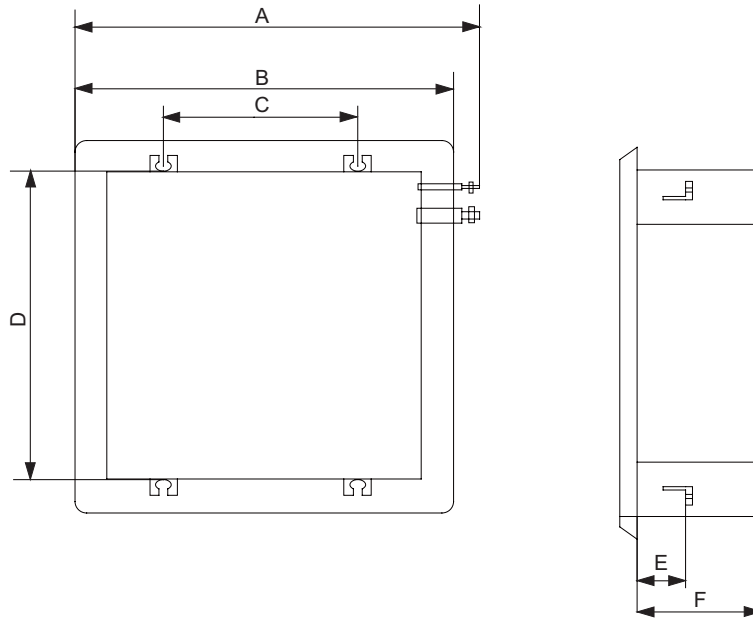
Figure 1-3-4

- ◆ 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.

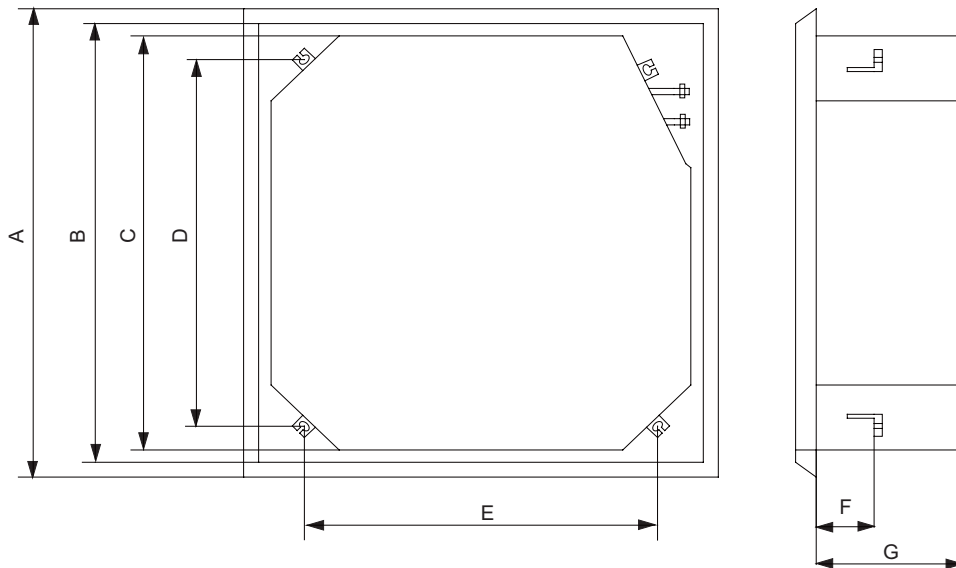
1.3.4 Dimension Data



GKH12K3BI/GKH18K3BI
Figure 1-3-5-1

Unit:mm

Item Model	A	B	C	D	E	F
GKH12K3BI GKH18K3BI	710	650	400	606	160	230



GKH24K3BI/GKH36K3BI/GKH42K3BI/GKH48K3BI
Figure 1-3-5-2

Figure 1-3-2

Unit:mm

Item Model	A	B	C	D	E	F	G
GKH24K3BI GKH30K3BI	950	890	840	780	680	160	240
GKH36K3BI GKH42K3BI GKH48K3BI	950	890	840	780	680	160	320

1.3.5 Installation Clearance Data

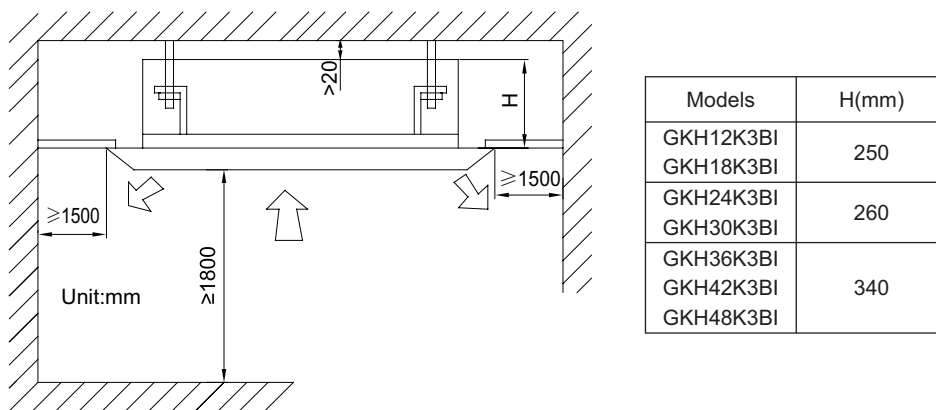


Figure 1-3-6

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.

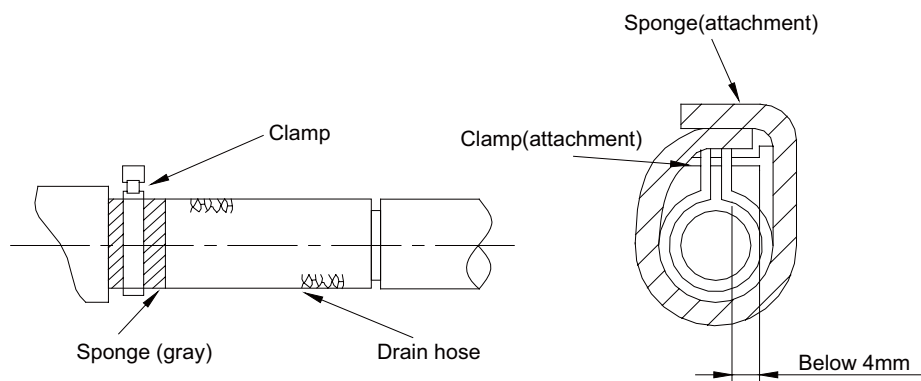


Figure 1-3-7

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 $\geq 1.5\text{mm}$)
- ◆ 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)

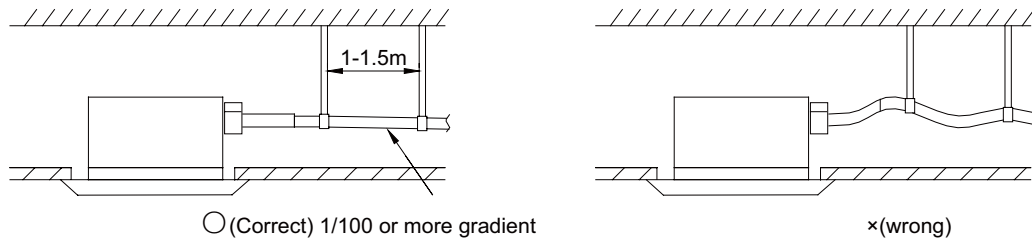


Figure 1-3-8

- ◆ 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)

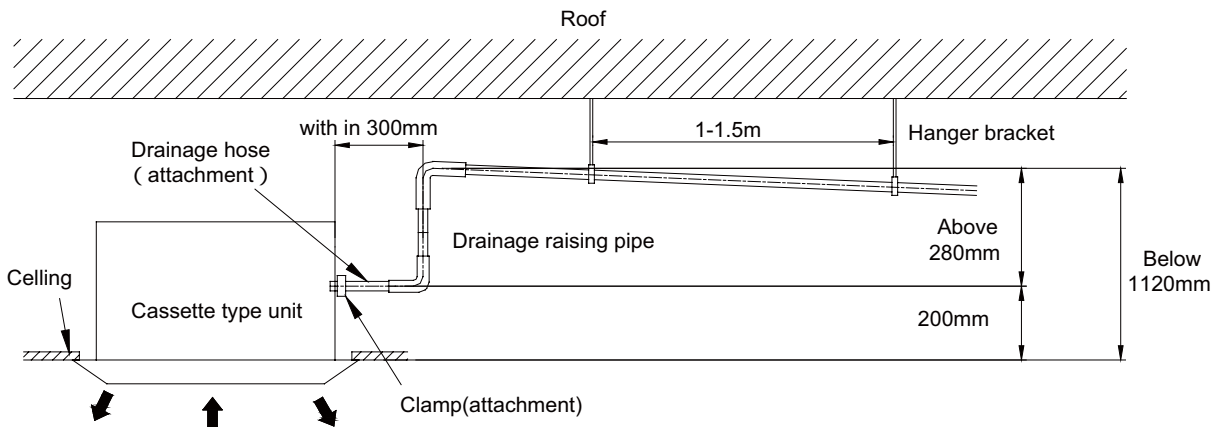


Figure 1-3-9

- ◆ 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)

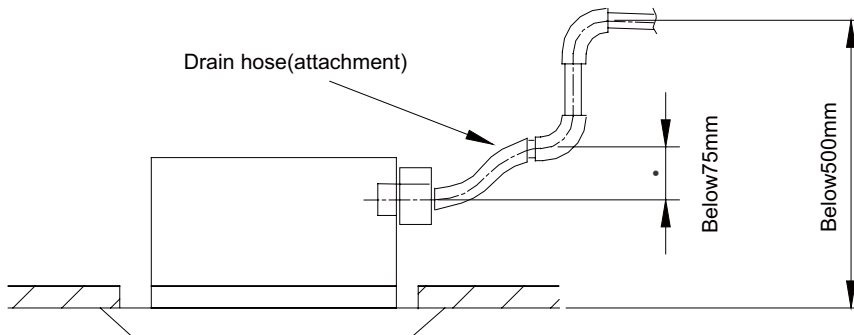
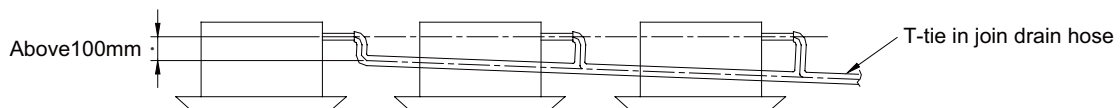


Figure 1-3-10

- ◆ 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]

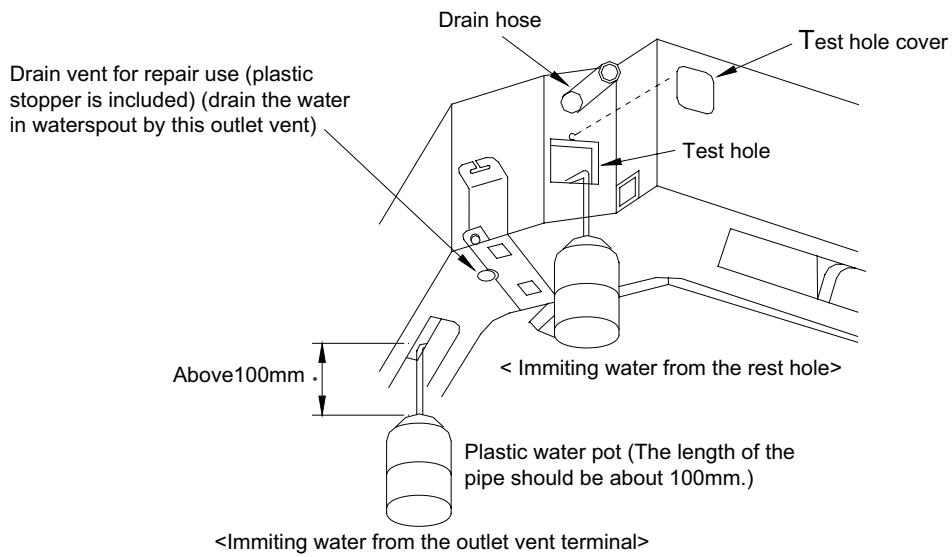


Figure 1-3-12

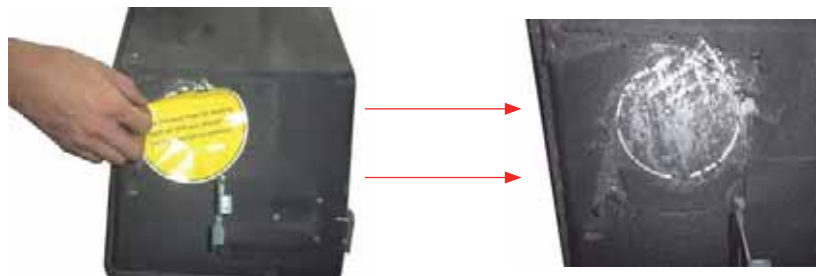
4. Installation Instructions for the New Ductwork of the Cassette Unit

A: For the Middle-Size and Large-Size Units

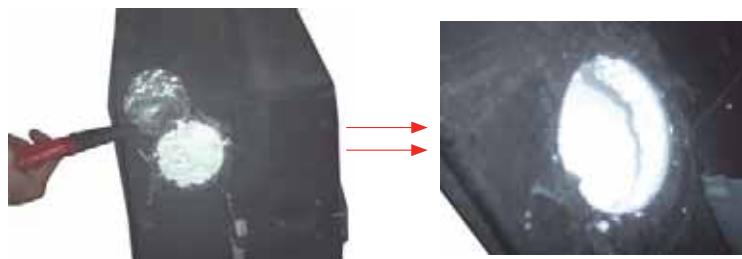
Steps 1: Find out the label on the unit, as shown below:



Step 2: Tear away this label and clear the sponge underneath it to let four screw holes exposed completely, as shown below



Step 3: Take away the round metal sheet with some proper tools, as shown below.



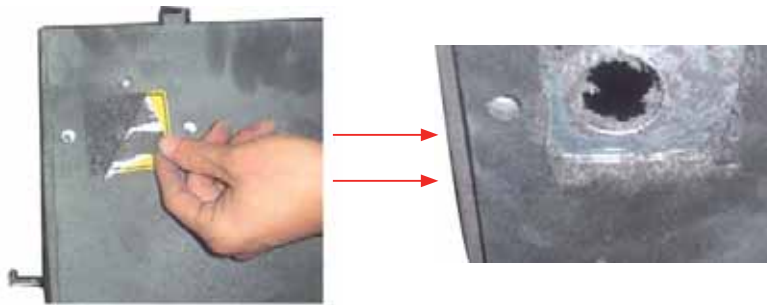
Step5: Fix the ductwork through these four screw holes, as shown below.

B:For the Small-Size Unit:

Step 1: Find out the label on the unit, as shown below:



Step 2: Tear away this label, and clear the sponge underneath it and inside the center hole to let two screw holes exposed completely.



Step 3: Fix the ductwork through these two screw holes.

1.3.7 Installation of panel

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.

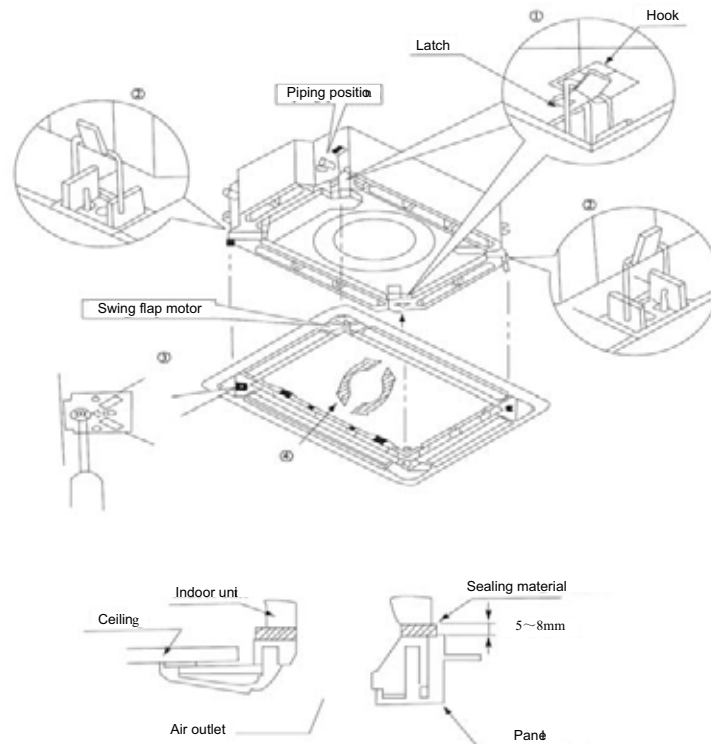


Figure 1-3-13

- ◆ Hang the latch, which is located on the opposite side of the swing flap motor on the panel, temporarily to the back 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.
- 1 Precautions:
- ◆ Improper screwing of the screws may cause the troubles shown in Figure 1-3-14.

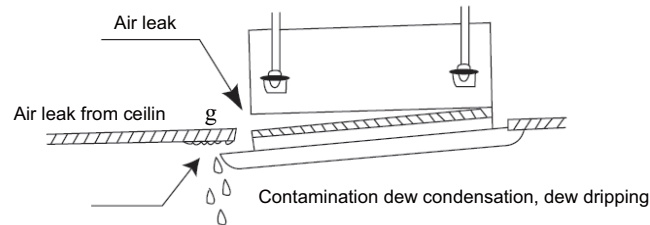


Figure 1-3-14

- ◆ 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)

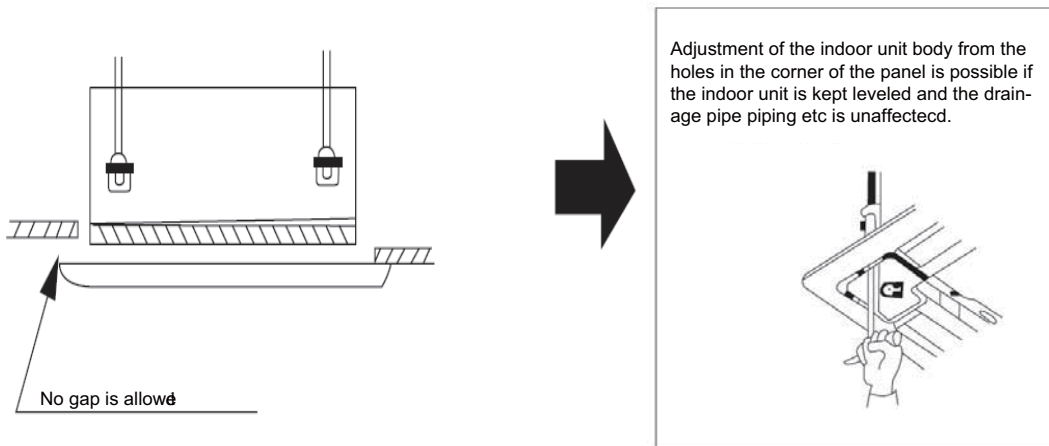


Figure 1-3-15

- ◆ After fixing be sure no gap left between the ceiling and the panel
- 2 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)

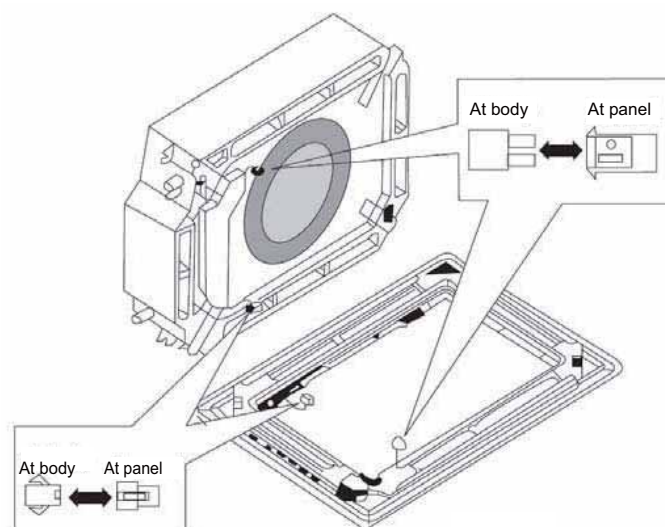


Figure 1-3-16

2 OUTDOOR UNIT INSTALLATION

2.1 Before Installation

- ◆ When the unit arrives, please check if any damage due to transport is existent. If any hurt is found on the surface or inside, please declare to the transport company or the manufacturer in writing.
- ◆ Upon receipt of the unit, the unit and accessories shall be checked in accordance with the packing list. Before acceptance, it must be confirmed that the model is correct and the unit is in good shape and specification and quantity of accessories are right.
- ◆ Correct handling route and method shall be decided to prevent damage to the unit. For protecting the unit and ensuring its safety, carrying the unit with its package is recommended. If such carrying method is difficult under particular conditions, the carton shall not be removed to avoid looseness or falling during handling.
- ◆ Confirm the foundation is secure. When the unit is installed on the metal part of a building, electrical insulation must be in compliance with relevant standards.
- ◆ Confirm the installation position is away from storage zone of inflammable and explosive substances, or otherwise leakage of inflammable and explosive substances may lead to explosion or a fire.

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 return and that sufficient space for repair shall be provided around the unit.
- ◆ 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 unit 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.
- ◆ Outdoor unit should be hoisted through indicated hoisting holes. During hoisting, special attention must be paid to the unit to prevent collision into its sheet metal parts to avoid rust.
- ◆ Rubber cushion or spring shock absorber shall be used for outdoor unit to avoid excessive noise and vibration.
- ◆ Rubber cushion or spring shock absorber shall be used for outdoor unit to avoid excessive noise and vibration.
- ◆ Only professional personnel are allowed for unit installation.

2.3 Caution for Installation

- ◆ Installation of outdoor unit shall not allow discharged air to return, and sufficient maintenance space shall be left around the unit.
- ◆ Installation position must be well-ventilated, enabling the unit to absorb and discharge enough air. Inlet and outlet must be free of obstruction. Any obstacle blocking air going in and out must be removed.
- ◆ When outdoor unit is mounted on the secure floor such as concrete, bolts and nuts in M10 can be used for fixing the unit. Uprightness or levelness of the unit must be ensured.
- ◆ Outdoor unit should be hoisted through indicated hoisting holes. During hoisting, special attention must be paid to the unit to prevent collision into its sheet metal parts to avoid rust.
- ◆ Rubber cushion or spring shock absorber shall be used for outdoor unit to avoid excessive noise and vibration. Uprightness or levelness must be ensured.
- ◆ In installation of drain pipe, the connector of the drain pipe shall be inserted into a drain hole on the chassis of the outdoor unit. And then a drain pipe shall be connected to the drain connector. (If the drain connector is used, installing height of the outdoor unit shall be at least 5cm).

- ◆ If pipe is put through wall, a wall pipe must be used.
- ◆ Installation dimension must be in line with requirements by the instructions. Outdoor unit must be fixed on the mounting position.
- ◆ Only professional personnel are allowed for unit installation

2.4 Dimension Data

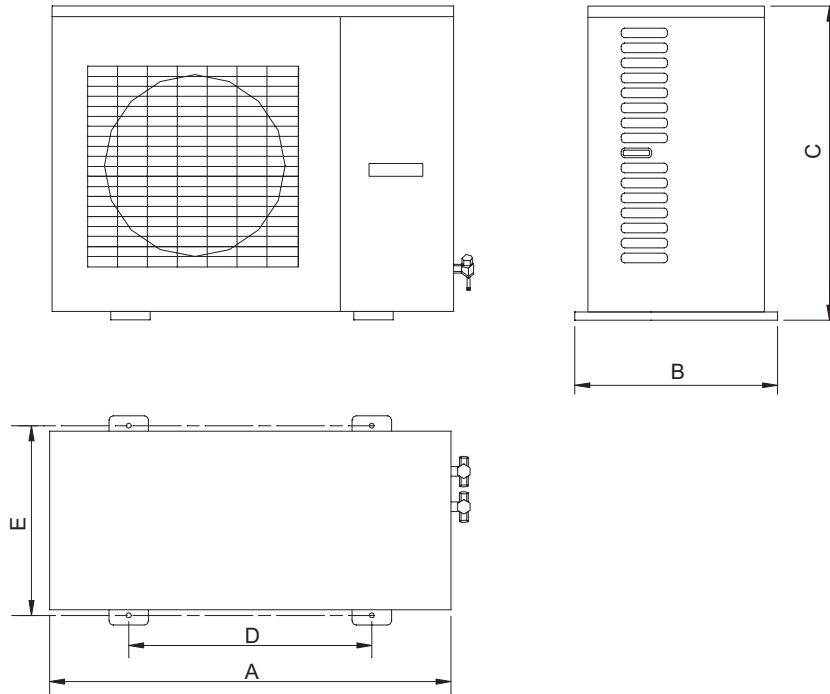


Figure 2-4-1

Unit:mm

Model	A	B	C	D	E
GUHN09NK3AO	820	320	540	540	286
GUHN12NK3AO					
GUHN18NK3AO					
GUHN24NK3AO	1018	412	695	572	378
GUHN30NK3AO	980	427	790	610	395
GUHN36NK3AO	1018	412	840	572	378
GUHN36NM3AO					
GUHN42NM3AO	1032	412	1250	572	378
GUHN48NM3AO					
GUHN60NM3AO					

2.5 Installation Clearance Data

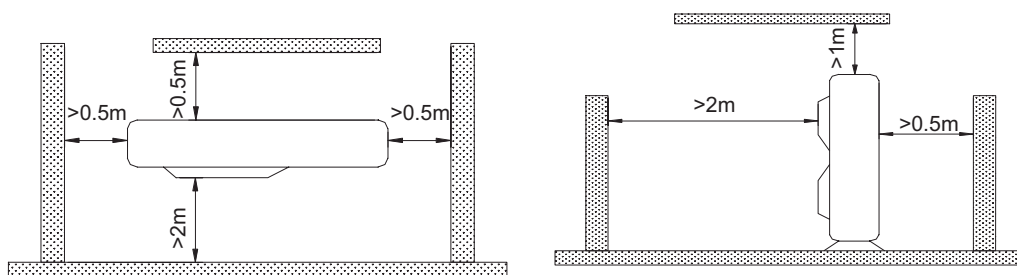


Figure 2-5-1

3 REFRIGERATION PIPING WORK

3.1 Refrigeration Piping Work Procedures

1. Connecting pipelines

- ◆ Connection pipes must be in accordance with the following requirements: the basic principle --- keeping dry, clean and no leakage inside.

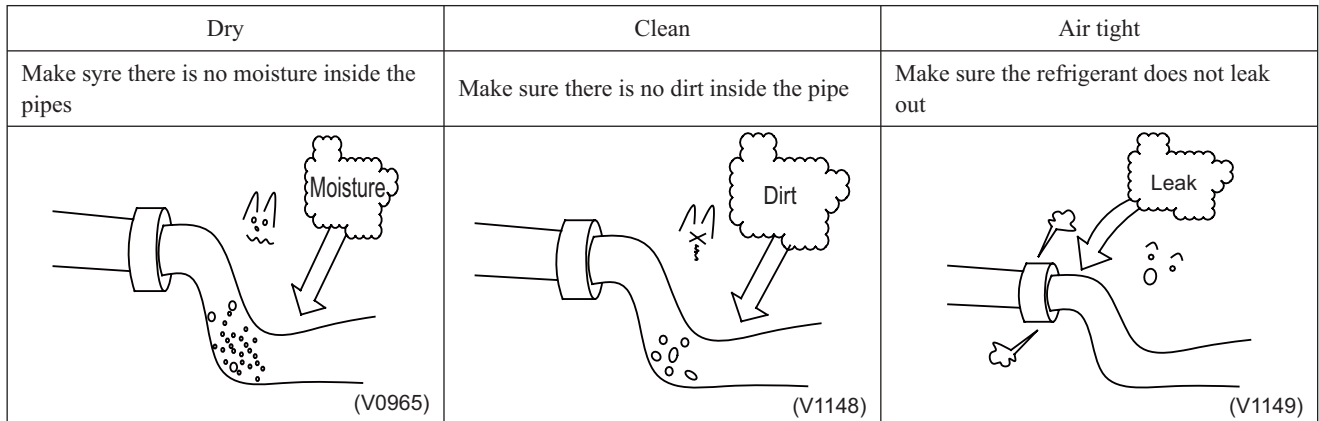


Figure 3-1-1

- ◆ Align copper pipe flare with the center of screwed connector and tighten fully the nut of the flare by hand.
- ◆ Tighten the flare nut with a torque spanner until the torque spanner makes a click, as shown in Figure 3-1-1. Moment needed for tightening a nut is shown in Tab. 3-1-1.

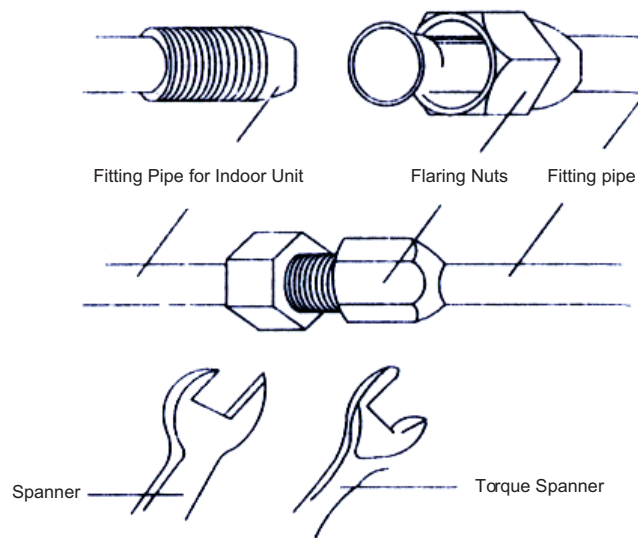


Figure 3-1-2

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

Pipe diameter	Tightening 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"	2-75 N·m

- ◆ Curvature of piping shall not be too small, or otherwise piping may be broken. So installation personnel

should use a pipe bender to bend pipes.

- ◆ Upward or longitudinal welding joint method is usually applied to the welding of pipelines. The welding method that mouth of pipe is downward (face-down welding) should be avoided as far as possible, because such method is prone to welding defects and even would cause leakage, as shown in Figure 3-1-3.

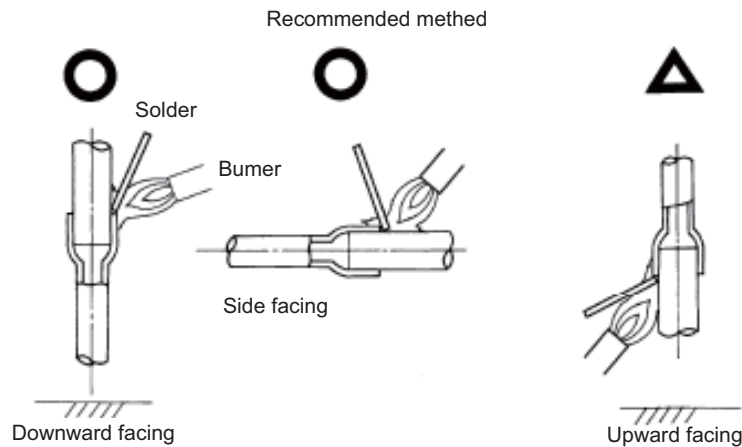


Figure 3-1-3

- ◆ Uninsulated connecting pipes and connectors should be packed with sponge and tied with plastic adhesive tapes.
2. Vacuum-pumping and leak detection
- ◆ Dismantle the bonnet of refrigerant valve and air valve.
 - ◆ Align with the center of piping and adequately tighten nuts of connecting pipes by hand
 - ◆ Tighten the nuts with a spanner.
 - ◆ Remove the one way valve cap of air valve.
 - ◆ Unscrew the spool of refrigerant valve for 1/4 turn with a socket head wrench, and at the same time push up the spool of air valve with a screwdriver to let air give off.
 - ◆ Air exhaust continues for 15 seconds until coolant gas appears, immediately shut off one way valve and tighten the valve cap.
 - ◆ Totally open the spool of refrigerant valve and air valve (as shown in Figure 3-1-4)

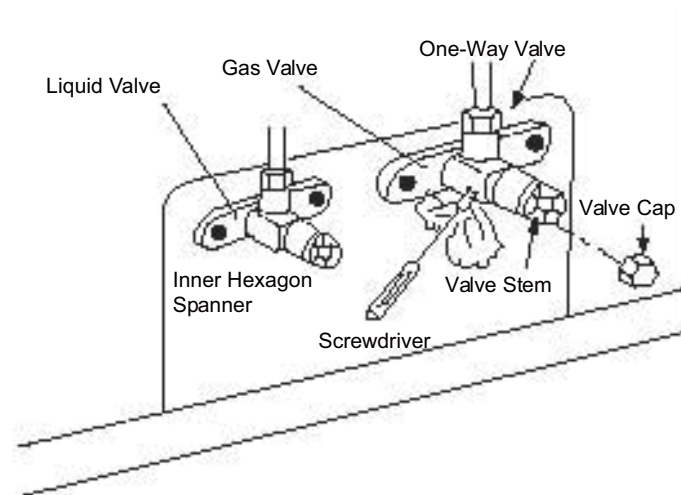


Figure 3-1-4

- ◆ Tighten the valve caps and use soapy water or a leak detector to check any leakage on indoor unit, outdoor unit and connection parts of pipes.

Caution:

If conditions are allowed, a vacuum pump shall be used for drawing off air inside the system at a valve. Method for creation of vacuum by using a vacuum pump 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)

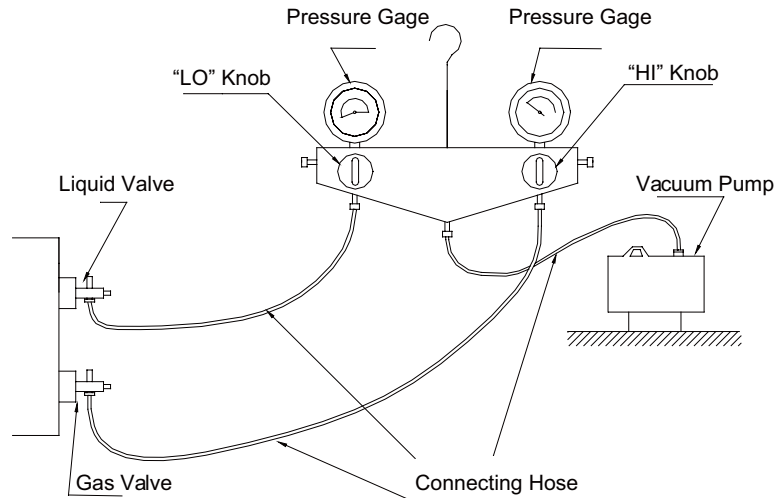


Figure 3-1-5

- ◆ 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.

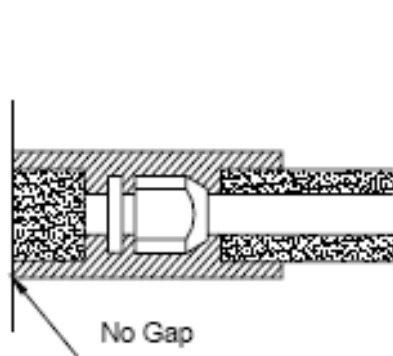


Figure 3-1-6

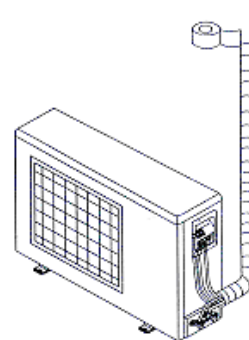


Figure 3-1-7

- ◆ 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

Arrangement of connecting pipes shall be performed according to sit conditions with reference to the following principles.

- ◆ Try to shorten the length of connecting pipes, within 5m for the better.
- ◆ Try to reduce height difference between indoor unit and outdoor unit.
- ◆ Try to reduce number of joint bends of connecting pipes.
- ◆ If the length of connecting pipes is more than 20m, adequacy of lubricant of the system must be checked; and if necessary, add more lubricant properly.
- ◆ Filling amount of refrigerant in the system is matched to a 7m connecting pipe. If the connecting pipe is needed to lengthen, appropriate amount of refrigerant should be added. How much refrigerant should be added for every meter extension refers to the following table. Allowable maximum pipe length is 30m.
- ◆ If height difference between indoor unit and outdoor unit exceeds 10m in installation of air conditioner, an oil return bend must be mounted at an interval of 6m.
- ◆ If heights of indoor unit and outdoor unit are different, pipes should be laid out with reference to Figure 3-2-1.

—— Refrigerant pipe (thin)
 - - - - Air pipe (large)

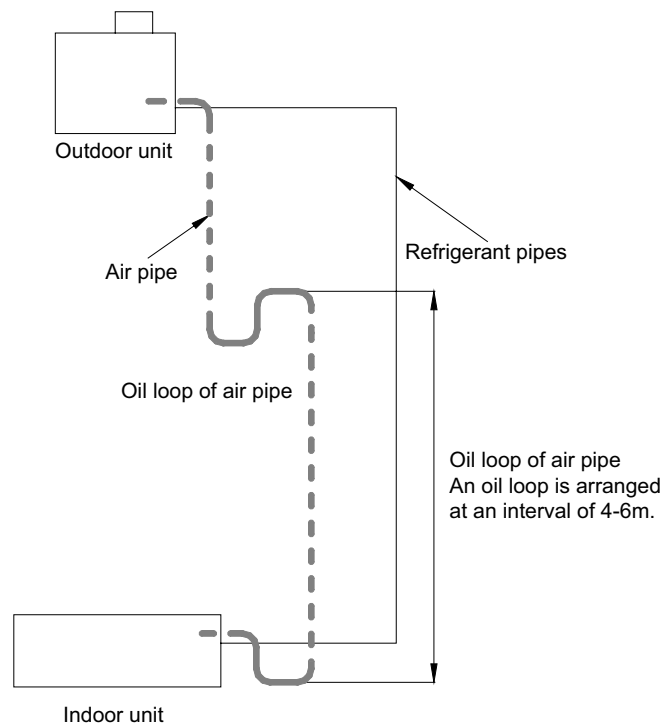


Figure 3-2-1

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)
GUHN09NK3AO	φ3/8"	φ1/4"	20	15	15
GUHN12NK3AO	φ1/2"				
GUHN18NK3AO					
GUHN24NK3AO	φ5/8"	φ3/8"	30	15	60
GUHN30NK3AO					
GUHN36NK3AO	φ3/4"	φ1/2"	50	30	120
GUHN36NM3AO					
GUHN42NM3AO					
GUHN48NM3AO					
GUHN60NM3AO					

4 ELECTRIC WIRING WORK

4.1 Wiring Principle

4.1.1 General

- ◆ 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:
 - a. Water pipe;

- b. Gas pipe;
- c. Blowing pipe;
- d. Other places that professional personnel consider them unreliable;

4.1.2 Connection of electric wires with the terminal

1. Caution

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

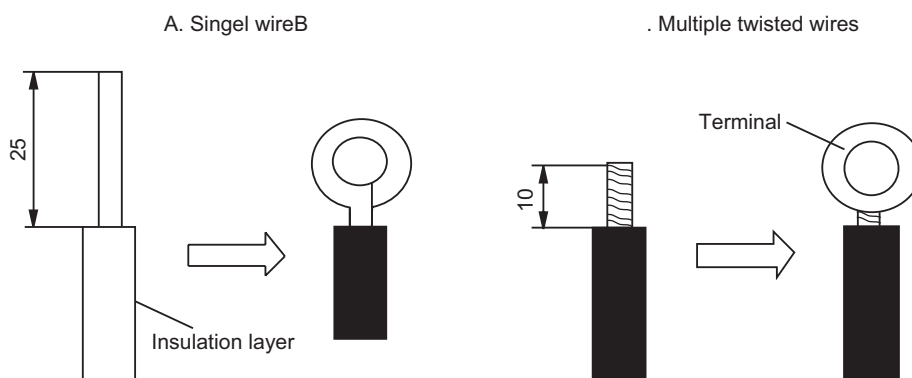
- ◆ Check to see if the power supply used conforms to the rated power supply specified on the nameplate.
- ◆ The capacity of the power supply must be large enough. The section area of fitting line in the room shall be larger than 2.5mm².
- ◆ The lines must be installed by professional personnel.
- ◆ 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

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

3. Connection of multiple twisted wires

- ◆ Use wire stripper to strip the insulation layer (10mm long) from the end of the multiple twisted wires.
- ◆ Remove the screw at the terminal board of the air-conditioning unit.
- ◆ Use crimping pliers to connect a terminal (matching the size of the screw) at the end of the multiple twisted wires.
- ◆ 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

- ◆ Remove the front-side panel of the outdoor unit.
- ◆ Pass the cable through rubber ring.
- ◆ Connect the power supply cable to the "L, N" terminals and the grounding screw.

- ◆ Use cable fastener to bundle and fix the cable.
2. Air-conditioning unit with 3-phase power supply
- ◆ Remove the front-side panel of the outdoor unit.
 - ◆ Attach rubber ring to the cable-cross hole of the outdoor unit.
 - ◆ Pass the cable through rubber ring.
 - ◆ Connect the power cable to the terminal and earthing screws marked "L1, L2, L3 & N".
 - ◆ 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.

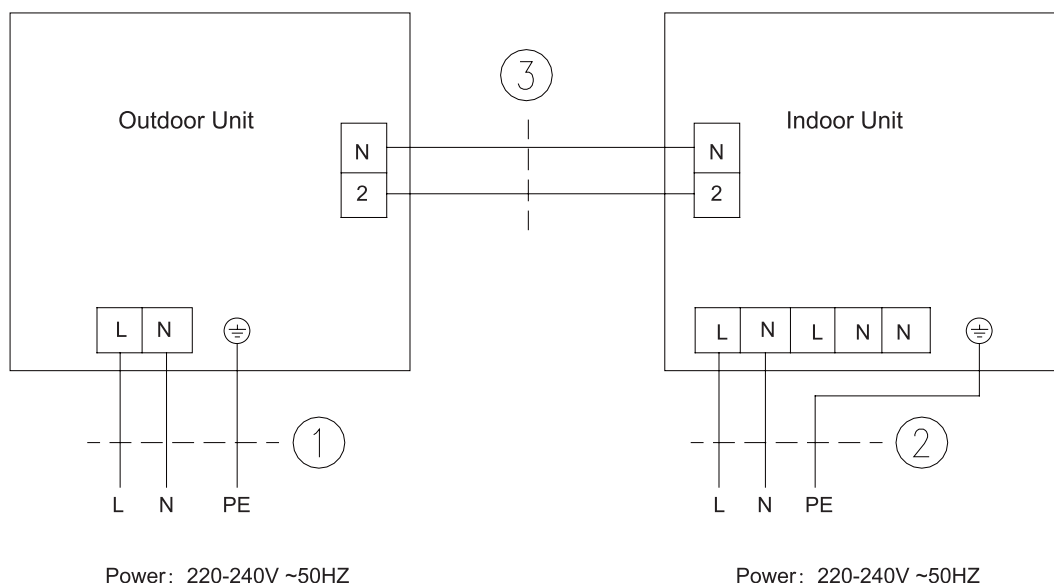
- ◆ The signal line of the wire controller must be separated from the power line and the connecting line between the indoor unit and the outdoor unit.
- ◆ In case the unit is installed in a place vulnerable by electromagnetic interference, it is better to use shielded cable or double-twisted cable as 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 wires

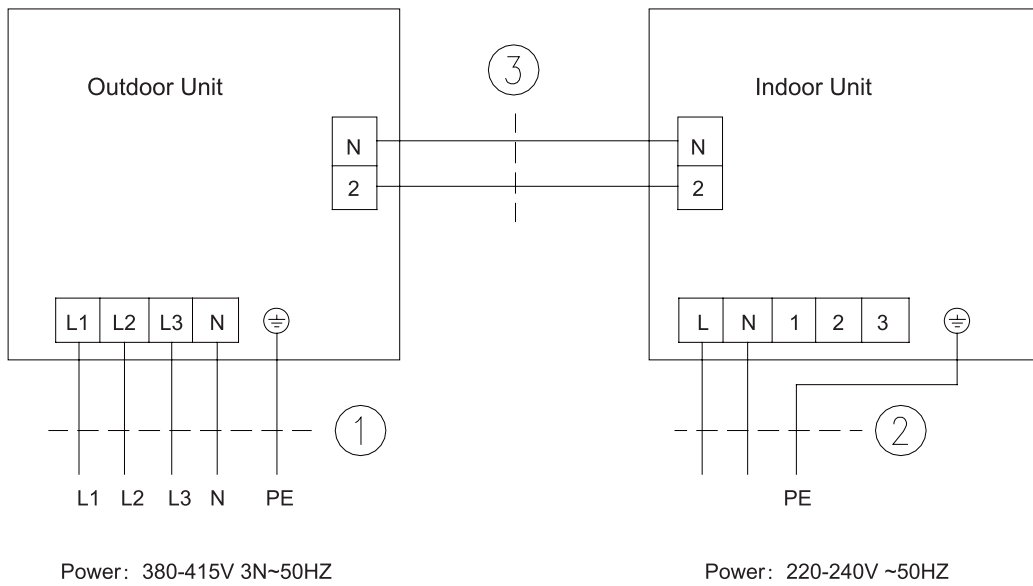
- ◆ Remove the board on the right side of outdoor unit and put through the wire running hole on the outdoor unit and put on a rubber ring.
- ◆ Remove wire holders and connect the power cord to the terminal and fix it.
- ◆ Secure the power connecting cord and signal control cable with wire holders and then connect corresponding adapters.
- ◆ Check if wires are fixed properly.
- ◆ Fit on the front side board.

4.2 Electric Wiring Design

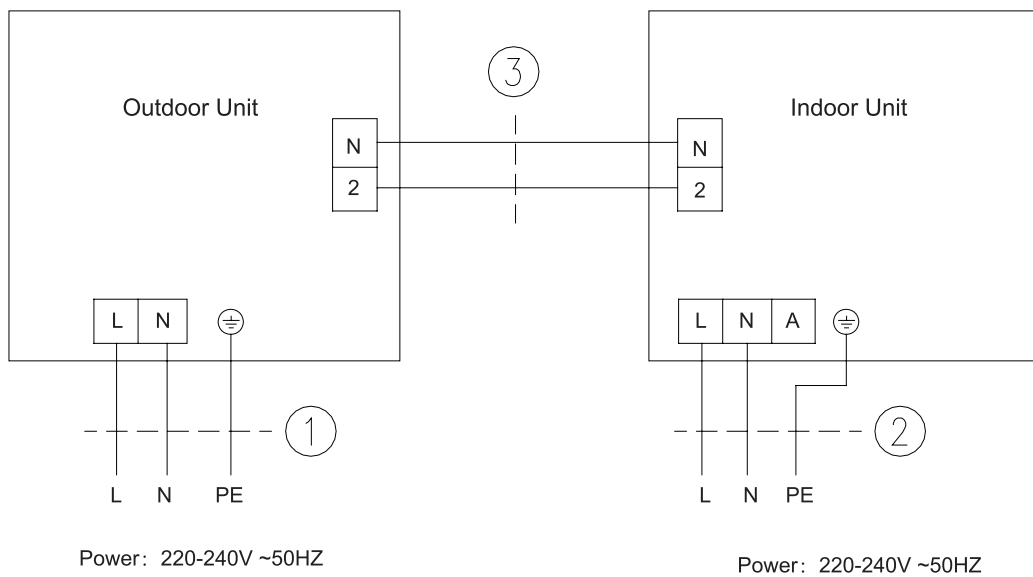
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GUHN30NK3AO+GFH30K3BI, GUHN36NK3AO+GFH36K3BI,



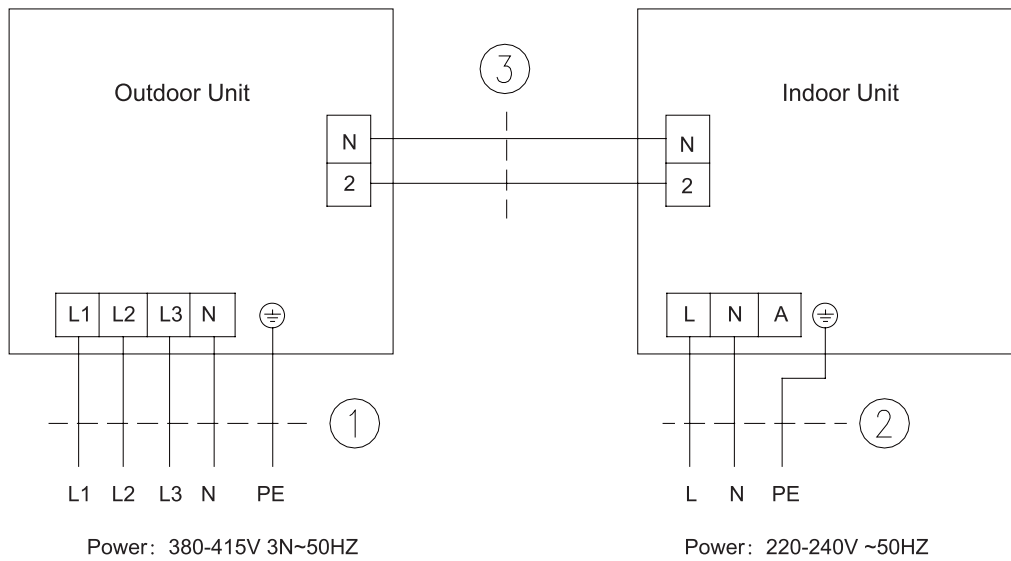
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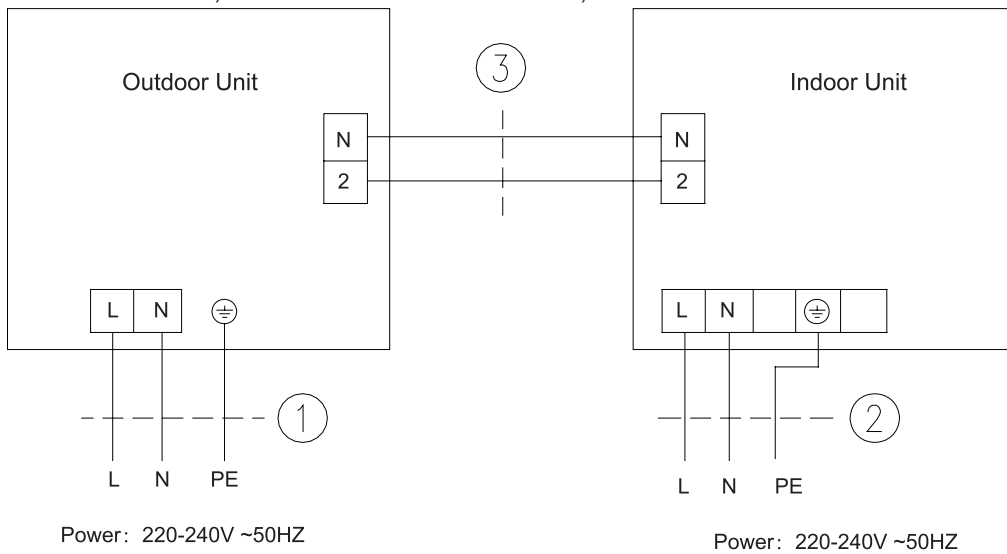
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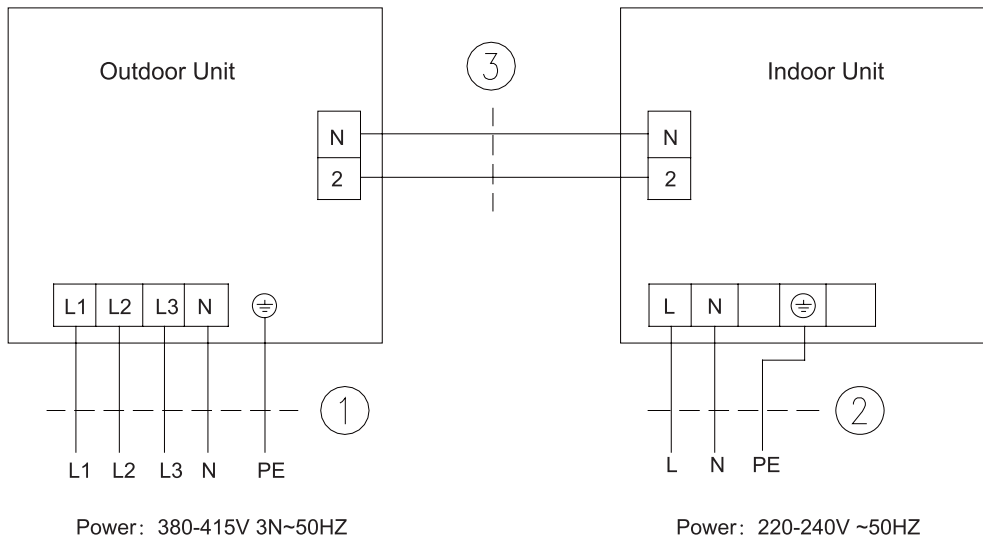
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GUHN48NM3AO+GTH48K3BI, GUHN60NM3AO+GTH60K3BI,



GUHN09NK3AO+GKH09K3BI, GUHN12NK3AO+GKH12K3BI,
GUHN18NK3AO+GKH18K3BI, GUHN24NK3AO+GKH24K3BI,
GUHN30NK3AO+GKH30K3BI, GUHN36NK3AO+GKH36K3BI,



GUHN36NM3AO+GKH36K3BI, GUHN42NM3AO+GKH42K3BI,
GUHN48NM3AO+GKH48K3BI, GUHN60NM3AO+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)
GUHN09NK3AO	220-240,1,50	16	2.5	2.5
GUHN12NK3AO	220-240,1,50	16	2.5	2.5
GUHN18NK3AO	220-240,1,50	20	4.0	4.0
GUHN24NK3AO	220-240,1,50	25	4.0	4.0
GUHN30NK3AO	220-240,1,50	25	4.0	4.0
GUHN36NK3AO	220-240,1,50	32	6.0	6.0
GUHN36NM3AO	380-415,3,50	16	2.5	2.5
GUHN42NM3AO	380-415,3,50	20	4.0	4.0
GUHN48NM3AO	380-415,3,50	25	4.0	4.0
GUHN60NM3AO	380-415,3,50	25	4.0	4.0

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	Trouble Name	Origin of Trouble Signal	Control Description
E0	Pump Failure	Pump	If water full protection continues for 2 hours and fails to restore, it is believed that the water pump is at fault and all loads are shut off and fail to restore automatically.
E1	Compressor High Pressure Protection	High voltage switch	When high voltage protection is detected for continuous 3 seconds, all loads are shut off (except for the four way valve), all buttons and remote control signals except for power-on or power-off are shielded and fail to restore automatically, the unit should be powered off and on, or failure should be removed after power supply is restored.
E2	Indoor Frost-Proof Protection	Evaporator of indoor unit Thermal bulb	When the unit has been running for refrigeration or dehumidification for a period of time and evaporator thermal bulb is detected to be lower than -2°C, the unit will report a fault and stops the compressor and the outdoor unit. The unit will begin to operate after temperature is ≥10°C and the compressor keeps outage for 3 minutes.
E3	Compressor Low Pressure Protection	Low voltage switch	When the unit is started or at standby (detection will begin 3 minutes after the compressor is started up) and detected breakdown of the low voltage switch for continuous 30 seconds, a fault is reported. The unit can be restored automatically after the first 2 reported faults within 30 minutes. The third reported fault and so on can not be restored automatically.
E4	Compressor Exhaust High Temperature Protection	Discharge thermal bulb	After the compressor is started, if discharge temperature is detected to be more than or equal to 130 degree for continuous 30 seconds, E4 will be displayed, all loads (except for the four way valve) will be shut off, the compressor will stop for 3 minutes and the complete system will restore after discharge temperature is lower than 90 degree. If such fault is reported for successive three times, the protection can not be restored itself.
E5	Compressor Overheat	Compressor	After the compressor is started, if the overload switch of the compressor is detected to shut off, the fault is reported. All loads (except for the four way valve) are shut off, the fault is displayed, and the compressor will stop for 3 minutes. If the fault is removed, the compressor can be restarted to run. If successive three compressor overload protection faults are detected within 30 minutes, the unit can not be restored itself and the buzzer will give out an alarm. Push the ON/OFF button to shut off the unit. And then push ON/OFF button again, if high voltage protection disappears, operation will restore, or otherwise, the fault is displayed.
E6	Communications Failure	Communication	When outdoor unit is energized and fails to receive data of indoor unit within 30 seconds, an indoor unit communication fault is reported. The compressor and the outdoor unit will be shut off, and the four way valve will be stopped 2 minutes after the compressor outage in heating state. If indoor unit fails to receive information of outdoor unit, a communication fault is reported. The indoor unit is shut off and an indicator is twinkling. If the display board fails to receive information of outdoor unit, a communication fault is determined and displayed and the unit does not actuate. After communication becomes normal, the system can restore to the previous running state itself.
E8	Indoor Fan Protection	Indoor unit	If fan overload protection is detected for continuous 3 seconds, relevant compressor and fan shall be shut off immediately and a fault code E8 is displayed, and at the same time, the buzzer gives out an alarm. Push the ON/OFF key, if the fault disappears, clear the fault display and push the ON/OFF key for restarting the system.
E9	Full Water Protection	Liquid level switch	Water full is detected for continuous 8 seconds after the system is powered on, the water full protection is initiated and the indicator is twinkling (or E9 is displayed). Under refrigeration and dehumidification mode, the outdoor fan and the compressor are shut off and the indoor fan stops after 1 minute delay; under heating mode, the outdoor fan and the compressor are shut off, the four way valve keeps at the previous status, and the indoor fan stops after 1 minute delay; under air supply mode, the load of indoor unit remains.

Trouble Code	Trouble Name	Origin of Trouble Signal	Control Description
F0	Failure of Indoor Room Sensor at Air Intake	Indoor environment Thermal bulb	Open-circuit or short-circuit of the indoor environment thermal bulb is detected for continuous 5 seconds, indoor environment temperature will be set compulsively at 24 degree, the system does not take any measure, and only the indicator is twinkling or fault code F0 is displayed. After the fault is removed, the system can restore operation by itself. Under air supply mode, only the fault is displayed and the indoor fan is running normally. The fault display disappears when the fault is removed.
F1	Failure of Evaporator Temp. Sensor	Indoor evaporator thermal bulb	Open-circuit or short-circuit of evaporator thermal bulb is detected for continuous 5 seconds, under refrigeration and dehumidification mode, the system will be shut off; and under heating mode, all loads except for the four way valve are shut off. The indicator is twinkling or fault code F1 is displayed. The system can restore by itself and display fault elimination after the fault is removed. Under air supply mode, only the fault is displayed and the indoor unit is running normally. The fault display disappears when the fault is removed.
F2	Failure of Condenser Temp. Sensor	Outdoor condenser thermal bulb	Open-circuit or short-circuit of condenser thermal bulb is detected for continuous 5 seconds, under refrigeration and dehumidification mode, the system will be shut off; and under heating mode, all loads except for the four way valve are shut off. The indicator is twinkling or fault code F2 is displayed. The system can restore by itself and display fault elimination after the fault is removed. Under air supply mode, only the fault is displayed and the indoor unit is running normally. The fault display disappears when the fault is removed. For other types of refrigeration machines except for air duct machine, condenser thermal bulb is not detected.
F3	Failure of Outdoor Ambient Sensor	Outdoor environment thermal bulb	Open-circuit or short-circuit of outdoor environment thermal bulb is detected for continuous 5 seconds, under refrigeration and dehumidification mode, the system will be shut off; and under heating mode, all loads except for the four way valve are shut off. The indicator is twinkling or fault code F3 is displayed. The system can restore by itself and display fault elimination after the fault is removed. Under air supply mode, only the fault is displayed and the indoor unit is running normally. The fault display disappears when the fault is removed.
F4	Failure of Exhaust Temp. Sensor	Discharge thermal bulb	After the compressor is started, open-circuit of discharge thermal bulb is detected for continuous 5 seconds. Under refrigeration and dehumidification mode, all loads will be shut off. Under heating mode, all loads except for the four way valve are shut off. The indicator is twinkling or fault code F4 is displayed. And the buzzer gives out an alarm. After the fault is removed, the system will restore by itself and clear the fault code. If discharge thermal bulb is short circuited, under refrigeration and dehumidification mode, all loads will be shut off. Under heating mode, all loads except for the four way valve are shut off. The indicator is twinkling or fault code F4 is displayed. And the buzzer gives out an alarm. After the fault is removed, the system will restore by itself and clear the fault code.
F5	Failure of Indoor Room Sensor at Wire Controller	Line controller	Open-circuit or short-circuit of line controller thermal bulb is detected for continuous 5 seconds, indoor environment temperature will be set compulsively at 24 degree, the system does not take any measure, and only the indicator is twinkling or fault code F0 is displayed. After the fault is removed, the system can restore operation by itself. Under air supply mode, only the fault is displayed and the indoor fan is running normally. The fault display disappears when the fault is removed.

Cassette Type Indoor Unit's Error Indicating:

LED	No error	Flash times every two seconds	Error description
yellow: Timing indicating lamp	It goes on as per the set time, And it flashes when the temperature sensor error occurs	once	the indoor ambient temperature sensor error
		twice	the evaporator temperature sensor error
		three times	the condenser temperature sensor error
		four times	the outdoor ambient temperature sensor error
		five times	the discharge air temperature sensor error
green:Compressor indicating lamp	It goes on/off as the compressor is turned on/off. And it flashes when defrosting or the compressor error occurs	twice	Defrosting
		three times	high pressure protection
		four times	the low pressure protection
		five times	Overload protection
		six times	Discharge high temperature protection
red:Running indicating lamp	It goes on/off as the unit is turned on/off, And it flashes when the indoor unit error occurs	twice	the water overflow protection
		three times	the anti-freezing error
		four times	Anti-high temperature protection

2 FLOW CHART OF TROUBLESHOOTING

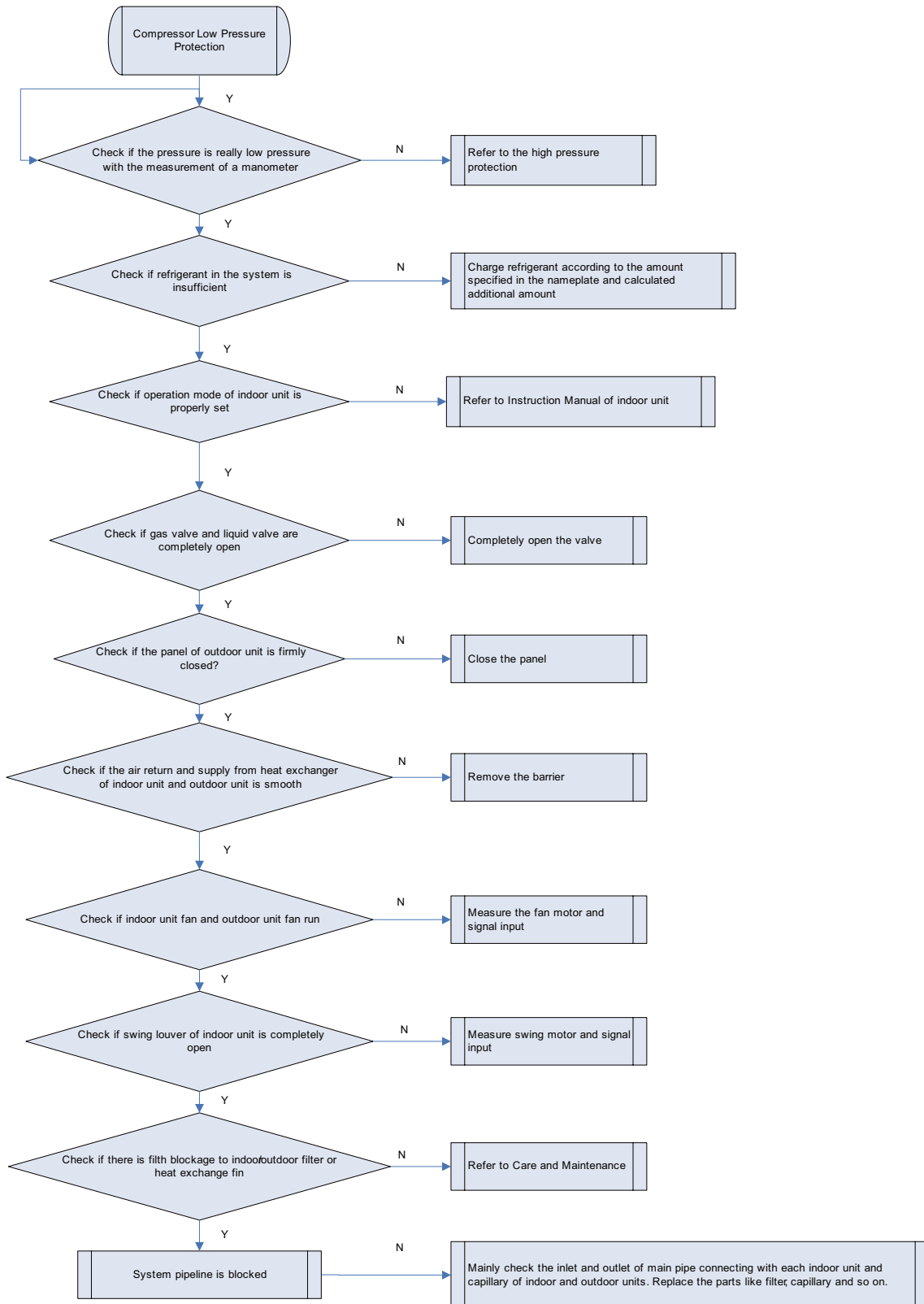
Service personnel shall collect the malfunction information as much as possible and research them thoroughly, list these electrical parts which may cause malfunction, service personnel shall be able to determine the specific reason and solve the faulted parts.

- 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 .

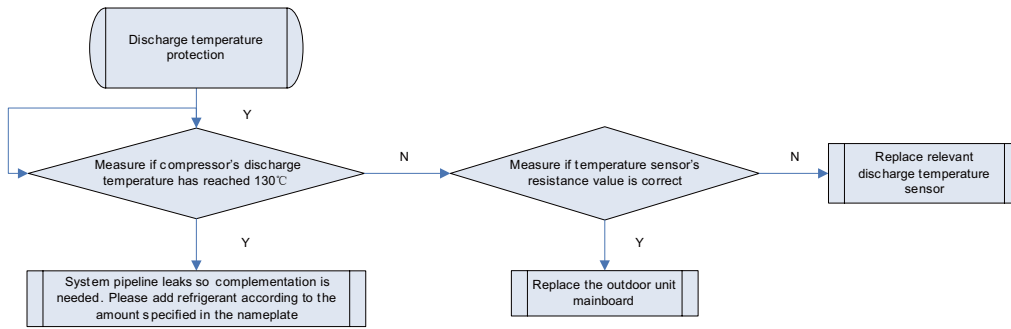
◆ Malfunction display: E1 Compressor High Pressure Protection



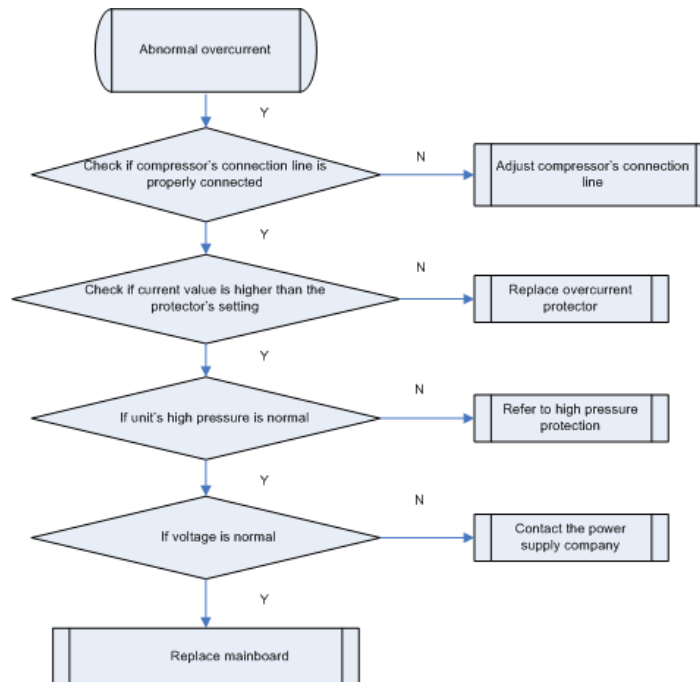
◆ Malfunction display: E3 Compressor Low Pressure Protection



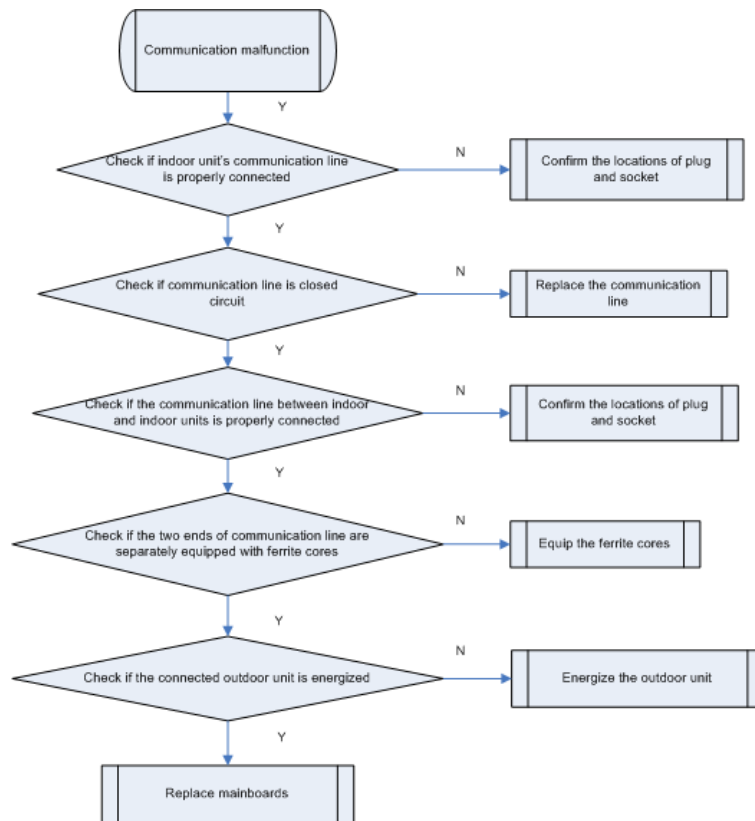
◆ Malfunction display: E4 Compressor Exhaust High Temperature Protection



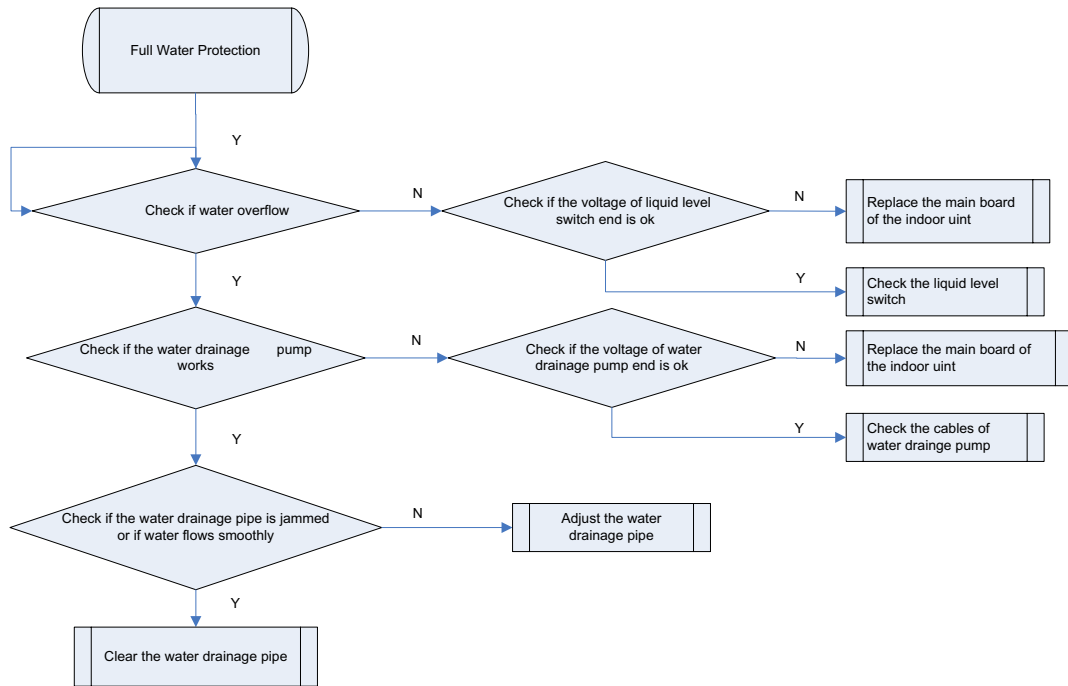
◆ Malfunction display: E5 Compressor Overheat



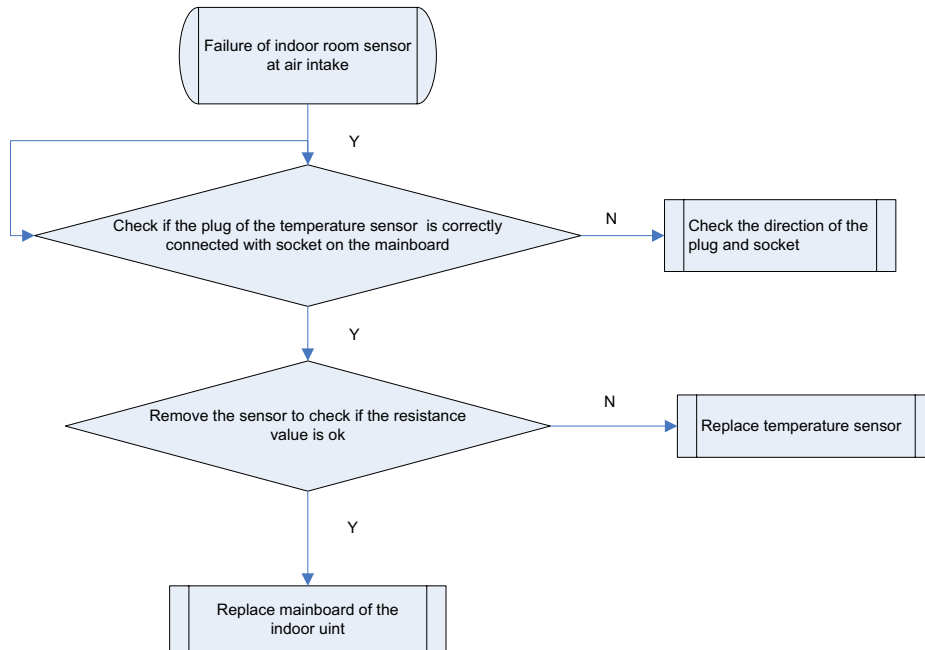
◆ Malfunction display: E6 Communications Failure



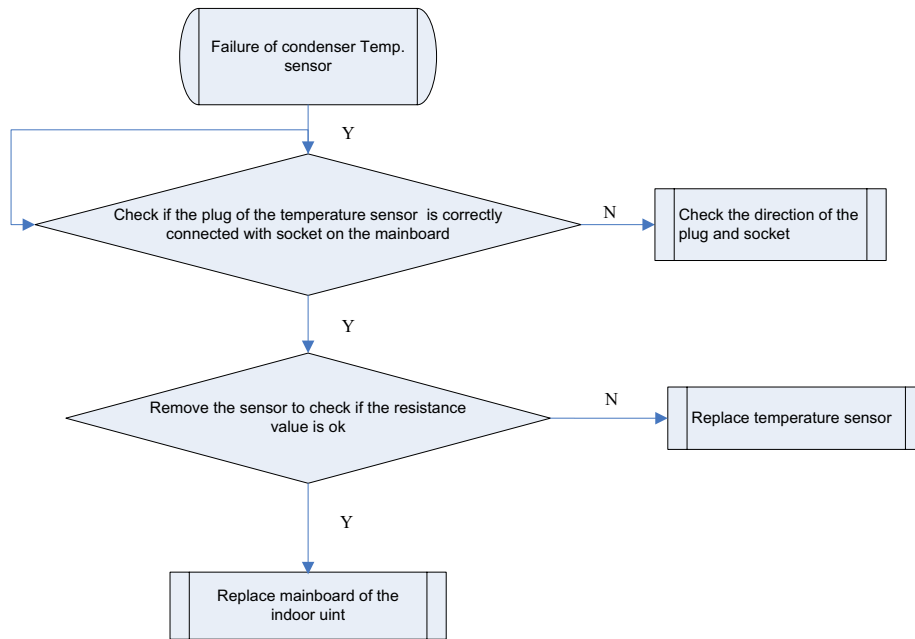
◆ Malfunction display: E9 Full Water Protection



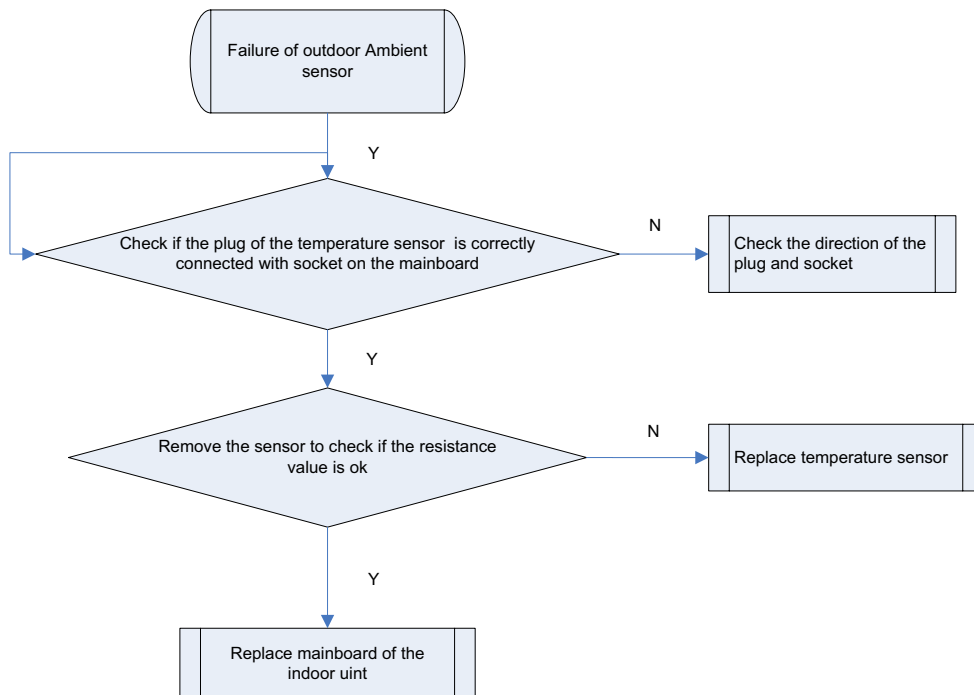
◆ Malfunction display: F0 Failure of Indoor Room Sensor at Air Intake



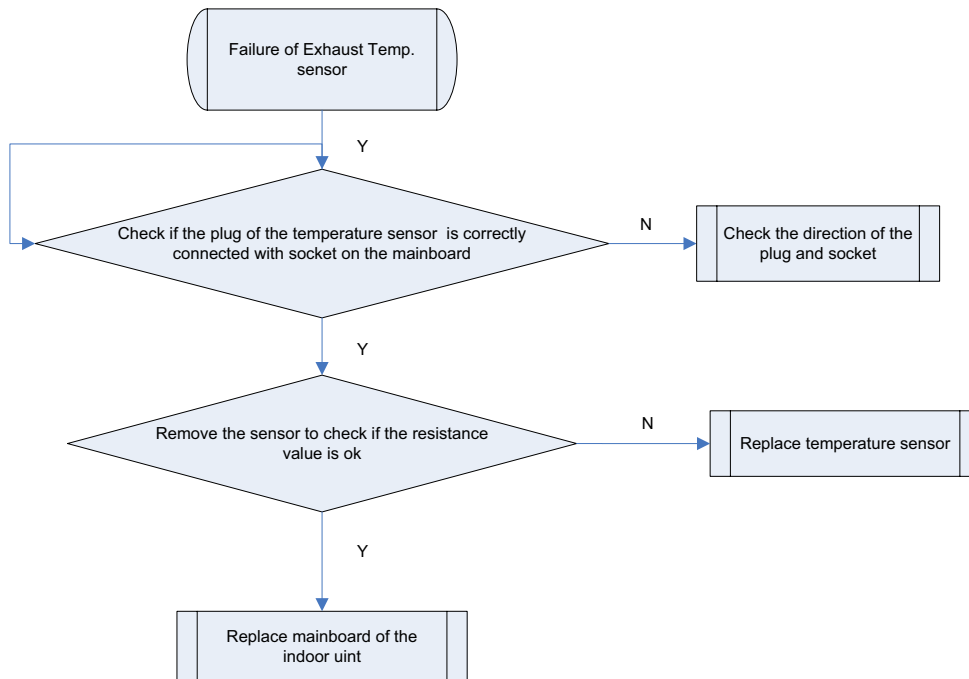
◆ Malfunction display: F1 Failure of Evaporator Temp. Sensor



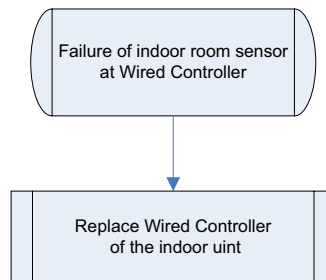
◆ Malfunction display: F3 Failure of Outdoor Ambient Sensor



◆ Malfunction display: F4 Failure of Exhaust Temp. Sensor



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

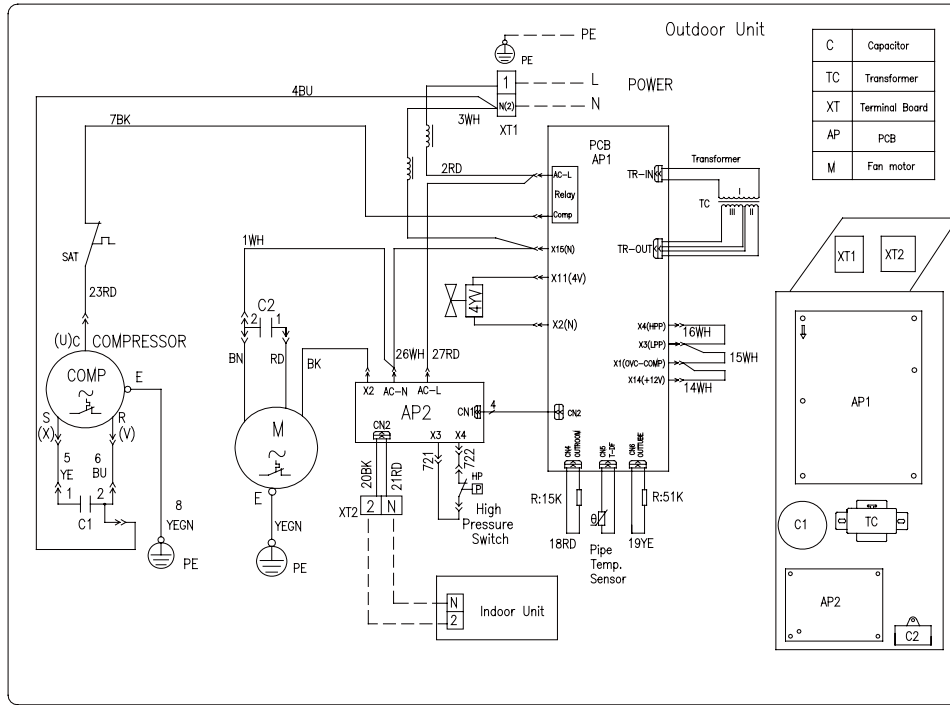


3 WIRING DIADRAM

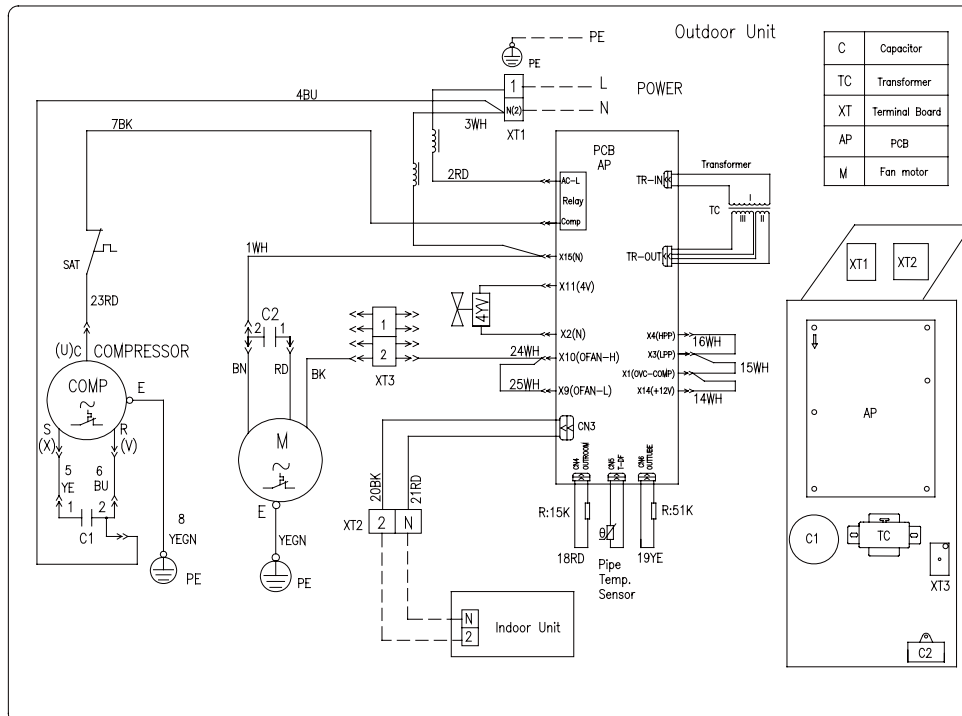
3.1 Wiring Diagram-Outdoor Units

1. GUHN09NK3AO

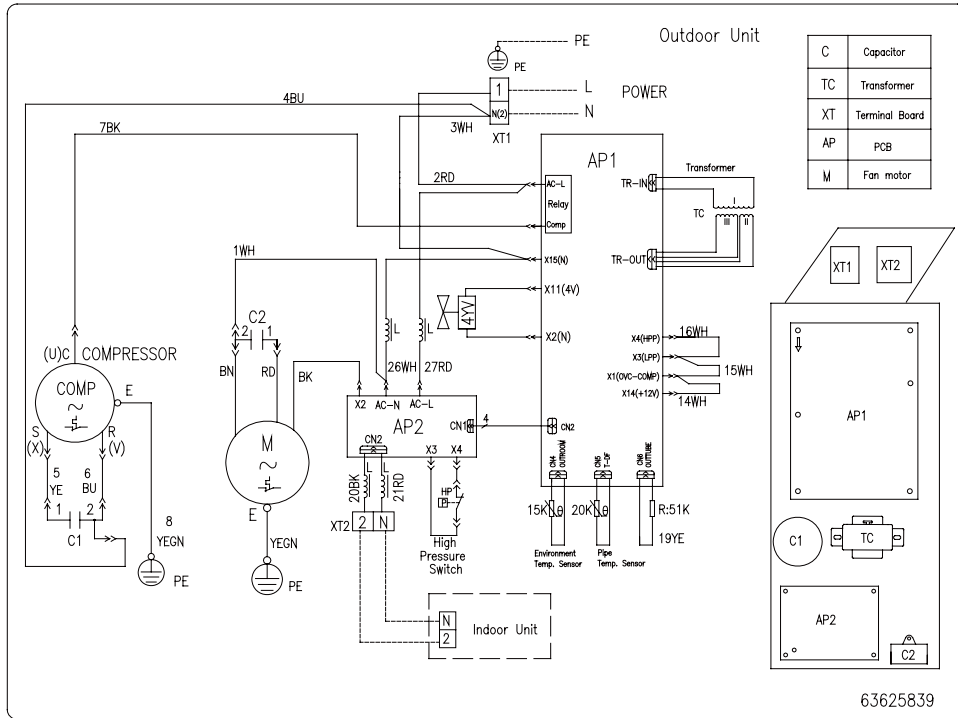
WITH FUNCTION OF LOW TEMP. COOLING:



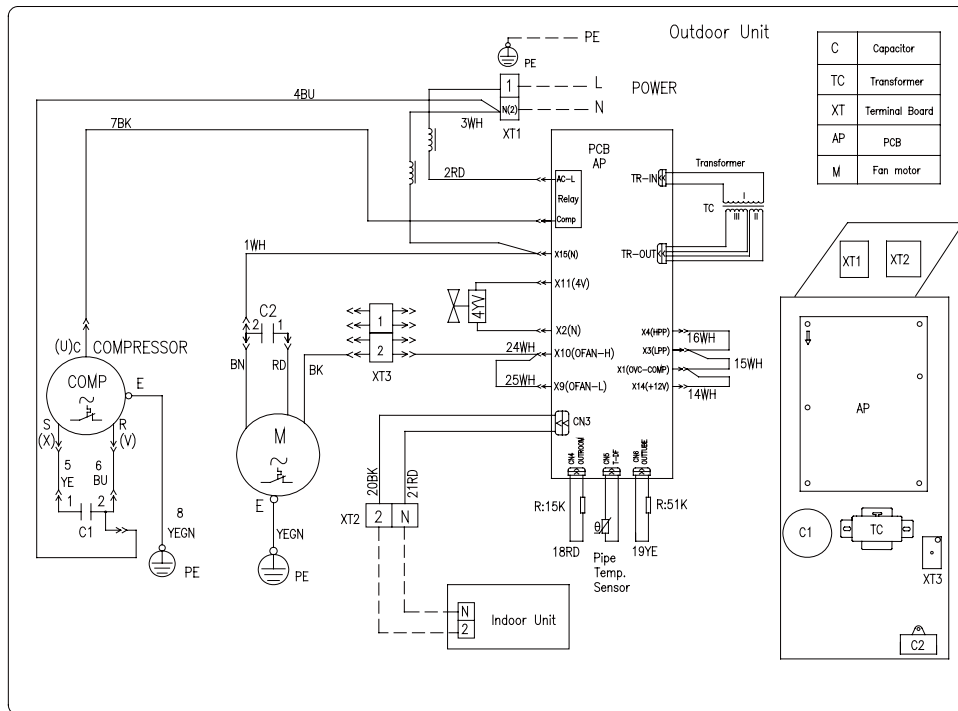
WITHOUT FUNCTION OF LOW TEMP. COOLING:



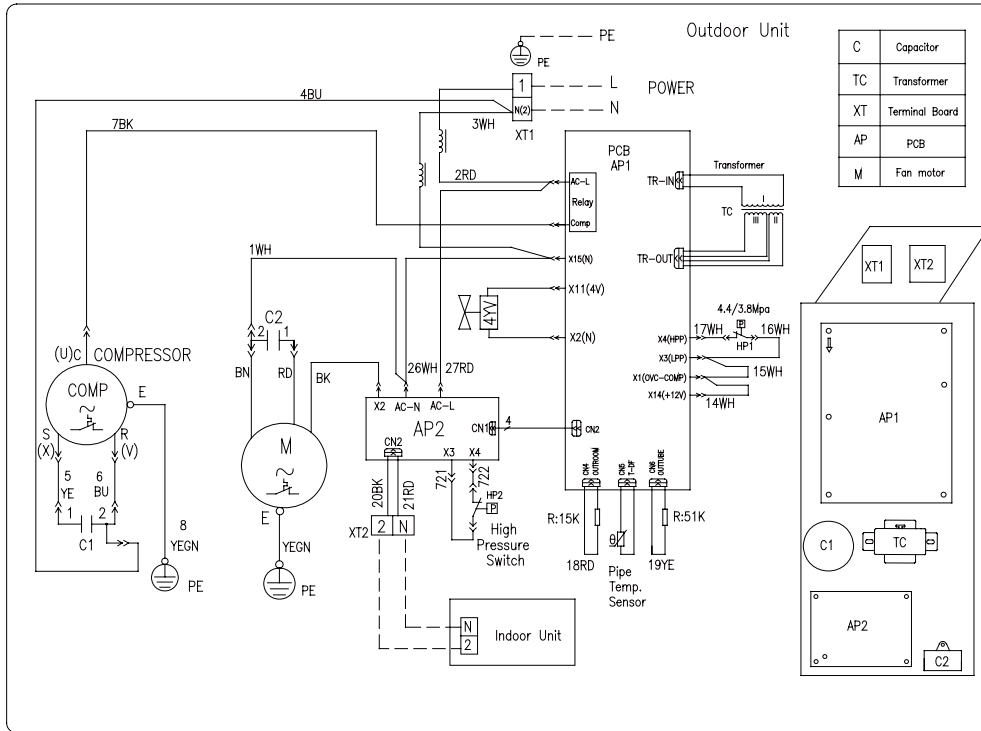
**2. GUHN12NK3AO
WITH FUNCTION OF LOW TEMP. COOLING:**



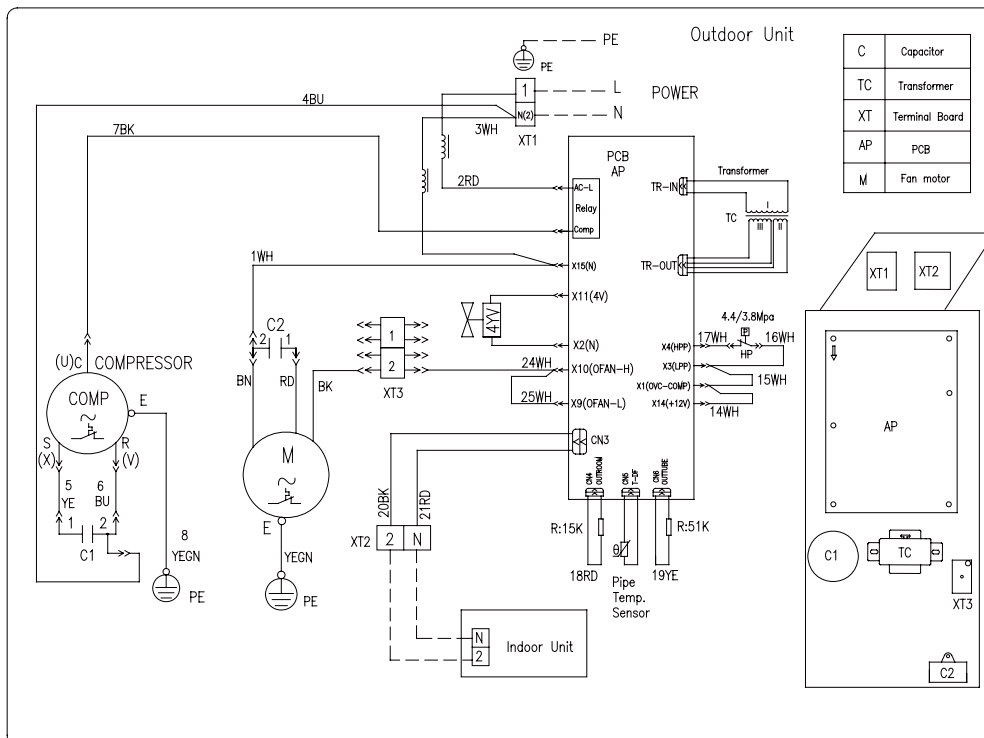
WITHOUT FUNCTION OF LOW TEMP. COOLING:



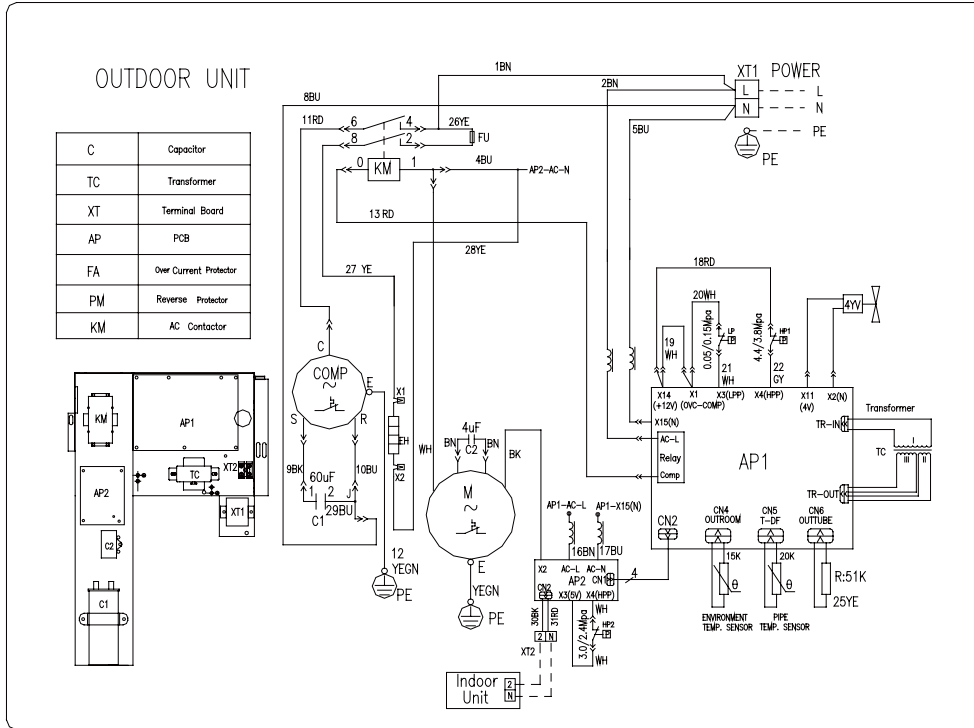
**3. GUHN18NK3AO
WITH FUNCTION OF LOW TEMP. COOLING:**



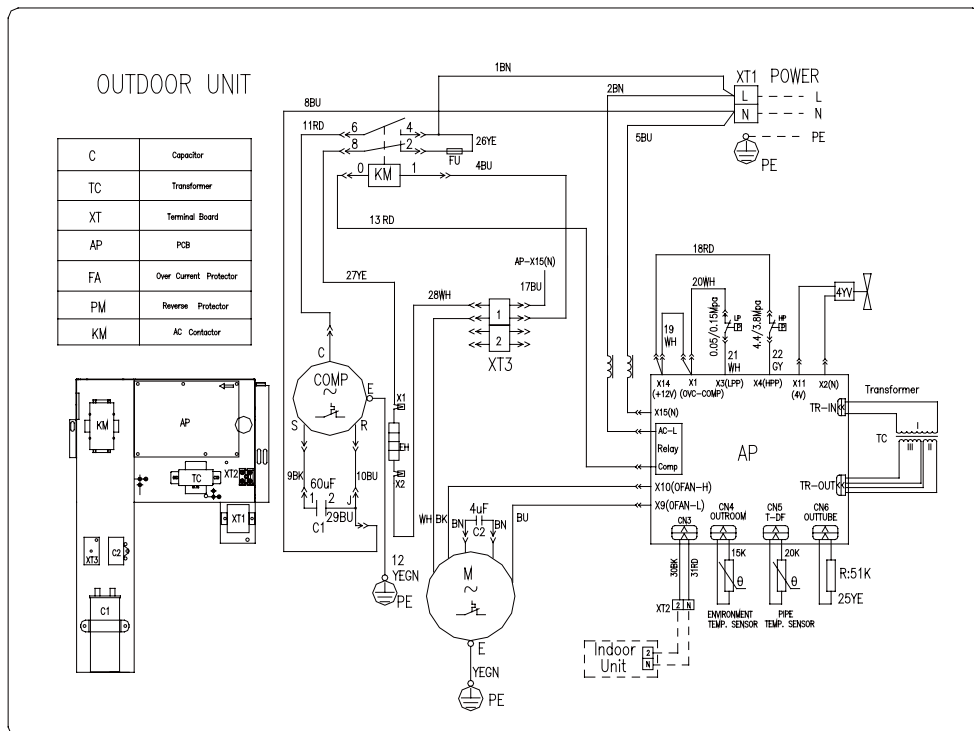
WITHOUT FUNCTION OF LOW TEMP. COOLING:



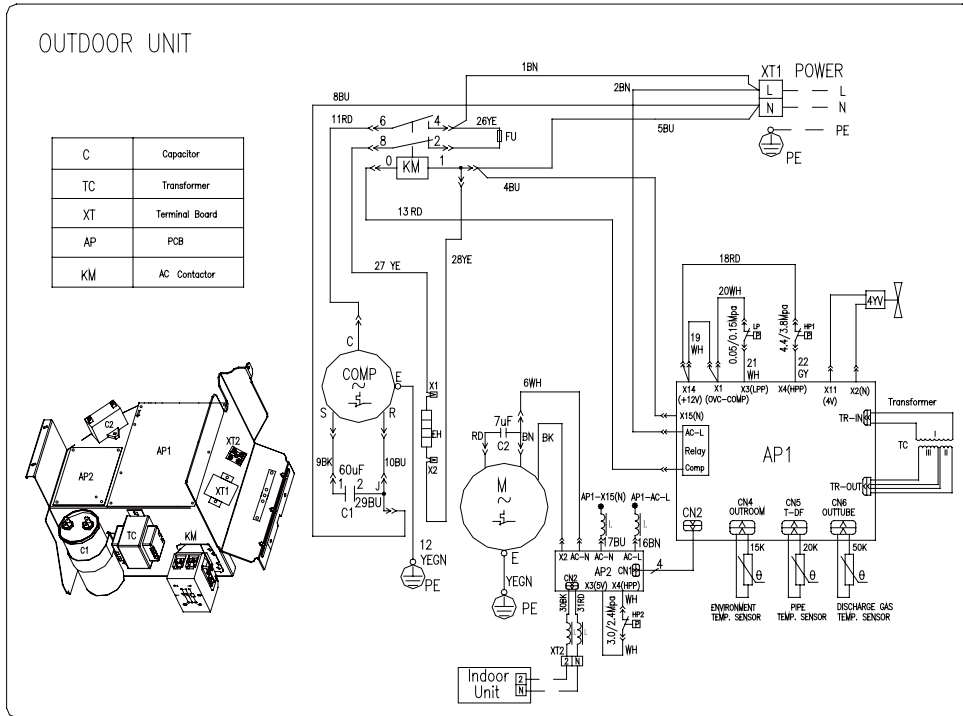
**4. GUHN24NK3AO
WITH FUNCTION OF LOW TEMP. COOLING:**



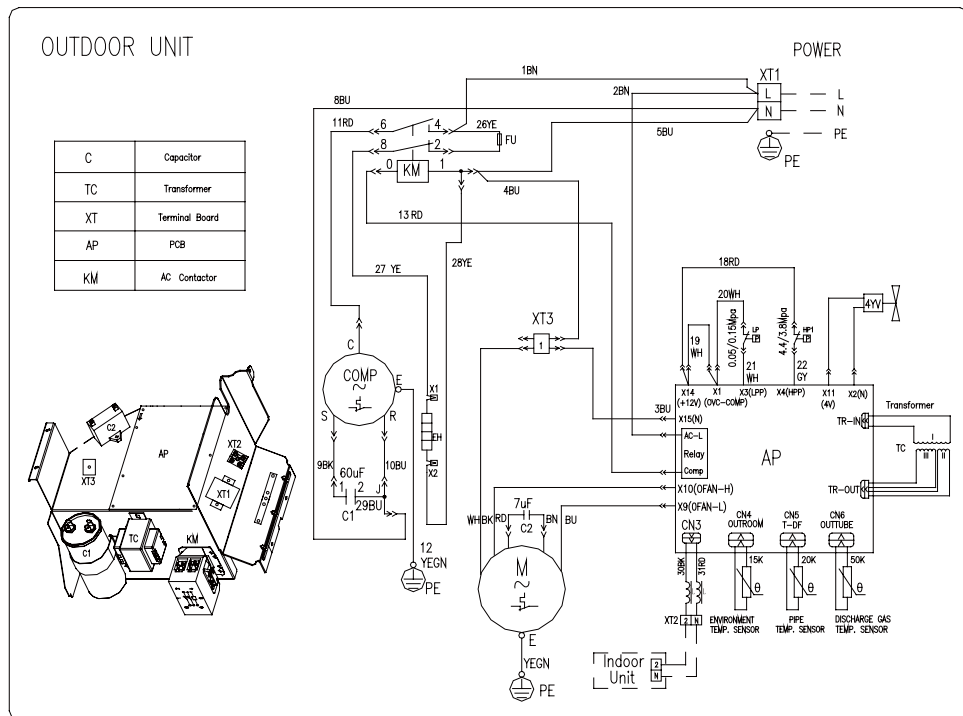
WITHOUT FUNCTION OF LOW TEMP. COOLING:



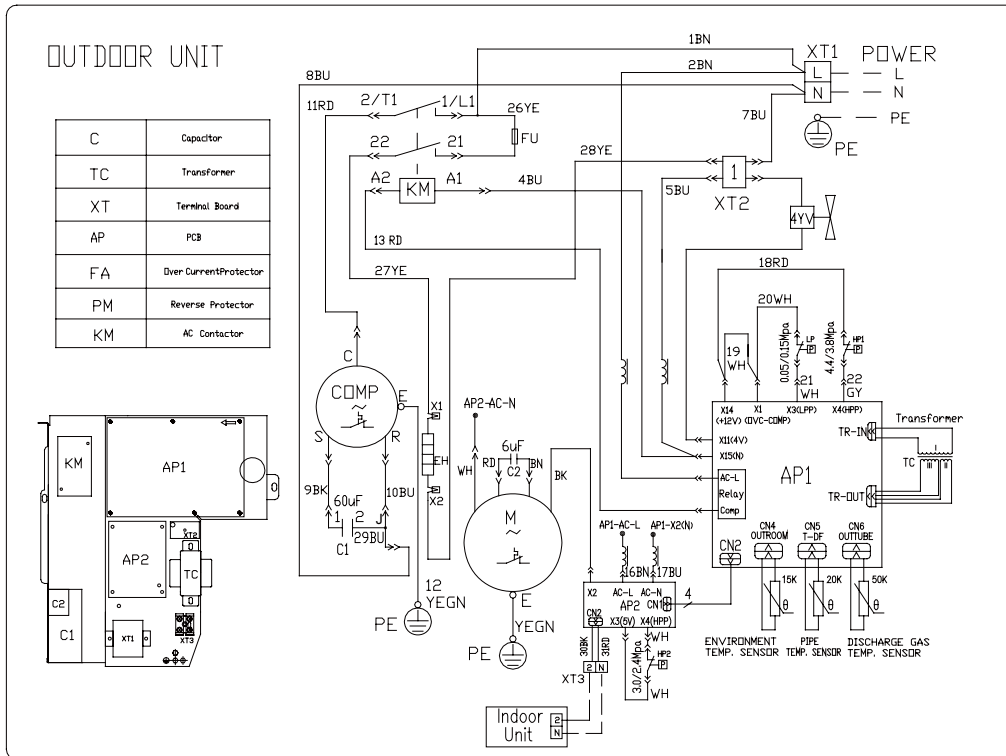
**5. GUHN30NK3AO
WITH FUNCTION OF LOW TEMP. COOLING:**



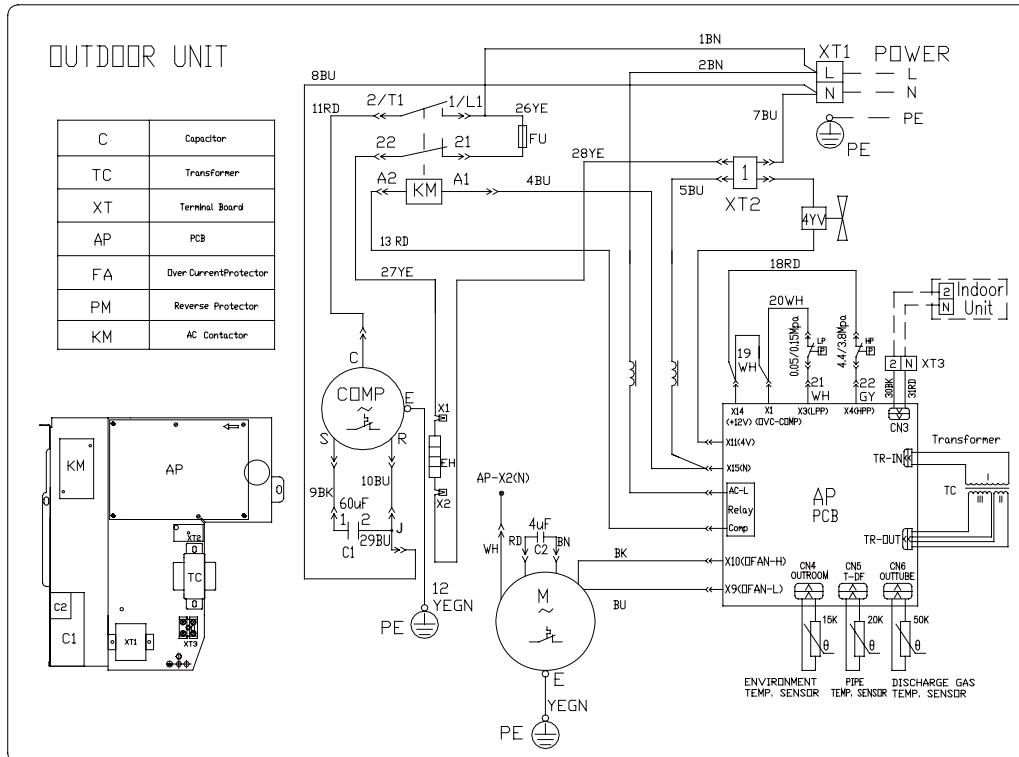
WITHOUT FUNCTION OF LOW TEMP. COOLING:



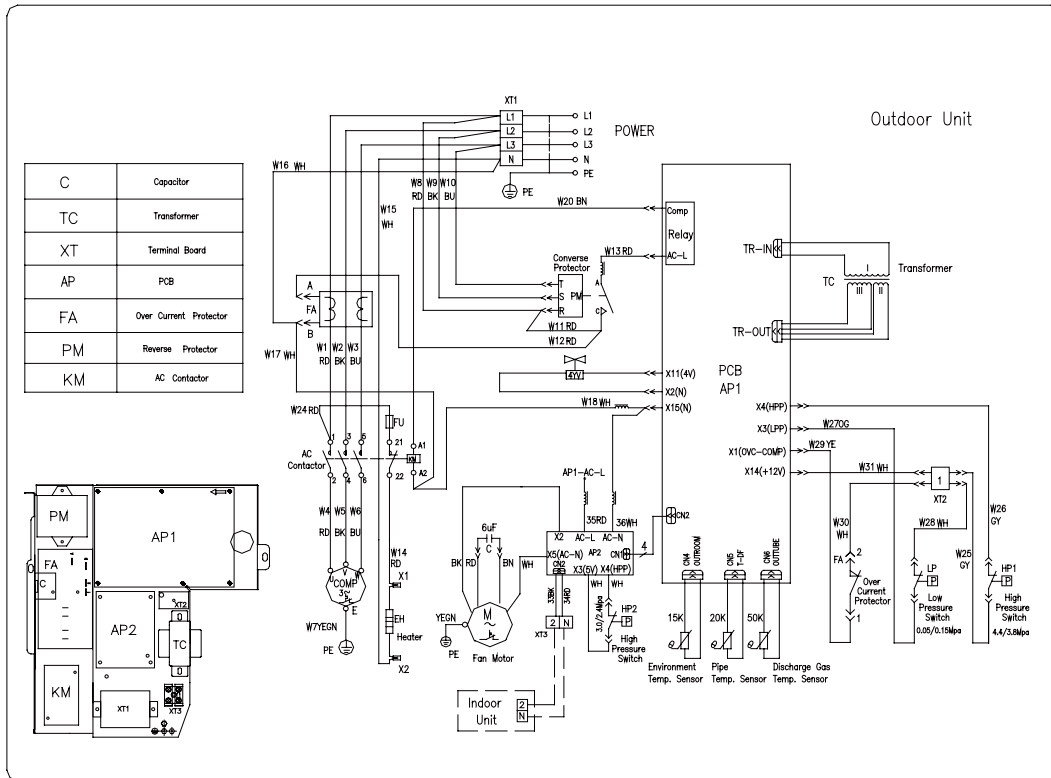
**6. GUHN36NK3AO
WITH FUNCTION OF LOW TEMP. COOLING:**



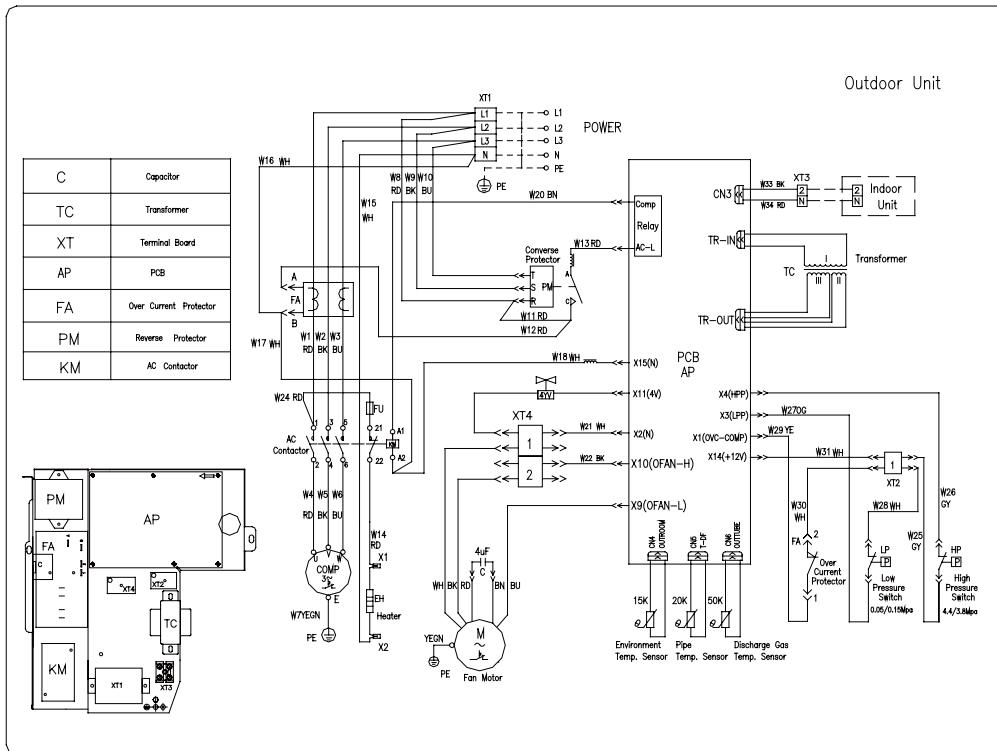
WITHOUT FUNCTION OF LOW TEMP. COOLING:



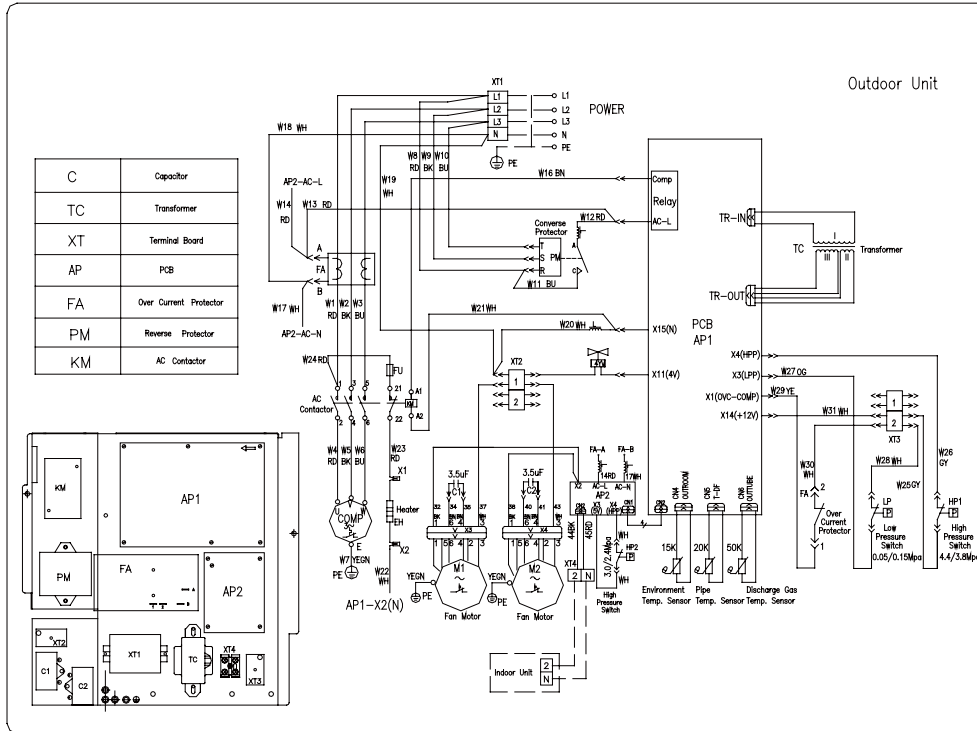
**7. GUHN36NM3AO
WITH FUNCTION OF LOW TEMP. COOLING:**



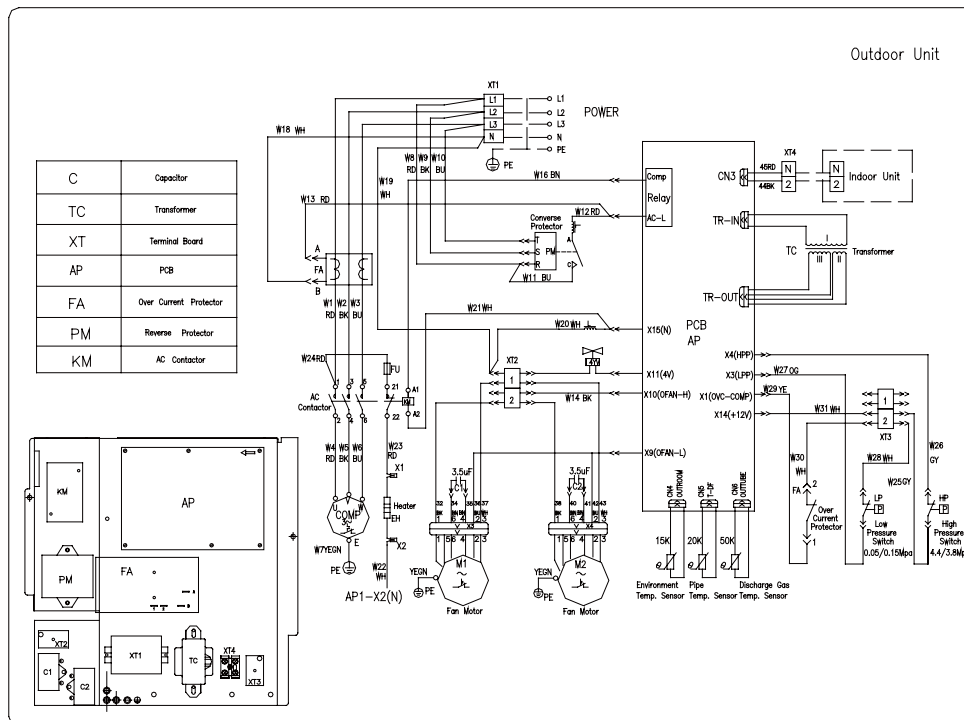
WITHOUT FUNCTION OF LOW TEMP. COOLING:



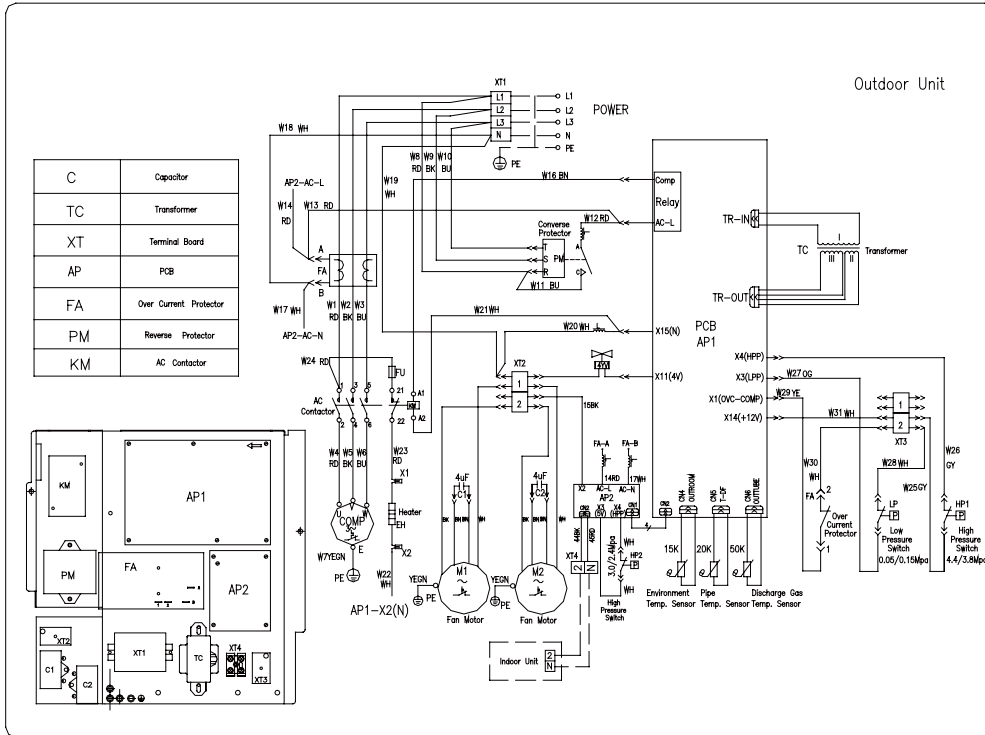
8. GUHN42NM3AO WITH FUNCTION OF LOW TEMP. COOLING:



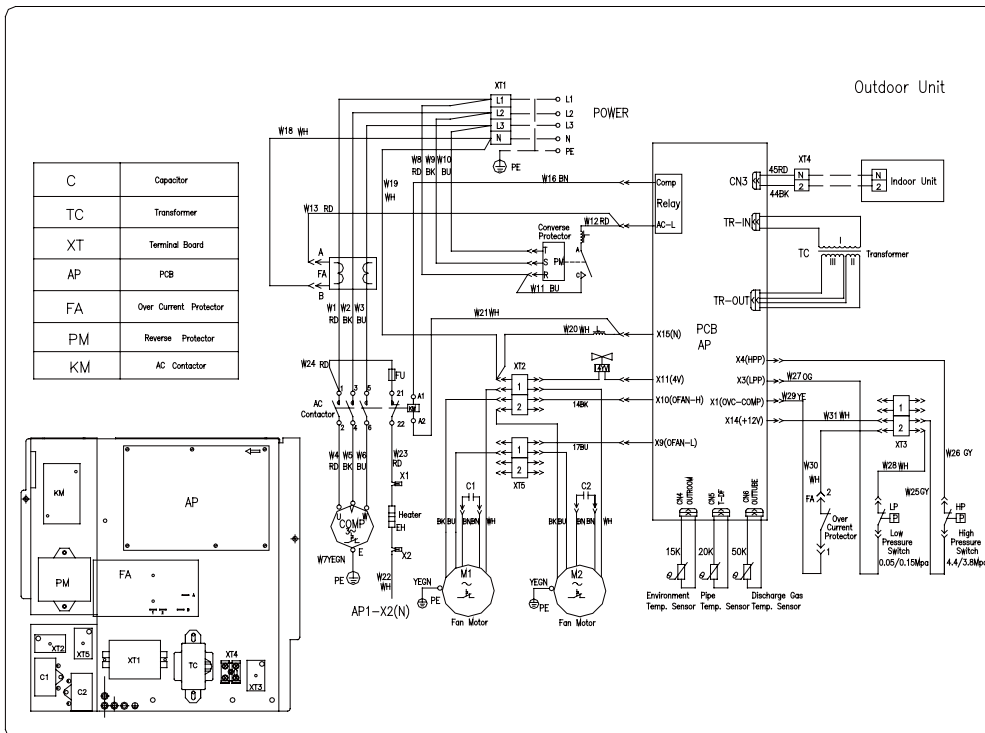
WITHOUT FUNCTION OF LOW TEMP. COOLING:



**9. GUHN48NM3AO; GUHN60NM3AO
WITH FUNCTION OF LOW TEMP. COOLING:**



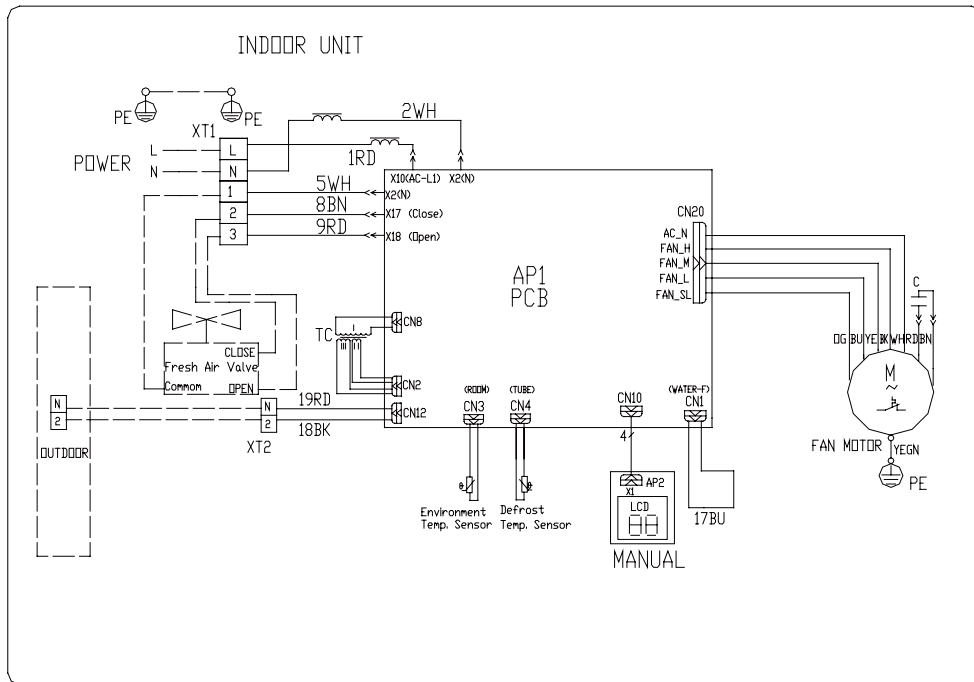
WITHOUT FUNCTION OF LOW TEMP. COOLING:



3.2 Wiring Diagram-Indoor units

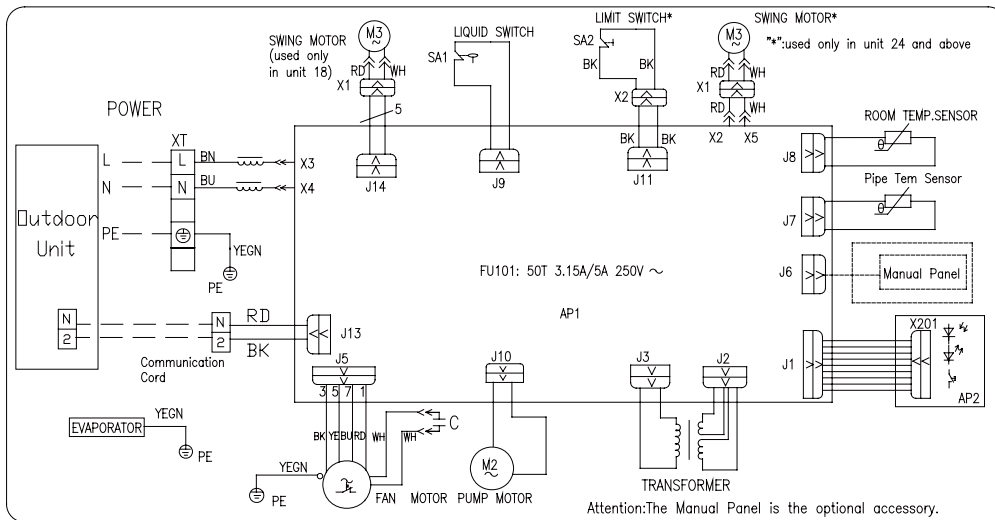
3.2.1 Duct Type

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



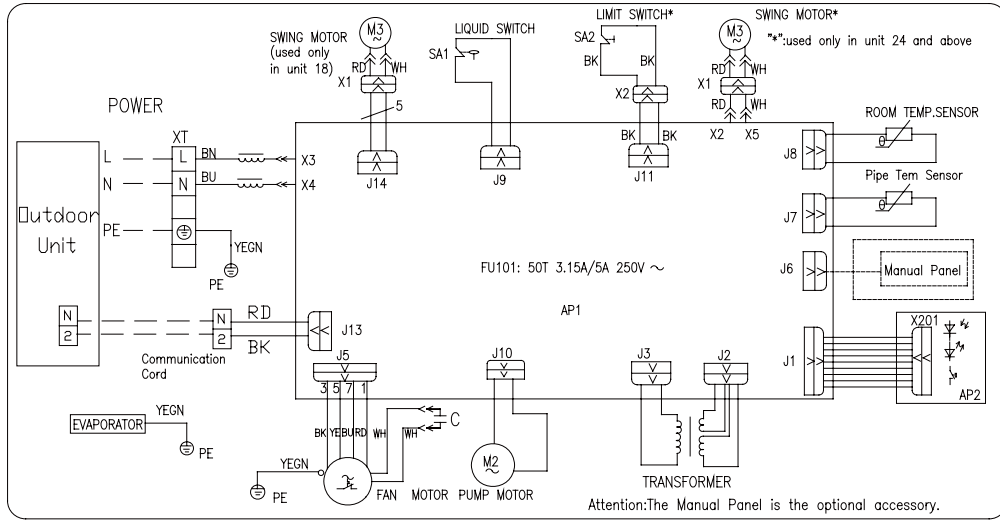
3.2.2 Ceiling Type

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



3.2.3 Cassette Type

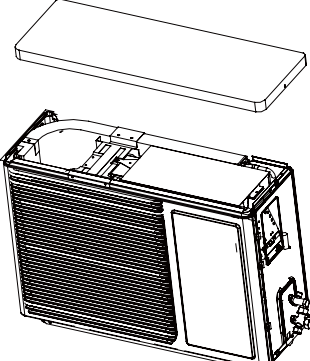
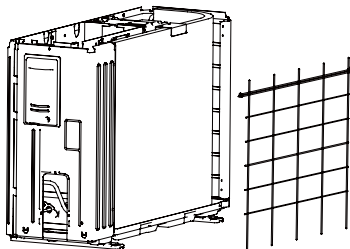
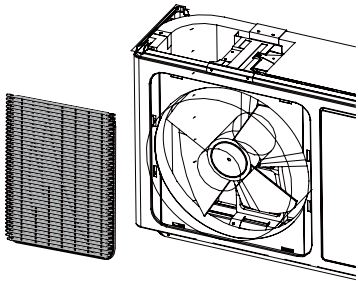
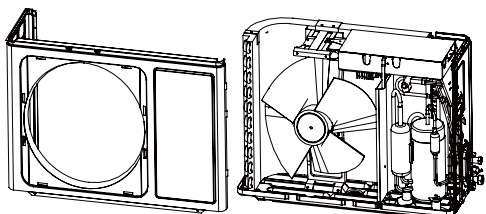
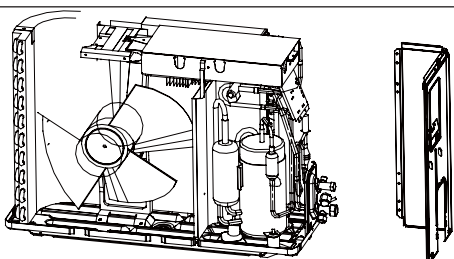
Model:GTH09K3BI; GTH12K3BI; GTH18K3BI; GTH24K3BI; GTH30K3BI; GTH36K3BI; GTH42K3BI;
GTH48K3BI;

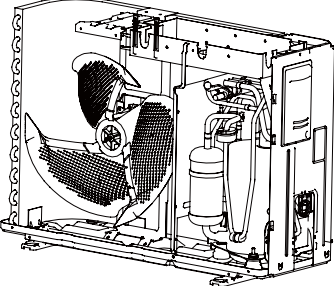
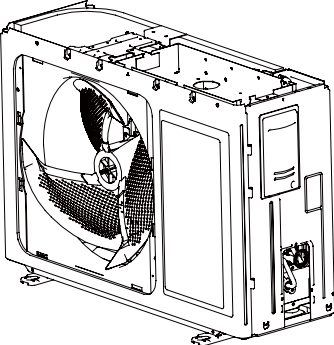
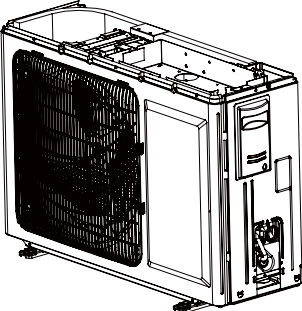
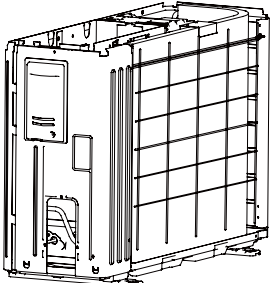
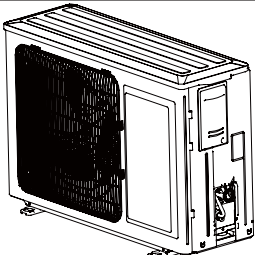


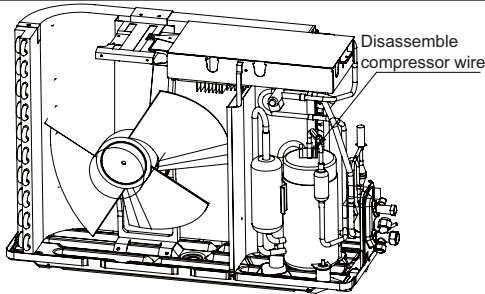
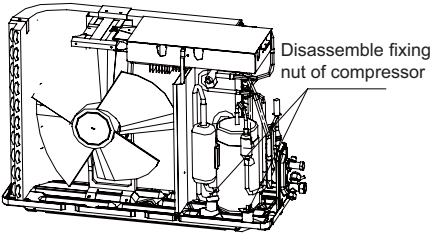
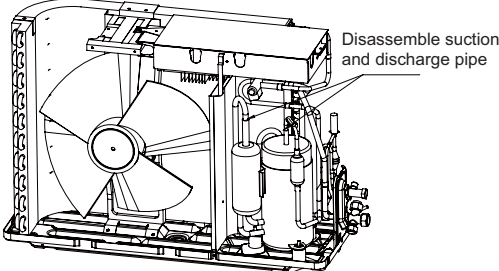
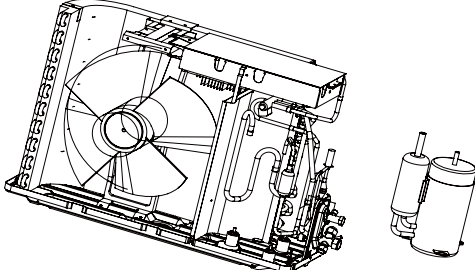
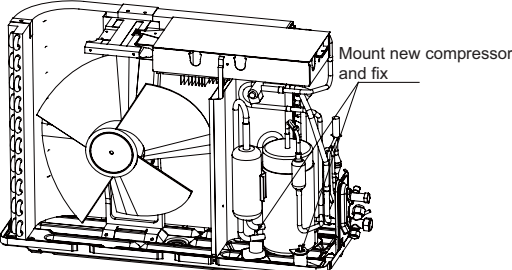
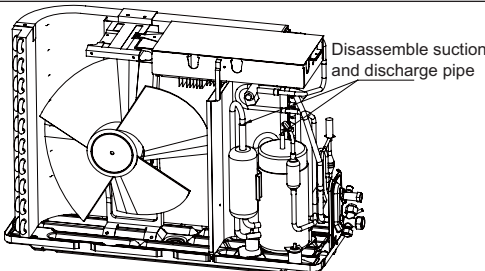
4 DISASSEMBLY AND ASSEMBLY PROCEDURE OF MAIN PARTS

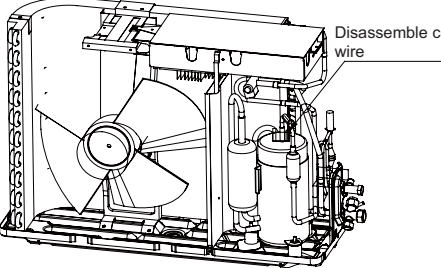
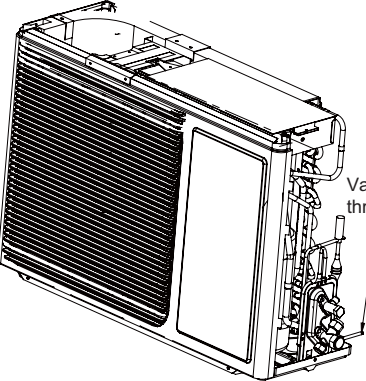
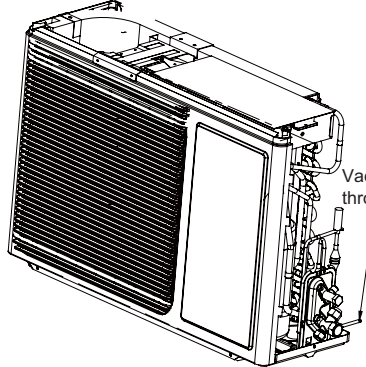
4.1 Outdoor Unit

GUHN09NK3AO~ GUHN36NK3AO

Disassembly and Assembly of external casing		
Remark: Make sure that power supply is cut off before disassembling the external casing.		
Step	Illustration	Handling Instruction
1. Disassembly of coping		<ul style="list-style-type: none"> •Disassemble the fixing screw surrounding the coping with screwdriver •Remove coping from the unit.
2. Disassembly of screen		<ul style="list-style-type: none"> •Loose fixing screw surrounding the screen with screwdriver. •Remove screen from the unit.
3. Disassembly of panel grating		<ul style="list-style-type: none"> •Disassemble the screws of the fixing panel grating with screwdriver. •Disassemble and remove the panel grating from the panel (external casing).
4. Disassembly of panel (external casing)		<ul style="list-style-type: none"> •Disassemble the fixing screw surrounding the panel (external casing); •Remove the panel (external casing) from the unit.. •Some types (24k and above) require disassembling the front panel outside the external casing first before removing it.
5. Disassembly of right (back) panel		<ul style="list-style-type: none"> •Disassemble the screws surrounding the right (back) panel with screwdriver. •Remove the right (back) panel from the unit.

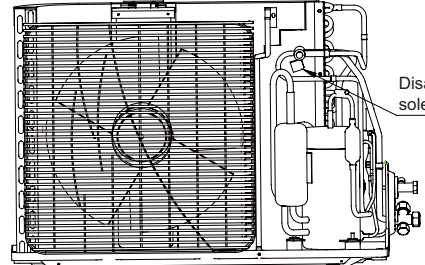
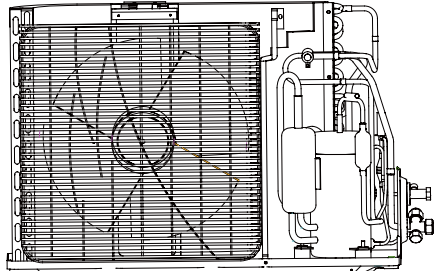
<p>6. Assembly of new right (back) panel</p>		<ul style="list-style-type: none"> ●Put new right (back) panel into right position. ●Screw down the surrounding fixing screw with screwdriver.
<p>7. Assembly of new panel (external casing)</p>		<ul style="list-style-type: none"> ●Put new panel (external casing) into right position on the unit; ●Screw down the surrounding fixing screw with screwdriver. ●Some types (24k and above) need to be equipped with front panel outside the external casing.
<p>8. Assembly of new panel grating</p>		<ul style="list-style-type: none"> ●Put new panel grating into right position on the unit ●Screw down the surrounding fixing screw with screwdriver.
<p>9. Assembly of new screen</p>		<ul style="list-style-type: none"> ●Put new screen into the right position on the unit. ●Screw down the surrounding fixing screw with screwdriver.
<p>10. Assembly of new coping</p>		<ul style="list-style-type: none"> ●Put the new coping into the right position on the unit. ●Screw down the surrounding fixing screw with screwdriver.

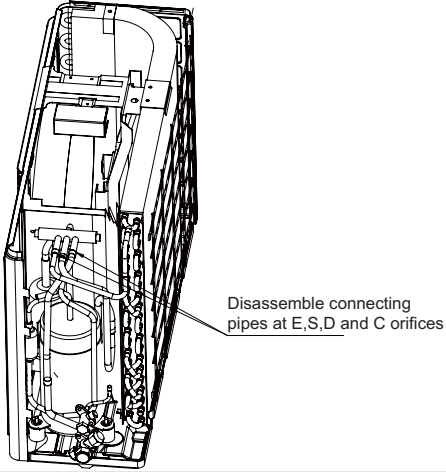
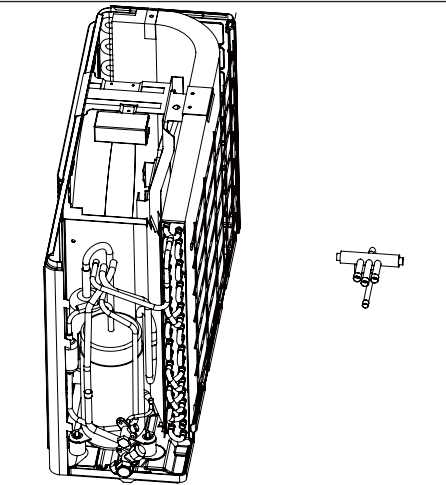
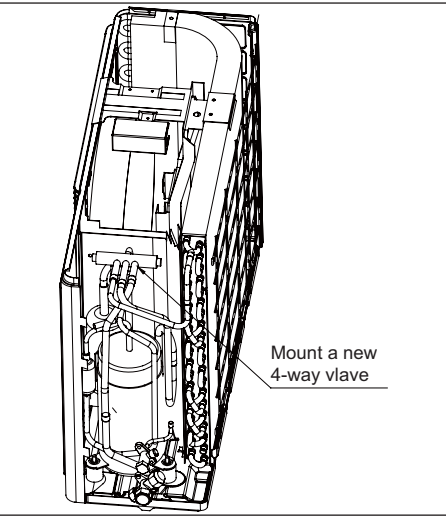
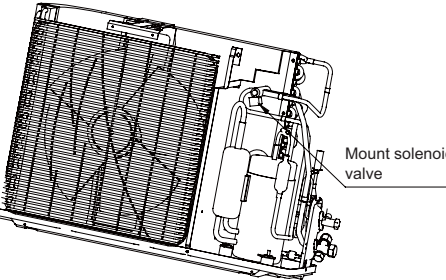
Disassembly and Assembly of Compressor		
Remark : Make sure there isn't any refrigerant in pipe system and the power supply is cut off before removal of the compressor.		
Step	Illustration	Handling Instruction
1. Disassembly of compressor wires	 Disassemble compressor wire	<ul style="list-style-type: none"> • Loose the fixing screw for the power supply wire with screwdriver. • Pull down the power supply wire. • Attention: During removal of the power supply wire, mark wire color with the corresponding joint number in case of wrong connection.
2. Disassembly of fixing nuts on compressor	 Disassemble fixing nut of compressor	<ul style="list-style-type: none"> • Disassemble the fixing nut on the compressor with wrench.
3. Disassembly of suction and discharge pipe	 Disassemble suction and discharge pipe	<ul style="list-style-type: none"> • Heat the suction and discharge pipe with gas welding before removing compressor. • Provide nitrogen protection during gas welding and the nitrogen pressure should be $0.5 \pm 0.1 \text{ kgf/cm}^2$ (relative pressure). • Please pay attention to heating in case that surrounding materials should be burnt by high temperature.
4. Removal of compressor		<ul style="list-style-type: none"> • Remove compressor from underpan.
5. Assembly of new compressor on the underpan	 Mount new compressor and fix	<ul style="list-style-type: none"> • Position accurately the new compressor on the unit. • Screw down fixing nut for compressor with wrench. • Do not up-side-down compressor during assembly.
6. Connection of suction and discharge pipe of compressor with pipe line system	 Disassemble suction and discharge pipe	<ul style="list-style-type: none"> • Heat suction and discharge pipe with gas welding before removing compressor. • Provide nitrogen protection during gas welding and the nitrogen pressure should be $0.5 \pm 0.1 \text{ kgf/cm}^2$ (relative pressure). • Please pay attention to heating in case that surrounding materials should be burnt by high temperature.

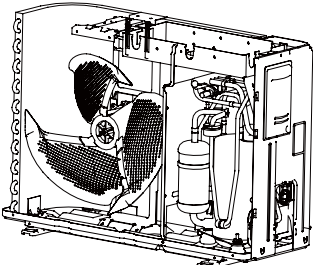
<p>7. Correct connection of wires for power supply of compressor</p>		<ul style="list-style-type: none"> •Install power supply wire onto fixing in the order of disassembly. •Screw down fixing screw for power supply wire with screwdriver.
<p>8. Vacuum pumping with fluorin injection mouth</p>		<ul style="list-style-type: none"> •Pump vacuum through fluorin injection mouth.
<p>9. Refill of cooling medium through fluorin injection mouth</p>		<ul style="list-style-type: none"> •Refill cooling medium into system through fluorin injection mouth •Volume of refilling should be in accordance with the requirement on the unit nameplate.

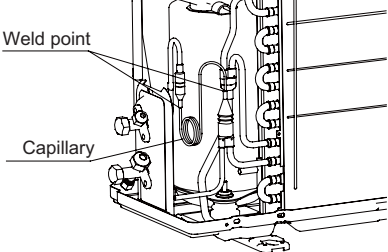
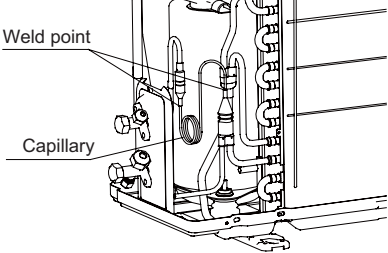
Disassembly and Assembly of 4-way valve

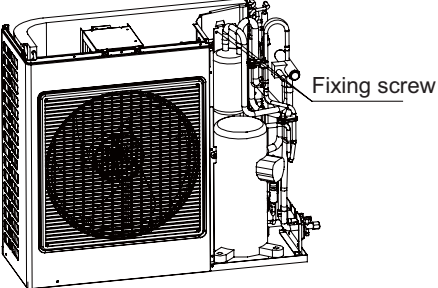
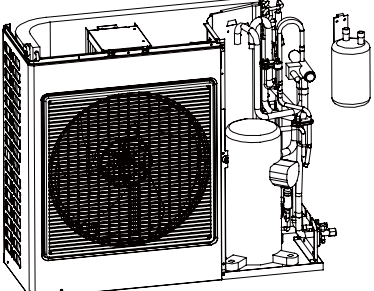
Remark: Make sure there isn't any refrigerant in pipe system and the power supply is cut off before removal of the 4-way valve.

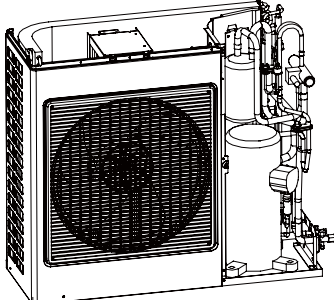
Step	Illustration	Handling Instruction
<p>1. Disassembly of solenoid valve</p>		<ul style="list-style-type: none"> •Cut off power supply and reclaim cooling medium properly. •Disassemble solenoid valve with wrench.
<p>2. Removal of electromagnetic valve</p>		<ul style="list-style-type: none"> •Take and remove solenoid valve from 4-way valve.

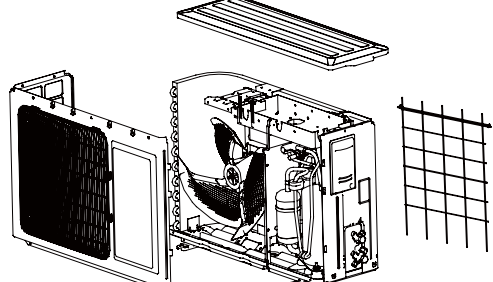
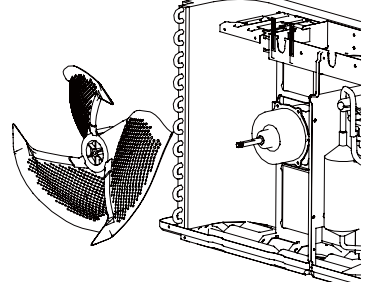
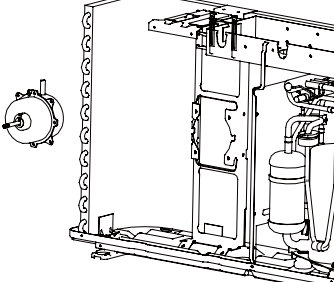
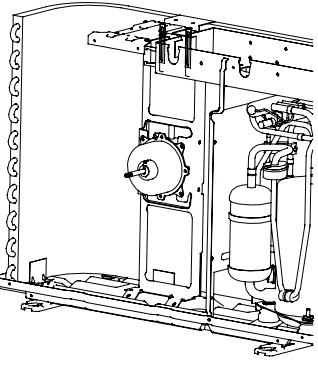
<p>3. Disassembly of 4-way valve</p>		<ul style="list-style-type: none"> ●Heat connection pipes for 4 pipes of 4-way valve with gas welding before removal of 4-way valve. ●Record the direction of the 4-way valve and installation position of each pipe before welding away 4-way valve.
<p>4. Removal of 4-way valve</p>		<ul style="list-style-type: none"> ●Remove the old 4-way valve from the pipe line.
<p>5. Assembly of new 4-way valve</p>		<ul style="list-style-type: none"> ●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 $0.5 \pm 0.1 \text{ kgf/cm}^2$ (relative pressure).
<p>6. Assembly of solenoid valve</p>		<ul style="list-style-type: none"> ●Assemble solenoid valve onto the new 4-way valve in order of disassembly.

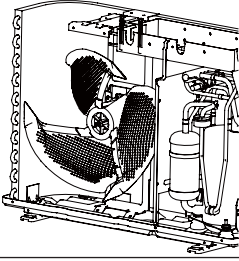
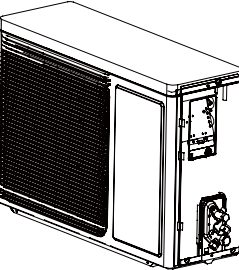
<p>7. Examination of System and cooling medium filling</p>		<ul style="list-style-type: none"> • Pump vacuum and fill cooling medium if the system leak test passes.
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Disassembly and Assembly of capillary		
Remark: Make sure there isn't any refrigerant in pipe system and the power supply is cut off before removal of the capillary.		
Step	Illustration	Handling Instruction
<p>1. Disassembly of capillary</p>		<ul style="list-style-type: none"> • Weld two welding points connecting capillary with other pipe lines. • Remove capillary.
<p>2. Assembly of new capillary</p>		<ul style="list-style-type: none"> • Assemble new capillary. • Weld the points connected with other pipe lines. • Re-examine the leak hunting of system. Pump vacuum and fill the cooling medium.

Disassembly and Assembly of Vapour Liquid Separator		
Remark: Make sure there isn't any refrigerant in pipe system and the power supply is cut off before removal of the vapor liquid separator. (Needless for types under 24kBtu/h)		
Step	Illustration	Handling Instruction
<p>1. Disassembly of Fixing screw for liquid reservoir</p>		<ul style="list-style-type: none"> • Disassemble two fixing screws for reservoir pothook with screwdriver.
<p>2. Disassembly of Vapor liquid separator</p>		<ul style="list-style-type: none"> • Weld open two pipes connecting vapor liquid separator with pipe line with gas welding. • Remove vapor liquid separator.

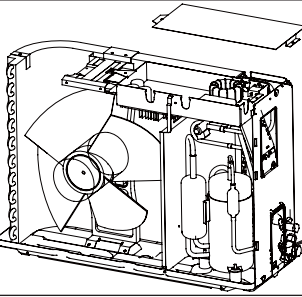
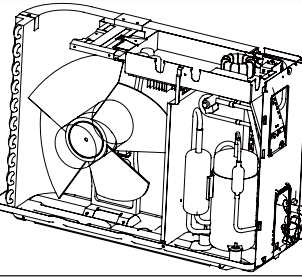
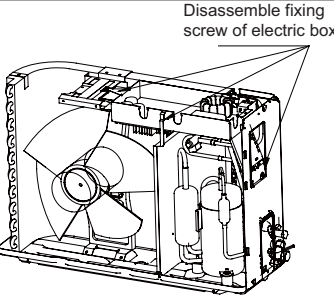
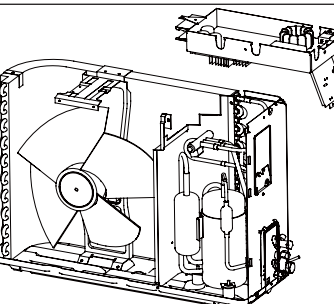
<p>3. Assembly of New vapor liquid separator</p>		<ul style="list-style-type: none"> ●Position accurately new vapor liquid separator. ●Connect new vapor liquid separator with pipe line using gas welding. ●Screw down two fixing screws again at the pothook.
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Disassembly and Assembly of Axial Flow Fan and motor		
Remark: Make sure power supply of the unit is cut down before removal of axial flow fan and motor.		
Step	Illustration	Handling Instruction
<p>1. Disassembly of outer parts</p>		<ul style="list-style-type: none"> ●Handling Instruction
<p>2. Disassembly of axial flow fan</p>		<ul style="list-style-type: none"> ●Disassemble outer parts of unit coping, panel(external casing), screen,etc. according to the discription above in order to disassemble axial flow fan and motor conveniently.
<p>3. Disassembly of fan motor</p>		<ul style="list-style-type: none"> ●Hold the fans without movement. ●Disassemle fixing nuts for the fans with wrench. ●Take down and remove fans from motor.
<p>4. Assembly of new motor</p>		<ul style="list-style-type: none"> ●Open the cover of electcal parts box. ●Loose the connecting plug for motor wires and pull out the wires through the hole. ●Disassemble the fixing screw on the motor support and remove the motor.

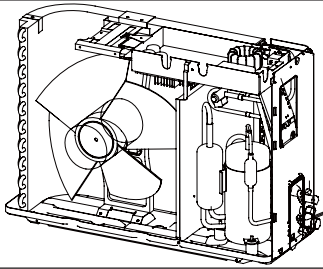
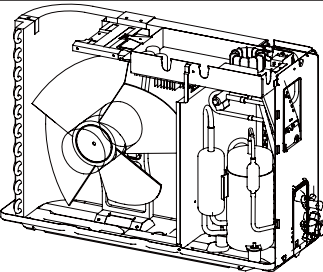
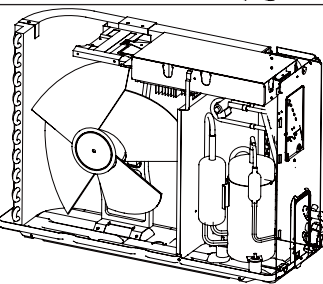
<p>5. Assembly of new axial flow fan</p>		<ul style="list-style-type: none"> • Position accurately new motor on the motor support. • Screw down the fixing screw to fasten the motor. • Connect the motor wire through the hole with the corresponding position inside the electrical parts box and fasten the connecting plug. • Close the cover and screw down the screw.
<p>6. Assembly of outer parts</p>		<ul style="list-style-type: none"> • Position reliably the new fan on the motor axis. • Hold the fans without movement. • Screw down fixing screws for fan with wrench.

Disassembly and Assembly of electrical parts box

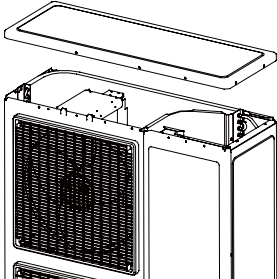
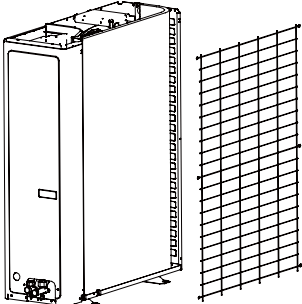
Remark: Make sure power supply of the unit is cut down before removal of electrical parts box or electrical parts box modules.

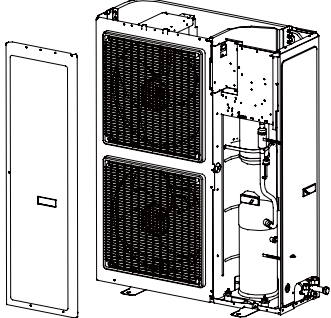
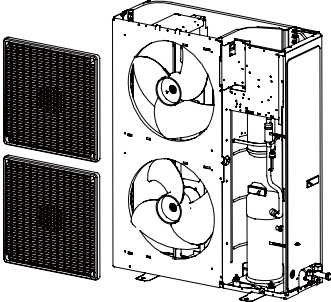
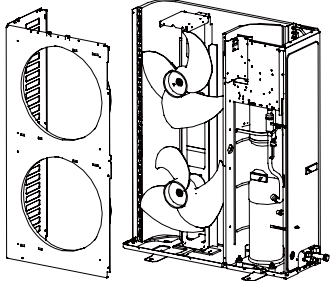
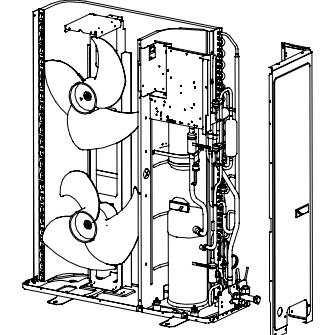
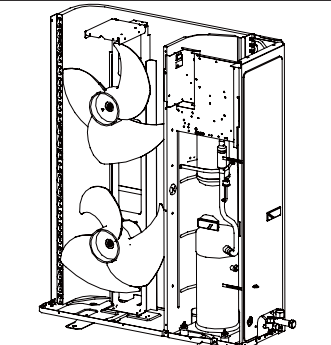
Step	Illustration	Handling Instruction
<p>1. Disassembly of cover of electrical parts box</p>		<ul style="list-style-type: none"> • Cut off the power supply. • Disassemble fixing screw between electrical parts box cover and the box with screwdriver • Take away and remove the cover from electrical parts box.
<p>2. Pull away the power supply wires for components like motor, etc.</p>		<ul style="list-style-type: none"> • Disassemble electrical components, like mainboard inside the electrical parts box connected with outer components (power-loaded wires for components like compressor, motor). • Attention: Record right position for wire connection during disassembly of connecting wires.
<p>3. Disassembly of electrical parts box modules</p>	<p>Disassemble fixing screw of electric box</p> 	<ul style="list-style-type: none"> • Disassemble fixing screws between electrical parts box and middle clashboard, motor support as well as right panel with screwdriver.
<p>4. Removal of electrical parts box modules</p>		<ul style="list-style-type: none"> • Hold the bottom of electrical parts box and lift it upward to get rid of the clip on the middle clashboard. • Remove electrical parts box modules.



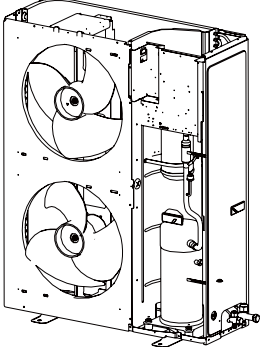
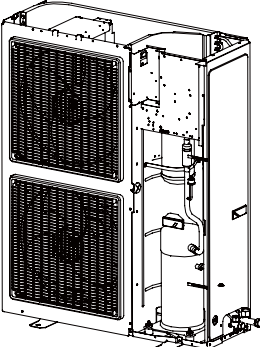
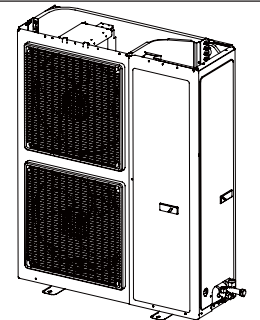
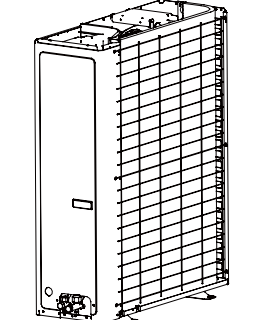
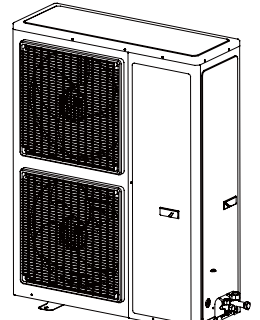
<p>5. Assembly of new electrical parts box modules</p>		<ul style="list-style-type: none"> •Position accurately the new electrical parts box. •Re-fasten the electrical parts box modules and screw down with screwdriver.
<p>6. Connection of power supply wires of each component</p>		<ul style="list-style-type: none"> •Re-connect the connection wires of each components with right position according to the order of disassembly.
<p>7. Assembly of electrical parts box</p>		<ul style="list-style-type: none"> •Assembly accurately the electrical parts box. •Re-fasten and screw down the surrounding fixing screw with screwdriver.

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<p>Disassembly and Assembly of external casing</p>		
<p>Remark: Make sure power supply of the unit is cut down before removal of external casing.</p>		
Step	Illustration	Handling Instruction
<p>1. Disassembly of coping</p>		<ul style="list-style-type: none"> •Disassemble fixing screws surrounding the coping with screwdriver. •Remove coping from the unit.
<p>2. Disassembly of screen</p>		<ul style="list-style-type: none"> •Loose the fixing screws surrounding the screen with screwdriver. •Remove screen from the unit.

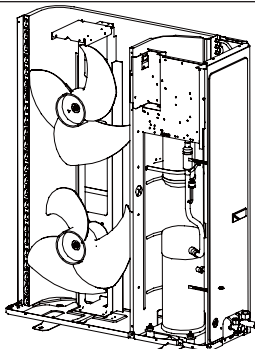
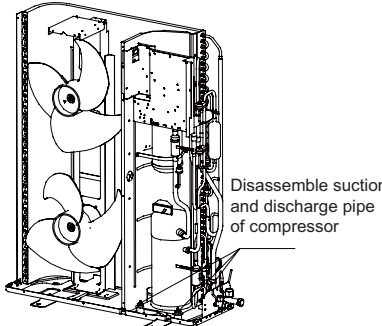
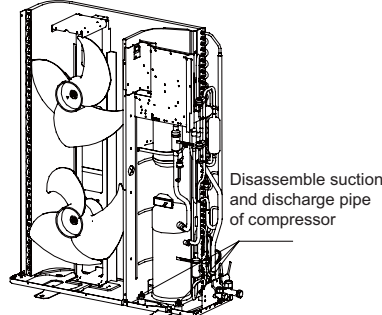
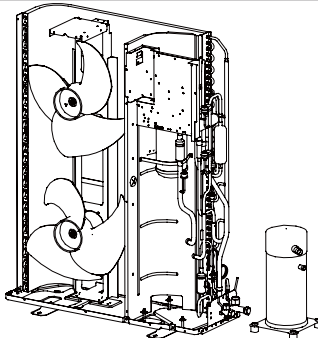
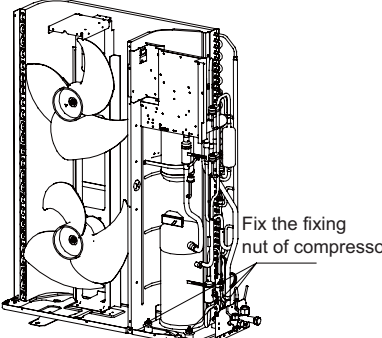
<p>2. Disassembly of front panel</p>		<ul style="list-style-type: none"> •Loose the fixing screws surrounding the front panel with screwdriver. •Remove the front panel from the unit.
<p>3. Disassembly of panel grating</p>		<ul style="list-style-type: none"> •Loose the fixing screws for the panel grating with screwdriver. •Take away and remove panel grating from the external casing.
<p>4. Disassembly of external casing</p>		<ul style="list-style-type: none"> •Loose the fixing screws surrounding external casing with screwdriver. •Remove the external casing from the unit.
<p>5. Disassembly of back panel</p>		<ul style="list-style-type: none"> •Loose the fixing screws surrounding the back panel with screwdriver. •Remove the back panel from the unit.
<p>6. Assembly of new back panel</p>		<ul style="list-style-type: none"> •Position accurately the new back panel. •Screw down the surrounding fixing screws with screwdriver.

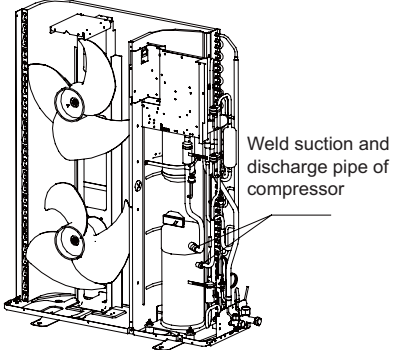
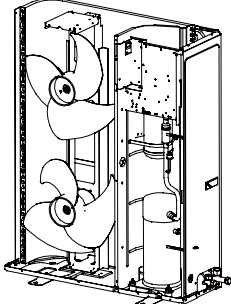
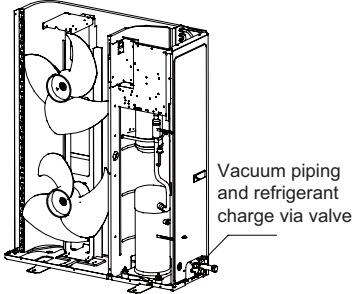


<p>7. Assembly of new external casing</p>		<ul style="list-style-type: none"> ● Position accurately the new panel on the unit. ● Screw down the surrounding fixing screws with screwdriver.
<p>8. Assembly of new panel grating</p>		<ul style="list-style-type: none"> ● Position accurately the new panel grating on the unit panel. ● Screw down the surrounding fixing screws with screwdriver.
<p>9. Assembly of new front panel</p>		<ul style="list-style-type: none"> ● Position accurately the new front panel. ● Screw down the surrounding fixing screws with screwdriver.
<p>10. Assembly of new screen</p>		<ul style="list-style-type: none"> ● Position accurately the new screen. ● Screw down the surrounding fixing screws with screwdriver.
<p>11. Assembly of new coping</p>		<ul style="list-style-type: none"> ● Position accurately the new coping. ● Screw down the surrounding fixing screws with screwdriver.

Disassembly and Assembly of Compressor

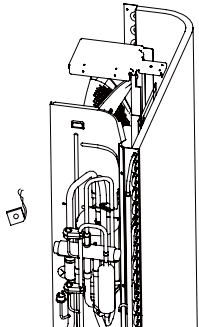
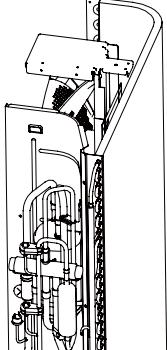
Remark : Make sure there isn't any refrigerant in pipe system and the power supply is cut off before removal of the compressor..

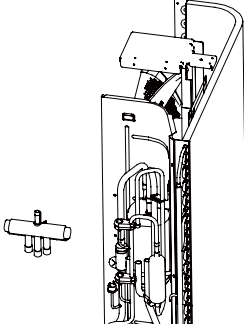
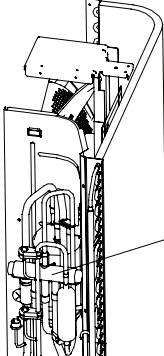
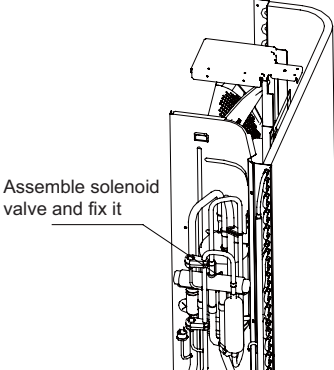
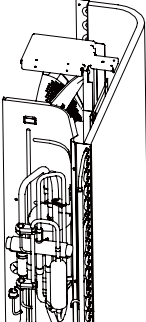
Step	Illustration	Handling Instruction
1. Disassembly of power supply wire		<ul style="list-style-type: none"> •Loose the fixing screws for power supply wire. •Pull away the power supply wire. •Attention: During removal of the power supply wire, mark wire color with the corresponding joint number in case of wrong connection.
2. Disassembly of fixing nuts on compressor		<ul style="list-style-type: none"> •Disassemble fixing nuts on compressor with wrench.
3. Disassembly of suction and discharge pipe		<ul style="list-style-type: none"> •Heat the suction and discharge pipe with gas welding before removing compressor. •Provide nitrogen protection during gas welding and the nitrogen pressure should be $0.5 \pm 0.1 \text{ kgf/cm}^2$ (relative pressure). •Please pay attention to heating in case that surrounding materials should be burnt by high temperature.
4. Removal of compressor		<ul style="list-style-type: none"> •Remove compressor from underpan.
5. Assembly of new compressor onto underpan		<ul style="list-style-type: none"> •Position accurately the new compressor. •Screw down fixing nuts for compressor with wrench. •Do not up-side-down compressor during assembly.

<p>6. Connection of suction and discharge pipe with pipeline system</p>		<ul style="list-style-type: none"> • Connect compressor with other pipeline using gas welding. • Provide nitrogen protection during gas welding and the nitrogen pressure should be $0.5 \pm 0.1 \text{ kgf/cm}^2$ (relative pressure). • Please pay attention to heating in case that surrounding materials should be burnt by high temperature.
<p>7. Connection power supply wires of compressor</p>		<ul style="list-style-type: none"> • Assemble the power supply wires onto right position according to the order of disassembly. • Screw down the fixing screw for the power supply wires with screwdriver.
<p>8. Vacuum pumping and cooling medium filling through valve</p>		<ul style="list-style-type: none"> • Pump the system vacuum through valve before refill cooling medium. • Volume of refilling should be in accordance with the requirement on the unit nameplate.

Disassembly and Assembly of 4-way valve

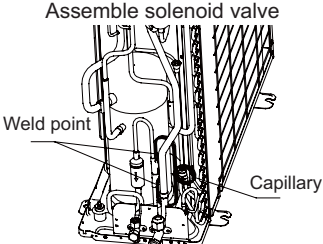
Remark: Make sure there isn't any refrigerant in pipe system and the power supply is cut off before removal of 4-way valve.

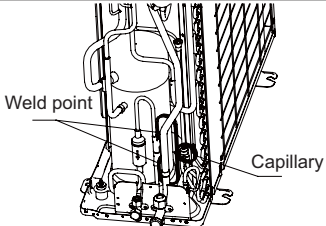
Step	Illustration	Handling Instruction
<p>1. Disassembly of solenoid valve</p>		<ul style="list-style-type: none"> • Cut off power supply and reclaim cooling medium properly. • Disassemble the assembling screw for solenoid valve. • Disassemble solenoid valve with wrench.
<p>3. Disassembly of 4-way valve</p>		<ul style="list-style-type: none"> • Heat connection pipes for 4 pipes of 4-way valve with gas welding before removal of 4-way valve. • Record the direction of the 4-way valve and installation position of each pipe before welding away 4-way valve.

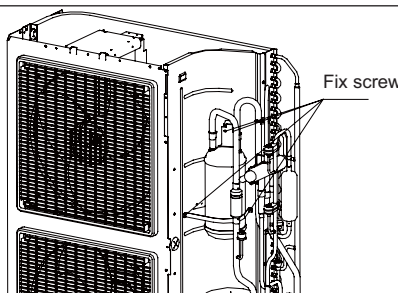
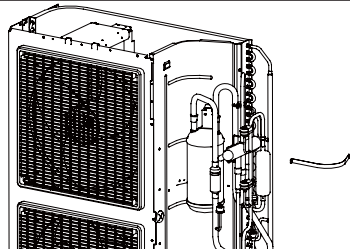
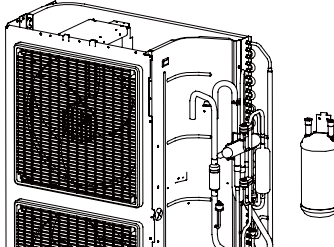
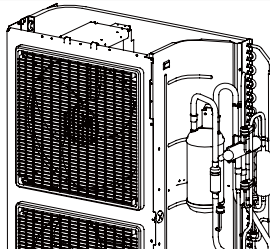
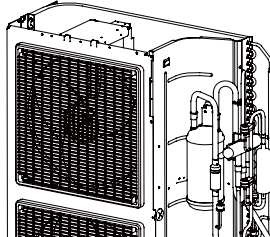
<p>4. Removal of 4-way valve</p>		<ul style="list-style-type: none"> ●Remove the old 4-way valve from the pipe line.
<p>5. Assembly of New 4-way valve</p>	 <p>Mount the new 4-way valve and weld the joints with other pipelines.</p>	<ul style="list-style-type: none"> ●Position accurately the new 4-way 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 $0.5 \pm 0.1 \text{ kgf/cm}^2$ (relative pressure).
<p>6. Assembly of solenoid valve</p>	 <p>Assemble solenoid valve and fix it</p>	<ul style="list-style-type: none"> ●Assemble solenoid valve onto the new 4-way valve in order of disassembly.
<p>7. Examination of System and cooling medium filling</p>		<ul style="list-style-type: none"> ●Pump vacuum and fill cooling medium if the system leak test passes.

Disassembly and Assembly of capillary

Remark: Make sure there isn't any refrigerant in pipe system and the power supply is cut off before removal of the capillary.

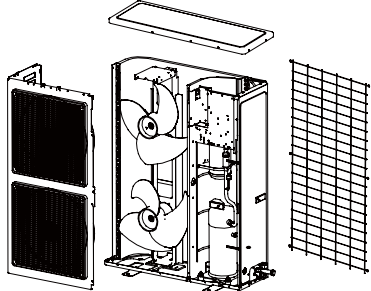
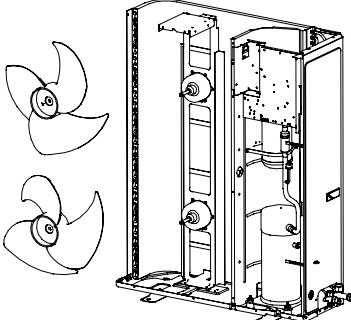
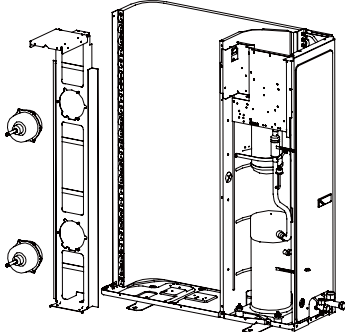
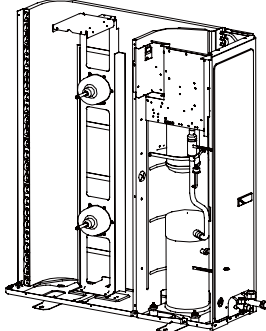
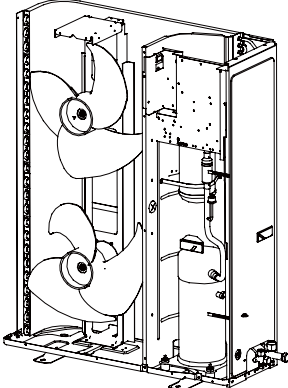
Step	Illustration	Handling Instruction
<p>1. Disassembly of Capillary</p>		<ul style="list-style-type: none"> ●Weld two welding points connecting capillary with other pipe lines. ●Remove capillary.

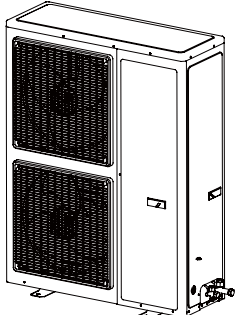
<p>2. Assembly of New capillary</p>		<ul style="list-style-type: none"> ● Assemble new capillary. ● Weld the points connected with other pipe lines. ● Re-conduct the system leak test. Pump vacuum and fill the cooling medium.
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Disassembly and Assembly of Vapour Liquid Separator		
Remark: Make sure 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
<p>1. Disassembly of retaining clips for liquid reservoir</p>		<ul style="list-style-type: none"> ● Disassemble the fixing screws on the pothooks and retaining clips of the reservoir with screwdriver.
<p>2. Removal of retaining clips for liquid reservoir</p>		<ul style="list-style-type: none"> ● Remove the retaining clips for liquid reservoir.
<p>3. Disassembly of vapor liquid separator</p>		<ul style="list-style-type: none"> ● Weld open two pipes connecting vapor liquid separator with pipe line with gas welding. ● Remove vapor liquid separator.
<p>4. Assembly of new vapor liquid separator</p>		<ul style="list-style-type: none"> ● Position accurately new vapor liquid separator. ● Connect new vapor liquid separator with pipe line using gas welding.
<p>5. Assembly of retaining clips for liquid reservoir</p>		<ul style="list-style-type: none"> ● Re-assemble the retaining clips for liquid reservoir and screw down the fixing screw

Disassembly and Assembly of Axial Flow Fan and motor

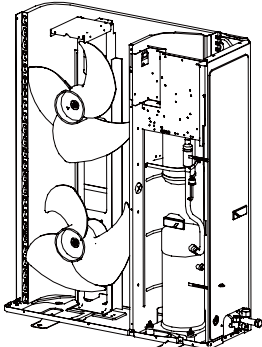
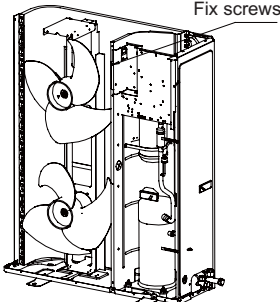
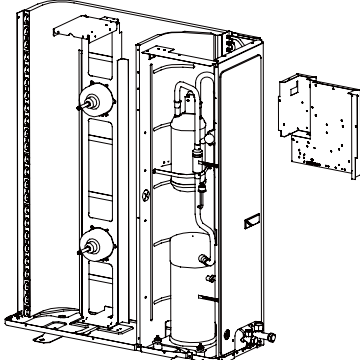
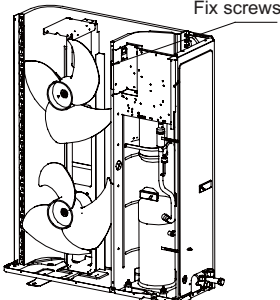
Remark: Make sure power supply of the unit is cut down before removal of axial flow fan and motor.

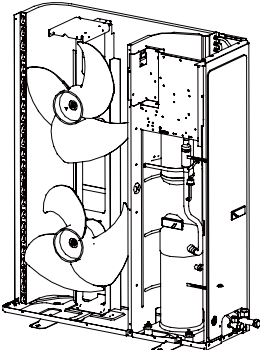
Step	Illustration	Handling Instruction
1. Disassembly of outer parts		<ul style="list-style-type: none"> ●Disassemble outer parts of unit coping, panel(external casing), screen,etc. according to the discription above in order to disassemble axial flow fan and motor conveniently.
2. Disassembly of axial flow fan		<ul style="list-style-type: none"> ●Hold the fans without movement. ●Disassemle fixing nuts for the fans with wrench. ●Take down and remove fans from motor.
3. Disassembly of fan motor		<ul style="list-style-type: none"> ●Loose the connecting plug for motor wires and pull out the wires through the hole. ●Disassemble fixing 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		<ul style="list-style-type: none"> ●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		<ul style="list-style-type: none"> ●Position reliably the new fan on the motor axis. ●Hold the fans without movement. ●Screw down fixing screws for fan with wrench.

<p>6. Assembly of outer parts</p>		<ul style="list-style-type: none"> • Re-assemble the outer parts of unit coping, panel (external casing) and screen, etc. according to the discription before.
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Disassembly and Assembly of electrical parts box

Remark: Make sure power supply of the unit is cut down before removal of electrical parts box or electrical parts box modules.





Step	Illustration	Handling Instruction
<p>1. Pull away the power supply wires for components like motor, etc.</p>		<ul style="list-style-type: none"> • 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.
<p>2. Disaassembly of electrical parts box modules</p>		<ul style="list-style-type: none"> • Disassemble fixing screws between electrical parts box and middle clapbord, motor support as well as right panel with screwdriver.
<p>3. Removal of electrical parts box modules</p>		<ul style="list-style-type: none"> • Remove electrical parts box modules.
<p>4. Assembly of new electrical parts box modules</p>		<ul style="list-style-type: none"> • Position accurately the new electrical parts box. • Re-fasten the electrical parts box modules and screw down with screwdriver.


<p>5. Connection of power supply wires of each component</p>		<ul style="list-style-type: none"> • Re-connect the connection wires of each components with right position according to the order of disassembly.
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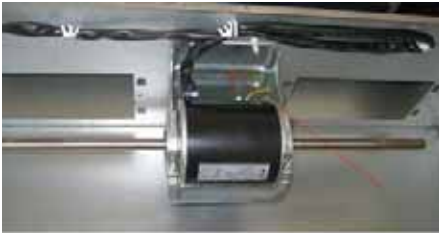

4.2 Indoor Unit



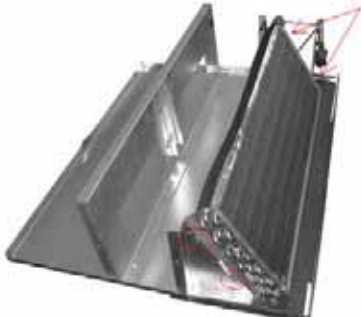
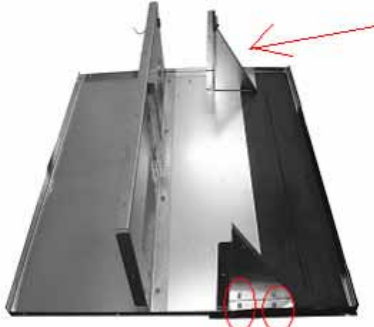
4.2.1 Duct Type

1. GFH09K3BI, GFH12K3BI, GFH18K3BI Disassembly procedure


Disassembly of External Casing of Group		
Remark: Make sure 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
<p>1. Disassembly of filter screen for back return air</p>		<ul style="list-style-type: none"> • Pull two filter screens for back return air (As shown in the graph, the arrow represents filter screens for back return air)
<p>2. Disassembly of side panel for back return air</p>		<ul style="list-style-type: none"> • Disassemble the fastening screws for back return air and take away the back return air side panel (as shown in the graph).
<p>3. Disassembly of cover plate for return air</p>		<ul style="list-style-type: none"> • 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)
<p>4. Disassembly of cover plate</p>		<ul style="list-style-type: none"> • 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		<ul style="list-style-type: none"> 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)

Disassembly of fans and motors		
Remark: Make sure 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		<ul style="list-style-type: none"> 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)
2. Disassembly of centrifugal fan		<ul style="list-style-type: none"> Disassemble the fastening screws for fans with inner hexagonal. Remove the centrifugal fan. (As is shown in Graph 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		<ul style="list-style-type: none"> 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		<ul style="list-style-type: none"> Disassemble the connecting wires for motor inside the electrical parts box and remove the motor.



Disassembly of evaporator		
Remark: Make sure 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 right panel		<ul style="list-style-type: none"> Disassemble 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		<ul style="list-style-type: none"> Disassemble 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		<ul style="list-style-type: none"> Disassemble 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		<ul style="list-style-type: none"> 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.)

2. GFH24K3BI, GFH30K3BI, GFH36K3BI, GFH42K3BI, GFH48K3BI, GFH60K3BI Disassembly procedure

Disassembly of filter screen for return air		
Remark: Make sure 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		<ul style="list-style-type: none"> 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 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 electrical parts box cover panel		<ul style="list-style-type: none"> Disassemble the screw according to the position shown in the circle and the box and remove the electrical parts box in the direction of the arrow.
2. Disassembly of electrical parts box		<ul style="list-style-type: none"> 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 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		<ul style="list-style-type: none"> 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		<ul style="list-style-type: none"> Disassemble the fastening screws on the drainage pump. (As is shown in the graph, the circle represents the position of screws.)
3. Removal of condensed water drainage pump		<ul style="list-style-type: none"> Removed condensed water drainage pump is shown in the graph.



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. Disassembly of cover plate		<ul style="list-style-type: none"> 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		<ul style="list-style-type: none"> 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 the power supply is cut off before disassembling and protect all the parts during disassembly.

Step	Illustration	Handling Instruction
1. Disassembly of fan		<ul style="list-style-type: none"> Disassemble the fixing screws on the fan components. (As is shown in Graph 10, circle represents 6 screws.)
2. Disassembly of motor		<ul style="list-style-type: none"> 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 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		<ul style="list-style-type: none"> 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.)


<p>2. Disassemble fastening screws connecting evaporator valve seal-plate and joint flange</p>		<ul style="list-style-type: none"> 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 joint flange.)
<p>3. Removal of evaporator</p>		<ul style="list-style-type: none"> 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
<p>1. Disassembly of fastening screws between cover plates</p>		<ul style="list-style-type: none"> 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.)
<p>2. Disassembly of external casing cabinet</p>		<ul style="list-style-type: none"> Disassembled external casing cabinet is shown in the graph.


4.2.2 Ceiling Type

Disassembly of panel grating module		
Remark: Make sure 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 panel grating module		<ul style="list-style-type: none"> ● Move down the clip of the panel grating modules until the panel grating is open. (As is shown in the graph, arrow represents the position of bottoms. 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		<ul style="list-style-type: none"> ● 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		<ul style="list-style-type: none"> ● 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 electrical parts box components		
Remark: Make sure 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 electrical parts box cover panel		<ul style="list-style-type: none"> ● Disassemble 2 screws as shown by the arrow in the graph on left and remove the electrical parts box cover panel.

<p>2. Disassembly of electrical parts box modules.</p>		<ul style="list-style-type: none"> Disassemble 4 screws as shown by the arrow in the graph on left (two screws on both sides) and remove the electrical parts box modules and the wires.
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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
<p>Disassembly of air deflecting plate modules</p>		<ul style="list-style-type: none"> 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.)

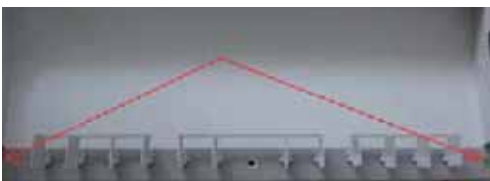
Disassemble of water-containing plate modules

Remark: Make sure the power supply is cut off before disassembling and protect all the parts during disassembly.

Step	Illustration	Handling Instruction
<p>Disassemble of water-containing plate modules</p>		<ul style="list-style-type: none"> 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 modules for air sweeping fans

Remark: Make sure 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
<p>Disassembly of fixing plate modules for air sweeping fans</p>		<ul style="list-style-type: none"> Disassemble the screws on both ends of fixing plate modules 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 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
Disassembly of evaporator components		<ul style="list-style-type: none"> 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 modules for air sweeping fans

Remark: Make sure the power supply is cut off before disassembling and protect all the parts during disassembly.

Step	Illustration	Handling Instruction
Disassembly of fixing plate modules for air sweeping fans		<ul style="list-style-type: none"> Disassemble the screws shown in the graph with screwdriver.


Disassembly of right and left polystyrene foam plates modules


Remark: Make sure the power supply is cut off before disassembling and protect all the parts during disassembly. Do not heat or hit polystyrene foam modules.


Step	Illustration	Handling Instruction
Disassembly of right and left polystyrene foam plates modules		<ul style="list-style-type: none"> Remove the right and left polystyrene foam plates modules in the direction given by the graph.

Disassembly of fan and motor components

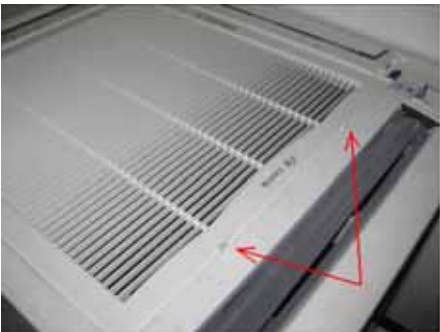
Remark: Make sure the power supply is cut off before disassembling and protect all the parts during disassembly, especially the fastening screws for fans.

Step	Illustration	Handling Instruction
1. Disassembly of front and back scroll cases		<ul style="list-style-type: none"> 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		<ul style="list-style-type: none"> 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		<ul style="list-style-type: none"> Disassemble 4 screws on the bearing fixing plates with screwdriver. (As shown in the box in the graph)
4. Disassembly of motor		<ul style="list-style-type: none"> Disassemble the bolt shown in the graph with screwdriver and remove the motor press plate and retaining clip for motor.

Disassembly of right and left fixing plates		
Remark: Make sure 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		<ul style="list-style-type: none"> Disassemble the bolts on right and left fixing plates with tools. (As is shown by the arrow in the graph.)


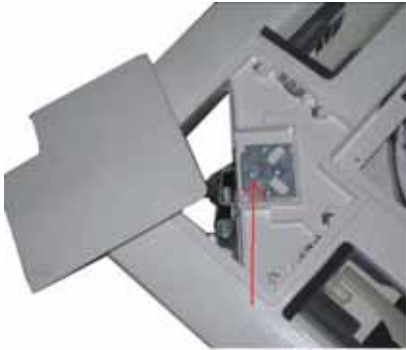
4.2.3 Cassette Type

Disassembly of panel grating and filter screen		
Remark: Cut off the power supply and make sure the panel grating in good condition during assembly.		
Step	Illustration	Handling Instruction
1. Disassembly of grating		

<p>2. Disassembly of filter screen</p>		<ul style="list-style-type: none"> •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.
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Disassembly of panels

Remark: Cut off the power supply and make sure the panels and angular shell in good condition.


Step	Illustration	Handling Instruction
<p>1. Disassembly of angular shell</p>		<ul style="list-style-type: none"> •Pull angular shell outside with hands and remove it.
<p>2. Disassembly of screws</p>		<ul style="list-style-type: none"> •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
<p>1. Disassembly of cover panel of electrical parts box and flow deflecting ring</p>		<ul style="list-style-type: none"> •Disassemble the screws on the electrical parts box cover panel and flow deflecting ring. Remove the electrical parts box and the power supply wires and signal wires inside the electrical parts box connecting with the electrical components under the water-containing plate.

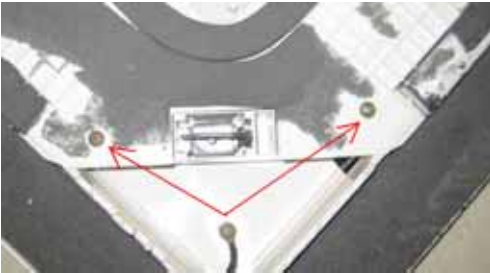
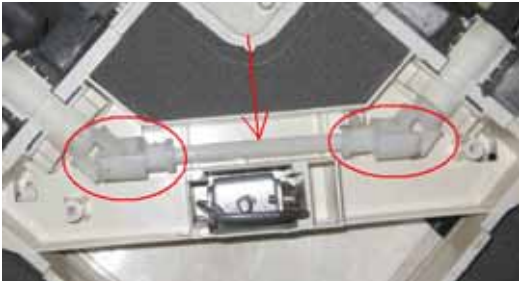
<p>2. Disassembly of water-containing plate</p>		<ul style="list-style-type: none"> Disassemble the screws on the four corners and pull outside the water-containing plate. (As is shown in the graph, arrow represents the water-containing plate. The position of screws are shown in the box .)
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<p>Disassembly of electrical parts box</p>		
<p>Remark: Cut off the power supply and make sure the power supply wires, signal wires and electrical parts box in good condition.</p>		
Step	Illustration	Handling Instruction
<p>Disassembly of electrical parts box</p>		<ul style="list-style-type: none"> Disassemble 4 assembling screws and pull upward to remove the electrical parts box.

<p>Disassembly of fan</p>		
<p>Remark: Cut off the power supply and make sure the fan is in good condition and shape.</p>		
Step	Illustration	Handling Instruction
<p>Disassembly of fan</p>		<ul style="list-style-type: none"> 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.).

<p>Disassembly of motor</p>		
<p>Remark: Cut off the power supply and make sure the motor is in good condition.</p>		
Step	Illustration	Handling Instruction
<p>Disassembly of motor</p>		<ul style="list-style-type: none"> 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		<ul style="list-style-type: none"> Disassemble two fitting screws on the air-deflecting motor and remove the motor.

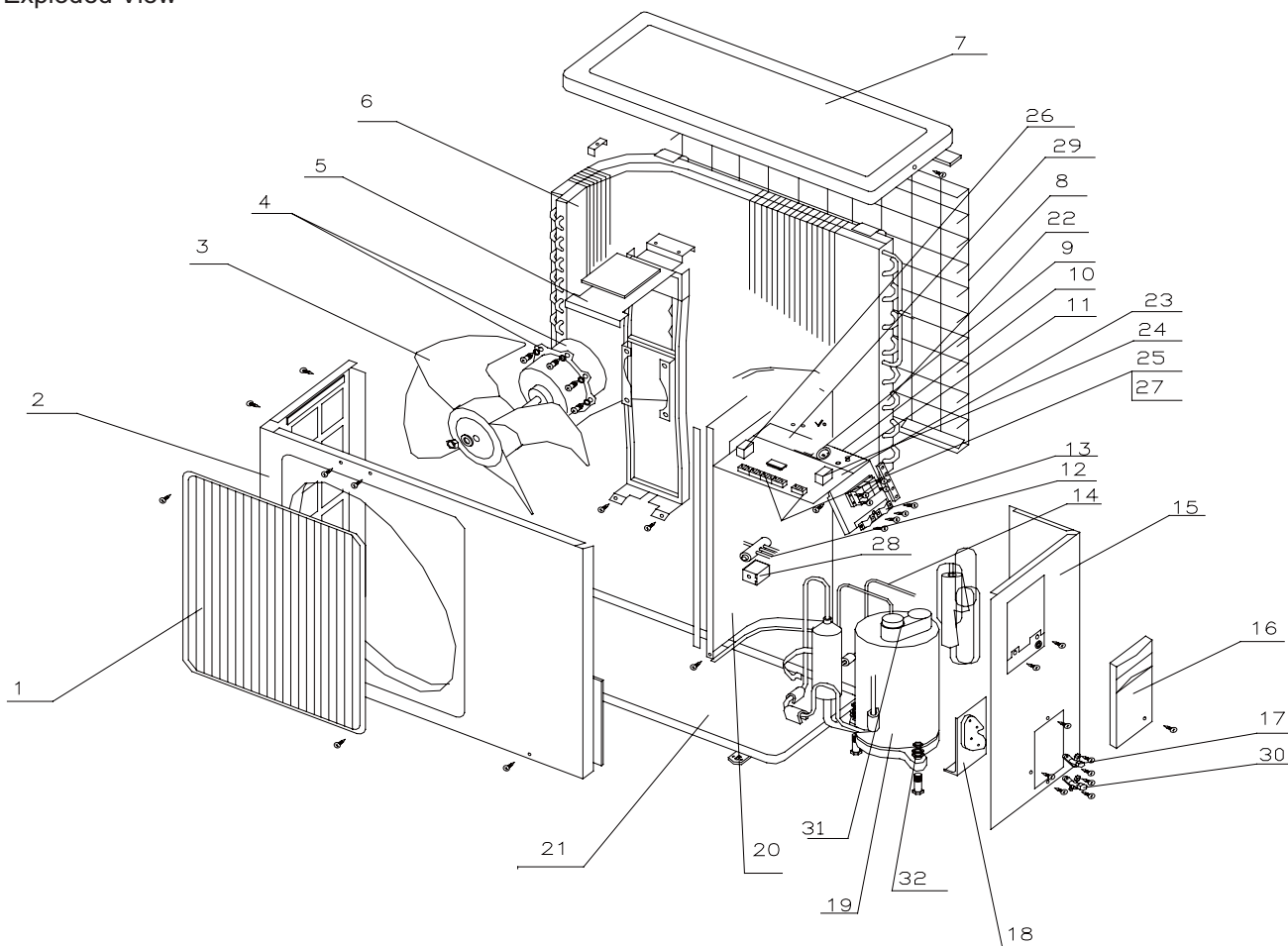
Disassembly of connection rod modules on air-deflecting plate		
Remark: Make sure the air-deflecting plate in good condition and the power supply is cut off.		
Step	Illustration	Handling Instruction
1. Disassembly of screws		<ul style="list-style-type: none"> Remove part of the insulating sponge on four 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		<ul style="list-style-type: none"> 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 connection rod and circle the universal joints.)

5 EXPLODED VIEWS AND PART LIST

5.1 Outdoor Unit

5.1.1 WITHOUT FUNCTION OF LOW TEMP. COOLING:

1) Model: GUHN09NK3AO; GUHN12NK3AO; GUHN18NK3AO;
Exploded View



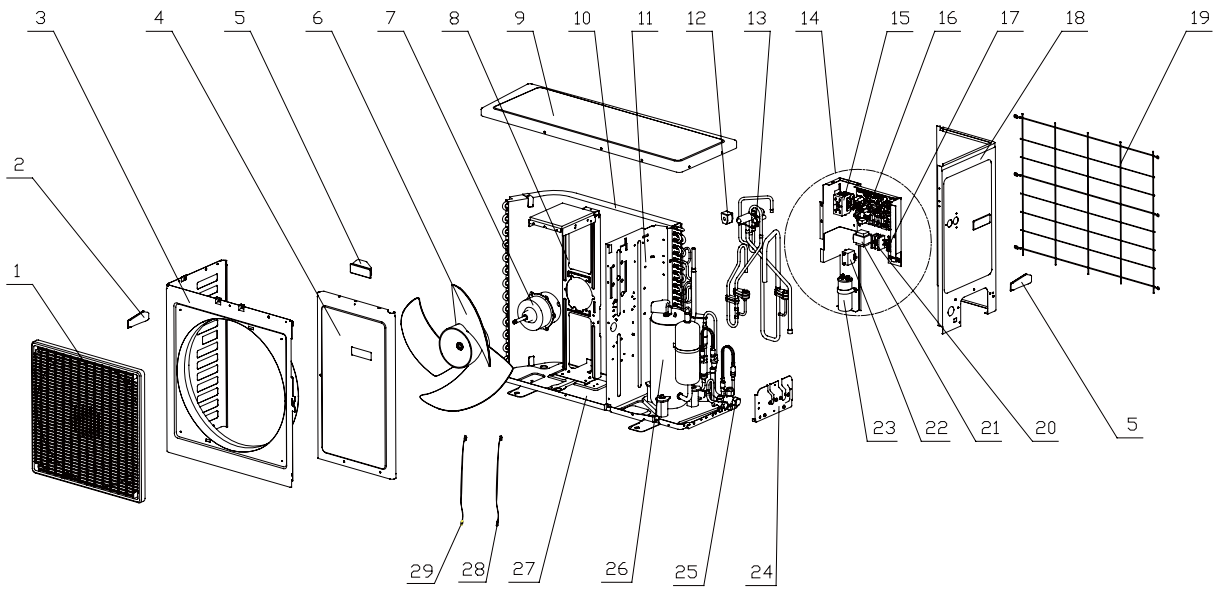
Parts List:

No.	Name of part	GUHN09NK3AO		GUHN12NK3AO	
		Product Code	CF021W0012	Product Code	CF021W0022
		Part code	Quantity	Part code	Quantity
1	panel grill	22413431	1	22413431	1
2	panel	015330124	1	200020153	1
3	axial flow fan(propeller fan)	10333413	1	10333004	1
4	Motor	15013067	1	15013071	1
5	motor support	01703106	1	01703086	1
6	Condenser Assy	01125241	1	01125244	1
7	Top Cover	01253261	1	01253261	1
8	protection grill nets	01473014	1	01473014	1
9	Capacitor	33010743	1	33010743	1
10	Electric Box	01425307	1	01395504	1
11	Isolation Washer C	70410523	1	70410523	1
12	4-way Valve Coil	430004022	1	04145235	1
13	Wire Clamp	71010103	1	71010103	1
14	discharge pipe	04635715	1	04635713	1
15	Right Side Plate	0130200404	1	0130200404	1
16	Handle	26233433	1	26233433	1
17	Valve	07100003	1	07100003	1
18	Valve Support	01713041	1	01713041	1
19	Compressor	00120145	1	00120139	1
20	inner cover	01239052	1	01239052	1
21	chassis	01195701	1	01195702P	1
22	Temp sensor	3900012128	1	3900012128	1
23	Main Board	3022403301	1	3022403301	1
24	Transformer	4311024001	1	4311024001	1
25	Terminal Board	420111531	1	420111531	1
26	AC Contactor	44010245	1	44010245	1
27	Terminal Board	420101851	1	420101851	1
28	4-way Valve Coil	430004002	1	430004002	1
29	Capacitor	33010026	1	33010027	1
30	Valve	07100005	1	07100006	1

Parts List:

No.	Name of part	GUHN18NK3AO	
		Product Code	CF021W0052
		Part code	Quantity
1	panel grill	22413431	1
2	panel	01533012	1
3	axial flow fan(propeller fan)	10333413	1
4	Motor	15013071	1
5	motor support	01703391	1
6	Condenser Assy	01125252	1
7	Top Cover	01253443	1
8	protection grill nets	01473023	1
9	Capacitor	33000039	1
10	Electric Box	0142530701	1
11	Isolation Washer C	70410523	1
12	4-way Valve Coil	430004032	1
13	Wire Clamp	71010102	1
14	discharge pipe	04635714	1
15	Right Side Plate	0130200401	1
16	Handle	26233433	1
17	Valve	07100004	1
18	Valve Support	01713041	1
19	Compressor	00103702	1
20	inner cover	01233381	1
21	chassis	01213429	1
22	Temp sensor	3900012121	1
23	Main Board	30224033	1
24	Transformer	4311024001	1
25	Terminal Board	420111531	1
26	AC Contactor	44010245	1
27	Terminal Board	42011103	1
28	4-way Valve Coil	430004002	1
29	Capacitor	33010027	1
30	Valve	07100006	1

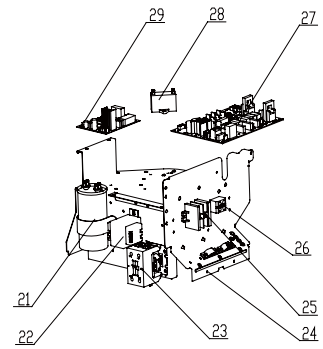
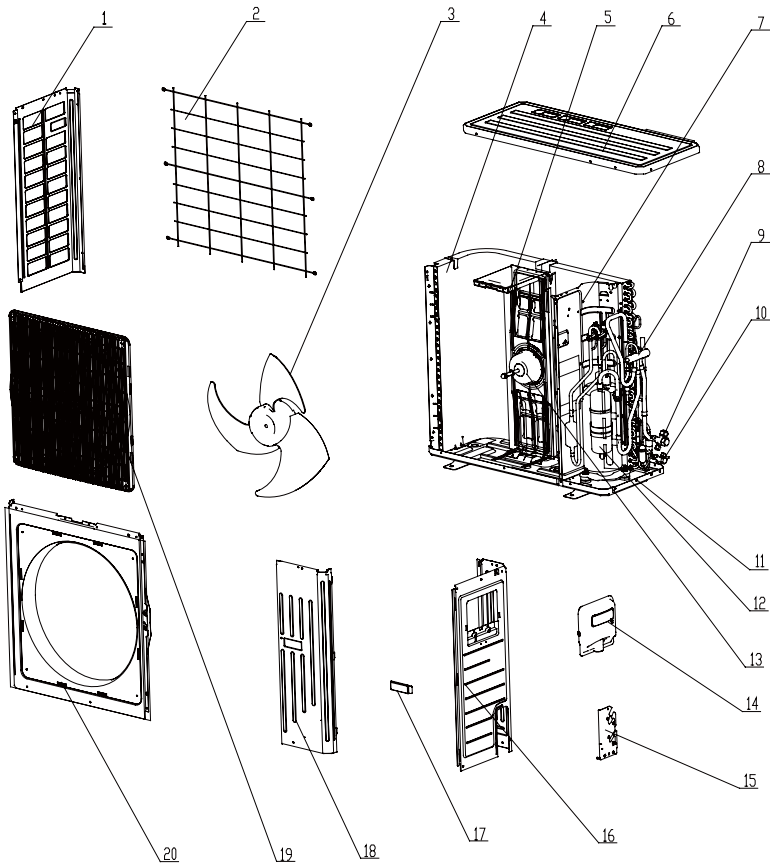
2) Model:GUHN24NK3AO
Exploded Views



Parts List:

No.	Name of part	GUHN24NK3AO	
		Product Code	CF021W0092
		Part code	Quantity
1	Front grill	22414102	1
2	left handle	26235401	1
3	Cabinet	01433017P	1
4	Front Side Plate	01303251P	1
5	Handle	26235253	1
6	Axial Flow Fan	10335253	1
7	Fan Motor	150154512	1
8	Motor Support Sub-Assy	01705103	1
9	Top Cover	01255013P	1
10	Condenser Assy	01125262	1
11	Mid-clapboard sub-assy	01233024	1
12	Magnet Coil	430004002	1
13	4-way Valve Assy	04145220	1
14	Electrical Box Assy	01395744	1
15	AC Contactor	44010222	1
16	Main Board	30224058	1
17	Terminal Board	420101851	1
18	Rear Side Plate Sub-Assy	'01303115	1
19	Rear Grill	'01473028	1
20	Terminal Board	420111451	1
21	Transformer	43110233	1
22	Capacitor CBB61	33010013	1
23	Capacitor CBB65	33000039	1
24	Valve Support Sub-Assy	01715001	1
25	Gas Valve Sub-Assy	07103030	1
26	Compressor and fittings	00103709	1
27	Base Plate Sub-Assy	01205201	1

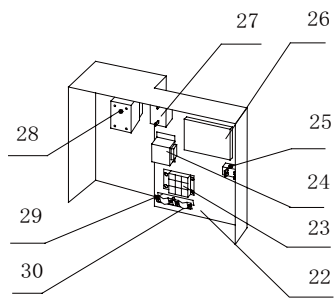
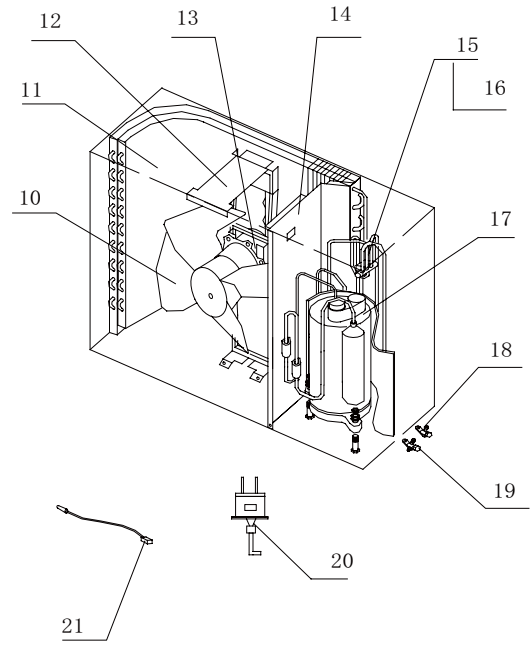
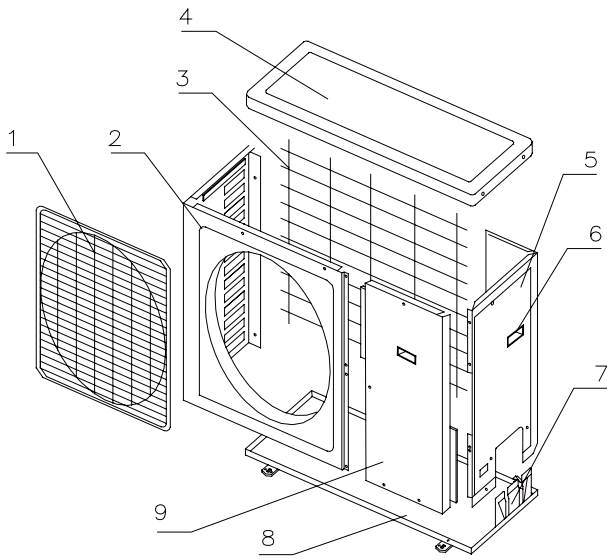
3) Model:GUHN30NK3AO
Exploded Views



Parts List:

No.	Name of part	GUHN30NK3AO	
		Product Code	CF021W0311
		Part code	Quantity
1	Left Side Plate	01305043P	1
2	Rear Grill	01475008	1
3	Axial Flow Fan	10335005	1
4	Condenser Assy	01125339	1
5	Motor Support Sub-Assy	01705016	1
6	Top Cover Sub-Assy	01255007	1
7	Clapboard	01235074	1
8	4-way Valve Assy	04145321	1
9	Cut-off Valve	07133157	1
10	Valve	071302391	1
11	Base Plate Sub-Assy	01195236P	1
12	Compressor and fitting	00103105	1
13	Fan Motor	1501506207	1
14	Big Handle	26235001	1
15	Valve Support Sub-Assy	01715012P	1
16	Right Side Plate	01305044P	1
17	Left handle	26235401	2
18	Front Side Plate	01305086P	1
19	Front Grill	22415003	1
20	Cabinet	01435004P	1
21	Capacitor	33000039	1
22	Transformer	43110233	1
23	AC Contactor	44010222	1
24	Electric box-Assy	01395631	1
25	Terminal Board	420111451	1
26	Terminal Board	420101851	1
27	Main Board	30224058	1
28	Capacitor	33010009	1
29	Main Board	0	0

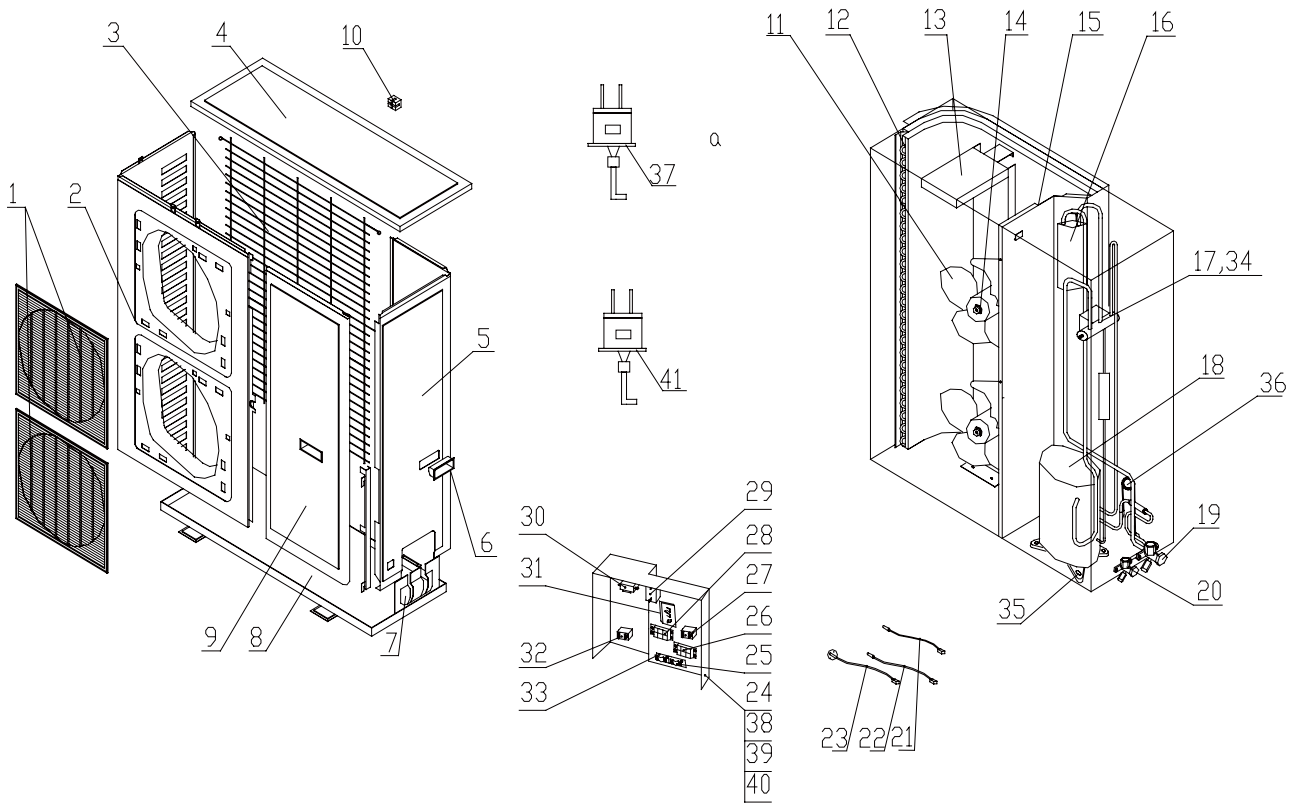
4) Model:GUHN36NK3AO;GUHN36NM3AO;
Exploded Views



Parts List:

No.	Name of part	GUHN36NK3AO		GUHN36NM3AO	
		Product Code	CF021W0062	Product Code	CF021W0032
		Part code	Quantity	Part code	Quantity
1	Front Grill	22265401	1	22265401	1
2	Front Plate	01435103P	1	01435103P	1
3	Protection Grill	01475401	1	01475401	1
4	Top Cover	01255012P	1	01255012P	1
5	Back Side Plate	01305402	1	01305402	1
6	Handle	26235253	2	26235253	2
7	Valve Support	01715402	1	01715402	1
8	Metal Base	01205402	1	01205402	1
9	Front Side Plate	01305403	1	01305403	1
10	Axial Flow Fan	10335401	1	10335401	1
11	Condenser Assy	01125245	1	01125245	1
12	Motor Support	01705402	1	01705402	1
13	Motor LW92D	150154011	1	150154011	1
14	Isolation Plate	01235403	1	01235403	1
15	4-way Valve (SHF-20H)	43000338	1	43000338	1
16	4-way Valve Coil	0	0	0	0
17	Compressor C-SBN301H5D	00205226	1	00129050	1
18	Gas Valve	07130212	1	07130212	1
19	Liquid Valve	07130210	1	07130210	1
20	pressure switch	460200061	1	460200061	1
21	Temp Sensor	3900012128G	1	3900012128G	1
22	Electric Box	01395757	1	01395511	1
23	Terminal Board	420111451	1	420101851	1
24	Transformer 57X25D	4311023302	1	43110242	1
25	Terminal Board 2-8	420101851	1	42011043	1
26	Main PCB WZ4C352	30224058	1	30224058	1
27	Capacitor CBB61 4uF/500V	33010013	1	33010013	1
28	AC Contactor GC6-45S/01C3	44010254	1	44010226	1
29	Isolation WasherC	0	0	0	0
30	Wire Clamp	0	0	0	0

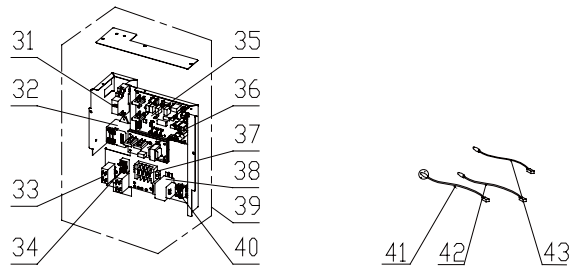
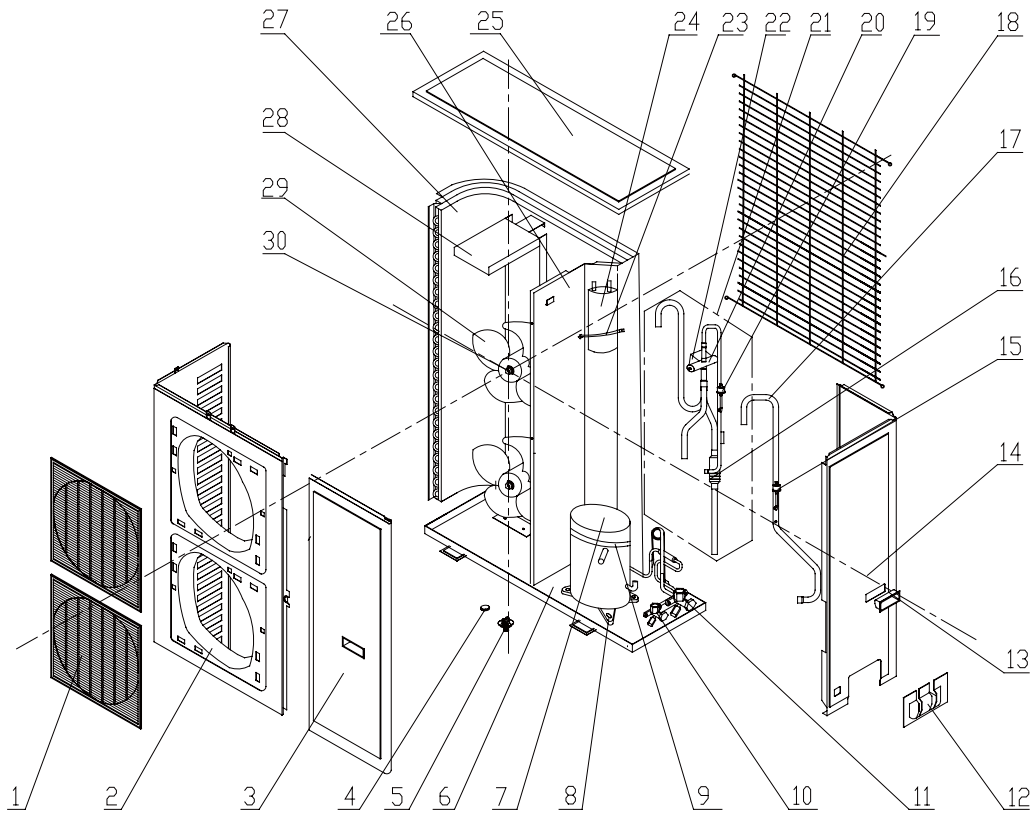
5) Model:GUHN42NM3AO; GUHN48NM3AO
Exploded Views



Parts List:

No.	Name of part	GUHN42NM3AO		GUHN48NM3AO	
		Product Code	CF021W0042	Product Code	CF021W0072
		Part code	Quantity	Part code	Quantity
1	Front Grill	22414102	2	22414102	2
2	Front Plate	01435436	1	01435436	1
3	Protection Grill	01475432	1	01475432	1
4	Top Cover	01255013P	1	01255013P	1
5	Back Side Plate	01303712	1	01303712	1
6	Handle	26235253	3	26235253	3
7	Valve Support	01715001	1	01715001	1
8	Metal Base	01205433	1	01195228P	1
9	Front Side Plate	01305431	1	01305431	1
10	Protection Grill Gasket	0	0	0	0
11	Axial Flow Fan	10338731	2	1033873101	2
12	condenser Assy	01125246	1	01125257	1
13	Motor Support	01705433	1	01705433	1
14	Motor	15013110	2	150154512	2
15	Isolation Plate	01235440	1	01235440	1
16	Liquid-gas Separator	07225018	1	07225018	1
17	4-way Valve	43000338	1	030234572	1
18	compressor	04145228	1	030234572	1
19	compressor	00129051	1	00205222	1
20	Capillary Assy	0	0	0	0
21	Gas Valve	07130212	1	07130212	1
22	Gas Valve	071302392	1	07130210	1
23	Compressor Gasket	76710209	4	76815209	4
24	Pressure switch	460200061	1	460200061	1
25	Ambinet Sensor	390002064G	1	39000285	1
26	Temperature Sensor	3900012129G	1	3900012129G	1
27	Temp.Limiter	0	0	0	1
28	Terminal Board	420101851	1	420101851	1
29	Electric box	01395748	1	01395751	1
30	Transformer	43110171	1	43110171	1
31	Terminal Board	42011043	1	42011043	
32	Main PCB	30224058	1	30224058	1
33	Overcurrent protector	46020112	1	46020112	1
34	Main PCB	0	0	0	0
35	Electric Box Cover	01415210	1	01415210	1
36	AC Contactor	44010226	1	44010213	1
37	Phase Reverse Protector	46020052	1	46020052	1
38	Capcaitor	33010010	2	33010013	2
39	Terminal Board	42011103	2	42011103	3

6) Model:GUHN60NM3AO
Exploded Views

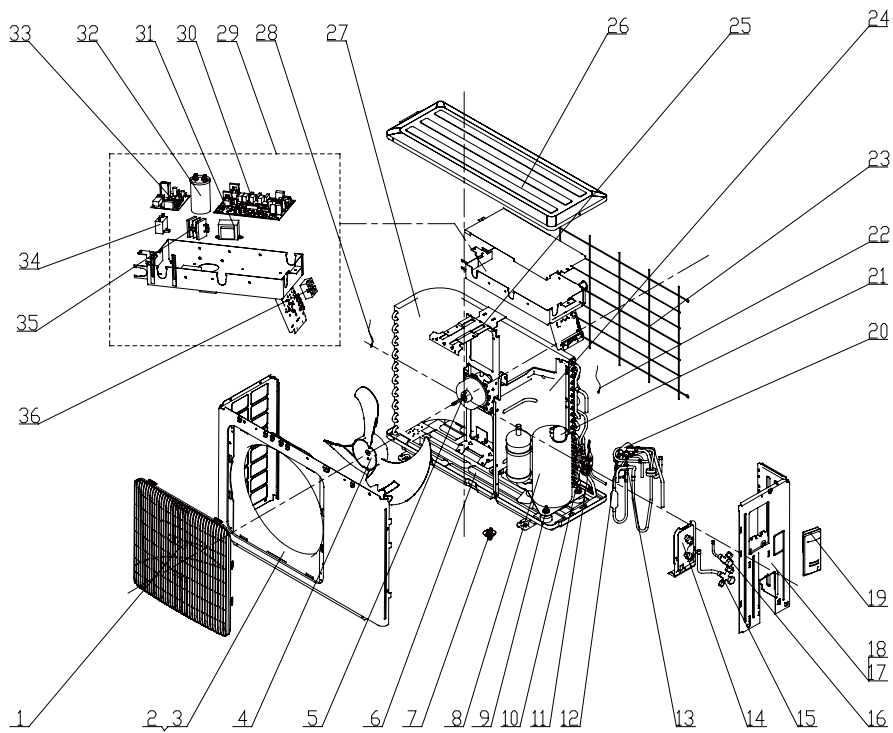


Parts List:

No.	Name of part	GUHN60NM3AO	
		Product Code	CF021W0082
		Part code	Quantity
1	Front grill	22414102	2
2	Cabinet	01435436	1
3	Front Side Plate	01305431	1
4	Drainage Plug	06813401	3
5	Drainage Connector	06123401	1
6	Chassis Sub-assy	01205472	1
7	Compressor and fittings	00129052	1
8	Compressor Gasket	76710209	4
9	Electric Heater(Compressor)	76515404	1
10	Cut off Valve	07130210	1
11	Cut-off Valve	07130212	1
12	Valve Support Sub-Assy	01715001	1
13	Handle	26235253	2
14	Rear Side Plate Sub-Assy	01303712	1
15	Pressure Protect Switch	46020007	1
16	Strainer	07210037	1
17	Inhalation Tube Sub-Assy	036390664	1
18	Rear Grill	01475432	1
19	Pressure Protect Switch	460200061	1
20	4-way Valve	43000338	1
21	4-way Valve Sub-Assy	04145277	1
22	Magnet Coil	430004002	1
23	Liquid Accumulator Clamp	02145435	1
24	Gas-liquid Separator Assy	07225016	1
25	Top Cover	01255472	1
26	Mid Clapboard Sub-assy	01235473	1
27	Condenser Assy	01125292	1
28	Motor Support Sub-Assy	01705471	1
29	Axial Flow Fan	10335253	2
30	Fan Motor	15701108	2
31	AC Contactor	44010213	1
32	Phase Reverse Protector	46020052	1
33	Capacitor CBB61	33010037	2
34	Terminal Board	42011103	3
35	Main Board	30224058	1
36	Over Current Protector	46020103	1
37	Terminal Board	42011043	1
38	Transformer	43110171	1
39	Electric Box Assy	01395746	1
40	Terminal Board	420101851	1
41	Discharge sensor	3900012129G	1
42	Temperature Sensor	3900012121G	1
43	Ambient Temperature Sensor	39000285	1

5.1.2 WITH FUNCTION OF LOW TEMP. COOLING:

1) Model:GUHN09NK3AO; GUHN12NK3AO; GUHN18NK3AO
Exploded Views



Parts List:

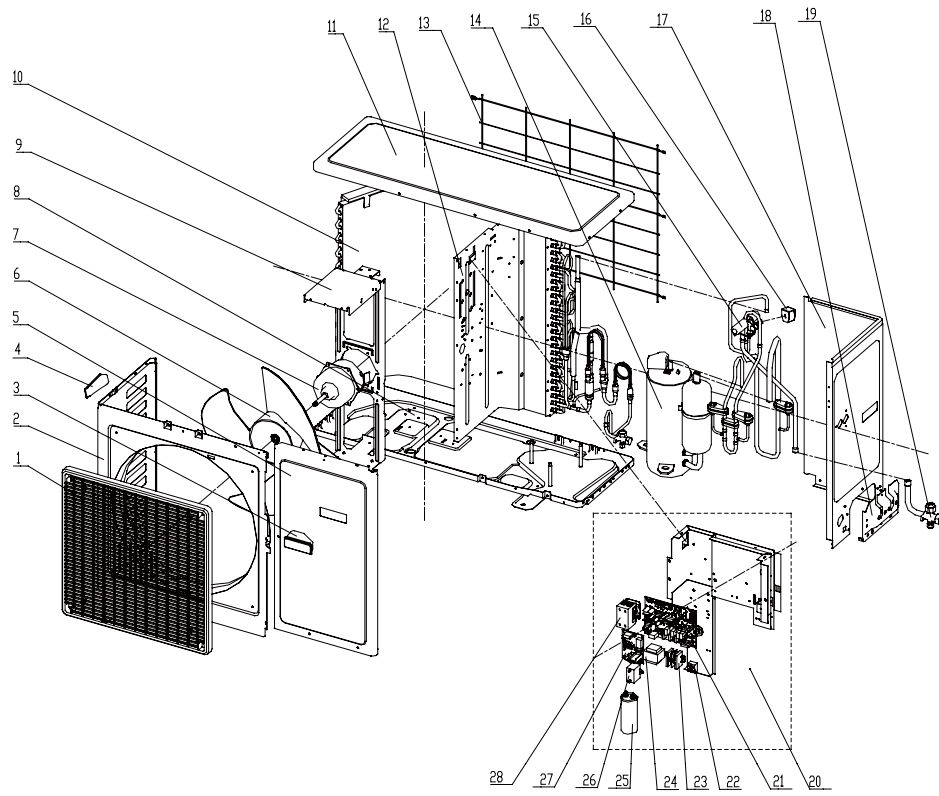
No.	Name of part	GUHN09NK3AO		GUHN12NK3AO	
		Product Code	CF021W0013	Product Code	CF021W0023
		Part code	Quantity	Part code	Quantity
1	Front Grill	22413433	1	22413433	1
2	Front Panel Sub-Assy	200020153	1	200020153	1
3	Front Panel	015330124	1	015330124	1
4	Axial Flow Fan	10333413	1	10333004	1
5	Fan Motor	15013067	1	15013071	1
6	Chassis Assy	01195701P	1	01195702P	1
7	Drainage Connector	06123401	1	06123401	1
8	Compressor and Fittings	00120145	1	00120139	1
9	Compressor Gasket	76710205	3	76710272	3
10	StrainerA	07210022	1	0	0
11	Strainer (fork shape)	072111031	1	0	0
12	Pressure Protect Switch	4602001518	1	4602001518	1
13	Magnet Coil	43000400	1	43000400	1
14	Valve Support	01713041	1	01713041	1
15	Valve	07100005	1	07100006	1
16	Valve	07100003	1	07100003	1
17	Right Side Plate Assy	0130200404	1	0130200404	1
18	Right Side Plate	0130304802	1	0130304802	1
19	Big Handle	26233433	1	26233433	1
20	4-Way Valve	430004022	1	430004032	1
21	Compressor Overload Protect or(External)	00180084	1	0	0
22	Tube sensor	3900012128G	1	3900012128G	1
23	Rear Grill	01473014	1	01473014	1
24	Clapboard Sub-Assy	01239052	1	01239052	1
25	Motor Support	01703068	1	0170310301	1
26	Top Cover Plate	01253443	1	01253443	1
27	Condenser Assy	01125241	1	01125244	1
28	Temperature Sensor	390002062G	1	390002062G	1
29	Electric Box Assy	01395760	1	01395762	1
30	Main Board	30224058	1	30224058	1
31	Transformer	43110233	1	43110233	1
32	Capacitor CBB65	33010743	1	33010743	1
33	Main Board	30224211	1	30224211	1
34	Capacitor CBB61	33010026	1	33010027	1
35	Terminal Board	420111531	1	420111531	1
36	Terminal Board	420101851	1	420101851	1

Parts List:

No.	Name of part	GUHN18NK3AO	
		Product Code	CF021W0053
		Part code	Quantity
1	Front Grill	22413433	1
2	Front Panel Sub-Assy	0	0
3	Front Panel	01533012	1
4	Axial Flow Fan	10333413	1
5	Fan Motor	15013071	1
6	Chassis Assy	01203144	1
7	Drainage Connector	06123401	1
8	Compressor and Fittings	00103702	1
9	Compressor Gasket	76710202	3
10	StrainerA	07210022	1
11	Strainer (fork shape)	0	0
12	Pressure Protect Switch	4602001518	1
13	Magnet Coil	43000400	1
14	Valve Support	01713041	1
15	Valve	07100006	1
16	Valve	07100004	1
17	Right Side Plate Assy	0130200401	1
18	Right Side Plate	0130304801	1
19	Big Handle	26233433	1
20	4-Way Valve	430004032	1
21	Compressor Overload Protector(External)	0	0
22	Tube sensor	3900012128G	1
23	Rear Grill	01473014	1
24	Clapboard Sub-Assy	0	0
25	Motor Support	01703391	1
26	Top Cover Plate	01253443	1
27	Condenser Assy	01125252	1
28	Temperature Sensor	390002062G	1
29	Electric Box Assy	01395775	1
30	Main Board	30224058	1
31	Transformer	43110233	1
32	Capacitor CBB65	33000039	1
33	Main Board	30224211	1
34	Capacitor CBB61	33010027	1
35	Terminal Board	420111531	1
36	Terminal Board	420101851	1

**U-MATCH Air
Conditioners
Service Manual**

2) Model:GUHN24NK3AO
Exploded Views

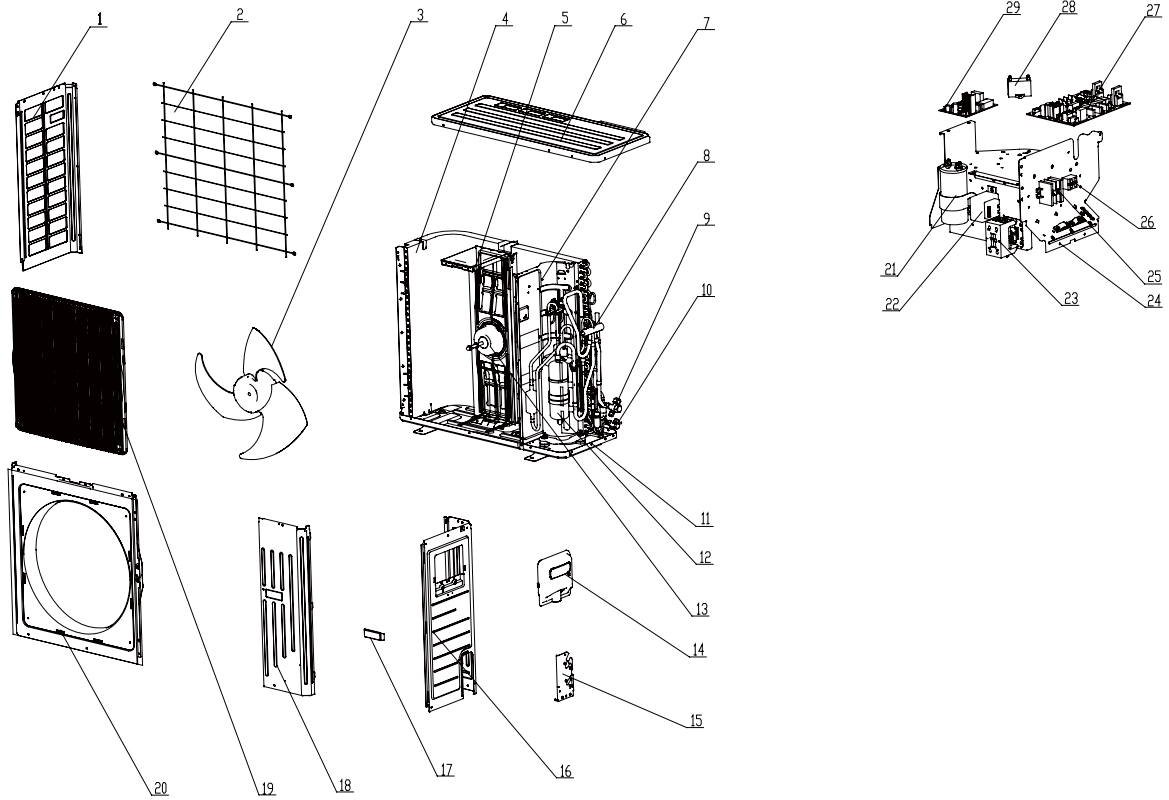


Parts List:

No.	Name of part	GUHN24NK3AO	
		Product Code	CF021W0093
		Part code	Quantity
1	Front grill	22414102	1
2	Cabinet	01433017P	1
3	Handle	26235253	1
4	left handle	26235401	1
5	Front Side Plate	01303251P	1
6	Axial Flow Fan	10335253	1
7	Fan Motor	01705103	1
8	Chassis Sub-assy	01205201	1
9	Motor Support	01703027	1
10	Condenser Assy	01125262	1
11	Top Cover	01255013P	1
12	Mid-clapboard sub-assy	01233024	1
13	Rear Grill	01473028	1
14	Compressor and fittings	00103709	1
15	4-way Valve Assy	04145265	1
16	Magnet Coil	430004002	1
17	Rear Side Plate Sub-Assy	01303115	1
18	Valve Support Sub-Assy	01715001	1
19	Gas Valve Sub-Assy	07103030	1
20	Electrical Box Assy	01395745	1
21	Main Board	30224211	1
22	Terminal Board	420101851	1
23	Terminal Board	420111451	1
24	Transformer	43110233	1
25	Capacitor CBB65	33000039	1
26	Capacitor CBB61	33010013	1
27	Main Board	30224058	1
28	AC Contactor	33010013	1

**U-MATCH Air
Conditioners
Service Manual**

3) Model:GUHN30NK3AO
Exploded Views

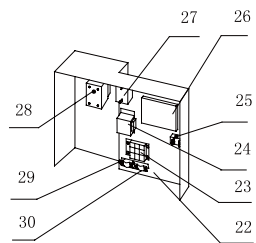
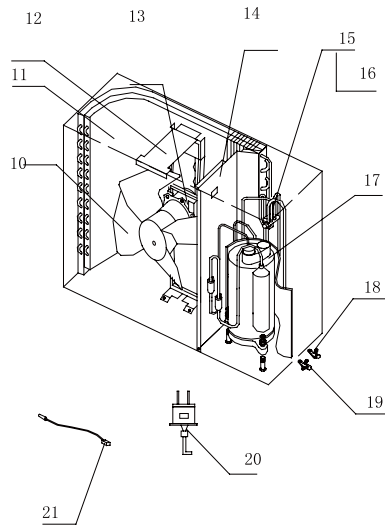
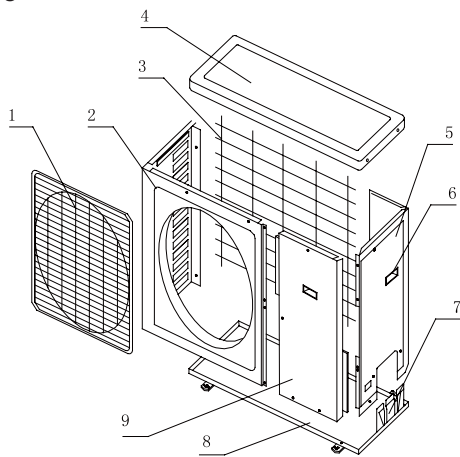


Parts List:

No.	Name of part	GUHN30NK3AO	
		Product Code	CF021W0310
		Part code	Quantity
1	Left Side Plate	1	01305043P
2	Rear Grill	1	01475008
3	Axial Flow Fan	1	10335005
4	Condenser Assy	1	01125339
5	Motor Support Sub-Assy	1	01705016
6	Top Cover Sub-Assy	1	01255007
7	Clapboard	1	01235074
8	4-way Valve Assy	1	04145317
9	Cut-off Valve	1	07133157
10	Valve	1	071302391
11	Base Plate Sub-Assy	1	01195236P
12	Compressor and fitting	1	00103105
13	Fan Motor	1	1501506202
14	Big Handle	1	26235001
15	Valve Support Sub-Assy	1	01715012P
16	Right Side Plate	1	01305044P
17	Left handle	2	26235401
18	Front Side Plate	1	01305086P
19	Front Grill	1	22415003
20	Cabinet	1	01435004P
21	Capacitor	1	33000039
22	Transformer	1	43110233
23	AC Contactor	1	44010222
24	Electric box-Assy	1	01395663
25	Terminal Board	1	420111451
26	Terminal Board	1	420101851
27	Main Board	1	30224058
28	Capacitor	1	33010009
29	Main Board	1	30224211

U-MATCH Air Conditioners Service Manual

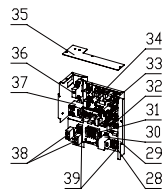
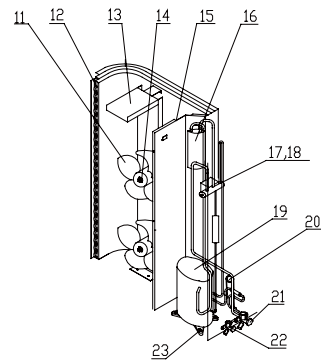
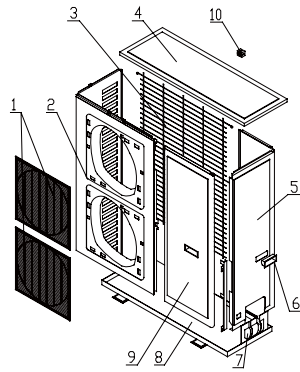
4) Model:GUHN36NK3AO; GUHN36NM3AO
Exploded Views



Parts List:

No.	Name of part	GUHN36NK3AO		GUHN36NM3AO	
		Product Code	CF021W0063	Product Code	CF021W0033
		Part code	Quantity	Part code	Quantity
1	Front Grill	22265401	1	22265401	1
2	Front Plate	01435103P	1	01435103P	1
3	Protection Grill	01475401	1	01475401	1
4	Top Cover	01255012P	1	01255012P	1
5	Back Side Plate	01305402	1	01305402	1
6	Handle	26235253	2	26235253	2
7	Valve Support	01715402	1	01715402	1
8	Metal Base	01205402	1	01205402	1
9	Front Side Plate	01305403	1	01305406	1
10	Axial Flow Fan	10335401	1	10335401	1
11	Condenser Assy	01125245	1	01125245	1
12	Motor Support	01705402	1	01705402	1
13	Motor LW92D	15705303	1	15705303	1
14	Isolation Plate	01235403	1	01235403	1
15	4-way Valve	43000338	1	43000338	1
16	4-way Valve Coil	0	0	0	0
17	Compressor	00205226	1	00129050	1
18	Gas Valve	07130212	1	07130212	1
19	Liquid Valve	07130210	1	07130210	1
20	pressure switch	460200061	1	460200061	1
21	Temp Sensor	3900012128G	1	39000017G	1
22	Electric Box	01395752	1	01395755	1
23	Terminal Board	420111451	1	420101851	1
24	Transformer	4311023302	1	43110242	1
25	Terminal Board 2-8	4311023302	1	42011043	1
26	Main PCB	30224058	1	30224058	1
27	Capacitor CBB61	33010037	1	33010037	1
28	AC Contactor	44010254	1	44010226	1
29	Isolation WasherC	0	0	0	0
30	Wire Clamp	0	0	0	0

5) Model:GUHN42NM3AO; GUHN48NM3AO; GUHN60NM3AO
Exploded Views



Parts List:

No.	Name of part	GUHN42NM3AO		GUHN48NM3AO	
		Product Code	CF021W0043	Product Code	CF021W0073
		Part code	Quantity	Part code	Quantity
1	Front Grill	22414102	2	22414102	2
2	Front Plate	01435436	1	01435436	1
3	Protection Grill	01475432	1	01475432	1
4	Top Cover	01255013P	1	01255013P	1
5	Back Side Plate	01303712	1	01303712	1
6	Handle	26235253	3	26235253	3
7	Valve Support	01715001	1	01715001	1
8	Metal Base	01205433	1	01195228P	1
9	Front Side Plate	01305431	1	01305431	1
10	Protection Grill Gasket	0	0	0	0
11	Axial Flow Fan	10338731	2	1033873101	2
12	condenser Assy	01125246	1	01125257	1
13	Motor Support	01705433	1	01705017	1
14	Motor	15013110	2	150154517	2
15	Isolation Plate	01235440	1	01235440	1
16	Liquid-gas Separator	07225018	1	07225018	1
17	4-way Valve	43000338	1	04145263	1
18	4-way valve assy	04145264	1	04145263	1
19	compressor	00129051	1	00205222	1
20	Capillary Assy	0	0	0	0
21	Gas Valve	07130212	1	07130212	1
22	Gas Valve	071302392	1	07130210	1
23	Compressor Gasket	76710209	4	76815209	4
24	Pressure switch	460200061	1	460200061	1
25	Ambinet Sensor	39000285	1	39000285	1
26	Temperature Sensor	3900012129G	1	3900012129G	1
27	Temp.Limiter	0	0	0	0
28	Terminal Board	420101851	1	420101851	1
29	Electric box	01395749	1	01395750	1
30	Transformer	43110171	1	43110171	1
31	Terminal Board	42011043	1	42011043	1
32	Main PCB	30224058	1	30224058	1
33	Overcurrent protector	46020112	1	46020112	1
34	Main PCB	30224058	1	30224211	1
35	Electric Box Cover	01415210	1	01415210	1
36	AC Contactor	44010226	1	44010213	1
37	Phase Reverse Protector	46020052	1	46020052	1
38	Capcaitor	33010010	2	33010013	2
39	Terminal Board	42011043	1	42011103	2

Parts List:

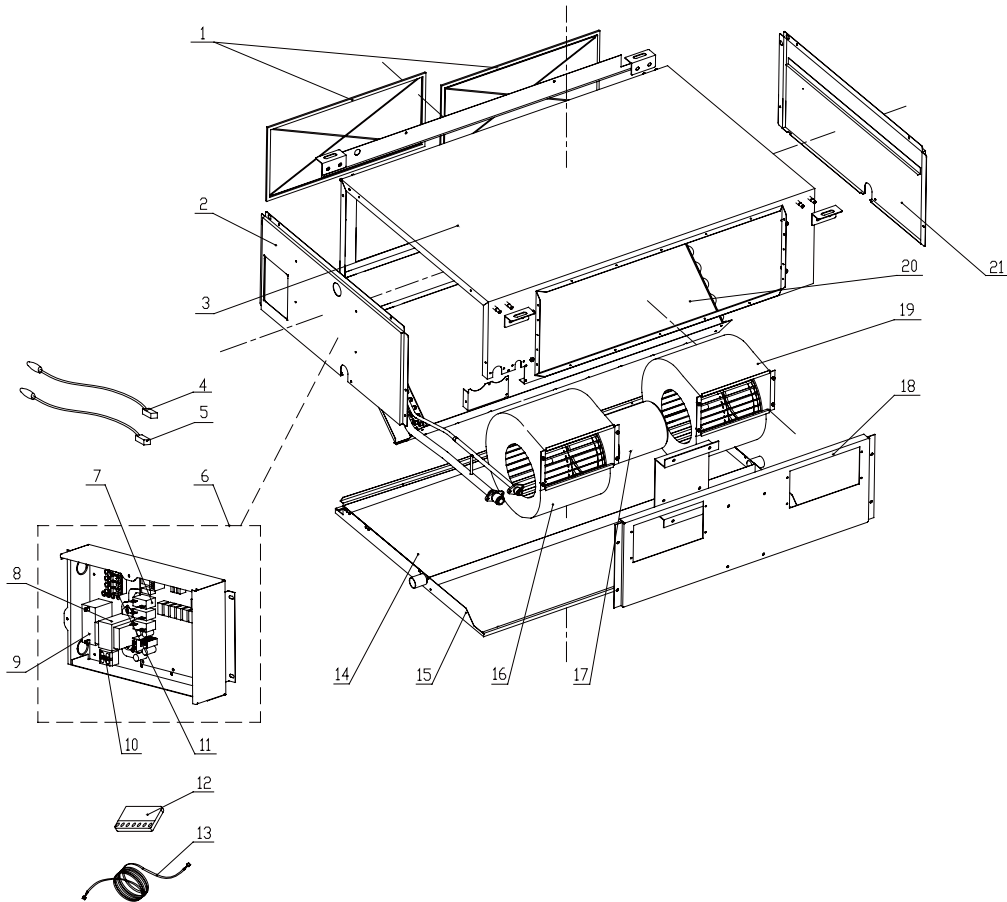
No.	Name of part	GUHN60NM3AO	
		Product Code	CF021W0083
		Part code	Quantity
1	Front Grill	22414102	2
2	Front Plate	01435436	1
3	Protection Grill	01475432	1
4	Top Cover	01255472	1
5	Back Side Plate	01303712	1
6	Handle	26235253	2
7	Valve Support	01715001	1
8	Metal Base	01205472	1
9	Front Side Plate	01305431	1
10	Protection Grill Gasket	0	0
11	Axial Flow Fan	10335253	2
12	condenser Assy	01125292	1
13	Motor Support	01705471	1
14	Motor	15015451	2
15	Isolation Plate	01235473	1
16	Liquid-gas Separator	07225016	1
17	4-way Valve	43000338	1
18	4-way valve assy	04145270	1
19	compressor	00129052	1
20	Capillary Assy	0	0
21	Gas Valve	07130212	1
22	Gas Valve	07130210	1
23	Compressor Gasket	76710209	4
24	Pressure switch	460200061	1
25	Ambinet Sensor	39000285	1
26	Temperature Sensor	3900012129G	1
27	Temp.Limiter	0	0
28	Terminal Board	420101851	1
29	Electric box	01395747	1
30	Transformer	43110171	1
31	Terminal Board	42011043	1
32	Main PCB	30224058	1
33	Overcurrent protector	46020103	1
34	Main PCB	30224211	1
35	Electric Box Cover	01415210	1
36	AC Contactor	44010213	1
37	Phase Reverse Protector	46020052	1
38	Capcaitor	33010013	2
39	Terminal Board	42011103	2

5.2 Indoor Unit

5.2.1 Duct Type

1) Model:GFH09K3BI;GFH12K3BI;GFH18K3BI

Exploded Views



Parts List :

No.	Name of part	GFH09K3BI		GFH12K3BI	
		Product Code	CF022N0011	Product Code	CF022N0031
		Part code	Quantity	Part code	Quantity
1	Filter Sub-Assy	11725201	1	1725201	1
2	Left Side Plate Assy	01309054	1	01315297	1
3	Top Cover Assy	01259051	1	01259051	1
4	Ambient Temperature Sensor	3900012123	1	3900012123	1
5	Tube sensor	390001921G	1	390001921G	1
6	Electric Box Assy	01395768	1	01395767	1
7	Main Board	30228205	1	30228205	1
8	Transformer	43110239	1	43110239	1
9	Capacitor CBB61	33010020	1	33010027	1
10	Terminal Board	420101851	1	420101851	1
11	Terminal Board	42010194	1	42010194	1
12	Display Board	30294213	1	30294213	1
13	Signal Wire	0	0	0	0
14	Water Tray Assy	01279051	1	01279051	1
15	Bottom Cover Assy	01259054	0	01259054	1
16	Fan Assy (right)	0	0	0	0
17	Fan Motor	1570520102	1	1570520103	1
18	Fan Fixed Plate Assy	01339095	1	01339095	1
19	Fan Assy (left)	0	0	0	0
20	Evaporator Assy	010087043	1	010090583	1
21	Right Side Plate Assy	01309055	1	01309055	1

Parts List :

No.	Name of part	GFH18K3BI		GFH24K3BI	
		Product Code	CF022N0051	Product Code	CF022N0081
		Part code	Quantity	Part code	Quantity
1	Filter Sub-Assy	11725202	1	11125303	2
2	Left Side Plate Assy	01315295	1	01315293	1
3	Top Cover Assy	0	0	01265301	1
4	Ambient Temperature Sensor	3900012123	1	3900012121G	1
5	Tube sensor	390001921G	1	3900012123	1
6	Electric Box Assy	01395766	1	01395765	1
7	Main Board	30228205	1	30228205	1
8	Transformer	43110239	1	43110239	1
9	Capacitor CBB61	33010027	1	33010014	1
10	Terminal Board	420101851	1	420101851	1
11	Terminal Board	42010194	1	42010194	1
12	Display Board	30294213	1	30294213	1
13	Signal Wire	0	0	0	0
14	Water Tray Assy	0	0	01285317	1
15	Bottom Cover Assy	01265296	1	01265304	1
16	Fan Assy (right)	0	0	15012454	1
17	Fan Motor	1570520201	1	15705304	1
18	Fan Fixed Plate Assy	01339058	1	01325301	1
19	Fan Assy (left)	0	0	15012458	1
20	Evaporator Assy	01025312	1	01025366	1
21	Right Side Plate Assy	01308670	1	01315304	1

Parts List :

No.	Name of part	GFH30K3BI		GFH36K3BI	
		Product Code	CF022N0110	Product Code	CF022N0021
		Part code	Quantity	Part code	Quantity
1	Filter Sub-Assy	11125303	2	111253031	2
2	Left Side Plate Assy	01315293	1	01315307	1
3	Top Cover Assy	01265301	1	01265306	1
4	Ambient Temperature Sensor	3900012121G	1	3900012123	1
5	Tube sensor	3900012123	1	390001921G	1
6	Electric Box Assy	01395765	1	01395764	1
7	Main Board	30228205	1	30228205	1
8	Transformer	43110239	1	43110239	1
9	Capacitor CBB61	33010014	1	33010734	1
10	Terminal Board	420101851	1	420101851	1
11	Terminal Board	42010194	1	42010194	1
12	Display Board	30294213	1	30294213	1
13	Signal Wire	0	0	0	0
14	Water Tray Assy	01285317	1	01285323	1
15	Bottom Cover Assy	01265304	1	15265301	1
16	Fan Assy (right)	15012454	1	15018603	1
17	Fan Motor	15705304	1	15705305	1
18	Fan Fixed Plate Assy	01325301	1	0	0
19	Fan Assy (left)	15012458	1	15018604	1
20	Evaporator Assy	01025297	1	010252901	1
21	Right Side Plate Assy	01315304	1	01315292	1

Parts List :

No.	Name of part	GFH42K3BI		GFH48K3BI	
		Product Code	CF022N0041	Product Code	CF022N0061
		Part code	Quantity	Part code	Quantity
1	Filter Sub-Assy	111253031	2	111253031	2
2	Left Side Plate Assy	01315307	1	01315307	1
3	Top Cover Assy	01265306	1	01265306	1
4	Ambient Temperature Sensor	3900012123	1	3900012123	1
5	Tube sensor	390001921G	1	390001921G	1
6	Electric Box Assy	01395764	1	01395764	1
7	Main Board	30228205	1	30228205	1
8	Transformer	43110239	1	43110239	1
9	Capacitor CBB61	33010734	1	33010734	1
10	Terminal Board	420101851	1	420101851	1
11	Terminal Board	42010194	1	42010194	1
12	Display Board	30294213	1	30294213	1
13	Signal Wire	0	0	0	0
14	Water Tray Assy	01285323	1	01285323	1
15	Bottom Cover Assy	15265301	1	15265301	1
16	Fan Assy (right)	15018603	1	15018603	1
17	Fan Motor	15705305	1	15705305	1
18	Fan Fixed Plate Assy	0	0	0	0
19	Fan Assy (left)	15018604	1	15018604	1
20	Evaporator Assy	0102524901	1	01025274	1
21	Right Side Plate Assy	01315292	1	01315292	1

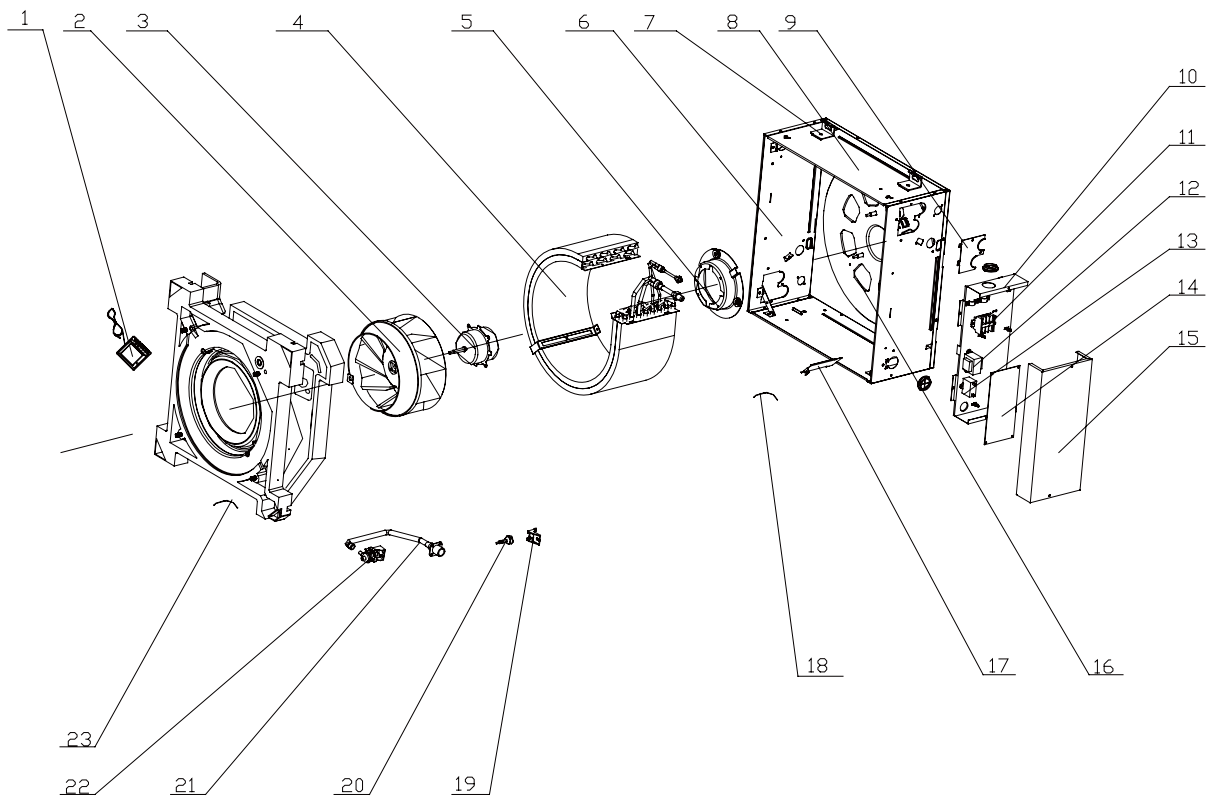
Parts List :

No.	Name of part	GFH60K3BI	
		Product Code	CF022N0071
		Part code	Quantity
1	Filter Sub-Assy	111253032	2
2	Left Side Plate Assy	01309109	1
3	Top Cover Assy	01259111	1
4	Ambient Temperature Sensor	3900012123	1
5	Tube sensor	3900012121G	1
6	Electric Box Assy	01395764	1
7	Main Board	30228205	1
8	Transformer	43110239	1
9	Capacitor CBB61	33010734	1
10	Terminal Board	420101851	1
11	Terminal Board	42010194	1
12	Display Board	30294213	1
13	Signal Wire	0	0
14	Water Tray Assy	01279114	1
15	Bottom Cover Assy	0	0
16	Fan Assy (right)	15019065	1
17	Fan Motor	15705305	1
18	Fan Fixed Plate Assy	0	0
19	Fan Assy (left)	15019066	1
20	Evaporator Assy	01025331	1
21	Right Side Plate Assy	01315291	1

5.2.2 Cassette Type

1) Model:GKH12K3BI, GKH18K3BI

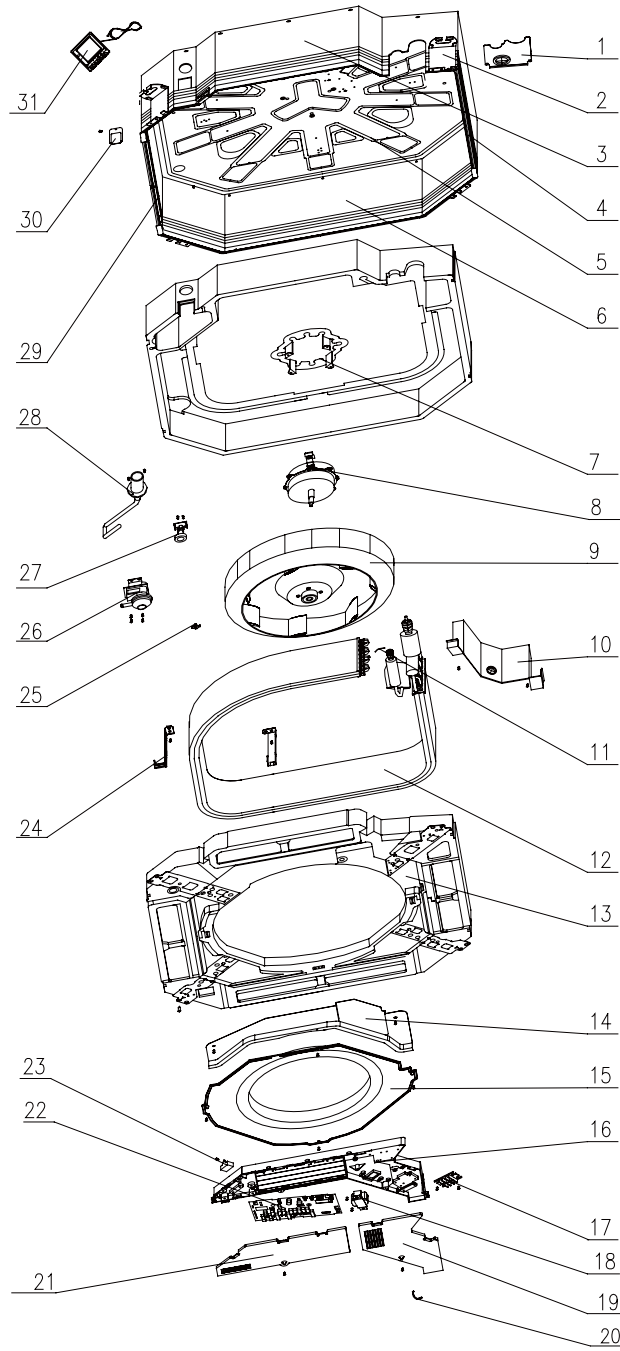
Exploded Views



Parts List :

No.	Name of part	GKH12K3BI		GKH18K3BI	
		Product Code	ET020N0060	Product Code	ET020N0030
		Part code	Quantity	Part code	Quantity
1	Display Board	30297301	1	30297301	1
2	Centifugal Fan	10312702	1	10312702	1
3	Motor	15012707	1	15012707	1
4	Evaporator Assy	01029608	1	01029608	1
5	Motor Support	01702702	1	01702702	1
6	Front Side Plate	01302741	2	01302741	2
7	Body Fixer	01332705	4	01332705	4
8	Right Side Plate	01302743	2	01302743	2
9	Tube-exit plate	01382719	1	01382719	1
10	Electric Box Assy	0140270501	1	0140270501	1
11	Terminal Board	42010258	1	42010258	1
12	Transformer	43110233	1	43110233	1
13	Capacitor CBB61	33010026	1	33010026	1
14	Main PCB	30227110	1	30227110	1
15	Electric Box Cover	01412723	1	01412723	1
16	Base Plate	01222712	1	01222712	1
17	Cord Baffle Plate	01362701	1	01362701	1
18	Tube Sensor	390000592G	1	390000592G	1
19	Water Level Switch Support	24212705	1	24212705	1
20	Water Level Switch	24212705	1	24212705	1
21	Pump Drainage	05232722	1	05232722	1
22	Water Pump	43130320	1	43130320	1
23	Room Sensor	39000191	1	39000191	1

2) Model:GKH24K3BI, GKH36K3BI, GKH42K3B, GKH48K3BI
Exploded Views



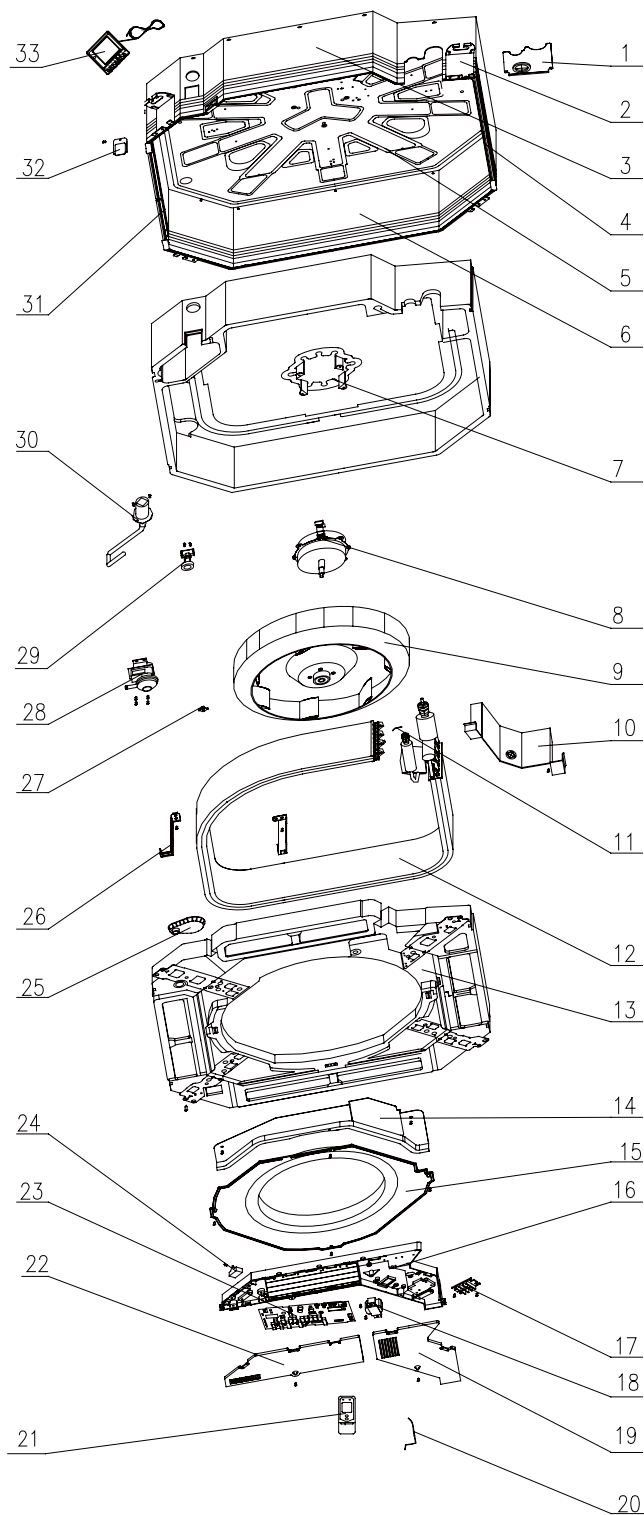
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No.	Name of part	GKH24K3BI		GKH36K3BI	
		Product Code	ET020N0030	Product Code	ET020N0010
		Part code	Quantity	Part code	Quantity
1	Tube Exit plate	01382715	1	01382715	1
2	Body Fixing Plate	01332701	4	01332701	4
3	Front Side Plate	01302718	1	01302713	1
4	Left Side Plate	01302715	1	01302711	1
5	Base Plate	01222701	1	01222701	1
6	Rear Side Plate	01302714	1	01302709	1
7	Motor Support	01702701	1	01702701	1
8	MotorFN35B	15012703	1	15709410	1
9	Centifugal Fan	10312705	1	10310101	1
10	Evaporator Linkage	01074042	1	01072732	1
11	Tube sensor	390001921G	1	390001921G	1
12	Evaporator Assy	010027101	1	01029402	1
13	Water Tray Assy	20182701	1	20182701	1
14	Electric Base Plate	01412721	1	01412721	1
15	Flow-guide Loop	10372701	1	10372722	1
16	Electric Box	20102701	1	20102701	1
17	Terminal Board	42010258	1	42010258	1
18	Transformer 48X26G	43110226	1	43110226	1
19	Electric Box Cover I	20102702	1	20102702	1
20	Room sensor	390001911	1	390001911	1
21	Electric Box Cover II	20102703	1	20102703	1
22	Main PCB	30227111	1	30227111	1
23	Capacitor CBB61	33010010	1	33010012	1
24	Evap Support	01072703	2	01072707	2
25	Fan Fixer	45010201	1	10312701	1
26	Water Pump	43130324	1	01332751	1
27	Water Level Switch	45010201	1	45010201	1
28	Pump Drainpipe	05230026	1	05230026	1
29	Right Side Plate	01302716	1	01302712	1
30	Pump Cover Plate	01252713	1	01252713	1
31	Display Board	30297301	1	30297301	1

Exploded Views:

No.	Name of part	GKH42K3BI		GKH48K3BI	
		Product Code	ET020N0020	Product Code	ET020N0040
		Part code	Quantity	Part code	Quantity
1	Tube Exit plate	01382715	1	01382715	1
2	Body Fixing Plate	01332701	4	01332701	4
3	Front Side Plate	01302713	1	01302713	1
4	Left Side Plate	01302711	1	01302711	1
5	Base Plate	01222701	1	01222701	1
6	Rear Side Plate	01302709	1	01302709	1
7	Motor Support	01702701	1	01702701	1
8	Motor	15709410	1	15709410	1
9	Centifugal Fan	10310101	1	10310101	1
10	Evaporator Linkage	01072732	1	01072732	1
11	Tube sensor	390001921G	1	390001921G	1
12	Evaporator Assy	01029405	1	01029505	1
13	Water Tray Assy	20182701	1	20182701	1
14	Electric Base Plate	01412721	1	01412721	1
15	Flow-guide Loop	10372722	1	10372722	1
16	Electric Box	20102701	1	01412721	1
17	Terminal Board	42010258	1	42010258	1
18	Transformer	43110226	1	43110226	1
19	Electric Box Cover I	20102702	1	20102702	1
20	Room sensor	390001911	1	390001911	1
21	Electric Box Cover II	20102703	1	20102703	1
22	Main PCB Z71351E	30227111	1	30227111	1
23	Capacitor CBB61	33010012	1	33010012	1
24	Evap Support	01072707	2	01072707	2
25	Fan Fixer	10312701	1	10312701	1
26	Water Pump	43130324	1	43130324	1
27	Water Level Switch	45010201	1	45010201	1
28	Pump Drainpipe	05230026	1	05230026	1
29	Right Side Plate	01302712	1	01302712	1
30	Pump Cover Plate	01252713	1	01252713	1
31	Display Board	30297301	1	30297301	1

3) Model:GKH30K3BI
Exploded Views



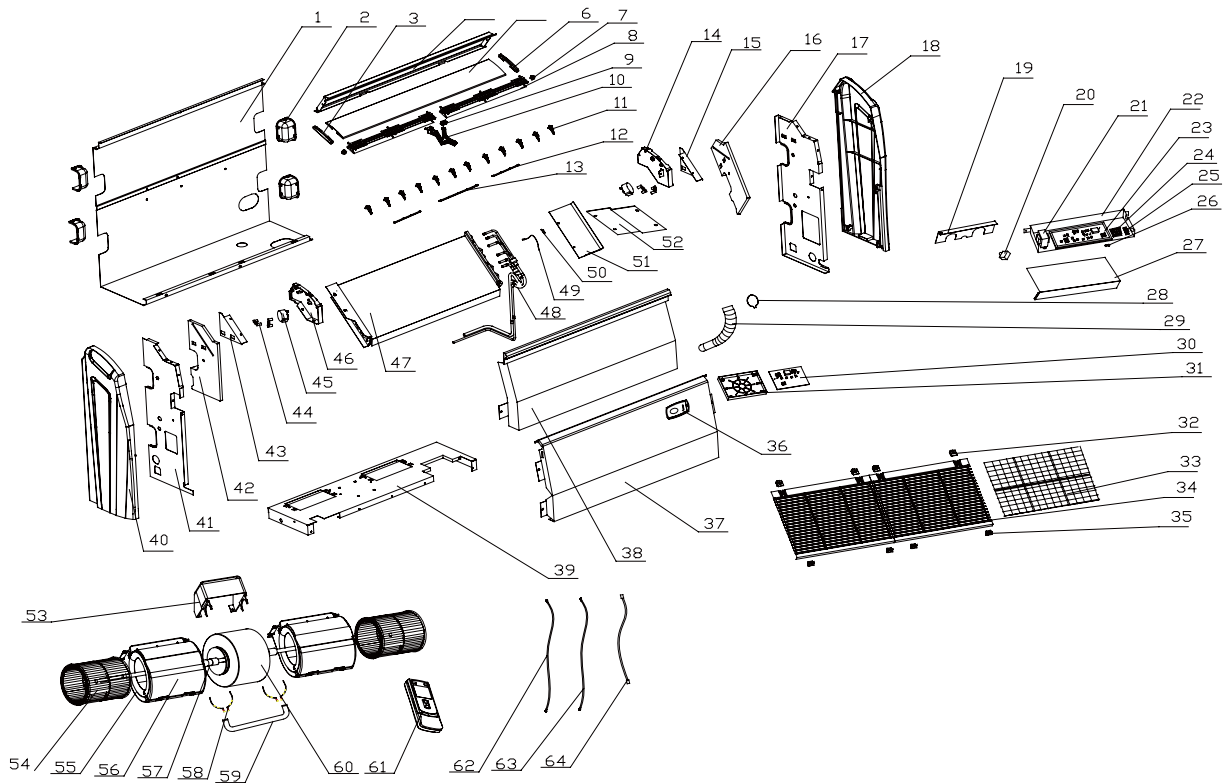
Parts List :

No.	Name of part	GKH30K3BI	
		Product Code	ET010N0060
		Part code	Quantity
33	Display Board	30297301	1
32	Pump Cover Plate	'01252713	1
31	Right Side Plate	01302716	1
30	Pump Drainpipe	05230026	1
29	Water Level Switch	45010201	1
28	Water Pump	43130324	1
27	Fan Fixer	10312701	1
26	Evap Support	01072703	2
25	Drainage Plastic	05232044	1
24	Capacitor CBB61	33010010	1
23	Main PCB	30227111	1
22	Electric Box Cover II	20102703	1
21	Remote Controller	0	0
20	Room Sensor	390001911	1
19	Electric Box Cover I	20102702	1
18	Transformer	43110226	1
17	Terminal Board	42010258	1
16	Electric Box	01399532	1
15	Flow-guide Loop	10372701	1
14	Electric Base Plate	01412721	1
13	Water Tray Assy	20182701	1
12	Evaporator Assy	01029415	1
11	Tube sensor	390001921G	1
10	Evaporator Linkage	01074042	1
9	Centifugal Fan	10312705	1
8	Motor	15709404	1
7	Motor Support	01702701	1
6	Rear Side Plate	01302714	1
5	Base Plate	01222701	1
4	Left Side Plate	01302715	1
3	Front Side Plate	01302718	1
2	Body Fixed Plate	01332701	4
1	Tube Exit Plate	01382715	1

5.2.3 Ceiling Type

1) Model:GTH09K3BI, GTH12K3BI, GTH18K3BI, GTH30K3BI

Exploded Views



Parts List :

No.	Name of part	GTH09K3BI		GTH12K3BI	
		Product Code	ED010N0090	Product Code	ED010N0120
		Part code	Quantity	Part code	Quantity
1	Rear Side Plate	01302013	1	01302013	1
2	Handle	26232001	4	26232001	4
3	Left Decoration Plate	261124152	1	261124152	1
4	Rear Side Plate of Air Outlet	0130201501	1	0130201501	1
5	Louver	1051953202	1	1051953202	1
6	Right Decoration Plate	261124162	1	261124162	1
7	Shaft of Louver II	10512026	2	10512026	2
8	Louver Support	24212019	2	24212019	2
9	Shaft of Louver I	10512025	1	10512025	1
10	Louver Fixer	24212018	1	24212018	1
11	Swing Louver	10512027	12	10512027	12
12	Connecting Lever	10582009	1	10582009	1
13	Connecting Lever	10582008	2	10582008	2
14	Right Swing Motor Fixer	26152006	1	26152006	1
15	Right Fixing Plate of Evaporator	01072411	1	01072411	1
16	Foam of Right Side Plate	12312404	1	12312404	1
17	Right Fixing Plate	01332404	1	01332404	1
18	Right Decoration Panel	26112027	1	26112027	1
19	Pipe Clamp Plate	0107243701	1	0107243701	1
20	Capacitor CBB611A 1uF/450	33010089	1	33010020	1

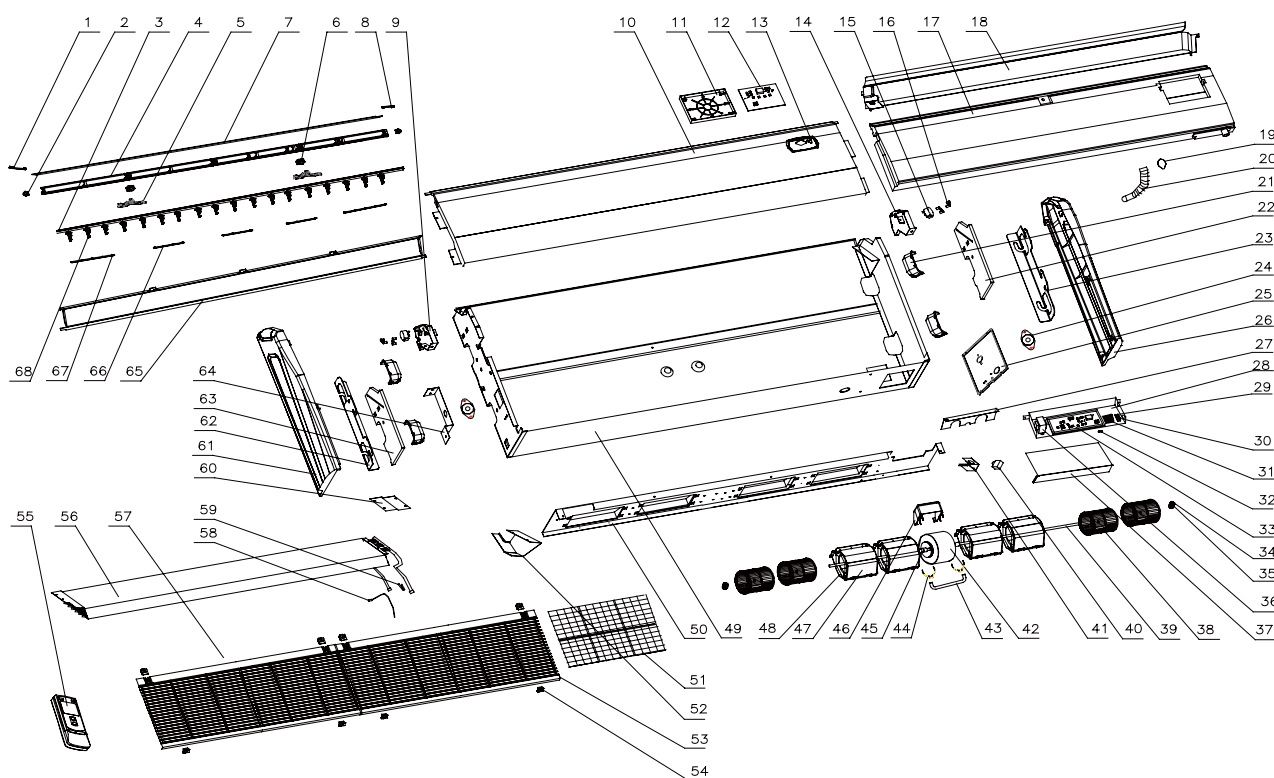
21	Transformer 57X25C	43110237	1	43110237	1
22	Electric Box	01402407	1	0140240701	1
23	Main PCB Z7A251B	30227021	1	30227021	1
24	Terminal Board	42011159	1	42011159	1
25	Wire Base	24253001	1	24253001	1
	Wire Clamp	24253002	1	24253002	1
26	Fuse 5A 250VAC	0	0	46010013	1
27	Cover of Electric Box	01412408	1	01412408	1
28	Pipe Clip	70812001	1	70812001	1
29	Drainage Pipe	05235433	1	05235433	1
30	Display Board 5T52	30545654	1	30545654	1
31	Electric Box	20102138	1	20102138	1
32	Front Grill Clip 1	26252002	2	26252002	2
33	Filter	11122013	1	11122013	1
34	Front Grill	22412010	1	22412010	1
35	Front Grill Clip 2	26252003	2	26252003	2
36	Buttons Panel	201620041	1	201620041	1
37	Front Panel	01532001	1	01532001P	1
38	Water Tray Panel	01272205	1	01272205P	1
39	Motor Support	01709532	1	01709532	1
40	Left Decoration Panel	26112028	1	26112028	1
41	Left Fixing Plate	01332405	1	01332405	1
42	Left Side Foam	12312403	1	12312403	1
43	Left Fixing Plate of Evaporator	01072410	1	01072410	1
44	Motor Clamp	26112026	4	26112026	4
45	Step Motor MP35CA	15212402	2	15212402	1
46	Left Swing Motor Fixer	26152005	1	26152005	1
47	Evaporator Assy	01032466	1	01032467	1
48	Liquid-intake Pipe Components	03222465	1	03222519	1
	Air Collecting Pipe Components	03533200	1	03533425	1
49	Temp Sensor	39000194	1	39000194	1
50	Temp Sensor Insert	42020063	1	42020063	1
51	Water Lead Panel	01362001	1	01362001	1
52	Cover of Evaporator	01072409	1	01072409	1
53	Fixed Mount	01708763	1	01708763	1
54	Centrifugal Fan	10312401	2	10312401	2
55	Rear Snail Shell	22202032	2	22202032	2
56	Front Snail Shell	22202031	2	22202031	2
57	Axes Connector	0	0	0	0
58	Bar Clasp	70819522	4	70819522	4
59	Hoop	70819521	1	70819521	1
60	Motor PG10H	15707302	1	15707302	1
61	Remote Controller	0	0	0	0
62	Connecting Cable	0	0	0	0
63	Connecting Cable	0	0	0	0
64	Signal Cable	4001023214	1	4001023214	1

Parts List :

No.	Name of part	GTH18K3BI	
		Product Code	ED010N0130
		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 CBB61	33010027	1
21	Transformer	43110237	1
22	Electric Box	0140240701	1
23	Main PCB	30227021	1
24	Terminal Board	42011159	1
25	Wire Base	24253001	1
	Wire Clamp	24253002	1
26	Fuse	46010013	1
27	Cover of Electric Box	01412408	1
28	Pipe Clip	70812001	1
29	Drainage Pipe	05235433	1
30	Display Board	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	01532001P	1
38	Water Tray Panel	01272205P	1
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	15212402	1
46	Left Swing Motor Fixer	26152005	1
47	Evaporator Assy	01032468	1
48	Liquid-intake Pipe Components	03222520	1
	Air Collecting Pipe Components	03533428	1
49	Temp Sensor	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	0
58	Bar Clasp	70819522	4
59	Hoop	70819521	1
60	Motor	157073024	1
61	Remote Controller	0	0
62	Connecting Cable	0	0
63	Connecting Cable	0	0
64	Signal Cable	4001023214	1

2) Model:GTH24K3BI
Exploded Views

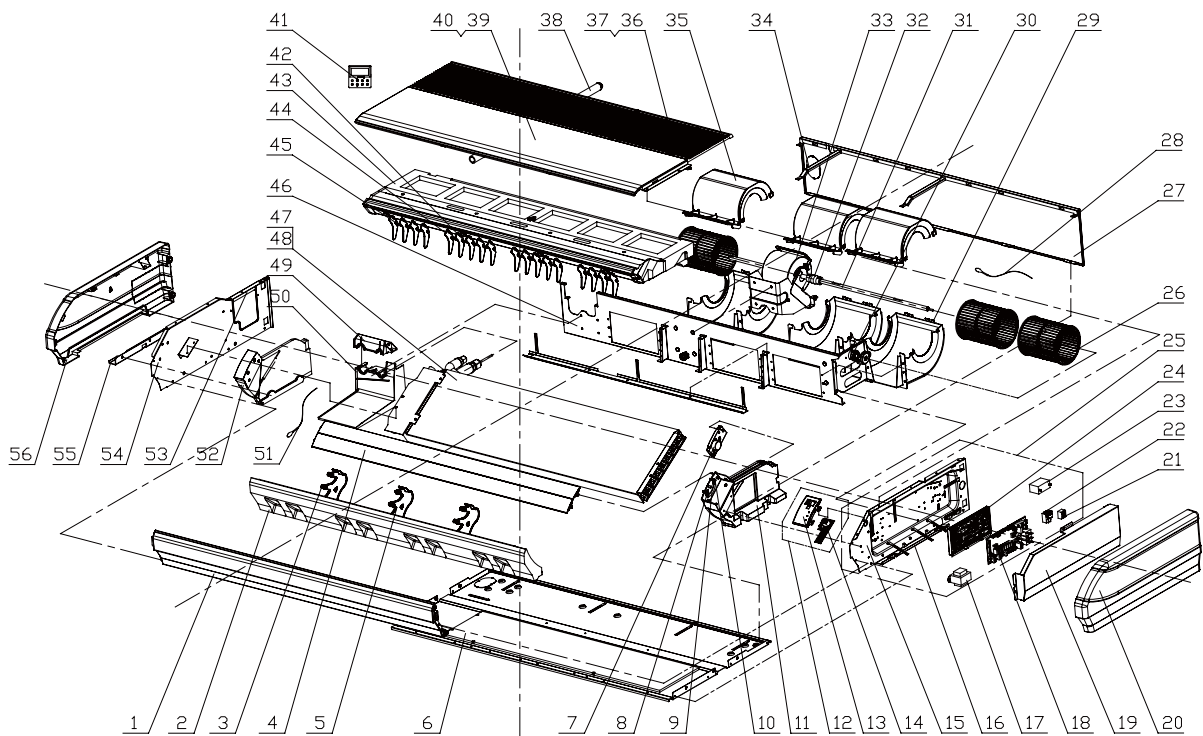


Parts List

No.	Name of part	GTH24K3BI	
		Product Code	ED010N0150
		Part code	Quantity
1	Left Decoration Plate	` 261124171	1
2	Shaft of Louver I	` 10512025	2
3	Swing Louver Fixer	0	0
4	Louver Support	` 24212020	1
5	Louver Fixer	'24222016	2
6	Louver	'105124041	1
7	Shaft of Louver II	'10512026	2
8	Right Decoration Plate	` 261124211	1
9	Left Swing Motor Fixer	` 26152007	1
10	Front Panel	` 01532414	1
11	Electric Box	'20102138	1
12	Display Board	'30297301	1
13	Buttons Panel	` 20162004	1
14	Right Swing Motor Fixer	` 26152008	1
15	Step Motor	'15212402	2
16	Motor Clamp	` 26112026	2
17	Water Tray	` 01272412	1
18	Auxiliary Water Tray	` 01272413	1
19	Drainage Pipe	0	0
20	Handle	'26232001	4
21	Foam of Right Side Plate	12312408	1

22	Right Fixing Palte	01332404	1
23	Support of Motor Bearing	01792408	2
24	Fixer of Motor Support	01792409	1
25	Right Decoration Panel	26112033	1
26	Pipe Clamp	01072424	1
27	Electric Box	01399620	1
28	Terminal Board	420101851	1
29	Terminal Board	42011159	1
30	Main PCB	30227021	1
31	Ring of Bearing	76512404	2
32	Fan Bearing	76512210	2
33	Transformer	43110237	1
34	Cover of Electric Box	01412408	1
35	Centrifugal Fan	10312401	4
36	Rotary Axis	73012401	2
37	Capacitor	33010027	1
38	Motor	1501240601	1
39	Motor Fixer	01722409	1
40	Motor Clamp	01702405	1
41	Axes Connector	73012403	2
42	Motor Fixing Plate	01332426	1
43	Front Snail Shell	22202031	4
44	Rear Snail Shell	22202032	4
45	Rear Side Plate	01302429	1
46	Motor Support	01702410	1
47	Filter	11122012	1
48	Water Lead Plate	01362401	1
49	Front Grill	22412401	2
50	Front Grill Clip 2	26252003	2
51	Evaporator Assy	010024052	1
52	Front Grill Clip 1	26252002	2
53	Temp Sensor	390001215G	1
54	Temp Sensor	39000186	1
55	Cover of Evaporator	01072417	1
56	Left Decoration Panel	26112032	1
57	Left Fixing Plate	01332405	1
58	Left Side Foam	12312405	1
59	Bearing Fixing Plate	01332407	1
60	Rear Side Plate of Air Outlet	01302405	1
61	Connecting Lever	10582008	3
62	Connecting Lever	10582009	2
63	Swing Louver	10512028	22

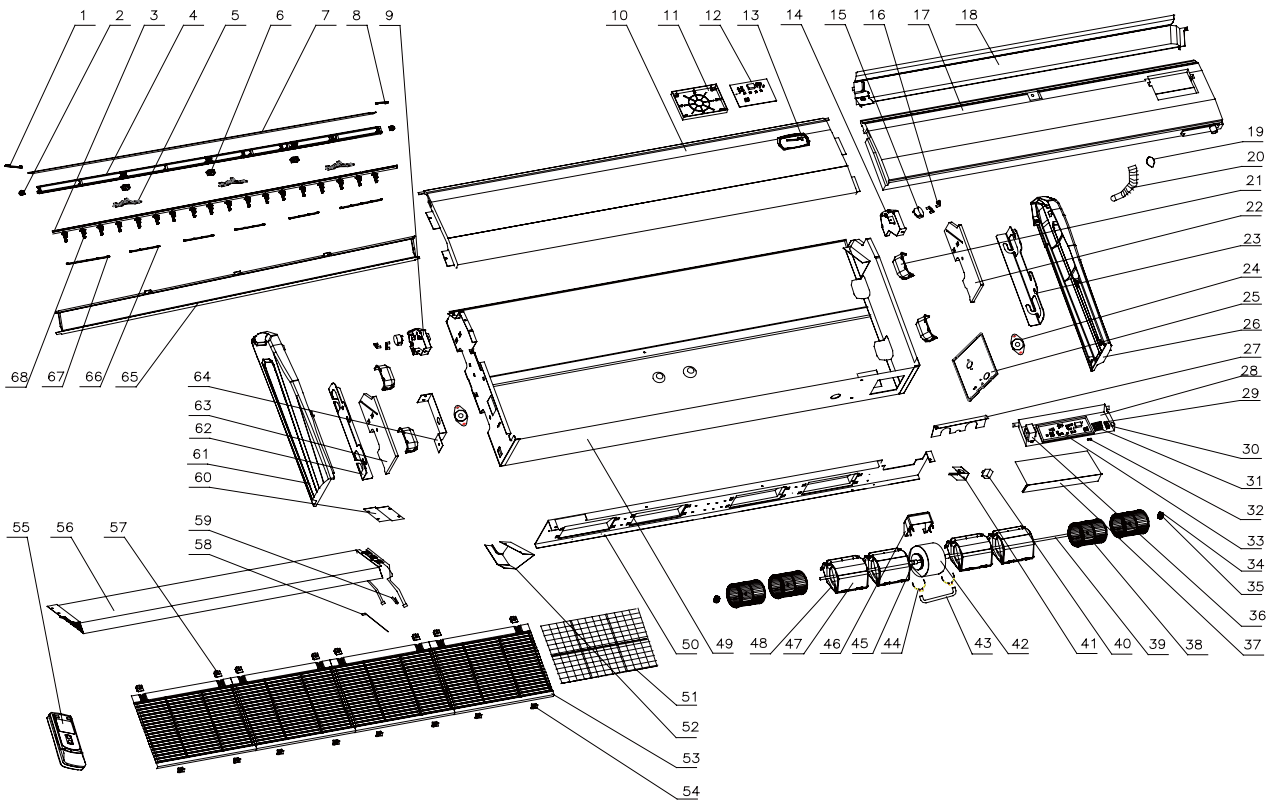
3) Model: GTH30K3B11
Exploded Views



No.	Name of part	GTH30K3B11	
		Product Code	ED020N0400
		Part code	Quantity
1	Front Connection Board	01349408P	1
2	Front Foam Assy	12509424	1
3	Rotating Shaft	26909430	6
4	Guide Louver	26909432	2
5	Supporter	26909409	3
6	Rear side plate assy	0131941901	1
7	Step Motor	1521240206	1
8	Rotating Shaft	26909413	1
9	Connecting Rod	26909411	1
10	Rotating Shaft	26909412	1
11	Left Foam Assy	12509408	1
12	Display Board Sub-Assy	02229416	1
13	Fixed Mount	26909426R	1
14	Display Board	30294224	1
15	Left Side Plate Sub-Assy	01319406	1
16	Installation Supporting Frame	01809401	1
17	Transformer	4311023701	1
18	Main Board	30224223	1
19	Electric Box Cover	01429410P	1
20	Left Cover Plate	26909416	1
21	Terminal Board	420101852	1
22	Terminal Board	42010178	1
23	Capacitor CBB61	33010011	1

24	Fixed Plate for Mainboard	26909407	1
25	Electric Box Assy	01399464	1
26	Centrifugal fan	1041410101	3
27	Rear Connection board	01349410	1
28	Room Sensor	39000191	1
29	Front volute casing	26905208	3
30	O-Gasket of Bearing	76512404	1
31	Rotary Axis Sub-Assy	73018052	1
32	Joint Slack	73018731	1
33	Fan Motor	15709408	1
34	Fixing Plate	02229408	2
35	Rear volute casing	26909419	3
36	Front Grill sub-assy	01579402	3
37	Front grill	26909434	1
38	Drainage Pipe Sub-assy	05235434	1
39	Top Cover Board Sub-assy	01269405	1
40	Top cover	01269404P	1
41	Display Board	30294219	1
42	Swing Lever	10582009	2
43	Water Tray Assy	01289405	1
44	Air Louver	26909418	18
45	Swing Lever	10582008	2
46	Mid-clapboard assy	01249414	1
47	Evaporator Assy	01029434	1
48	Evaporator Assy	01029433	1
49	Water Groove	26909441	1
50	Fixed Plate	26909442	1
51	Tube sensor	3900020720G	1
52	Right Foam Assy	12509425	1
53	Connection Board	02229406	1
54	Right Side Plate Sub-Assy	01319408	1
55	Installation Supporting Frame	01809402	1
56	Right Cover Plate	26909422	1

4) Model: GTH36K3BI, GTH42K3BI, GTH48K3BI
Exploded Views



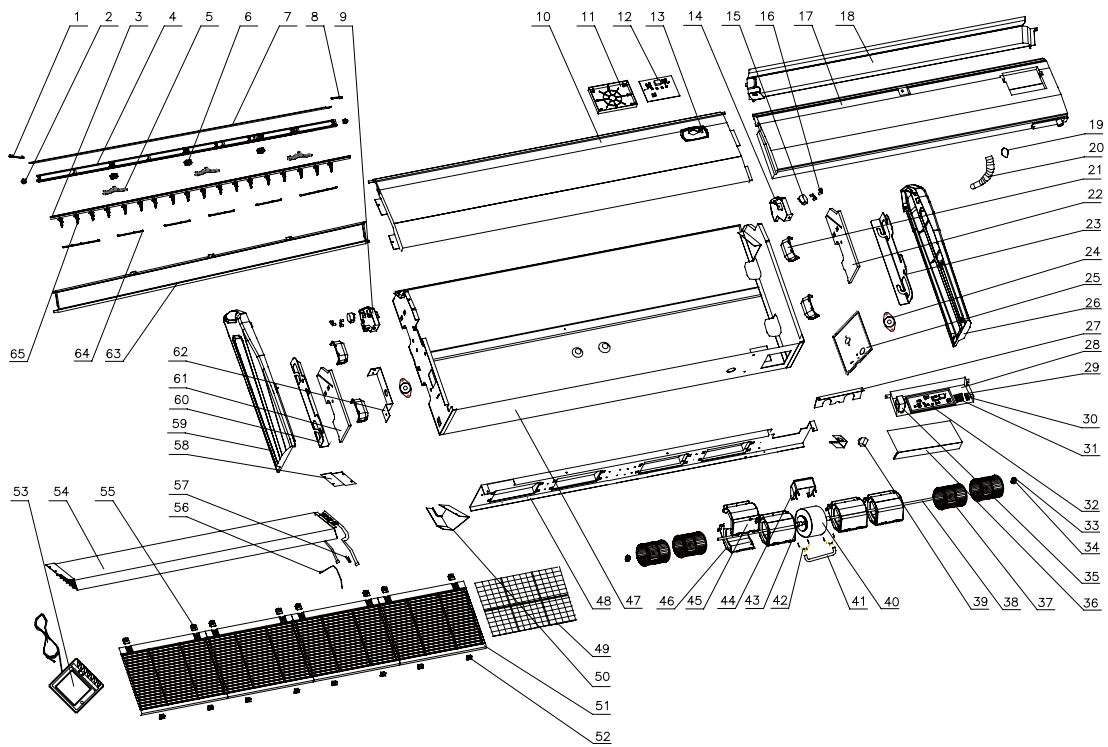
Parts List

No.	Name of part	GTH36K3BI		GTH42K3BI	
		Product Code	ED010N0100	Product Code	ED010N0110
		Part code	Quantity	Part code	Quantity
1	Left Decoration Plate	261124151	1	261124151	1
2	Shaft of Louver I	10512026	2	10512025	3
3	Swing Louver Fixer	0	0	0133241802	1
4	Louver Support	24212019	4	24212019	4
5	Louver Fixer	24212018	3	24212018	3
6	Louver	105124081	1	105124081	1
7	Shaft of Louver II	10512026	2	10512026	2
8	Right Decoration Plate	261124161	1	261124161	1
9	Left Swing Motor Fixer	26152005	1	26152005	1
10	Front Panel	01532413	1	01532413	1
11	Electric Box	20102138	1	20102138	1
12	Display Board	30545654	1	30545654	1
13	Buttons Panel	201620041	1	201620041	1
14	Right Swing Motor Fixer	26152006	1	26152406	1
15	Step Motor	15212402	2	15212402	2
16	Motor Clamp	26112026	1	26112026	2
17	Water Tray	01272410	1	01272410	1
18	Auxiliary Water Tray	01289411P	1	01289411P	1
19	Drainage Pipe	0	0	0	0
20	Handle	26232001	4	26232001	4
21	Foam of Right Side Plate	12312402	1	12312402	1

22	Right Fixing Palte	01332404	1	01332404	1
23	Support of Motor Bearing	01792408	1	01792408	1
24	Fixer of Motor Support	01792407	1	01792407	1
25	Right Decoration Panel	26112027	1	26112027	1
26	Pipe Clamp	01072437	1	01072425	1
27	Electric Box	01399619	1	01399619	1
28	Terminal Board	420101851	1	420101851	1
29	Terminal Board	42011159	1	42011159	1
30	Main PCB	30227021	1	30227021	1
31	Ring of Bearing	76512404	1	76512404	1
32	Fan Bearing	76512210	1	76512210	1
33	Transformer	43110237	1	43110237	1
34	Cover of Electric Box	01412408	1	01412408	1
35	Centrifugal Fan	10319051	4	10319051	4
36	Rotary Axis	73012402	2	73012402	2
37	Capacitor	33010037	1	33010037	1
38	Motor	15012405	1	15012405	1
39	Motor Fixer	01722410	1	01722410	1
40	Motor Clamp	01702405	1	01702405	1
41	Axes Connector	73012403	2	73012403	2
42	Motor Fixing Plate	01332425	1	01332425	1
43	Front Snail Shell	22202030	4	22202030	4
44	Rear Snail Shell	22202029	4	22202029	4
45	Rear Side Plate	01302431	1	01302431	1
46	Motor Support	01702411	1	01702411	1
47	Filter	11122013	1	11122013	1
48	Water Lead Plate	01362407	1	01362407	1
49	Front Grill	22412010	1	22412012	4
50	Front Grill Clip 2	26252003	2	26252003	2
51	Evaporator Assy	01029610	1	01029612	1
52	Front Grill Clip 1	26252002	1	26252002	1
53	Outdoor Tube Sensor	39000194G	1	39000194G	1
54	Temperature Sensor	39000186	1	39000186	1
55	Cover of Evaporator	01072409	1	01072409	1
56	Left Decoration Panel	26112028	1	26112028	1
57	Left Fixing Plate	01332405	1	01332405	1
58	Left Side Foam	12312401	1	12312401	1
59	Bearing Fixing Plate	01332406	1	01792408	1
60	Rear Side Plate of Air Outlet	01302416	1	01302416	1
61	Connecting Lever	10582008	2	10582008	2
62	Connecting Lever	10582009	4	10582009	4
63	Swing Louver	10512027	26	10512027	26

**U-MATCH Air
Conditioners
Service Manual**

5) Model: GTH48K3BI
Exploded Views



No.	Name of part	GTH48K3BI	
		Product Code	ED010N0140
		Part code	Quantity
1	Left Decoration Plate	261124151	1
2	Shaft of Louver I	10512025	3
3	Swing Louver Fixer	0133241802	1
4	Louver Support	24212019	4
5	Louver Fixer	24212018	3
6	Shaft of Louver II	10512026	2
7	Louver	105124081	1
8	Right Decoration Plate	261124161	1
9	Left Swing Motor Fixer	26152005	1
10	Front Panel Assy	015324091	1
11	Display Box	20102138	1
12	Display Board	30545654	1
13	Buttons Panel	201620041	1
14	Right Swing Motor Fixer	26152006	1
15	Step Motor	15212402	2
16	Motor Clamp	26112026	2
17	Water Tray	0128940602	1
18	Auxiliary Water Tray	01289411P	1
19	Pipe Clip	70812001	1
20	Drainage Pipe	0	0
21	Handle	26232001	4
22	Foam of Right Side Plate	12312402	1
23	Right Fixing Palte	01332404	1
24	Support of Motor Bearing	01792408	1

25	Fixer of Motor Support	01792407	1
26	Right Decoration Panel	26112027	1
27	Pipe Clamp	01072425	1
28	Electric Box Assy	01399439	1
29	Wire Base	24253001	1
30	Wire Clamp	24253002	1
31	Terminal Board	42011159	1
32	Main PCB	30227021	1
33	Ring of Bearing	76512404	2
34	Fan Bearing	76512210	1
35	Transformer	43110237	1
36	Cover of Electric Box	01412408	1
37	Centrifugal Fan	10319051	4
38	Rotary Axis	73012402	2
39	Capacitor CBB61	33010056	1
40	Motor FN180A	15012404	1
41	Motor Fixer	01722410	1
42	Motor Clamp	01702405	1
43	Axes Connector	73012403	2
44	Motor Fixing Plate	01332425	1
45	Front Snail Shell	22202030	4
46	Rear Snail Shell	22202029	4
47	Rear Side Plate	01302431	1
48	Motor Support	01702411	1
49	Filter	11122013	1
50	Water Lead Plate	01362407	1
51	Front Grill	22412010	1
52	Front Grill Clip 2	26252003	2
53	Display Board	30297301	1
54	Evaporator Assy	01029613	1
55	Front Grill Clip 1	26252002	2
56	Temp Sensor	39000186	1
57	Temp Sensor Insert	42020063	1
58	Cover of Evaporator	01072409	1
59	Left Decoration Panel	26112028	1
60	Left Fixing Plate	01332405	1
61	Left Side Foam	12312401	1
62	Bearing Fixing Plate	01332406	1
63	Rear Side Plate of Air Outlet	01302416	1
64	Connecting Lever	10582009	4
65	Swing Louver	10512027	26



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