

Service Manual

GREE ELECTRIC APPLIANCES, INC. OF ZHUHAI

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Part | : Technical Information

1. Summary

Outdoor Unit

GWHD(18)NK6KO



GWHD(36)NK6KO GWHD(24)NK6KO GWHD(28)NK6KO



Model List:

No	Model	Product code
1	GWHD(18)NK6KO	CB228W13800
2	GWHD(36)NK6KO	CB228W13700
3	GWHD(24)NK6KO	CB228W13900
4	GWHD(28)NK6KO	CB228W14000

2. Specifications

Model			GWHD(18)NK6KO	GWHD(36)NK6KO
Product (Code		CB228W13800	CB228W13700
Power	Rated Voltage	V~	220-240	220-240
	Rated Frequency	Hz	50	50
supply	Phases		1	1
Cooling o	capacity	W	5240	10100
Heating of	capacity	W	5400	10500
Cooling F	Power Input	W	1500	3100
Heating F	Power Input	W	1150	3100
Cooling (Current Input	A	7.36	15.21
Heating (Current Input	A	5.64	15.21
Rated Po	ower Input	KW	2.00(C)/2.20(H)	4.78
Rated Cu	urrent	A	10.79	23.45
EER		W/W	3.49	3.26
COP		W/W	4.70	3.39
			ZHUHAI LANDA COMPRESSOR	ZHUHAI LANDA COMPRESSOR
	Compressor Trademark		CO.,LTD	CO.,LTD
	Compressor Model		QXF-B141ZF030A	QXAS-D25zX090H
	Compressor Refrigerant Oil Type		FW68DA	RB68EP
	Compressor Type		Inverter Rotary	Inverter Rotary
	L.R.A	A	25	24
	Compressor Rated Load Amp (RLA)	A	6.5	11.7
	Compressor Power Input	w	1410	2650
			1NT11L-6233 KSD115°C	
	Compressor Thermal Protector		HPC115/95U1	HPC115/95U1/KSD115 ^o C
	Throttling Method		Electron expansion valve	Electron expansion valve
	Cooling Operation Ambient Temperature Range	°C	-15~43	-15~43
	Heating Operation Ambient Temperature Range	°C	-15~24	-15~24
	Condenser Material		Aluminum Fin-copper Tube	Aluminum Fin-copper Tube
	Condenser Pipe Diameter	mm	Φ7.94	Φ7
	Rows-Fin Gap(mm)	mm	19.05X22	19.05X22
	Coil length (I) X height (H) X coil width (L)	mm	780X38.1X550	982.2X38.1X748
	Fan Motor Speed (rpm) (H/M/L)	rpm	900	880
Outdoor	Output of Fan Motor	Ŵ	30	90
Outdoor	Fan Motor RLA	A	/	0.486
Unit	Fan Motor Capacitor	μF	/	1
	Air Flow Volume of Outdoor Unit	m³/h	2600	4000
	Fan Type-Piece		Axial-flow	Axial-flow
	Fan Diameter	mm	Ф438-116	Ф550-120
	Defrosting Method		Automatic Defrosting	Automatic Defrosting
	Climate Type		T1	T1
	Isolation		1	
	Moisture Protection		IPX4	IPX4
	Permissible Excessive Operating Pressure for the			
	Discharge Side	MPa	4.3	4.3
	Permissible Excessive Operating Pressure for the			
	Suction Side	MPa	2.5	2.5
	Dimension (WXHXD)	mm	908X602 X378	1001X790X427
	Dimension of Package (LXWXH)	mm	945X417X630	1080X485X840
	Dimension of Package(LXWXH)	mm	948X420X645	1083X488X855
	Net Weight	ka	39.5	69
	Gross Weight	ka	42.5	74
	Refrigerant		R32	R32
	Refrigerant Charge	ka	1	1.8

	Cross-sectional Area of Power Cable Conductor	mm ²	1.5	2.5
	Recommended Power Cable(Core)	N	3	3
	Connection Pipe Connection Method		Flare Connection	Flare Connection
	Not Additional Gas Connection Pipe Length	m	10	30
	Connection Pipe Gas Additional Charge	g/m	20	20
	Outer Diameter of Liquid Pipe(GREE Allocation)	inch	1/4	1/4
	(Metric)	Inch	1/4	1/4
	Outer Diameter of Gas Pipe(GREE Allocation)	inch	2/9	2/8
	(Metric)	IIICII	5/6	5/6
	Outer Diameter of Liquid Pipe(GREE Allocation)	inch	1/4	1/4
	(Metric)	Inch	1/4	1/4
	Outer Diameter of Gas Pipe(GREE Allocation)	inch	3/9	3/9
Outdoor	(Metric)	Inch	5/6	5/8
Unit	Outer Diameter of Liquid Pipe(GREE Allocation)	inch	1	1/4
	(Metric)	Inch	1	174
	Outer Diameter of Gas Pipe(GREE Allocation)	inch	1	2/8
	(Metric)	Inch	1	5/8
	Outer Diameter of Liquid Pipe(GREE Allocation)	inch	1	1/4
	(Metric)	IIICII	1	174
	Outer Diameter of Gas Pipe(GREE Allocation)	inch	1	2/8
	(Metric)	inch	7	3/6
	Connection Pipe Max. Height Distance(indoor and		E	10
	indoor)		5	10
	Max. equivalent connection pipe length(outdoor to		10	20
	last indoor)	(TI)	10	20
	Connection Pipe Max. Length Distance(total lenght)	m	20	70

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

Model			GWHD(24)NK6KO	GWHD(28)NK6KO
Product (Code		CB228W13900	CB228W14000
5	Rated Voltage	V~	220-240	220-240
Power	Rated Frequency	Hz	50	50
supply	Phases		1	1
Coolina c	apacity	W	7300	8200
Heating c	apacity	W	8500	8800
Coolina F	Power Input	W	2000	2300
Heating F	Power Input	W	1900	2100
Coolina C	Current Input	Α	9.81	11.28
Heating (Current Input	Α	9.32	10.3
Rated Po	wer Input	KW	2.87	3.58
Rated Cu	irrent	А	12.73	15.88
EER		W/W	3.65	3.57
COP		W/W	4.47	4.19
			ZHUHAI LANDA COMPRESSOR	ZHUHAI LANDA COMPRESSOR
	Compressor Trademark		COLITE	COLITD
	Compressor Model		QXFS-D23zX090D	QXFS-D23zX090D
	Compressor Refrigerant Oil Type		FW68DA	FW68DA
	Compressor Type		Inverter Rotary	Inverter Rotary
	L.R.A	Α	25	25
	Compressor Rated Load Amp (RLA)	Α	16	16
	Compressor Power Input	W	2400	2400
			1NT11L-6233 / KSD115°C /	1NT11L-6233 / KSD115 ^o C /
	Compressor Thermal Protector		HPC115/95	HPC115/95
	Throttling Method		Flectron expansion valve	Flectron expansion valve
	Cooling Operation Ambient Temperature Range	°C	-15~43	-15~43
	Heating Operation Ambient Temperature Range	°C	-15~24	-15~24
	Condenser Material		Aluminum Fin-copper Tube	Aluminum Fin-copper Tube
	Condenser Pipe Diameter	mm	Φ7	φ7
	Rows-Fin Gap(mm)	mm	19.05X22	19.05X22
	Coil length (I) X height (H) X coil width (L)	mm	982.2X748X38.1	982.2X748X38.1
	Fan Motor Speed (rpm) (H/M/L)	rpm	cooling:800/heating:810	800
Outdoor	Output of Fan Motor	W	90	90
Outdoor	Fan Motor RLA	А	0.49	0.49
Unit	Fan Motor Capacitor	μF	/	/
	Air Flow Volume of Outdoor Unit	m³/h	4000	4000
	Fan Type		Axial-flow	Axial-flow
	Fan Diameter	mm	Ф550-120	Ф550-120
	Defrosting Method		Automatic Defrosting	Automatic Defrosting
	Climate Type		T1	T1
	Isolation		I	I
	Moisture Protection		IP24	IPX4
	Permissible Excessive Operating Pressure for the	MDo	12	4.2
	Discharge Side	IVIF a	4.5	4.5
	Permissible Excessive Operating Pressure for the		0.5	0.5
	Suction Side	мра	2.5	2.5
	Dimension (WXHXD)	mm	1001X790X427	1001X790X427
	Dimension of Package (LXWXH)	mm	1080X485X840	1080X485X840
	Dimension of Package(LXWXH)	mm	1083X488X855	1083X488X855
	Net Weight	kg	58	68
	Gross Weight	kg	68	73
	Refrigerant Charge		R32	R32
	Refrigerant Charge	kg	1.8	2.0

	Cross-sectional Area of Power Cable Conductor	mm ²	2.5	2.5
	Recommended Power Cable(Core)	N	3	3
	Connection Pipe Connection Method		Flare Connection	Flare Connection
	Not Additional Gas Connection Pipe Length	m	30	40
	Connection Pipe Gas Additional Charge	g/m	20	20
	Outer Diameter of Liquid Pipe(GREE Allocation)	inch	1/4	1/4
	(Metric)	Inch	1/4	1/4
	Outer Diameter of Gas Pipe(GREE Allocation)	inch	2/0	2/0
	(Metric)	Inch	3/0	3/0
	Outer Diameter of Liquid Pipe(GREE Allocation)	in als	4/4	4/4
	(Metric)	Inch	1/4	1/4
	Outer Diameter of Gas Pipe(GREE Allocation)	inch	2/0	2/0
Outdoor	(Metric)	Inch	3/8	3/8
Unit	Outer Diameter of Liquid Pipe(GREE Allocation)	inch	4/4	4/4
	(Metric)	Inch	1/4	1/4
	Outer Diameter of Gas Pipe(GREE Allocation)	inch	2/0	2/0
	(Metric)	Inch	3/8	3/8
	Outer Diameter of Liquid Pipe(GREE Allocation)	in als	,	4/4
	(Metric)	Inch	/	1/4
	Outer Diameter of Gas Pipe(GREE Allocation)		,	0/0
	(Metric)	inch	1	3/8
	Connection Pipe Max. Height Distance(indoor and		10	10
	indoor)	m	10	10
	Max. equivalent connection pipe length(outdoor to		20	20
	last indoor)	ſſĨ	20	20
	Connection Pipe Max. Length Distance(total lenght)	m	60	70

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

3. Outline Dimension Diagram

(1)Model:GWHD(18)NK6KO









(2)Model:GWHD(36)NK6KO GWHD(24)NK6KO GWHD(28)NK6KO







Unit:mm

4. Refrigerant System Diagram



A1:A-unit electronic expansion valve C1:C-unit electronic expansion valve A2:A-unit gas pipe temperature sensor C2:C-unit gas pipe temperature sensor A3:A-unit liquid pipe temperature sensor C3:C-unit liquid pipe temperature sensor B1:B-unit electronic expansion valve B2:B-unit gas pipe temperature sensor B2:B-unit gas pipe temperature sensor B3:B-unit liquid pipe temperature sensor D3:D-unit liquid pipe temperature sensor

Technical Information

5. Electrical Part

5.1 Wiring Diagram

Instruction

Symbol	Symbol Color	Symbol	Symbol Color	Symbol	Name
WH	White	GN	GREEN	COMP	Compressor
YE	Yellow	BN	Brown	Ð	Grouding wire
RD	Red	BU	Blue		
YEGN	Yellow/Green	BK	Black		
VT	Violet	OG	Orange		

Outdoor Unit

(1)Model:GWHD(18)NK6KO





(3)Model:GWHD(24)NK6KO



(2)Model:GWHD(36)NK6KO

(4)Model:GWHD(28)NK6KO



These circuit diagrams are subject to change without notice, please refer to the one supplied with the unit.

5.2 PCB Printed Diagram

GWHD(18)NK6KO

• Top view



• Bottom view



1	Overload protection
	terminal of compressor
2	Terminal of temperature
2	sensor
3	High-pressure protection
	terminal
4	Low-pressure protection
-	terminal
5	Terminal of outdoor fan
6	Electric heating terminal
	of chassis
7	4-way valve terminal
8	Electric heating terminal
	of compressor
q	Terminal of electronic
	expansion valve A
10	Terminal of electronic
10	expansion valve B
11	2-way valve terminal
	Terminal of
12	communication wire
12	between indoor unit and
	outdoor unit
13	Terminal of neutral wire
	for communication
14	Terminal of live wire
15	Terminal of neutral wire
16	Terminal of compressor

GWHD(24)NK6KO GWHD(28)NK6KO GWHD(36)NK6KO



Bottom view

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6. Function and Control

1 Basic functions of the system

1.1 Cooling Mode

1.1.1 Cooling conditions and process:

If the compressor is in stop status and start the unit for cooling operation, when one of the indoor units reaches the cooling operation condition, the unit start cooling operation; in this case, the electronic expansion valve, the outdoor fan and the compressor start operation.

1.1.2 Stop in cooling operation

1.1.2.1 Compressor stops

The compressor stops immediately, the outdoor fan stops after 1min.

1.1.2.2 Some of the indoor units reach the stop condition (the compressor does not stop)

The compressor operates immediately according to the required frequency. For the indoor unit with no requirement, the corresponding electronic expansion valve is closed to OP.

1.1.3 Cooling mode transfers to heating mode

When the unit transfers to heating mode, the 4-way valve is energized after the compressor stops for 2min. The other disposals are the same as stopping in cooling mode.

1.1.4 4-way valve: in this mode, the 4-way valve is closed.

1.1.5 Outdoor fan control in cooling mode

The outdoor fan starts before 5s of the starting of compressor. The outdoor fan will run in high speed for 3min after starting and then it will run in set speed. The fan shall run at every speed for at least 80s. (When the quantity of running indoor unit is changed, the unit will enter the control described in 1.3.5.1 and 1.3.5.2);

When the compressor stops, the outdoor fan runs at present speed and stops after 1min.

1.2 Dry Mode

1.2.1 The dry conditions and process are the same as those in cooling mode;

1.2.2 The status of 4-way valve: closed;

1.2.3 The temperature setting range: $16 \sim 30 \degree$ C;

1.2.4 Protection function: the same as those in cooling mode;

1.2.5 In dry mode, the maximum value A of the capacity requirement percentage of single unit is 90% of that in cooling mode. The open condition of the electronic expansion valve, outdoor fan and compressor is the same as those in cooling mode.

1.3 Heating Mode

1.3.1 Heating conditions and process:

When one of the indoor units reaches the heating operation condition, the unit starts heating operation.

1.3.2 Stop in heating operation:

1.3.2.1 When all the indoor units reach the stop condition, the compressor stops and the outdoor fan stops after 1min;

1.3.2.2 Some of the indoor units reach the stop condition

The compressor reduces the frequency immediately and operates according to the required frequency;

1.3.2.3 Heating mode transfers to cooling mode(dry mode), fan mode

a. The compressor stops; b. the power of 4-way valve is cut off after 2min; c. the outdoor fan stops after 1min; d. the status of 4-way valve: energized;

1.3.3 Outdoor fan control in heating mode

The outdoor fan starts before 5s of the starting of compressor and then it will run in high speed for 40s;

The fan shall run at every speed for at least 80s;

When the compressor stops, the outdoor fan stops after 1min.

1.3.4 Defrosting function

When the defrosting condition is met, the compressor stops; the electronic expansion valve of all indoor units open in big angle; the outdoor fan stops after 40s of the stop of compressor, meanwhile, the 4-way valve reverses the direction; after the 4-way valve reverses the direction, the compressor starts; then begin to calculate the time of defrosting, the frequency of the compressor rises to reach the defrosting frequency.

1.3.5 Oil-returned control in heating mode

1.3.5.1 Oil-returned condition

The whole unit is operating in low frequency for a long time

1.3.5.2 Oil-returned process in heating mode

The indoor unit displays "H1"

1.3.5.3 Oil-returned finished condition in heating mode

The duration reaches 5min

1.4 Fan Mode

The compressor, the outdoor fan and the 4-way value are closed; temperature setting range is $16 \sim 30^{\circ}$ C.

2. Protection Function

2.1 Mode Conflict Protection of indoor unit

When the setting mode is different of different indoor unit, the unit runs in below status:

a. The mode of the first operating indoor unit is the basic mode, then compare the mode of the other indoor units to see if there is a conflict. Cooling mode (dry mode) is in conflict with heating mode.

b. Fan mode is in conflict with heating mode and the heating mode is the basic mode. No matter which indoor unit operates first, the unit will run in heating mode.

2.2 Overload protection function

When the tube temperature is a little low, the compressor raises the operation frequency; when the tube temperature is a little high, the compressor frequency is restricted or lows down the operation frequency; when the tube temperature is too high, the compressor protection stops running.

If the discharge temperature protection continuously appears for 6 times, the compressor can't resume running. The compressor can resume running after cutting off the power and then putting through the power. (if the running time of the compressor is longer than 7min, the protection times record will be cleared)

2.3 Discharge Protection Function

When the discharge temperature is a little low, the compressor raises the operation frequency; when the discharge temperature is a little high, the compressor frequency is restricted or lows down the operation frequency; when the discharge temperature is too high, the compressor protection stops running.

If the discharge temperature protection continuously appears for 6 times, the compressor can't resume running. The compressor can resume running after cutting off the power and then putting through the power. (if the running time of the compressor is longer than 7min, the protection times record will be cleared)

2.4 Communication malfunction

Detection of the quantity of installed indoor units:

After 3min of energizing, if the outdoor unit does not receive the communication data of certain indoor unit, the outdoor unit will judge that indoor unit is not installed and will treat it as it is not installed. If the outdoor unit receives the communication data of that indoor unit later, the outdoor unit will treat that unit as it is installed.

2.5 Overcurrent Protection

a. Overcurrent protection of complete unit; b. phase wire current protection; c. compressor phase current protection

2.6 Compressor high-pressure protection

2.6.1 When the high-pressure switch is detected cut off for 3s continuously, the compressor will enter high-pressure protection as it stops when reaching set temperature. Meanwhile, the outdoor unit will send the signal of "high-pressure protection" to the indoor units;

2.6.2 After the appearance of high-pressure protection, when the high-pressure switch is detected closed for 6s continuously, the compressor can resume running only after cutting off the power and then putting through the power.

2.7 Compressor overload protection

If the compressor overload switch is detected having movement, the indoor unit will display the corresponding malfunction as it stops when the indoor temperature reaching set temperature. When the compressor stops for more than 3min and the compressor overload switch is reset, the unit will resume operation status automatically. If the protection appears for more than 6 times (if the running time of the compressor is longer than 30min, the protection times record will be cleared), the unit can not resume operation status automatically, but can resume running only after cutting off the power and then putting through the power.

2.8 Compressor Phase-lacking Protection

When the compressor starts, if one of the three phases is detected open, the compressor will enter phase-lacking protection. The malfunction will be cleared after 1min, the unit will restart and then detect if there is still has phase-lacking protection. If the phase-lacking protection is detected for 6 times continuously, the compressor will not restart but can resume running only after cutting off the power and then putting through the power. If the running time of the compressor is longer than 7min, the protection times record will be cleared.

2.9 IPM Protection

2.9.1 When the IPM module protection is detected, the unit will stop as the indoor temperature reaching set temperature, PFC is closed, display IPM protection malfunction. After the compressor stops for 3min, the unit will resume operation status automatically; if the IPM protection is detected for more than 6 times continuously (If the running time of the compressor is longer than 7min, the protection times record will be cleared), the system will stop and send the signal of module protection to indoor unit. The unit can not resume operation status automatically, but can resume running only after cutting off the power and then putting through the power.

2.9.2 IPM module overheating protection

2.9.2.1 When T_{IPM} > 85 $^\circ\!\mathrm{C}$, prohibit to raise frequency;

2.9.2.2 When $T_{IPM} \ge 90^{\circ}C$, the operation frequency of compressor lows down by 15% every 90s according to the present capacity requirement of the complete unit. It will keep 90s after lowing down the frequency. After lowing down the frequency, if $T_{IPM} \ge 90^{\circ}C$, the unit will circulate the above movement until reaching the minimum frequency; if $85^{\circ}C < T_{IPM} < 90^{\circ}C$, the unit will run at this frequency; when $T_{IPM} \le 85^{\circ}C$, the unit will run at the frequency according to the capacity requirement;

2.9.2.3 When $T_{IPM} \ge 95^{\circ}C$, the compressor stops. After the compressor stops for 3min, if $T_{IPM} < 85^{\circ}C$, the compressor and the outdoor fan will resume operation.

Part II: Installation and Maintenance

7. Notes for Installation and Maintenance

Safety Precautions: Important!

Please read the safety precautions carefully before installation and maintenance.

The following contents are very important for installation and maintenance.

Please follow the instructions below.

•The installation or maintenance must accord with the instructions.

•Comply with all national electrical codes and local electrical codes.

•Pay attention to the warnings and cautions in this manual.

•All installation and maintenance shall be performed by distributor or qualified person.

•All electric work must be performed by a licensed technician according to local regulations and the instructions given in this manual.

•Be caution during installation and maintenance. Prohibit incorrect operation to prevent electric shock, casualty and other accidents.



Electrical Safety Precautions:

1. Cut off the power supply of air conditioner before checking and maintenance.

2. The air condition must apply specialized circuit and prohibit share the same circuit with other appliances.

3. The air conditioner should be installed in suitable location and ensure the power plug is touchable.

4. Make sure each wiring terminal is connected firmly during installation and maintenance.

5. Have the unit adequately grounded. The grounding wire can't be used for other purposes.

6. Must apply protective accessories such as protective boards, cable-cross loop and wire clip.

7. The live wire, neutral wire and grounding wire of power supply must be corresponding to the live wire, neutral wire and grounding wire of the air conditioner.

8. The power cord and power connection wires can't be pressed by hard objects.

9. If power cord or connection wire is broken, it must be replaced by a qualified person.

10. If the power cord or connection wire is not long enough, please get the specialized power cord or

connection wire from the manufacture or distributor. Prohibit prolong the wire by yourself.

11. For the air conditioner without plug, an air switch must be installed in the circuit. The air switch should be all-pole parting and the contact parting distance should be more than 3m.

12. Make sure all wires and pipes are connected properly and the valves are opened before energizing.

13. Check if there is electric leakage on the unit body. If yes, please eliminate the electric leakage.

14. Replace the fuse with a new one of the same specification if it is burnt down; don't replace it with a cooper wire or conducting wire.

15. If the unit is to be installed in a humid place, the circuit breaker must be installed.

Installation Safety Precautions:

1. Select the installation location according to the requirement of this manual.(See the requirements in installation part)

2. Handle unit transportation with care; the unit should not be carried by only one person if it is more than 20kg.

3. When installing the indoor unit and outdoor unit, a sufficient fixing bolt must be installed; make sure the installation support is firm.

4. Ware safety belt if the height of working is above 2m.

5. Use equipped components or appointed components during installation.

6. Make sure no foreign objects are left in the unit after finishing installation.

Refrigerant Safety Precautions:

When refrigerant leaks or requires discharge during installation, maintenance, or disassembly, it should be handled by certified professionals or otherwise in compliance with local laws and regulations.

1. Avoid contact between refrigerant and fire as it generates poisonous gas; Prohibit prolong the connection pipe by welding.

2. Apply specified refrigerant only. Never have it mixed with any other refrigerant. Never have air remain in the refrigerant line as it may lead to rupture or other hazards.

3. Make sure no refrigerant gas is leaking out when installation is completed.

4. If there is refrigerant leakage, please take sufficient measure to minimize the density of refrigerant.

5. Never touch the refrigerant piping or compressor without wearing glove to avoid scald or frostbite.

Improper installation may lead to fire hazard, explosion, electric shock or injury.

Please read this operating manual carefully before operating the unit.



Appliance filled with flammable gas R32.



Before use the appliance, read the owner's manual first.



Before install the appliance, read the installation manual first.

Before repair the appliance, read the service manual first.

The figures in this manual may be different with the material objects, please refer to the material objects for reference.

The 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 ozonosphere. 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 $x m^2$. (Please refer to table "a" in section of "Safety Operation Of Flammable Refrigerant " for Space X.)

Appliance filled with flammable gas R32. For repairs, strictly follow manufacturer's instructions only.

Be aware that refrigerants may not contain an odour. Read specialist's 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 equipment's 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	а	-	Minimum	room	area(n	n²)
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	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
Minimum	floor location	/	14.5	16.8	19.3	22	24.8	27.8	31	34.3	37.8	41.5	45.4	49.4	53.6
room	window mounted	/	5.2	6.1	7	7.9	8.9	10	11.2	12.4	13.6	15	16.3	17.8	19.3
area(iii-)	wall mounted	/	1.6	1.9	2.1	2.4	2.8	3.1	3.4	3.8	4.2	4.6	5	5.5	6
	ceiling mounted	/	1.1	1.3	1.4	1.6	1.8	2.1	2.3	2.6	2.8	3.1	3.4	3.7	4

Maintenance notes

•Check whether the maintenance area or the room area meet the requirement of the nameplate.

- It's 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 isn't any naked flame near the outlet of the vacuum pump and it's 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 won't 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 haven't finished).

•Don't overfilling.

•After filling is finished, please do the leakage detection before test running; another time of leak detection should be done when it's 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.

Main Tools for Installation and Maintenance

1. Level meter, measuring tape	2. Screw driver	3. Impact drill, drill head, electric drill
· ····· · · · · · · · · · · · · · · ·		
4. Electroprobe	5. Universal meter	6. Torque wrench, open-end wrench, inner hexagon spanner
7. Electronic leakage detector	8. Vacuum pump	9. Pressure meter
10. Pipe pliers, pipe cutter	11. Pipe expander, pipe bender	12. Soldering appliance, refrigerant container, Electronic Scale
	R.P. Contraction	

8. Installation Manual

Installation procedures



Note: this flow is only for reference; please find the more detailed installation steps in this section.

8.1 Electrical Connections

GWHD(18)NK6KO

Warning

• Be sure to cut off the power supply before cleaning the air conditioner; otherwise electric shock might happen.

Wetting of air conditioner may cause the risk of electric shock. Make sure not to wash your air conditioner in any case.

• Volatile liquids such as thinner or gasoline will cause damage to the appearance of air conditioner. (Only use soft dry cloth moist cloth clean the air conditioner cabinet).

This product must not be disposed together with the domestic waste.

• This product has to be disposed at an authorized place for recycling of electrical and electronic appliances.

• The temperature of refrigerant circuit will be high, please keep the interconnection cable away from the copper tube.

No.Descriptio1Air outlet gr		OUTD
1 Air outlet gr	1	No.
	lle	1
2 Valve		2



Note: The above figures are only intended to a simple diagram of the appliance and may not correspond to the appearance of the units that have been purchased.



Including an air switch with suitable capacity, please note the following table. Air switch should be included magnet buckle and heating buckle function, it can protect the circuit-short and overload. (Caution: please do not use the fuse only for protect the circuit)

Air-conditioner	Air switch capacity
GWHD(18)NK6KO	16A



An all-pole disconnection switch having a contact separation of at least 3mm in all pole should be connected in fixed wiring.



Wrong wire connection may cause malfunction of some electric components.After fixing cable, ensure that leads between connection to fixed point have some space.



The connection pipes and the connectiong wirings of the unit A, unit B must be corresponding to each other respective.



The appliance shall be installed in accordance with national wiring regulations.

Note: The above figures are only intended to be a simple diagram of the appliance and may not correspond to the appearance of the units that have been purchased.



HANDLING



After having removed the packaging, check that the contents are intact and complete.



The outdoor unit must always be kept upright.



Handling must be done by suitably equipped qualified technical personnel using equipment that is for suitable the weight of the appliance.