MITSUBISHI ELECTRIC

Mr.SLIM

Air Conditioners
Indoor unit

SLZ-M15FA3 SLZ-M15FA3-ET
SLZ-M25FA3 SLZ-M25FA3-ET
SLZ-M35FA3 SLZ-M35FA3-ET
SLZ-M50FA3 SLZ-M50FA3-ET
SLZ-M60FA3 SLZ-M60FA3-ET

English is original.	INSTALLATION MANUAL	FOR INSTALLER	English
Übersetzung des Originals.	INSTALLATIONSHANDBUCH	FÜR INSTALLATEURE	Deutsch
Traduction du texte d'origine.	MANUEL D'INSTALLATION	POUR L'INSTALLATEUR	Français
Vertaling van het origineel.	INSTALLATIEHANDLEIDING	VOOR DE INSTALLATEUR	Nederlands
Traducción del original.	MANUAL DE INSTALACIÓN	PARA EL INSTALADOR	Español
Traduzione dell'originale.	MANUALE DI INSTALLAZIONE	PER L'INSTALLATORE	Italiano
Μετάφραση του αρχικού.	ΕΓΧΕΙΡΙΔΙΟ ΟΔΗΓΙΩΝ ΕΓΚΑΤΑΣΤΑΣΗΣ	ΓΙΑ ΑΥΤΟΝ ΠΟΥ ΚΑΝΕΙ ΤΗΝ ΕΓΚΑΤΑΣΤΑΣΗ	Ελληνικά
Tradução do original.	MANUAL DE INSTALAÇÃO	PARA O INSTALADOR	Português
Oversættelse af den originale tekst.	INSTALLATIONSMANUAL	TIL INSTALLATØREN	Dansk
Översättning från originalet.	INSTALLATIONSMANUAL	FÖR INSTALLATÖREN	Svenska
Aslı İngilizcedir.	MONTAJ EL KİTABI	MONTÖR İÇİN	Türkçe
Переклад оригіналу.	ПОСІБНИК З УСТАНОВЛЕННЯ	ДЛЯ СПЕЦІАЛІСТА З МОНТАЖУ	Українська
Оригиналът е текстът на английски език.	РЪКОВОДСТВО ЗА МОНТАЖ	ЗА МОНТАЖНИКА	Български
Językiem oryginału jest język angielski.	INSTRUKCJA MONTAŻU	DLA INSTALATORA	Polski
Originalspråket er engelsk.	INSTALLASJONSHÅNDBOK	FOR MONTØR	Norsk
Englanti on alkuperäinen.	ASENNUSOPAS	ASENTAJALLE	Suomi
Originál je v angličtině.	INSTALAČNÍ PŘÍRUČKA	PRO MONTÁŽNÍ PRACOVNÍKY	Čeština
Preklad anglického originálu.	NÁVOD NA INŠTALÁCIU	PRE MONTÉRA	Slovenčina
Az angol változat az eredeti.	TELEPÍTÉSI KÉZIKÖNYV	A TELEPÍTŐ RÉSZÉRE	Magyar
Izvirnik je v angleščini.	NAMESTITVENI PRIROČNIK	ZA MONTERJA	Slovenščina
Textul original este în limba engleză.	MANUAL DE INSTALARE	PENTRU INSTALATOR	Română
Originaaljuhend on ingliskeelne.	PAIGALDUSJUHEND	PAIGALDAJALE	Eesti
Oriģināls ir angļu valodā.	MONTĀŽAS ROKASGRĀMATA	UZSTĀDĪŠANAS SPECIĀLISTAM	Latviski
Originalas yra anglų k.	MONTAVIMO VADOVAS	SKIRTA MONTUOTOJUI	Lietuviškai
Jezik originala je engleski.	PRIRUČNIK ZA POSTAVLJANJE	ZA INSTALATERA	Hrvatski
Prevod originala.	UPUTSTVO ZA UGRADNJU	ZA MONTERA	Srpski

Manual and DECLARATION OF CONFORMITY Download

http://www.mitsubishielectric.com/ldg/ibim/

en Go to the above website to download manuals and DECLARATION OF CONFORMITY, select model name, then choose language.

de Besuchen Sie die oben stehende Website, um Anleitungen und KONFORMITÄTSERKLÄRUNGEN herunterzuladen, wählen Sie den Modellnamen und dann die Sprache aus.

fr Rendez-vous sur le site Web ci-dessus pour télécharger les manuels et les DÉCLARATIONS DE CONFORMITÉ, sélectionnez le nom de modèle puis choisissez la langue.

nl Ga naar de bovenstaande website om handleidingen en CONFORMITEITSVERKLARINGEN te downloaden, de modelnaam te selecteren en vervolgens de taal te kiezen.

es Visite el sitio web anterior para descargar manuales y DECLARACIONES DE CONFORMIDAD, seleccione el nombre del modelo y luego elija el idioma.

it Andare sul sito web indicato sopra per scaricare i manuali e le DICHIARAZIONI DI CONFORMITÀ, selezionare il nome del modello e scegliere la lingua.

el Μεταβείτε στον παραπάνω ιστότοπο για να κατεβάσετε εγχειρίδια και τις ΔΗΛΩΣΕΙΣ ΣΥΜΜΟΡΦΩΣΗΣ. Επιλέξτε το όνομα του μοντέλου και, στη συνέχεια, τη γλώσσα.

pt Aceda ao site Web acima indicado para descarregar manuais e DECLARAÇÕES DE CONFORMIDADE, seleccione o nome do modelo e, em seguida, escolha o idioma.

da Gå til ovenstående websted for at downloade manualer og OVERENSSTEMMELSESERKLÆRINGER, vælg modelnavn, og vælg derefter sprog.

sv Gå till ovanstående webbplats för att ladda ner anvisningar och FÖRSÄKRINGAR OM ÖVERENSSTÄMMELSE, välj modellnamn och välj sedan språk.

tr Kılavuzları ve UYGUNLUK BEYANLARINI indirmek için yukarıdaki web sitesine gidin, model adını ve ardından dili seçin.

uk Щоб завантажити керівництва та ДЕКЛАРАЦІЇ ВІДПОВІДНОСТІ НОРМАМ, перейдіть на зазначений вище вебсайт; виберіть назву моделі, а потім мову.

bg Посетете горепосочения уебсайт, за да изтеглите ръководства и ДЕКЛАРАЦИИ ЗА СЪОТВЕТСТВИЕ, като изберете име на модел и след това – език.

pl Odwiedź powyższą stronę internetową, aby pobrać instrukcje i DEKLARACJE ZGODNOŚCI, wybierz nazwę modelu, a następnie język.

no Gå til nettstedet over for å laste ned håndbøker og SAMSVARSERKLÆRINGER, velg modellnavn, og velg deretter språk.

fi Mene yllä mainitulle verkkosivulle ladataksesi oppaat ja VAATIMUSTENMUKAISUUSVAKUUTUKSET, valitse mallin nimi ja valitse sitten kieli.

cs Příručky a PROHLÁŠENÍ O SHODĚ naleznete ke stažení na internetové stránce zmíněné výše poté, co zvolíte model a jazyk.

sk Na webovej stránke vyššie si môžete stiahnuť návody a VYHLÁSENIA O ZHODE. Vyberte názov modelu a zvoľte požadovaný jazyk.

hu A kézikönyvek és a MEGFELELŐSÉGI NYILATKOZATOK letöltéséhez látogasson el a fenti weboldalra, válassza ki a modell nevét, majd válasszon nyelvet.

sl Obiščite zgornjo spletno stran za prenos priročnikov in IZJAV O SKLADNOSTI, izberite ime modela, nato izberite jezik.

ro Accesaţi site-ul web de mai sus pentru a descărca manualele și DECLARAȚIILE DE CONFORMITATE, selectaţi denumirea modelului, apoi alegeţi limba.

et Kasutusjuhendite ja VASTAVUSDEKLARATSIOONIDE allalaadimiseks minge ülaltoodud veebilehele, valige mudeli nimi ja seejärel keel.

lv Dodieties uz iepriekš norādīto tīmekļa vietni, lai lejupielādētu rokasgrāmatas un ATBILSTĪBAS DEKLARĀCIJAS; tad izvēlieties modeļa nosaukumu un valodu.

lt Norėdami atsisiųsti vadovus ir ATITIKTIES DEKLARACIJAS, apsilankykite pirmiau nurodytoje žiniatinklio svetainėje, pasirinkite modelio pavadinimą, tada – kalbą.

hr Kako biste preuzeli priručnike i IZJAVE O SUKLADNOSTI, idite na gore navedeno web-mjesto, odaberite naziv modela, a potom odaberite jezik.

sr Idite na gore navedenu veb stranicu da biste preuzeli uputstva i IZJAVE O USAGLAŠENOSTI, izaberite ime modela, a zatim izaberite jezik.

Contents

For safe and correct use, read this manual and the outdoor unit installation manual thoroughly before installing the air-conditioner unit.

Note:
The phrase "Wired remote controller" in this installation manual refers only to the PAR-41MAA. If you need any information for the other remote controller, please refer to either the installation manual or initial setting manual which are included in these boxes.

1. Safety precautions

► Before installing the unit, make sure you read all the "Safety Precautions".
► The "Safety Precautions" provide very important points regarding safety. Make sure you follow them.
► Please report to your supply authority or obtain their consent before connecting this equipment to the power supply system.

MEANINGS OF SYMBOLS DISPLAYED ON THE UNIT

	**WARNING** (Risk of fire)	This mark is for R32 refrigerant only. Refrigerant type is written on nameplate of outdoor unit. In case that refrigerant type is R32, this unit uses a flammable refrigerant. If refrigerant leaks and comes in contact with fire or heating part, it will create harmful gas and there is risk of fire.
	Read the OPERATION MANUAL carefully before operation.	
	Service personnel are required to carefully read the OPERATION MANUAL and INSTALLATION MANUAL before operation.	
	Further information is available in the OPERATION MANUAL, INSTALLATION MANUAL, and the like.	

Symbols used in the text

⚠ Warning:
Describes precautions that should be observed to prevent danger of injury or death to the user.

⚠ Caution:
Describes precautions that should be observed to prevent damage to the unit.

Symbols used in the illustrations

⏚ : Indicates a part which must be grounded.
⃠ : Be sure not to do.

After installation work has been completed, explain the "Safety Precautions," use, and maintenance of the unit to the customer according to the information in the Operation Manual and perform the test run to ensure normal operation. Both the Installation Manual and Operation Manual must be given to the user for keeping. These manuals must be passed on to subsequent users.

⚠ Warning:

- **Carefully read the labels affixed to the main unit.**
- **Ask a dealer or an authorized technician to install, relocate and repair the unit.**
- **The user should never attempt to repair the unit or transfer it to another location.**
- **Do not alter the unit. It may cause fire, electric shock, injury or water leakage.**
- **For installation and relocation work, follow the instructions in the Installation Manual and use tools and pipe components specifically made for use with refrigerant specified in the outdoor unit installation manual.**
- **The unit must be installed according to the instructions in order to minimize the risk of damage from earthquakes, typhoons, or strong winds. An incorrectly installed unit may fall down and cause damage or injuries.**
- **The unit must be securely installed on a structure that can sustain its weight.**
- **The appliance shall be stored in a well-ventilated area where the room size corresponds to the room area as specified for operation.**
- **If the air conditioner is installed in a small room or closed room, measures must be taken to prevent the refrigerant concentration in the room from exceeding the safety limit in the event of refrigerant leakage. Should the refrigerant leak and cause the concentration limit to be exceeded, hazards due to lack of oxygen in the room may result.**
- **Keep gas-burning appliances, electric heaters, and other fire sources (ignition sources) away from the location where installation, repair, and other air conditioner work will be performed.**
  If refrigerant comes into contact with a flame, poisonous gases will be released.
- **Ventilate the room if refrigerant leaks during operation. If refrigerant comes into contact with a flame, poisonous gases will be released.**
- **All electric work must be performed by a qualified technician according to local regulations and the instructions given in this manual.**
- **Use only specified cables for wiring. The wiring connections must be made securely with no tension applied on the terminal connections. Also, never splice the cables for wiring (unless otherwise indicated in this document).**
  Failure to observe these instructions may result in overheating or a fire.
- **When installing or relocating, or servicing the air conditioner, use only the specified refrigerant written on outdoor unit to charge the refrigerant lines. Do not mix it with any other refrigerant and do not allow air to remain in the lines.**
  If air is mixed with the refrigerant, then it can be the cause of abnormal high pressure in the refrigerant line, and may result in an explosion and other hazards.
  The use of any refrigerant other than that specified for the system will cause mechanical failure or system malfunction or unit breakdown. In the worst case, this could lead to a serious impediment to securing product safety.
- **The appliance shall be installed in accordance with national wiring regulations.**
- **This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.**
- **Children should be supervised to ensure that they do not play with the appliance.**
- **The terminal block cover panel of the unit must be firmly attached.**
- **If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.**
- **Use only accessories authorized by Mitsubishi Electric and ask a dealer or an authorized technician to install them.**
- **After installation has been completed, check for refrigerant leaks. If refrigerant leaks into the room and comes into contact with the flame of a heater or portable cooking range, poisonous gases will be released.**
- **Do not use means to accelerate the defrosting process or to clean, other than those recommended by the manufacturer.**
- **The appliance shall be stored in a room without continuously operating ignition sources (for example: open flames, an operating gas appliance or an operating electric heater).**
- **Do not pierce or burn.**
- **Maintenance, service and repair operations shall be performed by authorized technician with required qualification.**
- **Ensure that the area is in the open or that it is adequately ventilated before breaking into the system or conducting any hot work.**
  A degree of ventilation shall continue during the period that the work is carried out.
  The ventilation should safely disperse any released refrigerant and preferably expel it externally into the atmosphere.
- **Check that cabling will not be subject to wear, corrosion, excessive pressure, vibration, sharp edges or any other adverse environmental effects.**
  The check shall also take into account the effects of aging or continual vibration from sources such as compressors or fans.

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1. Safety precautions

⚠ Warning:

- **Under no circumstances shall potential sources of ignition be used in the searching for or detection of refrigerant leaks. A halide torch (or any other detector using a naked flame) shall not be used.**
- **Electronic leak detectors may be used to detect refrigerant leaks but, in the case of flammable refrigerants, the sensitivity may not be adequate, or may need re-calibration.**
  (Detection equipment shall be calibrated in a refrigerant-free area.)
  Ensure that the detector is not a potential source of ignition and is suitable for the refrigerant used.
  Leak detection equipment shall be set at a percentage of the LFL of the refrigerant and shall be calibrated to the refrigerant employed, and the appropriate percentage of gas (25 % maximum) is confirmed.
  Leak detection fluids are suitable for use with most refrigerants but the use of detergents containing chlorine shall be avoided as the chlorine may react with the refrigerant and corrode the copper pipe-work.
  If a leak is suspected, all naked flames shall be removed/extinguished.
  If a leakage of refrigerant is found which requires brazing, all of the refrigerant shall be recovered from the system, or isolated (by means of shut off valves) in a part of the system remote from the leak.
  For appliances containing flammable refrigerants, oxygen free nitrogen (OFN) shall then be purged through the system both before and during the brazing process.
- **Brazed, welded, or mechanical flare connections shall be accessible for maintenance purposes.**
- **Be aware that refrigerants might not contain an odour.**
- **Pipe-work shall be protected from physical damage.**
- **The installation of pipe-work shall be kept to a minimum.**
- **Compliance with national gas regulations shall be observed.**
- **Keep any required ventilation openings clear of obstruction.**
- **Do not use low temperature solder alloy in case of brazing the refrigerant pipes.**
- **When performing brazing work, be sure to ventilate the room sufficiently.**
  Make sure that there are no hazardous or flammable materials nearby.
  When performing the work in a closed room, small room, or similar location, make sure that there are no refrigerant leaks before performing the work.
  If refrigerant leaks and accumulates, it may ignite or poisonous gases may be released.

1.1. Before installation (Environment)

⚠ Caution:

- **Do not use the unit in an unusual environment. If the air conditioner is installed in areas exposed to steam, volatile oil (including machine oil), or sulfuric gas, areas exposed to high salt content such as the seaside, the performance can be significantly reduced and the internal parts can be damaged.**
- **Do not install the unit where combustible gases may leak, be produced, flow, or accumulate. If combustible gas accumulates around the unit, fire or explosion may result.**
- **Do not keep food, plants, caged pets, artwork, or precision instruments in the direct airflow of the indoor unit or too close to the unit, as these items can be damaged by temperature changes or dripping water.**
- **When the room humidity exceeds 80% or when the drainpipe is clogged, water may drip from the indoor unit. Do not install the indoor unit where such dripping can cause damage.**
- **When installing the unit in a hospital or communications office, be prepared for noise and electronic interference. Inverters, home appliances, high-frequency medical equipment, and radio communications equipment can cause the air conditioner to malfunction or breakdown. The air conditioner may also affect medical equipment, disturbing medical care, and communications equipment, harming the screen display quality.**

1.2. Before installation or relocation

⚠ Caution:

- **Be extremely careful when transporting the units. Two or more persons are needed to handle the unit, as it weighs 20 kg or more. Do not grasp the packaging bands. Wear protective gloves as you can injure your hands on the fins or other parts.**
- **Be sure to safely dispose of the packaging materials. Packaging materials, such as nails and other metal or wooden parts may cause stabs or other injuries.**
- **Thermal insulation of the refrigerant pipe is necessary to prevent condensation. If the refrigerant pipe is not properly insulated, condensation will be formed.**
- **Place thermal insulation on the pipes to prevent condensation. If the drainpipe is installed incorrectly, water leakage and damage to the ceiling, floor, furniture, or other possessions may result.**
- **Do not clean the air conditioner unit with water. Electric shock may result.**
- **Tighten all flare nuts to specification using a torque wrench. If tightened too much, the flare nut can break after an extended period.**
- **If the unit is run for long hours when the air above the ceiling is at high temperature/high humidity (dew point above 26 ºC), dew condensation may be produced in the indoor unit or the ceiling materials. When operating the units in this condition, add insulation material (10-20 mm) to the entire surface of the unit and ceiling materials to avoid dew condensation.**

1.3. Before electric work

⚠ Caution:

- **Be sure to install circuit breakers. If not installed, electric shock may result.**
- **For the power lines, use standard cables of sufficient capacity. Otherwise, a short circuit, overheating, or fire may result.**
- **When installing the power lines, do not apply tension to the cables.**
- **Be sure to ground the unit. If the unit is not properly grounded, electric shock may result.**
- **Use circuit breakers (ground fault interrupter, isolating switch (+B fuse), and molded case circuit breaker) with the specified capacity. If the circuit breaker capacity is larger than the specified capacity, breakdown or fire may result.**

1.4. Before starting the test run

⚠ Caution:

- **Turn on the main power switch more than 12 hours before starting operation. Starting operation just after turning on the power switch can severely damage the internal parts.**
- **Before starting operation, check that all panels, guards and other protective parts are correctly installed. Rotating, hot, or high voltage parts can cause injuries.**
- **Do not operate the air conditioner without the air filter set in place. If the air filter is not installed, dust may accumulate and breakdown may result.**
- **Do not touch any switch with wet hands. Electric shock may result.**
- **Do not touch the refrigerant pipes during and immediately after operation.**
- **After stopping operation, be sure to wait at least five minutes before turning off the main power switch. Otherwise, water leakage or breakdown may result.**

2. Selecting the installation location

2.1. Indoor unit

- Where airflow is not blocked.
- Where cool air spreads over the entire room.
- Where it is not exposed to direct sunshine.
- At a distance 1 m or more away from your TV and radio (to prevent picture from being distorted or noise from being generated).
- In a place as far away as possible from fluorescent and incandescent lights (so the infrared remote control can operate the air conditioner normally).
- Where the air filter can be removed and replaced easily.

⚠ Warning:

Mount the indoor unit into a ceiling strong enough to withstand the weight of the unit.

3. Installation diagram

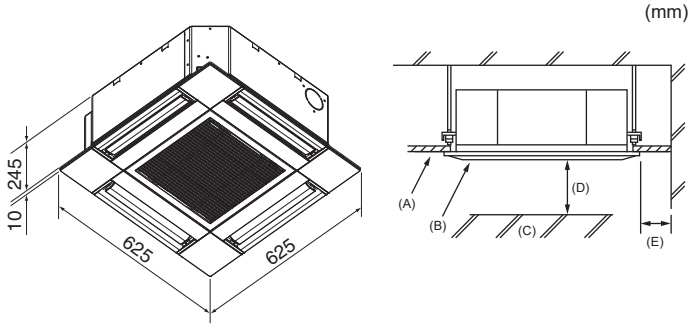

Fig. 3-1

3.1. Indoor unit (Fig. 3-1)

(A) Ceiling
(B) Grille
(C) Obstacle
(D) Min. 1000 mm
(E) Min. 500 mm (Entire periphery)
If setting the maintenance space for (E), be sure to leave is a minimum of 700 mm.

⚠ Warning:

Mount the indoor unit on a ceiling strong enough to withstand the weight of the unit.

3.2. Outdoor unit

Refer to the outdoor unit installation manual.

4. Installing the indoor unit

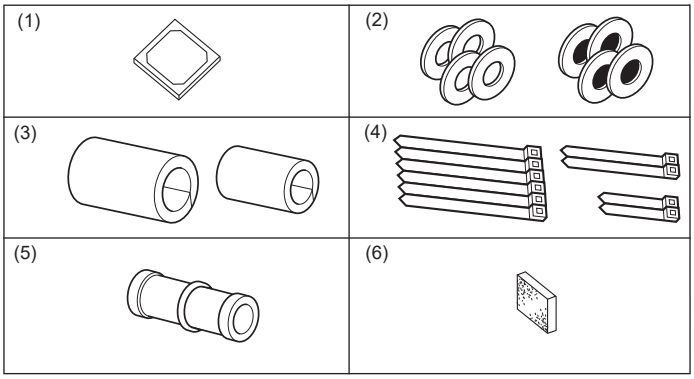

Fig. 4-1

4.1. Check the indoor unit accessories (Fig. 4-1)

The indoor unit should be supplied with the following accessories.

	Accessory name	Q'ty
(1)	Installation template	1
(2)	Washers (with insulation)	4
	Washers (without insulation)	4
(3)	Pipe cover (for refrigerant piping joint)	
	Small diameter (liquid)	1
	Large diameter (gas)	1
(4)	Band (large)	6
	Band (middle)	2
	Band (small)	2
(5)	Drain socket	1
(6)	Insulation	1

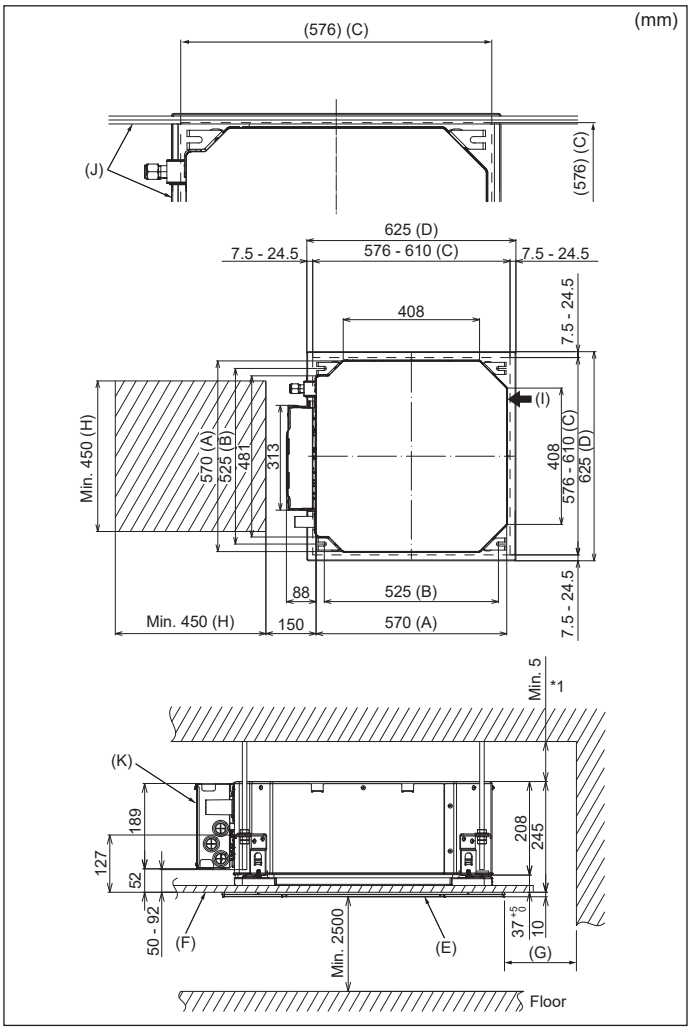

Fig. 4-2

4.2. Ceiling openings and suspension bolt installation locations (Fig. 4-2)

⚠ Warning:

- **This unit should be installed in rooms which exceed the floor space specified in outdoor unit installation manual. Refer to outdoor unit installation manual.**
- **Install the indoor unit at least 2.5 m above floor or grade level. For appliances not accessible to the general public.**
- **Refrigerant pipes connection shall be accessible for maintenance purposes.**

- Using the installation template and the gauge (supplied as an accessory with the grille), make an opening in the ceiling so that the main unit can be installed as shown in the diagram. (The method for using the template and the gauge are shown.)
  * Before using, check the dimensions of template and gauge, because they change due to fluctuations of temperature and humidity.
  * The dimensions of ceiling opening can be regulated within the range shown in following diagram; so center the main unit against the opening of ceiling, ensuring that the respective opposite sides on all sides of the clearance between them becomes identical.
- Use M10 (3/8") suspension bolts.
  * Suspension bolts are to be procured at the field.
- Install securely, ensuring that there is no clearance between the ceiling panel & grille, and between the main unit & grille.

(A) Outer side of main unit
(B) Bolt pitch
(C) Ceiling opening
(D) Outer side of Grille
(E) Grille
(F) Ceiling
(G) Min. 500 mm (Entire periphery)
If setting the maintenance space for (G), be sure to leave is a minimum of 700 mm.
(H) Maintenance space
(I) Fresh air intake
(J) Angle
(K) Electric component box

* Leave the maintenance space at the electric component box end.

*1 When installing in an existing ceiling unit location or applying additional heat insulation, ensure a minimum space of 25 mm.

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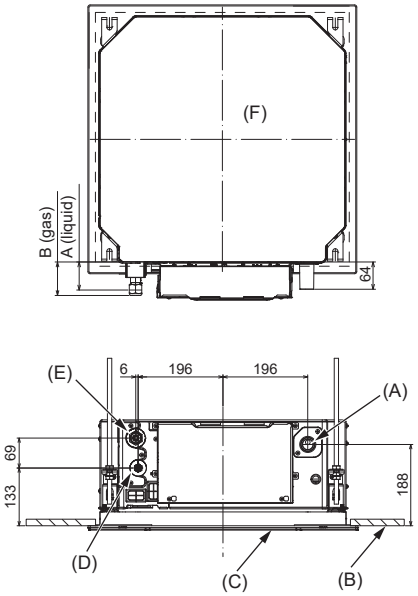


Fig. 4-3

4.3. Refrigerant and drainage piping locations (Fig. 4-3)

(A) Drain pipe
(B) Ceiling
(C) Grille
(D) Refrigerant pipe (liquid)
(E) Refrigerant pipe (gas)
(F) Main unit

Model	Dimension	
	A (liquid)	B (gas)
M15 - 35	63 mm	72 mm
M50, M60	63 mm	78 mm

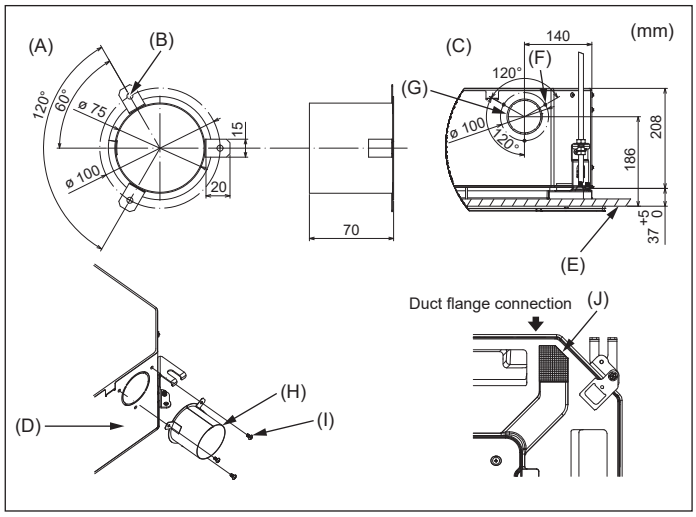


Fig. 4-4

4.4. Installation of duct (in case of fresh air intake) (Fig. 4-4)

⚠ Caution:

Linkage of duct fan and air conditioner
In case that a duct fan is used, be sure to make it linked with the air conditioner when outside air is taken.
Do not run the duct fan only. It can cause dew drop.

Making a duct flange (prepared locally)
- The shape of duct flange shown left is recommended.

Installation of duct flange
- Cut out the cutout hole. Do not knock it out.
- Install a duct flange to the cutout hole of the indoor unit with three 4 × 10 tapping screws which should be prepared locally.

Installation of duct (should be prepared locally)
- Prepare a duct of which inner diameter fits into the outer diameter of the duct flange.
- In case that the environment above the ceiling is high temperature and high humidity, wrap the duct in a heat insulate to avoid causing dew drop on the wall.

Remove the drain pan insulation.

(A) Duct flange recommended shape (Thickness:0.8 or more)
(B) 3-ø5 hole
(C) Detail drawing of fresh air intake
(D) Indoor unit
(E) Ceiling surface
(F) 3-Tapping screw hole
(G) ø73.4 cutout hole
(H) Duct flange (Prepared locally)
(I) 4 × 10 Tapping screw (Prepared locally)
(J) Insulation

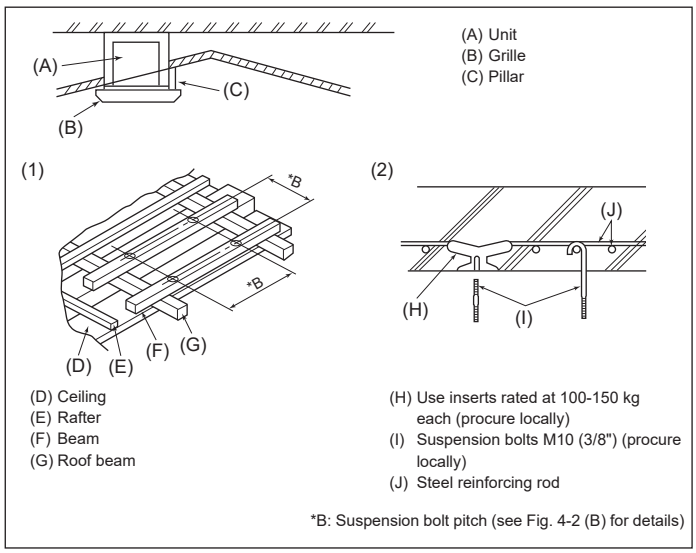


Fig. 4-5

4.5. Suspension structure (Give site of suspension strong structure) (Fig. 4-5)

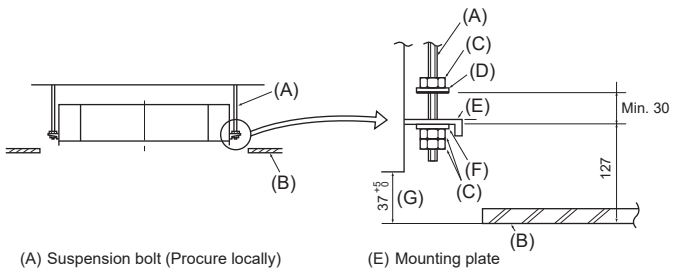
- The ceiling work differs according to the construction of the building. Building constructors and interior decorators should be consulted for details.

1. Extent of ceiling removal: The ceiling must be kept completely horizontal and the ceiling foundation (framework: wooden slats and slat holders) must be reinforced in order to protect the ceiling from vibration.
2. Cut and remove the ceiling foundation.
3. Reinforce the ends of the ceiling foundation where it has been cut and add ceiling foundation for securing the ends of the ceiling board.
4. When installing the unit on a slanting ceiling, interlock a pillar between the ceiling and the grille and set so that the unit is installed horizontally.

(1) Wooden structures
- Use tie beams (single-story houses) or second floor beams (two story houses) as reinforcing members.
- Wooden beams for suspending air conditioners must be sturdy and their sides must be at least 6 cm long if the beams are separated by not more than 90 cm and their sides must be at least 9 cm long if the beams are separated by as much as 180 cm. The size of the suspension bolts should be ø10 (3/8"). (The bolts do not come with the unit.)

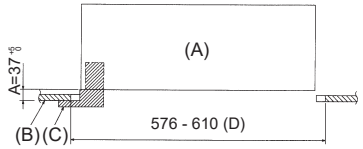
(2) Ferroconcrete structures
Secure the suspension bolts using the method shown, or use steel or wooden hangers, etc. to install the suspension bolts.

4. Installing the indoor unit



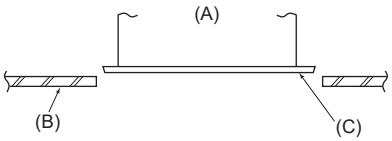
(A) Suspension bolt (Procure locally)
(B) Ceiling
(C) Nut (Procure locally)
(D) Washer (with insulation) (Accessory)
(E) Mounting plate
(F) Washer (without insulation) (Accessory)
(G) Check using the Installation gauge

Fig. 4-6



(A) Main unit
(B) Ceiling
(C) Gauge (Grille accessory)
(D) Ceiling opening dimensions

Fig. 4-7



(A) Main unit
(B) Ceiling
(C) Installation template (Accessory)

Fig. 4-8

4.6. Unit suspension procedures (Fig. 4-6)

Suspend the main unit as shown in the diagram.

1. In advance, set the parts onto the suspension bolts in the order of the washers (with insulation), washers (without insulation) and nuts (double).
   - Fit the washer with cushion so that the insulation faces downward.
   - In case of using upper washers to suspend the main unit, the lower washers (with insulation) and nuts (double) are to be set later.
2. Lift the unit to the proper height of the suspension bolts to insert the mounting plate between washers and then fasten it securely.
3. When the main unit can not be aligned against the mounting hole on the ceiling, it is adjustable owing to a slot provided on the mounting plate. (Fig. 4-7)
   - Make sure that step A is performed within 37-42 mm. Damage could result by failing to adhere to this range.

4.7. Confirming the position of main unit and tightening the suspension bolts (Fig. 4-8)

- Using the gauge attached to the grille, ensure that the bottom of the main unit is properly aligned with the opening of the ceiling. Be sure to confirm this, otherwise condensation may form and drip due to air leakage etc.
- Confirm that the main unit is horizontally levelled, using a level or a vinyl tube filled with water.
- After checking the position of the main unit, tighten the nuts of the suspension bolts securely to fasten the main unit.
- The installation template can be used as a protective sheet to prevent dust from entering the main unit when the grilles are left unattached for a while or when the ceiling materials are to be lined after installation of the unit is finished.

* As for the details of fitting, refer to the instructions given on the Installation template.

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5. Installing the refrigerant piping

5.1. Precautions

For devices that use R32/R410A refrigerant

- **Make sure the inner and outer surfaces of the pipes and fittings are clean and free of harmful contaminants such as sulfuric compounds, oxidants, rubber, and cutting chips.**
  - *** Contamination inside the refrigerant pipes may cause deterioration of the refrigeration oil.**
- **Use the refrigerant oil (small amount) applied to the flared sections.**
- **Use C1220 copper phosphorus for copper and copper alloy seamless pipes, to connect the refrigerant pipes. Use refrigerant pipes with the thicknesses specified in the table below. Make sure the insides of the pipes are clean and do not contain any harmful contaminants such as sulfuric compounds, oxidants, debris, or dust.**

⚠ Warning:

When installing or relocating, or servicing the air conditioner, use only the specified refrigerant written on outdoor unit to charge the refrigerant lines. Do not mix it with any other refrigerant and do not allow air to remain in the lines. If air is mixed with the refrigerant, then it can be the cause of abnormal high pressure in the refrigerant line, and may result in an explosion and other hazards. The use of any refrigerant other than that specified for the system will cause mechanical failure or system malfunction or unit breakdown. In the worst case, this could lead to a serious impediment to securing product safety.

ø6.35 thickness 0.8 mm	ø9.52 thickness 0.8 mm
ø12.7 thickness 0.8 mm	ø15.88 thickness 1.0 mm

- **Do not use pipes thinner than those specified above.**
- **Make sure that the inside and outside of refrigerant piping is clean and it has no contaminants such as sulfur, oxides, dirt, shaving particles, etc, which are hazard to refrigerant cycle. In addition, use pipes with specified thickness.**

5. Installing the refrigerant piping

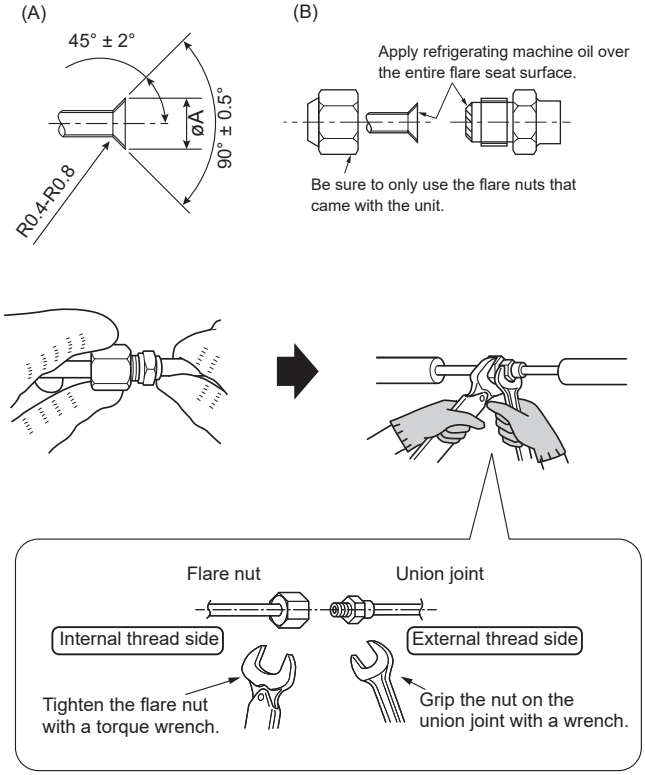

Fig. 5-1

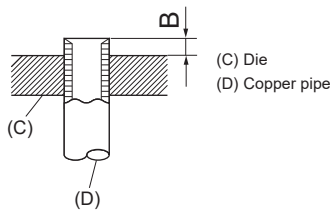

Fig. 5-2

Copper pipe O.D. (mm)	B (mm)
	Flare tool for R32/R410A
	Clutch type
ø6.35 (1/4")	0 - 0.5
ø9.52 (3/8")	0 - 0.5
ø12.7 (1/2")	0 - 0.5
ø15.88 (5/8")	0 - 0.5

5.2. Connecting pipes (Fig. 5-1)

- When commercially available copper pipes are used, wrap liquid and gas pipes with commercially available insulation materials (heat-resistant to 100 °C or more, thickness of 12 mm or more).
- The indoor parts of the drain pipe should be wrapped with polyethylene foam insulation materials (specific gravity of 0.03, thickness of 9 mm or more).
- Apply thin layer of refrigerant oil to pipe and joint seating surface before tightening flare nut.
- Use two wrenches to tighten piping connections.
- Use leak detector or soapy water to check for gas leaks after connections are completed.
- Use refrigerant piping insulation provided to insulate indoor unit connections. Insulate carefully following shown below.
- Use correct flare nuts meeting the pipe size of the outdoor unit.
- After connecting the refrigerant piping to the indoor unit, be sure to test the pipe connections for gas leakage with nitrogen gas. (Check that there is no refrigerant leakage from the refrigerant piping to the indoor unit.)
- Use flared nut installed to this indoor unit.
- In case of reconnecting the refrigerant pipes after detaching, make the flared part of pipe re-fabricated.
- Apply refrigerating machine oil over the entire flare seat surface.
  Do not apply refrigerating machine oil to the screw portions.
  (This will make the flare nuts more apt to loosen.)
- Field-made refrigerant joints indoors shall be tightness tested. The test method shall have a sensitivity of 5 grams per year of refrigerant or better under a pressure of at least 0.25 times the maximum allowable pressure. No leak shall be detected.

(A) Flare cutting dimensions

Copper pipe O.D. (mm)	Flare dimensions øA dimensions (mm)
ø6.35	8.7 - 9.1
ø9.52	12.8 - 13.2
ø12.7	16.2 - 16.6
ø15.88	19.3 - 19.7

(B) Flare nut tightening torque

Copper pipe O.D. (mm)	Flare nut O.D. (mm)	Tightening torque (N·m)
ø6.35	17	14 - 18
ø9.52	22	34 - 42
ø12.7	26	49 - 61
ø15.88	29	68 - 82

Available pipe size

	M15 - 35	M50	M60
Liquid side	ø6.35		
Gas side	ø9.52	ø12.7	ø15.88

⚠ Warning:

- **Be careful of flying flare nut! (Internally pressurized)**
  Remove the flare nut as follows:
  1. Loosen the nut until you hear a hissing noise.
  2. Do not remove the nut until the gas has been completely released (i.e., hissing noise stops).
  3. Check that the gas has been completely released, and then remove the nut.
- **When installing the unit, securely connect the refrigerant pipes before starting the compressor.**
- **Provision shall be made for expansion and contraction of long runs of piping.**

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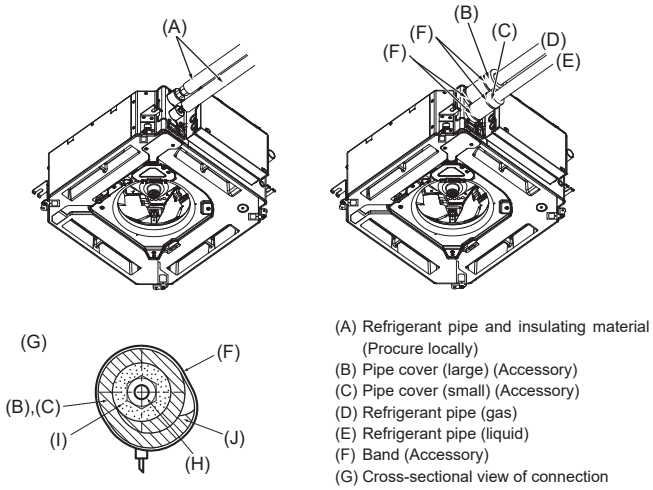
5. Installing the refrigerant piping



(A) Refrigerant pipe and insulating material (Procure locally)
(B) Pipe cover (large) (Accessory)
(C) Pipe cover (small) (Accessory)
(D) Refrigerant pipe (gas)
(E) Refrigerant pipe (liquid)
(F) Band (Accessory)
(G) Cross-sectional view of connection
(H) Refrigerant pipe
(I) Insulating material
(J) Squeeze

Fig. 5-3

Heat insulation for refrigerant pipes (Fig. 5-3)

1. Wrap the enclosed large-sized pipe cover around the gas pipe, making sure that the end of the pipe cover touches the side of the unit.
2. Wrap the enclosed small-sized pipe cover around the liquid pipe, making sure that the end of the pipe cover touches the side of the unit.
3. Secure both ends of each pipe cover with the enclosed bands. (Attach the bands 20 mm from the ends of the pipe cover.)

6. Drainage piping work

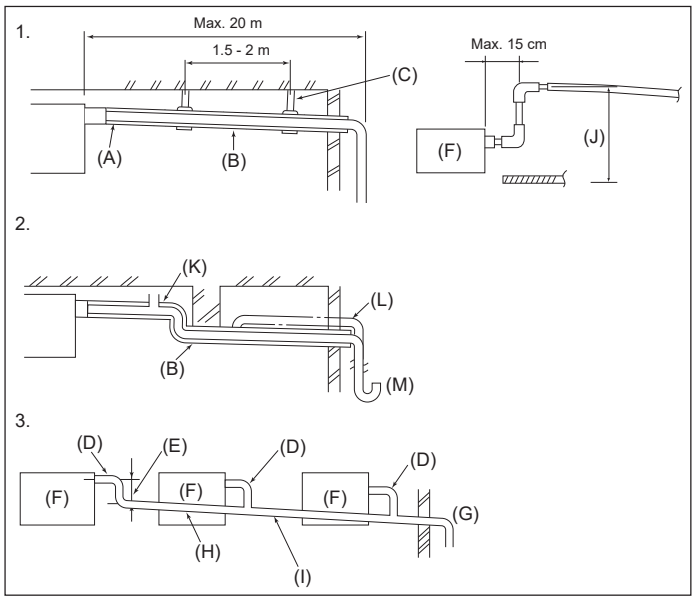


Fig. 6-1

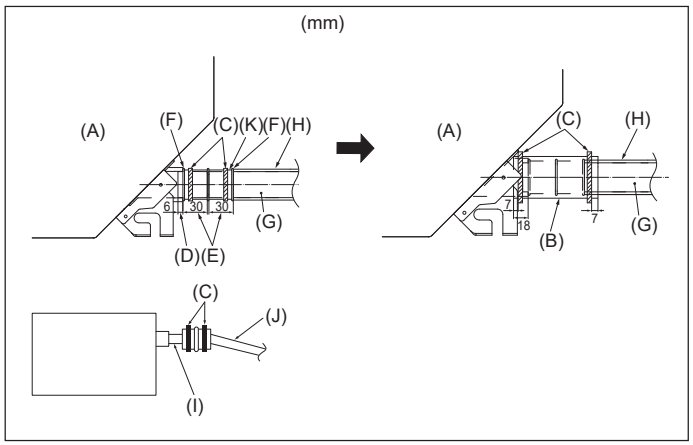


Fig. 6-2

6.1. Drainage piping work (Fig. 6-1)

- The indoor parts of the drain pipe should be wrapped with polyethylene foam insulation materials (specific gravity of 0.03, thickness of 9 mm or more).
- Use VP25 (O.D. ø32 PVC TUBE) for drain piping and provide 1/100 or more downward slope.
- Be sure to connect the piping joints using a PVC type adhesive.
- Observe the figure for piping work.
  1. Correct piping
  2. Wrong piping
     Do not place an air bleeder.
     It may cause overflowing of drainage. (K)
     Do not place a raised pipe on the piping. (L)
     Do not place odor traps on the piping. (M)
  3. Grouped piping
- Use the included drain hose to change the extraction direction.
- When performing the drainage piping work, be sure to use the support metal holders. If a load is applied to the drain socket that damages the hose or causes the hose to become detached, water leakage may result.

(A) Insulation (9 mm or more)
(B) Downward slope (1/100 or more)
(C) Support metal
(D) O.D. ø32 PVC TUBE
(E) Make it as large as possible (about 10 cm)
(F) Main unit
(G) Make the piping size large for grouped piping.
(H) Downward slope (1/100 or more)
(I) O.D. ø38 PVC TUBE for grouped piping (9 mm or more insulation)
(J) Up to 85 cm

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1. Connect the drain socket (supplied with the unit) to the drain port. (Fig. 6-2)
   (Fix the tube using PVC adhesive then secure it with a band.)
2. Install a locally purchased drain pipe (PVC pipe, O.D. ø32).
   (Fix the pipe using PVC adhesive then secure it with a band.)
3. Check that drain flows smoothly.
4. Insulate the drain port and socket with insulating material, then secure the material with a band. (Both insulating material and band are supplied with the unit.)
5. Insulate the tube and pipe. (PVC pipe, O.D. ø32)

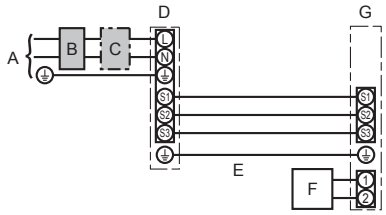
(A) Main unit
(B) Insulating material
(C) Band (large)
(D) Drain port (transparent)
(E) Insertion margin
(F) Matching
(G) Drain pipe (O.D. ø32 PVC TUBE)
(H) Insulating material (purchased locally)
(I) Transparent PVC pipe
(J) O.D. ø32 PVC TUBE (Slope 1/100 or more)
(K) Drain socket

7. Electrical work

7.1. Indoor unit power supplied from outdoor unit

The following connection patterns are available.
The outdoor unit power supply patterns vary on models.

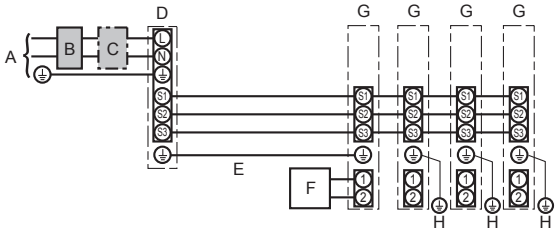
1:1 System



A Outdoor unit power supply
B Earth leakage breaker
C Wiring circuit breaker or isolating switch
D Outdoor unit
E Indoor unit/outdoor unit connecting cables
F Remote controller
G Indoor unit

* Affix label A that is included with the manuals near each wiring diagram for the indoor and outdoor units.

Simultaneous twin/triple/quadruple system



A Outdoor unit power supply
B Earth leakage breaker
C Wiring circuit breaker or isolating switch
D Outdoor unit
E Indoor unit/outdoor unit connecting cables
F Remote controller
G Indoor unit
H Indoor unit earth

* Affix label A that is included with the manuals near each wiring diagram for the indoor and outdoor units.

Note:
Some units cannot be used in a simultaneous twin/triple/quadruple system. Refer to the outdoor unit installation manual for details.

Indoor unit model			SLZ-M·FA Series
Wiring Wire No. × size (mm^2)	Indoor unit-Outdoor unit	*1	3 × 1.5 (polar)
	Indoor unit-Outdoor unit earth	*1	1 × Min. 1.5
	Indoor unit earth		1 × Min. 1.5
	Remote controller-Indoor unit	*2	2 × 0.3 (Non-polar)
Circuit rating	Indoor unit (Heater) L-N	*3	—
	Indoor unit-Outdoor unit S1-S2	*3	230 VAC
	Indoor unit-Outdoor unit S2-S3	*3 *4	24 VDC / 28 VDC
	Remote controller-Indoor unit	*3	12 VDC

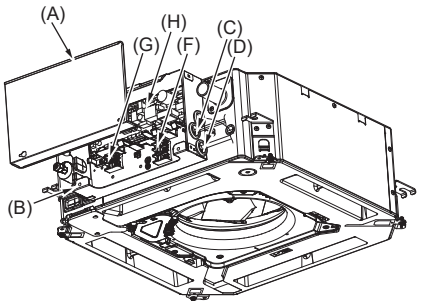
*1. Max. 45 m
If 2.5 mm^2 used, Max. 50 m
If 2.5 mm^2 used and S3 separated, Max. 80 m
*2. Max. 500 m
(When using 2 remote controllers, the maximum wiring length for the remote controller cables is 200 m. If 2 remote controllers are connected, set one to “Main” and the other to “Sub”. For setting procedures, refer to “Initial settings” in the installation manual for the remote controller.)
*3. The figures are NOT always against the ground.
S3 terminal has 24 VDC / 28 VDC against S2 terminal. However between S3 and S1, these terminals are not electrically insulated by the transformer or other device.
*4. It depends on the outdoor unit.

Notes:
1. **Wiring size must comply with the applicable local and national code.**
2. **Power supply cords and indoor unit/outdoor unit connecting cords shall not be lighter than polychloroprene sheathed flexible cord. (Design 60245 IEC 57)**
3. **Install an earth longer than other cables.**
4. **Indoor and outdoor connecting wires have polarities. Make sure to match the terminal number (S1, S2, S3) for correct wirings.**
5. **Wiring for remote controller cable shall be apart (50 mm or more) from power source wiring so that it is not influenced by electric noise from power source wiring.**

⚠ Warning:

Never splice the power cable or the indoor-outdoor connection cable, otherwise it may result in a smoke, a fire or communication failure.

7. Electrical work



(A) Electric component cover
(B) Electric component box
(C) Entry for Indoor-Outdoor connecting cable
(D) Entry for wired remote controller cable
(E) Cable clamp
(F) Indoor/Outdoor unit connecting terminal
(G) Wired remote controller terminal
(H) Indoor controller
(I) Ground wire connection portion
(J) Cable strap

Fig. 7-1

7.2. Indoor unit (Fig. 7-1) (Fig. 7-2) (Fig. 7-3)

Work procedure

1. Loosen the two screws securing the electric component cover, and then slide and remove the cover.
2. Route the wires along the wiring routes and through the wire inlets in the electric component box.
   (Procure the power supply cord and indoor/outdoor unit connecting cable locally.)
3. Securely connect the power supply cord and the indoor/outdoor unit connecting cable to the terminal block.
4. Secure the wires with the cable straps inside the electric component box.
   Secure the wires with cable straps as cushioning components so that no stress is applied to the connecting sections of the terminal block when tension is generated.
5. Install the electric component cover.
   Make sure that the wires do not get pinched.
6. Secure the wires with the cable straps outside the electric component box.

• Do not allow slackening of the terminal screws.

Screw tightening torque

	Tightening torque (N·m)
Remote controller terminal board	1.2 ± 0.1
Indoor-outdoor connection terminal board	1.6 ± 0.1
Ground wire	1.6 ± 0.1

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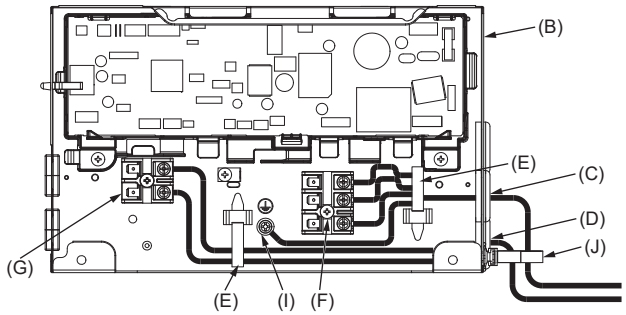
⚠ Warning:

- **Insert hook the electric component cover into the bent support on the electric component box and attach the cover securely. If it is attached incorrectly, it could result in a fire, electric shock due to dust, water, etc.**
- **Use the specified indoor/outdoor unit connecting cable to connect the indoor and outdoor units and fix the cable to the terminal block securely so that no stress is applied to the connecting section of the terminal block. Incomplete connection or fixing of the cable could result in a fire.**
- **Secure all of the indoor/outdoor unit connecting cables with the cable strap on the side of the electric component box.**



(A) Electric component cover
(B) Electric component box
(C) Entry for Indoor-Outdoor connecting cable
(D) Entry for wired remote controller cable
(E) Cable clamp
(F) Indoor/Outdoor unit connecting terminal
(G) Wired remote controller terminal
(H) Indoor controller
(I) Ground wire connection portion
(J) Cable strap

Fig. 7-2

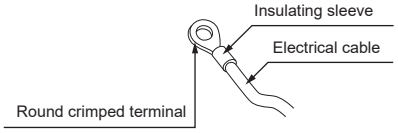
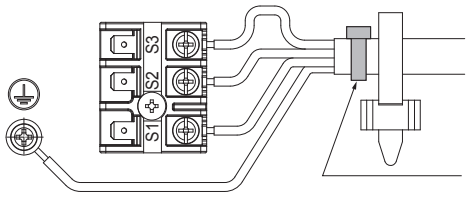
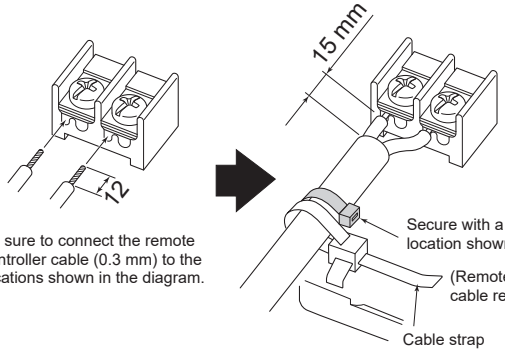


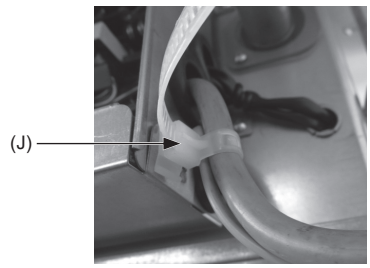
Fig. 7-3





Be sure to connect the remote controller cable (0.3 mm) to the locations shown in the diagram.

Fig. 7-4



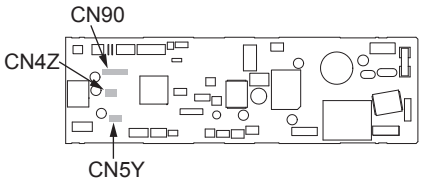
⚠ Warning:

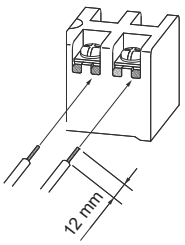
- **Never splice the power cable or the indoor-outdoor connection cable, otherwise it may result in a smoke, a fire or communication failure.**
- **Electrical components that can arc or spark, which are not considered ignition sources shall only be replaced with parts specified by the appliance manufacturer. Replacement with other parts may result in the ignition of refrigerant in the event of a leak.**

⚠ Caution:

- **Wiring for remote controller cable shall be apart (5 cm or more) from power source wiring so that it is not influenced by electric noise from power source wiring.**
- **Before installing the grille, make sure that the junction wire is connected.**
- **If the grille has signal receiver or i-see Sensor, the pack of grille includes junction wire.**

Signal receiver: CN90
3D i-See sensor : CN5Y
3D i-See sensor motor: CN4Z





- The U-shaped groove opens if you push the screw head after the screw is loosened.

Fig. 7-5

<When wiring two indoor-outdoor connection cables>

- If the cables have the same diameter, insert them into the cut outs on both sides.
- If the cables have different diameters, insert them on one side into separate spaces with one cable positioned above the other.

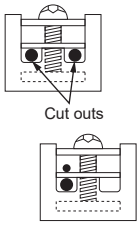
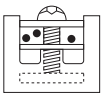
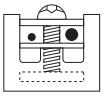


Fig. 7-6

WARNING



- Connecting two wires on one side is prohibited.
- Connecting three wires or more to the same terminal is prohibited.



- Connecting wires with different diameters is prohibited.

When using a solid wire, a round crimped terminal or other terminal work is prohibited.

Fig. 7-7

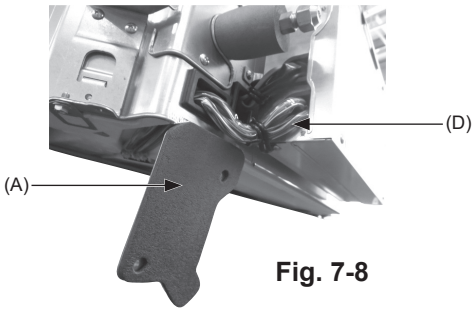


Fig. 7-8

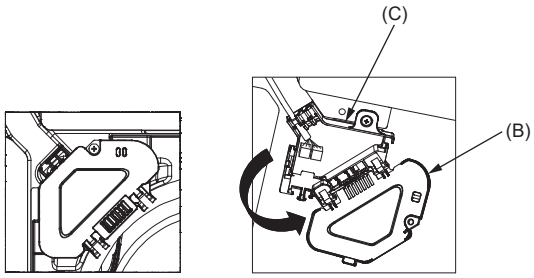


Fig. 7-9

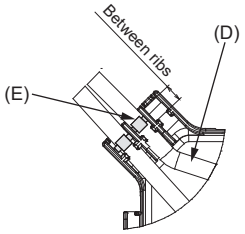


Fig. 7-10

7.2.1. Installing the i-see Sensor and signal receiver

Before installing the grille, connect the junction wires included with the grille accessories and place them in the connector box.

(1) Remove the two screws securing the wire cover of the main unit, and then open the cover.
(2) Route the wires of the i-see Sensor and signal receiver through the wire inlets in the electric component box as shown in the diagram and around the bushings on the side of the main unit. (Fig. 7-8)
When routing the wires, open the clamp securing the grille junction wire, and then secure the grille junction wire and the wires of the i-see Sensor and signal receiver with the clamp.
(3) Remove the one screw securing the connector box cover, and then open the cover. (Fig. 7-9)
(4) Place the junction wire connector in the connector box.
(5) Install the wire cover and connector box cover.

⚠ Caution:

When installing the covers, make sure that the wires do not get pinched.
Fit the band securing the junction wires between the ribs on the connector box as shown in the diagram. (Fig. 7-10)

(A) Wire cover
(B) Connector box cover
(C) Connector box
(D) i-see Sensor or signal receiver lead wire (Grille accessory)
(E) Band

en

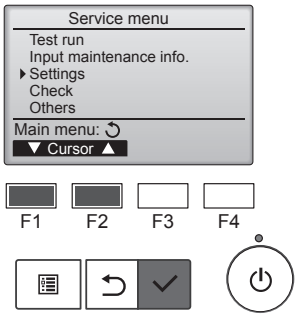


Fig. 7-7

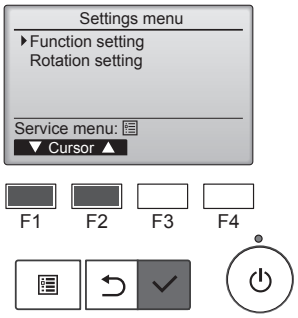


Fig. 7-8

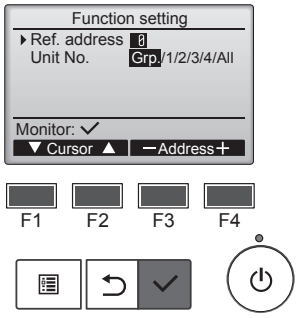


Fig. 7-9

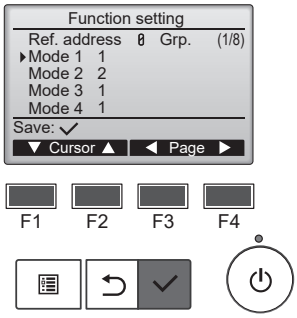


Fig. 7-10

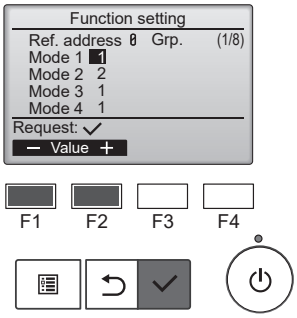


Fig. 7-11

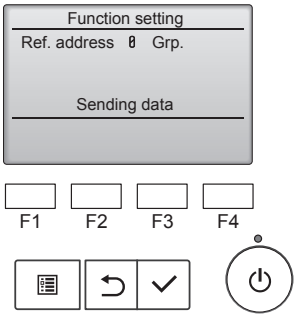


Fig. 7-12

7.3. Function setting

7.3.1. For wireless remote controller

Refer to the installation manual included with the wireless remote controller.

7.3.2. Function setting on the unit (Selecting the unit functions)

(1) (Fig. 7-7)
- Select “Service” from the Main menu, and press the [SELECT] button.
- Select “Settings” from the Service menu, and press the [SELECT] button.

(2) (Fig. 7-8)
- Select “Function setting” with the [SELECT] button.

(3) (Fig. 7-9)
- Set the indoor unit refrigerant addresses and unit numbers with the [F1] through [F4] buttons, and then press the [SELECT] button to confirm the current setting.

<Checking the Indoor unit No.>
When the [SELECT] button is pressed, the target indoor unit will start fan operation. If the unit is common or when running all units, all indoor units for the selected refrigerant address will start fan operation.

(4) (Fig. 7-10)
- Toggle through the pages with the [F3] or [F4] button.
- Select the mode number with the [F1] or [F2] button, and then press the [SELECT] button.

(5) (Fig. 7-11)
- Select the setting number with the [F1] or [F2] button.
  Setting range for modes 1 through 28: 1 through 3.
  Setting range for modes 31 through 66: 1 through 15.

(6) (Fig. 7-12)
- When the settings are completed, press the [SELECT] button to send the setting data from the remote controller to the indoor units.
- When the transmission is successfully completed, the screen will return to the Function setting screen.

7. Electrical work

Function table

Select unit number “Grp.” [table 1]

Mode	Settings	Mode no.	Setting no.	Initial setting	setting
Power failure automatic recovery	Not available	01	1		
	Available *1		2	O *2	
Indoor temperature detecting *3	Indoor unit operating average	02	1	O	
	Set by indoor unit’s remote controller		2		
	Remote controller’s internal sensor		3		
Smart Defrost *4	Available	20	1	O	
	Not available		2		

Select unit numbers 1 to 4 or “All”

Mode	Settings	Mode no.	Setting no.	Initial setting	setting
Filter sign	100Hr	07	1		
	2500Hr		2	O	
	No filter sign indicator		3		
Fan speed	Silent	08	1		
	Standard		2	O	
	High ceiling		3		
Up/down vane setting	Not setting	11	1		
	Draft-less setting (vanes angle setup (1))		2	O	
	Downward setting (vanes angle setup (2))		3		
3D i-See sensor positioning *5	Position (1) ("□" stamp position, page 23)	12	1		
	(Position (1))		2		
	Position (3) ("○" stamp position, page 23)		3	O	
Fan speed during the cooling thermostat is OFF	Setting fan speed	27	1		
	Stop		2		
	Extra low		3	O	

*1 When the power supply returns, the air conditioner will start 3 minutes later.
*2 Power failure automatic recovery initial setting depends on the connecting outdoor unit.
*3 If there are multiple remote controls (wired or wireless remote control), perform the settings from only one remote control.
*4 It is available when the indoor unit is connected to any of the particular outdoor units.
*5 When the 3D i-See sensor corner panel position changed, change this mode. Refer to page 23.

en

7.3.3. How to set the fixed up/down air direction

- Only the particular outlet can be fixed to certain direction with the procedures below. Once fixed, only the set outlet is fixed every time air conditioner is turned on. (Other outlets follow UP/DOWN air direction setting of the remote controller.)

■ Explanation of word

- "Refrigerant address No." and "Unit No." are the numbers given to each air conditioner.
- "Outlet No." is the number given to each outlet of air conditioner. (Refer to the right.)
- "Up/Down air direction" is the direction (angle) to fix.

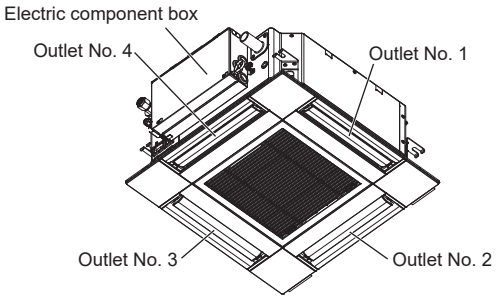
Remote controller setting

The airflow direction of this outlet is controlled by the airflow direction setting of remote controller.

Fixed setting

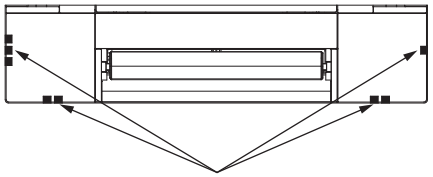
The airflow direction of this outlet is fixed in particular direction.

* When it is cold because of direct airflow, the airflow direction can be fixed horizontally to avoid direct airflow.

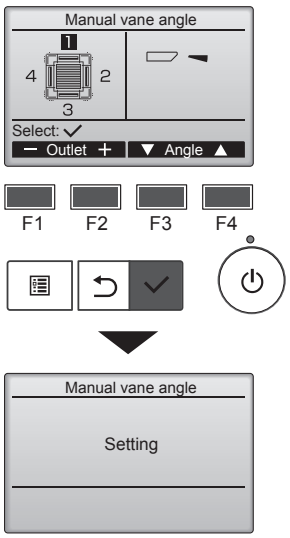


Note:

The outlet No. is indicated by the number of grooves on both ends of each air outlet. Set the air direction while checking the information shown on the remote controller display.

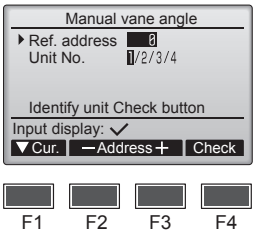


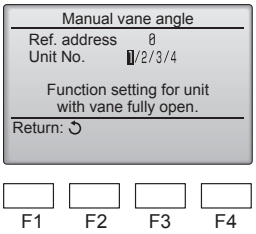
Air outlet identification marks

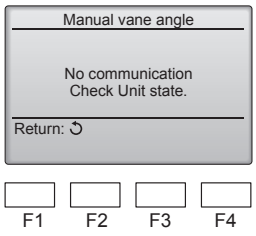


If all outlets are selected, ▭ will be displayed the next time the unit goes into operation.

Navigating through the screens
- To go back to the Main menu.....[MENU] button
- To return to the previous screen .....[RETURN] button





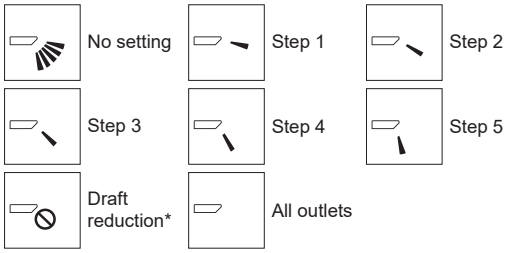


The current vane setting will appear.

Select the desired outlets from 1 through 4 with the [F1] or [F2] button.
- Outlet: "1", "2", "3", "4", and "1, 2, 3, 4, (all outlets)"

Press the [F3] or [F4] button to go through the option in the order of "No setting (reset)", "Step 1", "Step 2", "Step 3", "Step 4", "Step 5", and "Draft reduction*".
Select the desired setting.

■ Vane setting



* Draft reduction
The airflow direction for this setting is more horizontal than the airflow direction for the “Step 1” setting in order to reduce a drafty feeling. The draft reduction can be set for only 1 vane.

Press the [SELECT] button to save the settings.
A screen will appear that indicates the setting information is being transmitted.
The setting changes will be made to the selected outlet.
The screen will automatically return to the one shown above (step 4) when the transmission is completed.
Make the settings for other outlets, following the same procedures.

Confirmation procedure

(1) First, confirm by setting “Ref. address” to 0 and “Unit No.” to 1.
- Move the cursor to "Ref. address" or "Unit No." with the [F1] button to select.
- Select the refrigerant address and the unit number for the units to whose vanes are to be fixed, with the [F2] or [F3] button, and press the [SELECT] button.
- Ref. address: Refrigerant address
- Unit No.: 1, 2, 3, 4

Press the [F4] button to confirm the unit.

(2) Change the “Unit No.” in order and check each unit.
- Press the [F1] button to select “Unit No.”.
  Press the [F2] or [F3] button to change the “Unit No.” to the unit that you want to check, and then press the [F4] button.
- After pressing the [F4] button, wait approximately 15 seconds, and then check the current state of the air conditioner.
  → The vane is pointing downward. → This air conditioner is displayed on the remote controller.
  → All outlets are closed. → Press the [RETURN] button and continue the operation from the beginning.
  → The messages shown to the left are displayed. → The target device does not exist at this refrigerant address.
- Press the [RETURN] button to return to the initial screen.

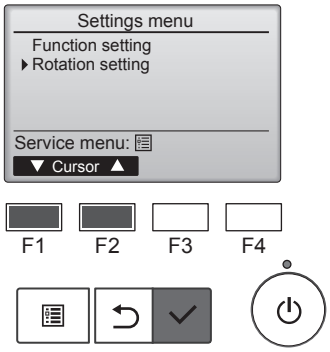
(3) Change the “Ref. address” to the next number.
- Refer to step (1) to change the “Ref. address” and continue with the confirmation.

7. Electrical work

7.4. Rotation setting

You can set these functions by wired remote controller. (Maintenance monitor)

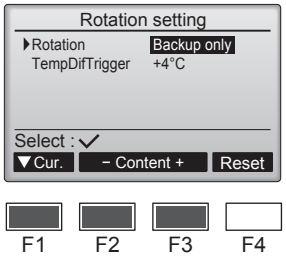
(1) Select "Service" from the Main menu, and press the [SELECT] button.
(2) Select "Settings" with the [F1] or [F2] button, and press the [SELECT] button.
(3) Select "Rotation setting" with the [F1] or [F2] button, and press the [SELECT] button.



(4) Set the rotation function.
- Select "Rotation" with the [F1] button.
- Select the switching period or "Backup only" with the [F2] or [F3] button.

■ "Rotation" setup options
None, 1 day, 3 days, 5 days, 7 days, 14 days, 28 days, Backup only

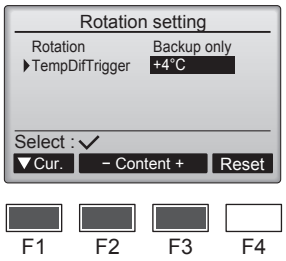
Notes:
- **When 1 to 28 days are selected from the setup options, the backup function is also enabled.**
- **When "Backup only" is selected, the rotation function will be disabled. The systems with refrigerant addresses of 00 or 01 (00 system/ 01 system) will be operated as a main system while the 02 system is the standby mode as backup.**



(5) Set the support function.
- Select "TempDifTrigger" with the [F1] button.
- Select the difference between the suction temperature and the set temperature with the [F2] or [F3] button.

■ "TempDifTrigger" setup options
None, +4ºC, +6ºC, +8ºC

Notes:
- **The support function is available only in the COOL mode. (Not available in the HEAT, DRY and AUTO mode.)**
- **The support function is enabled when any option other than "None" is selected from the "Rotation" setup options.**



(6) Press the [SELECT] button to update the setting.

Reset method
- Press the [F4] button in step (4) or (5) to reset the operation time of the rotation function. Once it is reset, operation will start from the systems with refrigerant addresses of 00 or 01.

Note: When the system with refrigerant address of 02 is in the backup operation, the 00 or 01 systems will be operated again.

en

8. Test run

8.1. Before test run

► **After completing installation and the wiring and piping of the indoor and outdoor units, check for refrigerant leakage, looseness in the power supply or control wiring, wrong polarity, and no disconnection of one phase in the supply.**

► **Use a 500-volt megohmmeter to check that the resistance between the power supply terminals and ground is at least 1.0 MΩ.**

► **Do not carry out this test on the control wiring (low voltage circuit) terminals.**

⚠ Warning:

Do not use the air conditioner if the insulation resistance is less than 1.0 MΩ.

8.2. Test run

8.2.1. Using wired remote controller

■ Make sure to read operation manual before test run. (Especially items to secure safety)

Step 1 Turn on the power.

- Remote controller: The system will go into startup mode, and the remote controller power lamp (green) and “Please Wait” will blink. While the lamp and message are blinking, the remote controller cannot be operated. Wait until “Please Wait” is not displayed before operating the remote controller. After the power is turned on, “Please Wait” will be displayed for approximately 2 minutes.
- Indoor controller board: LED 1 will be lit up, LED 2 will be lit up (if the address is 0) or off (if the address is not 0), and LED 3 will blink.
- Outdoor controller board: LED 1 (green) and LED 2 (red) will be lit up. (After the startup mode of the system finishes, LED 2 will be turned off.) If the outdoor controller board uses a digital display, [-] and [-] will be displayed alternately every second.
  If the operations do not function correctly after the procedures in step 2 and thereafter are performed, the following causes should be considered and eliminated if they are found.
  (The symptoms below occur during the test run mode. “Startup” in the table means the LED display written above.)

Symptoms in test run mode		Cause
Remote Controller Display	**OUTDOOR BOARD LED Display** < > indicates digital display.	
Remote controller displays “Please Wait”, and cannot be operated.	After “startup” is displayed, only green lights up. <00>	• After power is turned on, “Please Wait” is displayed for 2 minutes during system startup. (Normal)
After power is turned on, “Please Wait” is displayed for 3 minutes, then error code is displayed.	After “startup” is displayed, green(once) and red(once) blink alternately. <F1>	• Incorrect connection of outdoor terminal block (~/N: L, N and S1, S2, S3) (3N~: L1, L2, L3, N and S1, S2, S3)
	After “startup” is displayed, green(once) and red(twice) blink alternately. <F3, F5, F9>	• Outdoor unit’s protection devise connector is open.
No display appears even when remote controller operation switch is turned on. (Operation lamp does not light up.)	After “startup” is displayed, green(twice) and red(once) blink alternately. <EA. Eb>	• Incorrect wiring between the indoor and outdoor unit (Polarity is wrong for S1, S2, S3.) • Remote controller transmission wire short.
	After “startup” is displayed, only green lights up. <00>	• There is no outdoor unit of address 0. (Address is other than 0.) • Remote controller transmission wire open.
Display appears but soon disappears even when remote controller is operated.	After “startup” is displayed, only green lights up. <00>	• After canceling function selection, operation is not possible for about 30 seconds. (Normal)

Step 2 Switch the remote controller to “Test run”.

(1) Select “Test run” from the Service menu, and press the [SELECT] button. (Fig. 8-1)
(2) Select “Test run” from the Test run menu, and press the [SELECT] button. (Fig. 8-2)
(3) The test run operation starts, and the Test run operation screen is displayed.

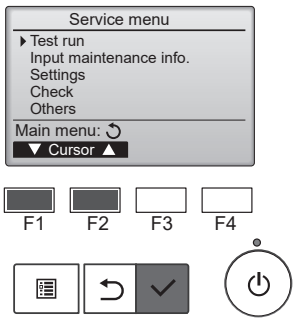


Fig. 8-1

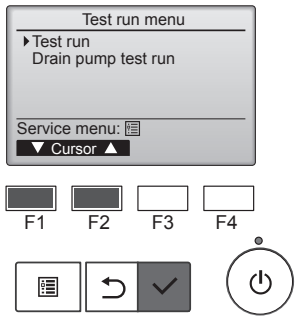


Fig. 8-2

Step 3 Perform the test run and check the airflow temperature and auto vane.

(1) Press the [F1] button to change the operation mode. (Fig. 8-3)
Cooling mode: Check that cool air blows from the unit.
Heating mode: Check that warm air blows from the unit.
(2) Press the [SELECT] button to display the Vane operation screen, and then press the [F1] and [F2] buttons to check the auto vane. (Fig. 8-4)
Press the [RETURN] button to return to the Test run operation screen.

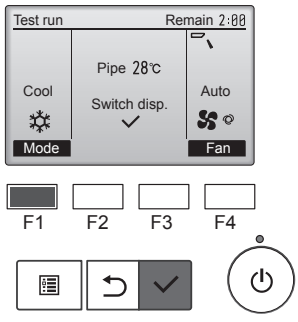


Fig. 8-3

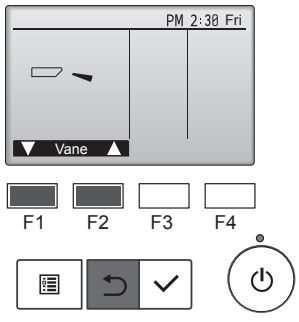


Fig. 8-4

8. Test run

Step 4 Confirm the operation of the outdoor unit fan.

The speed of the outdoor unit fan is controlled in order to control the performance of the unit. Depending on the ambient air, the fan will rotate at a slow speed and will keep rotating at that speed unless the performance is insufficient. Therefore, the outdoor wind may cause the fan to stop rotating or to rotate in the opposite direction, but this is not a problem.

Step 5 Stop the test run.

(1) Press the [ON/OFF] button to stop the test run. (The Test run menu will appear.)
Note: If an error is displayed on the remote controller, see the table below.

LCD	Description of malfunction	LCD	Description of malfunction	LCD	Description of malfunction
P1	Intake sensor error	P9	Pipe sensor error (Cond./Eva. pipe)	E0 – E5	Communication error between the remote controller and the indoor unit
P2	Pipe sensor error (liquid pipe)	PA	Leakage error (refrigerant system)		
P4	Drain float switch connector disconnected (CN4F)	Pb	Indoor unit fan motor error		
		PL	Refrigerant circuit abnormal		
P5	Drain overflow protection operation	FB	Indoor controller board error	E6 – EF	Communication error between the indoor unit and the outdoor unit
P6	Freezing/overheating protection operation	U*, F* (* indicates an alphanumeric character excluding FB.)	Outdoor unit malfunction Refer to the wiring diagram for the outdoor unit.		
P8	Pipe temperature error				

See the table below for the details of the LED display (LED 1, 2, and 3) on the indoor controller board.

LED 1 (microcomputer power supply)	Indicates whether control power is supplied. Make sure that this LED is always lit.
LED 2 (remote controller power supply)	Indicates whether power is supplied to the wired remote controller. The LED is lit only for the indoor unit that is connected to the outdoor unit that has an address of 0.
LED 3 (indoor/outdoor unit communication)	Indicates whether the indoor and outdoor units are communicating. Make sure that this LED is always blinking.

en

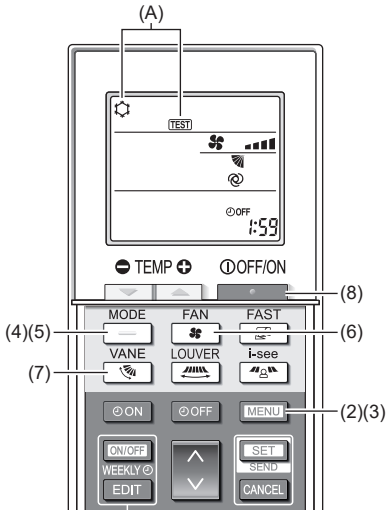


Fig. 8-5

8.2.2. Using the wireless remote controller

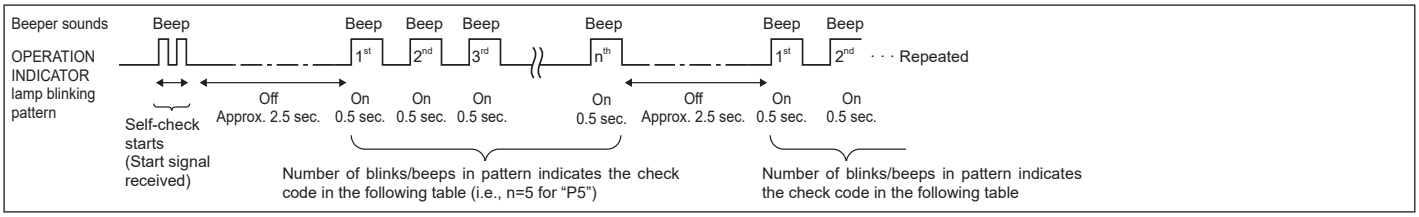
(1) Turn on the power to the unit at least 12 hours before the test run.
(2) Press the MENU button for 5 seconds. (Fig. 8-5)
(Perform this operation when the remote controller display is turned off.)
(3) Press the MENU button.
(A) [TEST] and the current operation mode are displayed. (Fig. 8-5)
(4) Press the button to activate cool mode, then check whether cool air is blown out from the unit.
(5) Press the button to activate heat mode, then check whether warm air is blown out from the unit.
(6) Press the button and check whether the fan speed changes.
(7) Press the button and check whether the auto vane operates properly.
(8) Press the button to stop the test run.
(After two hours, a signal will be sent to stop the test run.)

Note:
- **Point the remote controller towards the indoor unit receiver while following steps (3) to (8).**
- **It is not possible to perform the test run in FAN, DRY, or AUTO mode.**

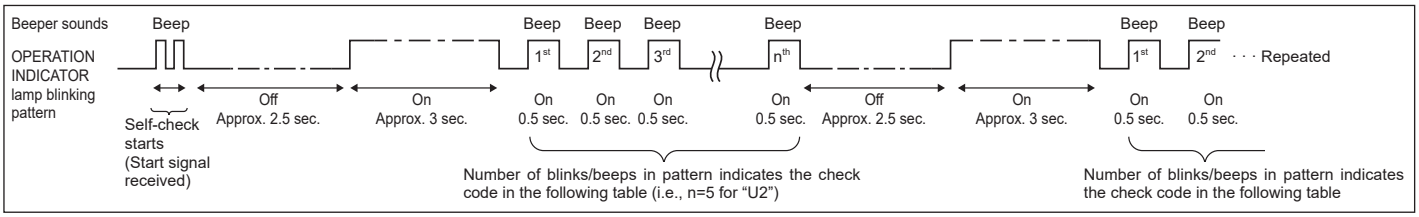
8.3. Self-check

■ Refer to the installation manual that comes with each remote controller for details.

• Refer to the following tables for details on the check codes. (Wireless remote controller)
[Output pattern A]



[Output pattern B]



8. Test run

[Output pattern A] Errors detected by indoor unit

Wireless remote controller	Wired remote controller	Symptom	Remark
Beeper sounds/OPERATION INDICATOR lamp blinks (Number of times)	Check code		
1	P1	Intake sensor error	
2	P2	Pipe (TH2) sensor error	
	P9	Pipe (TH5) sensor error	
3	E6, E7	Indoor/outdoor unit communication error	
4	P4	Drain sensor error/Float switch connector open	
5	P5	Drain pump error	
	PA	Forced compressor error	
6	P6	Freezing/Overheating protection operation	
7	EE	Communication error between indoor and outdoor units	
8	P8	Pipe temperature error	
9	E4	Remote controller signal receiving error	
10	—	—	
11	Pb	Indoor unit fan motor error	
12	Fb	Indoor unit control system error (memory error, etc.)	
14	PL	Refrigerant circuit abnormal	
No sound	E0, E3	Remote controller transmission error	
No sound	E1, E2	Remote controller control board error	
No sound	– – – –	No corresponding	

[Output pattern B] Errors detected by unit other than indoor unit (outdoor unit, etc.)

Wireless remote controller	Wired remote controller	Symptom	Remark
Beeper sounds/OPERATION INDICATOR lamp blinks (Number of times)	Check code		
1	E9	Indoor/outdoor unit communication error (Transmitting error) (Outdoor unit)	For details, check the LED display of the outdoor controller board.
2	UP	Compressor overcurrent interruption	
3	U3, U4	Open/short of outdoor unit thermistors	
4	UF	Compressor overcurrent interruption (When compressor locked)	
5	U2	Abnormal high discharging temperature/49C worked/insufficient refrigerant	
6	U1, Ud	Abnormal high pressure (63H worked)/Overheating protection operation	
7	U5	Abnormal temperature of heat sink	
8	U8	Outdoor unit fan protection stop	
9	U6	Compressor overcurrent interruption/Abnormal of power module	
10	U7	Abnormality of super heat due to low discharge temperature	
11	U9, UH	Abnormality such as overvoltage or voltage shortage and abnormal synchronous signal to main circuit/Current sensor error	
12	—	—	
13	—	—	
14	Others	Other errors (Refer to the technical manual for the outdoor unit.)	

*1 If the beeper does not sound again after the initial 2 beeps to confirm the self-check start signal was received and the OPERATION INDICATOR lamp does not come on, there are no error records.

*2 If the beeper sounds 3 times continuously “beep, beep, beep (0.4 + 0.4 + 0.4 sec.)” after the initial 2 beeps to confirm the self-check start signal was received, the specified refrigerant address is incorrect.

- On wireless remote controller
  The continuous buzzer sounds from receiving section of indoor unit.
- On wired remote controller
  Check code displayed in the LCD.

8. Test run

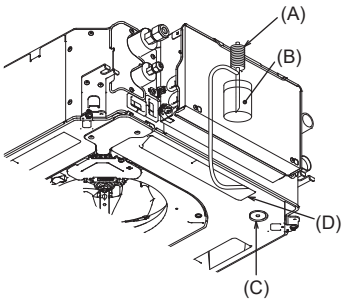
• If the unit cannot be operated properly after test run, refer to the following table to find the cause.

Symptom			Cause
Wired remote controller		LED 1, 2 (PCB in outdoor unit)	
Please Wait	For about 3 minutes after power-on	After LED 1, 2 are lighted, LED 2 is turned off, then only LED 1 is lighted. (Correct operation)	•For about 3 minutes after power-on, operation of the remote controller is not possible due to system start-up. (Correct operation)
Please Wait → Error code	Subsequent to about 3 minutes after power-on	Only LED 1 is lighted. → LED 1, 2 blink.	•Connector for the outdoor unit's protection device is not connected. Reverse or open phase wiring for the outdoor unit's power terminal block (~/N: L, N) (3N~: L1, L2, L3, N)
Display messages do not appear even when operation switch is turned ON (operation lamp does not light up).		Only LED 1 is lighted. → LED 1 blinks twice, LED 2 blinks once.	•Incorrect wiring between indoor and outdoor units (incorrect polarity of S1, S2, S3) •Remote controller wire short

On the wireless remote controller with condition above, following phenomena take place.
- No signals from the remote controller are accepted.
- Operation lamp is blinking.
- The buzzer makes a short ping sound.

Note:
Operation is not possible for about 30 seconds after cancellation of function selection. (Correct operation)

For description of each LED (LED 1, 2, 3) provided on the indoor controller, refer to page 19.



(A) Water supply pump
(B) Water (about 1000 cc)
(C) Drain plug
(D) Pour water through outlet
- Be careful not to spray water into the drain pump mechanism.

Fig. 8-6

8.4. Check of drainage (Fig. 8-6)

- Ensure that the water is being properly drained out and that no water is leaking from joints.

When electric work is completed.
- Pour water during cooling operation and check.

When electric work is not completed.
- Pour water during emergency operation and check.

* Drain pump and fan are activated simultaneously when single phase 230 V is turned on to S1 and S2 on terminal block after the connector (SWE) on controller board in the electrical component box is set to ON.

Be sure to turn it back to the former state after work.

9. System control

Refer to the outdoor unit installation manual.

10. Installing the grille

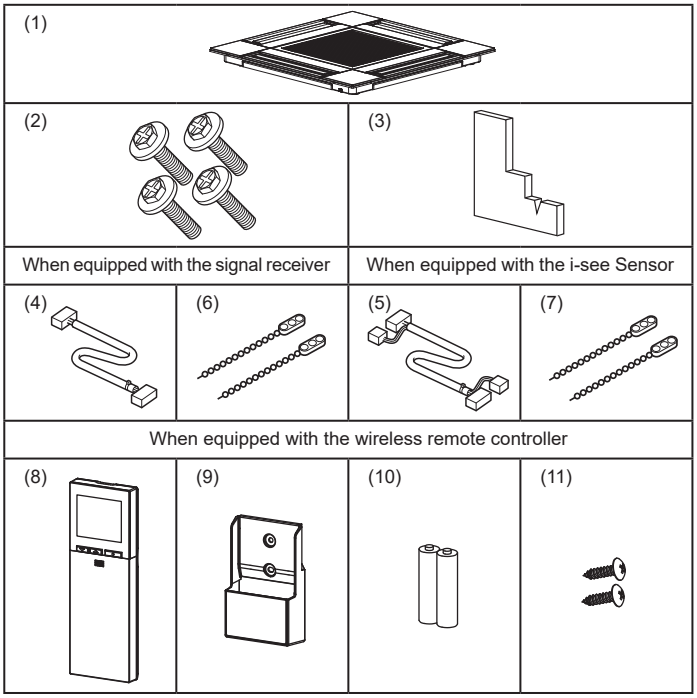


Fig. 10-1

10.1. Check the grille accessories (Fig. 10-1)

- The grille should be supplied with the following accessories.

	Accessory name	Q'ty	Remark
(1)	Grille	1	625 × 625 (mm)
(2)	Screw with washer	4	M5 × 0.8 × 25 (mm)
(3)	Gauge	1	
(4)	Junction wire for signal receiver	1	Included when equipped with the signal receiver.
(5)	Junction wire for i-see Sensor	1	Included when equipped with the i-see Sensor.
(6)	Fastener	2	Included when equipped with the signal receiver.
(7)	Fastener	2	Included when equipped with the i-see Sensor.
(8)	Wireless remote controller	1	Included when equipped with the wireless remote controller.
(9)	Remote controller holder	1	Included when equipped with the wireless remote controller.
(10)	LR6 AA batteries	2	Included when equipped with the wireless remote controller. *2
(11)	3.5 × 16 tapping screws	2	Included when equipped with the wireless remote controller.

*1 Refer to the installation manual included with the wireless remote controller.
*2 Some models do not include batteries.

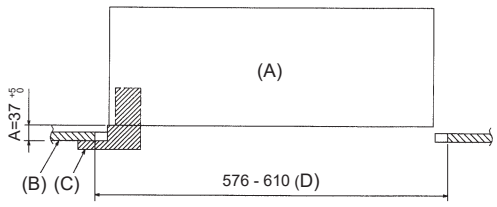


Fig. 10-2

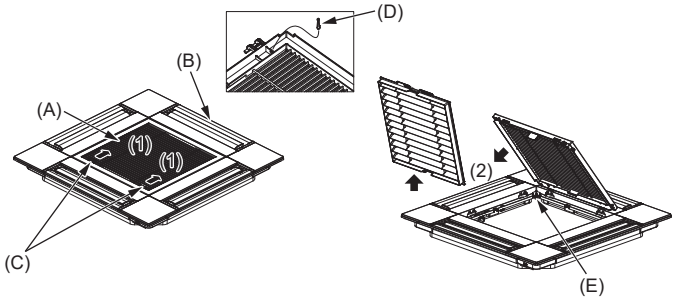


Fig. 10-3

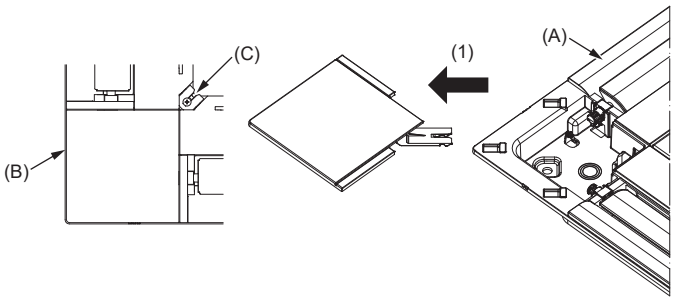


Fig. 10-4

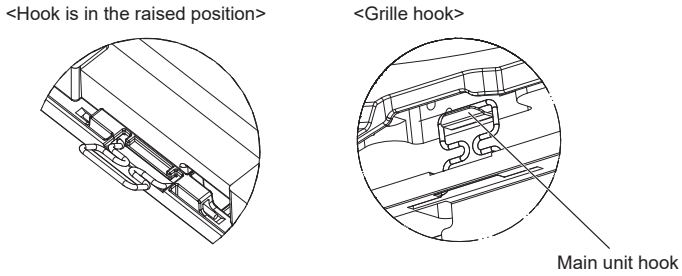


Fig. 10-5

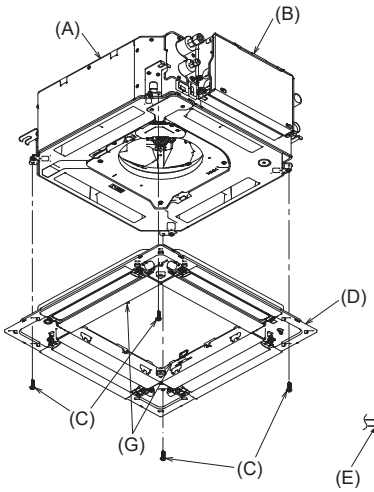


Fig. 10-6

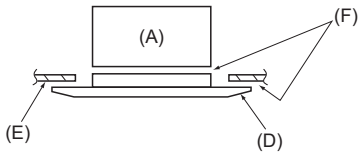


Fig. 10-7

10.2. Preparing to attach the grille (Fig. 10-2)

- With the gauge supplied with this kit, adjust and check the positioning of the unit relative to the ceiling. If the unit is not properly positioned in the ceiling, there may be air leaks, condensation may form, or the up/down vanes may not operate correctly.
- Make sure that the opening in the ceiling is within the following tolerances: 576 × 576 - 610 × 610
- Make sure that step A is performed within 37-42 mm. Damage could result by failing to adhere to this range.

(A) Main unit
(B) Ceiling
(C) Gauge (Accessory)
(D) Ceiling opening dimensions

10.2.1. Removing the intake grille (Fig. 10-3)

- Slide the levers in the direction indicated by the arrow (1) to open the intake grille.
- Unlatch the hook that secures the grille.
  * Do not unlatch the hook for the intake grille.
- With the intake grille in the “open” position, remove the hinge of the intake grille from the grille as indicated by the arrow (2).

(A) Intake grille
(B) Grille
(C) Intake grille levers
(D) Grille hook
(E) Hole for the grille’s hook

10.2.2. Removing the corner panel (Fig. 10-4)

- Loosen the screw from the corner of the corner panel. Slide the corner panel as indicated by the arrow (1) to remove the corner panel.

(A) Grille
(B) Corner panel
(C) Screw

10.3. Installing the grille

- Please pay attention because there is a restriction in the attachment position of the grille.

10.3.1. Temporarily installing the grille

- Align the screw holes in the corners of the grille with the screw mounting holes in the corners of the main unit, latch the two hooks on the grille onto the drain pan projections on the main unit, and temporarily hang the grille. (Fig. 10-5)

⚠ Caution:

When installing the i-see Sensor and signal receiver, place the junction wires in the connector box before temporarily hanging the grille.
Refer to 7.2.1. on page 13 to route the junction wires.

10.3.2. Securing the grille

- Secure the grille by tightening the four screws. (Fig. 10-6)

* Make sure that there are no gaps between the main unit and the panel or the panel and the ceiling. (Fig. 10-7)

(A) Main unit
(B) Electric component box
(C) Screw with washer (Accessory)
(D) Grille
(E) Ceiling
(F) Make sure that there are no gaps.
(G) Temporarily hanging hooks on the panel

⚠ Caution:

- **When tightening the screw with captive washer (C), tighten it at a torque of 4.8 N•m or less. Never use an impact screwdriver. It may result in parts damage.**
- **After tightening the screw, confirm that the two grille hooks (Fig. 10-5) are latched onto the hooks on the main unit.**

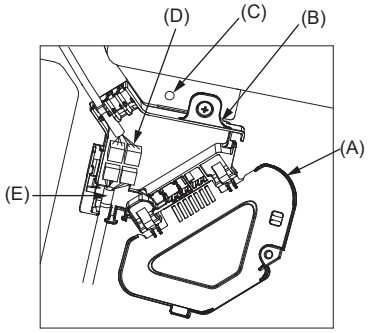


Fig. 10-8

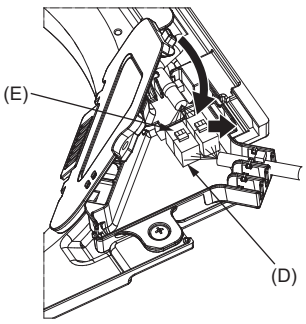


Fig. 10-9

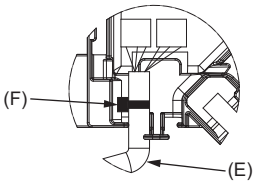


Fig. 10-10

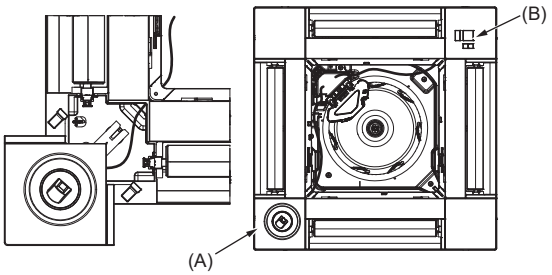


Fig. 10-11

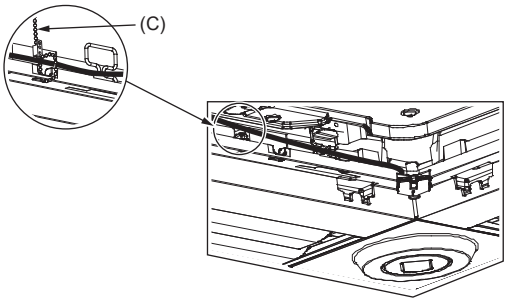


Fig. 10-12

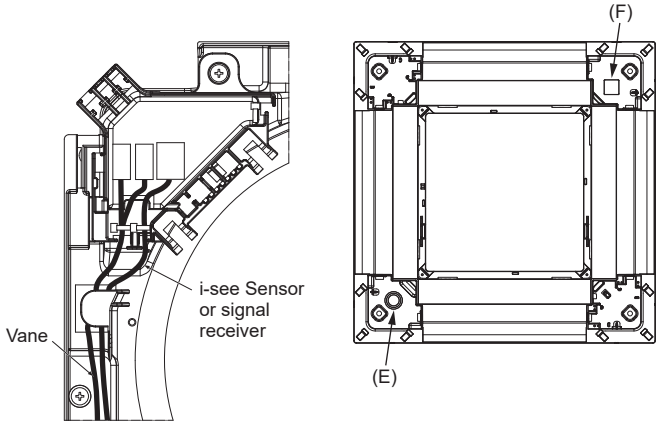


Fig. 10-13

10.3.3. Connecting the wires

(1) Remove the one screw securing the connector box cover, and then open the cover.
(2) Securely connect the junction wire connector of the vane motor and the panel vane motor wire connector in the connector box. (Fig. 10-8)
There are two vane motor connectors: one blue connector and one orange connector. Make sure that the connector colors match when connecting them.
(3) Close the connector box cover.
When closing the connector box cover, slide the cover in the direction indicated by the arrow and make sure that the projection is firmly inserted. (Fig. 10-9)

(A) Connector box cover
(B) Connector box
(C) Securing screw
(D) Junction connector
(E) Wire connector for the vane motor
(F) Band

⚠ Caution:

- **Place the band securing the panel vane motor wire in the connector box as shown in the diagram. (Fig. 10-10)**
- **When closing the connector box cover, make sure that the wires do not get pinched.**

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10.3.4. Wiring the i-see Sensor corner panel and signal receiver

- Install the i-see Sensor and signal receiver at the corners of the panel at the locations stamped with "○" or "□". (The positions may be reversed.)
- Route the i-see Sensor and signal receiver wires through the square holes at the corners of the panel and install them.
- Connect the junction wire connector and the wire connectors of the i-see Sensor and signal receiver in the connector box.
- Close the connector box cover.
- Secure the i-see Sensor and signal receiver wires to the panel with the fastener as shown in the diagram so that there is no slack in the wires, and then cut off the excess end of the fastener. (Fig. 10-12)
- Place the i-see Sensor and signal receiver wires to the inside of the flange on the panel.
- If the position of the i-see Sensor was changed from the "○" position (E) to the "□" position (F), change the function settings. (Refer to page 15.)

⚠ Caution:

- **Route the i-see Sensor and signal receiver wires as shown in Fig. 10-13.**
- **Place the excess portions of the i-see Sensor and signal receiver junction wires in the electric component box in the wire clip as shown in the diagram, and secure the wires together with the fastener. (Fig. 10-14)**
  Make sure that the band securing the i-see Sensor and signal receiver junction wires is positioned inside the connector box. (Fig. 10-15)
- **If the vane motor connectors and signal receiver connector are connected incorrectly, the vanes will not move or communication with the remote controller will not be possible.**

(A) i-see Sensor
(B) Signal receiver
(C) Fastener
(D) Wire clip
(E) "○" stamp : default i-see Sensor position
(F) "□" stamp : default signal receiver position

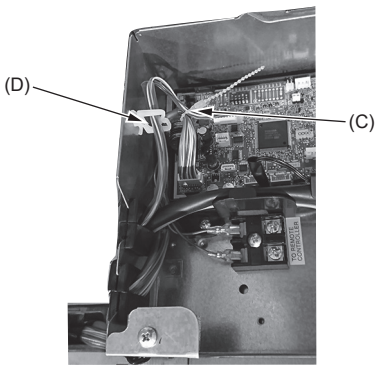


Fig. 10-14

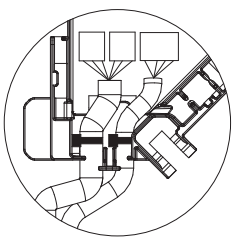
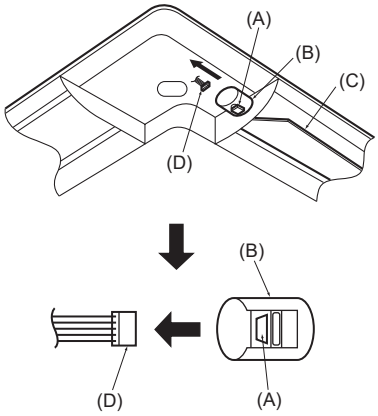
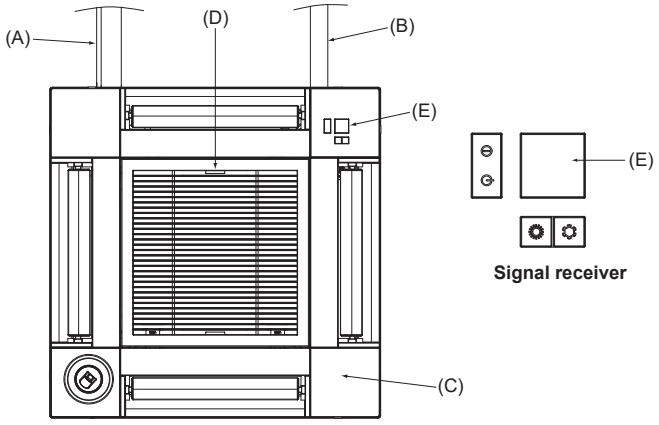


Fig. 10-15



(A) Button
(B) Vane motor
(C) Up/down vanes
(D) Connector

Fig. 10-16



Signal receiver

Fig. 10-17

10.4. Locking the up/down airflow direction (Fig. 10-16)

The vanes of the unit can be set and locked in on up or down orientation depending upon the environment of use.

- Set according to the preference of the customer.
  The operation of the fixed up/down vanes and all automatic controls cannot be performed using the remote controller. In addition, the actual position of the vanes may differ from the position indicated on the remote controller.

(1) Turn off the main power switch.
  Injuries and or an electrical shock may occur while the fan of the unit is rotating.

(2) Disconnect the connector for the vane motor of the vent that you want to lock.
  (While pressing the button, remove the connector in the direction indicated by the arrow as shown in the diagram.) After removing the connector, insulate it with tape.

10.5. Installing the intake grille (Fig. 10-17)

- Perform the procedure that is described in “10.2. Preparing to attach the grille” in reverse order to install the intake grille and the corner panel.

(A) Refrigerant piping of the main unit
(B) Drain piping of the main unit
(C) Corner panel
(D) Position of the levers on the intake grille when sent from the factory.
  * Although the clips can be installed in any of four positions.
(E) Receiver

10.6. Check

- Make sure that there is no gap between the unit and the grille, or between the grille and the surface of the ceiling. If there is any gap between the unit and the grille, or between the grille and the surface of the ceiling, it may cause dew to collect.
- Make sure that the wires have been securely connected.
- Check that all four vanes move. If two or four vanes do not move, refer to 10.3. and check the connections.
- For 3D i-See sensor corner panel, check the rotating movement. If the 3D i-See sensor does not rotate, review the procedure in “10.3. Installing the grille”.

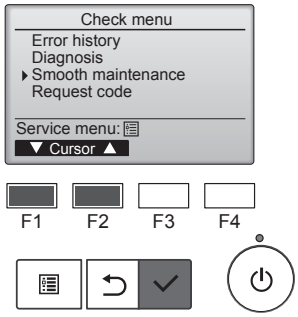
11. Easy maintenance function

Maintenance data, such as the indoor/outdoor unit's heat exchanger temperature and compressor operation current can be displayed with "Smooth maintenance".

*** This cannot be executed during test operation.**

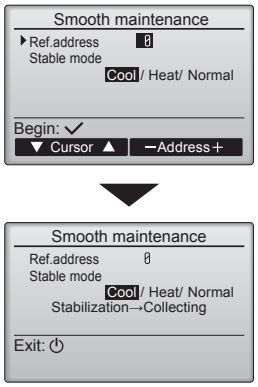
*** Depending on the combination with the outdoor unit, this may not be supported by some models.**

(1)



- Select "Service" from the Main menu, and press the [SELECT] button.
- Select "Check" with the [F1] or [F2] button, and press the [SELECT] button.
- Select "Smooth maintenance" with the [F1] or [F2] button, and press the [SELECT] button.

(2)



Select each item.

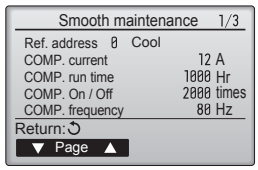
- Select the item to be changed with the [F1] or [F2] button.
- Select the required setting with the [F3] or [F4] button.

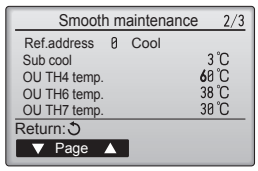
  "Ref. address" setting ……. "0" - "15"
  "Stable mode" setting…….. "Cool" / "Heat" / "Normal"

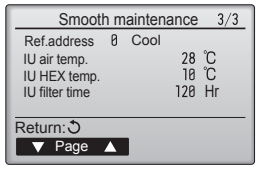
- Press the [SELECT] button, fixed operation will start.

* Stable mode will take approx. 20 minutes.

(3)







The operation data will appear.

The Compressor-Accumulated operating (COMP. run) time is 10-hour unit, and the Compressor-Number of operation times (COMP. On/Off) is a 100-time unit (fractions discarded)

Navigating through the screens

- To go back to the Service menu.....[MENU] button
- To return to the previous screen ..... [RETURN] button

en

This product is designed and intended for use in the residential, commercial and light-industrial environment.

Please be sure to put the contact address/telephone number on this manual before handing it to the customer.

MITSUBISHI ELECTRIC CORPORATION

HEAD OFFICE: TOKYO BUILDING, 2-7-3, MARUNOUCHI, CHIYODA-KU, TOKYO 100-8310, JAPAN

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