TOSHIBA

INSTALLATION MANUAL
MANUEL D'INSTALLATION
INSTALLATIONS-HANDBUCH
MANUALE DI INSTALLAZIONE
MANUAL DE INSTALACIÓN
MANUAL DE INSTALAÇÃO
INSTALLATIEHANDLEIDING
ΕΓΧΕΙΡΙΔΙΟ ΕΓΚΑΤΑΣΤΑΣΗΣ

AIR CONDITIONER (SPLIT TYPE)
CLIMATISEUR (TYPE SPLIT)
KLIMAGERÄT (SPLIT-TYP)
CONDIZIONATORE D'ARIA (TIPO SPLIT)
AIRE ACONDICIONADO (TIPO SPLIT)
AR CONDICIONADO (TIPO SPLIT)
AIRCONDITIONER (GESPLITST TYPE)
ΚΛΙΜΑΤΙΣΤΙΚΟ (ΤΥΠΟΣ SPLIT)

Not accessible to the general public
Vente interdite au grand public
Kein öffentlicher Zugang
Non accessibile a clienti generici
No destinado al público en general
Não acessível ao público em geral
Niet geschikt voor huishoudelijk gebruik
Μη διαθέσιμο στο ευρύ κοινό

<4-Way Air Discharge Cassette Type>/<Type cassette à 4 voies de soufflage>
<4-Wege-Belüftungskassette>/<Tipo a cassetta con scarico d'aria a 4 vie>
<Modelo de casete de distribución de aire de 4 vías>/<Descarga de ar tipo cassete de 4 vias>
<Model voor inbouw in plafond met 4 uitblaasopeningen>/<Εκροή αέρα 4-Διευθύνσεων Τύπου Κασέτας>

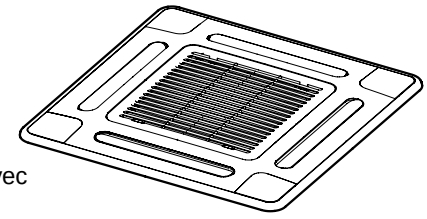
Heat Pump Model/Modθle ü thermopompe
Geräte mit Heizung/Modello con pompa di riscaldamento
Modelo con bomba de calor/Modelo de bomba térmica
Model met warmtepomp/Μοντέλο με Αντλία Θερμότητας

HFC
R410A

Indoor Unit/Unité intérieure	Outdoor Unit/Unité extérieure
Raumeinheit/Unità interna	Außengerät/Unità esterna
Unidad interior/Unidade interior	Unidad exterior/Unidade exterior
Binnenunit/Εσωτερική μονάδα	Buitenunit/Εξωτερική μονάδα

RAV-SM562MUT-E **RAV-SM562AT-E** **SP562AT-E**

Please read this Installation Manual carefully before installing the Air Conditioner.
- This Manual describes the installation method of the indoor unit.
- For installation of the outdoor unit, follow the Installation Manual attached to the outdoor unit.



Veuillez lire attentivement ce Manuel d'installation avant d'installer le climatiseur.
- Ce manuel décrit la procédure d'installation de l'unité intérieure.
- Pour installer l'unité extérieure, reportez-vous au Manuel d'installation fourni avec l'unité extérieure.

Bitte lesen Sie dieses Handbuch sorgfältig, bevor Sie mit der Installation des Klimagerätes beginnen.
- In diesem Handbuch wird die Installation der Raumeinheit beschrieben.
- Um die Außeneinheit zu installieren, folgen Sie den Anweisungen in dem Handbuch, das der Außeneinheit beiliegt.

Prima di installare il condizionatore d'aria, leggere con attenzione questo manuale d'installazione.
- Questo manuale descrive il metodo d'installazione dell'unità interna.
- Per l'installazione dell'unità esterna, fare riferimento al manuale d'installazione fornito insieme all'unità esterna.

Lea atentamente este Manual de instalación antes de proceder a la instalación del aparato de aire acondicionado.
- Este manual describe el método de instalación de la unidad interior.
- Para la instalación de la unidad exterior, consulte el Manual de instalación que acompaña a la unidad exterior.

Leia atentamente o presente Manual de Instalação antes de instalar o Ar Condicionado.
- O presente manual descreve o método de instalar a unidade interior.
- Para a instalação de uma unidade exterior, siga o Manual de Instalação que acompanha a unidade exterior.

Lees deze installatiehandleiding zorgvuldig door voordat u de airconditioner gaat installeren.
- Deze installatiemethode beschrijft de installatiemethode van de binnenunit.
- Zie voor de installatie van de buitenunit, de installatiehandleiding bij de buitenunit.

Παρακαλώ διαβάστε προσεχτικά το Εγχειρίδιο Εγκατάστασης πριν από την εγκατάσταση του Κλιματιστικού.
- Το παρόν Εγχειρίδιο περιγράφει τη μέθοδο εγκατάστασης της εσωτερικής μονάδας.
- Για την εγκατάσταση της εξωτερικής μονάδας, ακολουθήστε το Εγχειρίδιο Εγκατάστασης που συνοδεύει την εξωτερική μονάδα.

ADOPTION OF NEW REFRIGERANT

This Air Conditioner is a new type which adopts a new refrigerant HFC (R410A) instead of the conventional refrigerant R22 in order to prevent destruction of the ozone layer.

UTILISATION DU NOUVEAU REFRIGERANT

Ce climatiseur est d'un type inédit qui utilise le nouveau réfrigérant HFC (R410A) au lieu du réfrigérant traditionnel R22, afin d'éviter la destruction de la couche d'ozone.

EINFÜHRUNG EINES NEUEN KÜHLMITTELS

Dies ist ein neuartiges Klimagerät. Anstatt des herkömmlichen Kühlmittels R22 verwendet es das neue ozonschicht-schonende HFC Kühlmittel R410A.

ADOZIONE DI UN NUOVO REFRIGERANTE

Questo condizionatore d'aria è di un tipo nuovo che adotta un nuovo refrigerate HFC (R410A) al posto del refrigerante convenzionale R22, per prevenire la distruzione dello strato di ozono dell'atmosfera terrestre.

ADOPCIÓN DE NUEVO REFRIGERANTE

Este aparato de aire acondicionado es un modelo reciente que incorpora el nuevo refrigerante HFC (R410A) en lugar del refrigerante convencional R22 para así evitar daños en la capa de ozono.

ADOPÇÃO DO NOVO REFRIGERANTE

Este ar condicionado é um modelo novo que adopta um novo refrigerante HFC (R410A) em vez do refrigerante convencional R22 para evitar a destruição da cama de ozono.

TOEPASSING VAN EEN NIEUW KOELMIDDEL

Deze airconditioner is een nieuwe type dat werkt met een nieuw koelmiddel HFC (R410A) in plaats van met het conventionele koelmiddel R22, als bijdrage om de aantasting van de ozonlaag te reduceren.

ΥΙΟΘΕΤΗΣΗ ΝΕΟΥ ΨΥΚΤΙΚΟΥ

Το παρόν Κλιματιστικό είναι νέος τύπος που υιοθετεί νέο ψυκτικό HFC (R410A) στη θέση του συμβατικού ψυκτικού R22 προκειμένου να βοηθήσει στην προστασία του όζοντος.

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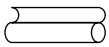
ΠΕΡΙΕΧΟΜΕΝΑ

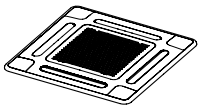
ΕΛΛΗΝΙΚΑ

Accessory parts and Parts to be procured locally

❒ Accessory parts

Part name	Q'ty	Shape	Usage
Installation Manual	1	This manual	(Be sure to hand over to customers)
Heat insulating pipe	2		For heat insulation of pipe connecting section
Installation pattern	1	——	For confirmation of ceiling opening and main unit position
Installation gauge	2		For positioning of ceiling position (united with installation pattern)
Pattern fixing screw	4	M5 × 16L	For attach the installation pattern
Heat insulator	1		For heat insulation of drain connecting section
Washer	8		For hanging-down unit
Hose band	1		For connecting drain pipe
Flexible hose	1		For adjusting core-out of drain pipe
Heat insulator A	1		For sealing of wire connecting port
Heat insulator B	1		For sealing of wire connecting port
Owner's Manual	1		(Be sure to hand over to customers)

<Separate sold parts>

Part name	Q'ty	Shape	Usage
Standard wired remote controller	1		Model : **RBC-AMT31E**
Ceiling panel	1		Model : **RBC-UM11PG(W)E**

❒ Parts to be procured locally

Connecting pipe (Liquid side) (6.4mm (diam.), Nominal (diam.) 1/4" thick 0.8mm)	Thermal insulation for refrigerant pipe (10mm or more, thermal insulating foam polyethylene)
Connecting pipe (Gas side) (12.7mm (diam.), Nominal (diam.) 1/2" thick 0.8mm)	Thermal insulation for drain pipe (10mm or more, foam polyethylene)
Power supply cord (3 cores) 1.5mm² (H07RN-F or 245 IEC66)	Drain pipe (Outer 26mm (diam.))
Connecting cable (indoor and outdoor cable) H07RN-F or 245 IEC66 (1.5mm² or more)	Tapes

1 PRECAUTIONS FOR SAFETY

- Ensure that all Local, National and International regulations are satisfied.
- Read this “PRECAUTIONS FOR SAFETY” carefully before Installation.
- The precautions described below include the important items regarding safety. Observe them without fail.
- After the installation work, perform a trial operation to check for any problem.
  Follow the Owner’s Manual to explain how to use and maintain the unit to the customer.
- Turn off the main power supply switch (or breaker) before the unit maintenance.
- Ask the customer to keep the Installation Manual together with the Owner’s Manual.

CAUTION **New Refrigerant Air Conditioner Installation**

- **THIS AIR CONDITIONER FEATURES A NEW HFC REFRIGERANT (R410A) WHICH DOES NOT DEPLETE OZONE LAYER.**

The pressure of R410A is 1.6 times higher than that of former refrigerant R22. The refrigerating oil has also been changed. Therefore be sure that any former refrigerant, refrigerant oil or any other contaminants do not enter the refrigerating cycle of the air conditioner, during either installation or service work. If incorrect tools or operating procedures are used, there is a possibility of a serious accident. Use only tools and materials that have been designed to operate with R410A.

To prevent the risk of charging with an incorrect refrigerant, the dimensions of the charging port connections are different to those used for conventional refrigerant. Therefore only tools designed to operate with R410A can be used.

For connecting pipes, use piping specifically designed for R410A.

During installation, ensure pipes are clean and ensure contaminants do not enter the pipes as the system is affected by impurities such as water, oxide scales, dirt, oil, etc. Do not use existing pipe work from previous installation as this will cause problems due to pressure resistances and impurities within the pipe.

CAUTION **To Disconnect the Appliance from Main Power Supply.**

This appliance must be connected to the main power supply by means of a switch with a contact separation of at least 3 mm.

The installation fuse must be used for the power supply line of this conditioner.

⚠ WARNING

- **Ask an authorized dealer or qualified installation professional to install/maintain the air conditioner.**
  Inappropriate installation may result in water leakage, electric shock or fire.
- **Turn off the main power supply switch or breaker before attempting any electrical work.**
  Make sure all power switches are off. Failure to do so may cause an electric shock.
- **Connect all of the installation wiring correctly.**
  If the installation wiring is incorrect electrical parts may be damaged.
- **During the transportation and installation of the air conditioning unit, ensure that gaseous matter other than the specified refrigerant does not enter into the refrigeration cycle.**
  If a refrigerant becomes contaminated with foreign gases, the gas pressure within the refrigerant cycle will become abnormally high and may result in the fracture of pipework and possible human injury.
- **Do not modify this unit by removing any of the safety guards or by overriding any of the safety interlock switches.**
- **Exposure of the unit to water or other forms of moisture before installation may cause a short-circuit of the electrical parts.**
  Do not store it in a wet basement or expose to rain or water.
- **After unpacking the unit, examine for possible damage.**
- **Do not install in a place that might increase the vibration of the unit.**
- **To avoid personal injury (with sharp edges), be careful when handling parts.**
- **Perform installation work properly according to the Installation Manual.**
  Inappropriate installation may result in water leakage, electric shock or fire.

1 PRECAUTIONS FOR SAFETY

- **When the air conditioner is installed in a small room, provide appropriate measures to ensure that in the event of a refrigerant leak the rooms does not exceed the critical level.**
- **Install the air conditioner securely in a location where the base can sustain the weight of the unit adequately.**
- **Perform the specified installation work to guard against an earthquake.**
  If the air conditioner is not installed appropriately, accidents may occur due to the unit falling.
- **If refrigerant gas has leaked during the installation work, ventilate the room immediately.**
  If the leaked refrigerant gas comes in contact with fire, noxious gases may be generated.
- **After the installation work, confirm that refrigerant gas does not leak.**
  If refrigerant gas leaks into the room and flows near a fire source, such as a cooking range, noxious gases maybe generated.
- **Electrical work must be performed by a qualified electrician in accordance with the Installation Manual. Ensure the power supply to the air conditioner is exclusive to that unit only.**
  An insufficient power supply capacity or inappropriate installation may cause fire.
- **Use only the specified wiring during the unit installation. Ensure that all terminals are securely fixed, so preventing any external forces having a negative effect on the terminals.**
- **Conform to the regulations of the local electric authority when wiring the power supply.**
  Inappropriate grounding may cause an electric shock.
- **Do not install the air conditioner in a location that maybe subjected to a risk of exposure to a combustible gas.**
  If a combustible gas leaks and becomes concentrated around the unit, a fire may occur.

2 SELECTION OF INSTALLATION PLACE

⚠ WARNING

- **The air conditioner must be installed in a location that can support the weight of the unit effectively.**
  If the unit is not installed on a foundation that can support its weight effectively, the unit may fall down, resulting in possible human injury.
- **Where required ensure that the units installation is sufficient enough to withstand against an earthquake.**
  An insufficient installation could result in the unit falling, causing possible human injury.
- **Install the air conditioner at a minimum height of 2.5 m from the floor.**
  Do not insert your hands or others into the unit while the air conditioner is operating.

CAUTION

Do not install the air conditioner in a location subject to a risk of exposure to a combustible gas.

- If a combustible gas leaks and stays around the unit, a fire may occur.

Upon approval of the customer, install the air conditioner in a place that satisfies the following conditions.

- Place where the unit can be installed horizontally.
- Place where a sufficient servicing space can be ensured for safety maintenance and check.
- Place where drained water will not cause any problem.

Avoid installing in the following places.

- Place exposed to air with high salt content (seaside area), or place exposed to large quantities of sulfide gas (hot spring). (Should the unit be used in these places, special protective measures are needed.)
- Place exposed to oil, vapor, oil smoke or corrosive gas.
- Place where organic solvent is used nearby.
- Place close to a machine generating high frequency.
- Place where the discharged air blows directly into the window of the neighboring house. (For outdoor unit)
- Place where noise of the outdoor unit is easily transmitted.
  (When installing the air conditioner on the boundary with the neighbor, pay due attention to the level of noise.)
- Place with poor ventilation.
  (Before air ducting work, check whether value of air volume, static pressure and duct resistance are correct.)

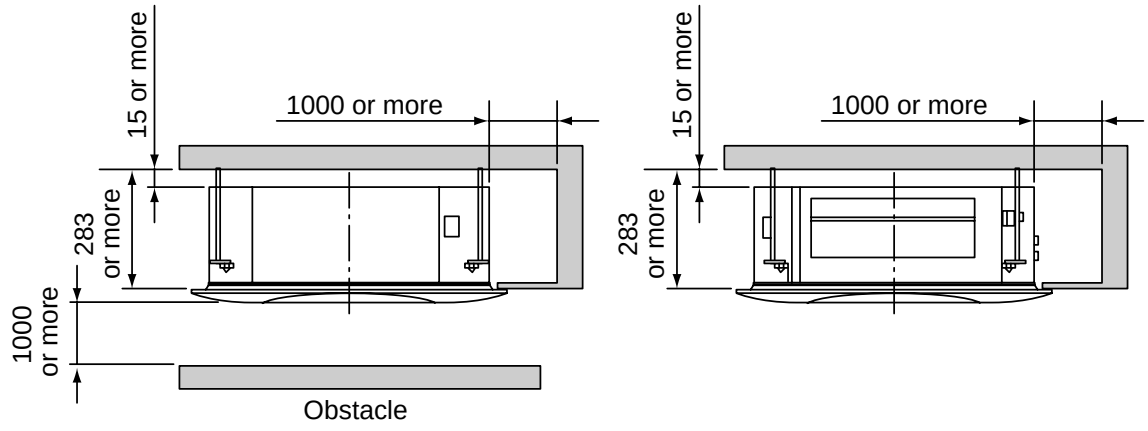
Installation space

Secure the specified space in the figure for installation and servicing.

Ensure there is sufficient space to install the unit and to perform maintenance work as and when required.

Keep 15mm or more for clearance between top plate of the indoor unit and the ceiling surface.

Installation space



2 SELECTION OF INSTALLATION PLACE

Selection of installation place

In case of continued operation of the indoor unit under high-humidity conditions as described below, dew may condense and water may drop.

Especially, high-humidity atmosphere (dew point temperature : 23°C or more) may generate dew inside the ceiling.

1. Unit is installed inside the ceiling with slated roof.
2. Unit is installed at a location using inside of the ceiling as fresh air take-in path.
3. Kitchen

If installing a unit at such place, put insulating material (glass wool, etc.) additionally on all the positions of the indoor unit which come to contact with high-humidity atmosphere.

Advice

Set a service check opening panel at right side of the unit (size: 450 × 450mm or more) for piping, maintenance, and servicing.

Ceiling height

Possible installed ceiling height
Up to 3.5 m

When the height of the ceiling exceeds the distance of the item Standard/4-way in Table below, the hot air is difficult to reach the floor. Therefore, it is necessary to change the setup value of the high ceiling switch or discharge direction.

REQUIREMENT

- When using the high ceiling (1) or (2) with 4-way discharge system, the draft is apt to be felt due to drop of the discharge temperature.

⚠ WARNING

Install the air conditioner certainly to sufficiently withstand the weight.

If the strength is insufficient, the unit may fall down resulting in human injury.

Perform a specified installation work to guard against an earthquake.

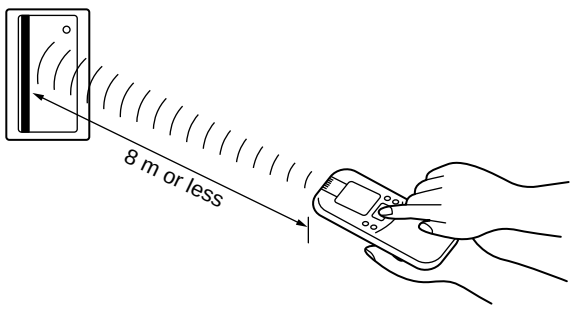
An incomplete installation can cause accidents by the units falling and dropping.

In case of wireless type

The wireless remote controller can be operated up to a maximum of 8 m from the infra-red receiver.

Therefore ensure that the remote controller will be mounted and used within this stated parameter.

- To prevent malfunction do not mount or operate in a location that is subjected to either a fluorescent lamp or direct sunlight.
- A maximum of 6 indoor units with wireless remote control can be installed within the same room.



Height list of ceiling possible to be installed

(Unit : m)

				High ceiling setup
No. of discharge direction	4-way	3-way	2-way	Set data
Standard (at shipment)	3.2	—	—	0000
High ceiling (1)	3.4	—	—	0002
High ceiling (2)	3.5	—	—	0003

3 INSTALLATION OF INDOOR UNIT

⚠ WARNING

The installation of the air conditioning unit must be positioned in a location that can sufficiently support its weight and give protection against adverse environmental conditions.

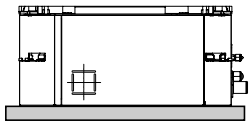
Failure to do so may result in unit damage and possible human injury.

Any incomplete installation may also cause possible risk of human injury.

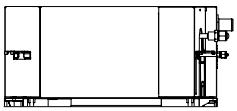
- Unpack the package, take out the product and then place it on the floor so that the same surface directs underneath as it is placed in the package.
- Never put the products taken out from the packing box in a pile, or put other load on them; otherwise there is a possibility to damage electric parts, fan parts, draining mechanism, and etc.

  If the both sides are turned over, a deformation of mounting metal of the ceiling panel which is sold separately, etc. may be caused. Accordingly the product may be damaged and the installation becomes impossible in some cases.

OK



NO GOOD



REQUIREMENT

Strictly comply to the following rules to prevent damage of the indoor units and human injury.

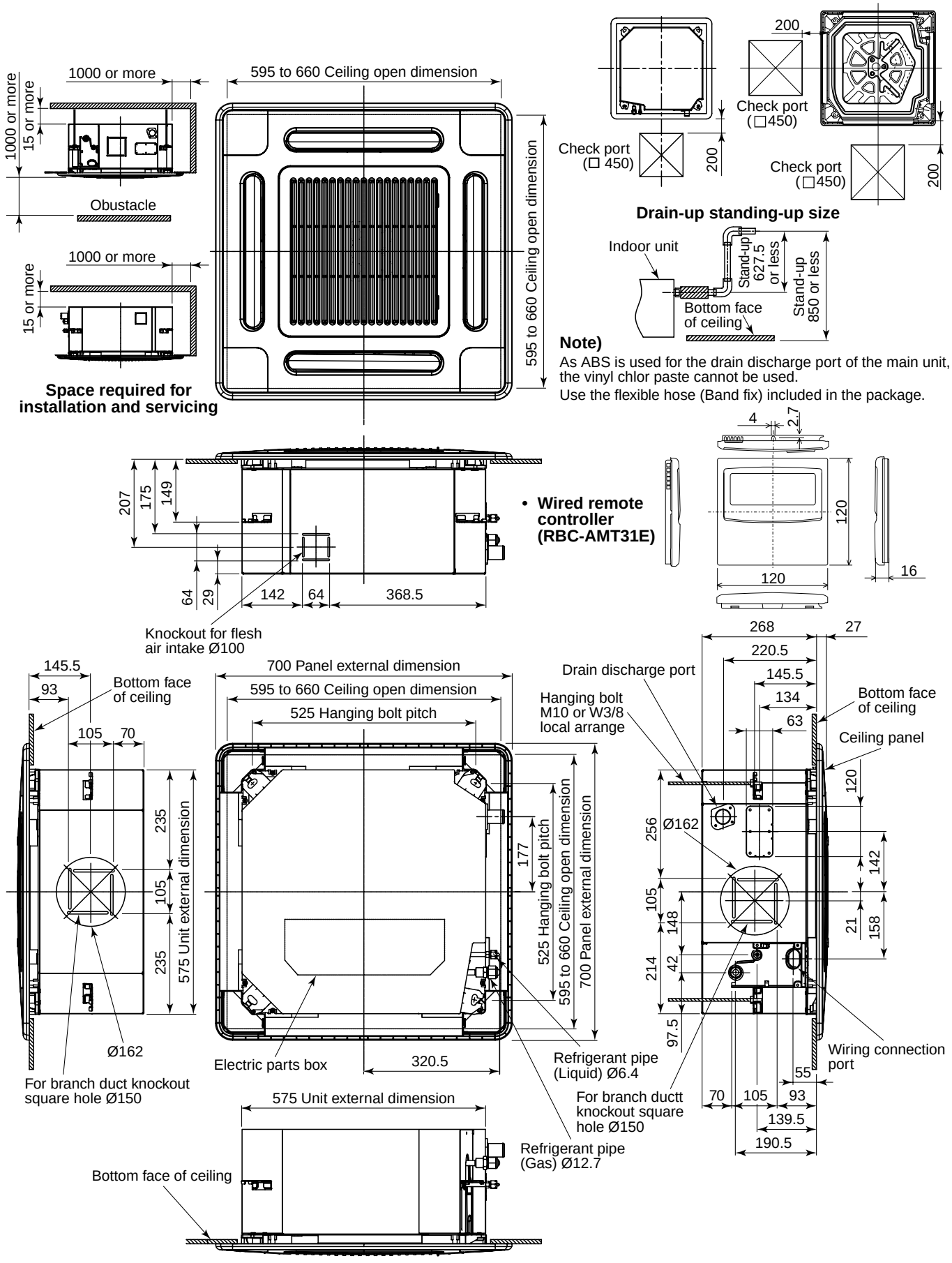
- Do not place heavy objects on the indoor unit. (Even when units are still packaged)
- Always carry the unit as packaged from the factory wherever possible.

  If carrying in the indoor unit unpacked by necessity, be sure to use buffering cloth, etc. to prevent damaging the unit.
- To move the indoor unit, hold the hanging brackets (4 positions) only.

  Do not apply force to other parts (refrigerant pipe, drain pan, foamed parts, or resin parts etc.).
- To be carried by two or more persons. Do not strap the unit in positions other than that stated.

3 INSTALLATION OF INDOOR UNIT

Dimensional view



Ceiling opening and installation of hanging bolts

- Evaluate and determine the piping and wiring requirements inside the ceiling prior to the hanging of the unit.
- After installation place of the indoor unit has been determined, create opening in ceiling and install the hanging bolts.
- For the ceiling opening size and pitch for hanging bolts refer to the dimensional drawing and the supplied installation pattern.
- Once the ceiling void has been created, ensure that the drain pipe, refrigerant pipes, inter-connecting wires and all control wires are in place prior to installing the actual indoor unit.

Please procure the hanging bolts and nuts for installation of the indoor unit at local site.

Hanging bolt	M10 or W3/8	4 pieces
Nut	M10 or W3/8	12 pieces

How to use the supplied installation pattern

The installation pattern is enclosed within the packaging of the air conditioner.

Existing ceiling void

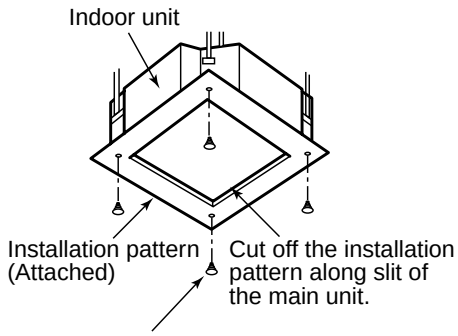
Use the pattern to determine the position and size of the opening and location of the hanging bolts.

New ceiling void

Use the pattern to determine the position of the new ceiling opening.

Cut off slit section of the main unit of the installation pattern.
Cut off the outside of the pattern according to size of the ceiling opening. (There is a slit on the standard opening size section.)

- Install the indoor unit after installation of the hanging bolts.
- Using the supplied pattern attach it to the indoor unit using the supplied fixing screws (M5 × 16L 4off). (Screw pattern to the ceiling panel hanging brackets of the indoor unit)
- When creating the opening ensure it is as per the outer dimensions of the supplied pattern.



Opening a ceiling and installation of hanging bolts

Treatment of ceiling

The ceiling differs according to the structure of the building. For details, consult your architect.

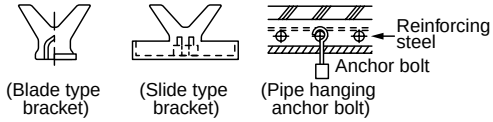
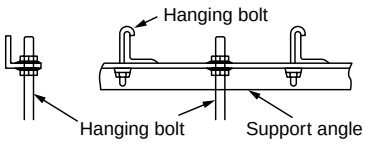
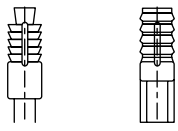
In the process after the ceiling panels have been removed, it is important to reinforce the ceiling construction and ensure the ceiling remains in a horizontal position. This is to prevent possible vibration of the ceiling panels.

1. Cut and remove the ceiling material.
2. Reinforce the cut surface of the ceiling construction and add support for fixing the end of ceiling panel.

Installation of hanging bolt

Use M10 hanging bolts (4 off, locally procured).

When mounting the unit, set the pitch of the hanging bolts according to the size of the unit as detailed on the dimensional drawing.

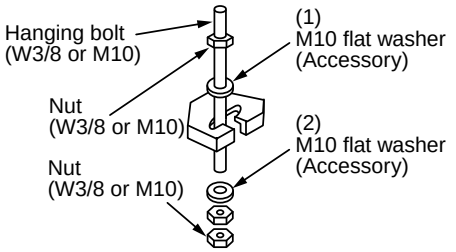
New concrete slab	Steel flame structure	Existing concrete slab
Install the bolts with insert brackets or anchor bolts.  	Use existing angles or install new support angles.  	Use a hole-in anchors, hole-in plugs, or a hole-in bolts. 

3 INSTALLATION OF INDOOR UNIT

Installation of indoor unit

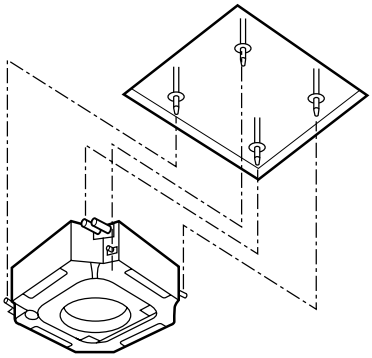
- Attach the nut (M10 or W3/8: Procured locally) and washer (Ø34 mm) to the hanging bolt.
- Put washers at either side of the T-groove on the hanging bracket of the indoor unit in order to hang the unit.
- Using a spirit level, check that all four sides are horizontal. (Horizontal positioned within 5 mm)
- Cut off the installation gauge from the installation pattern.
- Using the installation gauge check and adjust clearance between the indoor unit and the ceiling opening (1) (10 to 42 mm on each side). Ensure that the unit is level to the ceiling and within a distance of (2) 23 mm to 28 mm below.
  The installation gauge has details of how to use printed on it.

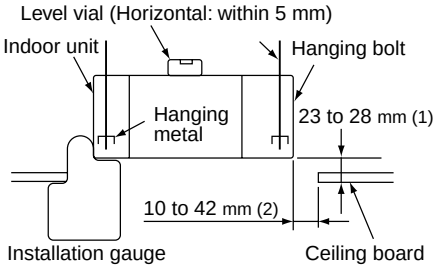
Note) Install the indoor unit so that the end part of opening does not come into contact with the drain socket piping.

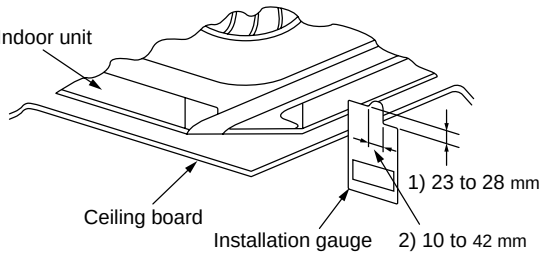


(1) M10 washer supplied, all other material must be procured locally.

(2) To ensure that the unit is mounted safely, the hanging bolt must be positioned just below the hanging bracket as shown in the diagram.

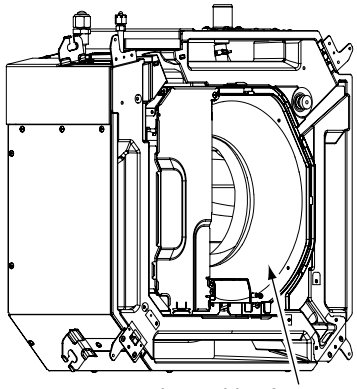






REQUIREMENT

Before installation of the indoor unit be sure to remove the transportation cushion found between the fan and the bell mouth.
Running the unit without removing the cushion may damage the fan motor.



Be sure to remove the cushion for transportation between the fan and the bell mouth.

Installation of ceiling panel (Sold separately)

Install the ceiling panel after completion of the installation of the indoor unit, including all piping and wiring.

Install the ceiling panel as per the supplied Installation Manual.

Check the installation dimensions of the indoor unit and the ceiling opening are correct and then install.

REQUIREMENT

Ensure the ceiling panel is mated to the ceiling surface or the indoor unit.

If the panel and unit are not mated together this may result in the formation of dew condensation causing a possible water leak.

First remove the 4 corner caps from the ceiling panel and fit to the indoor unit.

Installation of remote controller (Sold separately)

For installation of the wired remote controller, follow the Installation Manual supplied with the remote controller.

- Do not expose remote controller to direct sunlight or excessive heat.
- When using a wireless type remote controller check receiver on the indoor unit receives a signal.
- For a wireless type controller ensure that it is used and mounted a minimum distance of 1m apart from any other electrical devices (TV, Stereo, etc). As this may cause interference with the devices.

4 DRAIN PIPING WORK

CAUTION

- **Install the drain piping so that the water drains effectively.**
- **Apply heat insulation to prevent dew condensation from forming.**
- **Incorrectly installed pipework may result in a water leak.**

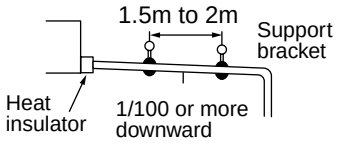
Pipe material/Insulator and size

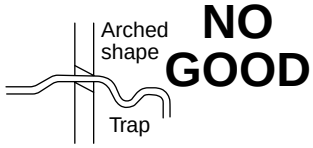
The following materials for piping work and insulation are to be procured locally.

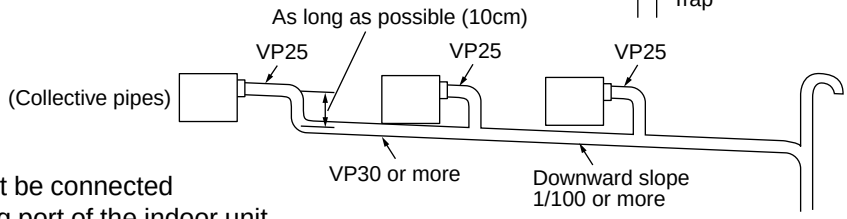
Pipe material	Hard vinyl chloride pipe socket for VP25
	Hard vinyl chloride pipe VP25 (Outer diameter Ø32 mm)
Insulator	Foamed polyethylene foam, thickness: 10 mm or more

REQUIREMENT

- Ensure insulating of the drain pipes and connecting parts on the indoor units.
- The drain pipe should have a downward slope of at least 1/100 and ensure there are no swells or blockages as this will cause abnormal sounds.
- The maximum traverse length of drain pipe is 20 m. Provide support brackets at intervals of 1.5 to 2 m where necessary to prevent movement.
- Install the combined piping as shown in the illustration.
- Do not create an air purge in the pipework, as the water would leak from this point.

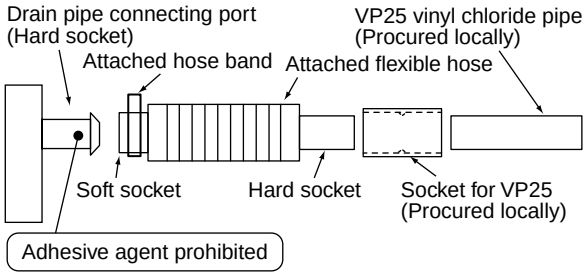






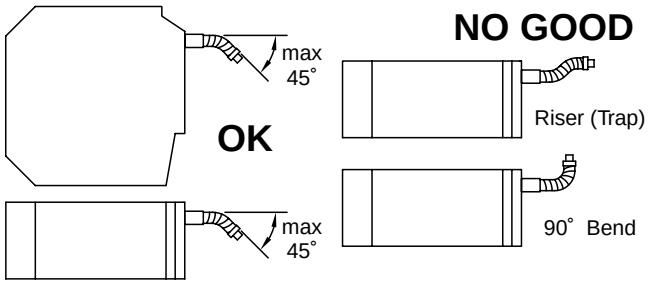
- The hard vinyl-chloride pipe cannot be connected directly to the drain pipe connecting port of the indoor unit. For connection with the drain pipe connecting port, ensure that the supplied flexible hose is fitted.
- Adhesive agent cannot be used for the pipe connecting port (hard socket) on the indoor unit.

  Be sure to use the supplied hose band for fixing, otherwise there is a risk of damage or water leakage from the drain pipe connecting port.



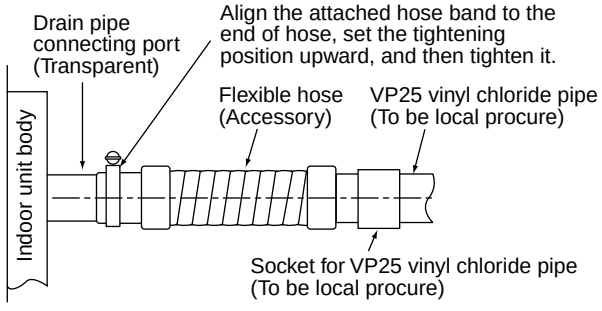
Connection of flexible hose

- Insert the soft socket of the supplied flexible hose into the connecting port of the drain pipe.
- Align the supplied hose band to the pipe connecting port end, and tighten.



REQUIREMENT

- **Fix the soft socket with the supplied hose band, tighten at the upper position of the unit.**
- **The supplied flexible hose can bend up to a maximum of 45°**



4 DRAIN PIPING WORK

Connection of drain pipe

- Connect the hard socket (Procured locally) to the hard socket side of the supplied flexible hose which has been installed.
- Connect the drain pipes (Procured locally) in turn to the connected hard sockets.

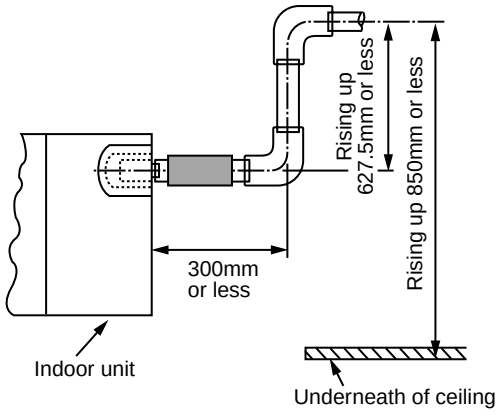
REQUIREMENT

- Using a adhesive agent for vinyl chloride, connect the hard vinyl chloride pipes so that water does not leak.
- Allow sufficient time for the adhesive to set and harden. (Refer to the instructions of the adhesive.)

Drain up

When it is not possible to achieve a natural downward slope on the drain pipe, you can create a vertical lift (Drain up) on the pipe.

- Set the height of the drain pipe within 850 mm from the bottom surface of the ceiling.
- The drain pipe should be piped from the drain pipe connecting port horizontally for a maximum of 300 mm and then piped vertically.
- After piping the vertical lift, ensure the pipework is set to a downward gradient.



Check the draining

After completion of drain piping,

Check water drains away and that no water leaks from any of the connecting parts. At the same time check for any abnormal sounds from the drain pump.

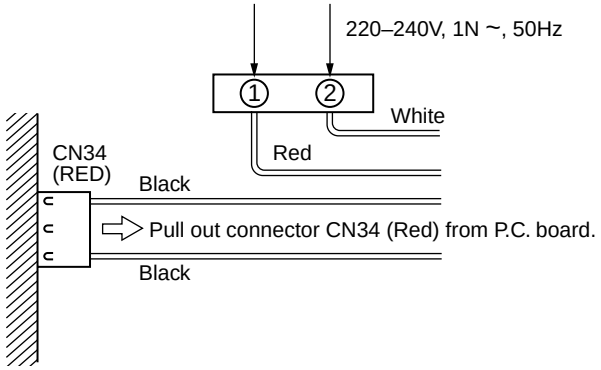
Ensure drainage is checked during cooling mode.

When the electric work has finished:

- Before installing the ceiling panel, pour water as shown in the following figure, check water drains from the drain pipe connecting port (Transparent) in COOL mode and then check there are no water leaks from the drain pipes.

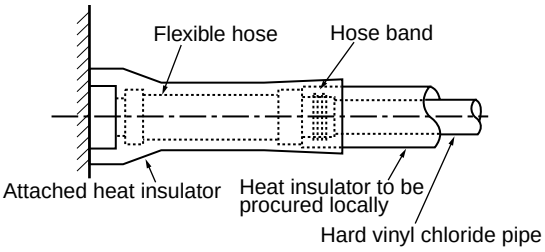
When the electric work has not finished:

- Pull out the float switch connector (3P: Red) from P.C. board connector (CN34: Red) of the electric parts box. (Ensure the power is turned off.)
- Connect the single-phase 220-240V, 1N, 50Hz power to the terminal blocks (1) and (2). (Never apply 220-240V to (A) and (B).)
- Pour water referring to the figure. (Amount: 1500 cc to 2000 cc)
- When the power is turned on, the drain pump motor drives automatically. Check water is drained from the drain pipe connecting port (Transparent), and then check there is no water leak from the drain pipes.
- After checking for water leaks on the drain, turn off the power supply, and re-attach the float switch connector to the original position (CN34) on the P.C. board and refit the electric parts box.



Thermal insulating process

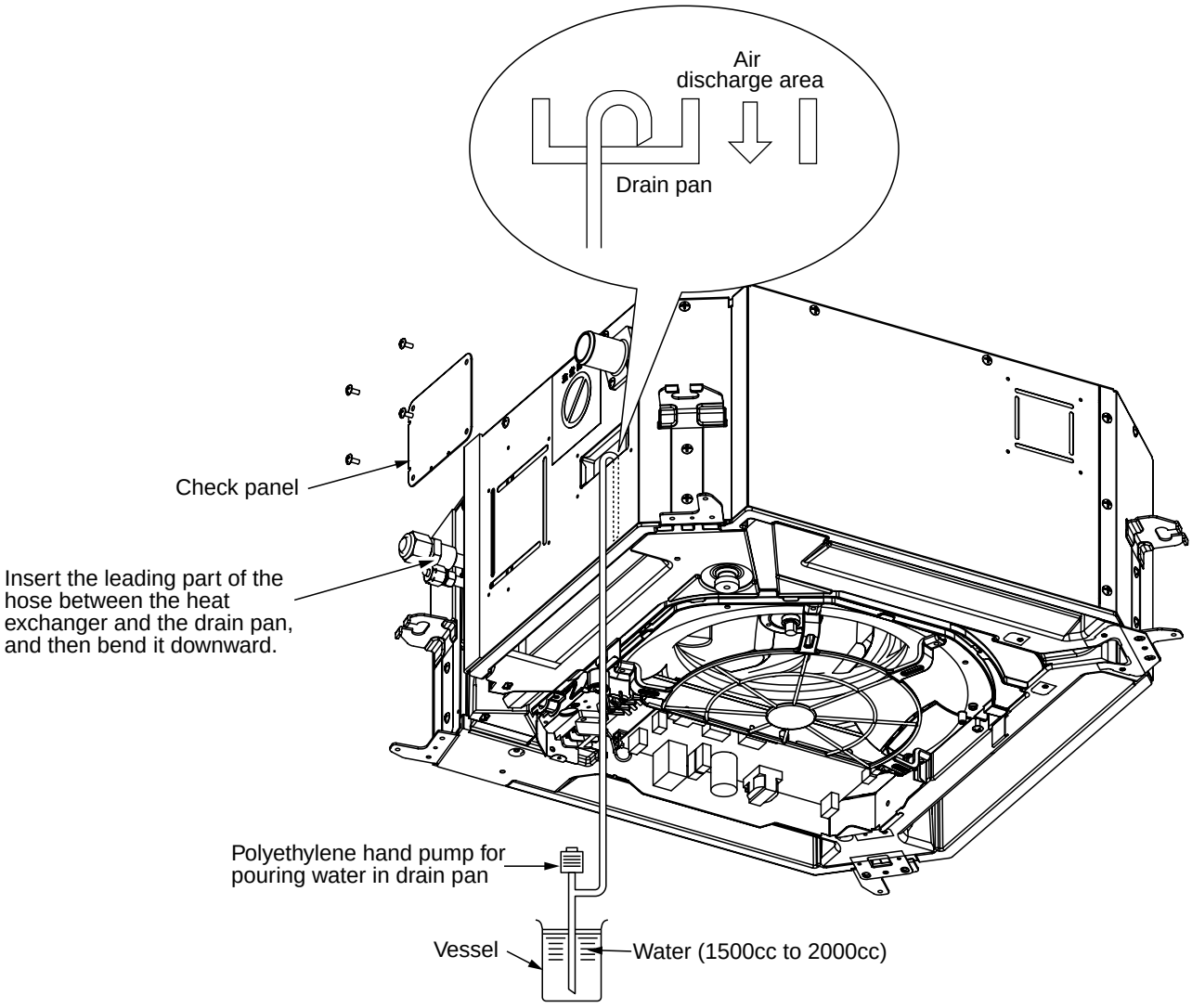
- After checking of the draining, using the supplied thermal insulation fit to the flexible hose leaving no clearance at the connecting port of the indoor unit.
- Fit locally procured thermal insulation to the drain pipe leaving no clearance between the supplied insulation.



CAUTION

Ensure water is poured slowly.

To reduce risk of water spreading throughout the unit, resulting in a possible fault.



5 REFRIGERANT PIPING AND EVACUATING

Refrigerant Piping

1. If the outdoor units are to be mounted on a wall, make sure that the supporting platform is sufficiently strong. The platform should be designed and manufactured to maintain its strength over a long period of time, and sufficient consideration should be given to ensuring that the outdoor unit will not fall.
2. **Use copper pipe with 0.8 mm or more thickness.**
3. Flare nut and flare works are also different from those of the conventional refrigerant.
   Take out the flare nut attached to the main unit of the air conditioner, and use it.

CAUTION

IMPORTANT 4 POINTS FOR PIPING WORK

1. Remove dust and moisture from the inside of the connecting pipes.
2. Tight connection (between pipes and unit)
3. Evacuate the air in the connecting pipes using VACUUM PUMP.
4. Check the gas leakage. (Connected points)

Permissible Piping Length and Heat

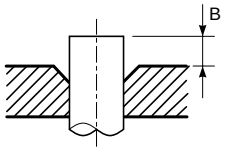
They vary according to the outdoor unit. For details, refer to the Installation Manual attached to the outdoor unit.

Flaring

Insert a flare nut into the pipe, and flare the pipe.

As the flaring sizes of R410A differ from those of refrigerant R22, the flare tools newly manufactured for R410A are recommended.
However, the conventional tools can be used by adjusting projection margin of the copper pipe.

- **Projection margin in flaring : B (Unit : mm)**



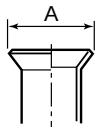
Rigid (Clutch type)

Outer diam. of copper pipe	R410A tool used		Conventional tool used	
	R410A	R22	**R410A**	R22
6.4 to 12.7	0 to 0.5	(Same as left)	1.0 to 1.5	0.5 to 1.0

Imperial (Wing nut type)

Outer diam. of copper pipe	**R410A**	R22
6.4	1.5 to 2.0	1.0 to 1.5
12.7	2.0 to 2.5	1.5 to 2.0

- **Flaring diam. meter size : A (Unit : mm)**



Outer diam. of copper pipe	$A^{+0}_{-0.4}$	
	R410A	R22
6.4	9.1	9.0
12.7	16.6	16.2

* In case of flaring for R410A with the conventional flare tool, pull it out approx. 0.5 mm more than that for R22 to adjust to the specified flare size.
The copper pipe gauge is useful for adjusting projection margin size.

Tightening connection

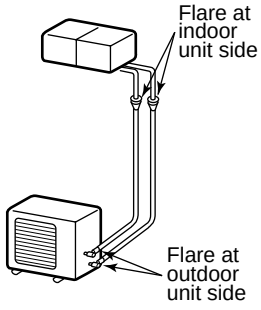
CAUTION

- Do not apply excessive torque. Otherwise, the nut may crack depending on the conditions.

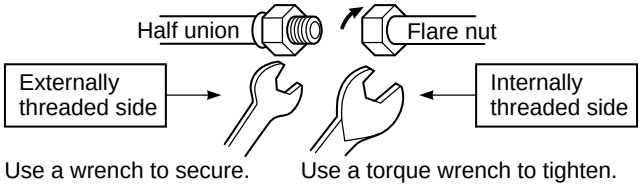
(Unit : N•m)

Outer diam. of copper pipe	Tightening torque
6.4 mm (diam.)	14 to 18 (1.4 to 1.8 kgf•m)
12.7 mm (diam.)	50 to 62 (5.0 to 6.2 kgf•m)

- Tightening torque of flare pipe connections
  Pressure of R410A is higher than that of R22. (Approx. 1.6 times)
  Therefore, using a torque wrench, tighten the flare pipe connecting sections which connect the indoor and outdoor units of the specified tightening torque. Incorrect connections may cause not only a gas leak, but also a trouble of the refrigeration cycle.



Align the centers of the connecting pipes and tighten the flare nut as far as possible with your fingers. Then tighten the nut with a spanner and torque wrench as shown in the figure.



Piping with outdoor unit

- Shape of valve differs according to the outdoor unit.
  For details of installation, refer to the Installation Manual of the outdoor unit.

Air purge

Using a vacuum pump, perform vacuuming from the charge port of valve of the outdoor unit.

For details, follow to the Installation Manual attached to the outdoor unit.

- Never use the refrigerant sealed in the outdoor unit for air purge.

REQUIREMENT

For the tools such as charge hose, etc., use those manufactured exclusively for R410A.

Refrigerant amount to be added

For addition of the refrigerant, add refrigerant “R410A” referring to the attached Installation Manual of outdoor unit.

Be sure to use a scale to charge the refrigerant of specified amount.

REQUIREMENT

- Charging an excessive or too little amount of refrigerant causes a trouble of the compressor. Be sure to charge the refrigerant of specified amount.
- A personnel who charged the refrigerant should write down the pipe length and the added refrigerant amount in the nameplate attached to the service panel of the outdoor unit. It is necessary to troubleshoot the compressor and refrigeration cycle malfunction.

Open the valve fully

Open the valve of the outdoor unit fully. A 4mm-hexagonal wrench is required for opening the valve.

For details, refer to the Installation Manual attached to the outdoor unit.

Gas leak check

Check with a leak detector or soap water whether gas leaks or not, from the pipe connecting section or cap of the valve.

REQUIREMENT

Use a leak detector manufactured exclusively for HFC refrigerant (R410A, R134a, etc.).

Thermal insulation process

Apply thermal insulation for the pipes separately at liquid side and gas side.

For the thermal insulation to the pipes at gas side, be sure to use the material with heat-resisting temperature 120°C or higher.

Using the attached thermal insulation material, apply the thermal insulation to the pipe connecting section of the indoor unit securely without gap.

REQUIREMENT

Apply the thermal insulation to the pipe connecting section of the indoor unit securely up to the root without exposure of the pipe. (The pipe exposed to the outside causes water leak.)

6 ELECTRICAL WORK

⚠ WARNING

1. **Using the specified cables, ensure to connect the wires, and fix wires securely so that the external tension to the cables do not affect the connecting part of the terminals.**
   Incomplete connection or fixation may cause a fire, etc.
2. **Be sure to connect earth wire. (Grounding work)**
   Do not connect the earth wire to gas pipe, city water pipe, lightning rod, or the earth wire of telephone. Incomplete grounding causes an electric shock.
3. **For electric work, strictly follow the Local Regulation in each country and the Installation Manual, and use an exclusive circuit.**
   Capacity shortage of power circuit or incomplete installation may cause an electric shock or a fire.

CAUTIONS

- This indoor unit has no power cord.
- If incorrect/incomplete wiring is carried out, it will cause an electrical fire or smoke.
- Be sure to install an earth leakage breaker that is not tripped by shock waves.
  If an earth leakage breaker is not installed, an electric shock may be caused.
- Be sure to use the cord clamps attached to the product.
- Do not damage or scratch the conductive core and inner insulator of power and inter-connecting cables when peeling them.
- Be sure to comply with local regulations on running the wire from outdoor unit to indoor unit (size of wire and wiring method etc.)
- Use the power cord and Inter-connecting cable of specified thickness, type, and protective devices required.

REQUIREMENT

- For power supply wiring, strictly conform to the Local Regulation in each country.
- For wiring of power supply of the outdoor units, follow the Installation Manual of each outdoor unit.
- Never connect 220–240V power to the terminal blocks (Ⓐ , Ⓑ , etc.) for control wiring. (Otherwise, the system will fail.)
- Perform the electric wiring so that it does not come to contact with the high-temperature part of the pipe. The coating may melt resulting in an accident.
- After connecting cables to the terminal blocks, provide a trap and fix cables with the cable clamp.
- Run the refrigerant piping line and control wiring line in the same line.
- Do not turn on the power of the indoor unit until vacuuming of the refrigerant pipes completes.

Remote controller wiring

2-core non polarity cable is used for the remote controller wiring.

How to wire

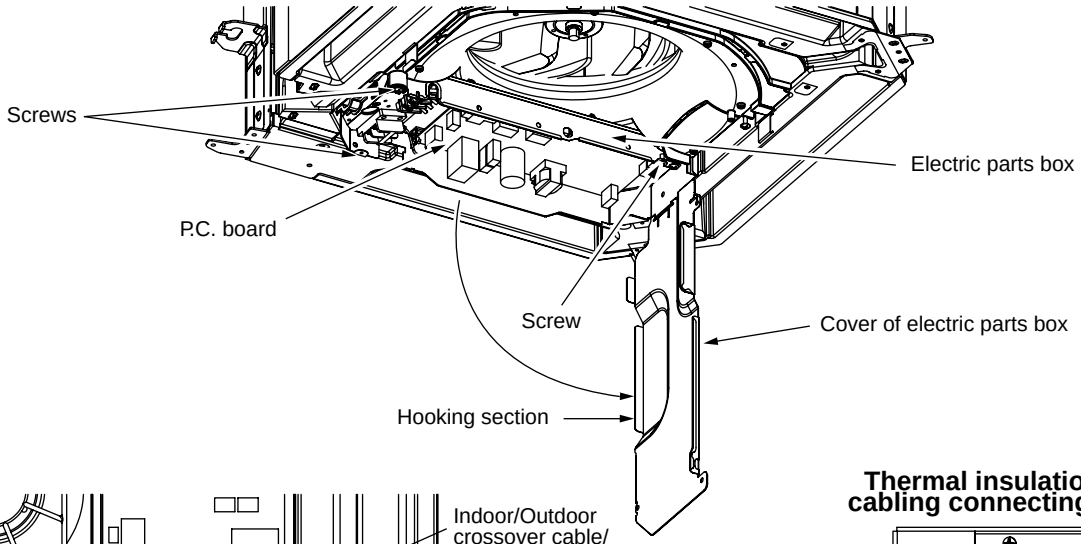
1. Connect the connecting cable to the terminal as identified with their respective numbers on the terminal block of indoor and outdoor unit. H07 RN-F or 245 IEC 66 (1.5 mm^2 or more)
2. Insulate the unsheathed redundant cords (conductors) with electrical insulation tape.
   Process them so that they do not touch any electrical or metal parts.
3. For inter-unit wiring, do not use a wire jointed to another on the way.

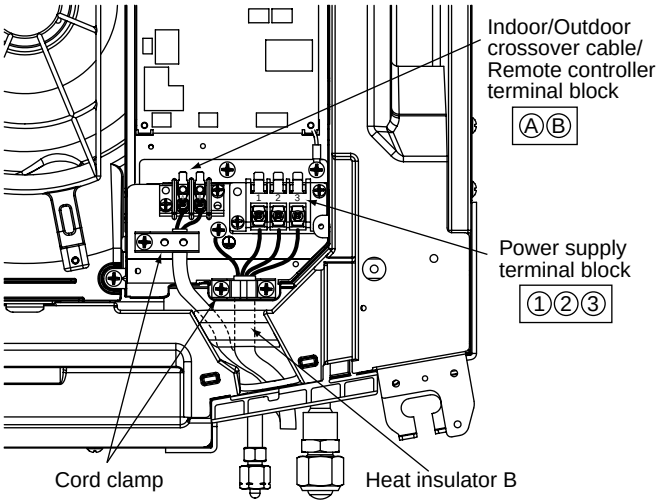
Cable connection

REQUIREMENT

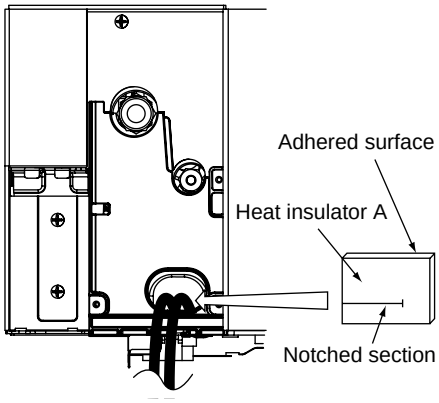
- Be sure to connect the cables matching the terminal numbers. Incorrect connection causes a trouble.
- Be sure to pass the cables through the bushing of cabling connection port of the indoor unit.
- Keep a margin (Approx. 100mm) on a cable to hang down the electric parts box at servicing, etc.
- The low-voltage circuit is provided for the remote controller. (Do not connect the high-voltage circuit)

- Remove the cover of the electric parts box by taking off the mounting screws (3 positions) and pushing the hooking section. (The cover of the electric parts box remains hanged to the hinge.)
- Connect the indoor/outdoor connection cables and remote controller cable to the terminal block of the electric parts box. (Do not apply tension to the connecting section of the terminal block.)
- Tighten the screws of the terminal block, and fix the cables with cord clamp attached to the electric parts box. (Do not apply tension to the connecting section of the terminal block.)
- Using the attached thermal insulation material, seal the pipe connecting port. Otherwise, dewing may be caused.
- Mount the cover of the electric parts box without pinching cables. (Mount the cover after cabling on the ceiling panel.)



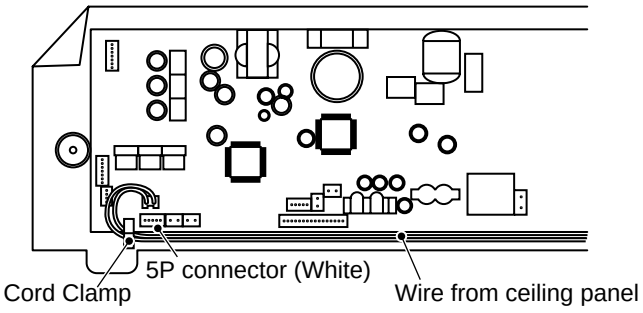


Thermal insulation to cabling connecting port



Wiring on the ceiling panel

As per the Installation Manual of the ceiling panel, connect the connector (2P: Red) of the ceiling panel to the connector (5P: White) onto the P.C. board within the electric parts box.

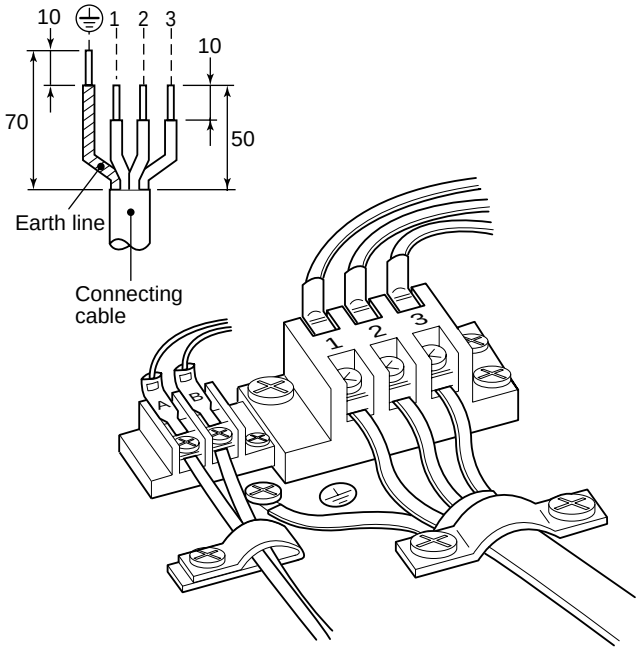


6 ELECTRICAL WORK

Cabling

1. Remove a screw and then remove cover of the electric parts box.
2. Strip wire ends (10 mm).
3. Match wire colors with terminal numbers on indoor and outdoor units' terminal blocks and firmly screw wires to the corresponding terminals.
4. Connect the ground wires to the corresponding terminals.
5. Fix the cable with cord clamp.
6. Fix cover of the parts box and the terminal block surely with the fixing screws.

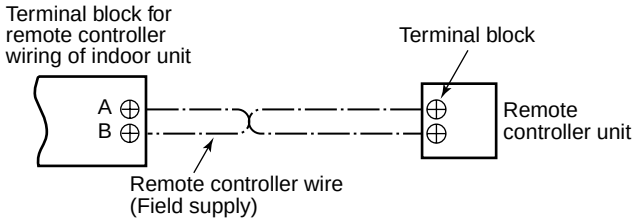
Make a loop on the cable for margin of the length so that the electric parts box can be taken out during servicing.



Remote Controller Cabling

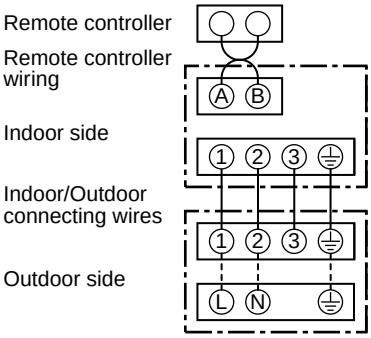
- Strip off approx. 9mm the cable to be connected.
- Non polarity, 2 core cable is used for cabling of the remote controller.

Cabling diagram

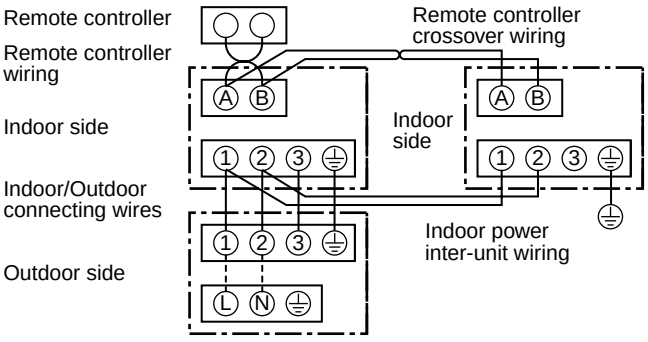


Wiring diagram

<Single system>



<Synchronous twin system>



- For details of cabling/installation of the remote controller, refer to the Installation Manual attached to in the remote controller.

7 TEST RUN

Before test run

- Before turning on the power supply, carry out the following procedure.
  1) Using 500V-megger, check 1MΩ or more exists between the terminal block 1 to 3 and the earth.
     If 1MΩ or less is detected, do not run the unit. Do not apply to the remote controller circuit.
  2) Check the valve of the outdoor unit being opened fully.
- To protect the compressor at activation time, leave power-ON for 12 hours or more be for operating.

How to execute a test run

Using the remote controller, operate the unit as usual.
For the procedure of the operation, refer to the attached Owner's Manual.
A forced test run can be executed in the following procedure if the operation stops by thermo.-OFF.
In order to prevent a serial operation, the forced test run is released after 60 minutes have passed and returns to the usual operation.

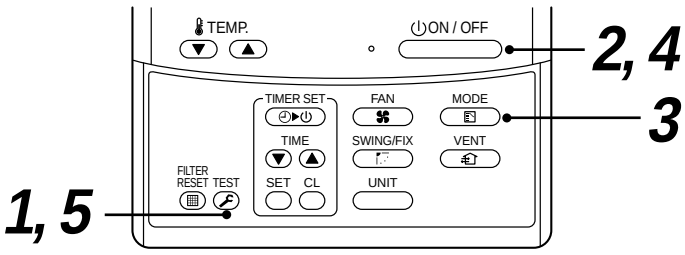
CAUTION

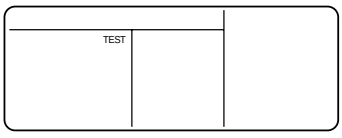
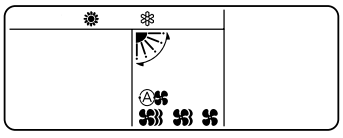
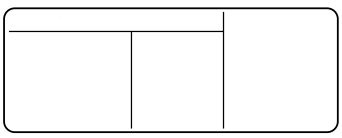
When the remote controller is used for the first time, it accepts an operation approx. 5 minutes after the power supply has been turned on.
It is not a trouble, but is because the setup of the remote controller is being checked.
For the second power-ON time and after, approx. 1 minute is required to start the operation by the remote controller.

NOTE

Do not use the forced test run for cases other than the test run because it applies an excessive load to the devices.

In case of wired remote controller

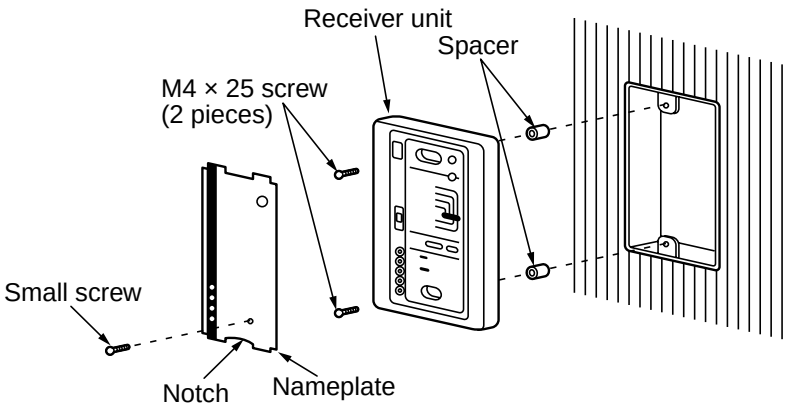


Procedure	Description	
1	Keep TEST button pushed for 4 seconds or more. [TEST] is displayed on the display part and the selection of mode in the test mode is permitted.	
2	Push ON / OFF button.	
3	Using MODE button, select the operation mode, [COOL] or [HEAT]. • Do not run the air conditioner in a mode other than [COOL] or [HEAT]. • The temperature controlling function does not work during test run. • The detection of error is performed as usual.	
4	After the test run, push ON / OFF button to stop a test run. (Display part is same as procedure *1*.	
5	Push TEST check button to cancel (release from) the test run mode. ([TEST] disappears on the display and the status returns to a normal.)	

7 TEST RUN

In case of wireless remote controller

Procedure	Description
1	Remove a small screw which fixes the nameplate of the receiver unit. Remove the nameplate of the sensor section by inserting a minus screwdriver, etc into the notch at the bottom of the plate, and set the Dip switch to [TEST RUN ON].
2	Execute a test operation with button on the wireless remote controller. • , , and LED flash during test operation. • Under status of [TEST RUN ON], the temperature adjustment from the wireless remote controller is invalid. Do not use this method in the operation other than test operation because the equipment is damaged.
3	Use either COOL or HEAT operation mode for a test operation. * The outdoor unit does not operate approx. 3 minutes after power-ON and operation stop.
4	After the test operation finished, stop the air conditioner from the wireless remote controller, and return Dip switch of the receiver section as before. (A 60-minutes timer clearing function is attached to the receiver section in order to prevent a continuous test operation.)



8 APPLICABLE CONTROLS

Change of lighting time of filter sign

According to the installation condition, the lighting time of the filter sign (Notification of filter cleaning) can be changed.

Follow to the basic operation procedure
(***1*** → ***2*** → ***3*** → ***4*** → ***5*** → ***6***).

- For the item code in Procedure ***3***, specify [01].
- For the [Set data] in Procedure ***4***, select the setup data of filter sign lighting time from the following table.

Setup data	Filter sign lighting time
0000	None
0001	150H
0002	2500H (At shipment from factory)
0003	5000H
0004	10000H

To secure better effect of heating

When it is difficult to obtain satisfactory heating due to installation place of the indoor unit or structure of the room, the detection temperature of heating can be raised. Also use a circulator, etc. to circulate heat air near the ceiling.

Follow to the basic operation procedure
(***1*** → ***2*** → ***3*** → ***4*** → ***5*** → ***6***).

- For the item code in Procedure ***3***, specify [06].
- For the set data in Procedure ***4***, select the setup data of shift value of detection temperature to be set up from the table below.

Setup data	Detection temp shift value
0000	No shift
0001	+1°C
0002	+2°C (At shipment from factory)
0003	+3°C
0004	+4°C
0005	+5°C
0006	+6°C

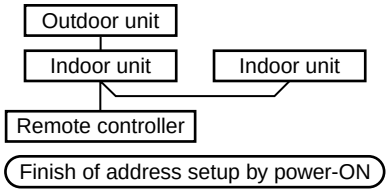
8 APPLICABLE CONTROLS

Group control

Simultaneous twin system

If combining with an outdoor unit, ON/OFF operation of two indoor units is simultaneously available for the twin system.

<Twin system>



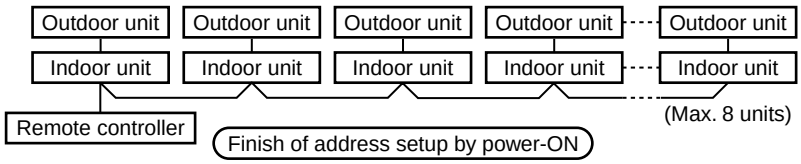
- For wiring procedure and wiring method, follow to the "Electric work" in this manual.
- When the power supply has been turned on, the automatic address setup starts and " " display which indicates that address is being set up flashes on the display part. During setup of automatic address, the remote controller operation is not accepted.

Required time up to the finish of automatic addressing is approx. 5 minutes.

In case of group control for system of multiple units

One remote controller can control maximum 8 indoor units as a group.

<In case of group control in single system>



NOTE

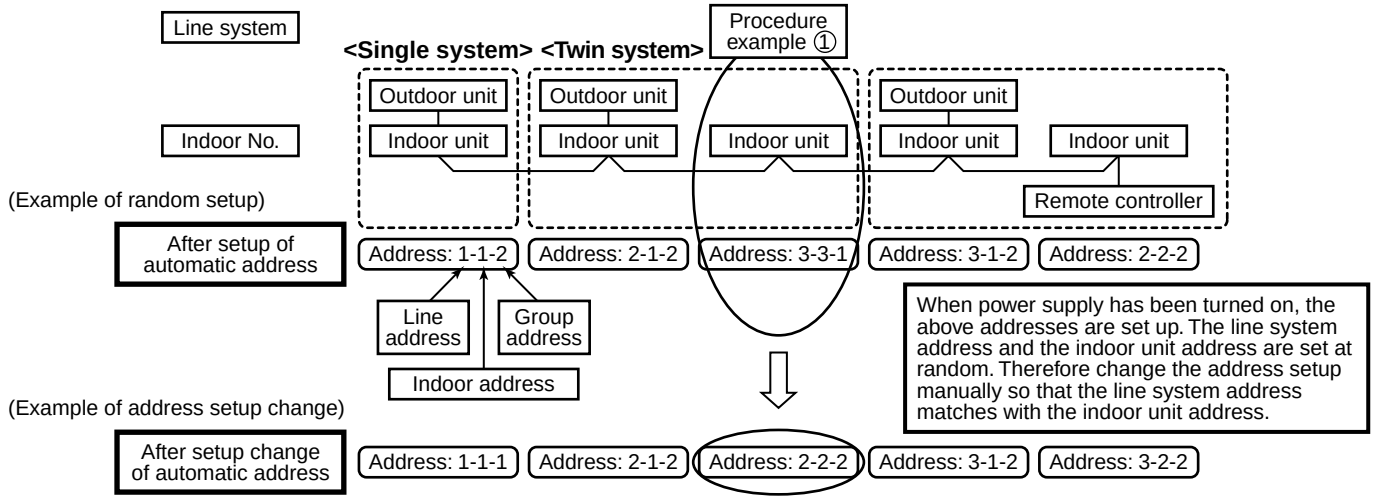
In some cases, it is necessary to change the address manually after setup of the automatic address according to the system configuration of the group control.

- The above-mentioned system configuration is a case when complex systems in which systems of the multiple twin unit is controlled as a group by a remote controller.

- For wiring procedure and wiring method of the individual line (Identical refrigerant line) system, follow to "Electric work".
- Wiring between lines is performed in the following procedure.
  Connect the terminal block (A/B) of the indoor unit connected with a remote controller to the terminal blocks (A/B) of the indoor units of other indoor units by wiring the inter-unit wire of the remote controller.
- When the power supply has been turned on, the automatic address setup starts and " " display which indicates that address is being set up flashes on the display part. During setup of automatic address, the remote controller operation is not accepted.

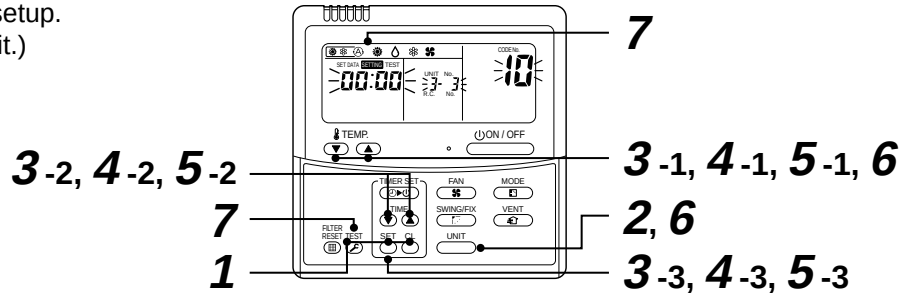
Required time up to the finish of automatic addressing is approx. 5 minutes.

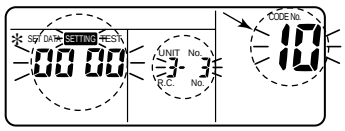
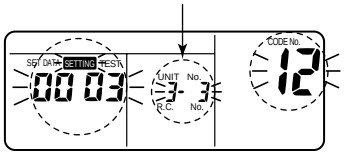
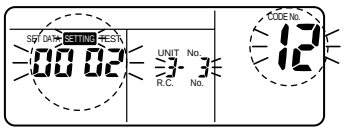
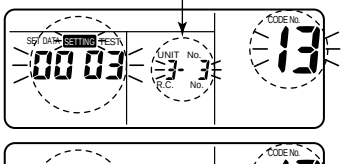
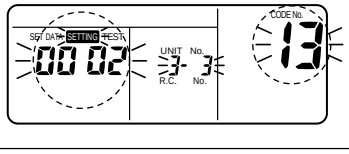
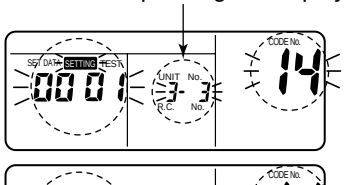
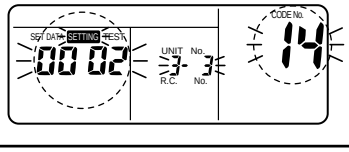
(Example) Group control for complex system



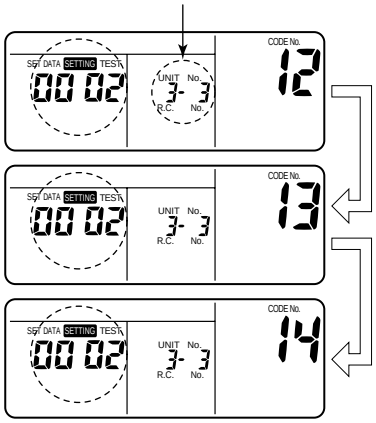
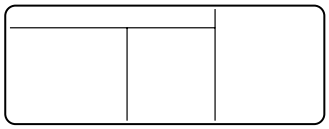
Procedure example ① Manual address setup procedure

While the operation stops, change the setup.
(Be sure to stop the operation of the unit.)



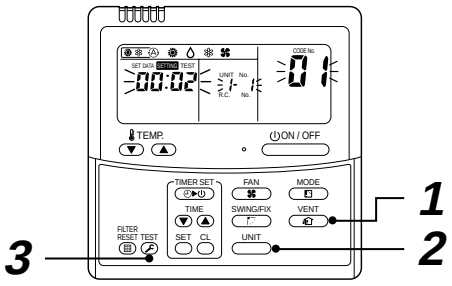
Procedure	Description
1	Push simultaneously SET + CL + TEST buttons for 4 seconds or more. After a while, the display part flashes as shown below. Check the displayed ITEM CODE is [10]. • When the ITEM CODE is other than [10], push TEST button to erase the display and repeat procedure from the first step. (After pushing TEST button, operation of the remote controller is not accepted for approx. 1 minute.) (For a group control, No. of the firstly displayed indoor unit becomes the header unit.)  (✻ Display changes according to the model No. of indoor unit.)
2	Every pushing UNIT button, the indoor unit No. in the group control is displayed in order. Select the indoor unit of which setup is changed. In this time, the position of the indoor unit of which setup is changed can be confirmed because fan and flap of the selected indoor unit operate.
3-1	Using temp. setup ▼ / ▲ buttons, specify ITEM CODE [12]. (ITEM CODE [12]: Line address) Indoor unit No. before setup change is displayed. 
3-2	Using timer time ▼ / ▲ buttons, change the line address from [3] to [2]. 
3-3	Push SET button. In this time, the setup finishes when the display changes from flashing to lighting.
4-1	Using temp. setup ▼ / ▲ buttons, specify ITEM CODE [13]. (ITEM CODE [13]: Indoor address) Indoor unit No. before setup change is displayed. 
4-2	Using timer time ▼ / ▲ buttons, change the indoor address from [3] to [2]. 
4-3	Push SET button. In this time, the setup finishes when the display changes from flashing to lighting.
5-1	Using temp. setup ▼ / ▲ buttons, specify ITEM CODE [14]. (ITEM CODE [14]: Group address) Indoor unit No. before setup change is displayed. 
5-2	Using timer time ▼ / ▲ buttons, change the setup data from [0001] to [0002]. (Setup data [Header unit: 0001] [Follower unit: 0002]) 
5-3	Push SET button. In this time, the setup finishes when the display changes from flashing to lighting.

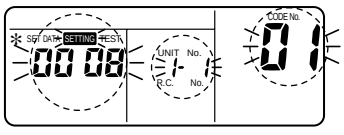
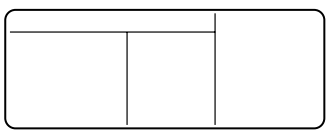
8 APPLICABLE CONTROLS

Procedure	Description
6	If there is other indoor unit to be changed, repeat procedure **2** to **5** to change the setup. When the above setup has finished, push (UNIT) to select the indoor unit No. before change of setup, specify ITEM CODE [12], [13], [14] in order with temp. setup (▼) / (▲) buttons, and then check the changed contents. Address change check Before change: [3-3-1] → After change: [2-2-2] Pushing CL button clears the contents of which setup was changed. (In this case, procedure from **2** is repeated.) Indoor unit No. before setup change is displayed. 
7	After check of the changed contents, push (TEST) button. (Setup is determined.) When pushing (TEST) button, the display disappears and the status becomes the usual stop status. (When pushing (TEST) button the operation from the remote controller is not accepted for approx. 1 minute.) * If the operation from the remote controller is not accepted even 1 minute or more passed after pushing (TEST) button, it is considered that the address setup is incorrect. In this case, the automatic address must be again set up. Therefore repeat procedure of the setup change from the Procedure **1**. 

To recognize the position of the corresponding indoor unit though the indoor unit No. is known

Check the position during operation stop.
(Be sure to stop operation of the set.)



Procedure	Description
1	Push simultaneously (TEST) + (VENT) buttons for 4 seconds or more. After a while, the display part flashes and the display appears as shown below. In this time, the position can be checked because fan and flap of the indoor unit operate. • For the group control, the indoor unit No. is displayed as [ALL] and fans and flaps of all the indoor units in the group control operate. Check the displayed ITEM CODE is [01]. • When the ITEM CODE is other than [01], push (TEST) button to erase the display and repeat procedure from the first step. (After pushing (TEST) button, operation of the remote controller is not accepted for approx. 1 minute.)  (✻ Display changes according to the model No. of indoor unit.)
2	In the group control, every pushing (UNIT) button, the indoor unit No. in the group control is displayed in order. In this time, the position of the indoor unit can be confirmed because only fan and flap of the selected indoor unit operate. (For a group control, No. of the firstly displayed indoor unit becomes the header unit.)
3	After confirmation, push (TEST) button to return the mode to the usual mode. When pushing (TEST) button, the display disappears and the status becomes the usual stop status. (When pushing (TEST) button the operation from the remote controller is not accepted for approx. 1 minute.) 

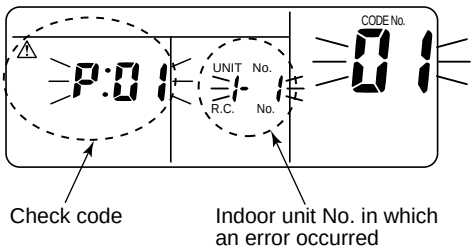
9 TROUBLESHOOTING

Confirmation and check

When a trouble occurred in the air conditioner, the check code and the indoor unit No. appear on the display part of the remote controller.

The check code is only displayed during the operation.

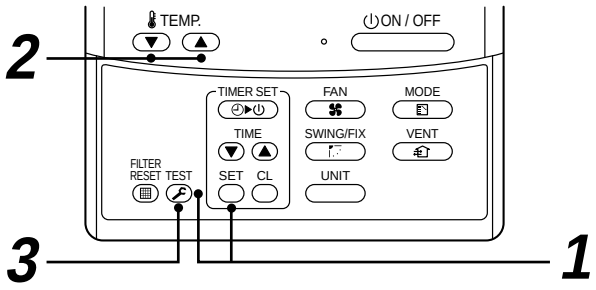
If the display disappears, operate the air conditioner according to the following “Confirmation of error history” for confirmation.

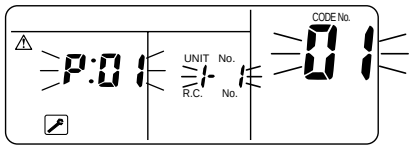


Confirmation of error history

When a trouble occurred on the air conditioner, the trouble history can be confirmed with the following procedure. (The trouble history is stored in memory up to 4 troubles.)

The history can be confirmed from both operating status and stop status.



Procedure	Description	
1	When pushing SET and TEST buttons at the same time for 4 seconds or more, the following display appears. If [Service check] is displayed, the mode enters in the trouble history mode. • [01 : Order of trouble history] is displayed in CODE No. window. • [Check code] is displayed in CHECK window. • [Indoor unit address in which an error occurred] is displayed in UNIT No.	
2	Every pushing of [▼ , ▲] button used to set temperature, the trouble history stored in memory is displayed in order. The numbers in CODE No. indicate CODE No. [01] (latest) → [04] (oldest). **REQUIREMENT** Do not push CL button because all the trouble history of the indoor unit will be deleted.	
3	After confirmation, push TEST button to return to the usual display.	

1. Check the troubles according to the above procedure.
2. Ask an authorized dealer or qualified service (maintenance) professional to repair or maintain the air conditioner.
3. More details of the service code are explained in Service Manual.

9 TROUBLESHOOTING

Check method

On the remote controller (Main remote controller, Central control remote controller) and the interface P.C. board of the outdoor unit, a check display LCD (Remote controller) or 7-segment display (on the outdoor interface P.C. board) operation is provided. Therefore the operation status can be known. Using this self-diagnosis function, a fault and the location of this fault within the air conditioning system can be located, as shown in the table below.

Check code list

The following list shows each check code. Find the check contents from the list according to part to be checked.

- In case of a fault from the indoor remote controller: See “Main remote controller display” in the list.
- In case of a fault from the outdoor unit: See “Outdoor 7-segment display” in the list.
- In case of a fault from the indoor unit with a wireless remote controller:
  See “Sensor block display of receiving unit” in the list.

Terminology

IPDU : Intelligent Power Drive Unit
○ : Lighting, ¤ : Flashing, ● : Goes off
ALT. : Flashing is alternately when there are two flashing LED.
SIM : Simultaneous flashing when there are two flashing LED.

Check code			Wireless remote controller				Check code name	Judging device
Main remote controller display	Outdoor 7-segment display		Sensor block display of receiving unit					
		Auxiliary code	Operation	Timer	Ready	Flash		
E01	—	—	¤	●	●		Communication error between indoor and remote controller (Detected at remote controller side)	Remote controller
E02	—	—	¤	●	●		Remote controller transmission error	Remote controller
E03	—	—	¤	●	●		Communication error between indoor and remote controller (Detected at indoor side)	Indoor
E04	—	—	●	●	¤		Communication circuit error between indoor/outdoor (Detected at indoor side)	Indoor
E06	E06	No. of indoor units in which sensor has been normally received	●	●	¤		Decrease of No. of indoor units	I/F
—	E07	—	●	●	¤		Communication circuit error between indoor/outdoor (Detected at outdoor side)	I/F
E08	E08	Duplicated indoor addresses	¤	●	●		Duplicated indoor addresses	Indoor / I/F
E09	—	—	¤	●	●		Duplicated main remote controllers	Remote controller
E10	—	—	¤	●	●		Communication error between indoor MCU	Indoor
E12	E12	01: Indoor/Outdoor communication 02: Communication between outdoor units	¤	●	●		Automatic address start error	I/F
E15	E15	—	●	●	¤		Indoor is nothing during automatic addressing	I/F
E16	E16	00: Capacity over 01 ~: No. of connected units	●	●	¤		Capacity over / No. of connected indoor units	I/F
E18	—	—	¤	●	●		Communication error between indoor units	Indoor
E19	E19	00: Header is nothing 02: Two or more header units	●	●	¤		Outdoor header units quantity error	I/F
E20	E20	01: Outdoor of other line connected 02: Indoor of other line connected	●	●	¤		Other line connected during automatic address	I/F
E23	E23	—	●	●	¤		Sending error in communication between outdoor units	I/F
E25	E25	—	●	●	¤		Duplicated follower outdoor addresses	I/F
E26	E26	No. of outdoor units which received signal normally	●	●	¤		Decrease of No. of connected outdoor units	I/F
E28	E28	Detected outdoor unit number	●	●	¤		Follower outdoor unit error	I/F
E31	E31	01: IPDU1 error 02: IPDU2 error 03: IPDU1, 2 error 04: Fan IPDU error 05: IPDU + Fan IPDU error 06: IPDU2 + Fan IPDU error 07: All IPDU error	●	●	¤		IPDU communication error	I/F

Check code			Wireless remote controller				Check code name	Judging device
Main remote controller display	Outdoor 7-segment display		Sensor block display of receiving unit					
		Auxiliary code	Operation	Timer	Ready	Flash		
F01	—	—	¤	¤	●	ALT	Indoor TCJ sensor error	Indoor
F02	—	—	¤	¤	●	ALT	Indoor TC2 sensor error	Indoor
F03	—	—	¤	¤	●	ALT	Indoor TC1 sensor error	Indoor
F04	F04	—	¤	¤	○	ALT	TD1 sensor error	I/F
F05	F05	—	¤	¤	○	ALT	TD2 sensor error	I/F
F06	F06	—	¤	¤	○	ALT	TE1 sensor error	I/F
F07	F07	—	¤	¤	○	ALT	TL sensor error	I/F
F08	F08	—	¤	¤	○	ALT	TO sensor error	I/F
F10	—	—	¤	¤	●	ALT	Indoor TA sensor error	Indoor
F12	F12	—	¤	¤	○	ALT	TS1 sensor error	I/F
F13	F13	01: Comp. 1 side 02: Comp. 2 side	¤	¤	○	ALT	TH sensor error	IPDU
F15	F15	—	¤	¤	○	ALT	Outdoor temp. sensor miscabling (TE, TL)	I/F
F16	F16	—	¤	¤	○	ALT	Outdoor pressure sensor miscabling (Pd, Ps)	I/F
F23	F23	—	¤	¤	○	ALT	Ps sensor error	I/F
F24	F24	—	¤	¤	○	ALT	Pd sensor error	I/F
F29	—	—	¤	¤	●	SIM	Indoor other error	Indoor
F31	F31	—	¤	¤	○	SIM	Indoor EEPROM error	I/F
H01	H01	01: Comp. 1 side 02: Comp. 2 side	●	¤	●		Compressor break down	IPDU
H02	H02	01: Comp. 1 side 02: Comp. 2 side	●	¤	●		Magnet switch error Overcurrent relay operation Compressor trouble (lock)	MG-SW Overcurrent relay IPDU
H03	H03	01: Comp. 1 side 02: Comp. 2 side	●	¤	●		Current detect circuit system error	IPDU
H04	H04	—	●	¤	●		Comp 1 case thermo operation	I/F
H06	H06	—	●	¤	●		Low pressure protective operation	I/F
H07	H07	—	●	¤	●		Oil level down detective protection	I/F
H08	H08	01: TK1 sensor error 02: TK2 sensor error 03: TK3 sensor error 04: TK4 sensor error	●	¤	●		Oil level detective temp sensor error	I/F
H14	H14	—	●	¤	●		Comp 2 case thermo operation	I/F
H16	H16	01: TK1 oil circuit system error 02: TK2 oil circuit system error 03: TK3 oil circuit system error 04: TK4 oil circuit system error	●	¤	●		Oil level detective circuit error Magnet switch error Overcurrent relay operation	I/F MG-SW Overcurrent relay
L03	—	—	¤	●	¤	SIM	Indoor center unit duplicated	Indoor
L04	L04	—	¤	○	¤	SIM	Outdoor line address duplicated	I/F
L05	—	—	¤	●	¤	SIM	Duplicated indoor units with priority (Displayed in indoor unit with priority)	I/F
L06	L06	No. of indoor units with priority	¤	●	¤	SIM	Duplicated indoor units with priority (Displayed in unit other than indoor unit with priority)	I/F
L07	—	—	¤	●	¤	SIM	Group line in individual indoor unit	Indoor
L08	L08	—	¤	●	¤	SIM	Indoor group/Address unset	Indoor, I/F
L09	—	—	¤	●	¤	SIM	Indoor capacity unset	Indoor
L10	L10	—	¤	○	¤	SIM	Outdoor capacity unset	I/F
L20	L20	—	¤	○	¤	SIM	Duplicated central control addresses	Indoor
L28	L28	—	¤	○	¤	SIM	Over No. of connected outdoor units	I/F
L29	L29	01: IPDU1 error 02: IPDU2 error 03: IPDU3 error 04: Fan IPDU error 05: IPDU1 + Fan IPDU error 06: IPDU2 + Fan IPDU error 07: All IPDU error	¤	○	¤	SIM	No. of IPDU error	I/F
L30	L30	Detected indoor address	¤	○	¤	SIM	Indoor outside interlock	Indoor
—	L31	—		—			Extended I/C error	I/F

9 TROUBLESHOOTING

Check code			Wireless remote controller				Check code name	Judging device
Main remote controller display	Outdoor 7-segment display		Sensor block display of receiving unit					
		Auxiliary code	Operation	Timer	Ready	Flash		
P01	—	—	●	¤	¤	ALT	Indoor fan motor error	Indoor
P03	P03	—	¤	●	¤	ALT	Discharge temp. TD1 error	I/F
P04	P04	01: Comp. 1 side 02: Comp. 2 side	¤	●	¤	ALT	High-pressure SW system operation	IPDU
P05	P05	01: Phase-missing detection 02: Phase error	¤	●	¤	ALT	Phase-missing detection /Phase error	I/F
P07	P07	01: Comp. 1 side 02: Comp. 2 side	¤	●	¤	ALT	Heat sink overheat error	IPDU, I/F
P10	P10	Detected indoor address	●	¤	¤	ALT	Indoor overflow error	Indoor
P12	—	—	●	¤	¤	ALT	Indoor fan motor error	Indoor
P13	P13	—	●	¤	¤	ALT	Outdoor liquid back detection error	I/F
P15	P15	01: TS condition 02: TD condition	¤	●	¤	ALT	Gas leak detection	I/F
P17	P17	—	¤	●	¤	ALT	Discharge temp. TD2 error	I/F
P19	P19	Detected outdoor unit number	¤	●	¤	ALT	4-way valve inverse error	I/F
P20	P20	—	¤	●	¤	ALT	High-pressure protective operation	I/F
P22	P22	0 ⌊ : IGBT short 1 ⌙ : Fan motor position detective circuit error 3 ⌊ : Fan motor trouble C ⌙ : TH sensor temp. error (Heat sink overheat) D ⌊ : TH sensor error E ⌊ : Vdc output error	¤	●	¤	ALT	Outdoor fan IPDU error	IPDU
P26	P26	01: Comp. 1 side 02: Comp. 2 side	¤	●	¤	ALT	G-TR short protection error	IPDU
P29	P29	01: Comp. 1 side 02: Comp. 2 side	¤	●	¤	ALT	Comp position detective circuit system error	IPDU
P31	P31	—	¤	●	¤	ALT	Other indoor unit error (Group terminal unit error)	Indoor

Error detected by TCC-LINK central control device

Check code			Wireless remote controller				Check code name	Judging device
Central control device indication	Outdoor 7-segment display		Sensor block display of receiving unit					
		Auxiliary code	Operation	Timer	Ready	Flash		
C05	—	—	—				Sending error in TCC-LINK central control device	TCC-LINK
C06	—	—	—				Receiving error in TCC-LINK central control device	TCC-LINK
C12	—	—	—				Batch alarm of general-purpose equipment control interface	General-purpose equipment I/F
P30	Differs according to error contents of unit with occurrence of alarm						Group control branching unit error	TCC-LINK
	—	—	(L20 is displayed.)				Duplicated central control addresses	

Terminology

TCC-LINK : TOSHIBA Carriea Cominication Link.

New check code

1. Difference between the new check code and the current system

The displaying method of the check code will change from this model onwards.

	TCC Link
Used characters	Alphabet + Decimal notation, 2 digits
Characteristics of code classification	Many classification of communication/ incorrect setup system
Block display	Communication/Incorrect setup (4 ways), Indoor protection, Outdoor protection, Sensor, Compressor protection, etc.

Display	Classification
A	Unused
C	Central control system error
E	Communication system error
F	Each sensor error (Failure)
H	Compressor protective system error
J	Unused
L	Setup error, Other errors
P	Protective device operation

Display on wired remote controller

- [⚠] goes on.
- [UNIT No.] + Check code + Operation lamp (Green) flash

Display on sensor part of wireless remote controller

- Block display will show a combination of [⏻] [🕘] [❄] symbols.

Display on 7-segment in outdoor unit

- Unit No. and check code are displayed.
- In case of error the auxiliary code, check code and sub-code are displayed alternately.

2. Special mention

- When the air conditioner stops and the error is cleared, the check code display on the remote controller will also disappear.

  However, if the error continues after the unit has been stopped, the check code will immediately be displayed when the unit is restarted.

10 MAINTENANCE

Prior to maintenance, ensure the power supply is turned off.

⚠ WARNING

Cleaning of the air filter and other parts of the air filter involves dangerous work in high places, so be sure to have a service person do it. Do not attempt it yourself.

CAUTION

Do not handle the buttons with wet hands as this will cause the risk of electric shock.

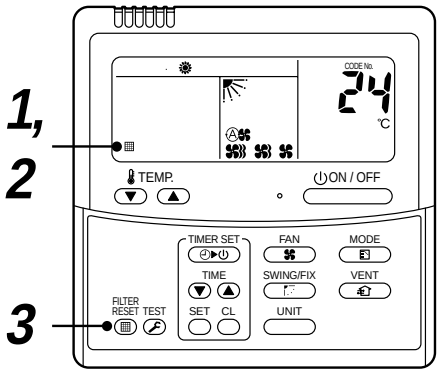
Cleaning of air filter

1 **If ▦ is displayed on the remote controller, maintenance to the air filter is required.**

2 **Clogging of the air filter decreases cooling/ heating efficiency.**

3 **After cleaning, push the FILTER RESET (▦) .**

▦ display disappears.



[4-way Air Discharge Cassette Type]

1 **Open the air inlet grille.**

- Slide the air inlet grille buttons to detach the air inlet grille from the main ceiling panel. Lower the grille slowly whilst holding.

2 **Take out the air filter.**

- Push the extrusion of the air filter away from the grille and remove.

3 **Cleaning with water or vacuum cleaner**

- If dirt is heavy, clean the air filter using tepid water with a neutral detergent or just water.
- After cleaning with water, dry the air filter sufficiently in a shaded place.

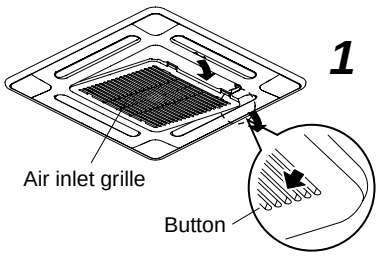
4 **Mount the air filter.**

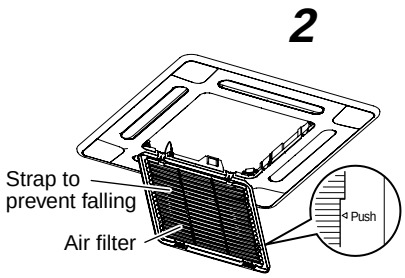
5 **Close the air inlet grille.**

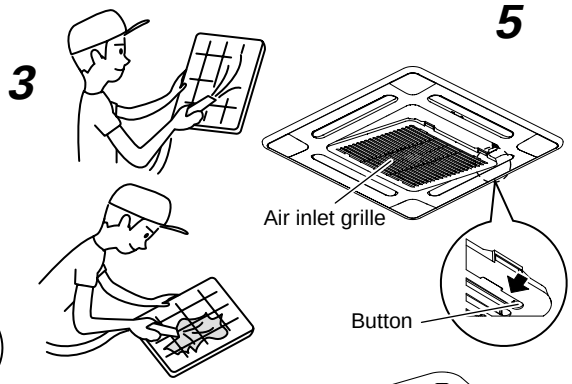
- Close the air inlet grille, slide the button to locate into the ceiling panel fixing securely.

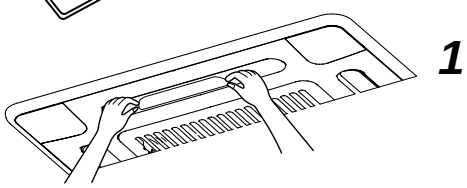
6 **Push the FILTER RESET (▦).**

- ▦ display disappears.









Cleaning of air outlet flap

The air outlet flap can be removed to clean if necessary.

1 **Remove the air outlet flap.**

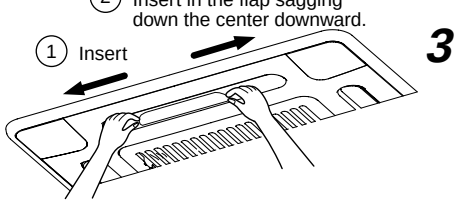
- Holding both ends of the air outlet flap, remove it by sagging the center downwards.

2 **Clean the air outlet flap with water.**

- If dirt is heavy, clean the air outlet flap using tepid water with neutral detergent or just water.

3 **Mount the air outlet flap.**

- First push in the one side, and insert the opposite side by sagging the center downwards.



Be careful to insert the flap in the correct direction.

Insert the flap with the printed mark facing upwards, and the arrow on the flap pointing in the outward direction.