



INSTALLATION AND OPERATION MANUAL

VRV SYSTEM

Air Conditioners

English

MODELS

Ceiling-mounted Multi Flow cassette type [See English](#)

FXZQ20CRV16

FXZQ25CRV16

FXZQ32CRV16

FXZQ40CRV16

FXZQ50CRV16

CAREFULLY READ THESE INSTRUCTIONS BEFORE INSTALLATION.
KEEP THIS MANUAL IN A HANDY PLACE FOR FUTURE REFERENCE.

■ DISPOSAL REQUIREMENTS



Your product and the batteries supplied with the controller are marked with this symbol. This symbol means that electrical and electronic products and batteries shall not be mixed with unsorted household waste. For batteries, a chemical symbol can be printed beneath the symbol. This chemical symbol means that the battery contains a heavy metal above a certain concentration. Possible chemical symbols are:

■ Pb: lead (>0.004%)

Do not try to dismantle the system yourself: the dismantling of the product, treatment of the refrigerant, of oil and of other parts must be done by a qualified installer in accordance with relevant local and national legislation. Units and waste batteries must be treated at a specialized treatment facility for re-use, recycling and recovery. By ensuring correct disposal, you will help to prevent potential negative consequences for the environment and human health. Please contact the installer or local authority for more information.

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The English text is the original instruction. Other languages are translations of the original instructions.

1. SAFETY PRECAUTIONS


■ FOR INSTALLATION


Please read the these "SAFETY PRECAUTIONS" carefully before installing air conditioning unit and be sure to install it correctly. After completing the installation, make sure that the unit operates properly during the start-up operation. Please instruct the customer on how to operate the unit and keep it maintained.

Also, inform customers that they should store this installation manual along with the operation manual for future reference. This product comes under the term "appliances not accessible to the general public".

In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

- This manual classifies the precautions into WARNINGS and CAUTIONS.
Be sure to follow all the precautions below: They are all important for ensuring safety.

 **WARNING**Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

 **CAUTION**Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.

- After the installation is completed, test the air conditioner and check if the air conditioner operates properly. Give the user adequate instructions concerning the use and cleaning of the indoor unit according to the Operation Manual. Ask the user to keep this manual in a handy place for future reference.

WARNING

- Ask your local dealer or qualified personnel to carry out installation work.
Improper installation may result in water leakage, electric shocks or a fire.
- Perform installation work in accordance with this installation manual.
Improper installation may result in water leakage, electric shocks or a fire.
- Consult your local dealer regarding what to do in case of refrigerant leakage.
When the air conditioner is installed in a small room, it is necessary to take proper measures so that the amount of any leaked refrigerant does not exceed the concentration limit in the event of a leakage.
Otherwise, this may lead to an accident due to oxygen deficiency.
- Be sure to use only the specified parts and accessories for installation work.
Failure to use the specified parts may result in the air conditioner falling down, water leakage, electric shocks, a fire, etc.
- Install the air conditioner on a foundation that can withstand its mass.
Insufficient strength may result in the air conditioner falling down and causing injury.
In addition, it may lead to vibration of indoor units and cause unpleasant chattering noise.
- Carry out the specified installation work in consideration of strong winds, typhoons, or earthquakes.
Improper installation may result in an accident such as air conditioner falling.
- Make certain that all electrical work is carried out by qualified personnel according to the applicable legislation (Note 1) and this installation manual, using a separate circuit.
In addition, even if the wiring is short, make sure to use a wiring that has sufficient length and never connect additional wiring to make the length sufficient.
Insufficient capacity of the power supply circuit or improper electrical construction may lead to electric shocks or a fire.
(Note 1) applicable legislation means "All international, national and local directives, laws, regulations and/or codes which are relevant and applicable for a certain product or domain".
- Earth the air conditioner.
Do not connect the earth wiring to gas or water piping, lightning conductor or telephone earth wiring.
Incomplete earthing may cause electric shocks or a fire.
- Be sure to install an earth leakage breaker.
Failure to do so may cause electric shocks and a fire.
- Disconnect the power supply before touching the electric components.
If you touch the live part, you may get an electric shocks.
- Make sure that all wiring is secure, using the specified wirings and ensuring that external forces do not act on the terminal connections or wirings.
Incomplete connection or fixing may cause an overheat or a fire.
- When wiring between the indoor and outdoor units, and wiring the power supply, form the wirings orderly so that the control box lid can be securely fastened.
If the control box lid is not in place, overheat of the terminals, electric shocks or a fire may be caused.

- If refrigerant gas leaks during installation work, ventilate the area immediately.
Toxic gas may be produced if refrigerant gas comes into contact with a fire.
- After completing the installation work, check to make sure that there is no leakage of refrigerant gas.
Toxic gas may be produced if refrigerant gas leaks into the room and comes into contact with a source of a fire, such as a fan heater, stove or cooker.
- Never directly touch any accidental leaking refrigerant.
This could result in severe wounds caused by frostbite.

CAUTION

- Do not allow children to climb on the outdoor unit and avoid placing objects on the unit.
Injury may result if the unit becomes loose and falls.
- Make sure to provide for adequate measures in order to prevent that the outdoor unit be used as a shelter by small animals.
Small animals making contact with electrical parts can cause malfunctions, smoke or fire. Please instruct the customer to keep the area around the unit clean.
- Install in a machine room that is free of moisture. The unit is designed for indoor use.
- Disposal requirements.
Dismantling of the unit, treatment of the refrigerant, of oil and of other parts must be done in accordance with relevant local and national legislation.
- Install drain piping according to this installation manual to ensure good drainage, and insulate the piping to prevent condensation.
Improper drain piping may cause water leakage, make the furniture get wet.
- Install the air conditioner, power supply wiring, remote controller wiring and transmission wiring at least 1 m away from televisions or radios to prevent image interference or noise.
(Depending on the radio waves, a distance of 1 m may not be sufficient to eliminate the noise.)
- Install the indoor unit as far as possible from fluorescent lamps. If a wireless remote controller kit is installed, the transmission distance may be shorter in a room where an electronic lighting type (inverter or rapid start type) fluorescent lamp is installed.
- Do not install the air conditioner in places such as the following:
 - 1 Where there is mist of oil, oil spray or vapour for example a kitchen.
Resin parts may deteriorate, and cause them to fall out or water to leak.
 - 2 Where corrosive gas, such as sulfurous acid gas, is produced.
Corrosion of copper pipings or brazed parts may cause the refrigerant to leak.
 - 3 Where there is machinery which emits electromagnetic waves.
Electromagnetic waves may disturb the control system, and cause malfunction of the equipment.
 - 4 Where flammable gases may leak, where carbon fibre or ignitable dust is suspended in the air or where volatile flammables, such as thinner or gasoline, are handled.
If the gas should leak and remained around the air conditioner, it may cause ignition.
- Pay attention to product transportation.
Carry by hold the handle position that display on packing material.
In case of hold PP hand, PP band will get loose, it will be dangerous.

SPECIAL NOTICE PRODUCT

- The refrigerant R410A requires that strict precautions be observed for keeping the system clean, dry and tightly sealed.
 - Clean and dry
Strict measures must be taken to keep impurities (including SUNISO oil and other mineral oils as well as moisture) out of the system.
 - Tightly sealed
R410A contains no chlorine, does not destroy the ozone layer and so does not reduce the earth's protection against harmful ultraviolet radiation. R410A will contribute only slightly to the greenhouse effect if released into the atmosphere.
- Since design pressure is 4.0 MPa or 40 bar the thickness of pipes must be greater than previously. Since R410A is a mixed refrigerant, the required additional refrigerant must be charged in its liquid state.
(If the system is charged with refrigerant in its gaseous state, due to composition change, the system will not function normally). The indoor unit is designed for R410A use.
See the catalogue for indoor unit models that can be connected. (Normal operation is not possible when connecting units that are originally designed for other refrigerants.)

FOR OPERATION

To gain full advantage of the air conditioner's functions and to avoid malfunction due to mishandling, please read this operation manual carefully before use.
Read the precautions thoroughly to avoid misuse of the equipment.
This product comes under the term "appliances not accessible to the general public".

- **This manual classifies the precautions into WARNINGS and CAUTIONS. Be sure to follow all the precautions below: They are all important for ensuring safety.**
- **There are two kinds of safety precautions and tips listed in the following.**

WARNINGIndicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

CAUTIONIndicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.

- **After reading, keep this manual in a convenient place so that you can refer to it whenever necessary. If the equipment is transferred to a new user, be sure also to hand over the manual.**

WARNING

- **Be aware that prolonged, direct exposure to cool or warm air from the air conditioner, or to air that is too cool or too warm can be harmful to your physical condition and health.**

- **When the air conditioner is malfunctioning (giving off a burning odor, etc.), turn off the power to the air conditioner and contact your local dealer.**
Continued operation under such circumstances may result in a failure, electric shocks or a fire.

- **Consult your local dealer about installation work.**
Doing the work yourself may result in water leakage, electric shocks or a fire.

- **Consult your local dealer regarding modification, repair and maintenance of the air conditioner.**
Improper workmanship may result in water leakage, electric shocks or a fire.

- **Do not place objects, including rods, your fingers, etc., in the air inlet or outlet.**
Injury may result due to contact with the air conditioner's high-speed fan blades.

- **Beware of a fire in case of refrigerant leakage.**
If the air conditioner is not operating correctly, i.e. not generating cool or warm air, refrigerant leakage could be the cause. Consult your local dealer for assistance. The refrigerant used for the air conditioner is safe and normally does not leak. However, if the refrigerant leaks and gets in contact with a naked burner, heater or cooker, it may generate hazardous compounds. Turn off the air conditioner and call your local dealer. Turn on the air conditioner after the qualified service person makes sure to confirm that the leakage is repaired.

- **Consult your local dealer regarding what to do in case of refrigerant leakage.**
When the air conditioner is installed in a small room, it is necessary to take proper measures so that the amount of any leaked refrigerant does not exceed the concentration limit in the event of a leakage. Otherwise, this may lead to an accident due to oxygen depletion.

- **Contact professional personnel about attachment of accessories and be sure to use only accessories specified by the manufacturer.**
If a defect results from your own workmanship, it may result in water leakage, electric shocks or a fire.

- **Consult your local dealer regarding relocation and installation of the air conditioner. (Do not do installation of the air conditioner by yourself.)**
Improper installation work may result in leakage, electric shocks or a fire.

- **Be sure to use fuses with the correct ampere reading.**
Do not use improper fuses, copper or other wiring as a substitute, as this may result in electric shocks, a fire injury or damage to the air conditioner.

- **Be sure to earth the air conditioner.**
Do not earth the air conditioner to a utility piping, lightning conductor or telephone earth lead.
Imperfect earthing may result in electric shocks or a fire. A high surge current from lightning or other sources may cause damage to the air conditioner.

- **Be sure to install an earth leakage breaker.**
Failure to install an earth leakage breaker may result in electric shocks or a fire.

- **Consult your local dealer if the air conditioner submerges owing to a natural disaster, such as a flood or typhoon.**
Do not operate the air conditioner in that case, or otherwise malfunction, electric shocks, or a fire may result.

- **Do not start or stop operating the air conditioner with the power supply breaker turned ON or OFF.**
Otherwise, fire or water leakage may result. Furthermore, the fan will rotate abruptly if power failure compensation is enabled, which may result in injury.

- **Do not use the air conditioner in the atmosphere contaminated with oil vapor, such as cooking oil or machine oil vapor.**
Oil vapor may cause crack damage to the air conditioner, electric shocks, or a fire.

- **Do not use the air conditioner in places with excessive oily smoke, such as cooking rooms, or in places with flammable gas, corrosive gas, or metal dust.**
Using the air conditioner in such places may cause a fire or air conditioner failures.

- **Do not relocation and reinstallation of the air conditioner by yourself.**
Improper installation work may result in leakage, electric shocks or a fire. Please consult your local dealer.

- **Do not use flammable materials (e.g., hairspray or insecticide) near the air conditioner.**

- **Do not clean the air conditioner with organic solvents such as paint thinner.**
The use of organic solvents may cause crack damage to the air conditioner, electric shocks, or a fire.

- **Do not place burners or heaters in places exposed to the air flow from the unit as this may impair combustion of the burner or heater.**

- **Do not wipe the controller panel with benzene or other organic solvent.**
This will cause discoloration and/or peeling. If the panel needs cleaning, use a damp cloth with some water-diluted neutral detergent. Wipe with a dry cloth afterwards.

- **Do not operate with the control panel lid open.**
If water gets inside the panel, it may result in equipment failure or electric shock.

- **Be sure to use a dedicated power supply for the air conditioner.**
The use of any other power supply may cause heat generation, a fire, or air conditioner failures.

- **Consult your local dealer regarding cleaning the inside of the air conditioner.**
Improper cleaning may cause breakage of plastic parts, water leakage and other damage as well as electric shocks.

CAUTION

- **Do not use the air conditioner for purposes other than those for which it is intended.**
Do not use the air conditioner for cooling precision instruments, food, plants, animals or works of art as this may adversely affect the performance, quality and/or longevity of the object concerned.
- **Do not remove the outdoor unit's outlet side grille.**
The guard protects against the unit's high-speed fan, which may cause injury.
- **To avoid oxygen depletion, ensure that the room is adequately ventilated if equipment such as a burner is used together with the air conditioner.**

- **After prolonged use, check the unit stand and its mounts for damage.**
If left in a damaged condition, the unit may fall and cause injury.
- **Do not place flammable sprays or operate spray containers near the air conditioner as this may result in a fire.**
- **Do not put flammable containers, such as spray cans, within 1 m from the air outlet.**
The containers may explode because the warm air from the indoor or outdoor unit will affect them.
- **When maintenance, be sure to stop the air conditioner operation, turn the power circuit breaker off.**
Otherwise, an electric shocks and injury may result.
- **To avoid electric shocks, do not operate with wet hands.**
- **Do not place objects that are susceptible to moisture directly beneath the indoor or outdoor units.**
Under certain conditions, condensation on the unit or refrigerant piping, air filter dirt or drain blockage may cause dripping, resulting in fouling or failure of the object concerned.
- **Do not place appliances that produce naked flames in places exposed to the airflow from the air conditioner as this may impair combustion of the burner.**
- **Do not place heaters directly below the indoor unit, as resulting heat can cause deformation.**
- **Do not allow a child to mount on the outdoor unit or avoid placing any object on it.**
Falling or tumbling may result in injury.
- **Do not sit or place objects on the outdoor unit.**
Falling yourself or falling objects could cause injury.
- **Be sure that children, plants or animals are not exposed directly to airflow from the indoor unit, as adverse effects may ensue.**
- **Do not wash the air conditioner with water, as this may result in electric shocks or a fire.**
- **Do not place flammable sprays near the unit as this can cause explosions.**
- **Arrange the drain hose to ensure smooth drainage.**
Imperfect drainage may cause wetting of the building furniture etc.
- **Arrange the drain hose to ensure smooth drainage.**
Imperfect drainage may cause wetting.
- **Ensure that the remote controller is not exposed to direct sunlight.**
This will cause discoloration of the LCD display with resulting loss of readability.
- **Never operate remote controller buttons with hard, pointed objects.**
This may result in remote controller damage.
- **Do not pull or twist the remote controller cord.**
This may cause malfunctioning.
- **Do not operate the air conditioner when using a room fumigation type insecticide.**
Fumigation chemicals deposited in the unit could endanger the health of those who are hypersensitive to touch chemicals.
- **Do not place water containers (flower vases, etc.) on the indoor unit, as this may result in electric shocks or a fire.**

- **Do not install the air conditioner at any place where there is a danger of flammable gas leakage.**
In the event of a gas leakage, build-up of gas near the air conditioner may result in a fire.
- **Arrange the drain to ensure complete drainage.**
If proper drainage from the outdoor drain pipe does not occur during air conditioner operation, there could be a blockage due to dirt and debris build-up in the pipe. This may result in a water leakage from the indoor unit. Under these circumstances, stop air conditioner operation and consult your dealer for assistance.
- **The appliance is not intended for use by unattended young children or infirm persons.**
Impairment of bodily functions and harm to health may result.
- **Children should be supervised to ensure that they do not play with the unit or its remote controller.**
Accidental operation by a child may result in impairment of bodily functions and harm health.
- **To avoid injury, do not touch the air inlet or aluminum fins of the air conditioner.**
- **Do not place objects in direct proximity of the outdoor unit and do not let leaves and other debris accumulate around the unit.**
Leaves are a hotbed for small animals which can enter the unit. Once in the unit, such animals can cause malfunctions, smoke or a fire when making contact with electrical parts.
- **Do not block air inlets nor outlets.**
Impaired airflow may result in insufficient performance or trouble.
- **Do not let children play on or around the outdoor unit.**
If they touch the unit carelessly, injury may be caused.
- **Turn off the main power switch when the air conditioners is not to be used for prolonged periods.**
When the main power switch is left on, some electrical power (watts) is still consumed even if the air conditioner is not operating. Therefore, switch off the main power switch to save energy. When resuming operation, to ensure smooth running, turn on the main power switch 6 hours before operating the air conditioner again.
- **Never touch the internal parts of the controller.**
Do not remove the front panel. Touching certain internal parts will cause electric shocks and damage to the unit. Please consult your local dealer about checking and adjustment of internal parts.
- **Do not leave the remote controller wherever there is a risk of wetting.**
If water gets into the remote controller there is a risk of electrical leakage and damage to electronic components.
- **Take care of scaffolding and exercise caution when working high above ground level.**
- **Before cleaning, be sure to stop unit operation, turn the breaker off or remove the power cord.**
Otherwise, an electric shock and injury may result.
- **Watch your steps at the time of air filter cleaning or inspection.**
High-place work is required, to which utmost attention must be paid.
If the scaffold is unstable, you may fall or topple down, thus causing injury.

INSTALLATION SITE

Regarding places for installation

- **Is the air conditioner installed at a well-ventilated place where there are no obstacles around?**
- **Do not use the air conditioner in the following places.**
 - a. Filled with much mineral oil such as cutting oil
 - b. Where there is much salt such as a beach area
 - c. Where sulfured gas exists such as a hot-spring resort
 - d. Where there are considerable voltage fluctuations such as a factory or plant
 - e. Vehicles and vessels
 - f. Where there is much spray of oil and vapor such as a cookery, etc.
 - g. Where there are machines generating electromagnetic waves
 - h. Filled with acid and/or alkaline steam or vapor

Regarding wiring

- **All wiring must be performed by a qualified personnel.**
To do wiring, ask your local dealer. Never do it by yourself.
- **Make sure that a separate power supply circuit is provided for this air conditioner and that all electrical work is carried out by qualified personnel according to local laws and regulations.**

Pay attention to running noises, too

- **Are the following places selected?**
 - a. A place that can sufficiently withstand the mass of the air conditioner with less running noises and vibrations.
 - b. A place where the hot wind discharged from the air outlet of the outdoor unit and the running noises do not cause a nuisance to neighbours.
- **Are you sure that there are no obstacles near the air outlet of the outdoor unit?**
Such obstacles may result in declined performance and increased running noises.
- **If abnormal noises occur in use, stop the operation of the air conditioner, consult your local dealer.**

Regarding drainage of drain piping

- **Is the drain piping carried out properly to ensure complete drainage?**
If drain piping is not carried out properly, dirt and debris may be accumulated in the drain piping and cause water leakage. If it occurs, stop the air conditioner and consult with your local dealer for assistance.
- **Draining water or motor rotation sound after the indoor unit stop.**
This sound is heard when cooling operation stop, the drain pump operates and then stop. Wait approximately 5 minutes.

System relocation

- **Consult your Daikin dealer about remodelling and relocation.**

2. BEFORE INSTALLATION





- Leave the unit inside its packaging until you reach the installation site. Where unpacking is unavoidable, use a sling of soft material or protective plates together with a rope when lifting, this to avoid damage or scratches to the unit.
When unpacking the unit or when moving the unit after unpacking, be sure to lift the unit by holding on to the hanger bracket without exerting any pressure on other parts, especially on refrigerant piping, drain piping and other resin parts.
- Refer to the installation manual of the outdoor unit for items not described in this manual.
- Caution concerning refrigerant series R410A:
The connectable outdoor units must be designed exclusively for R410A.




2-1 PRECAUTIONS





- This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved.
- Children shall not play with the appliance.
- Cleaning and user maintenance shall not be made by children without supervision.
- If the supply cord is damaged, it must be replaced by the manufacturer, a service agent or similarly qualified persons in order to avoid a hazard.
- This appliance is intended to be used by expert or trained users in shops, in light industry and on farms, or for commercial use by lay persons.
- Do not install or operate the unit in rooms mentioned below.
 - Places with mineral oil, or filled with oil vapour or spray like in kitchens. (Plastic parts may deteriorate.)
 - Where corrosive gas like sulphurous gas exists. (Copper tubing and brazed spots may corrode.)
 - Where volatile flammable gas like thinner or gasoline is used.
 - Where machines generating electromagnetic waves exist. (Control system may malfunction.)
 - Where the air contains high levels of salt such as air near the ocean and where voltage fluctuates a lot (e.g. in factories). Also in vehicles or vessels.
- When selecting the installation site, use the supplied paper pattern for installation.
- Do not install accessories on the casing directly.
Drilling holes in the casing may damage electrical wires and consequently cause fire.

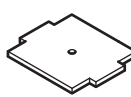
2-2 ACCESSORIES

Check if the following accessories are included with your unit.

Name	Metal clamp	Drain hose	Washer for hanger bracket	Screw
Quantity	1 pc.	1 pc.	8 pcs.	4 pcs.
Shape				

Name	Clamp	Insulation for fitting for gas pipe	Insulation for fitting for liquid pipe
Quantity	7 pcs.	1 pc.	1 pc.
Shape			

Name	Large sealing pad	Medium 1 sealing pad	Medium 2 sealing pad	Small sealing pad
Quantity	1 sheet	1 sheet	1 sheet	1 sheet
Shape				

Name	Paper pattern for installation (cut out from upper part of packing)
Quantity	1 sheet
Shape	

2-3 OPTIONAL ACCESSORIES

- There are two types of remote controllers: wired and wireless. Select a remote controller according to customers request and install in an appropriate place. Refer to catalogues and technical literature for selecting a suitable remote controller.
- This indoor unit requires installation of an optional decoration panel.

CARRY OUT THE WORK GIVING CAUTION TO THE FOLLOWING ITEMS AND AFTER THE WORK IS COMPLETED CHECK THESE AGAIN.

1. Items to be checked after the installation work is completed

Items to be checked	In case of defective	Check column
Are the indoor and outdoor units rigidly fixed?	Drop · vibration · noise	
Have you carried out a leakage test with the test pressure specified in the outdoor unit installation manual?	It may result in insufficient cooling/insufficient heating	
Is the insulation of refrigerant piping and drain piping completely carried out?	Water leakage	
Does the drain flow out smoothly?	Water leakage	
Is the power supply voltage identical to that stated in the manufacturer's label on the air conditioner?	The unit may malfunction or the components burn out	
Are you sure that there is no wrong wiring or piping or no loose wiring?	The unit may malfunction or the components burn out	
Is unit safety grounded?	It may result in electric shock	
Are the sizes of electric wiring according to the specification?	The unit may malfunction or the components burn out	
Is any of air outlets or inlets of the indoor and outdoor units blocked with obstacles? (It may lead to capacity drop due to fan speed drop or malfunction of equipment.)	It may result in insufficient cooling/insufficient heating	
Have you recorded the refrigerant piping length and the refrigerant charge added?	Refrigerant charge amount is not clear	

Make sure to recheck the items of "SAFETY PRECAUTIONS".

2-4 NOTES TO THE INSTALLER

- Read this manual carefully to ensure correct installation. Be sure to instruct the customer how to properly operate the system and show him/her the enclosed operation manual.
- Explain to the customer what system is installed on the site. Be sure to fill out the appropriate installation specifications in the chapter "What to do before operation" of the outdoor unit operation manual.

3. SELECTING INSTALLATION SITE

When the conditions in the ceiling are exceeding 30°C and a relative humidity of 80%, or when fresh air is inducted into the ceiling, an additional insulation is required (minimum 10 mm thickness, polyethylene foam).

For this unit you can select different air flow directions. It is necessary to purchase an optional blocking pad kit to discharge the air in 3 or 4 (closed corners) directions.

Install the unit so that air vents, lights, or machines near the unit do not interfere with the air flow.

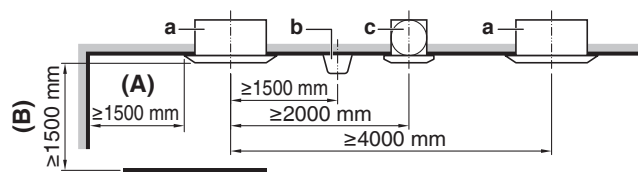


Fig. 1

a Indoor unit

b Lighting

The figure describes about a ceiling lighting, but a recessed ceiling light is not restricted.

c Air fan

A If the air outlet is closed, space marked (A) should be 500 mm at least. In addition, if both the right and left corner of this air outlet are closed, space marked (A) should be 200 mm at least.

B ≥1500 mm from any static volume

- Select an installation site where the following conditions are fulfilled and that meets your customer's approval.
 - Where optimum air distribution can be ensured.
 - Where nothing blocks air passage.
 - Where condensate water can be properly drained.
 - Where the false ceiling is not noticeably on an incline.
 - Where sufficient clearance for maintenance and service can be ensured.
 - Where there is no risk of flammable gas leaking.
 - The equipment is not intended for use in a potentially explosive atmosphere.
 - Where piping between indoor and outdoor units is possible within the allowable limit. (Refer to the installation manual of the outdoor unit.)
 - Keep indoor unit, outdoor unit, inter unit wiring and remote controller wiring at least 1 m away from televisions and radios. This is to prevent image interference and noise in those electrical appliances. (Noise may be generated depending on the conditions under which the electric wave is generated, even if 1 m is kept.)
 - When installing the wireless remote controller kit, the distance between wireless remote controller and indoor unit might be shorter if there are fluorescent lights who are electrically started in the room. The indoor unit must be installed as far as possible away from fluorescent lights.

(2) Ceiling height

This indoor unit may be installed on ceilings up to 3.5 m in height. However, it becomes necessary to make field settings using the remote controller when installing the unit at a height over 2.7 m.

To avoid accidental touching, it is recommended to install the unit higher than 2.5 m.

Refer to "11. FIELD SETTINGS" on page 16 and to the decoration panel installation manual.

(3) Air flow directions

Select the air flow directions best suited to the room and point of installation. For air discharge in 3 directions, it is necessary to make field settings by means of the remote controller and to close the air outlet(s). Refer to the installation manual of the optional blocking pad kit and to “11. FIELD SETTINGS” on page 16. (See Fig. 2)

(↑ : air flow direction)

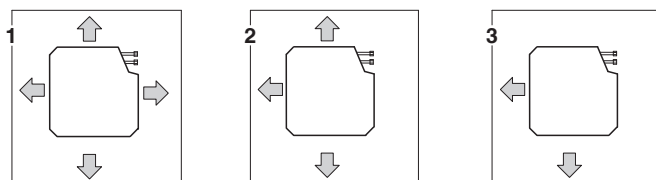


Fig. 2

- 1 All-round air discharge
- 2 Air discharge in 3 directions
- 3 Air discharge in 2 directions

NOTE

Air flow directions as shown in Fig. 1 merely serve as examples of possible air flow directions.

- (4) Use suspension bolts for installation. Check whether the ceiling is strong enough to support the weight of the indoor unit. If there is a risk, reinforce the ceiling before installing the unit.

(The installation pitch is marked on the paper pattern for installation. Refer to it to check for points requiring reinforcing.) Space required for installation see Fig. 3

(↑ : air flow direction)

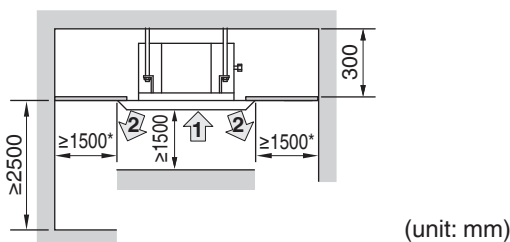


Fig. 3

- 1 Air discharge
- 2 Air inlet

NOTE

Leave 200 mm or more space where marked with *, on sides where the air outlet is closed.

4. PREPARATIONS BEFORE INSTALLATION

- (1) Relation of ceiling opening to unit and suspension bolt position.
In case of decoration panel

BYFQ60C (FOR GRID CEILING CASE)

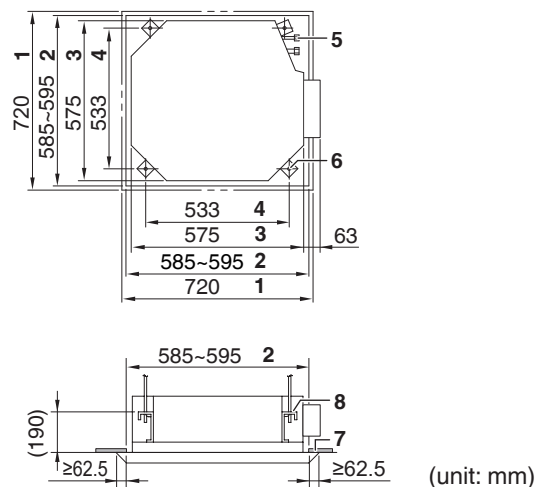


Fig. 4.1

BYFQ60C (FOR GYPSUM CEILING CASE)

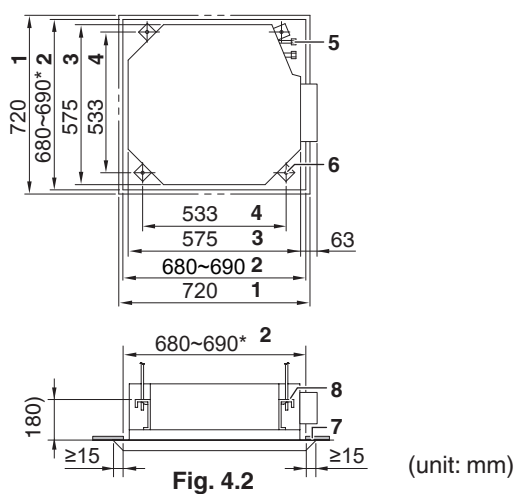


Fig. 4.2

- 1 Decoration panel dimensions
- 2 Ceiling opening dimensions
- 3 Indoor unit dimensions
- 4 Suspension bolt pitch dimensions
- 5 Refrigerant piping
- 6 Suspension bolt (×4)
- 7 False ceiling
- 8 Hanger bracket

NOTE

Installation is possible with a ceiling dimension of 660 mm (marked with*). However, to achieve a ceiling panel overlapping dimension of 20 mm, the spacing between the ceiling and the unit should be 45 mm or less. If the spacing between ceiling and the unit is over 45 mm, attach ceiling material to the part or recover the ceiling.

- (2) Make the ceiling opening needed for installation where applicable. (For existing ceilings.)
 - Refer to the paper pattern for installation for the ceiling opening dimensions.
 - Create the ceiling opening required for installation. From the side of the opening to the casing outlet or inspection opening, implement the refrigerant and drain piping and wiring for remote controller (unnecessary for wireless type). Refer to each piping or wiring section.
 - After making an opening in the ceiling, it may be necessary to reinforce ceiling beams to keep the ceiling level and to prevent it from vibrating. Consult the builder for details.
- (3) Install the suspension bolts. (Use either a M8~M10 size bolt.) Use anchors for existing ceilings, and a sunken insert, sunken anchors or other field supplied parts for new ceilings to reinforce the ceiling in order to bear the weight of the unit. Adjust clearance from the ceiling before proceeding further. Installation example (See Fig. 6)

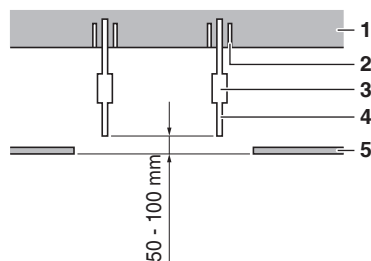


Fig. 6

- 1 Ceiling slab
- 2 Anchor
- 3 Long nut or turn-buckle
- 4 Suspension bolt
- 5 False ceiling

NOTE

- All the above parts are field supplied.
- For other installation than standard installation, contact your dealer for details.

5. INDOOR UNIT INSTALLATION

When installing optional accessories (except for the decoration panel), read also the installation manual of the optional accessories.

Depending on the field conditions, it may be easier to install optional accessories before the indoor unit is installed. However, for existing ceilings, always install fresh air intake kit before installing the unit.

- (1) Install the unit in the ceiling opening.
 - Attach the hanger bracket to the suspension bolt. Be sure to fix it securely by using a nut and washer from the upper and lower sides of the hanger bracket.
 - Securing the hanger bracket (See Fig. 7)

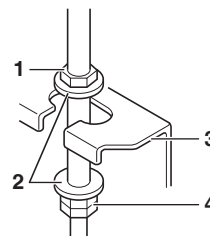
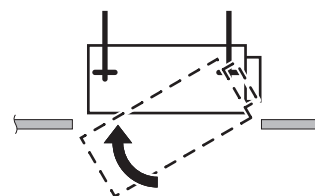


Fig. 7

- 1 Nut (field supply)
- 2 Washer (supplied with the unit)
- 3 Hanger bracket
- 4 Double nut (field supply, tighten)



- (2) Fix the paper pattern for installation. (For new ceilings only.)
 - The paper pattern for installation corresponds with the measurements of the ceiling opening. Consult the builder for details.
 - The centre of the ceiling opening is indicated on the paper pattern for installation. The centre of the unit is indicated on the unit casing.
 - The printing pattern can be rotated by 90° to be able to indicate the correct dimensions on all 4 sides.
 - After cutting of the printing pattern for installation from packing, attach the paper pattern for installation to the unit with the attached screws as shown in Fig. 8.

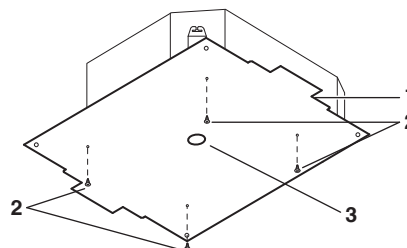


Fig. 8

- 1 Paper pattern for installation
- 2 Screws (supplied with the unit)
- 3 Centre of the ceiling opening

- (3) Adjust the unit to the right position for installation. (See "4. PREPARATIONS BEFORE INSTALLATION" on page 7.)

- (4) Check if the unit is horizontally levelled.
- Do not install the unit tilted. The indoor unit is equipped with a built-in drain pump and float switch. (If the unit is tilted against the direction of the condensate flow (the drain piping side is raised), the float switch may malfunction and cause water to drip.)
 - Check if the unit is levelled at all four corners with a water level or a water-filled vinyl tube as shown in **Fig. 9**.

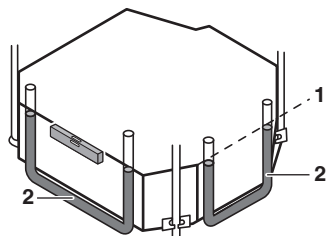


Fig. 9

- 1 Water level
2 Vinyl tube

- (5) Remove the paper pattern for installation.
(For new ceilings only.)
- Only use accessories, optional equipment and spare parts made or approved by DAIKIN.

6. REFRIGERANT PIPING WORK

For refrigerant piping of outdoor unit, refer to the installation manual supplied with the outdoor unit.

Execute heat insulation work completely on both sides of the gas piping and liquid piping. Otherwise, this can sometimes result in water leakage.

Before rigging tubes, check which type of refrigerant is used.

CAUTION

Installation shall be done by a licensed refrigeration technician, the choice of materials and installation shall comply with the applicable national and international codes.

- Use a pipe cutter and flare suitable for R410A refrigerant.
- To prevent dust, moisture or other foreign matter from infiltrating the tube, either pinch the end, or cover it with tape.
- The outdoor unit is charged with refrigerant.
- To prevent water leakage, execute heat insulation work completely on both sides of the gas and liquid piping. When using a heat pump, the temperature of the gas piping can reach up to approximately 120°C, use insulation which is sufficiently heat resistant.
- Be sure to use both a spanner and torque wrench together when connecting or disconnecting pipes to/from the unit.

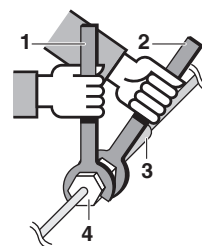


Fig. 10

- 1 Torque wrench
2 Spanner
3 Piping union
4 Flare nut

- Do not mix anything other than the specified refrigerant, such as air, etc. inside the refrigerant circuit.
- Only use annealed material for flare connections.
- Refer to Table 1 for the dimensions of flare nut spaces and the appropriate tightening torque. (Overtightening may damage the flare and cause leaks.)

Table 1

Pipe gauge	Tightening torque	Flare dimension A (mm)	Flare shape
Ø6.4	15.7±1.5 N•m	8.9±0.2	
Ø9.5	36.3±3.6 N•m	13.0±0.2	
Ø12.7	54.9±5.4 N•m	16.4±0.2	

- When connecting the flare nut, coat the flare inner surface with ether oil or ester oil and initially tighten 3 or 4 turns by hand before tightening firmly.

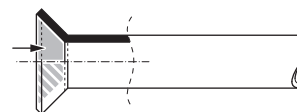


Fig. 11

- If the refrigerant gas leaks during the work, ventilate the area. A toxic gas is emitted by the refrigerant gas being exposed to a fire.
- Make sure there is no refrigerant gas leak. A toxic gas may be released by the refrigerant gas leaking indoor and being exposed to flames from an area heater, cooking stove, etc.
- Finally, insulate as shown in **Fig. 12** (use the supplied accessory parts)

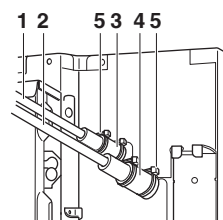
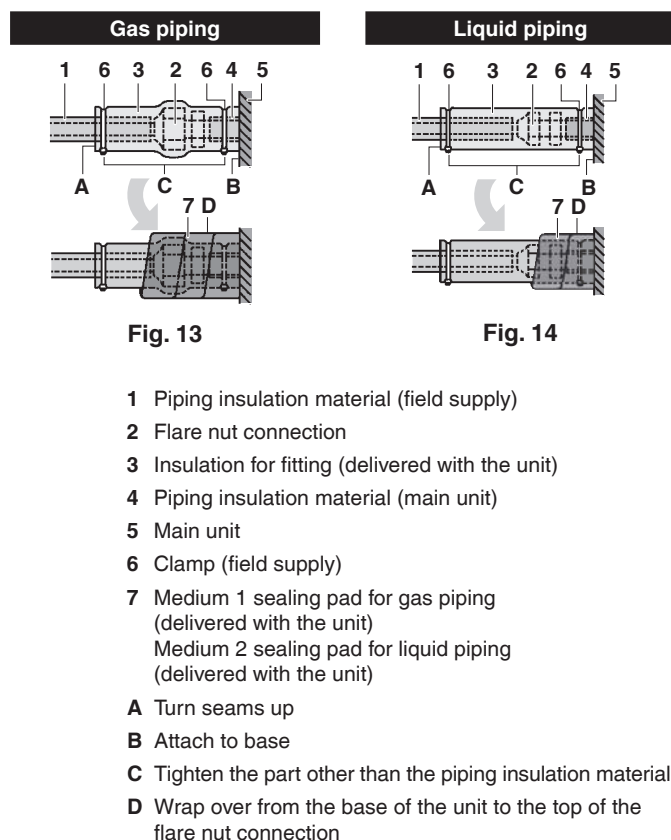


Fig. 12

- 1 Liquid pipe
2 Gas pipe
3 Insulation for fitting for liquid pipe
4 Insulation for fitting for gas pipe
5 Clamps (use 2 clamps per insulation)

Piping insulation procedure



CAUTION

- For local insulation, be sure to insulate local piping all the way into the pipe connections inside the unit. Exposed piping may cause condensation or may cause burns when touched.
- Make sure that no oil remains on plastic parts of the decoration panel (optional equipment). Oil may cause degradation and damage to plastic parts.
- Protect or enclose refrigerant tubing to avoid mechanical damage.

Cautions for brazing

- Be sure to carry out a nitrogen blow when brazing. Brazing without carrying out nitrogen replacement or releasing nitrogen into the piping will create large quantities of oxidized film on the inside of the pipes, adversely affecting valves and compressors in the refrigerating system and preventing normal operation.
- When brazing while inserting nitrogen into the piping, nitrogen must be set to 0.02 MPa with a pressure-reducing valve (=just enough so that it can be felt on the skin).

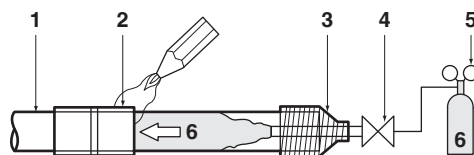


Fig. 15

- 1 Refrigerant piping
2 Part to be brazed
3 Taping
4 Hands valve
5 Pressure-reducing valve
6 Nitrogen

7. DRAIN PIPING WORK

Installation of drain piping

Install the drain piping as shown in the figure and take measures against condensation. Improperly rigged piping could lead to leaks and eventually wet furniture and belongings.

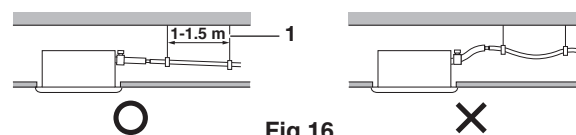


Fig. 16

- 1 Hanging bar
○ Allowed
✗ Not allowed

- Install the drain pipes.
 - Keep piping as short as possible and slope it downwards at a gradient of at least 1/100 so that air may not remain trapped inside the pipe.
 - Keep pipe size equal to or greater than that of the connecting pipe (vinyl pipe of 20 mm nominal diameter and 26 mm outer diameter).
 - Push the supplied drain hose as far as possible over the drain socket.

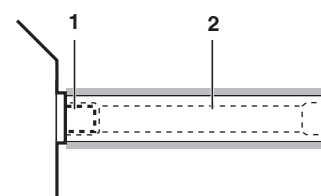


Fig. 17

- 1 Drain socket (attached to the unit)
2 Drain hose (supplied with the unit)

- Tighten the metal clamp as indicated in the illustration.
- After the testing of drain piping is finished, attach the drain sealing pad (4) supplied with the unit over the uncovered part of the drain socket (= between drain hose and unit body).

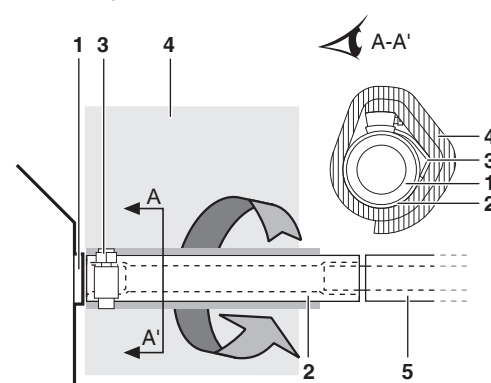


Fig. 18

- 1 Drain socket (attached to the unit)
2 Drain hose (supplied with the unit)
3 Metal clamp (supplied with the unit)
NOTE: Bend the tip of the metal clamp without tearing the sealing.
4 Large sealing pad (supplied with the unit)
5 Drain piping (field supply)

- Wrap the supplied large sealing pad over the metal clamp and drain hose to insulate and fix it with clamps.
- Insulate the complete drain piping inside the building (field supply).
- If the drain hose cannot be sufficiently set on a slope, fit the hose with drain raising piping (field supply).

• How to perform piping (See Fig. 19)

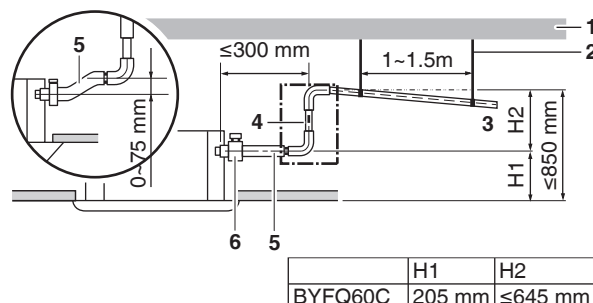


Fig. 19

- 1 Ceiling slab
- 2 Hanger bracket
- 3 Adjustable range
- 4 Drain raising pipe
(nominal diameter of vinyl pipe = 25 mm)
- 5 Drain hose (supplied with the unit)
- 6 Metal clamp (supplied with the unit)

- Connect the drain hose to the drain raising pipes, and insulate them.
- Connect the drain hose to the drain outlet on the indoor unit, and tighten it with the clamp.

• Precautions

- Install the drain raising pipes at a height of less than H2.
- Install the drain raising pipes at a right angle to the indoor unit and no more than 300 mm from the unit.
- To prevent air bubbles, install the drain hose level or slightly tilted up (≤75 mm).
- Drain pump mounted in this unit is high lift type. Characteristic of this pump is that the higher pump is the lower drainage sound becomes. Therefore drain pump height of 300 mm is recommended.

Decoration panel	H2
BYFQ60C	645 mm

NOTE

The incline of attached drain hose should be 75 mm or less so that the drain socket does not have to withstand additional force. To ensure a downward slope of 1:100, install hanging bars every 1 to 1.5 m. When unifying multiple drain pipes, install the pipes as shown in Fig. 20. Select converging drain pipes whose gauge is suitable for the operating capacity of the unit.

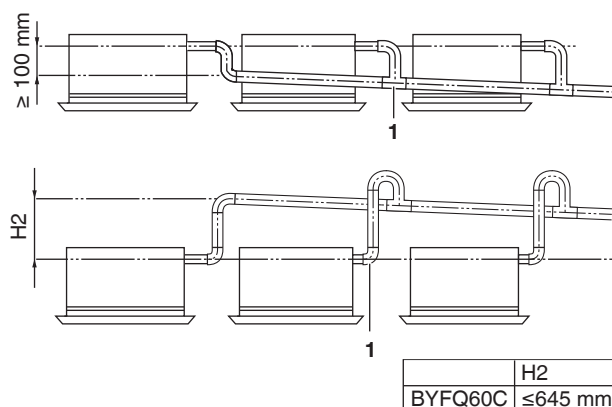


Fig. 20

1 T-joint converging drain pipes

Testing of drain piping

After the piping work is finished, check if drainage flows smoothly.

- (1) Add approximately 1 liter of water gradually through the air discharge outlet.

Method of adding water (See Fig. 21)

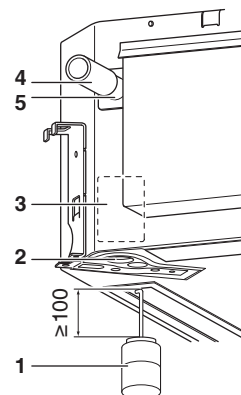


Fig. 21

- 1 Plastic watering can
(tube should be about 100 mm long)
- 2 Service drain outlet (with rubber plug)
(Use this outlet to drain water from the drain pan)
- 3 Drain pump location
- 4 Drain pipe
- 5 Drain socket (water flow view point)

- (2) Check the drainage flow.

In case electric wiring work is finished

Check drainage flow during COOL running, explained in "12. TEST OPERATION" on page 16.

In case electric wiring work is not finished

- Remove the control box lid by means of two screws. Connect the single-phase power supply (220V/50Hz) to connections No. 1 and No. 2 on the inter unit wiring terminal block and connect the ground wire firmly (see Fig. 22).
- Reattach the control box lid and turn on the power.
- Do not touch the drain pump. It may result in electric shock.

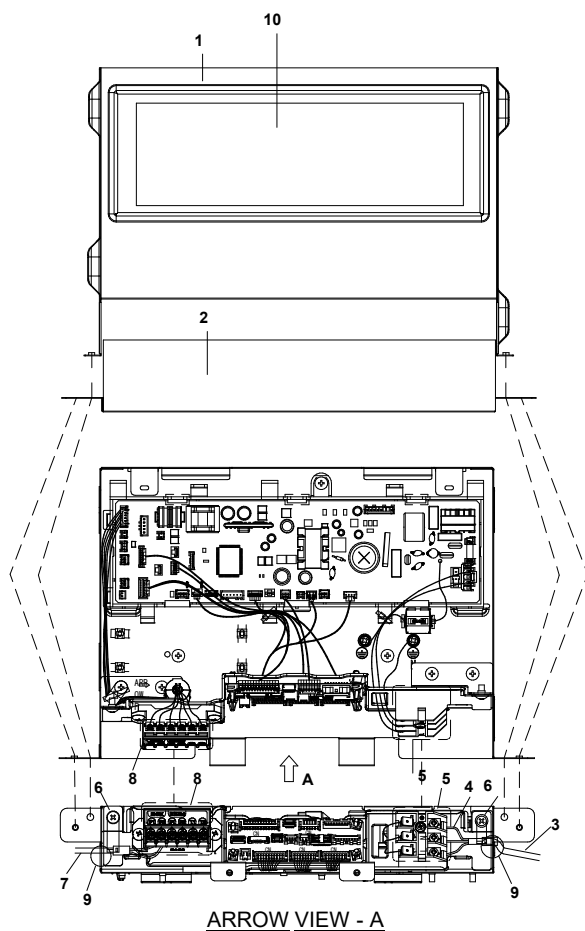
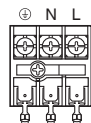


Fig. 22

- 1 Control box lid
 - 2 Control box bottom lid
 - 3 Inter unit wiring
 - 4 Earth cable
 - 5 Terminal block for power supply
 - 6 Clamp
 - 7 Remote controller wiring
 - 8 Terminal board for transmission wiring
 - 9 Opening for cables
 - 10 Wiring diagram label
- (on the back side of the control box lid)
- Terminal block for power supply (4)



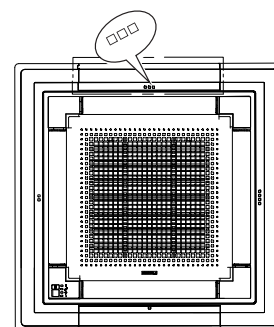
- Confirm the drain operation looking at the drain socket.
- After checking the drainage flow, turn off power, remove the control box lid and disconnect the single phase power supply from the inter unit wiring terminal block again. Attach the control box lid as before.
- In case of main PCB access During Service.
- Open the 2 screws after that need to remove control box bottom lid & front lid for main PCB access during service.

8. EL. COMPO BOX OPENING PROCESS FOR ACCESS OF MAIN PCBA & TRANSMISSION PCBA

8-1 Panel Opening Cover

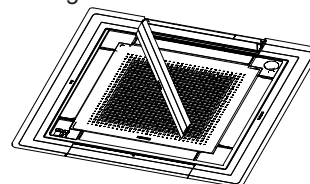
- The highlighted area is for panel opening cover.EL. COMPO. BOX Is Inside the cover.

- Use Screw driver or some other instrument (-Ve bit type) and need to insert in (black highlighted area) for opening cover.

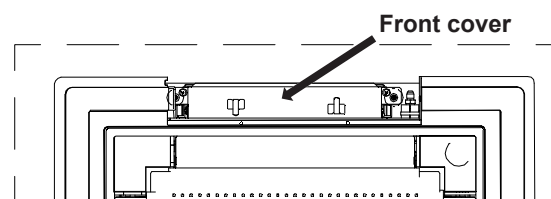


8-2 Carefully open cover

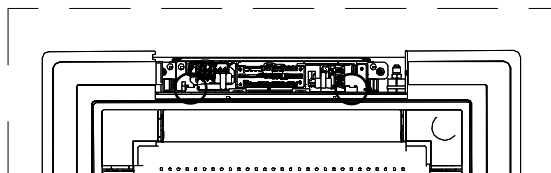
- Opening cover will be hang from one end by lock provided in right side.



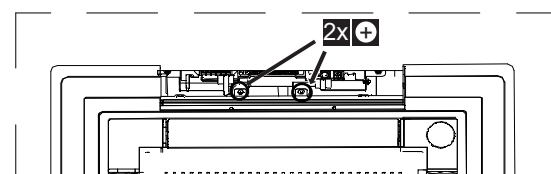
- after opening cover need to be open front cover EL.COMP. BOX.
- The highlighted screw need to open.



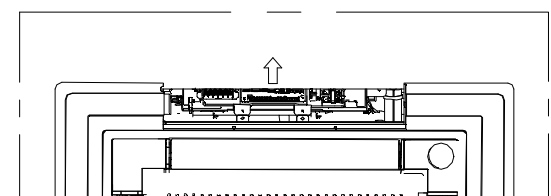
- screw opening access is from the front side for opening front cover.



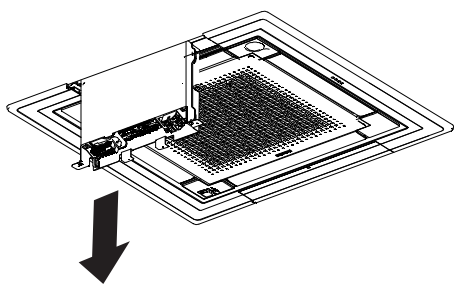
- For complete EL. COMP. BOX opening (If need to change and work on main PCBA).Can open 2 screws b/w front plate of body and EL.COMPO.BOX.



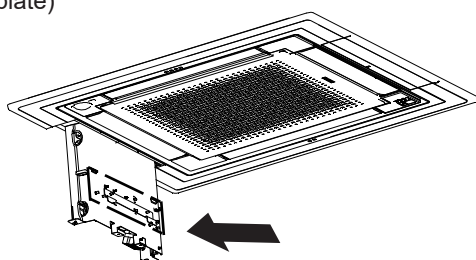
- Hold El comp. box from two ends then shift it 8~10mm towards ceiling and slide it in downward direction.



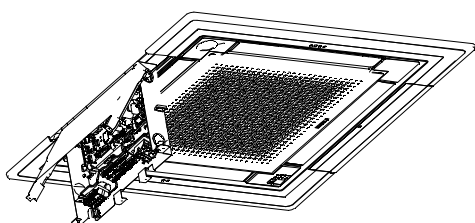
- Refer to Image for sliding EL.COMPO. BOX In downward directions. It will be come with front cover.
- As per given image, ensure other wires will remain connected except panel and optional accessories in EL comp. box



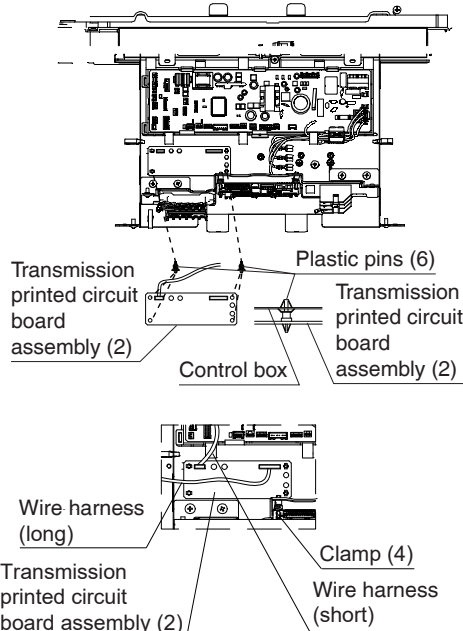
- There Is a lock (Highlighted) In main EL.COMPO.BOX for the additional safety purposes (After opening s crews EL.COMPO.BOX. Will be hanging on body front plate)



- After it towards downside can access the front cover of EL.COMPO.BOX. Need to open front cover to access main PCBA.



- After opening front cover main PCBA easily accessible and rework can done accordingly.
- Note: Need to revise same process in descending order for reassembly (Refer to Image of after completion the process.)



9. ELECTRIC WIRING WORK

9-1 GENERAL INSTRUCTIONS

- All field wiring and components must be installed by a licensed electrician and must comply with relevant national regulations.
- Use copper wire only.
- Follow the "Wiring diagram" attached to the unit body to wire the outdoor unit, indoor units and the remote controller. For details on hooking up the remote controller, refer to the "Installation manual of the remote controller".
- All wiring must be performed by an authorized electrician.
- A main switch or other means for disconnection, having a contact separation in all poles, must be incorporated in the fixed wiring in accordance with relevant local and national legislation. Note that the operation will restart automatically if the main power supply is turned off and then turned back on again.
- Refer to the installation manual attached to the outdoor unit for the size of power supply electric wire connected to the outdoor unit, the capacity of the earth leakage circuit breaker and fuse, and wiring instructions.
- Be sure to ground the air conditioner.
- Do not connect the ground wire to:
 - gas pipes: might cause explosions or fire if gas leaks.
 - telephone ground wires or lightning rods: might cause abnormally high electric potential in the ground during lightning storms.
 - plumbing pipes: no grounding effect if hard vinyl piping is used.
- Be sure that the shape of the power supply cable and any other cable, before entering unit, should be as shown in **Fig. 23**.
- Use an all-pole disconnection type breaker with at least 3 mm between the contact point gaps.

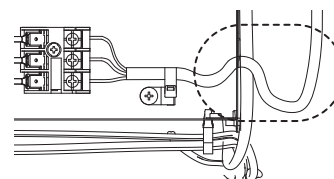


Fig. 23

9-2 ELECTRICAL CHARACTERISTICS

Model	Hz	Volts	Voltage range
FXZQ20~50CRV16	50	220-240	Min. 198 Max. 264
	60	220-230	Min. 198 Max. 253

Model	Power supply		Fan motor	
	MCA	MFA	KW	FLA
FXZQ20,25CRV16	0.3	16	0.05	0.2
FXZQ32CRV16	0.4	16	0.05	0.3
FXZQ40CRV16	0.4	16	0.05	0.3
FXZQ50CRV16	0.6	16	0.05	0.5

MCA: Min. circuit Amps (A)
 MFA: Max. Fuse Amps (A)
 KW: Fan Motor Rated Output (kW)
 FLA: Full Load Amps (A)

NOTE

For details, refer to "Electrical data".

9-3 SPECIFICATIONS FOR FIELD SUPPLIED FUSES AND WIRE

Model	Power supply wiring		
	Field fuses	Wire	Size
FXZQ20~50CRV16	16 A	H05VV-U3G	Wiring size and length must comply with local codes or IEC 60335-1 (Table 11)

Model	Transmission wiring	
	Wire	Size
FXZQ20~50CRV16	Sheathed wire (2)	0.75-1.25 mm ²

NOTE

- For details, refer to “10-2 WIRING EXAMPLE” on page 14.
- Supply cords shall not be lighter than polychloroprene sheathed flexible cord (code designation 60245 IEC 57).
- Allowable length of transmission wiring between indoor and outdoor units, and between the indoor unit and the remote controller is as follows:
 - Outdoor unit - indoor unit: max. 1000 m (total wiring length: 2000 m)
 - Indoor unit - remote controller: max 500 m

10. WIRING EXAMPLE AND HOW TO SET THE REMOTE

10-1 HOW TO CONNECT WIRING (See Fig. 22)

- Power supply wiring**
Remove the control box lid (1) and connect the wires to the power supply terminal block inside (L, N) and connect the ground wire to the grounding terminal. While doing this, pull the wires inside through the hole in the casing and clamp the wires along with other wires using a clamp as indicated in the figure.
- Unit transmission wiring and remote controller wiring**
Remove the control box lid (1) and pull the wires inside through the hole in the casing and connect to the terminal block for unit transmission wiring (F1, F2) and remote controller wiring (P1, P2). Securely fix the wiring using a clamp as indicated in the figure.
- After connection**
Attach the small sealing (supplied with the unit) around the cables to prevent infiltrating of water from the outside into the unit. If two or more cables are used, divide the small sealing into the required number of pieces and wrap them around all the cables.
- Attach the control box lid.

Precautions

- Observe the notes mentioned below when wiring to the power supply terminal block.
 - Use a round crimp-style terminal for insulation sleeve for connection to the terminal block for wiring the units. When none are available, follow the instructions below.

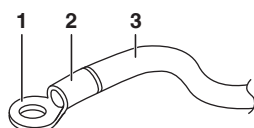


Fig. 24

- Round crimp-style terminal
- Attach insulation sleeve
- Wiring

- Do not connect wires of different gauge to the same power supply terminal. (Looseness in the connection may cause overheating.)
- When clamping wiring, use the clamps (delivered with the unit) to prevent outside pressure being exerted on the wiring connections. Tie up firmly. When doing the wiring, make sure the wiring is neat and does not cause the control box to stick up. Close the cover firmly.
- When connecting wires of the same gauge, connect them according to the figure.



Fig. 25

Use the specified electric wire. Connect the wire securely to the terminal. Lock the wire down without applying excessive force to the terminal. Use torques according to the table below.

	Tightening torque (N•m)
Terminal block for unit transmission and remote controller	0.88±0.08
Terminal block for power supply	1.20±0.12

- When attaching the control box lid, make sure not to pinch any wires.
 - After all wiring connections are done, fill in any gaps in the casing wiring holes with putty or insulation material (field supply) thus to prevent small animals or dirt from entering the unit from outside and causing short circuits in the control box.
- Keep total current of crossover wiring between indoor units less than 12 A. Branch the line outside the terminal block of the unit in accordance with electrical equipment standards, when using two power wiring of a gauge greater than 2 mm² (Ø1.6).

The branch must be sheathed in order to provide an equal or greater degree of insulation as power supply wiring itself.
 - Do not connect wires of different gauge to the same grounding terminal. Looseness in the connection may deteriorate the protection.
 - Remote controller wiring and unit transmission wiring should be located at least 50 mm away from power supply wiring. Not following this guideline may result in malfunction due to electrical noise.
 - For the remote controller wiring, refer to the “Installation manual of the remote controller” supplied with the remote controller.

NOTE

The customer has the ability to select the remote controller thermistor.

- Never connect the power supply wiring to the terminal block for transmission wiring. This mistake could damage the entire system.
- Use only specified wires and tightly connect wires to the terminals. Be careful that wires do not place external stress on the terminals. Keep wiring in neat order so that they do not obstruct other equipment such as popping open the service cover. Make sure the cover closes tight. Incomplete connections could result in overheating, and in the worse case, electric shock or fire.

10-2 WIRING EXAMPLE

Fit the power supply wiring of each unit with a switch and fuse as shown in Fig. 26.

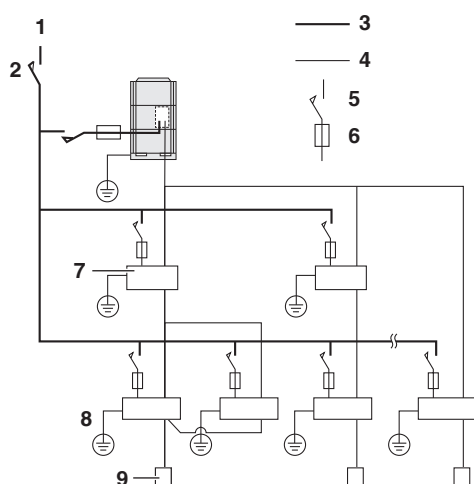


Fig. 26

- 1 Power supply
- 2 Main switch
- 3 Power supply wiring
- 4 Unit transmission wiring
- 5 Switch
- 6 Fuse
- 7 BS unit (REYQ only)
- 8 Indoor unit
- 9 Remote controller

COMPLETE SYSTEM EXAMPLE (3 SYSTEMS)

See figures 12, 13 and 14.

- (1) When using 1 remote controller for 1 indoor unit.
(Normal operation) (See Fig. 27).

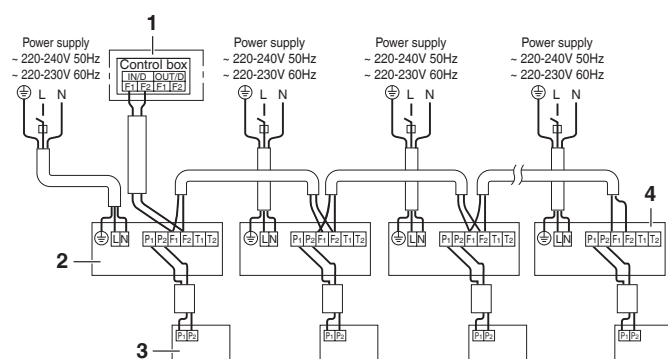


Fig. 27

- 1 Outdoor unit
- 2 Indoor unit
- 3 Remote controller (Optional accessories)
- 4 Most downstream indoor unit

- (2) For group control or use with 2 remote controllers
(See Fig. 28).

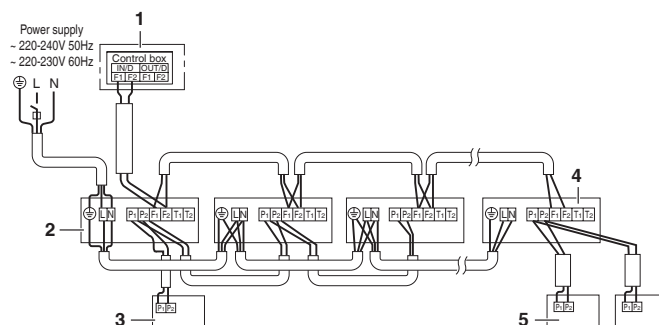


Fig. 28

- 1 Outdoor unit
- 2 Indoor unit
- 3 Remote controller (Optional accessories)
- 4 Most downstream indoor unit
- 5 For use with 2 remote controllers

- (3) When including BS unit (See Fig. 29).

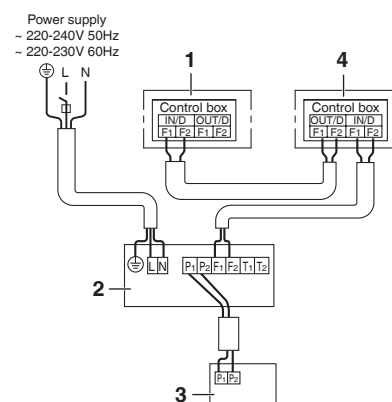


Fig. 29

- 1 Outdoor unit
- 2 Indoor unit
- 3 Remote controller (Optional accessories)
- 4 BS unit

NOTE

It is not necessary to designate indoor unit address when using group control. The address is automatically set when the power is activated.

Precautions

- (1) A single switch can be used to supply power to units on the same system. However, branch switches and branch circuit breakers must be selected carefully.
- (2) For a group control remote controller, choose the remote controller that suits the indoor unit which has the most functions.
- (3) Do not ground the equipment on gas pipes, water pipes, lightning rods or cross ground with telephones. Improper grounding could result in electric shock.

10-3 FOR CONTROL WITH 2 REMOTE CONTROLLERS (TO CONTROL 1 INDOOR UNIT WITH 2 REMOTE CONTROLLERS)

- For control with 2 remote controllers, set one remote controller as Main and the other remote controller as Sub.

[Changeover method from Main to Sub and vice versa]

Refer to the installation manual attached to the remote controller.

[Wiring method]

- Remove the control box lid.
- Connect the wiring to the terminals for remote controller 2 (Sub) in the control box.

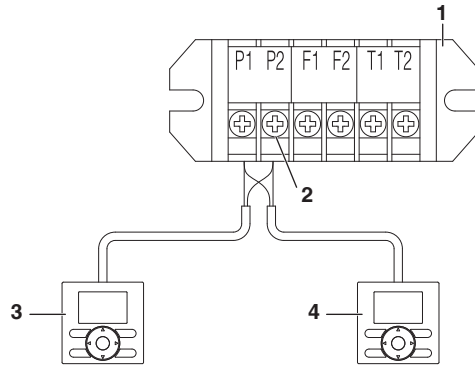


Fig. 30

- Terminal block (X1M)
- Terminal for remote controller wiring (P1, P2) (No polarity)
- Remote controller 1 (Main)
- Remote controller 2 (Sub)



CAUTION

- When using the group control and the 2 remote controllers control at the same time, connect the remote controller 2 (Sub) to the indoor unit at the end of the crossover wiring (the largest No.). (Refer to Fig. 31)

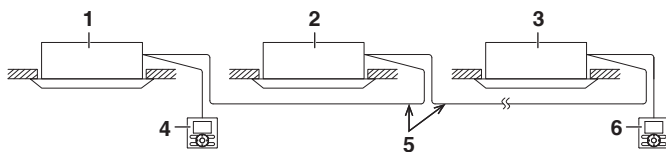


Fig. 31

- Indoor unit 1
- Indoor unit 2
- Indoor unit largest No.
- Remote controller 1 (Main)
- Crossover wiring (Remote controller)
- Remote controller 2 (Sub)

10-4 COMPUTERISED CONTROL (FORCED OFF AND ON/OFF OPERATION)

- Wire specifications and how to perform wiring
 - Connect the input from outside to terminals T1 and T2 of the terminal block (6P) for remote controller.

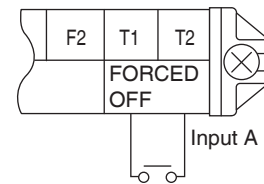


Fig. 32

Wire specification	Sheathed vinyl cord or cable (2 wire)
Gauge	0.75-1.25mm ²
Length	Max. 100m
External terminal	Contact that can ensure the minimum applicable load of DC15V, 1mA.

(2) Actuation

- The following table explains FORCED OFF and ON/OFF OPERATIONS in response to Input A.

FORCED OFF	ON/OFF OPERATION
Input "ON" stops operation (impossible by remote controllers).	Input OFF → ON turns ON unit.
Input "OFF" enables control by remote controller.	Input ON → OFF turns OFF unit.

(3) How to select FORCED OFF and ON/OFF OPERATION

- Turn the power on and then use the remote controller to select operation.
- Set the remote controller to the field set mode. For details, refer to the "HOW TO SET IN THE FIELD", in the remote controller manual.
- When in the field set mode, select mode No. 12, then set the first code (switch) No. to "1". Then set second code (position) No. to "01" for FORCED OFF and "02" for ON/OFF OPERATION. (FORCED OFF at factory set)

10-5 CENTRALIZED CONTROL

- For centralized control, it is necessary to designate the group No. For details, refer to the manual of each optional controllers for centralized control.

11. INSTALLATION OF THE DECORATION PANEL

Refer to the installation manual delivered with the decoration panel.

After installing the decoration panel, ensure that there is no space between the unit body and decoration panel. Otherwise air may leak through the gap and cause dewdrop.

12. FIELD SETTINGS



CAUTION

When performing field setting or test operation without attaching the decoration panel, do not touch the drain pump. This may cause electric shock.

- (1) Make sure the service covers are closed on the indoor and outdoor units.
- (2) Field settings must be made from the remote controller and in accordance with installation conditions.
 - Settings can be made by changing the "Mode No", "FIRST CODE NO." and "SECOND CODE NO.".
 - The "Field Settings" included with the remote control lists the order of the settings and method of operation.

Summary of field settings

Mode No. (Note 1)	First code No.	Description of setting		Second code No. (Note 2)			
				01	02	03	04
10 (20)	0	Filter contamination - Heavy/Light = Setting to define time between 2 filter cleaning display indications. (When contamination is high, setting can be changed to half the time inbetween 2 filter cleaning display indications.)	Long-life filter	Light ±2,500 hrs.	Heavy ±1,250 hrs.	—	—
	2	Thermostat sensor selection		Use both the unit sensor (or remote sensor if installed) and the remote controller sensor. (See Note 5+6)	Use unit sensor only (or remote sensor if installed). (See Note 5+6)	Use remote controller sensor only. (See Note 5+6)	—
	3	Setting for display of time between 2 filter cleaning display indications		Display	Do not display	—	—
	5	Information to I-manager, I-touch controller		Only unit sensor value (or remote sensor value if installed).	Sensor value as set by 10-2-0X or 10-6-0X.	—	—
	6	Thermostat sensor in group control		Use unit sensor only (or remote sensor if installed). (See Note 6)	Use both the unit sensor (or remote sensor if installed) and the remote controller sensor. (See Note 4+5+6)	—	—
12 (22)	0	Output signal X1-X2 of the optional KRP1B PCB kit		Thermostat-on + compressor run	—	Operation	Malfunction
	1	ON/OFF input from outside (T1/T2 input) = Setting when forced ON/OFF is to be operated from outside.		Forced OFF	ON/OFF operation	—	—
	2	Thermostat differential changeover = Setting when remote sensor is used.		1°C	0.5°C	—	—
	3	Fan setting during thermostat OFF at heating operation		LL	Set speed	OFF (See Note 3)	—
	4	Differential automatic changeover		0°C	1°C	2°C	3°C (See Note 7)
	5	Auto-restart after power failure		Disabled	Enabled	—	—
13 (23)	0	Setting for air outlet velocity. This setting is to be changed in function of ceiling height.		≥2.7 m	>2.7 ≥3.0 m	>3.0 ≥3.5 m	—
	1	Selection for air flow direction. This setting is to be changed when blocking pad optional kit is used.		4-way flow	3-way flow	2-way flow	—
	4	Airflow direction range setting. This setting is to be changed when range of swing flap movement needs to be changed.		Upper	Medium	Lower	—

- Note 1 :** Setting is carried out in the group mode, however, if the mode number inside parentheses is selected, indoor units can also be set individually.
- Note 2 :** Factory settings of the Second code No. are marked in grey backgrounds.
- Note 3 :** Only use in combination with optional remote sensor or when setting 10-2-03 is used.
- Note 4 :** If group control is selected and remote sensor is to be used, then set 10-6-02 & 10-2-03.
- Note 5 :** If setting 10-6-02 + 10-2-01 or 10-2-02 or 10-2-03 are set at the same time, then setting 10-2-01, 10-2-02 or 10-2-03 have priority.
- Note 6 :** If setting 10-6-01 + 10-2-01 or 10-2-02 or 10-2-03 are set at the same time, then setting for group connection, 10-6-01 has priority and for individual connection, 10-2-01, 10-2-02 or 10-2-03 have priority.
- Note 7 :** More settings for Differential automatic change over temperatures are:
- | | | |
|-----------------|----|-----|
| Second code No. | 05 | 4°C |
| | 06 | 5°C |
| | 07 | 6°C |
| | 08 | 7°C |

- When using wireless remote controllers, wireless remote controller address setting is necessary. Refer to the installation manual attached to the wireless remote controller for setting instructions.

13. TEST OPERATION

Refer to the installation manual of the outdoor unit.

NOTE

When performing field settings or test operation without attaching the decoration panel, do not touch the drain pump. This may cause electric shock.

The operation lamp of the remote controller will flash when an error occurs. Check the error code on the liquid crystal display to identify the trouble. Refer to the installation manual attached to the outdoor unit or contact your dealer. See Fig. 33.

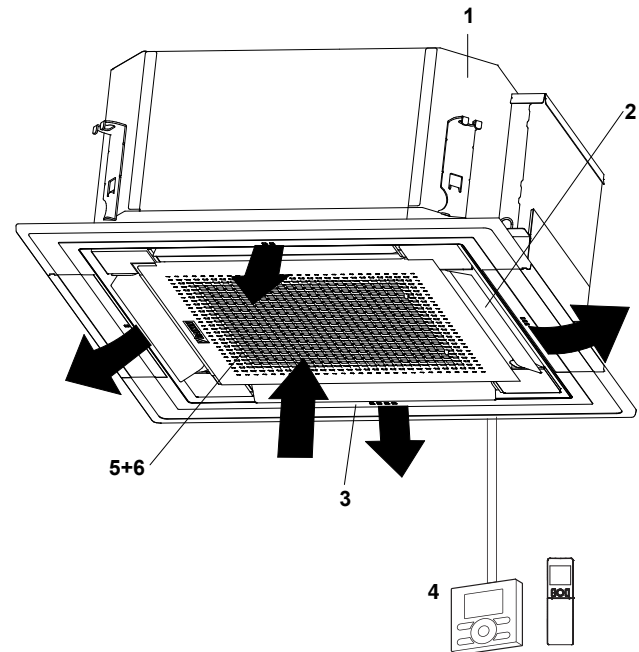


Fig. 33

- 1 Drain pumping device (built-in) drain water is removed from the room during cooling
- 2 Air flow flap (at air outlet)
- 3 Air outlet
- 4 Remote controller
- 5 Suction grille
- 6 Air filter (inside suction grille)

14. MAINTENANCE

⚠ CAUTION

- Only a qualified service person is allowed to perform maintenance.
- Before obtaining access to terminal devices, all power supply circuits must be interrupted.
- To clean the air conditioner, be sure to stop operation and turn the power switch off. Otherwise, an electric shock and injury may result.
- Do not wash the air conditioner with water. Doing so may result in an electric shock.
- Be careful with scaffoldings. Caution must be exercised when working in high places.
- After a long use, check the unit stand and fitting for damage. If damaged, the unit may fall and cause injury.
- Do not touch the heat exchanger fins. The fins are sharp and could result in cutting injuries.
- When cleaning the heat exchanger, be sure to remove the control box, fan motor, drain pump and float switch. Water or detergent may deteriorate the insulation of electronic components and result in burn-out of these components.

HOW TO CLEAN THE AIR FILTER

Clean the air filter when the display shows “” (TIME TO CLEAN AIR FILTER).

Increase the frequency of cleaning if the unit is installed in a room where the air is extremely contaminated. (As a yardstick for yourself, consider cleaning the filter once a half year.)

If dirt becomes impossible to clean, change the air filter. (Air filter for exchange is optional.)

NOTE

- Do not wash the air filter with hot water of more than 50°C. Doing so may result in discoloration and/or deformation.
- Do not expose the unit to fire. Doing so may result in burning.

In case of decoration panel BYFQ60C see figures marked **A**

(1) Open the suction grille.

- Push the 2 catches away from you and slowly open the suction grille. (To close, perform the steps in reverse.)

Type A

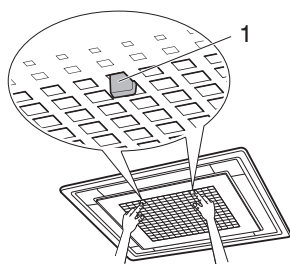


Fig. 34

1 Catch

(2) Remove the air filter.

- Pull the knobs of the air filter downward to disconnect the hooks, and remove the air filter.

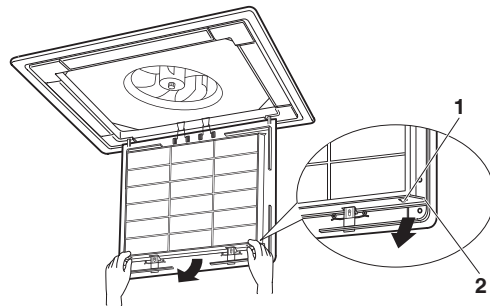


Fig. 35

1 Hook

2 Knob

(3) Clean the air filter.

Use vacuum cleaner or wash the air filter with water. When the air filter is very dirty, use soft brush and neutral detergent.



Fig. 36

(4) Remove water and dry in the shade.

(5) Reattach the air filter.

1. Hook one side of the air filter on to the protrusions on the suction grille.
2. Push the other side of the air filter into place.

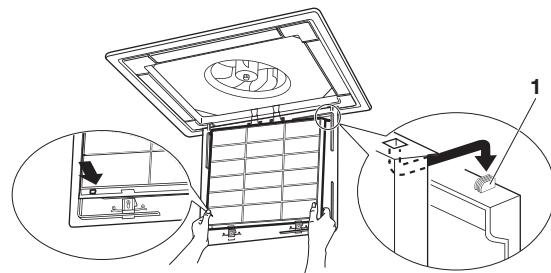


Fig. 37

1 Protrusion

(6) Close the suction grille.

- Refer to step (1).

(7) After turning on the power, reset the filter sign in accordance with the instructions in the operation manual for the wired remote controller or wireless remote controller.

- The air filter cleaning time indicator lamp on the decoration panel turns off or “TIME TO CLEAN AIR FILTER” disappears from the display on the wired remote controller.

NOTE

Do not remove the air filter except when cleaning. Unnecessary handling may damage the filter.

HOW TO CLEAN THE SUCTION GRILLE

Type A

(1) Open the suction grille.

- Push the 2 catches away from you and slowly open the suction grille. (To close, perform the steps in reverse.)

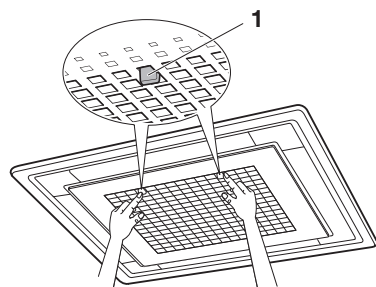


Fig. 38

1 Catch

(2) Remove the suction grille.

- Open the suction grille so that it hangs by the hinges at 90 degrees to the ceiling.
- Pinch the wire catches inward as shown in the figure.

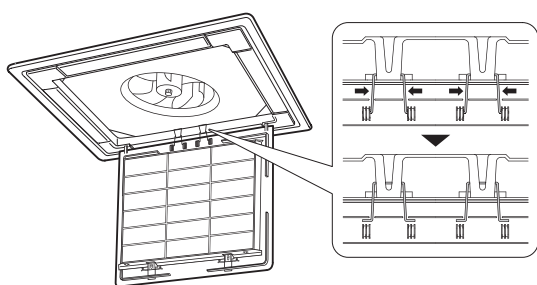


Fig. 39

(3) Remove the air filter.

- Refer to step (2) of "HOW TO CLEAN THE AIR FILTER".

(4) Clean the suction grille.

Wash with a soft bristle brush and neutral detergent or water, and dry thoroughly.



Fig. 40

NOTE

- When the suction grille is very dirty, use a typical kitchen cleaner and let it sit for about 10 minutes. Then, wash it with water.
- Do not wash the suction grille with hot water of more than 50°C. Doing so may result in discoloration and/or deformation.

(5) Reattach the air filter.

- Refer to step (5) of "HOW TO CLEAN THE AIR FILTER".

(6) Reattach the suction grille.

- Refer to step (2).

(7) Close the suction grille.

- Refer to step (1).

DAIKIN AIRCONDITIONING INDIA PVT. LTD.

12th Floor, Building No. 9, Tower A,
DLF Cyber City, DLF Phase - III
Gurugram - 122002, Haryana (India)