



DELTA

**VRF WALL MOUNTED INDOOR UNITS
80HW SERIES**

INSTRUCTION MANUAL

WARNING!

Read and follow all safety precautions in Instruction Manual - improper use can cause serious injury.

Preface

- ◆ When operating, the total capacity of all indoor units should be not larger than that of that of the outdoor unit. Otherwise, it will cause insufficient cooling (heating) performance.
- ◆ A breaker (or fuse) needs to be installed in every indoor unit, and the capacity should comply with the indoor unit's electrical parameter; all indoor units are required to be centralized controlled by a main switch which can cut off the electric power supply in case of emergency. The breaker (or fuse) on each indoor unit has the function of short circuit prevention and abnormal overload avoiding and it should be energized in normal situation. The main switch is intended to control the power supply of all the indoor units. Before cleaning and maintenance job being carried out to the indoor units, it is very important to turn off the main power supply switch.
- ◆ In order to turn on the units successfully, the main power switch should be closed 8 hours before the operation.
- ◆ After receiving the "turn off" signal, every indoor unit will continue to work for 20-70sec to make use of the rest cool air or the rest heat air in the heat exchanger for preparing for the next operation, which is certainly normal.
- ◆ When the selected operating mode of the indoor unit conflicts with the operating mode of the outdoor unit, the malfunction indicating LED will blink 5s later on the indoor unit or remote controller, then the indoor unit will stop. At this time, change the operation mode of the indoor unit to the one that is compatible with the outdoor operating mode to make the operation normal. The cooling mode can go with the dry mode, while the fan mode can go with any other mode.
- ◆ The appliance shall not be installed in the laundry.
- ◆ An all-pole disconnection switch having a contact separation of at least 3mm in all poles should be connected in fixed wiring.
- ◆ Main switch provided by the end user: the main switch handle should be black or gray, and it can be locked in "OFF" position with padlock.
- ◆ The main disconnection device should be described in this manual and the height should be recommended at 0.6-1.7m. Over current protection is required (EN 60947-3, EN 60947-2).
- ◆ The outdoor environment temperature range for cooling is 18-43°C DB, while the outdoor environment temperature range for heating (only for the heat pump type unit) is -16-15°C WB.


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1 Safety Information

① Please read this manual carefully before use this unit, and operate it correctly according to the guide in this manual.

② Please take specially notice to the meaning of these two marks:

 **Warning!** This mark means that it may cause casualty or badly hurt if the operation is incorrect.

 **Note!** This mark means that it may cause casualty or property loss if the operation is incorrect.

 **Warning!**

- ◆ For the usage safety of the air conditioner, the units should be earthed reliably, and the earth wire should be connected to the special earth equipment in building. If there is no this kind of equipment, have the units installed by specialized personnel. Do not connect the earth line with the gas pipe, water pipe, drainage pipe or other places that specialized personnel considers unsafe.
- ◆ Air conditioner shall use special power supply circuit and switches for creepage protect and air with enough capacity should be installed in the circuit.
- ◆ Ensure that the connecting of power cord is normal, otherwise, electric shock or fire may happened.
- ◆ Do not cut off the power supply to turn off the unit when it is running, otherwise the service life of units may be shortened.
- ◆ Do not mangle wires or adopt wires that are not recommend, otherwise, electric shock or fire may happen.
- ◆ Please don't operate the unit by wet hands, or electric shock may happen.
- ◆ Don't insert fingers or sticks or other similar things into the outlet vent, otherwise, damage may be incurred.
- ◆ Cut down the main power switch immediately if a malfunction (such as the smell of burning etc.) happens, and then contact the special appointed maintenance center. If the abnormal state persists, the unit may be damaged or electric shock or fire may happen.
- ◆ Do not refit the air conditioner. Please contact the agent or professional personnel to repair or move the air conditioner.
- ◆ Do not adopt the fuse with unsuitable capacity or adopt the iron thread instead of the fuse, otherwise a malfunction or fire may happen.
- ◆ Do cut off the main power supply of the air conditioner if it would not be used for a long time period.
- ◆ Please turn off the main power of the unit before cleaning the air conditioner, otherwise electric shock or harm may happen.
- ◆ Don't blow the heater otherwise carbon monoxide may be produced because of uncompleted burning.
- ◆ Chemical sprayer should be placed at least 1m away from the unit, otherwise fire or explosion may be caused.
- ◆ Do not let blockage happen in the inlet or outlet vent of the air conditioner, which would cause low efficiency or shutdown.
- ◆ This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.
- ◆ Children should be supervised to ensure that they do not play with the appliance.

2 The Installation of Wall Mounted Type Indoor Unit

2.1 Schematic diagram of installation spaces

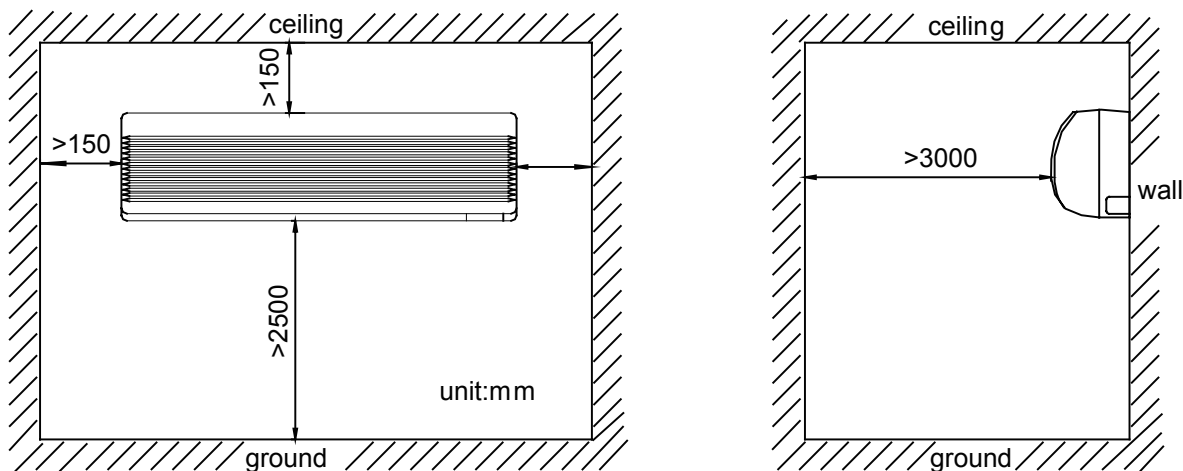


Fig.2.1

Important Notice:

- ① The unit shall be installed by the professional personnel according to this installation instruction to ensure proper use.
- ② Please contact the local DELTA appointed service center before installation. Any malfunction caused by the unit that is not installed by the DELTA appointed service center would probably not be dealt with on time because of the inconvenience of the business contact.
- ③ It should be guided under the professional personnel when the air conditioner unit is moved to other place.

2.2 The installation of the rear panel

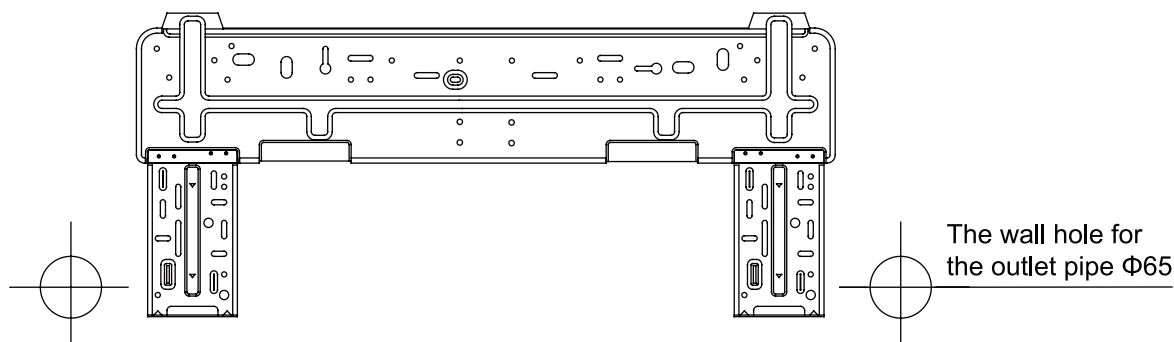


Fig.2.2

- (1) Find the horizontal position by the seton method; since the drainage pipe is on the left side, it is necessary to adjust the rear panel to make its left side a little bit lower.
- (2) Fix the rear panel on the wall by bolts.
- (3) After installing the rear panel, pull it by hands to check if it is secured enough. The hang panel should support the weight of an adult (60kg), and the weight shared by every bolt should be fairly even.
- (4) The diameter showed in Fig.1 is 65mm.

2.3 Preparation of the piping hole

- (1) Make the piping hole (Φ 65mm) in the wall at a slight downward slant to the outdoor side. The center of the hole should be determined referring to Fig.2.2.
- (2) Insert the piping-hole sleeve into the hole to prevent the connected piping and wiring from being damaged when passing through the hole.

2.4 Installation of the drainage pipe

- (1) For proper draining, the drain hose should be placed at a downward sloping.
- (2) Do not wrench or bend the drain hose or flood its end by water. (Fig.2.4).
- (3) Wrap the drain hose with heat resistant material.

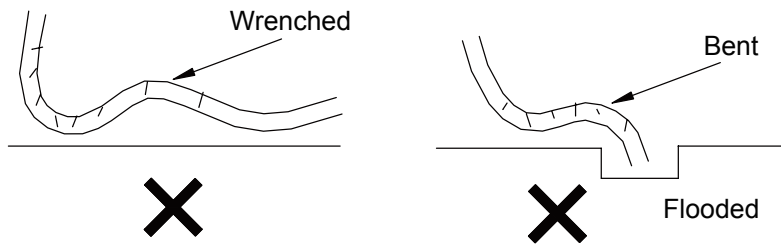


Fig.2.4

2.5 Installation the connection pipes

Connect the ends of the connection pipe with two leading pipes, and then tighten the joint nuts tightly. Connect the connect pipe with the two relative leading pipe, tie the nut on tie –in of the connect pipe tightly.

2.6 Electrical wiring

⚠ Note: The power of every indoor unit should be unity power supply.

- (1) The power connection cord and the communication cord have been inserted on the mainboard through the piping hole of the chassis and the bottom of the appliance upward. Please connect the power connection cord with the breaker. If the power cord is not long enough, please prolong it with terminal block.

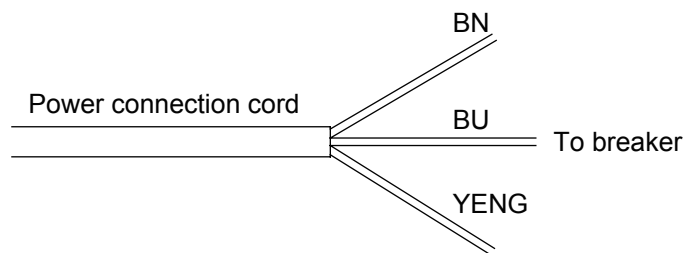


Fig.2.6.1

- (2) The shield twisted-pair in the 3 PIN neilsbed is the communication cord to another indoor unit or to outdoor. Please connect it according to the cicuit diagram which is plastered on the control box.

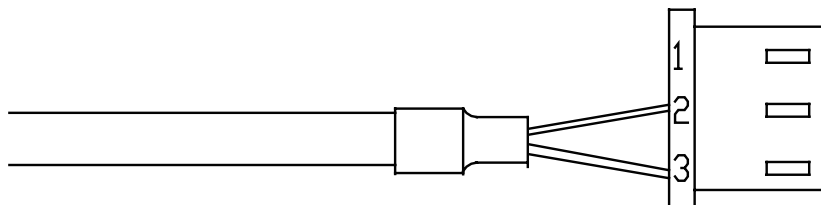


Fig.2.6.2

If the next unit is Wall Mounted Type also, please insert the cord in the comm connecting board:

- (3) The twisted-pair in the 4 PIN neilsbed is the communication cord to the manual panel.

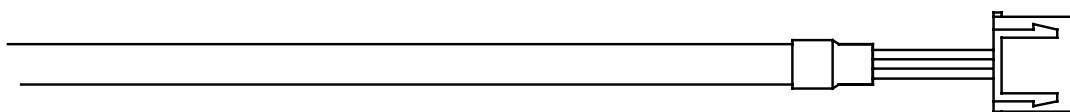


Fig.2.6.3

- (4) Reinstall the wiring cover on the original place and tighten the bolt.
- (5) Recover the surface panel.

⚠ Note!

- ① The incorrect of wiring connecting would lead malfunction of some of the electric elements.
- ② Make sure that the lead between the connect end and the clamp end has some need space after the wire is fixed.

⚠ Notes:

- ① Use copper wire only as unit's power cord. Operating temperature should be within its rated value.
- ② If the power cord is more than 15m long, please increase properly the sectional area of power cord to avoid overload, which may cause accident.
- ③ Above selection requirements: Power cord size is based on BV single-core wire (2~4pc) at 40°C ambient temperature when laying across plastic pipe. Air switch is D type and used at 40°C. If actual installation condition varies, please lower the capacity appropriately according to the specifications of power cord and air switch provided by manufacturer.

2.7 Installation of the indoor unit

- (1) When routing the piping and wiring from the left or right side of the indoor unit, it is necessary to cut off the tailings of the pipe left on the holder of the unit (Shown in Fig.2.7) .
 - ◆ Cut down tailings 1 when only the power cord is led.
 - ◆ Cut down tailings 1,2 (or 1,2,3) when the connection cord and wire are led.
 - ◆ The piping types ① , ② , ③ are recommended.
- (2) Let the tubing and cord pass though the piping hole after tied up (refer to Fig.2.7 (d)).
- (3) Hang the claw behind the indoor unit on the pothook on the wall panel, and move the unit left and right to check if the body is firm.
- (4) Guarantee that the installation height of the indoor unit should be 2.5m above the floor.

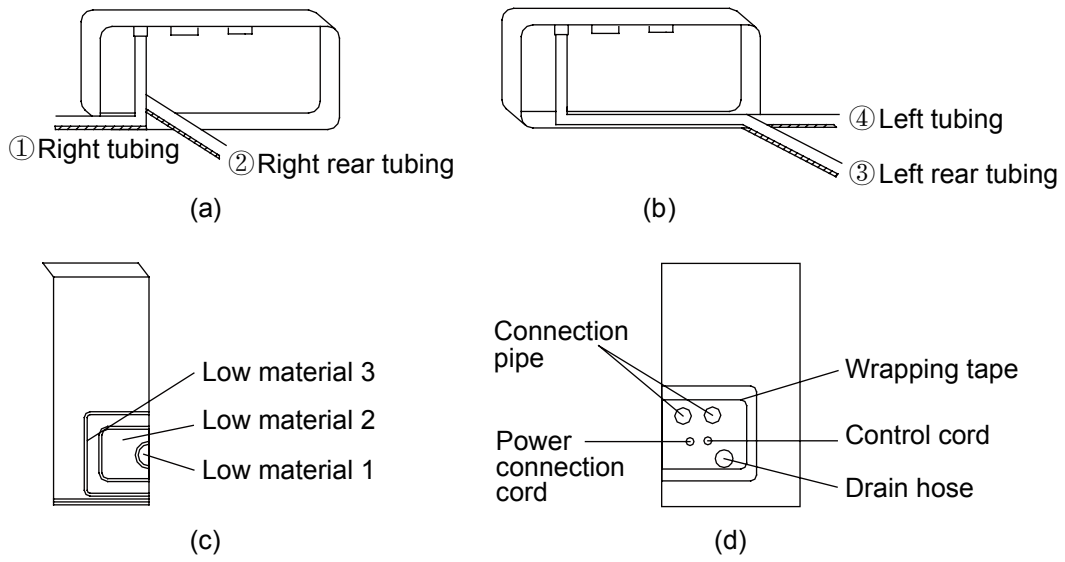
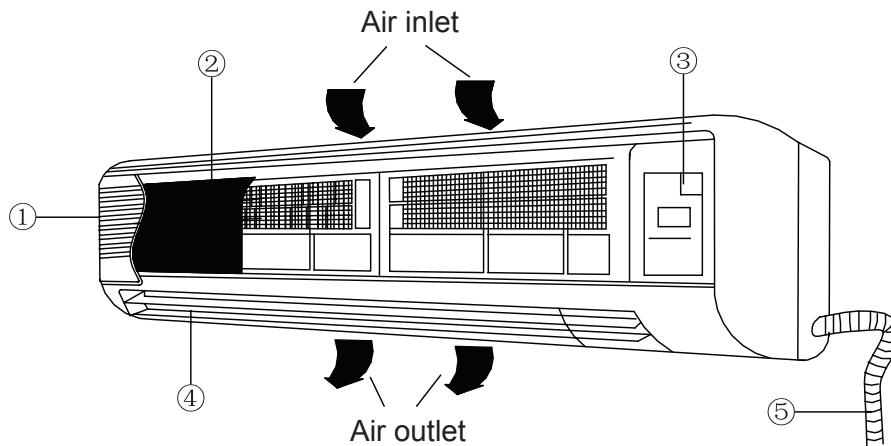


Fig.2.7

3 Structures and Names of Every Part of the Wall Mounted Indoor Unit

Wall mounted indoor unit



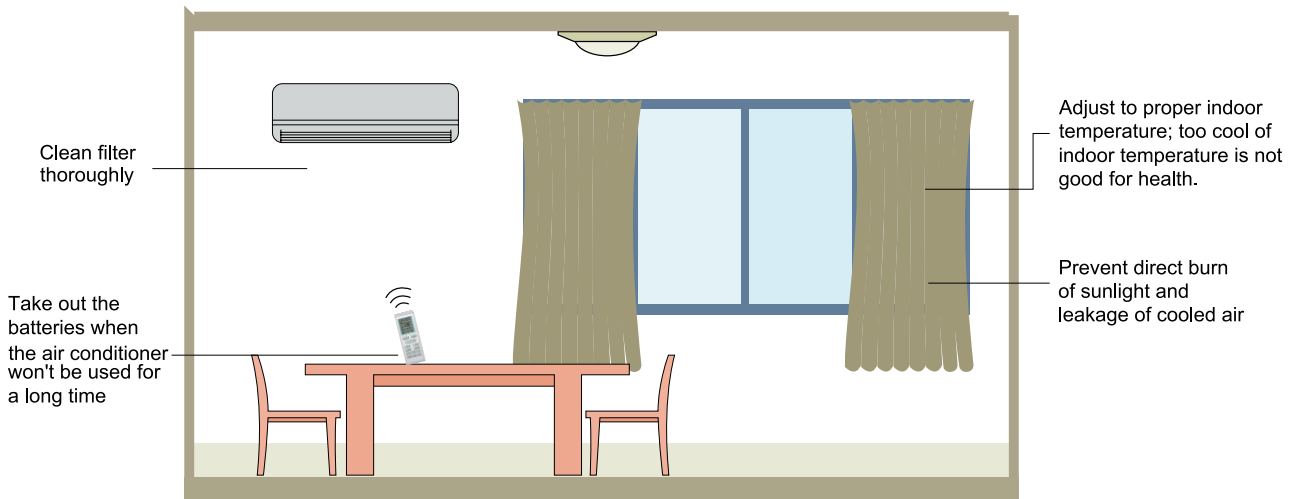
No.	Part Name	No.	Part Name
①	Surface panel	④	Guide louver
②	Filter	⑤	Connecting pipe
③	Wiring cover		

⚠ Note! The appearances will be different by the different models of air conditioners.

4 Working Temperature Range

Item	Indoor Condition		Outdoor Condition	
	DBTemperature°C	WBTemperature°C	DBTemperature°C	WBTemperature°C
Rated Cooling	27	19	35	24
Rated Heating	20	15	7	6

5 The Best Usage Method



- (1) Adjust the set temperature properly in proper to prevent electricity wasting. It is better to control the difference of the indoor and outdoor temperatures within 5°C.
- (2) The better effect will be maintained by adjusting the guide louver downward for heating and horizontal for cooling.
- (3) When the air conditioner is running, don't open windows or doors for long time, otherwise the efficiency of unit will be lowered.
- (4) Prevent the cooled air blowing to body directly for long time and making indoor temperature too low, for it is bad for health.
- (5) Do not pour water to unit or clean it by water, otherwise a malfunction or electric shock may happen.
- (6) Do not mangle the power cord and the communication cord. The damaged power cord and communication cord can only be replaced by the specified ones.
- (7) This air conditioner allows voltage fluctuation within $220\pm 10\%V$.
- (8) This air conditioner cannot be used for drying clothes and refrigerating food, etc..

6 Maintenance Method

⚠ Warning!

① Do not turn off the unit and cut off the power when cleaning the air conditioner, otherwise electric shock may happen.

② Do not make the air conditioner wet or electric shock may be incurred; Ensure that the air conditioner will not be cleaned by water rinsing under any circumstance.

③ Volatile liquid like thinner or gasoline would damage the appearance of the air conditioner. (Only soft dry cloth and wet cloth moistened with neutral detergent could be used to clean the surface panel of the air conditioner.)

6.1 Cleaning panel

⚠ Note! Do not take down it before cleaning.

(1) Pull along the direction of arrows to take down the panel

(2) Clean the panel

Clean it with a soft-hair brush, water and neutral cleaning fluid, and then dry it.

⚠ Caution!

Do not use water above 45°C to wash the panel to prevent decoloration or deformation.

(3) Install the panel

As shown in Fig.II, install the stands of both ends of the panel into the slot and put the middle rotating shaft into the groove, then place the panel and clasp back along the arrow direction.



Fig. I



Fig. II

6.2 Cleaning the air filters

Clean it once every 3 months; When the usage environment has lots of dust, it should be cleaned more frequently.

(1) Take down the air filter

As shown in Fig.III, open the surface panel by holding the both ends of groove along the arrow direction, and then take the air filter out downward.

(2) Clean the filter

Use cleaner or water to wash the filter; if the filter is too dirty (like oil stain on it), warm water (lower than 45°C) with neutral detergent can be used, then dry it in the shade.

⚠ Note!

① Do not clean the filter by hot water higher than 45°C for preventing fade or deformation.

② Do not burn it on fire or the filter would catch fire or deformation.

(3) Install air filter

Install the air filter properly along the arrow direction, making the side marked "Front" facing yourself and then place the panel back.

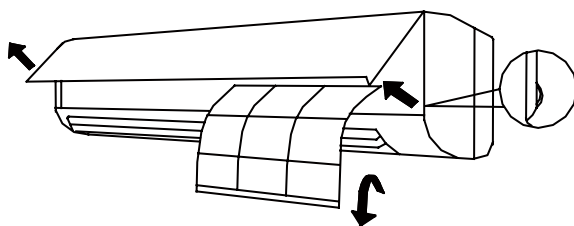


Fig. III

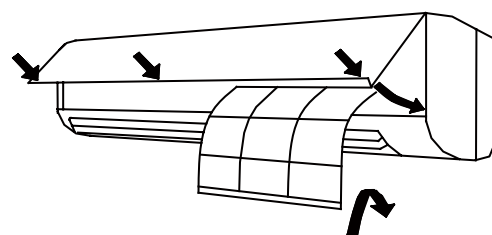


Fig. IV

6.3 Check before the usage season

- (1) Check if there is blockage in the inlet or outlet vent of the air conditioner.
- (2) Check if the earth wire is earthed reliably.
- (3) Check if the batteries in the wireless remote controller have been replaced.
- (4) Check if the air filter has been installed properly.

In order to start up the air conditioner smoothly after it has been turned off for a long time period, energize the unit 8 hours before turning it on.

6.4 Check after the usage season

- (1) Clean filter and body of air conditioner.
- (2) Cut off the main power supply of air conditioner.

7 Malfunction Analyzing

Warning!

Do not repair the air conditioner by yourself for the incorrect repair would lead to electric shock or fire. Please contact the service center and have the unit repaired by the specialized personnel. Check the following items before contacting the service center, as it could save your time and cost.

Malfunction Phenomena	Malfunction Analyzing
The air conditioner could not start up just after turned off	The over load protection switch of the unit makes it run after 3 minutes delay.
Odor gave out when the unit just was turned on	Odors or cigarette smoke which has been absorbed in is discharged out.
Slight bicker was heard when the unit was running	This is the sound of the running refrigerant.
Mist came from the air outlet vent when cooling	Indoor air is cooled rapidly.
Creak sound was heard when the unit was running or after it was turned off	It is the sound emitted by the expansion of the panel and other parts because of the temperature change.
The air conditioner failed to run	Is the power supply cut off ? Is the power supply connected ? Is the circuit protector started aside ? Is the voltage too high or too low ? If TIMER had been set on the wireless remote controller ?
The cooling (heating) effect of the air conditioner was not good	Is the temperature set properly ? Is the inlet, outlet vent of the outdoor unit blocked ? Is the air filter too dirty to cause blockage ? Are windows and doors closed ? Is the air speed too low ? Is there other heat source in the room ?
The wireless remote controller cannot work	In the event that the battery is replaced but the wireless remote control still malfunctions, then open the back cover and press "ACL" button to make it normal. When the air conditioner is under abnormal interference or its functions are changed too frequently, then the wireless remote controller would works improperly. At this time, it is available to resume the normal operation through de-energizing and then energizing the wireless controller again. Is the controller within the receiving area? or is there blockage? Check if the voltages of batteries in the wireless remote controller are sufficient; Otherwise change the batteries.

7.1 Service center

When the following phenomena appeared, please stop operating immediately, cut off the main power supply of the unit and then contact the service center of the air conditioner.

- ◆ Harsh sound heard when running.
- ◆ The fuse or protector opened frequently.
- ◆ Substance or water pulled in the unit involuntarily.
- ◆ Water leakage in room.
- ◆ Power cord overheated.
- ◆ Abnormal odor is given out when running.

7.2 After-sales service

When quality or other problems arise upon the purchased air conditioner, please contact the local service center.

8 Adjusting Method of the Air Direction

8.1 Adjusting air direction up and down

- (1) Controlling the guide louver motor by the wireless remote controller can make the guide louver swing up and down, or makes the guide louver stop at a certain angle to have air supplied.
- (2) Press the SWING button on the wireless remote controller to make the guide louver swing up and down; Repress again to stop the operation.

8.2 Adjusting air direction left and right

Moving the vertical louver left and right can adjust the left and right direction of air outlet, or adjust the air outlet to reach every corner of the room by 3 different outlet directions to make the indoor temperature more even.

9 Function Description of the Functional DIP Switch S7

- (1) The 3-bit DIP switch shall be set before the main board is energized and it will determine the running status of the indoor unit.
- (2) See the following table for its functions:

DIP Switch	Function	DIP ON	DIP OFF
1(S/R)	Selection of memory mode: ① Election between reset mode and standby mode after energizing. ② This function is available without wired controller.	Standby after energizing	Reset after energizing
2(L/I)	Selection between manual controller and receiver: ① If Wired controller is selected, remotecontrol function of receiver will be shielded. ② If receiver is selected, wired controller will be noneffective.	Wired controller	Receiver
3(M/S)	Setting of master and slave indoor units: ① For resolution of conflict among the modes. ② This function is available without wired controller.	Master indoor unit	Slave indoor unit

Model and Technical Specification

Specification of wall mounted type indoor unit

Table7

Model			80HW008J24	80HW010J24	80HW013J24
Cooling Capacity	kW/Btu/h		2.2/7,500	2.8/9,600	3.6/12,300
Heating Capacity	kW/Btu/h		2.5/8,500	3.2/10,900	4.0/13,600
Air Flow Rate	m ³ /h/CFM		500/294	500/294	630/371
Sound pressure level	dB(A)		38	38	44
Power Supply			208-230V/1phase/60Hz	208-230V/1phase/60Hz	208-230V/1phase/60Hz
Fan Motor	Input	kW	0.05	0.05	0.06
Connection Pipe	Gas Pipe	Inches	Φ3/8"	Φ3/8"	Φ1/2"
	Liquid Pipe	Inches	Φ1/4"	Φ1/4"	Φ1/4"
	Connecting Method		Flare Connection	Flare Connection	Flare Connection
Drain pipe (Outer Dia.×Thickness)	mm		φ28×4	φ28×4	φ28×4
Outline Dimension (W×D×H)	mm/In		843×180×275 33-1/4"×7-1/8"×10-7/8"	843×180×275 33-1/4"×7-1/8"×10-7/8"	940×200×298 37"×7-7/8"×11-3/4"
Package dimension (W×D×H)	mm/In		915×255×355 36"×10"14"	915×255×355 36"×10"14"	1010×285×380 39-3/4"×11-1/4"×15"

Table8

Model			80HW016J24	80HW020J24
Cooling Capacity	kW/Btu/h		4.5/15,400	5.6/19,100
Heating Capacity	kW/Btu/h		5.0/17,100	6.3/21,500
Air Flow Rate	m ³ /h/CFM		630/371	880/471
Sound pressure level	dB(A)		44	44
Power Supply			208-230V/1PH/60Hz	208-230V~/1PH/60Hz
Fan Motor	Input	kW	0.06	0.07
Connection Pipe	Gas Pipe	Inches	Φ1/2"	Φ5/8"
	Liquid Pipe	Inches	Φ1/4"	Φ3/8"
	Connecting Method		Flare Connection	Flare Connection
Drain pipe (Outer Dia.×Thickness)		mm/in	φ28×4 /1 1/8"	φ28×4 / 1 1/8"
Outline Dimension (W×D×H)		mm/in	940×200×298 37"×7-7/8"×11-3/4"	1008×221×319 40-1/4"×8-3/4"×12-5/8"
Package dimension (W×D×H)		mm/in	1010×285×380 39-3/4"×11-1/4"×15"	1073×313×395 42-1/4"×12-3/8"×15-5/8"

Table9

Model			80HW025J24
Cooling Capacity	kW/Btu/h		7.1/24,200
Heating Capacity	kW/Btu/h		8.0/27,300
Air Flow Rate	m ³ /h/CFM		880/471
Sound pressure level	dB(A)		44
Power Supply			208-230V/1PH/60Hz
Fan Motor	Input	kW	0.07
Connection Pipe	Gas Pipe	Inches	Φ5/8"
	Liquid Pipe	Inches	Φ3/8"
	Connecting Method		Flare Connection
Drain pipe (Outer Dia.×Thickness)		mm/in	φ28×4 /1 1/8"
Outline Dimension (W×D×H)		mm/in	1008×221×319 40-1/4"×8-3/4"×12-5/8"
Package dimension (W×D×H)		mm/in	1073×313×395 42-1/4"×12-3/8"×15-5/8"

☆ The above performance parameter is measured according to the standard of GB/T 18837-2002, and its cooling or heating capacity and noise are tested before leaving factory.

☆ If the parameter changed, refer to the data offered on nameplate.

Thank you for Choosing



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