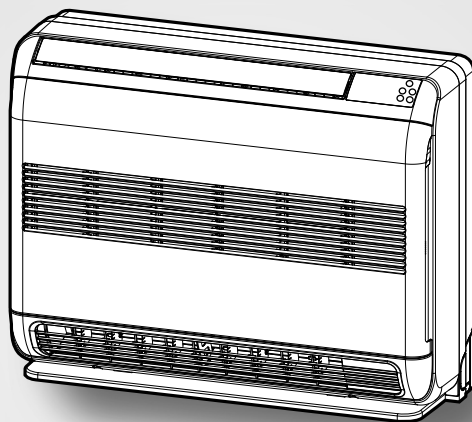


TOSHIBA

R32

INVERTER

INSTALLATION MANUAL
AIR CONDITIONER (SPLIT TYPE)



Indoor unit
RAS-B10, 13, 18U2FVG-E



1112151199

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PRECAUTIONS FOR SAFETY



Read the precautions in this manual carefully before operating the unit.



This appliance is filled with R32.

- Before installation, please read these precautions for safety carefully.
- Be sure to follow the precautions provided here to avoid safety risks. The symbols and their meanings are shown below.

WARNING : It indicates that incorrect use of this unit may cause severe injury or death.

CAUTION : It indicates that incorrect use of this unit may cause personal injury (*1), or property damage (*2).

*1: Personal injury means a slight accident, burn, or electrical shock which does not require admission or repeated hospital treatment.

*2: Property damage means greater damage which affects assets or resources.

For general public use

Power supply cord and connecting cable of appliance use shall be at least polychloroprene sheathed flexible cord (design H07RN-F) or cord designation 60245 IEC66. (Shall be installed in accordance with national wiring regulations.)

CAUTION To disconnect the appliance from the main power supply

This appliance must be connected to the main power supply by means of a circuit breaker or a switch with a contact separation of at least 3 mm in all poles.

DANGER

- FOR USE BY QUALIFIED PERSONS ONLY.
- TURN OFF MAIN POWER SUPPLY BEFORE ATTEMPTING ANY ELECTRICAL WORK. MAKE SURE ALL POWER SWITCHES ARE OFF. FAILURE TO DO SO MAY CAUSE ELECTRIC SHOCK.
- CONNECT THE CONNECTING CABLE CORRECTLY. IF THE CONNECTING CABLE IS CONNECTED WRONGLY, ELECTRIC PARTS MAY BE DAMAGED.
- CHECK THE EARTH WIRE THAT IT IS NOT BROKEN OR DISCONNECTED BEFORE INSTALLATION.
- DO NOT INSTALL NEAR CONCENTRATIONS OF COMBUSTIBLE GAS OR GAS VAPORS. FAILURE TO FOLLOW THIS INSTRUCTION CAN RESULT IN FIRE OR EXPLOSION.

- TO PREVENT OVERHEATING THE INDOOR UNIT AND CAUSING A FIRE HAZARD, PLACE THE UNIT WELL AWAY (MORE THAN 2 M) FROM HEAT SOURCES SUCH AS RADIATORS, HEATERS, FURNACE, STOVES, ETC.
- WHEN MOVING THE AIR CONDITIONER FOR INSTALLING IT IN ANOTHER PLACE AGAIN, BE VERY CAREFUL NOT TO GET THE SPECIFIED REFRIGERANT (R32) WITH ANY OTHER GASEOUS BODY INTO THE REFRIGERATION CYCLE. IF AIR OR ANY OTHER GAS IS MIXED IN THE REFRIGERANT, THE GAS PRESSURE IN THE REFRIGERATION CYCLE BECOMES ABNORMALLY HIGH AND IT RESULTINGLY CAUSES BURST OF THE PIPE AND INJURIES ON PERSONS.
- IN THE EVENT THAT THE REFRIGERANT GAS LEAKS OUT OF THE PIPE DURING THE INSTALLATION WORK, IMMEDIATELY LET FRESH AIR INTO THE ROOM. IF THE REFRIGERANT GAS IS HEATED BY FIRE OR SOMETHING ELSE, IT CAUSES GENERATION OF POISONOUS GAS.

WARNING

- Never modify this unit by removing any of the safety guards or bypassing any of the safety interlock switches.
- Do not install in a place which cannot bear the weight of the unit. Personal injury and property damage can result if the unit falls.
- Before doing the electrical work, attach an approved plug to the power supply cord.
Also, make sure the equipment is properly earthed.
- Appliance shall be installed in accordance with national wiring regulations. If you detect any damage, do not install the unit. Contact your dealer immediately.
- Do not use any refrigerant different from the one specified for complement or replacement.
Otherwise, abnormally high pressure may be generated in the refrigeration cycle, which may result in a failure or explosion of the product or an injury to your body.
- Do not use means to accelerate the defrosting process or to clean, other than those recommended by the manufacturer.
- 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).
- Be aware that refrigerants may not contain an odour.
- Do not pierce or burn as the appliance is pressurized. Do not expose the appliance to heat, flame, sparks, or other sources or ignition. Else, it may explode and cause injury or death.

- For R32 model, use pipes, flare nut and tools which is specified for R32 refrigerant. Using of existing (R22) piping, flare nut and tools may cause abnormally high pressure in the refrigerant cycle (piping), and possibly result in explosion and injury.
- Thickness of copper pipes used R32 must be more than 0.8 mm. Never use copper pipes thinner than 0.8 mm.
- Do not perform flare connection inside a building or dwelling or room, when joining the heat exchanger of indoor unit with interconnection piping. Refrigerant connection inside a building or dwelling or room must be made by brazing or welding. Joint connection of indoor unit by flaring method can only be made at outdoor or at outside of building or dwelling or room. Flare connection may cause gas leak and flammable atmosphere.
- After completion of installation or service, confirm there is no leakage of refrigerant gas. It may generate toxic gas when the refrigerant contacts with fire.
- Appliance and pipe-work shall be installed, operated and stored in a room with a floor area larger than A_{\min} m².
How to get A_{\min} m² : $A_{\min} = (M / (2.5 \times 0.22759 \times h_0))^2$
M is the refrigerant charge amount in appliance in kg. h_0 is the installation height of the appliance in m: 0.6 m for floor standing/1.8 m for wall mounted/1.0 m for window mounted/2.2 m for ceiling mounted (For these units recommend installation height 1.0 m or less.).
- Comply with national gas regulations.

CAUTION

- Exposure of unit to water or other moisture before installation could result in electric shock.
Do not store it in a wet basement or expose to rain or water.
- After unpacking the unit, examine it carefully for possible damage.
- Do not install the unit at place where leakage of flammable gas may occur. In case gas leaks and accumulates at surrounding of the unit, it may cause of fire.
- Do not install in a place that can increase the vibration of the unit. Do not install in a place that can amplify the noise level of the unit or where noise and discharged air might disturb neighbors.
- To avoid personal injury, be careful when handling parts with sharp edges.
- Please read this installation manual carefully before installing the unit. It contains further important instructions for proper installation.
- The manufacturer shall not assume any liability for the damage caused by not observing the description of this manual.

REQUIREMENT OF REPORT TO THE LOCAL POWER SUPPLIER

Please make absolutely sure that the installation of this appliance is reported to the local power supplier before installation. If you experience any problems or if the installation is not accepted by the supplier, the service agency will take adequate countermeasures.

■ **Important information regarding the refrigerant used**

This product contains fluorinated greenhouse gases.

Do not vent gases into the atmosphere.

Refrigerant type: **R32**











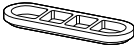



GWP⁽¹⁾ value: **675** * (ex. R32 ref. AR4)

⁽¹⁾GWP = global warming potential

The refrigerant quantity is indicated on the unit name plate.

* This value is based on F gas regulation 517/2014.

ACCESSORY PARTS

ACCESSORY AND INSTALLATION PARTS			
No.	Parts name (Q'ty)	No.	Parts name (Q'ty)
①	 Installation plate* x 1	②	 Wireless remote control* x 1
③	 Battery x 2	④	 Remote control holder* x 1
⑤	 Filter**	⑥	 Filter**
⑦	 Mounting screw** $\varnothing 4 \times 25 \ell \times 8$	⑧	 Pan head wood screw $\varnothing 3.1 \times 16 \ell \times 2$
⑨	 Insulation sheet x 1 (for some models only)	⑩	 Drain nipple*** x 1 (for heating model only)
⑪	 Cap water proof*** x 2 (for some models only)	⑫	 Owner's Manual
⑬	 Installation Manual	⑭	 B Label x 2 (for Multi model)

* The part may differ from that shown.

** The number of parts may differ by model.

*** The part is packed with the outdoor unit.

Air filters

Clean every 2 weeks.

1. Open the air inlet grille.
2. Remove the air filters.
3. Vacuum or wash and then dry them.
4. Reinstall the air filters and close the air inlet grille.

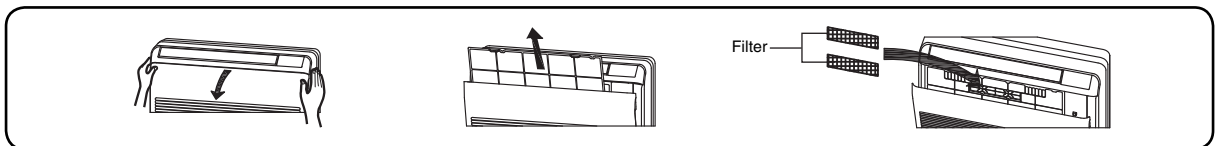
Filter

Maintenance & Shelf-life

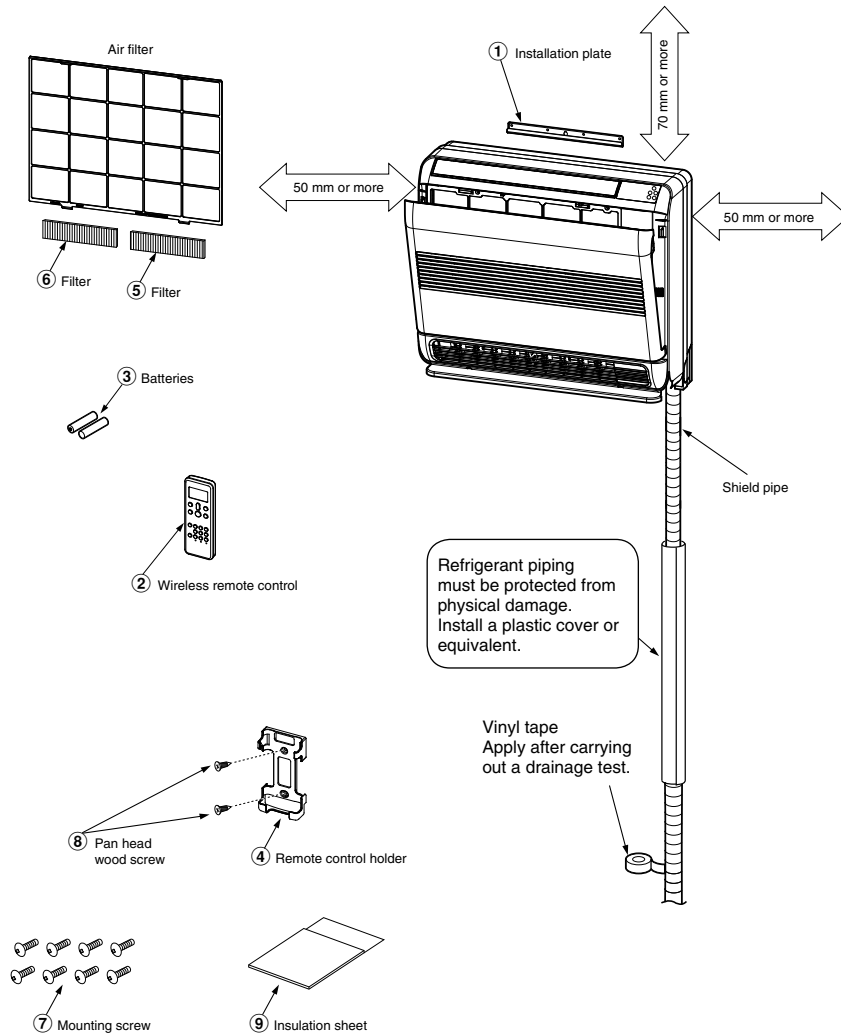
Clean every 3-6 months when dust tuck or covers the filter.

1. Recommend to use vacuum to clean by sucking the dusts which stick or dip inside the filter or use the blower to blow the dust go out through the filter.
2. If necessary to use water to clean, simply use the plain water to wash the filter, dry with the sunlight for 3-4 hours or until it completely dry. Nevertheless, use hair dryer to dry it. However, washing with water, it may reduce the performance of the filter.
3. Replace every 2 years or sooner. (contact your dealer to purchase new filter) (P/N : RB-A620DE)

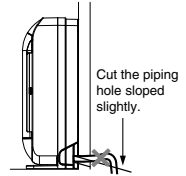
Note: Filter life depends on the level of impurities in your operating environment. Higher levels of impurities may require more frequent cleaning and replacement. In all cases, we recommend an additional set of filters to improve the purifying and deodorizing performance of your air conditioner.



INSTALLATION DIAGRAM OF INDOOR UNIT

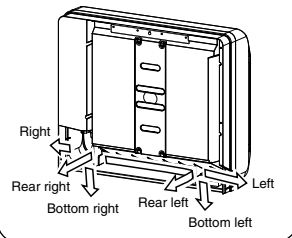


Do not allow the drain hose to get slack.

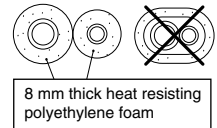


Make sure to run the drain hose sloped downward.

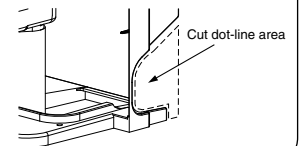
The auxiliary piping can be connected to the left, rear left, rear right, right, bottom right or bottom left.



Insulate the refrigerant pipes separately with insulation, not together.



In case of right or left piping



Optional Installation Parts

Part code	Parts name	Q'ty
A	Refrigerant piping Liquid side : $\varnothing 6.35$ mm Gas side : $\varnothing 9.52$ mm (RAS-B10, 13U2FVG-E) : $\varnothing 12.7$ mm (RAS-B18U2FVG-E)	One each
B	Pipe insulating material (polyethylene foam, 8 mm thick)	1
C	Putty, PVC tapes	One each

INDOOR UNIT

Installation Place

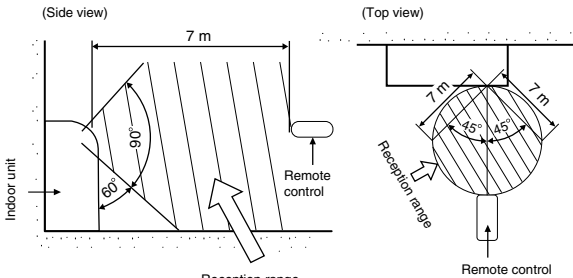
- A place which provides the spaces around the indoor unit as shown in the diagram.
- A place where there are no obstacles near the air inlet and outlet.
- A place which allows easy installation of the piping to the outdoor unit.
- A place which allows the front panel to be opened.

CAUTION

- Direct sunlight to the indoor unit's wireless receiver should be avoided.
- The microprocessor in the indoor unit should not be too close to RF noise sources.
(For details, see the owner's manual)

Remote control

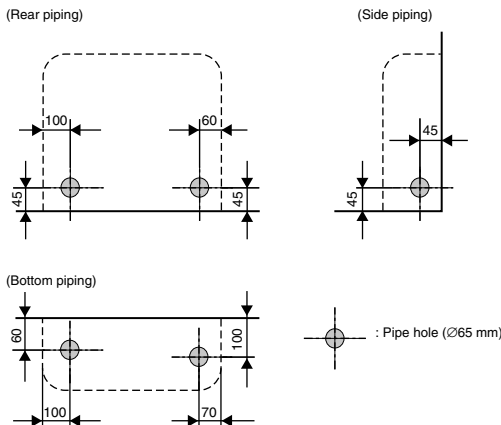
- A place where there are no obstacles such as a curtain that may block the signal from the remote control.
- Do not install the remote control in a place exposed to direct sunlight or close to a heating source such as a stove.
- Keep the remote control at least 1 m apart from the nearest TV set or stereo equipment (This is necessary to prevent image disturbances or noise interference).
- The location of the remote control should be determined as shown below.



*: Axial distance

Cutting a Hole and Mounting Installation Plate

Cutting a hole

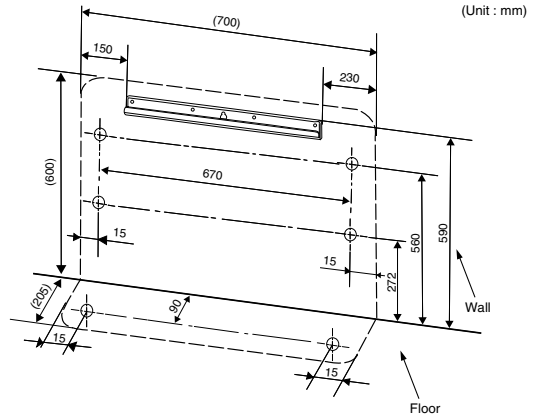


1. After determining the pipe hole position, drill the pipe hole ($\varnothing 65$ mm) at a slight downward slant to the outdoor side.

NOTE

- When drilling a wall that contains a metal lath, wire lath or metal plate, be sure to use a pipe hole brim ring sold separately.

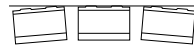
Mounting the installation plate and screw position



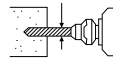
When the installation plate is directly mounted on the wall

1. Securely fit the installation plate onto the wall by screwing it in the upper and lower parts to hook up the indoor unit.
2. To mount the installation plate on a concrete wall with anchor bolts, use the anchor bolt holes as illustrated in the below figure.
3. Install the installation plate horizontally in the wall.

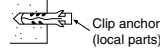
Installation plate
(Keep horizontal direction)



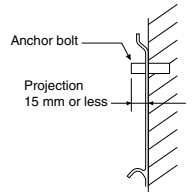
$\varnothing 5$ mm hole



Mounting screw
 $\varnothing 4$ mm x 25 l



Clip anchor
(local parts)



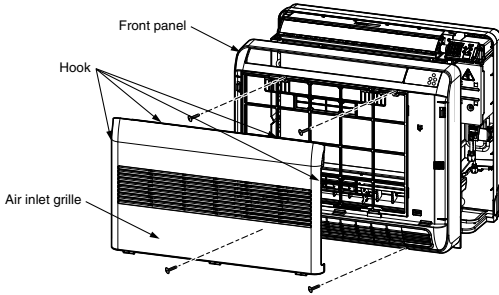
CAUTION

Failure to firmly install the unit may result in personal injury and property damage if the unit falls.

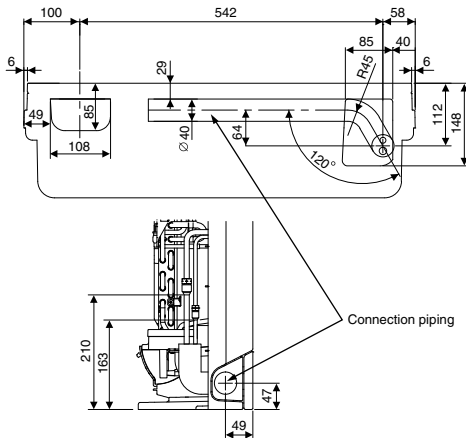
- In case of block, brick, concrete or similar type walls, make $\varnothing 5$ mm holes in the wall.
- Insert clip anchors for appropriate mounting screws (7).

How to Install Indoor Unit

1. Remove the air inlet grille. Open the air inlet grille and remove the strap.
2. Remove the front panel (Remove the 4 screws).

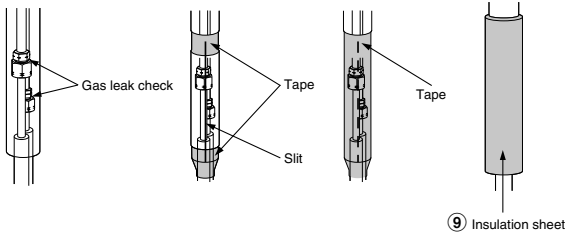


Layout of connection piping



Treatment of piping connection

- 1) Check the flare nut connections for the gas leak with a gas leak detector or soap water.
- 2) To prevent gap in slit, fasten top and bottom with tape.
- 3) Slit is covered with tape.
- 4) Fasten with supplied insulate sheet to prevent gap on the top of slit.

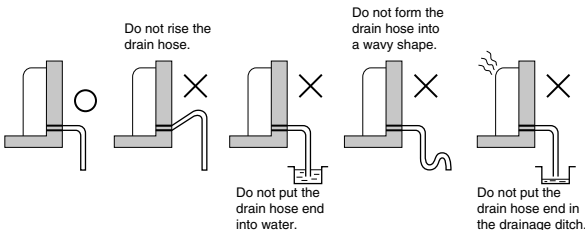


Drainage

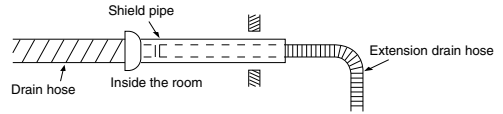
1. Run the drain hose sloped downwards.

NOTE

- The hole should be made at a slight downward slant on the outdoor side.



2. Put water in the drain pan and make sure that the water is drained out of doors.
3. When connecting extension drain hose, insulate the connecting part of extension drain hose with shield pipe.



CAUTION

Arrange the drain pipe for proper drainage from the unit. Improper drainage can result in dew-dropping.

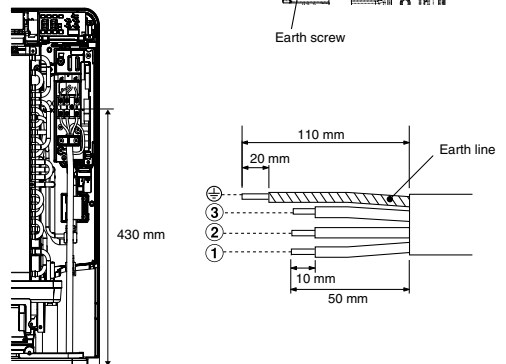
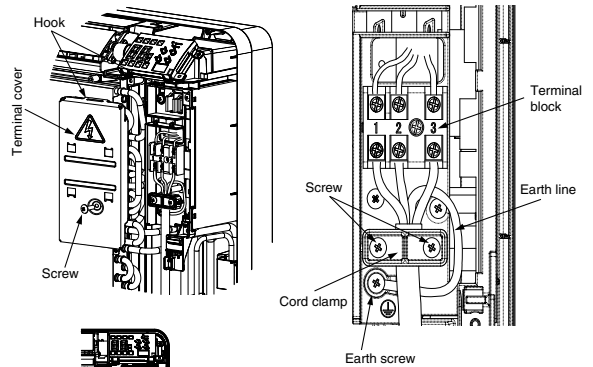
Wiring connection

Wiring of the connection cable is necessary to remove the front panel.

1. Remove the terminal cover and cord clamp.
2. Insert the connecting cable (according to the local rule) into the pipe hole on the wall.
3. Take out the connecting cable through the cable slot on the rear panel so that it protrudes about 50 cm from the front.
4. Insert the connecting cable fully into the terminal block and secure it tightly with screws.
5. Tightening torque : 1.2 N·m (0.12 kgf·m)
6. Secure the connecting cable with the cord clamp.
7. Fix the terminal cover, install the front panel and grille inlet.

CAUTION

- Be sure to refer to the wiring system diagram labeled inside the front panel.
- Check local electrical cords and also any specific wiring instructions or limitations.



Stripping length of the connecting cable

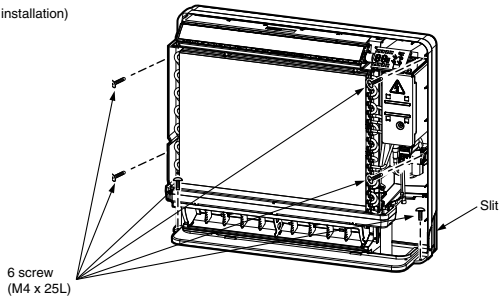
NOTE

- Use stranded wire only.
- Wire type : H07RN-F or 60245 IEC66 (1.0 mm² or more)

Mounting directly on the floor.

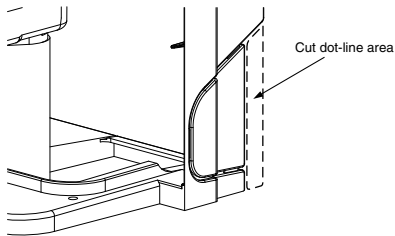
- 1) Fix the leg of indoor unit on the floor with 2 mounting screws.
- 2) Fix the upper part of indoor unit on the wall with 4 mounting screws.

(Floor installation)



NOTE

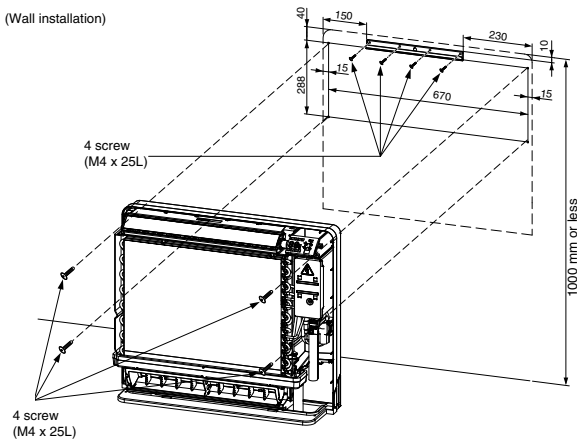
- In case the plinth is fixed to the wall, please make sure to cut out the slit on the left and right side of the main part.



Installation on the wall

- 1) Fix the installation plate on the wall with 4 mounting screws.
- 2) Hook the indoor unit on the installation plate.
- 3) Fix the upper part of indoor unit on the wall with 4 mounting screws.

(Wall installation)



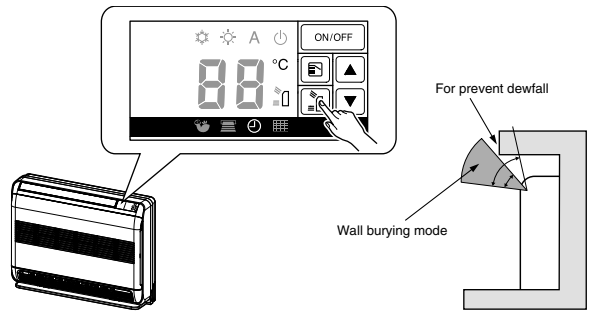
CAUTION

Make sure to fix it at a designated position with the screws.
Failure may result the damage of piping by the turning over of a set.

Concealed Installation

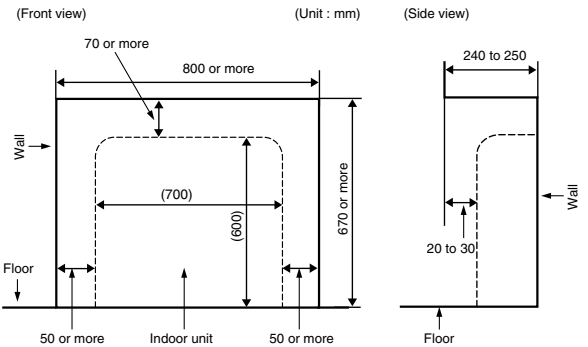
The special method to install the indoor unit bury in the wall is shown here. Please make sure to change to wall burying mode.

1. To switch to the wall burying mode
 - To switch to the wall burying mode, press and hold AIR OUTLET SELECT button for 20 seconds.
 - When the operation set up and 5 beep sounds. Then indication at Temperature indicator will light up for 5 seconds.
 - To cancel, press AIR OUTLET SELECT button for 20 seconds then, 5 beep sounds. Then indication at Temperature indicator will blinks for 5 seconds.
 - To prevent dewfall, above plate angle should be narrow.



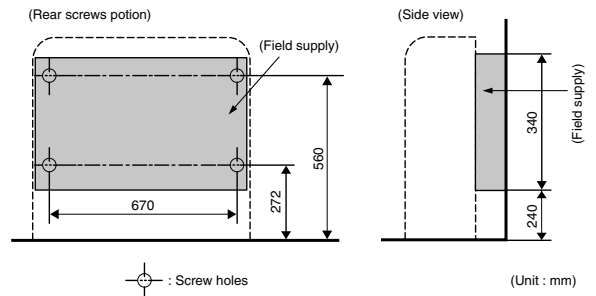
2. Wall hole size

Wall hole size should be enough to keep the distance with indoor unit as shown in the following figure.



3. Installation using the supporting plate

- To install into the existing wall hole, if it is impossible to keep 20-30 mm of depth, use the supporting plate for securing the distance.
- Arrange the screw positions and supporting plate as shown in the figure.
- Be sure to switch to wall burying mode.

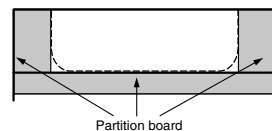


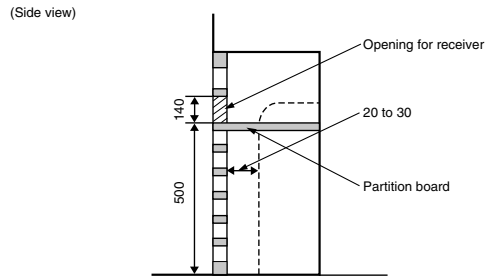
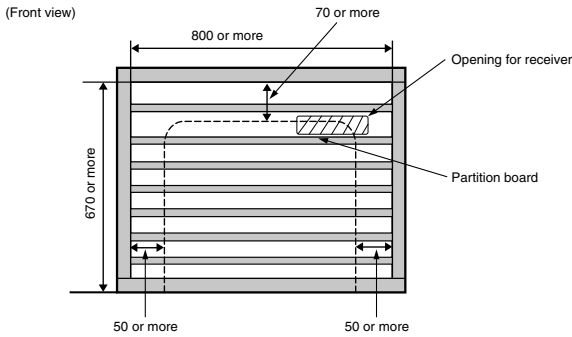
4. In case of lattice establishment

- Follow the following figure, make sure to keep enough distance between lattice, frame and wall.
- Be sure to switch to wall burying mode.
- The lattice should be made of wood.
- Between the air inlet and outlet, should be divided with partition board.
- Be sure to establish the open part for RECEIVER.
- The open part of lattice must be open 70% or more of the wall hole.
- The open part of lattice must be arranged uniformly.

(Top view)

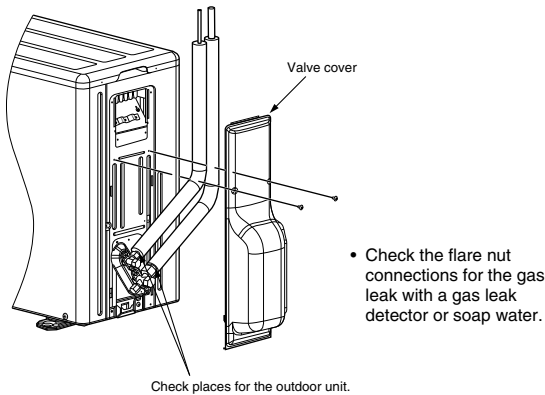
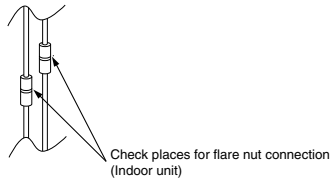
(Unit : mm)



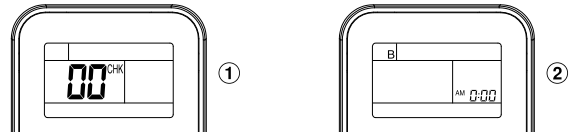


OTHERS

Gas Leak Test



- Note :
1. Repeat above step to reset Remote Control to be A.
 2. Remote Control A has not "A" display.
 3. Default setting of Remote Control from factory is A.

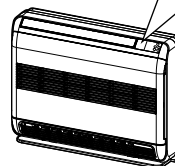
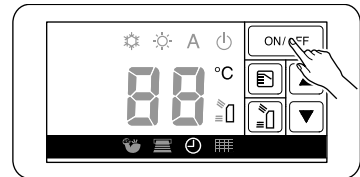


Unit B setup.

- Press and hold MODE button for more than 20 seconds.
 When A setup changed to B setup : 5 beeps will sound and operation lamp blinks for 5 seconds.
 When B setup changed to A setup : 5 beep will sound.

Test Operation

To switch the TEST RUN (COOL) mode, press OPERATION button for 10 seconds (The beeper will make a short beep).



Setting of Remote Control Selector Switch

When two indoor units are installed in the separated rooms, it is not necessary to change the selector switches.

Remote control selector switch

- When two indoor units are installed in the same room or adjacent two rooms, if operating a unit, two units may receive the remote control signal simultaneously and operate. In this case, the operation can be preserved by setting either one indoor unit or remote control to B setting (Both are set to A setting in factory shipment).
- The remote control signal is not received when the settings of indoor unit and remote control are different.
- There is no relation between A setting/B setting and A room/B room when connecting the piping and cables.

Remote Control A-B Selection

To separate using of remote control for each indoor unit in case of 2 air conditioners are installed nearby.

Remote Control B Setup.

1. Push and hold **CHK** button on the Remote Control by the tip of the pencil. "00" will be shown on the display (Picture ①).
2. Press **MODE** during pushing **CHK**. "B" will show on the display and "00" will disappear and the air conditioner will turn OFF. The Remote Control B is memorized (Picture ②).

Auto Restart Setting

This product is designed so that, after a power failure, it can restart automatically in the same operating mode as before the power failure.

Information

The product are shipped with Auto Restart function in the off position. Turn it on as required.

How to set the Auto Restart

1. Press and hold OPERATION button on the indoor unit for 3 seconds to set the operation (3 beep sound and OPERATION lamp blink 5 time/sec for 5 seconds).
2. Press and hold OPERATION button on the indoor unit for 3 seconds to cancel the operation (3 beep sound but OPERATION lamp does not blink).
 - In case of ON timer or OFF timer are set, it dose not activate.

The image features the Toshiba logo in a bold, black, sans-serif font, centered on a white background. The logo is surrounded by several decorative bubbles of varying sizes, each with a soft, gray-to-white gradient and a subtle shadow, giving them a three-dimensional appearance. The bubbles are scattered across the page, with a larger one near the top center and others of various sizes around it. A large, light gray curved shape is visible in the bottom right corner of the page.

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