

FTHF40VVLT

FTHF50VVLT FTHF60VVLT FTHF71VVLT

R32 Split Series **(INVERTER)**

SAFETY PRECAUTIONS Read the precautions in this manual carefully This appliance is filled with R32. before operating the unit. The precautions described herein are classified as WARNING and CAUTION. They both contain important information regarding safety. Be sure to observe all precautions without fail Meaning of WARNING and CAUTION notices. MARNING | Failure to follow these instructions properly may result in personal injury or loss of life.

The safety marks shown in this manual have the following meanings: Be sure to follow the instructions. Be sure to establish an earth connection. Never attempt.

After completing installation, conduct a trial operation to check for faults and explain to the customer how to operate the air conditioner and take care of it with the aid of operation manual.

↑ WARNING

 Ask your dealer or qualified personnel to carry out installation work. Do not attempt to install the air conditioner yourself. Improper installation may result in water leakage, electric shocks or fire • Install the air conditioner according to the instructions given in this manual. Incomplete installation may cause water leakage, electrical shock, or fire. • Be sure to use only the specified accessories and parts for installation work. Failure to use the specified parts may result in the unit falling, water leakage, electric shocks or fire.

Failure to observe these instructions properly may result in property damage or personal injury, which may be serious

• Install the air conditioner on a foundation strong enough to withstand the weight of the unit. A foundation of insufficient strength may result in the equipment falling and causing injury Electrical work must be performed in accordance with relevant local and national regulations and with instructions in this installation manual.

Be sure to use a dedicated power supply circuit only. Insufficiency of power circuit capacity and improper workmanship may result in electric shocks or fire. Be sure to use a dedicated power circuit. Never use a power supply shared by another appliance.

• Use a cable of suitable length. Do not use tapped wires or an extention lead, as this may cause overheating, electric shocks or fire.

Make sure that all wiring is secured, the specified wires are used, and that there is no strain on the terminal connections or wires.

• When wiring the power supply and connecting the wiring between the indoor and outdoor units, position the wires so that the control

box lid can be securely fastened. Improper positioning of the control box lid may result in electric shocks, fire or overheating terminals. · After connecting interconnecting and supply wiring be sure to shape the cables so that they do not put undue force on the

electrical covers or panels. Install covers over the wires. Incomplete cover installation may cause terminal overheating, electrical shock, or fire. • When installation or relocating the air conditioner be sure to bleed the refrigerant circuit to ensure it is free of air, and use only the specified refrigerant (R32). The presence of air or other foreign matter in the refrigerant circuit cause abnormal pressure rise, which may result equipment damage and even injury.

• The installation height from the floor must be over 1.8 m.

depending on the circumstances.

• If refrigerant gas leaks during installation, ventilate the area immediately. Toxic gas may be produced if the refrigerant comes into contact with fire.

After completing installation, check for refrigerant gas leakage.

oxic gas may be produced if the refrigerant gas leaks into the room and comes into contact with a source of fire, such as a fan heater, stove or cooker. During pump-down, stop the compressor before removing the refrigerant piping.

If the compressor is still running and the shut-off valve is open during pump-down, air will be sucked in when the refrigerant piping is removed, causing abnormal pressure in the refrigerant cycle, which may result equipment damage and even injury. • During installation, attach the refrigerant piping securely before running the compressor.

If the compressor is not attached and the shut-off valve is open when the compressor is run, air will be sucked in, causing abnormal pressure in the freezer cycle. which may result equipment damage and even injury.

Be sure to earth the air conditioner.

Do not earth the unit to a utility pipe, lightning conductor or telephone earth lead. Imperfect earthing may result in electric shocks. • Be sure to install an earth leakage breaker. Failure to install an earth leakage breaker may result in electrical shocks, or fire.

• Do not use means to accelerate the defrosting process or to clean, other than those recommended by the manufacturer.

• The appliance must 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. Be aware that refrigerants may not contain an odour.

Comply with national gas regulations.

If the size of the room where the appliance is to be installed has less than the indicated minimum floor area, install it in a well ventilated room. • When flared joints are reused indoors, the flare part shall be re-fabricated.

• The appliance must be installed, operated and stored in a room with a floor area larger than 1.9m² for FTHF40/50/60, 2.1m² for FTHF71

• Do not hit or forcefully push the intelligent eye sensor. This can lead to damage and malfunction.

Do not place large objects near the sensor. Also keep heating units or humidifiers outside the sensor's detection area

↑ CAUTION

Do not install the air conditioner at any place where there is danger of flammable gas leakage. In the event of a gas leakage, build-up of gas near the air conditioner may cause a fire to break out.

• While following the instructions in this installation manual, install drain piping to ensure proper drainage

and insulate piping to prevent condensation. Improper drain piping may result in indoor water leakage and property damage. • The temperature of refrigerant circuit will be high, please keep the inter-unit wiring away from copper pipes that are not thermally insulated. • Make sure to provide for adequate measure in order to prevent that the outdoor unit be used as a shelter by small animals. Small animals making contact with electrical parts can cause malfunctions, smoke or fire. Please instruct the customer to keep the area around the unit clear · Tighten the flare nut according to the specified method such as with a torque wrench. If the flare nut is too tight, it may crack after prolonged use, causing refrigerant leakage.

ACCESSORIES Indoor unit (A) - (L) E Fixing screws for remote (A) Mounting plate 2 Operation manual controller holder M3 × 20L F AAA. LR03 (alkaline) dry-cell batteries Mounting plate fixing 2 (K) Installation manual screws M4 × 25L Indoor unit fixing screws
 M4 × 12L 2 (L) Deodorizing filter (enzyme blue) C Wireless remote controller Remote controller holder (H) Insulation tape

M Drain socket assembly **CHOOSING A SITE**

Before choosing the installation site, obtain user approval.

Outdoor unit (M)

⚠ CAUTION

Indoor unit The indoor unit should be located where:

· The restrictions on installation specified in the indoor unit installation drawing are met.

Both air inlet and air outlet have clear paths met The unit is not in the path of direct sunlight.

 The unit is at least 1 m away from any television or radio set • The unit is away from sources of heat or steam. There is no source of machine oil vapour (this may shorten indoor unit life).

• Only qualified personnel can handle, fill, purge and dispose of the refrigerant

 Install at the recommended height (not less than 1.8 m) No laundry equipment is located Wireless Remote Controller

• Do not expose the remote controller to direct sunlight (this will hinder receiving signals from the indoor unit). • Turn on all the fluorescent lamps in the room, if any, and find the site where remote controller signals are properly received by the indoor unit (within 7m).

INSTALLATION TIPS

1. Removing and installing front panel.

Installation method

1) Place your fingers in the indentations on the main unit (one each on the left and right sides), and open the front

panel until it stops. 2) While pushing the left side front panel shaft outward, push up the front panel and remove it. (Remove the right side

front panel shaft in the same manner.) 3) After removing both front panel shafts, pull the front panel toward yourself and remove it.

Align the tabs of the front panel with the grooves, and push all the way in, then close slowly. Push the centre of the lower panel surface firmly to engage the tabs.

2. Removing and installing front grille. Removal method

1) Remove front panel and remove the air filter 2) Remove the front grille fixing screws. (3 screws) 3) In front of the OOO mark of the front grille, there are 3 upper hooks. Lightly pull the front grille toward you with one hand, and push down on the hooks with

o mark area (3 locations) the fingers of your other hand.

<When there is no work space because the unit is close to ceiling>

(inverter or rapid start type) as these may shorten the remote controller range

∕!\ CAUTION Be sure to wear protection gloves. Place both hands under the centre of the front grille, and while pushing up, pull it toward you. 2) Pull to

Cool air is circulated throughout the room

The unit is away from electronic ignition type fluorescent lamps

(unit may cause interference with the picture or sound).

· Installation method 1) Install the front grille and firmly engage the upper hooks (3 locations). 2) Install 3 screws of the front grille. 3) Install the air filter and then mount the front panel

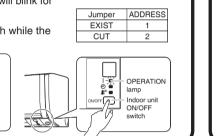
3. How to set the different addresses When 2 indoor units are installed in one room, the 2 wireless remote controllers can be set for different addresses. Change the address setting of one of the two units. When cutting the jumper be careful not to damage any of the

surrounding parts. 1) Remove the battery cover on the remote controller and cut the address jumper.

2) Press Â度 , 溫度 and 屬 at the same time. 3) Press (漁鹿), select **兒**, press 🍜 🕮 (The indoor unit OPERATION lamp will blink for

about 1 minute.) 4) Press the indoor unit ON/OFF switch while the OPERATION lamp is blinking.

• If setting could not be carried out completely while the OPERATION lamp was blinking, carry out the setting process once again from the beginning. for about 5 seconds will cause the remote controller to return to the previous display.



Construct a large canopy

Construct a pedestal.

5) Pass the interconnecting wires from the outdoor unit through the feed-through wall hole and then through the back of the indoor unit. Pull them through the front side. Bend the • The mounting plate should be installed on a wall which can support the weight of the indoor unit. ends of tie wires upward for easier work in advance. 1) Temporarily secure the mounting plate to the wall, make sure that the panel is completely level,

(If the interconnecting wire ends are to be stripped first, bundle wire ends with adhesive tape.) 3) Press the bottom frame of the indoor unit with both Recommended mounting plate retention spots and dimensions

Through-the-wal

435

plate (the distance listed in this manual).

Drain hose position

//// Caulking

(Field supply

>>- Wall embedded

Right-back piping

bottom Bind coolant pipe

and drain hose

nsulating tape

together with

Hose (available commercially

pipe (Field supply)

epending on the model, the actual distance between

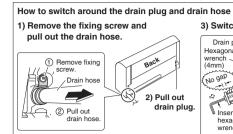
Always measure the actual distance between the

liquid pipe end and gas pipe end before installing

Liquid pipe end

hands to set it on the mounting plate hooks. Make sure that the wires do not catch on the edge of the indoor unit Left-side, left-back, or left-bottom piping. Attach the drain hose to the underside o

the refrigerant pipes with adhesive vinyl tape. 2) Be sure to connect the drain hose to the drain port in place of a drain plug.



B) Shape the refrigerant pipe along the pipe path marking on the mounting plate Pass drain hose and refrigerant pipes through the wall hole, then set the indoor unit on mounting plate hooks, using the Δ markings

the liquid pipe end and gas pipe end may differ from at the top of indoor unit as a guide the distance between those symbols on the mounting) Pull in the inter-unit wiring. Connect the inter-unit piping 7) Wrap the refrigerant pipes and drain hose

> edge of indoor unit with both hands until it is firmly caught by the mounting plate hooks. Secure indoor unit to the @ mounting plate

Wall embedded piping.

Follow the instructions given below Insert the drain hose to this depth so it won't be pulled out of the drain pipe

4 WIRING (1) **↑** WARNING

Do not use locally purchased electrical parts inside the product. (Do not branch the power for the drain pump, etc., from the terminal block, oing so may cause electric shock or fire. not connect the nower wire to the indoor unit. Doing so may cause electric shock or fire

Be sure to install an earth leak detector. (One that can handle higher harmonics.) (This unit uses an inverter, which means that it must be used an earth leak detector capable of handling harmonics in order to prevent malfunction of the earth leak detector itself.)
 Use an all-pole disconnection type breaker with at least 3mm between the contact point gaps.

When connecting the connection wires to the terminal block using a single core wire, be sure to perform curling. Problems with the installation may cause heat and fires.

Strip wire ends (20 mm). 2) Match wire colours with terminal numbers on indoor and outdoor unit's terminal blocks and firmly screw wires to the corresponding terminals. Connect the earth wires to the corresponding terminals Pull wires to make sure that they are securely

latched up, then retain wires with wire retainer. In case of connecting to an adapter system. Run the remote control cable and attach (Refer to 5, WHEN CONNECTING AN

HA SYSTEM.) S) Shape the wires so that the service

emove pipe port cover here for left-bottom piping. 3) Switch around the drain hose and drain plug. Mounting plate Wrap insulating tape

Bottom frame @@M4 × 12L (2 locations)

at least half the width of

Inner wall

A Mounting plate

unit's hook here

Wire guide

Caulk this hole with putty or

INDOOR UNIT

When stripping

the ends of inter-unit

the wire lead ends with tape.

4) Open the front panel, then open the service lid. (Refer to INSTALLATION TIPS.)

together with (H) insulation tape as right figure 3) While exercising care so that the interconnecting wires do not catch indoor unit, press the bottom

with the screws (M4 \times 12L)

Do not use tapped wires, stranded wires, extension cords, or starburst connections, as they may cause overheating, electrical shock, or fire

lid fits securely, then close service lid.

Firmly fix the wires with Outdoor unit Inter-unit wire 4-core 1.5 mm²

Wire retainer Power supply wire 60245 IEC 57 Firmly fix the wires with \pm Earth

Shape wires so that the

etainer so that wires

Inter-unit wiring

Gas pipe

5 WHEN CONNECTING AN HA SYSTEM

For this procedure, separately sold parts are needed.

. In case there is a work space in the right side of indoor unit, the procedure can be done while fixing electrical wiring box. Skip to remove electrical wiring box if it is possible, in order to make effective work.

(For details, refer fixing manual which attached in HA board) 1) Remove front grille. (screw 3 pcs.)) Remove electrical wiring cover. Figure. 1 Remove pipe

Remove electrical wiring box · Remove inter-unit wire.

• Remove fan motor connector (S200), swing motor connector (S6). • Remove thermistor, earth wire from heat exchanger unit, (screw 2 pcs.)

 Remove electrical wiring box fixing screw. (screw 1 pc.) 1) Fixing HA board (option part). Figure. 2

 Fixing HA board (option part) at electrical wiring box. Insert HA board (option part) connector to electrical wiring box connector (\$403) 5) Fixing HA connection code. Figure. 1, 2 Insert HA connection code to HA connector S21 (white) of HA board (option part).

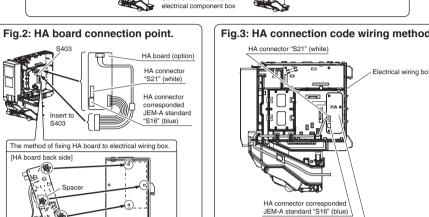
(HA connector S16 that corresponded to JEM-A standard is blue color.) Wiring HA connection code as Figure. 3 6) Fix electrical wiring box.

• Fixing electrical wiring box fixing screw. (screw 1 pc.) • Fixing thermistor, earth wire to heat exchanger unit. (screw 2 pcs.)

• Fixing fan motor connector (S200), swing motor connector (S6).

 Insert connection wiring. Fixing electrical wiring cover 8) Fixing front grille.

Fig.1: Removing the cover from the indoor unit electrical component box.



6 DRAIN PIPING

1) Connect the drain hose, as

described below. The drain hose shou be inclined downward No trap is permitted Do not put the end of the hose in water

2) Remove the air filters and pour some water into the drain pan to check the water flows smoothly.

Problems with the work may cause heat and fires

3) When drain hose requires extension, obtain an extension hose commercially available. Be sure to thermally insulate the indoor section of the extension hose.

HA board (option par

Indoor unit © Extension drain hose drain hose Heat insulation tube (Field supply)

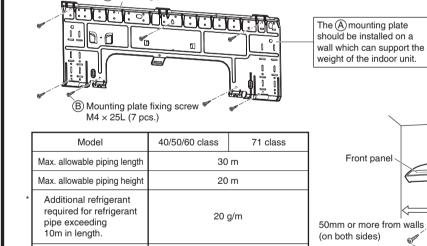
4) When connecting a rigid polyvinyl chloride pipe (diameter 16 mm) directly to the drain hose attached to the indoor unit as with embedded piping work, use any commercially available drain socket (inside diameter 16 mm) as a joint

socket (inside polyvinyl pipe diameter 16mm) (diameter 16mm) with the indoor unit

INDOOR/OUTDOOR UNIT INSTALLATION DRAWINGS

Front pane

Vhen flare pipe end and installing the Indoor unit and the outdoor unit, refer to "🕄 FLARING THE PIPE END " and " 🛂 REFRIGERANT PIPING " on OUTDOOR UNI **INTELLIGENT EYE sensor**



Min. allowable piping lengtl 2.5 m Max. allowable refrigera 1.40 ka 1.45 kg charge amount O.D. 12.7 mm (1/2 inch) O.D. 15.9 mm (5/8 inch) Gas pipe (1/2 inch) O.D. 6.4 mm (1/4 inch) Liquid pipe Be sure to add the proper amount of additional refrigerant

Failure to do so may result in reduced performance The suggested shortest pipe length is 2.5m in order to avoid noise from the outdoor unit and vibration (Mechanical noise and vibration may occur depending on how

the unit is installed and the environment in which it is used.) Do not additionally charge refrigerant.

Before screwing the (D) remote controller holder remote controller the wall, make sure that control signals are properl received by indoor unit.

(E) Fixing screws

for remote controlle

• Set the piping length from 2.5 m to 30 m M4 x 16L (L) Deodorizing filter (enzyme blue) Filter frame Refrigerant piping must be protected from physical damage. Install a plastic cover or equivalent. Stop valve cover ■ How to remove the stop valve cover. Remove the screw on the stop valve cover. Slide the lid downward to remove it. ■ How to attach the stop valve cover. Insert the upper part of the stop valve cover Allow 300mm of work space into the outdoor unit to install. elow the ceiling surface. Tighten the screws. Where there is a danger of the unit falling, 573.5 In sites with poor drainage, use block bases for outdoor unit.

Hook the tab of the bottom frame to the (A) mounting plate

Push up the marked area (at the lower part of the front grille) to

elease the claws. If it is difficult to release, remove the front grille

Intelligent eve

sensor

The service lid is removable.

1) Remove the service lid screw

in the direction of the arrow.

2) Pull out the service lid horizontally

■ Opening method

3) Pull down.

Caulk pipe hole

gap with putty.

The flare connection should be installed outdoors.

Cut thermal insulation pipe to

an appropriate length and

wrap it with tape, making

sure that no gap is left in th

↑ CAUTION

insulation pipe's cut line.

with the finishing tape from

Adjust foot height until the unit is levele

Otherwise, water leakage or pooling of

bottom to top.

If the claws are difficult to hook, remove the front grille.

■ How to remove the indoor unit

30mm or more from ceiling

 $M4 \times 16L (3 pcs.)$

PRECAUTIONS FOR SELECTING THE LOCATION When operating the air conditioner in a low outdoor ambient temperature,

be sure to follow the instructions described below. To prevent exposure to wind, install the outdoor unit with its suction side facing the wall. Never install the outdoor unit at a site where the suction side may be exposed directly to wind.

Install the unit high enough To prevent exposure to wind, it is recommended to install off the ground to prevent a baffle plate on the air discharge side of the outdoor unit. burying in snow. In heavy snowfall areas, select an installation site where the snow will not affect the unit.

Cannot be installed hanging from ceiling or stacked. Choose a place solid enough to bear the weight and vibration of the unit, where the

operation noise will not be amplified. Choose a location where the air discharged from the unit or the operation noise will not cause a nuisance to the neighbors of the user. Avoid places near a bedroom and the like, so that the operation noise will cause no trouble. There must be sufficient spaces for carrying the unit into and out of the site.

There must be sufficient space for air passage and no obstructions around the air inlet and The site must be free from the possibility of flammable gas leakage in a nearby place. Install units, power cords and inter-unit cables at least 3 m away from television and radio sets. This is to prevent interference to images and sounds. (Noises may be heard even if

they are more than 3 m away depending on radio wave conditions.) In coastal areas or other places with salty atmosphere of sulfate gas, corrosion may shorten the life of the air conditioner Since drain flows out of the outdoor unit, do not place under the unit anything which must be

PRECAUTIONS ON INSTALLATION

Check the strength and level of the installation ground so that the unit will not cause any operating vibration or noise after installed.

In accordance with the foundation drawing, fix the unit securely by means of the foundation bolts. (Prepare 4 sets of M8 or M10 foundation bolts nuts and washers each which are available It is best to screw in the foundation bolts, until their length are 20mm from the foundation

INSTALLATION GUIDELINES

• Where a wall or other obstacle is in the path of outdoor unit's inlet or outlet airflow, follow the installation guidelines below.

 For any of the below installation patterns, the wall height on the exhaust side should be 1200mm or less. Wall facing one side Walls facing two sides Walls facing three sides Top view Top view Unit: mm

■ Important information regarding the refrigerant used This product contains fluorinated greenhouse gases. Refrigerant type: **R32** GWP⁽¹⁾ value: **675** (1)GWP = global warming potential

The refrigerant quantity is indicated on the unit name plate.

INSTALLING OUTDOOR UNIT

1 INSTALLING THE MOUNTING PLATE

Place a leveler

60* Gas pipe end

990

plate

2 BORING A WALL HOLE AND INSTALLING WALL EMBEDDED PIPE

Wall embedded ~

Wall hole cover

(Field supply)

pipe (Field supply)

Right-side piping

Remove pipe port cover

Remove pipe port cover

here for right-bottom piping.

here for right-side piping. Right-b

For walls containing metal frame or metal board, be sure to use a wall embedded pipe and wall

In the case of bending of curing refrigerant pipes, keep the following precautions in mind.

cover in the feed-through hole to prevent possible heat, electrical shock, or fire.

Place the pipe port

ver in this pocket

and mark the boring points on the wall.

Use a tape measure as shown.

⚠ CAUTION

in the mounting plate pocket.

Position the end of the tape measure at >

The removed pipe port cover can be kept

port cover

Be sure to caulk the gaps around the pipes with

wall so it has a down slope toward the outside.

and drain piping, caulk pipe hole gap with putty.

3 INSTALLING INDOOR UNIT

) Attach the drain hose to the underside

2) Wrap the refrigerant pipes and drain

of the refrigerant pipes with an adhesive

hose together with an insulation tape (H).

Abnormal sound may be generated if improper work is conducted.

Right-side, right-back, or right-bottom piping.

3) Pass the drain hose and refrigerant pipes through the wall

hole, then set the indoor unit on the mounting plate hooks by

using the Δ markings at the top of the indoor unit as a guide.

• Do not strongly press the refrigerant pipes onto the bottom frame.

• Do not strongly press the refrigerant pipes on the front grille, either.

caulking material to prevent water leakage.

1) Bore a feed-through hole of 80 mm in the

4) After completing refrigerant piping, wiring,

2) Insert a wall pipe into the hole.

3) Insert a wall cover into wall pipe

2) Secure the mounting plate to the wall with screws.

• When installing the outdoor unit, refer to "PRECAUTIONS FOR SELECTING THE LOCATION" and the "INDOOR/OUTDOOR UNIT INSTALLATION DRAWINGS".

2 DRAIN WORK

• Use the (M) drain socket assembly for drainage. When attaching the (M) drain socket to the bottom frame make sure to first connect the drain hose to the drain socket. • If the drain port is covered by a mounting base or floor surface, place additional foot bases of at least 30mm in height under the outdoor unit's feet. M Drain socket — In cold areas, do not use a drain hose with the outdoor unit.

(Otherwise, the drain water may freeze, impairing heating performance.) 3 FLARING THE PIPE END

Do not use mineral oil on flared part.

Prevent mineral oil from getting into the system as this would reduce the lifetime of the units Only use parts which are delivered with the unit. Do never install a drier to this R32 unit in order to guarantee its lifetime. The drying material may dissolve and damage the system

 Incomplete flaring may cause refrigerant gas leakage. · When flared joints are reused indoors, the flare part shall be re-fabricated 1) Cut the pipe end with a pipe cutter. Remove burrs with the cut surface facing downward so that the chips do not enter the pipe.

) Put the flare nut on the pipe. 4) Flare the pipe Remove burrs 5) Check that the flaring is properly made. right angles.) ----- Flaring -Set exactly at the position shown below. Flare's inner surface R be evenly flared in Flare tool for R32 must be flaw-free a perfect circle. Clutch-type Clutch-type Wing-nut type (Rigid-type) (Imperial-type) Make sure that the flare nut is fitted. A 0-0.5mm 1.0-1.5mm 1.5-2.0mm

4 REFRIGERANT PIPING

1) Use the flare nut fixed to the main unit. (To prevent cracking of the flare nut by aged deterioration.) 2) To prevent gas leakage, apply refrigeration oil only to the inner surface of the flare. (Use refrigeration oil for R32.) 3) Use torque wrenches when tightening the flare nuts to prevent damage to the flare nuts and gas leakage.

• Align the centres of both flares and tighten the flare nuts 3 or 4 turns by hand. Then tighten

[Apply oil] Apply refrigeration oil to the inner surface of the flare. Do not apply refrigeration oil to the flare Do not apply refrigeration nut avoid tightening with over torque. / oil to the outer surface.

Refrigerant oil for R32 can also be used for application to the inner flare

Piping size Flare nut tightening torque /alve cap tightening torque ion AA, refer to Fig.1 O.D. 9.5mm (3/8 inch) (333-407kaf • cm) (160 ± 16kgf • cm) 19.0 ± 1.9N • m O.D. 12.7mm (1/2 inch) (505-615kaf • cm) 24.5 + 3.9N • m O.D. 15.9mm (5/8 inch) (630-770kaf • cm) 53.9 ± 5.9N • m 27mm O.D. 6.4mm Liquid side (1/4 inch) $68.6 \pm 6.9 \textrm{N} \bullet \textrm{m}$ (700 ± 70kgf • cm) Service port cap tightening torque (110-150kgf • cm)

Piping union

place a cap.

cover the flare mouth with tape to keep dirt or water

1) Protect the open end of the pipe against dust and moisture. 2) All pipe bends should be as gentle as possible. Use a pipe bender for bending. 2. Selection of copper and heat insulation materials. When using commercial copper pipes and fittings, observe the following:

Heat transfer rate: 0.041 to 0.052W/mK (0.035 to 0.045kcal/(mh • °C))

Refrigerant gas pipe's surface temperature reaches 110°C max.

Choose heat insulation materials that will withstand this temperature

Insulation material: Polyethylene foam

Cautions on pipe handling.

OUTDOOR UNIT 2) Be sure to insulate both the gas and liquid piping and to provide insulation dimensions as below. Piping size Minimum bend radius Piping thickness Thermal insulation Inermal insulation size thickness

O.D. 9.5mm (3/8 inch) 30mm or more (0.8mm (C1220T-O) I.D. 14-16mm (D.D. 15.9mm (5/8 inch)) 50mm or more 1.0mm (C1220T-O) I.D. 16-20mm Gas side 10mm Min. O.D. 6.4mm (1/4 inch) 30mm or more 0.8mm (C1220T-O) I.D. 8-10mm 3) Use separate thermal insulation pipes for gas and liquid

5 PURGING AIR AND CHECKING GAS LEAKAGE · When piping work is completed, it is necessary to evacuate the air with a vacuum pump and check for gas leakage

⚠ WARNING • Do not mix any substance other than the specified refrigerant (R32) into the refrigeration cycle. • When refrigerant gas leaks occur, ventilate the room as soon and as much as possible.

R32, as well as other refrigerants, should always be recovered and never be released directly into the environment

Use a vacuum pump for R32 exclusively. Using the same vacuum pump for different refrigerants may damage

pressure gauge 🔍

 Use tools for R32 exclusively • If using additional refrigerant, perform air purging from the refrigerant pipes and indoor unit using a vacuum pump, then charge additional refrigerant

(High-pressure valve subsequently requires no operation.)

 Use a hexagonal wrench (4mm) to operate the stop valve rod. • All refrigerant pipe joints should be tightened with a torque wrench at the specified tightening torque. 1) Connect projection side of charging hose (which comes from gauge manifold) to gas stop valve's service port

 Do vacuum pumping and make sure that the compound pressure gauge reads – 0.1MPa (– 760 mmHg)*1 4) Close gauge manifold's low-pressure valve (Lo) and stop vacuum pump. (Keep this state for a few minutes to make sure that the compound pressure gauge pointer does not swing back.) *2 5) Remove covers from liquid stop valve and gas stop valve. 6) Turn the liquid stop valve's rod 90 degrees counterclockwise with a hexagonal wrench to open valve.

2) Fully open gauge manifold's low-pressure valve (Lo) and completely close its high-pressure valve (Hi).

Close it after 5 seconds, and check for gas leakage. Using soapy water, check for gas leakage from indoor unit's flare and outdoor unit's flare and valve rods. After the check is complete, wipe all soapy water off.) Disconnect charging hose from gas stop valve's service port, then fully open liquid and gas stop valves.

8) Tighten valve caps and service port caps for the liguid and gas stop valves with a torque wrench at the specified torques. . Pipe length vs. vacuum pump running time Up to 15 m Pipe length

"Pump down" means to collect refrigerant in the outdoor unit

1) Remove the valve cap from liquid stop valve and gas stop valve

Not less than 10 min. Not less than 15 min. Running time 2. If the compound pressure gauge pointer swings back, refrigerant may have water content or a loose pipe joint may exists. Check all pipe joints and retighten nuts as needed, then repeat steps 2) through 4).

6 PUMP DOWN OPERATION

(Do not attempt to turn valve rod beyond its stop.)

When pressing the switch, do not touch the terminal block. It has a high voltage, and touching it could cause electric shock · After closing the liquid stop valve, close the gas stop valve within 3 minutes, then stop the forced cooling operation. In order to protect the environment, be sure to pump down when relocating or disposing of the unit.

2) Carry out forced cooling operation following the method below ■ Using the indoor unit ON/OFF switch Press the indoor unit ON/OFF switch for at least 5 seconds. (The operation will start.)^[1] 3) After 5 to 10 minutes, close the liquid stop valve with a hexagonal wrench. After 2 to 3 minutes, close the gas stop valve and stop forced cooling operation

[1] Forced cooling operation will stop automatically after around 15 minutes. press the indoor unit ON/OFF switch. Gas stop valve — WIRING (2)

Good X Wrong

• When connecting the wires to the terminal block using a single core wire, be sure to perform curling.

• If the stranded wires must be used, make sure to use the round crimp-style terminal for connection to the power Place the round crimp-style terminals on the wires up to the covered part and secure in place.

■ For interconnecting wire connections see INDOOR UNIT , 4 WIRING(1). Observe the notes mentioned below when wiring to the power supply terminal block Precautions to be taken for power supply wiring. 1) Strip the insulation from the wire (20mm).

2) Connect the inter-unit wire between the indoor and outdoor units so that the terminal numbers match. Tighten the terminal screws securely. We recommend a flathead screwdriver be used to tighten the screws.

Then fix the wire in place with a wire stop.



TRIAL OPERATION AND TESTING 1-1 Measure the supply voltage and make sure that it is within the specified range.

1-2 Trial operation should be carried out in either COOL or HEAT operation. In COOL operation, select the lowest programmable temperature; in HEAT operation, select the highest programmable

1-3 Carry out the trial operation in accordance with the operation manual to ensure that all functions and parts, such as flaps movement, are working properly.

• For protection, the system disables restart operation for 3 minutes after it is turned off. • When trial operation is conducted in the HEAT operation directly after the circuit breaker is turned on,

in some cases no air will be output for about 3 to 15 minutes in order to protect the air conditione

1-4 After trial operation is complete, set the temperature to a normal level (26°C to 28°C in COOL operation, 20°C to 24°C

in HEAT operation). When operating the air conditioner in COOL operation in winter or HEAT operation in summer, set it to the trial operation mode using the following method. Trial operation from remote controller

1) Press both of 🏫 , 🕮 button and 🕦 button at the same time.

2) Press either of button and select "T".

4) Press (start forced cooling operation.) 5) Trial operation will stop automatically after 30 minutes approximately. To stop trial operation, press 🔳 button. Some of functions are not available during trial operation mode.

• The air conditioner draws a small amount of power in its standby mode. If the system is not to be used for some time after installation, shut off the circuit breaker to eliminate unnecessary power consumption. · If the circuit breaker trips to shut off the power to the air conditioner, the system will restore the original operation mode when the circuit breaker is opened again

No refrigerant gas leaks. Incomplete cooling/heating function Refrigerant gas and liquid pipes and indoor drain hose extension | | Water leakage are thermally insulated. Draining line is properly installed Water leakage System is properly earthed. Electrical leakage he specified wires are used for interconnecting wire connections. Inoperative or burn damage ndoor or outdoor unit's air intake or exhaust has clear path of air. Incomplete cooling/heating function Stop valves are opened. Indoor unit properly receives remote controller commands. Inoperative

Test items

Test items

ON/OFF switch Liquid stop valve

İ 使用本機前請仔細閱讀本說明書中的注意事項

文中描述的注意事項分為「警告」及「注意」兩大類。

「警告」及「注意」事項的含義。

本說明書中的安全標記有以下含義:

孙 務必遵照說明。

│ ⚠ 注意

二者均包含重要安全資訊。請務必遵循所有注意事項。

若不確實遵循這些指示,可能導致人身傷害甚至死亡。

• 請根據本安裝說明書中的說明安裝空調。安裝不當會有漏水、觸電或火災的危險。

• 電氣作業必須根據相關的地方和國家法規以及本安裝說明書中的說明執行

務必使用長度適中的電線。切勿使用抽頭線或延長線,否則可能引起過熱、觸電或火災

• 確保所有線路固定,使用指定電線,並且接線端子或電線上沒有受到拉力。

● 接好機器間與電源配線後,請務必整理好電線,以防對電氣蓋或蓋板施壓

冷媒回路中如有空氣或其他異物,會導致壓力異常升高,進而可能造成設備損壞,甚至是人身傷害。

如果房間裡有冷媒氣體洩漏並遇到火源(如暖風扇、火爐或爐灶),可能會產生有毒氣體

務必使用專用的電源迴路。若電源迴路負載量不足或施工不當,可能會引起觸電或火災。

• 務必使用專用的電源迴路。切勿與其它電器共用電源

請在電線上方加裝蓋板。蓋板安裝不當可能會導致端子過熱、觸電或火災。

電線連接或固定不當可能造成異常熱聚積或火災。

• 安裝高度必須離地板 1.8m 以上

冷媒遇火會產生有毒氣體

・請務必將空調機接地・

請勿刺穿或燃燒。

符合國家瓦斯法規。

請小心,冷媒可能不會散發異味。

控制盒蓋定位不當可能會引起觸電、火災或端子過熱。

安裝中如有冷媒氣體洩漏,請立即通風。

• 全部安裝完畢之後,請檢查有無冷媒氣體洩漏

• 抽空冷媒時,應在拆下冷媒管之前停止壓縮機運轉

• 在安裝過程中,啟動壓縮機運轉之前應牢牢固定冷媒管。

務必安裝漏電斷路器。若不安裝漏電斷路器,可能導致觸電或火災。

若室內機回收使用舊的擴口接管,必須重新製作擴口部分。

○ • 切勿將空調機安裝在可能有易燃氣體洩漏的任何地方

萬一遇到瓦斯洩漏,聚積在空調機周圍的氣體可能引發火災。

• 切勿使用非製造商建議的方法來加速除霜或清洗。

切勿將本機接地至公用設施管路、避雷針或電話地線。接地不當可能導致觸電

若不確實遵循這些指示,可能導致財物損壞或人身傷害,嚴重程度視情況而異。

安裝完成後,請進行運轉測試以檢查有無異常,並向客戶解釋如何參照使用說明書來使用及保養空調機

■ 請經銷商或專業人員實施安裝作業。切勿嘗試擅自安裝空調機。安裝不當會有漏水、觸電或火災的危險

應將空調機安裝在足以承受其重量的堅固基座上。若基座強度不夠,可能導致空調機掉落及人員受傷

●務必使用指定的配件及零件進行安裝作業。若不使用指定零件,可能有空調機掉落、漏水、觸電或火災的危險

● 當進行電源佈線以及連接室內機與室外機之間的配線時,應將電線定位以使控制盒蓋能夠關緊

• 當安裝或移動空調機時,請務必放掉冷媒回路的空氣,以確保回路中沒有氣體,並且僅使用指定的冷媒 (R32)。

在抽空過程中,若壓縮機仍在運轉且止流閥打開,則拆除冷媒管時會吸入空氣,導致冷媒循環壓力異常,進而造成設備受損甚至人身傷害

• 本電器必須存放在沒有持續操作點火來源(例如:明火、操作中的瓦斯電器或操作中的電暖爐)的房間內

• 本電器必須安裝、操作及存放於地面面積大於 1.9m² 機型 FTHF40/50/60, 2.1m² 機型 FTHF71 的房間內

若壓縮機未固定且止流閥打開,則壓縮機運轉時會吸入空氣,導致冷媒循環壓力異常,進而造成設備受損甚至人身傷害

如果用於安裝裝置的房間的地板面積小於指定的最小值,請將其安裝在通風良好的房間內

• 請根據本安裝說明書中的指示安裝排水管,以確保排水通暢,並做好配管隔熱,以防出現冷凝現象

務必接地。

3P620953-3A M20N046

本機充填 R32 冷媒

FTHF40VVLT FTHF50VVLT FTHF60VVLT FTHF71VVLT

(\) 切勿嘗試



2. 拆卸及安裝前格柵

1) 拆下前蓋板及空氣濾網。

2) 拆下前格柵固定螺絲。(3 根螺絲)

用另一隻手的手指向下按掛鉤。

用一隻手朝自己的方向輕拉前格柵

3) 在前格柵 ○○○ 標記處的前方有 3 個上部掛鉤。

• 拆卸方法

 注意 • 務必採取適當措施,防止室外機變成小動物的巢穴。 若小動物與電氣零件接觸,可能導致故障、冒煙或火災。請叮嚀客戶保持室外機周圍清潔

• 用指定方法(例如使用扭矩扳手)旋緊油管螺帽



000 標記區(3處)

→上部掛鉤

3. 如何設定不同位址

機運轉開 / 關。

更改其中一台室內機的位址設定。

切斷跳線時應小心不要傷及周圍任何零件

(室內機運轉指示燈將閃爍大約1分鐘。)

4) 在運轉指示燈閃爍的同時,按下室內

• 如果在運轉指示燈閃爍期間無法完

• 設定完成後,按 🕶 約 5 秒使

成設定,請從頭重新設定一次。

遙控器回到先前顯示狀態。

1) 取下遙控器電池蓋,切斷位址跳線。

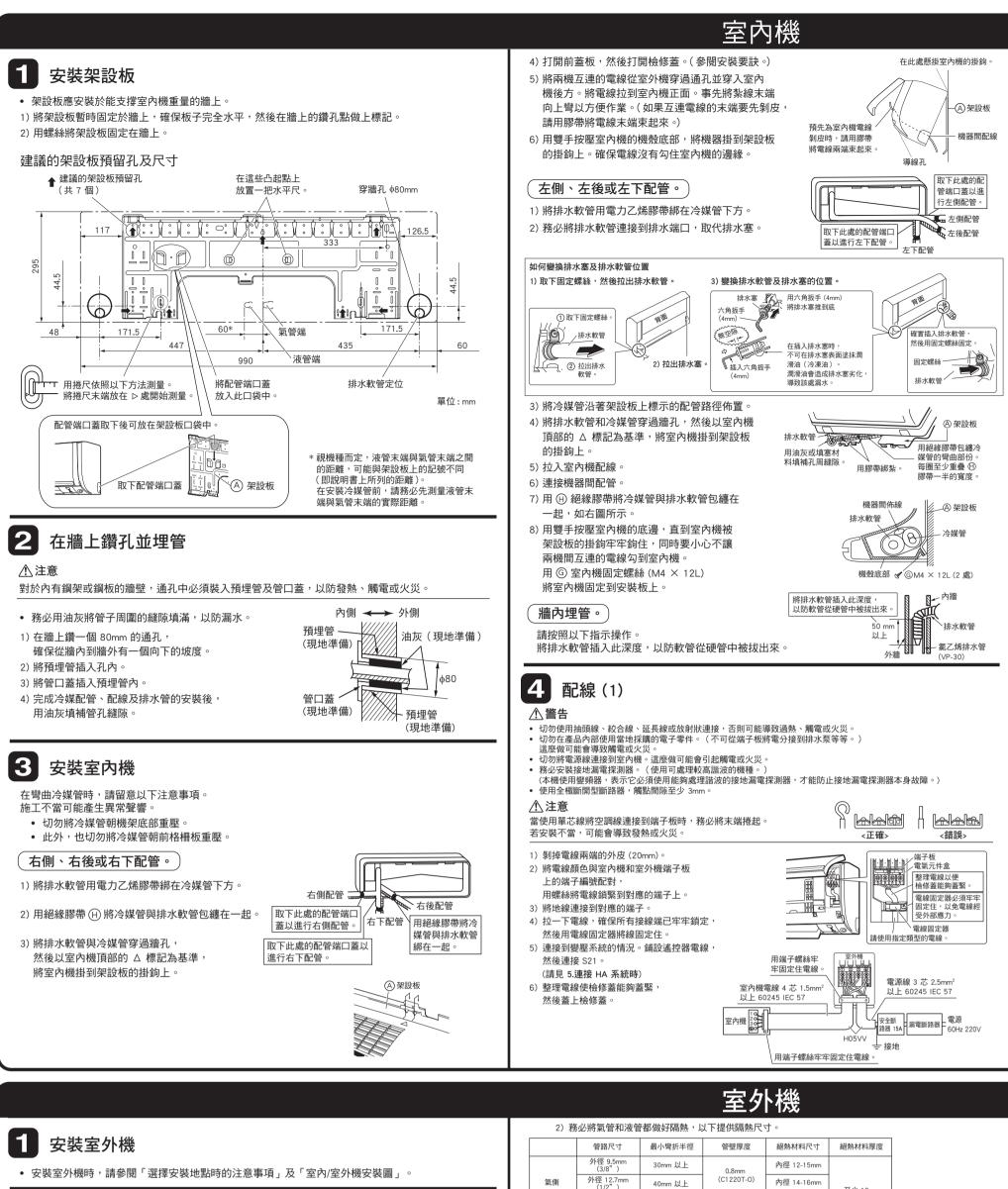
3)按 🧘 , 選擇 🖁 , 按 🐽 。

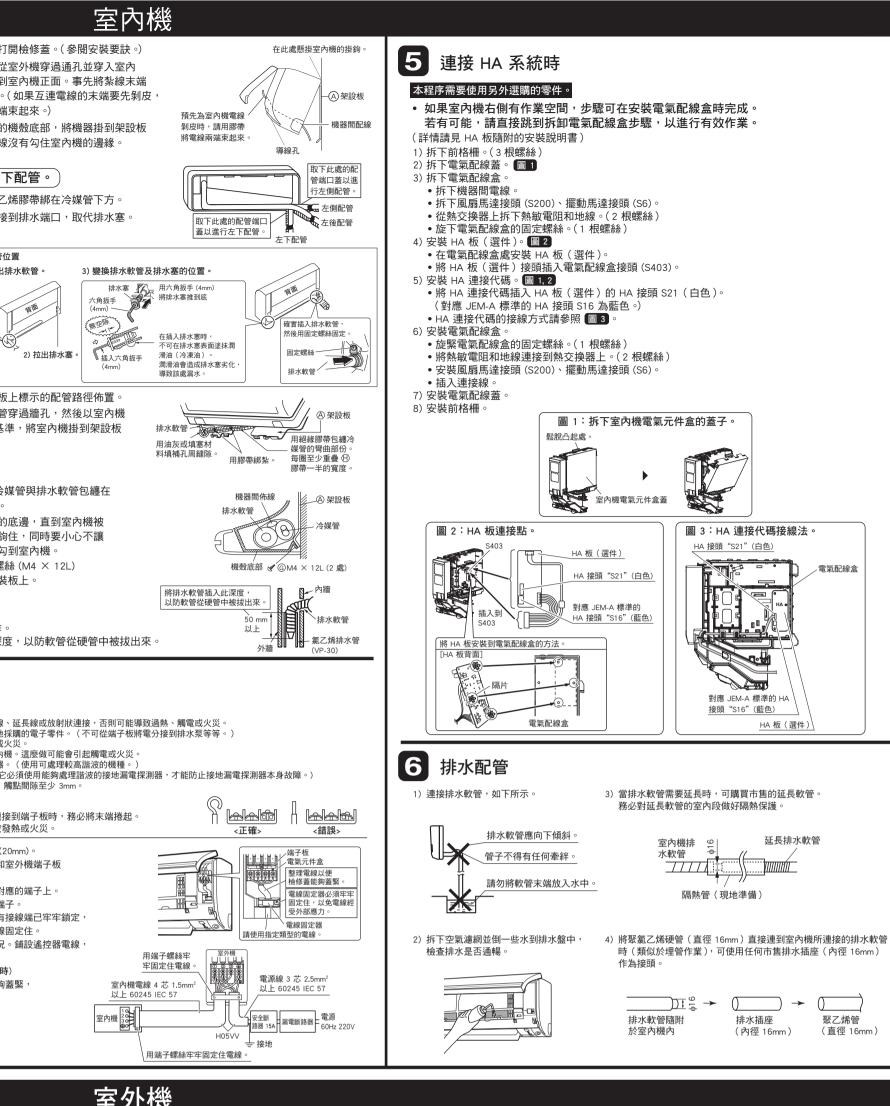
當兩台室內機安裝在同一個房間時,兩個無線遙控器可以設定為不同位址。

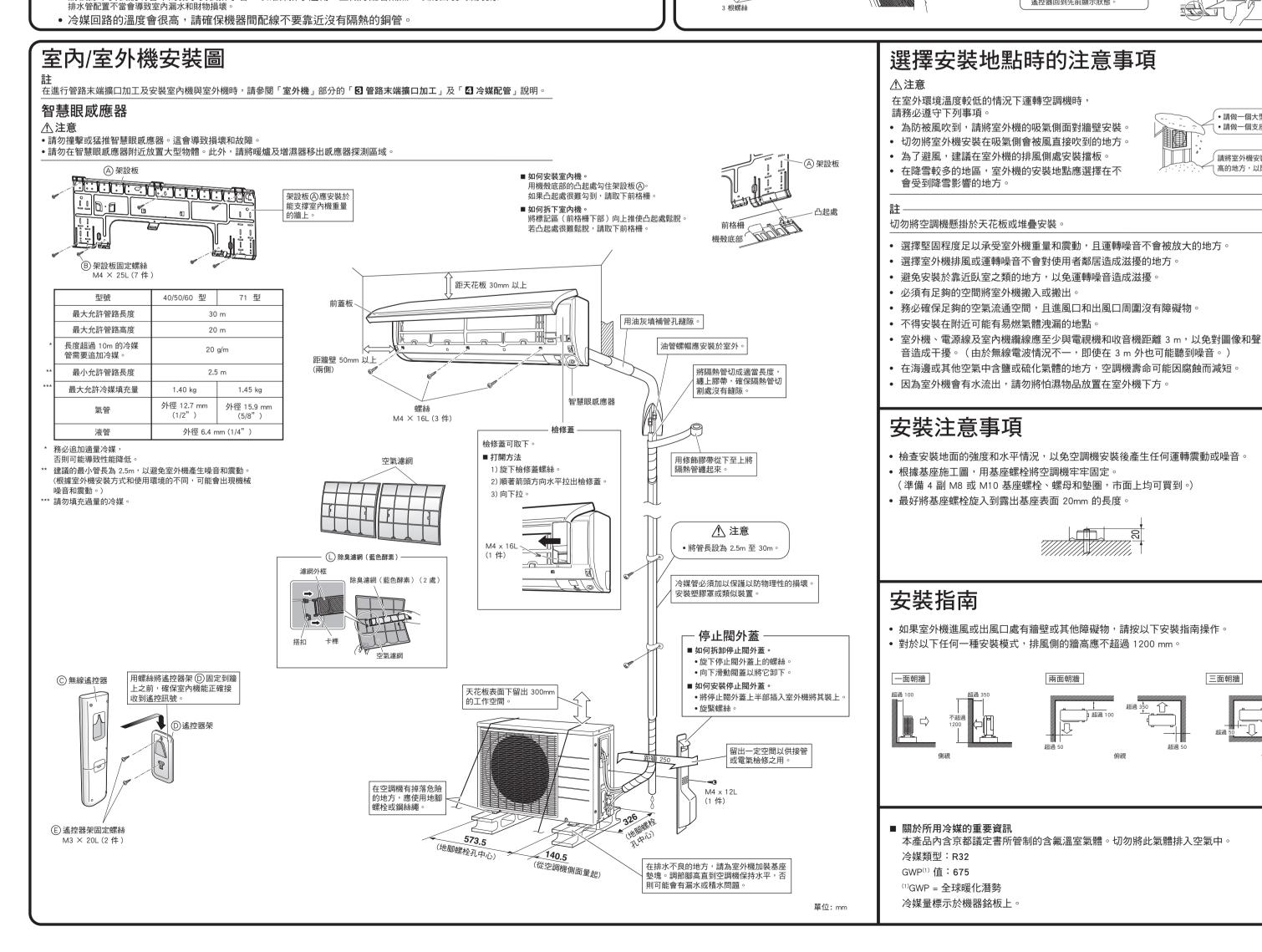
- 運轉指示燈

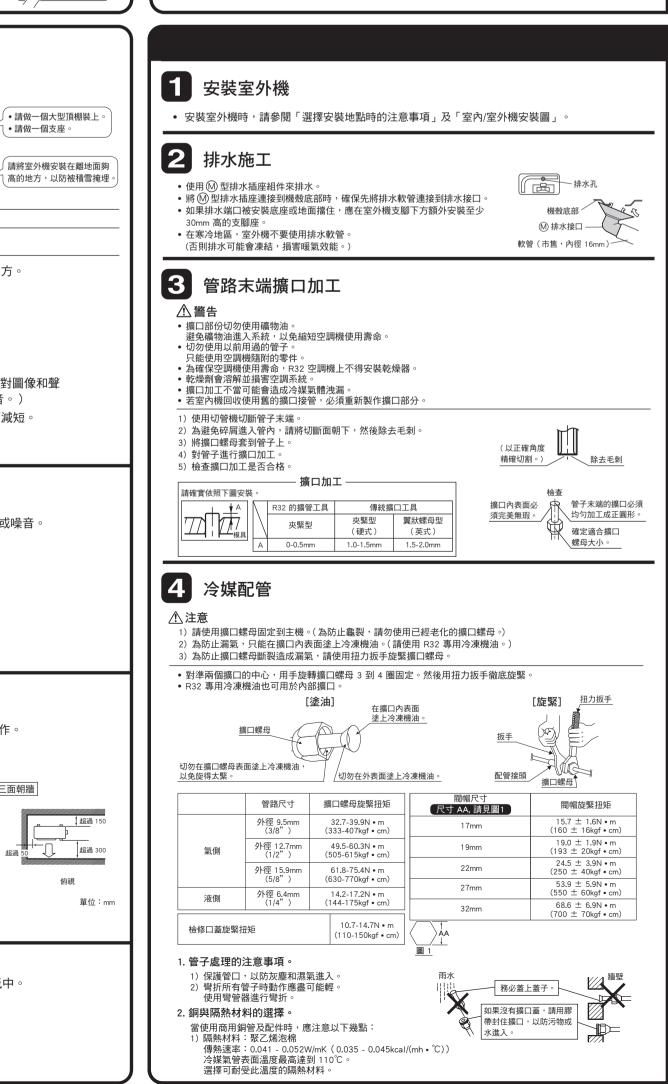
——//—— 開/關

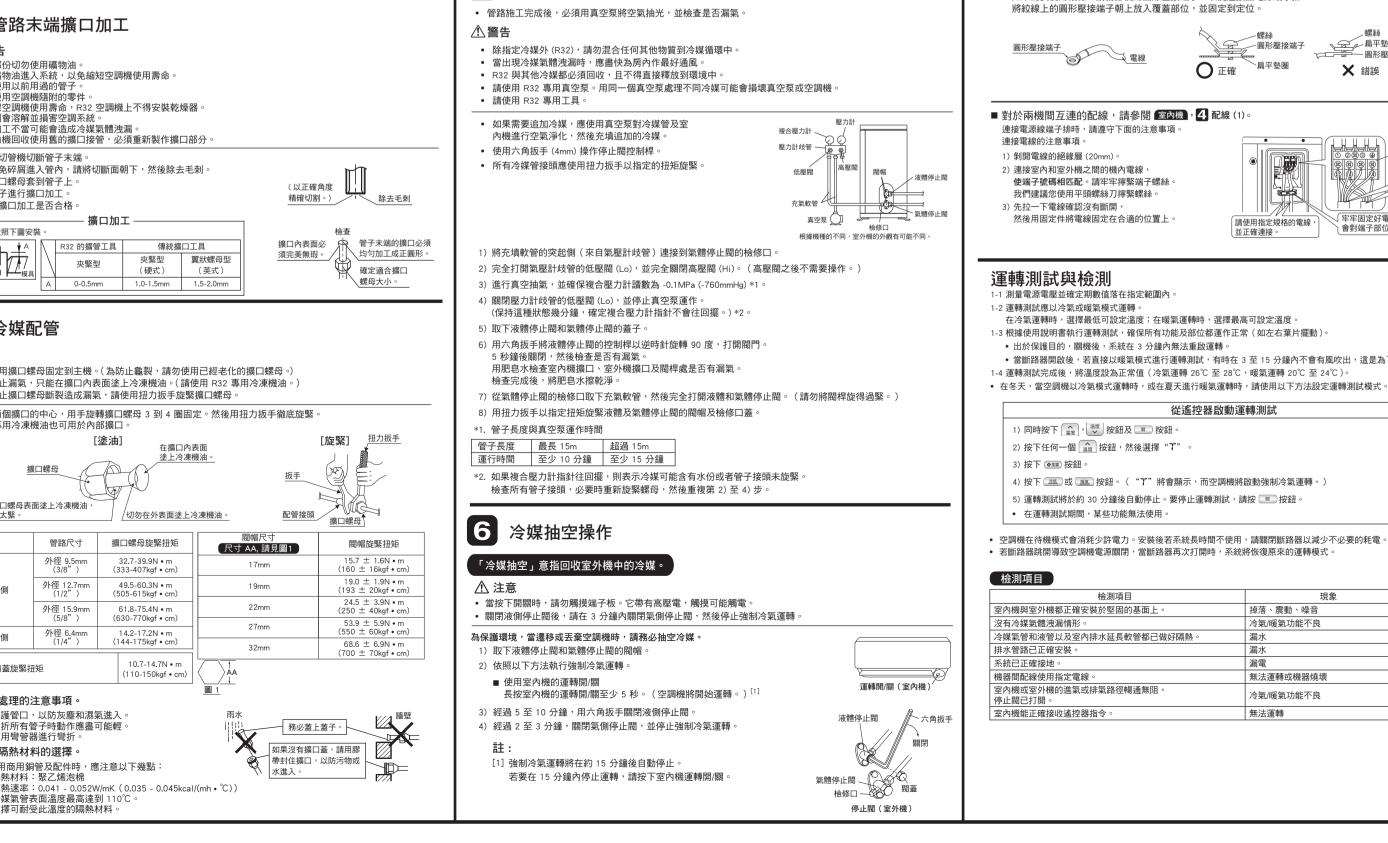
請做一個支座。











40mm 以上

50mm 以上

3) 氣體和液體冷媒管應使用不同的隔熱管。

外徑 6.4mm (1/4") 30mm 以上 0.8mm (C1220T-O) 內徑 8-10mm

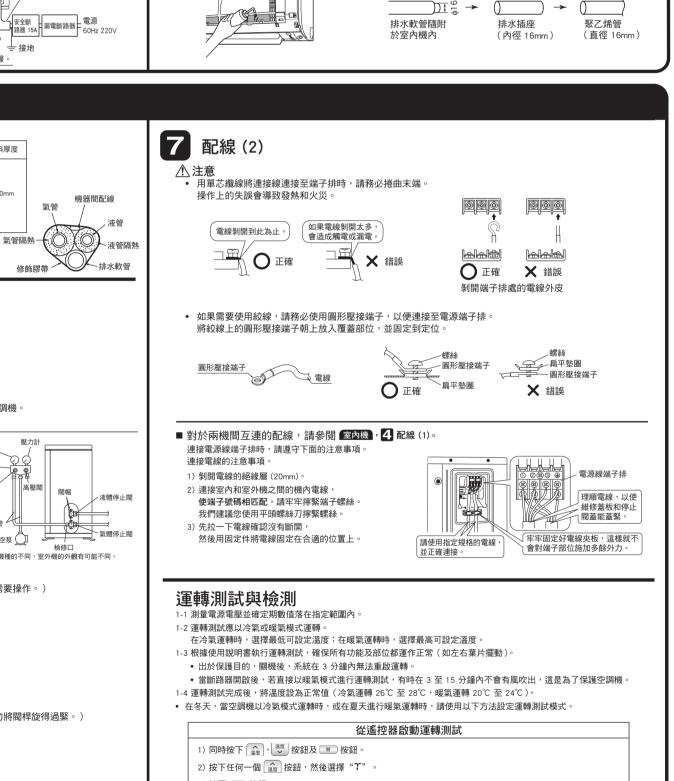
1.0mm (C1220T-O) 內徑 16-20mm

外徑 15.9mm

5 淨化空氣與檢查漏氣

至少 10mm

修飾膠帶/



掉落、震動、噪音

冷氣/暖氣功能不且

無法運轉或機器燒壞

冷氣/暖氣功能不良

無法運轉