



Technibel

INVERTER series

MANUALE DI INSTALLAZIONE INSTALLATION MANUAL NOTICE D'INSTALLATION



IT

Per l'installazione di questi apparecchi rivolgetevi a tecnici abilitati. Installazioni fai-da-te o non corrette possono causare inconvenienti dei quali il produttore non può essere ritenuto responsabile.

UK

Do not attempt to install, maintain the Air Conditioner by yourself. Incorrect behaviour may cause fire, electric shock and the unit falling may result in injury or water leakage. Contact our designated air conditioner service centre and specialists.

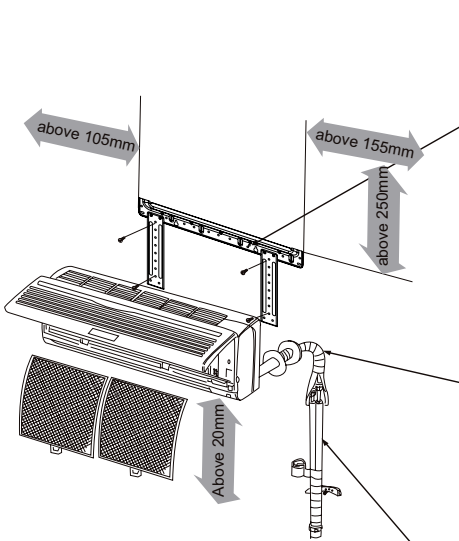
FR

Pour l'installation, contactez de techniciens habilités. N'essayez pas d'installer, réparer ou déplacer le climatiseur tout seul: des comportements pas corrects pourraient causer des incendies ou des décharges électriques et la chute de l'appareil pourrait causer des blessures ou des pertes d'eau.

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INSTALLATION SKETCH



Confirm the installation position by the mark of the indoor mounting plate.

Note: Different models have different mounting plates, the installing charts of this book are presented just for the purpose of illustration, please take the real objects as reference.

Attention:
 The allowable length of the connecting pipe is 10m.
 The allowable distance between indoor unit and outdoor unit is 5m.

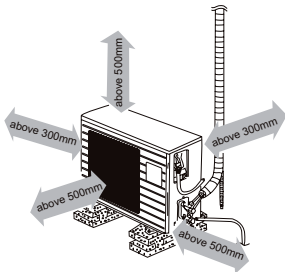
The connecting pipe can be led from back, right, underside, or left-back side.

Notice: do not raise the drain hose.

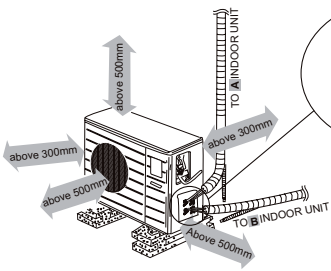
While installing the pipeline on the thin armor plate or on the wall of metal mesh, you should use the wooden board to clamp between the wall and the pipeline, or wrap up the pipeline with 7-8 layers of insulating plastic tape.

Cover connecting pipe with adiabatic material.

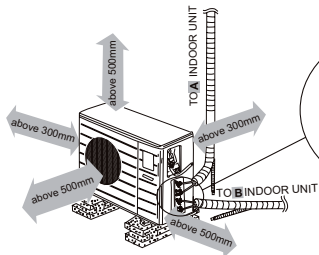
Sponge plastic adiabatic material with the thickness of 8mm.



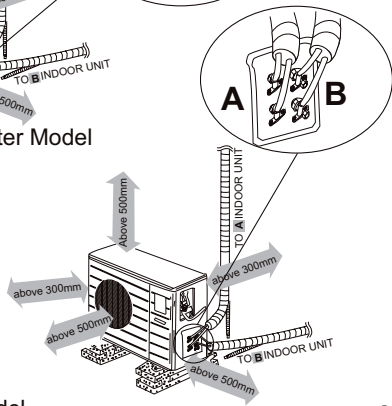
Single Split Model



Dual inverter Model



OR
Dual Split Model



INSTALLATION INSTRUCTIONS

1 Location of indoor unit

- Keep the air inlet and outlet at a far distance from the blockage.
- Keep the height distance between the indoor and outdoor unit at most 5m.
- Mount on the wall solid enough to bear the weight of the unit and not cause any shake.
- Avoid direct sunshine.
- A place easy for condensate drain and easy for connecting with the outdoor unit.
- Keep a far distance away from the fluorescent lamp, it may influence the operation of remote controller.
- Keep at least 1m away from the TV radio and other home appliances.

2 Location of outdoor unit

- A place for firm location of the unit, solid enough to bear the weight of the unit and not cause any shake.
- Good ventilation, less dust, far from direct rain and sunshine.
- A place where the air discharged out of the outdoor unit or the operation noise will not annoy your neighbours.
- No blockage near the outdoor unit.
- Avoid places close to inflammable gas leakage.

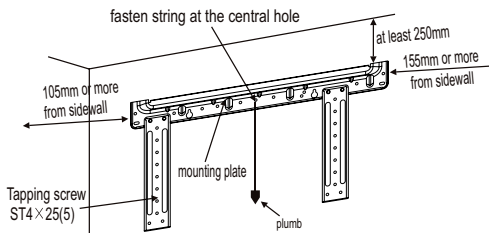
INSTALLATION OF THE INDOOR UNIT

1 Securing the mounting plate and drill on the wall

Note: Different models have different mounting plates, the installing charts of this book are presented just for the purpose of illustration, please take the real objects as reference.

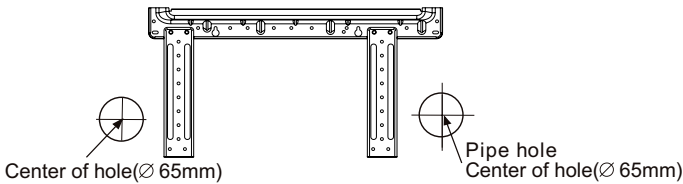
- **Secure the mounting plate**

The mounting plate should be attached to the structural part of wall (post etc).



- NOTICE:**
- The holes at solid arrow position must be secured to avoid the shake of mounting plate.
 - When the expansion bolts are used, two holes (11×20 or 11×26) that the distance between them is 450mm should be adopted.

- **Drill on the wall**

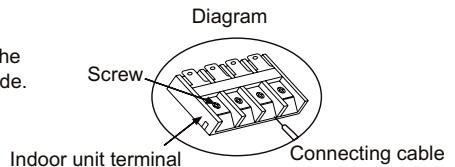


Operation:

1. Confirm the position of the wall hole according to the chart (If it need to orientat a hole on the left side of the mounting plate, please refer to the method of orientating the right wall hole in the above chart).
2. Use the aiguille to drill a hole with a diameter of 65mm .

2 Wiring

- Open the front grille;
- Remove the screw from electrical box cover, pull the electrical box cover away from the unit and set aside.
- Remove the screw from fastener, pull the fastener away from the unit and set aside.
- Connect the cable.
- Replace the fastener and electrical box cover.



NOTE:

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

The appliance must not be installed in the laundry.

The appliance must be installed 2.5m above the floor.

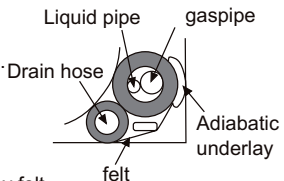
The appliance must be positioned so that the plug is accessible.

For some models whose cooling capacity are above 4600W (17000BTU/h), an all-pole disconnection device which has at least 3mm separation distance in all pole and a residual current device(RCD)with the rating of above 10mA shall be incorporated in the fixed wiring according to the national rule.

3 Installation of the drain hose

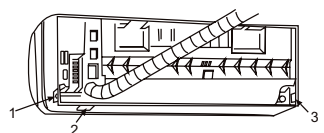
■ **NOTE:**

- The drain hose must be arranged beneath the connecting pipe.
- The drain hose must not be hunched or twisted.
- While wrapping up the drain hose, do not pull it.
- The drain hose through the room must be wrapped up by the thermal insulation materials.
- The connecting pipe and the drain hose must be wrapped up by felt strip. Adiabatic pad should be used at where the pipe contacts the wall.



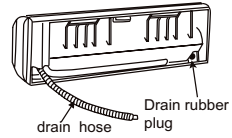
■ **ROUTE OF PIPE**

- If pipe comes out of the right side of the indoor unit, cut part “1” of the unit;
- If pipe comes out of the lower-right side of the indoor unit, cut part “2” of the unit;
- If pipe comes out of the left side of the indoor unit, cut part “3” of the unit.



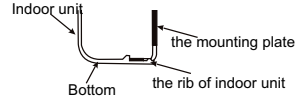
REFIT OF DRAIN HOSE

- If pipe comes out of the left side of the indoor unit, the drain hose must be refitted, otherwise water leakage may occur.
- Readjustment methods: Interchange the position of drain hose and drain rubber plug.
- Clearance is not allowed after refit, it would lead to water leakage.



4 Installation of the indoor unit

Let pipe go through the wall hole and attach the indoor unit to the mounting plate. (Press the rib of indoor unit inside the hook of the mounting plate.)



5 Pipe Connection

- The number of bent position of the pipe in the indoor unit should not exceed 10.
- The number of bent position of the pipe in the indoor unit and the outdoor unit should not exceed 15.
- The radius of bent position should be more than 10cm.
- Please break the evaporator craft tube with pincers before connecting. After exhausting the inside air, use the wrench to twist down the nut of connecting tube of the evaporator. (Fig. 1)
- Put some seal oil to cover the joint and the flare.
- Align the centre of joint in line with that of flare and tighten the nut of connecting pipe with wrench. (Fig. 2)

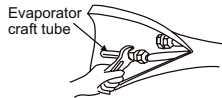


Attention:

Do not exhaust the inside air just by loosening the nut since there is the air of certain pressure inside the tube of indoor unit.

Please do not make extra effort for fear of damaging the expansion orifice.

DIAMETER OF PIPE	TORQUE(N · m)
6.35mm (1/4 ")	12.0---15.0
9.52mm (3/8 ")	33.0---36.0
12.7mm (1/2 ")	40.0---45.0
15.88mm (5/8 ")	73.0---78.0



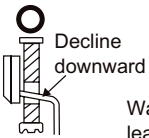
(Fig. 1)



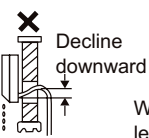
(Fig. 2)

6 Arrangement of the drain hose

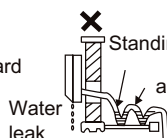
- To drain the condensate water easily, the drain hose should be declined downwards. The following 5 arrangement methods are incorrect.



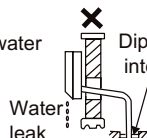
(Fig. 1)



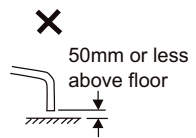
(Fig. 2)



(Fig. 3)

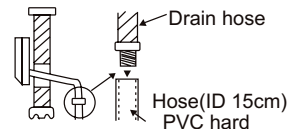


(Fig. 4)



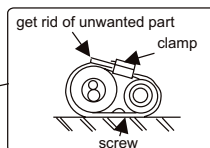
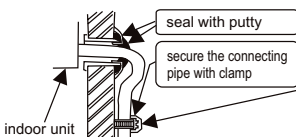
(Fig. 5)

- If you find the drain hose not long enough to connect with the indoor unit, you can extend it with the hoses in the accessory box.
- The drain hose through the room must be wrapped up with the special adiabatic material.



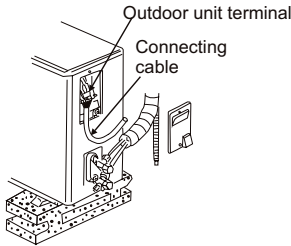
7 Wall sealing and Pipe fastening

- Use putty to seal the wall hole.
- Use clamp (pipe fastener) to secure the pipe at specified position.

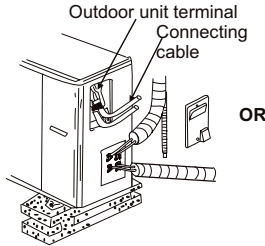


INSTALLATION OF THE OUTDOOR UNIT

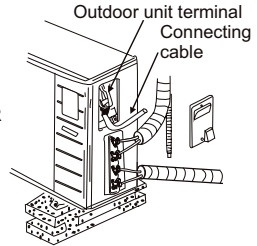
1 Wiring



Single Split Model



Dual Split Model

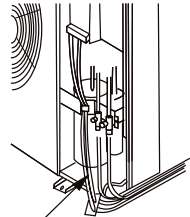
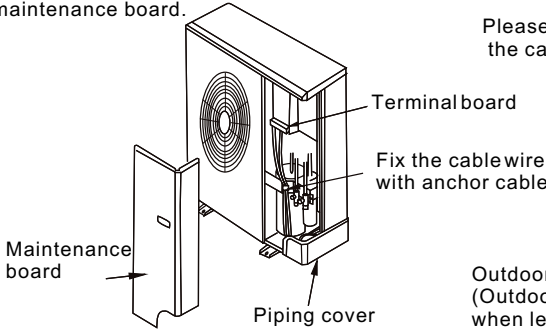


Wiring For Above 6000W Model (Above 21000BTU/h Model)

1 Remove the self-tapping screws (2 pcs) on the maintenance board and take out the maintenance board.

The cable wire can be led from the back hole of the piping hole or ejecting hole.

Please utilize outdoor pipe support when the cable wire is led from the backside.



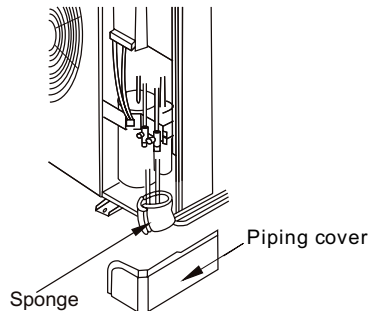
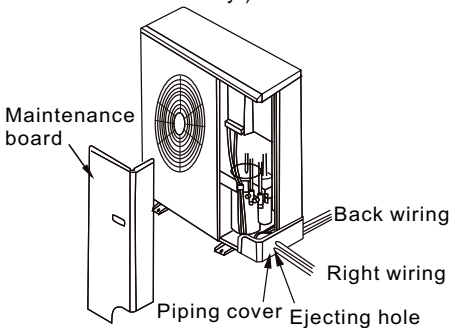
Outdoor pipe support (Outdoor pipe support is not required when leading the cable wire from other places).

2 Loosen the self-tapping screws (2 pcs) on the fixing clip to loosen the fixing clip.

4 Tighten the self-tapping screw on the fixing clip.

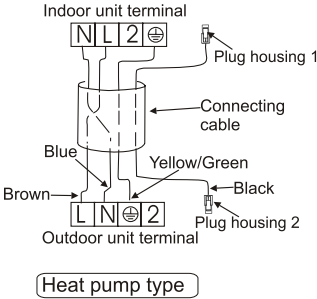
3 Loosen the fixing screw of the wire terminal board, pass the power wire and signal wire through the fixing clip. Then firmly fix the power wire and signal wire on the terminal board with the fixing screw. (Earth wire must be connected firmly.)

5 Install the maintenance board. After the pipes and cable wire are installed, please seal the sponge block as per drawing indication.



Connect diagram

Inverter Type



Notice:

- If not include the connect diagram you need, please see the wiring diagram.
- If you find the color of connecting cable not comply with the top diagram, please take real objects as major reference. But the terminal of the same sign must be joint with the connecting cable of the same color.
- The plug housing 1 is connected to the matched receptacle housing of the indoor unit.
- The plug housing 2 is connected to the matched receptacle housing of the outdoor unit.
- If the signal wire has to be bought separately, choose electric wire above 0.75mm².
- The above diagrams are just presented the wiring of normal models, if the connect diagrams different from the real objects, please take the wiring diagram stuck on the outdoor unit as reference.
- If the interconnection cord for power supply has to be replaced, please see the following table for reference.

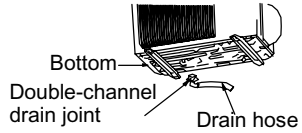
MODEL	SPECS (Interconnection cord)
≤2700W(10000BTU/h)	≥1.0mm ²
3000W(11000BTU/h) -4000W(15000BTU/h)	≥1.5mm ²
4500W(18000BTU/h) -8000W(28000BTU/h)	≥2.5mm ²

WARNING:

- Please take the electric circuit diagram attached to the indoor/outdoor units as major reference while installing.
- The power wire and signal wire between the indoor/outdoor units must be connected one by one as per corresponding number on the wiring terminal board.
- The connecting cables must be clipped together.
- Special cable must be used to connect indoor unit and outdoor unit. It should be ensured that the terminals are not influenced by external force. Poor connection may cause fire.
- The electric box cover must be mounted and secured in position, otherwise fire or electrical shock may occur because of dust or moisture.
- The temperature of refrigerant circuit will be high, please keep the interconnection cable away from the connecting tube.

2 Installation of the drain joint(only for heat pump type)

- ◆ Insert the outdoor double-channel drain joint in one of the bottom holes of the suitable size then connect drain hose and joint together.

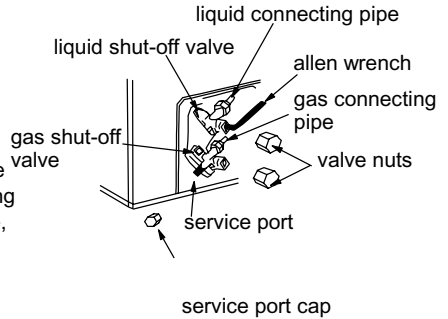


3 Joint of the connecting pipe

- ◆ Put some seal oil to cover the joint and the flare.
- ◆ Align the centre of joint in line with that of flare and tighten the nut of connecting pipe with wrench. (Adjust the torque by the same method of connecting pipe for indoor unit.)

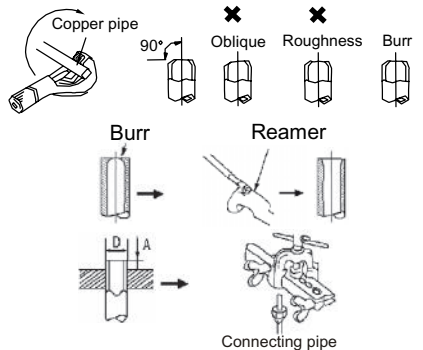
5 Air purging and refrigerant tubes

- ◆ Connect the vacuum pump to the outside unit. Air and misture removal have undesirable effects on the refrigerant system.
- ◆ Remove caps from service valves of both tubes. Then start vacuum pump and let it run for the time indicated in the table (vacuum 10 mm Hg abs).
- ◆ With vacuum pump still running close the low pressure knob on valve manifold. Then stop vacuum pump. Using an hexagonal key open the service valve on small tube, then close it after 1° seconds. Check tightness of all joints using liquid soap.
- ◆ Utun the service valves stem in counterclockwise to fully open the valves. At this point vacuum pump flexible hose can be disconnected. Replace bonnet and flare nut, tighten them to 200 kg/cm with a torque wrench.



5 Process of flared tube

- ◆ Use the pipe cutter to cut off the broken part of flare.
- ◆ Remove burrs at the cut of the flare.
- ◆ Insert a nut into the connecting pipe and do flaring with specified flaring tools, reamers for example.



Outer diameter	A(mm)
6.35mm (1/4)	2.0--2.5
9.52mm (3/8)	3.0--3.5
12.7mm (1/2)	3.5--4.0
15.88mm(5/8)	4.0--4.5

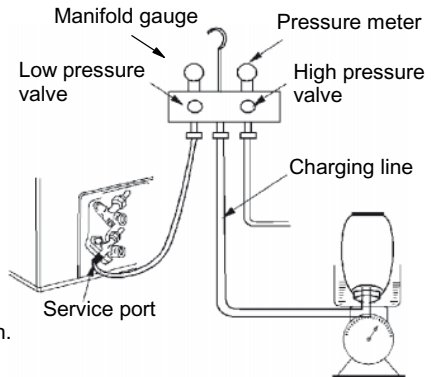
- ◆ Check the quality of flaring technique.

6 Adding refrigerant

- If the connecting pipe is longer than 7 metres, add refrigerant as needed. (Cool only type) added amount $A=(Lm-7m) \times 15g/m$; (Heat pump type)added amount $A=(Lm-7m) \times 50g/m$. (A: amount of added refrigerant, L: the length of connecting pipe)

The length of connecting pipe (m)	7	8	9	10
(Cool only type)added amount (g)	0	15	30	45
(Heat pump type)added amount (g)	0	50	100	150

- Exhaust the air as the above-mentioned method.
- Screw the gas shut-off valve to close, connect charging hose(low pressure) to the service valve and then open gas shut-off valve again.
- Connect the refrigerant bottle to the charging hose and then convert it.
- Fill in liquid refrigerant as the above table.
- Disconnect the manifold gauge after turning off the shut-off valve, and then open gas shut-off valve again.
- Tighten nuts and caps of each valve.



7 Operation test

- Before test operation, wiring safety inspection must be carried out carefully again.
- Emergency switch operation: Every press of emergency switch, the air conditioner runs as in the following order:
 - Cool only type: Cool \rightarrow Shut off
 - Heat pump type: Cool \rightarrow Heat \rightarrow Shut off
 - Remote controller operation: If the indoor unit sounds like Di, Di when pressing I/O button, that indicates the air conditioner is under the operation of remote controller. After that, press every button to test their functions.
 - Check switch operation: Open the front grille and press the check button. Switch on the power source and then the operation test is activated. If the indicator lamps light up at first and then go out in succession or the LED window of the indoor unit illuminates at first and then goes out, the system is under normal operation. If one of the indicator lamps is flashing at all times, or failure codes are displayed on the LED window of the indoor unit, the system has something wrong and please check malfunction immediately.

F-GAS REGULATION (EC) no. 842/2006

IT

Non disperdere R410A nell'atmosfera: R410A è un gas fluorinato a effetto serra, coperto dal protocollo di Kyoto, con potenziale di riscaldamento globale (GWP) = 1975.

EN

Do not vent R410A into atmosphere: R410A is a fluorinated greenhouse gas, covered by Kyoto Protocol, with a Global Warming Potential (GWP) = 1975.

FR

Ne déchargez pas R410A dans l'atmosphère : R410A est un gaz fluoré à effet serre, couvert par le protocole de Kyoto, avec un potentiel de chauffage global (GWP) = 1975.

DE

Zerstreuen Sie R410A in Atmosphäre nicht: R410A ist ein fluoriertes Gas, abgedeckt durch Kyoto Protokoll, mit einem globalen wärmenden Potential (GWP) = 1975.

ES

No expulsar R410A a la atmósfera: el R410A es un gas fluorado de efecto invernadero, cubierto por el protocolo de Kyoto, con potencial de calentamiento global (GWP) = 1975.



Technibel

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