



Service Manual

GREE ELECTRIC APPLIANCES, INC. OF ZHUHAI



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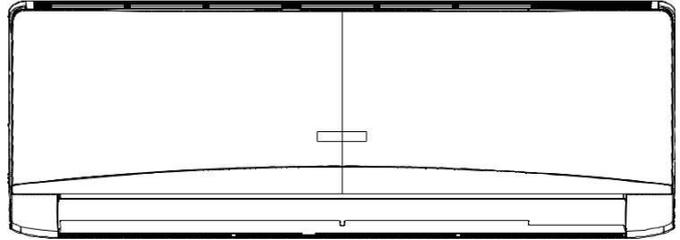
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Part I : Technical Information

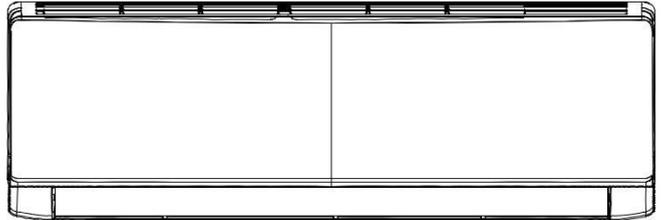
1. Summary

Indoor Unit:

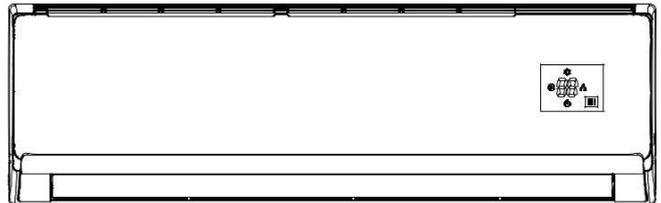
GWH09AAB-K6DNA3A/I
GWH12AAB-K6DNA3A/I



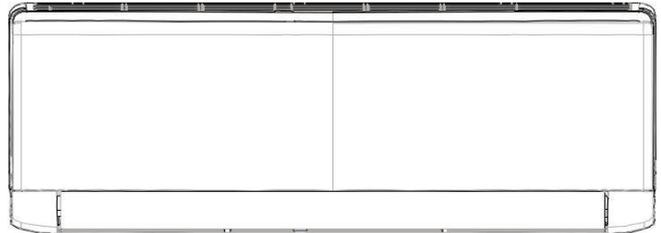
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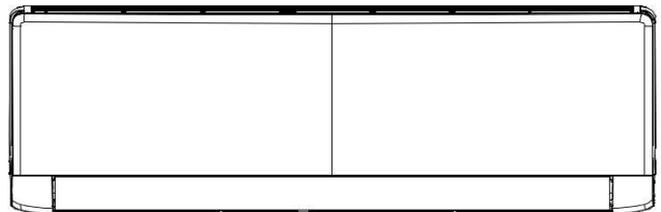
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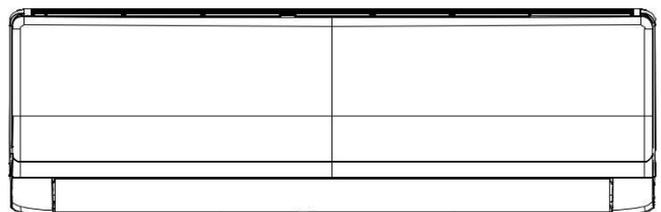
GWH09AAB-K6DNA4A/I
GWH12AAB-K6DNA4A/I



GWH09AAB-K6DNA1B/I
GWH09AAB-K6DNA1A/I
GWH12AAB-K6DNA1A/I



GWH09AAB-K6DNA2B/I
GWH09AAB-K6DNA2A/I
GWH12AAB-K6DNA2A/I



2. Specifications

2.1 Specification Sheet

Model			1.GWH09AAB-K6DNA3A 2.GWH09AAB-K6DNA5A 3.GWH09AAB-K6DNA4A 4.GWH09AAB-K6DNA1B 5.GWH09AAB-K6DNA2B 6.GWH09AAB-K6DNA1A 7.GWH09AAB-K6DNA2A	
Product Code			1.CB478000200 2.CB488000800/CB479000801 3.CB479000800 4.CB476001400 5.CB477000900 6.CB476000901 7.CB477001500	
Power Supply	Rated Voltage	V~	220-240	
	Rated Frequency	Hz	50	
	Phases		1	
Power Supply Mode			Outdoor	
Cooling Capacity		W	2500	
Heating Capacity		W	2800	
Cooling Power Input		W	781	
Heating Power Input		W	777	
Cooling Power Current		A	3.99	
Heating Power Current		A	3.74	
Rated Input		W	1500	
Rated Current		A	6.3	
Rated Heating Current		A	6.9	
Air Flow Volume(SH/H/M/L/SL)		m ³ /h	550/500/430/300/-	
Dehumidifying Volume		L/h	0.8	
EER		W/W	3.20	
COP		W/W	3.60	
SEER		W/W	6.1	
HSPF		W/W	/	
Application Area		m ²	12-18	
Indoor Unit	Indoor Unit Model		1.GWH09AAB-K6DNA3A/I 2.GWH09AAB-K6DNA5A/I 3.GWH09AAB-K6DNA4A/I 4.GWH09AAB-K6DNA1B/I 5.GWH09AAB-K6DNA2B/I 6.GWH09AAB-K6DNA1A/I 7.GWH09AAB-K6DNA2A/I	
	Indoor Unit Product Code		1.CB478N00200 2.CB488N00800/CB479N00801 3.CB479N00800 4.CB476N01400 5.CB477N00900 6.CB476N00901 7.CB477N01500	
	Fan Type		Cross-flow	
	Diameter Length(DXL)		mm	Φ93X580
	Fan Motor Cooling Speed(SH/H/M/L/SL)		r/min	1300/1200/1100/850/-
	Fan Motor Heating Speed(SH/H/M/L/SL)		r/min	1250/1150/1050/900/-
	Output of Fan Motor		W	20
	Fan Motor RLA		A	0.22
	Fan Motor Capacitor		μF	1
	Input of Heater		W	/
	Evaporator Form			Aluminum Fin-copper Tube
	Pipe Diameter		mm	Φ5
	Row-fin Gap		mm	2-1.4
	Coil Length (LXDXW)		mm	584X22.8X266.7
	Swing Motor Model			MP24AN
	Output of Swing Motor		W	1.5
	Fuse		A	3.15
	Sound Pressure Level (SH/H/M/L/SL)		dB (A)	40/37/35/28/-
	Sound Power Level (SH/H/M/L/SL)		dB (A)	55/49/47/40/-
	Dimension (WXHXD)		mm	773X250X185
Dimension of Carton Box (LXWXH)		mm	817X306X244	
Dimension of Package (LXWXH)		mm	822X322X255	
Net Weight		kg	8.5	
Gross Weight		kg	9.5	

Outdoor Unit	Model of Outdoor Unit		GWH09AAB-K6DNA3A/O
	Product Code of Outdoor Unit		CB478W00200
	Compressor Manufacturer/Trademark		ZHUHAI LANDA COMPRESSOR CO.,LTD
	Compressor Model		QXF-B096zE190A
	Compressor Oil		FW68DA
	Compressor Type		Rotary
	L.R.A.	A	20
	Compressor RLA	A	4.21
	Compressor Power Input	W	943
	Overload Protector		1NT11L-6233 HPC115/95U1 KSD115°C
	Throttling Method		Capillary
	Operation Temp	°C	16~30
	Ambient Temp (Cooling)	°C	-15~43
	Ambient Temp (Heating)	°C	-15~24
	Condenser Form		Aluminum Fin-copper Tube
	Pipe Diameter	mm	Φ7
	Rows-fin Gap	mm	1-1.4
	Coil Length (LXD _X W)	mm	710X19.05X508
	Fan Motor Speed	rpm	900
	Output of Fan Motor	W	30
	Fan Motor RLA	A	0.36
	Fan Motor Capacitor	μF	/
	Air Flow Volume of Outdoor Unit	m ³ /h	1600
	Fan Type		Axial-flow
	Fan Diameter	mm	Φ400
	Defrosting Method		Automatic Defrosting
	Climate Type		T1
	Isolation		I
	Moisture Protection		IPX4
	Permissible Excessive Operating Pressure for the Discharge Side	MPa	4.3
	Permissible Excessive Operating Pressure for the Suction Side	MPa	2.5
	Sound Pressure Level (H/M/L)	dB (A)	52/-/-
	Sound Power Level (H/M/L)	dB (A)	60/-/-
Dimension (WXHXD)	mm	782X540X320	
Dimension of Carton Box (LXWXH)	mm	820X355X580	
Dimension of Package (LXWXH)	mm	823X358X595	
Net Weight	kg	29	
Gross Weight	kg	31.5	
Refrigerant		R32	
Refrigerant Charge	kg	0.6	
Connection Pipe	Length	m	5
	Gas Additional Charge	g/m	20
	Outer Diameter Liquid Pipe	mm	Φ6
	Outer Diameter Gas Pipe	mm	Φ9.52
	Max Distance Height	m	10
	Max Distance Length	m	15
Note: The connection pipe applies metric diameter.			

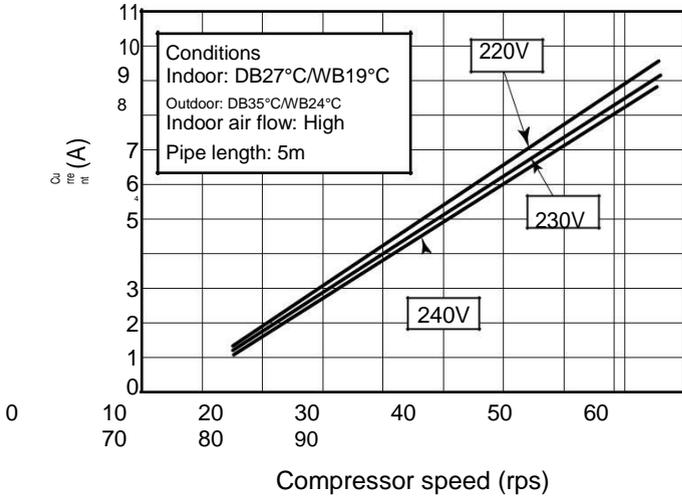
Model			1.GWH12AAB-K6DNA3A 2.GWH12AAB-K6DNA4A 3.GWH12AAB-K6DNA5A 4.GWH12AAB-K6DNA1A 5.GWH12AAB-K6DNA2A
Product Code			1.CB478000100 2.CB479000500/CB479000501 3.CB488000900 4.CB476000302 5.CB477001600/CB477001601
Power Supply	Rated Voltage	V~	220-240
	Rated Frequency	Hz	50
	Phases		1
Power Supply Mode			Outdoor
Cooling Capacity		W	3200
Heating Capacity		W	3400
Cooling Power Input		W	997
Heating Power Input		W	941
Cooling Power Current		A	4.5
Heating Power Current		A	4.4
Rated Input		W	1500
Rated Current		A	7.2
Air Flow Volume(SH/H/ML/SL)		m ³ /h	550/480/410/290/-
Dehumidifying Volume		L/h	1.4
EER		W/W	3.21
COP		W/W	3.61
SEER		W/W	6.1
HSPF		W/W	/
Application Area		m ²	16-24
Indoor Unit	Indoor Unit Model		1.GWH12AAB-K6DNA3A/I 2.GWH12AAB-K6DNA4A/I 3.GWH12AAB-K6DNA5A/I 4.GWH12AAB-K6DNA1A/I 5.GWH12AAB-K6DNA2A/I
	Indoor Unit Product Code		1.CB478N00100 2.CB479N00500/CB479N00501 3.CB488N00900 4.CB476N00302 5.CB477N01600/CB477N01601
	Fan Type		Cross-flow
	Diameter Length(DXL)	mm	Φ93X580
	Fan Motor Cooling Speed(SH/H/ML/SL)	r/min	1350/1200/1100/850/-
	Fan Motor Heating Speed(SH/H/ML/SL)	r/min	1350/1200/1100/900/-
	Output of Fan Motor	W	20
	Fan Motor RLA	A	0.22
	Fan Motor Capacitor	μF	1
	Input of Heater	W	/
	Evaporator Form		Aluminum Fin-copper Tube
	Pipe Diameter	mm	Φ5
	Row-fin Gap	mm	2-1.4
	Coil Length (LXDXW)	mm	584X22.8X266.7
	Swing Motor Model		MP24AN
	Output of Swing Motor	W	1.5
	Fuse	A	3.15
	Sound Pressure Level (SH/H/ML/SL)	dB (A)	42/37/34/28/-
	Sound Power Level (SH/H/ML/SL)	dB (A)	55/49/46/40/-
	Dimension (WXHDXD)	mm	773X250X185
Dimension of Carton Box (LXWXH)	mm	817X306X244	
Dimension of Package (LXWXH)	mm	822X322X255	
Net Weight	kg	8.5	
Gross Weight	kg	9.5	

Outdoor Unit	Model of Outdoor Unit		GWH12AAB-K6DNA3A/O (LC)
	Product Code of Outdoor Unit		CB478W00100
	Compressor Manufacturer/Trademark		ZHUHAI LANDA COMPRESSOR CO., LTD
	Compressor Model		QXF-B096zE190A
	Compressor Oil		FW68DA
	Compressor Type		Rotary
	L.R.A.	A	20
	Compressor RLA	A	4.21
	Compressor Power Input	W	943
	Overload Protector		1NT11L-6233 HPC115/95U1 KSD115°C
	Throttling Method		Capillary
	Operation Temp	°C	16~30
	Ambient Temp (Cooling)	°C	-15~43
	Ambient Temp (Heating)	°C	-15~24
	Condenser Form		Aluminum Fin-copper Tube
	Pipe Diameter	mm	Φ7.94
	Rows-fin Gap	mm	1-1.4
	Coil Length (LXD _X W)	mm	731X19.05X550
	Fan Motor Speed	rpm	900
	Output of Fan Motor	W	30
	Fan Motor RLA	A	0.36
	Fan Motor Capacitor	μF	/
	Air Flow Volume of Outdoor Unit	m ³ /h	2200
	Fan Type		Axial-flow
	Fan Diameter	mm	Φ438
	Defrosting Method		Automatic Defrosting
	Climate Type		T1
	Isolation		I
	Moisture Protection		IPX4
	Permissible Excessive Operating Pressure for the Discharge Side	MPa	4.3
	Permissible Excessive Operating Pressure for the Suction Side	MPa	2.5
	Sound Pressure Level (H/M/L)	dB (A)	52/-/-
Sound Power Level (H/M/L)	dB (A)	62/-/-	
Dimension (WXHXD)	mm	842X596X320	
Dimension of Carton Box (LXWXH)	mm	878X360X630	
Dimension of Package (LXWXH)	mm	881X363X645	
Net Weight	kg	31	
Gross Weight	kg	34	
Refrigerant		R32	
Refrigerant Charge	kg	0.65	
Connection Pipe	Length	m	5
	Gas Additional Charge	g/m	20
	Outer Diameter Liquid Pipe	mm	Φ6
	Outer Diameter Gas Pipe	mm	Φ9.52
	Max Distance Height	m	10
	Max Distance Length	m	20
Note: The connection pipe applies metric diameter.			

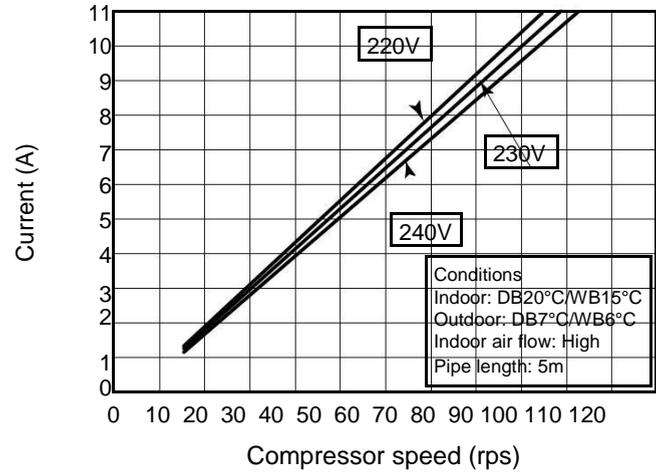
The above data is subject to change without notice; please refer to the nameplate of the unit.

2.2 Operation Characteristic Curve

Cooling



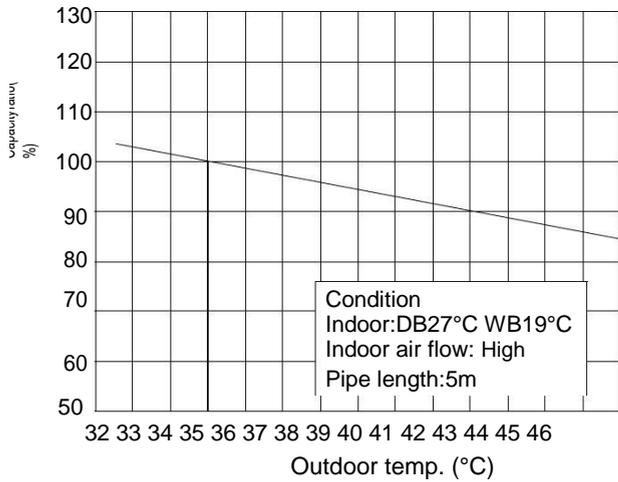
Heating



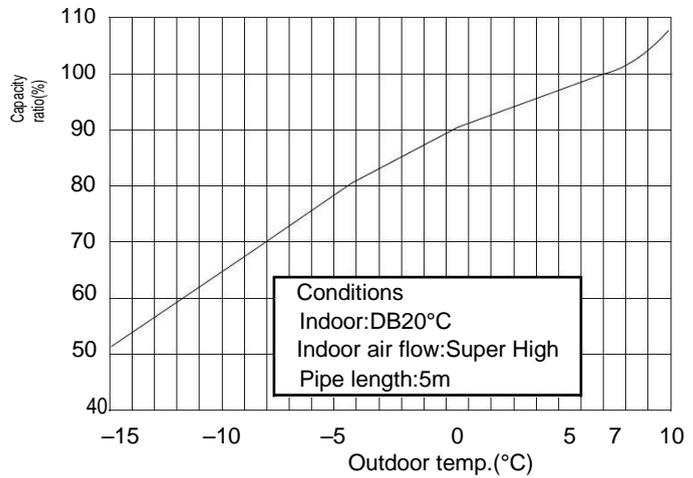
2.3 Capacity Variation Ratio According to Temperature

Heating operation ambient temperature range is -15°C~24°C

Cooling



Heating



2.4 Cooling and Heating Data Sheet in Rated Frequency

Cooling:

Rated cooling condition(°C) (DB/WB)		Model	Pressure of gas pipe connecting indoor and outdoor unit P (MPa)	Inlet and outlet pipe temperature of heat exchanger		Fan speed of indoor unit	Fan speed of outdoor unit	Compressor revolution (rps)
Indoor	Outdoor			T1 (°C)	T2 (°C)			
27/19	35/24	09/12K	0.8 ~ 1.1	12 to 15	65 to 38	TURBO	High	49
				11 to 14	64 to 37			60

Heating:

Rated cooling condition(°C) (DB/WB)		Model	Pressure of gas pipe connecting indoor and outdoor unit P (MPa)	Inlet and outlet pipe temperature of heat exchanger		Fan speed of indoor unit	Fan speed of outdoor unit	Compressor revolution (rps)
Indoor	Outdoor			T1 (°C)	T2 (°C)			
20/-	7/6	09/12K	2.8 ~ 3.2	35 to 63	2 to 5	TURBO	High	59
				35 to 65	2 to 5			67

Instruction:

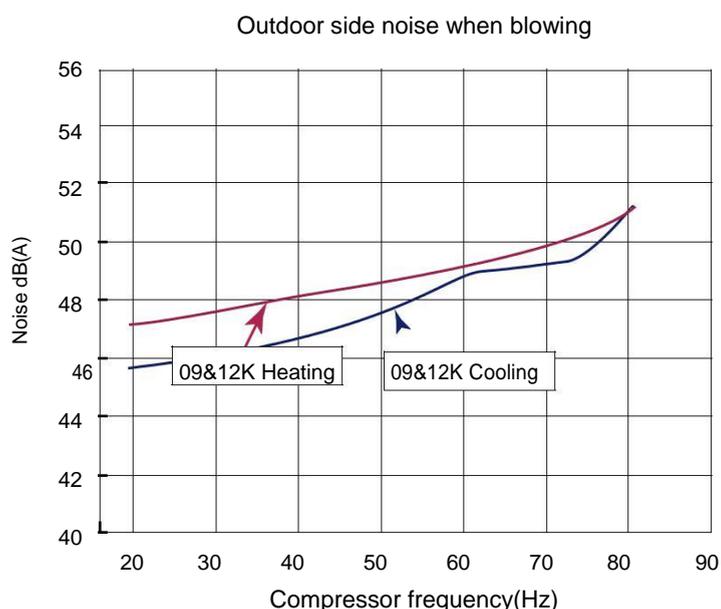
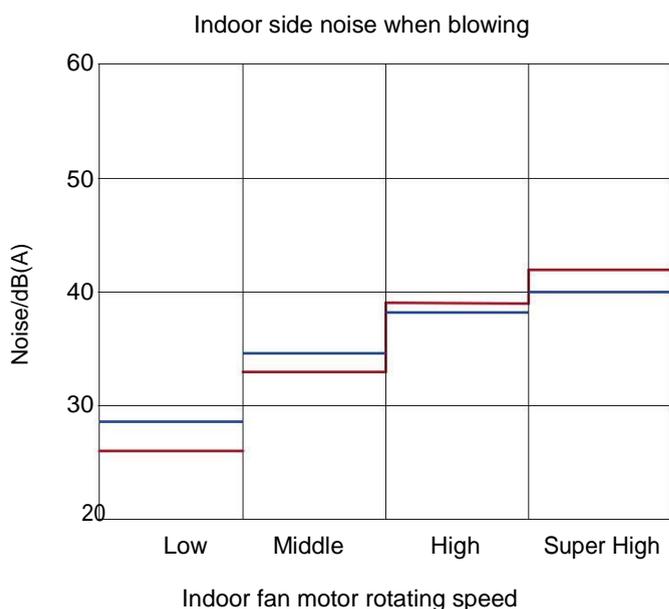
T1: Inlet and outlet pipe temperature of evaporator

T2: Inlet and outlet pipe temperature of condenser

P: Pressure at the side of big

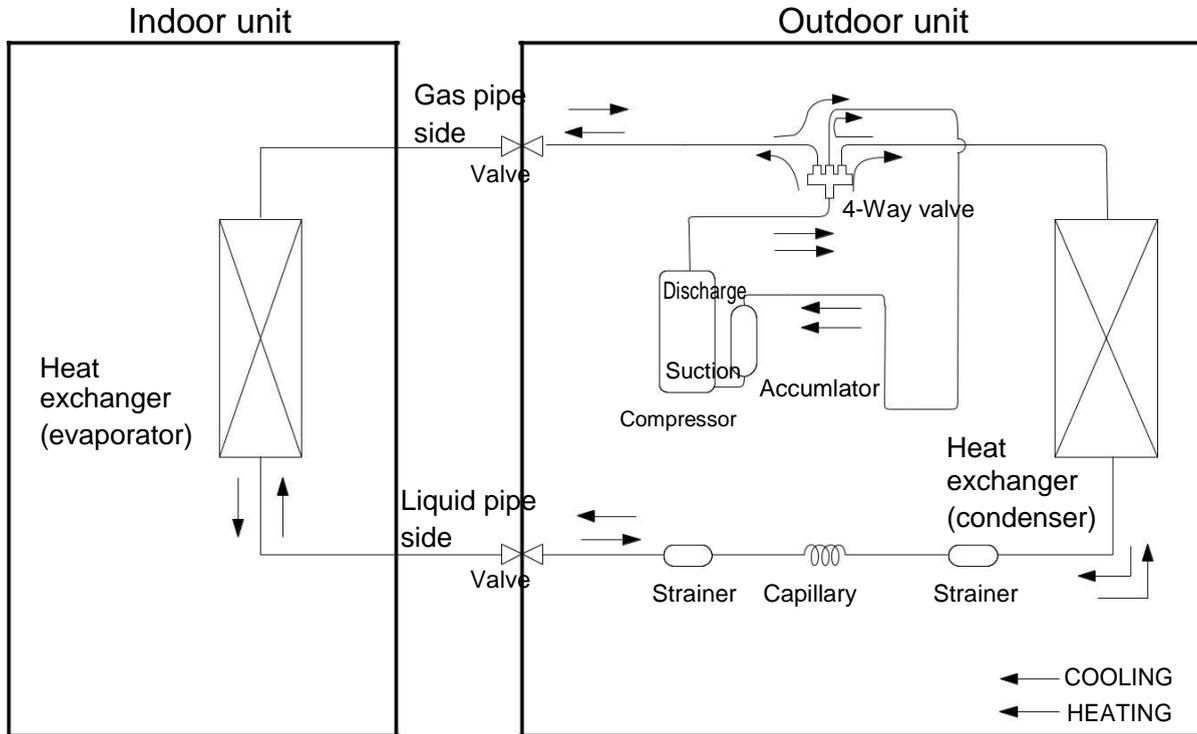
valve Connection pipe length: 5 m.

2.5 Noise Curve



4. Refrigerant System Diagram

Cooling and heating model



Connection pipe specification:
 Liquid pipe: 1/4" (6mm)
 Gas pipe: 3/8" (9.52mm)

5. Electrical Part

5.1 Wiring Diagram

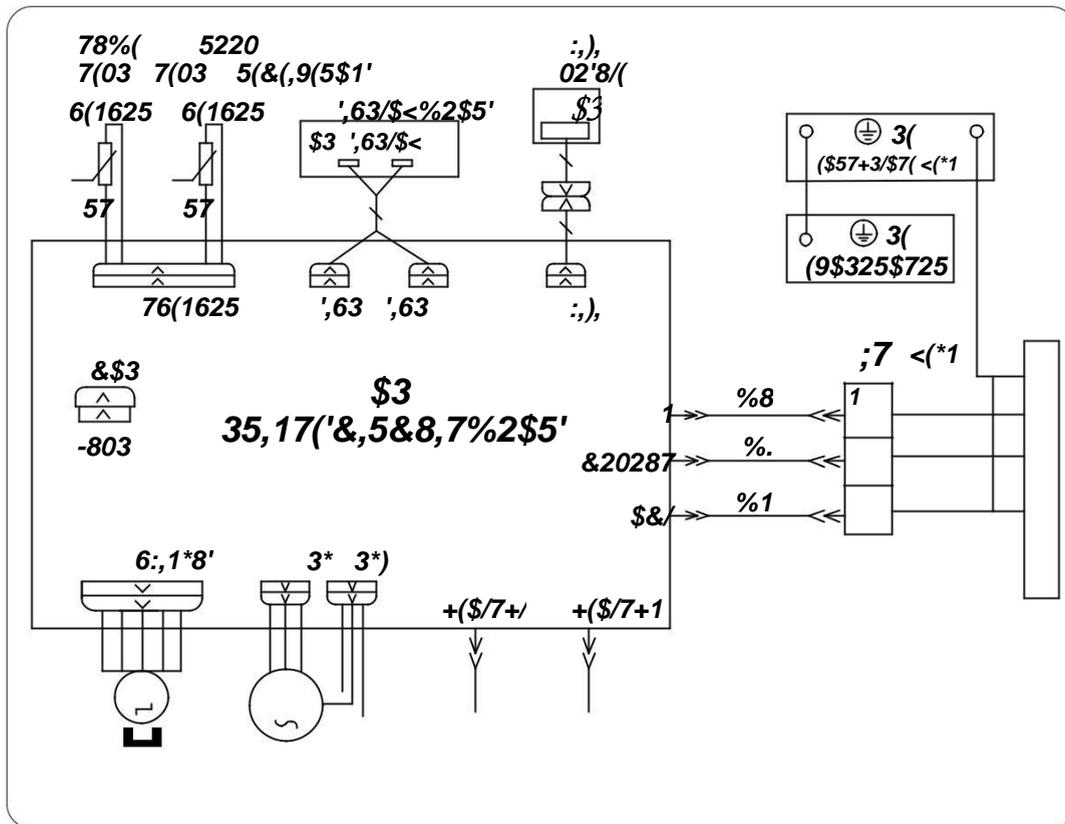
● Instruction

Symbol	Symbol Color	Symbol	Symbol Color	Symbol	Name
WH	White	GN	Green	CAP	Jumper cap
YE	Yellow	BN	Brown	COMP	Compressor
RD	Red	BU	Blue		Grounding wire
YEGN	Yellow/Green	BK	Black	/	/
VT	Violet	OG	Orange	/	/

Note: Jumper cap is used to determine fan speed and the swing angle of horizontal lover for this model.

● Indoor Unit

09/12K except GWH09AAB-K6DNA1A/I GWH12AAB-K6DNA1A/I GWH09AAB-K6DNA4A/I(CB479N00801) GWH12AAB-K6DNA4A/I(CB479N00501)



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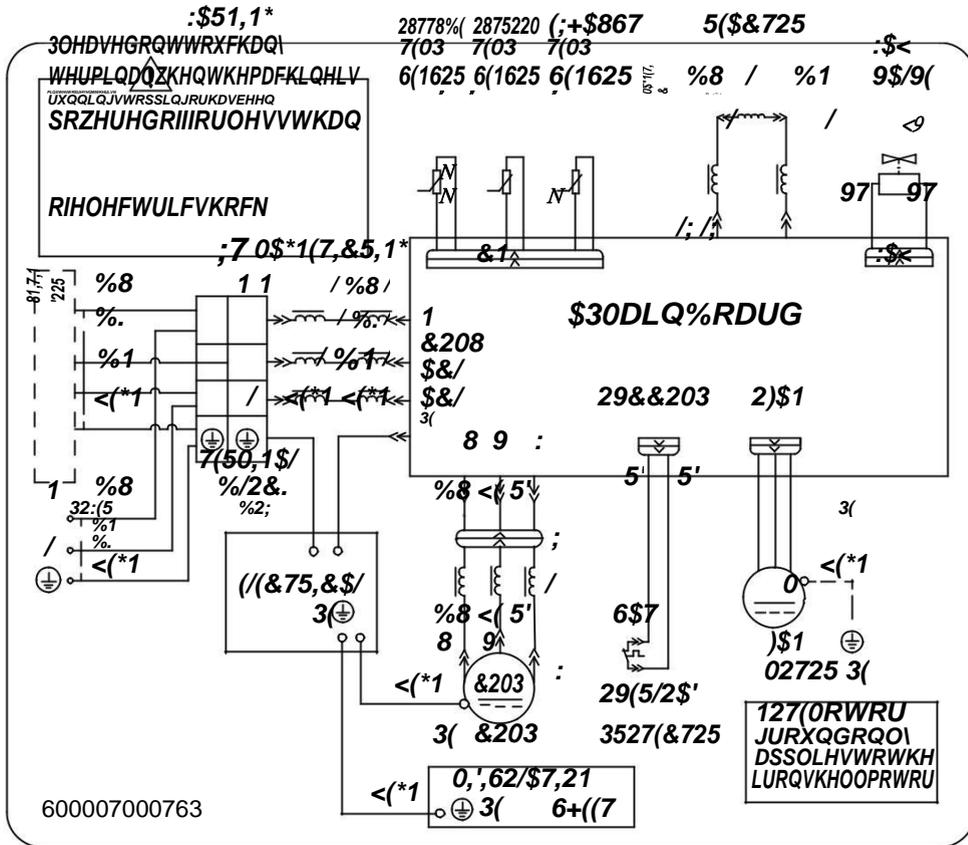
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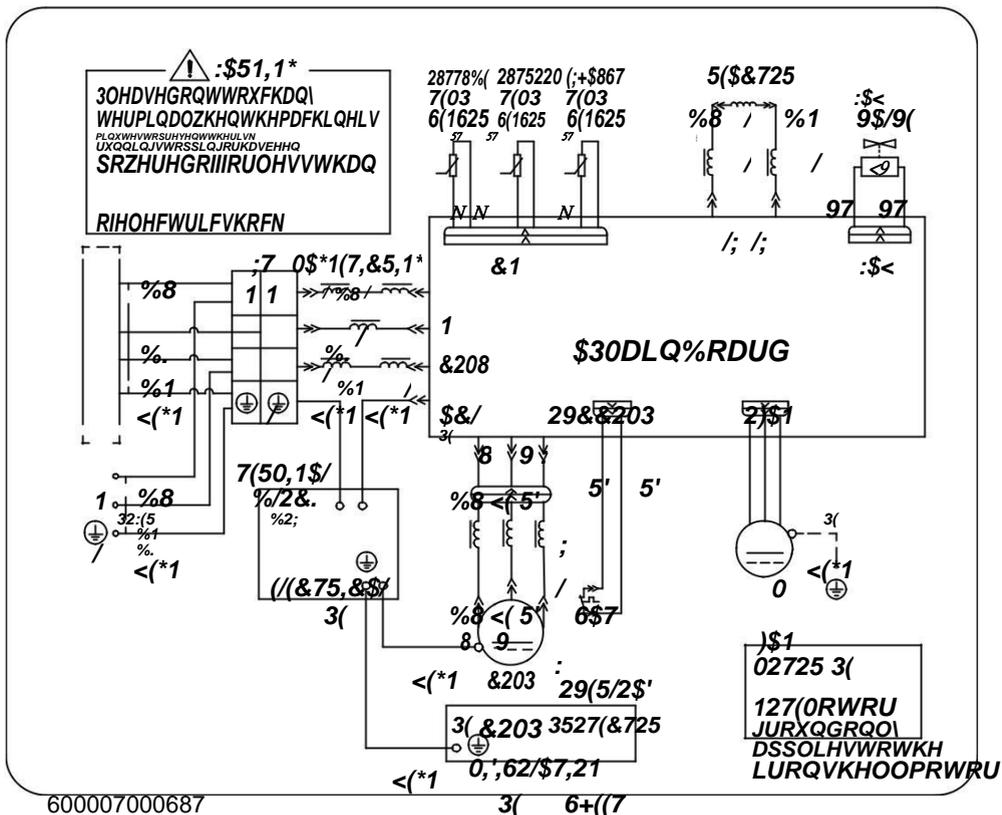
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• Outdoor Unit

12K



09K



1. ON/OFF button

Press this button to turn on the unit. Press this button again to turn off the unit.

2. MODE button

Each time you press this button, a mode is selected in a sequence that goes from AUTO, COOL, DRY, FAN, and HEAT

*, as the following:

* Note: Only for models with heating function.



3. FAN button

This button is used for setting Fan Speed in the sequence that goes from AUTO, , to , then back to Auto.

* Note: Fan speed under dry mode is low speed.

X-FAN function: Hold fan speed button for 2s in COOL or DRY mode, the icon is displayed and the indoor fan will continue operation for a few minutes in order to dry the indoor unit even though you have turned off the unit. After energization, X-FAN OFF is defaulted. X-FAN is not available in AUTO, FAN or HEAT mode.

This function indicates that moisture on evaporator of indoor unit will be blown after the unit is stopped to avoid mould.

Having set X-FAN function on: After turning off the unit by pressing ON/OFF button indoor fan will continue running for a few minutes. at low speed. In this period, Hold fan speed button for 2s to stop indoor fan directly.

Having set X-FAN function off: After turning off the unit by pressing ON/OFF button, the complete unit will be off directly.

4. ▲ / ▲ button

Press ▲ / ▲ button to increase/decrease set temperature. In AUTO mode, set temperature is not adjustable.

● When setting TIMER ON, ~~TIMER OFF~~ or CLOCK, press " " or "▲" button to adjust time.

Press this button to set up & down swing angle.

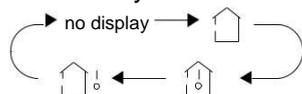
6. SLEEP button

Under COOL, HEAT or DRY mode, press this button to start up sleep function.

Press this button again to cancel Sleep function. Under Fan and Auto modes, this function is unavailable.

7. TEMP button

Press this button, you can see indoor set temperature, indoor ambient temperature on indoor unit's display. The setting on remote controller is selected circularly as below:



Note:

● Outdoor temperature display is not available for some models. At that time, indoor unit receives " " signal, while it displays indoor set temperature.

8. TURBO button

Under COOL or HEAT mode, press this button to activate / deactivate the Turbo function.

9. I FEEL button

Press this button to start I FEEL function and " " will be displayed on the remote controller. After this function is set, the remote controller will send the detected ambient temperature to the controller and the unit will automatically adjust the indoor temperature according to the detected temperature. Press this button again to close I FEEL function and " " will disappear. When I FEEL function is turned on, the remote controller should be put within the area where indoor unit can receive the signal sent by the remote controller.

10. Timer button

Under ON status, press this button to set timer OFF; Under OFF status, press this button to set timer ON.

Press this button once and the characters of HOUR ON (OFF) will flash to be displayed. Meanwhile, press " ▲ " button or " ▲ " button to adjust timer setting (time will change quickly if holding " ▲ " or " ▲ " button). Time setting range is 0.5~24hours. Press this button again to confirm timer setting and the characters of HOUR ON (OFF) will stop flashing. If the characters are flashing but you haven't press timer button, timer setting status will be quit after 5s. If timer is confirmed, press this button again to cancel timer.

11. WIFI button

Press "WiFi" button to turn on or turn off WiFi function. When WiFi function is turned on, the "WiFi" icon will be displayed on remote controller; Under status of unit off, press "MODE" and "WiFi" buttons simultaneously for 1s, WiFi module will restore to factory default setting.

This function is only available for some models.

12. Light button

Press this button to turn on the display's light and press this button again to turn off the display's light.

Function introduction for combination buttons

Combination of "▲" and "▲" buttons: About lock

Press "▲" and "▲" buttons simultaneously 3s to lock or unlock the keypad. If the remote controller is locked,  is displayed. In this case, pressing any button,  blinks three times.

Combination of "MODE" and "▲" buttons: About switch between Fahrenheit and centigrade

At unit OFF, press "MODE" and "▲" buttons simultaneously to switch between  and .

Combination of "TEMP" and "TIMER" buttons: About Energy-saving Function

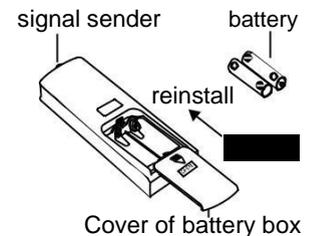
Press "TEMP" and "TIMER" simultaneously in COOL mode to start energy-saving function. Nixie tube on the remote controller displays "SE". Repeat the operation to quit the function.

Combination of "TEMP" and "TIMER" buttons: About 8 Heating Function

Press "TEMP" and "TIMER" simultaneously in HEAT mode to start 8 Heating Function. Heating Function Nixie tube on the remote controller displays "8" and a selected temperature of "8". (46 if Fahrenheit is adopted). Repeat the operation to quit the function.

Replacement of batteries in remote controller

1. Press the back side of remote controller marked with , as shown in the fig, and then push out the cover of battery box along the arrow direction.
2. Replace two 7# (AAA 1.5V) dry batteries, and make sure the position of "+" polar and "-" polar are correct.
3. Reinstall the cover of battery box.



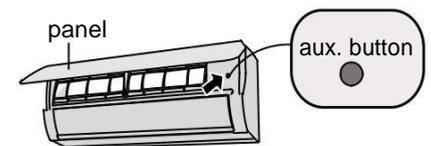
Emergency operation

If remote controller is lost or damaged, please use auxiliary button to turn on or turn off the air conditioner. The operation in details are as below:

As shown in the fig. Open panel, press aux. button to turn on or turn off the air conditioner. When the air conditioner is turned on, it will operate under auto mode.

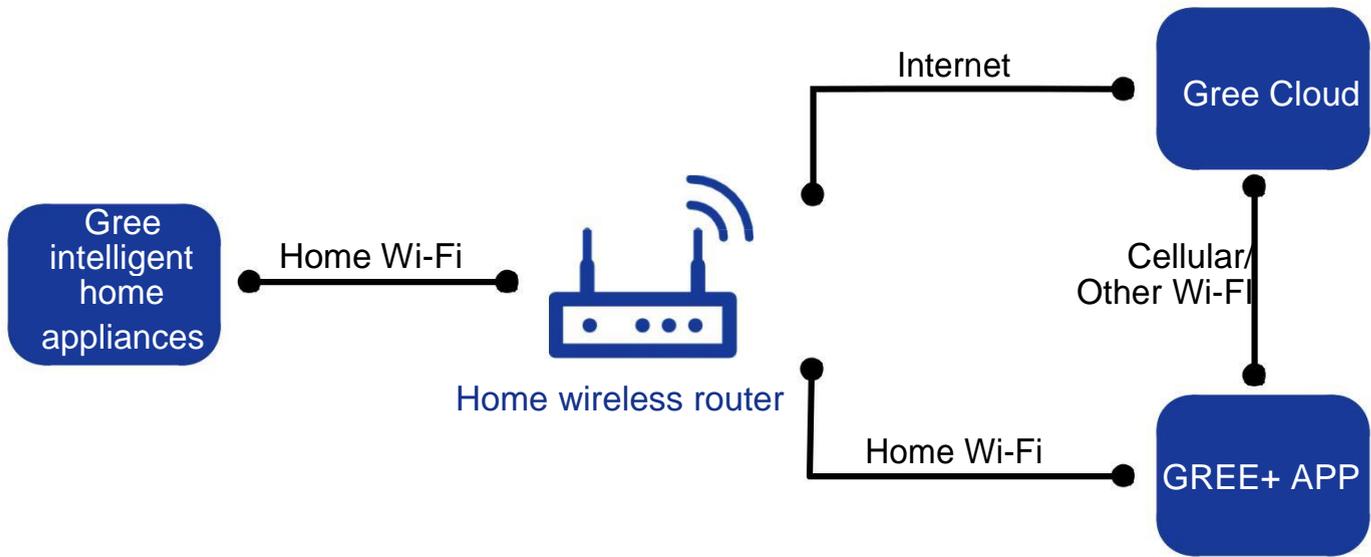
WARNING:

Use insulated object to press the auto button



6.2 GREE+ App Operation Manual

Control Flow Chart



Operating Systems

Requirement for User's smart phone:

 iOS system
Support iOS7.0 and above version

 Android system
Support Android 4.4 and above version

Download and installation



GREE+ App Download Linkage

Scan the QR code or search "GREE+" in the application market to download and install it. When "GREE+" App is installed, register the account and add the device to achieve long-distance control and LAN control of Gree smart home appliances. For more information, please refer to "Help" in App.

6.4 Brief Description of Modes and Functions

● Indoor Unit

1. Basic function of system

(1) Cooling mode

- (1) Under this mode, fan and swing operates at setting status. Temperature setting range is 16~30°C.
- (2) During malfunction of outdoor unit or the unit is stopped because of protection, indoor unit keeps original operation status.

(2) Drying mode

- (1) Under this mode, fan operates at low speed and swing operates at setting status. Temperature setting range is 16~30°C.
- (2) During malfunction of outdoor unit or the unit is stopped because of protection, indoor unit keeps original operation status.
- (3) Protection status is same as that under cooling mode.
- (4) Sleep function is not available for drying mode.

(3) Heating mode

- (1) Under this mode, Temperature setting range is 16~30°C.
- (2) Working condition and process for heating mode:

When turn on the unit under heating mode, indoor unit enters into cold air prevention status. When the unit is stopped or at OFF status, and indoor unit has been started up just now, the unit enters into residual heat-blowing status.

(4) Working method for AUTO mode:

1. Working condition and process for AUTO mode:
 - a. Under AUTO mode, standard heating $T_{\text{preset}}=20^{\circ}\text{C}$ and standard cooling $T_{\text{preset}}=25^{\circ}\text{C}$. The unit will switch mode automatically according to ambient temperature.
2. Protection function
 - a. During cooling operation, protection function is same as that under cooling mode.
 - b. During heating operation, protection function is same as that under heating mode.
3. Display: Set temperature is the set value under each condition. Ambient temperature is ($T_{\text{amb.}}-T_{\text{compensation}}$) for heat pump unit and $T_{\text{amb.}}$ for cooling only unit.
4. If there's I feel function, $T_{\text{compensation}}$ is 0. Others are same as above.

(5) Fan mode

Under this mode, indoor fan operates at set fan speed. Compressor, outdoor fan, 4-way valve and electric heating tube stop operation. Indoor fan can select to operate at high, medium, low or auto fan speed. Temperature setting range is 16~30°C.

2. Other control

(1) Buzzer

Upon energization or availablely operating the unit or remote controller, the buzzer will give out a beep.

(2) Auto button

If press this auto button when turning off the unit, the complete unit will operate at auto mode. Indoor fan operates at auto fan speed and swing function is turned on. Press this auto button at ON status to turn off the unit.

(3) Auto fan

Heating mode: During auto heating mode or normal heating mode, auto fan speed will adjust the fan speed automatically according to ambient temperature and set temperature.

(4) Sleep

After setting sleep function for a period of time, system will adjust set temperature automatically.

(5) Timer function:

General timer and clock timer functions are compatible by equipping remote controller with different functions.

(6) Memory function

memorize compensation temperature, off-peak energization value.

Memory content: mode, up&down swing, light, set temperature, set fan speed, general timer (clock timer can't be memorized). After power recovery, the unit will be turned on automatically according to memory content.

(7) Health function

During operation of indoor fan, set health function by remote controller. Turn off the unit will also turn off health function. Turn on the unit by pressing auto button, and the health is defaulted ON.

(8) I feel control mode

After controller received I feel control signal and ambient temperature sent by remote controller, controller will work according to the ambient temperature sent by remote controller.

(9) Entry condition for compulsory defrosting function

When turn on the unit under heating mode and set temperature is 16°C (or 16.5°C by remote controller), press “+, -, +, -, +, -” button successively within 5s and then indoor unit will enter into compulsory defrosting setting status:

- (1) If there's only indoor units controller, it enters into indoor normal defrosting mode.
- (2) If there's indoor units controller and outdoor units controller, indoor unit will send compulsory defrosting mode signal to outdoor unit and then outdoor unit will operate under normal defrosting mode. After indoor unit received the signal that outdoor unit has entered into defrosting status, indoor unit will cancel to send compulsory mode to outdoor unit. If outdoor unit hasn't received feedback signal from outdoor unit after 3min, indoor unit will also cancel to send compulsory defrosting signal.

(10) Refrigerant recovery function:

Enter into Freon recovery mode actively: Within 5min after energization, turn on the unit at 16°C under cooling mode, and press light button for 3 times within 3s to enter into Freon recovery mode. Fo is displayed and Freon recovery mode will be sent to outdoor unit.

(11) Ambient temperature display control mode

1. When user set the remote controller to display set temperature (corresponding remote control code: 01), current set temperature will be displayed.
2. Only when remote control signal is switched to indoor ambient temperature display status (corresponding remote control code: 10) from other display status (corresponding remote control code: 00, 01, 11), controller will display indoor ambient temperature for 3s and then turn back to display set temperature.

Under this mode, indoor fan operates at set fan speed. Compressor, outdoor fan, 4-way valve and electric heating tube stop operation. Indoor fan can select to operate at high, medium, low or auto fan speed. Temperature setting range is 16~30°C.

(12) Off-peak energization function:

Adjust compressors minimum stop time. The original minimum stop time is 180s and then we change to:

The time interval between two start-ups of compressor can't be less than $180 + T_s$ ($0 \leq T \leq 15$). T is the variable of controller. That's to say the minimum stop time of compressor is 180s~195s. Read-in T into memory chip when refurbish the memory chip each time. After power recovery, compressor can only be started up after $180 + T$ s at least.

(13) SE control mode

The unit operates at SE status.

(14) X-fan mode

When X-fan function is turned on, after turn off the unit, indoor fan will still operate at low speed for 2min and then the complete unit will be turned off. When x-fan function is turned off, after turn off the unit, the complete unit will be turned off directly.

(15) 8°C heating function

Under heating mode, you can set 8°C heating function by remote controller. The system will operate at 8°C set temperature.

(16) Turbo function

Turbo function can be set under cooling and heating modes. Press Fan Speed button to cancel turbo setting. Turbo function is not available under auto, drying and fan modes.

● Outdoor Unit

1. Cooling mode:

Working condition and process of cooling mode:

- ① When Tindoor ambient temperature $\geq T_{\text{preset}}$, unit enters into cooling mode. Indoor fan, outdoor fan and compressor start operation. Indoor fan operates according to set fan speed.
- ② When Tindoor ambient temperature $\leq T_{\text{preset}} - 2^{\circ}\text{C}$, compressor stops operation and outdoor fan will stop 30s later. Indoor fan operates according to set fan speed.
- ③ When $T_{\text{preset}} - 2^{\circ}\text{C} < \text{Tindoor ambient temperature} < T_{\text{preset}}$, unit operates according to the previous status.

Under cooling mode, 4-way valve is not energized. Temperature setting range is $16\sim 30^{\circ}\text{C}$. If compressor stops because of malfunction in cooling mode, indoor fan and swing motor will work according to the original status.

2. Drying mode

(1) Working condition and process of drying mode

- ① When Tindoor ambient temperature $> T_{\text{preset}}$, unit will be in drying mode. Outdoor fan and compressor start operation while indoor fan will operate at low fan speed.
- ② When $T_{\text{preset}} - 2^{\circ}\text{C} \leq \text{Tindoor ambient temperature} \leq T_{\text{preset}}$, unit operates according to the previous status.
- ③ When Tindoor ambient temperature $< T_{\text{preset}} - 2^{\circ}\text{C}$, compressor stops operation and outdoor fan will stop 30s later.

(2) Under drying mode, 4-way valve is not energized. Temperature setting range is $16\sim 30^{\circ}\text{C}$.

(3) Protection function: same as in cooling mode.

3. Fan mode

(1) Under this mode, indoor fan can select different fan speed (except Turbo) or auto fan speed. Compressor, outdoor fan and 4-way valve all stop operation.

(2) In fan mode, temperature setting range is $16\sim 30^{\circ}\text{C}$.

4. Heating mode

Working condition and process of heating mode:

- ① When $T_{\text{preset}} - (\text{Tindoor ambient temperature} - T_{\text{compensation}}) \geq 1^{\circ}\text{C}$, unit enters into heating mode. Compressor, outdoor fan and 4-way valve start operation.
- ② When $-2^{\circ}\text{C} < T_{\text{preset}} - (\text{Tindoor ambient temperature} - T_{\text{compensation}}) < 1^{\circ}\text{C}$, unit operates according to the previous status.
- ③ When $T_{\text{preset}} - (\text{Tindoor ambient temperature} - T_{\text{compensation}}) \leq -2^{\circ}\text{C}$, compressor stops operation and outdoor fan will stop 30s later. Indoor fan will be in residual-heat blowing status.
- ④ When unit is turned off under heating mode or changed to other modes from heating mode, 4-way valve will be power-off 2min after compressor stops working (compressor is in operation status under heating mode).
- ⑤ When Tindoor ambient temperature $> 30^{\circ}\text{C}$, compressor stops operation immediately. Outdoor fan will stop 30s later.
- ⑥ Under the condition that compressor is turned on, when unit is changed to heating mode from cooling or drying mode, 4-way valve will be energized in 2~3mins delay.

Note: Tcompensation is determined by IDU and ODU. If IDU controls the compensation temperature, then Tcompensation is determined according to the value sent by IDU to ODU; If IDU does not control the compensation temperature, then Tcompensation will default to 3°C by the ODU.

5. Freon recovery mode

After the Freon recovery signal from IDU is received, cooling at rated frequency will be forcibly turned on to recover Freon.

Indoor unit will display Fo. If any signal from remote controller is received, unit will exit from Freon recovery mode and indoor unit stops displaying Fo.

6. Compulsory defrosting

If unit is turned on under heating mode and set temperature is 16°C (by remote controller), press "+, -, +, -, +, -" within 5s, unit will enter into compulsory defrosting mode and send the signal to ODU. When the compulsory defrosting signal from ODU is received, IDU will exit from the compulsory defrosting mode and stop sending the signal to ODU.

After ODU receives the compulsory defrosting code, it will start compulsory defrosting. Defrosting frequency and opening angle will be the same as in normal defrosting mode. When compulsory defrosting is finished, the complete unit resumes original status.

7. Auto mode

Auto mode is determined by controller of IDU. See IDU logic for details.

8. 8°C heating

Set temperature is 8°C. Display board of IDU displays 8°C. Under this mode, “Cold air prevention” function is shielded.

If compressor is operating under this mode, fan speed will adjust according to auto fan speed; if compressor stops

operation under this mode, indoor fan will be in residual-heat blowing status.

When power on, communication light will be blinking in a normal way (after receiving a group of correct signals, blinking stops for 0.2s~0.3s). If theres no communication, communication light will be always on. If other ODU has malfunction, communication light will be on for 1s and off for 1s in a circular way.

Safety Precautions for Installing and Relocating the Unit:

To ensure safety, please be mindful of the following precautions.

Warnings

1. When installing or relocating the unit, be sure to keep the refrigerant circuit free from air or substances other than the specified refrigerant.

Any presence of air or other foreign substance in the refrigerant circuit will cause system pressure rise or compressor rupture, resulting in injury.

2. When installing or moving this unit, do not charge the refrigerant which is not comply with that on the nameplate or unqualified refrigerant.

Otherwise, it may cause abnormal operation, wrong action, mechanical malfunction or even series safety accident.

3. When refrigerant needs to be recovered during relocating or repairing the unit, be sure that the unit is running in cooling mode. Then, fully close the valve at high pressure side (liquid valve). About 30-40 seconds later, fully close the valve at low pressure side (gas valve), immediately stop the unit and disconnect power. Please note that the time for refrigerant recovery should not exceed 1 minute.

If refrigerant recovery takes too much time, air may be sucked in and cause pressure rise or compressor rupture, resulting in injury.

4. During refrigerant recovery, make sure that liquid valve and gas valve are fully closed and power is disconnected before detaching the connection pipe.

If compressor starts running when stop valve is open and connection pipe is not yet connected, air will be sucked in and cause pressure rise or compressor rupture, resulting in injury.

5. When installing the unit, make sure that connection pipe is securely connected before the compressor starts running.

If compressor starts running when stop valve is open and connection pipe is not yet connected, air will be sucked in and cause pressure rise or compressor rupture, resulting in injury.

6. Prohibit installing the unit at the place where there may be leaked corrosive gas or flammable gas.

If there leaked gas around the unit, it may cause explosion and other accidents.

7. Do not use extension cords for electrical connections. If the electric wire is not long enough, please contact a local service center authorized and ask for a proper electric wire.

Poor connections may lead to electric shock or fire.

8. Use the specified types of wires for electrical connections between the indoor and outdoor units. Firmly clamp the wires so that their terminals receive no external stresses.

Electric wires with insufficient capacity, wrong wire connections and insecure wire terminals may cause electric shock or fire.

Safety Precautions for Refrigerant

•To realize the function of the air conditioner unit, a special refrigerant circulates in the system. The used refrigerant is the fluoride R32, which is specially cleaned. The refrigerant is flammable and inodorous. Furthermore, it can lead to explosion under certain conditions. But the flammability of the refrigerant is very low. It can be ignited only by fire.

•Compared to common refrigerants, R32 is a nonpolluting refrigerant with no harm to the ozoneosphere. The influence upon the greenhouse effect is also lower. R32 has got very good thermodynamic features which lead to a really high energy efficiency. The units therefore need a less filling.

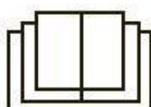
WARNING:

•Do not use means to accelerate the defrosting process or to clean, other than those recommended by the manufacture. Should repair be necessary, contact your nearest authorized Service Centre. Any repairs carried out by unqualified personnel may be dangerous. The appliance shall be stored in a room without continuously operating ignition sources. (for example: open flames, an operating gas appliance or an operating electric heater.) •Do not pierce or burn.

•Appliance shall be installed, operated and stored in a room with a floor area larger than Xm^2 . (Please refer to table "a" in section of " Safety Operation of Inflammable Refrigerant" for Space X.)

•Appliance filled with flammable gas R32. For repairs, strictly follow manufacturers instructions only. Be aware that refrigerants not contain odour.

•Read specialists manual.



Safety Operation of Flammable Refrigerant

Qualification requirement for installation and maintenance man

- All the work men who are engaging in the refrigeration system should bear the valid certification awarded by the authoritative organization and the qualification for dealing with the refrigeration system recognized by this industry. If it needs other technician to maintain and repair the appliance, they should be supervised by the person who bears the qualification for using the flammable refrigerant.
- It can only be repaired by the method suggested by the equipments manufacturer.

Installation notes

- The air conditioner is not allowed to use in a room that has running fire (such as fire source, working coal gas ware, operating heater).
- It is not allowed to drill hole or burn the connection pipe.
- The air conditioner must be installed in a room that is larger than the minimum room area. The minimum room area is shown on the nameplate or following table a.
- Leak test is a must after installation.

table a - Minimum room area(m²)

Minimum room area(m ²)	Charge amount(kg)	≤1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2	2.1	2.2	2.3	2.4	2.5
	floor location	4	14.5	16.8	16.8	22	24.8	27.8	31	34.3	37.8	41.5	45.4	49.4	53.6
	wall mounted	4	5.2	6.1	7	7.9	8.9	10	11.2	12.4	13.6	15	16.3	17.8	19.3
	window mounted	4	4	4	4	4	4	4	4	4	4.2	4.6	5	5.5	6
	ceiling mounted	4	4	4	4	4	4	4	4	4	4	4	4	4	4

Maintenance notes

- Check whether the maintenance area or the room area meet the requirement of the nameplate.
 - Its only allowed to be operated in the rooms that meet the requirement of the nameplate.
- Check whether the maintenance area is well-ventilated.
 - The continuous ventilation status should be kept during the operation process.
- Check whether there is fire source or potential fire source in the maintenance area.
 - The naked flame is prohibited in the maintenance area; and the “no smoking” warning board should be hanged. •Check whether the appliance mark is in good condition.
 - Replace the vague or damaged warning mark.

Welding

- If you should cut or weld the refrigerant system pipes in the process of maintaining, please follow the steps as below:
 - a. Shut down the unit and cut power supply
 - b. Eliminate the refrigerant
 - c. Vacuuming
 - d. Clean it with N2 gas
 - e. Cutting or welding
 - f. Carry back to the service spot for welding
- Make sure that there isnt any naked flame near the outlet of the vacuum pump and its well-ventilated.
- The refrigerant should be recycled into the specialized storage tank.

Filling the refrigerant

- Use the refrigerant filling appliances specialized for R32. Make sure that different kinds of refrigerant wont contaminate with each other.
- The refrigerant tank should be kept upright at the time of filling refrigerant.
- Stick the label on the system after filling is finished (or havent finished).
- Dont overfilling.
- After filling is finished, please do the leakage detection before test running; another time of leak detection should be done when its removed.

Safety instructions for transportation and storage

- Please use the flammable gas detector to check before unload and open the container.
- No fire source and smoking.
- According to the local rules and laws.



JF00303265



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For product improvement, specifications and appearance in this manual are subject to change without prior notice.