

# Air-Conditioners For Building Application

## INDOOR UNIT

### PLFY-P·VAM-E

For use with the R410A, R407C & R22    Για χρήση με τα R410A, R407C και R22  
Bei Verwendung von R410A, R407C & R22    Para utilização com o R410A, R407C e o R22  
A utiliser avec le R410A, R407C et le R22    R410A, R407C ve R22 ile beraber kullanmak için  
Bij gebruik van R410A, R407C & R22    Для использования с моделями R410A, R407C и R22  
Para utilizar con el R410A, R407C y el R22    使用R410A, R407C和R22制冷剂  
Uso del refrigerante R410A, R407C e R22

#### INSTALLATION MANUAL

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

**FOR INSTALLER**

#### INSTALLATIONSHANDBUCH

Zum sicheren und ordnungsgemäßen Gebrauch der Klimaanlage das Installationshandbuch gründlich durchlesen.

**FÜR INSTALLATEURE**

#### MANUEL D'INSTALLATION

Veillez lire le manuel d'installation en entier avant d'installer ce climatiseur pour éviter tout accident et vous assurer d'une utilisation correcte.

**POUR L'INSTALLATEUR**

#### INSTALLATIEHANDLEIDING

Voor een veilig en juist gebruik moet u deze installatiehandleiding grondig doorlezen voordat u de airconditioner installeert.

**VOOR DE INSTALLATEUR**

#### MANUAL DE INSTALACIÓN

Para un uso seguro y correcto, lea detalladamente este manual de instalación antes de montar la unidad de aire acondicionado.

**PARA EL INSTALADOR**

#### MANUALE DI INSTALLAZIONE

Per un uso sicuro e corretto, leggere attentamente questo manuale di installazione prima di installare il condizionatore d'aria.

**PER L'INSTALLATORE**

#### ΕΓΧΕΙΡΙΔΙΟ ΟΔΗΓΙΩΝ ΕΓΚΑΤΑΣΤΑΣΗΣ

Για ασφάλεια και σωστή χρήση, παρακαλείστε διαβάσετε προσεκτικά αυτό το εγχειρίδιο εγκατάστασης πριν αρχίσετε την εγκατάσταση της μονάδας κλιματισμού.

**ΓΙΑ ΑΥΤΟΝ ΠΟΥ ΚΑΝΕΙ ΤΗΝ ΕΓΚΑΤΑΣΤΑΣΗ**

#### MANUAL DE INSTALAÇÃO

Para segurança e utilização correctas, leia atentamente este manual de instalação antes de instalar a unidade de ar condicionado.

**PARA O INSTALADOR**

#### MONTAJ ELKİTABI

Emniyetli ve doğru biçimde nasıl kullanılacağını öğrenmek için lütfen klima cihazını monte etmeden önce bu elkitabını dikkatle okuyunuz.

**MONTÖR İÇİN**

#### РУКОВОДСТВО ПО УСТАНОВКЕ

Для осторожного и правильного использования прибора необходимо тщательно ознакомиться с данным руководством по установке до выполнения установки кондиционера.

**ДЛЯ УСТАНОВИТЕЛЯ****English****Deutsch****Français****Nederlands****Español****Italiano****Ελληνικά****Português****Türkçe****Русский**

# Contents

1. Safety precautions .....	2	4. Electrical work .....	6
2. Installing the indoor unit .....	2	5. Installing the grille .....	7
3. Refrigerant pipe and drain pipe .....	4	6. Test run (Fig. 6-1) .....	9

## 1. Safety precautions

- ▶ Before installing the unit, make sure you read all the "Safety precautions".
- ▶ This equipment may not be applicable to EN60555-2:1987/EN61000-3-2:1995+A1:1998+A2:1998 and/or EN60555-3:1987+A1:1991/EN61000-3-3:1995.
- ▶ Please report to your supply authority or obtain their consent before connecting this equipment to the power supply system.

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

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

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:**
- Ask the dealer or an authorized technician to install the air conditioner.
  - Install the unit at a place that can withstand its weight.
  - Use the specified cables for wiring.
  - Use only accessories authorized by Mitsubishi Electric and ask the dealer or an authorized technician to install them.
  - Do not touch the heat exchanger fins.
  - Install the air conditioner according to this Installation Manual.

- ⚠ Caution:**
- Do not use the existing refrigerant piping, when use R410A or R407C refrigerant.
  - Use ester oil, either oil or alkylbenzene (small amount) as the refrigerator oil to coat flares and flange connections, when use R410A or R407C refrigerant.
  - Do not use the air conditioner where food, pets, plants, precision instruments, or artwork are kept.
  - Do not use the air conditioner in special environments.
  - Ground the unit.

- ⊘ : Indicates an action that must be avoided.
- ⚠ : Indicates that important instructions must be followed.
- ⚡ : Indicates a part which must be grounded.
- ⚠ : Indicates that caution should be taken with rotating parts.
- ⚠ : Indicates that the main switch must be turned off before servicing.
- ⚠ : Beware of electric shock.
- ⚠ : Beware of hot surface.
- ⚠ ELV : At servicing, please shut down the power supply for both the Indoor and Outdoor Unit.

**⚠ Warning:**  
Carefully read the labels affixed to the main unit.

- Have all electric work done by a licensed electrician according to local regulations.
- If the air conditioner is installed in a small room, measures must be taken to prevent the refrigerant concentration from exceeding the safety limit even if the refrigerant should leak.
- The cut face punched parts may cause injury by cut, etc. The installers are requested to wear protective equipment such as gloves, etc.

- Install an leak circuit breaker, as required.
- Use power line cables of sufficient current carrying capacity and rating.
- Use only a circuit breaker and fuse of the specified capacity.
- Do not touch the switches with wet fingers.
- Do not touch the refrigerant pipes during and immediately after operation.
- Do not operate the air conditioner with the panels and guards removed.
- Do not turn off the power immediately after stopping operation.

## 2. Installing the indoor unit

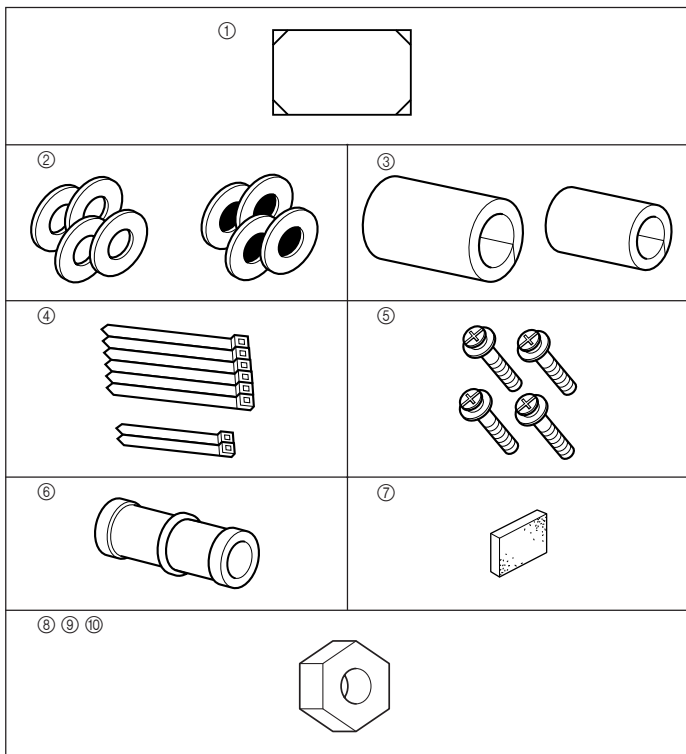


Fig. 2-1

### 2.1. Check the indoor unit accessories (Fig. 2-1)

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	1
	large diameter	1
④	Band (large)	6
	Band (small)	2
⑤	Screw with washer (M5 × 25) for mounting grille	4
⑥	Drain socket	1
⑦	Insulation	1
⑧	Flare nut 3/8 F P50	1
⑨	Flare nut 5/8 F P50	1
⑩	Flare nut 3/4 F P100/P125	1

## 2. Installing the indoor unit

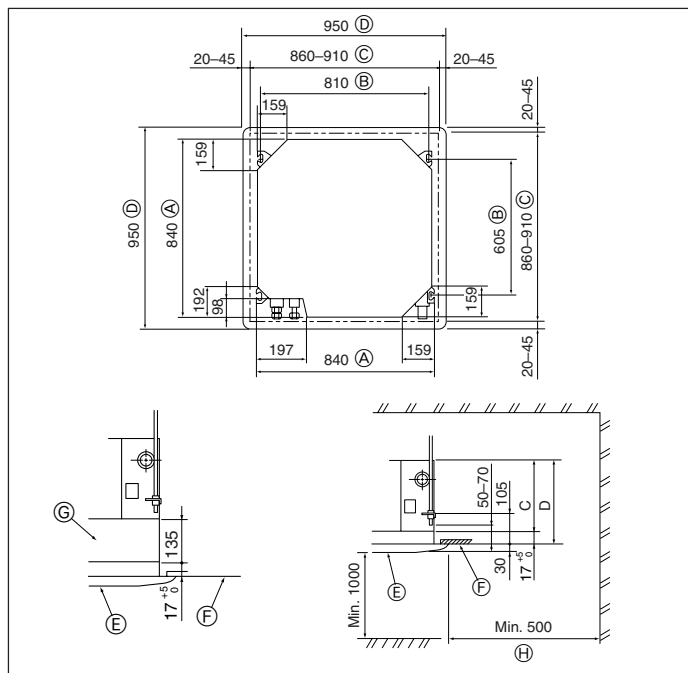


Fig. 2-2

### 2.2. Ceiling openings and suspension bolt installation locations (Fig. 2-2)

- Using the installation template (top of the package) 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) Multi function casement (option)
    - (H) Entire periphery
- \* Note that the space between ceiling panel of the unit and ceiling slab and etc must be 10 to 15 mm.

Models	C	D
P32-P80	241	258
P100, P125	281	298

(mm)

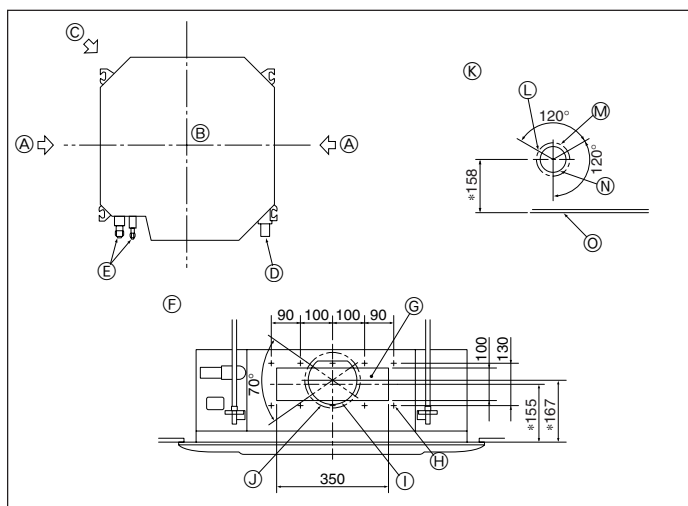


Fig. 2-3

### 2.3. Branch duct hole and fresh air intake hole (Fig. 2-3)

At the time of installation, use the duct holes (cut out) located at the positions shown in following diagram, as and when required.

- A fresh air intake hole for the optional multi function casement can also be made.

#### Note:

The figure marked with \* in the drawing represent the dimensions of the main unit excluding those of the optional multi function casement.

When installing the optional multi function casement, add 135 mm to the dimensions marked on the figure.

When installing the branch ducts, be sure to insulate adequately. Otherwise condensation and dripping may occur.

- (A) Branch duct hole
- (B) Indoor unit
- (C) Fresh air intake hole
- (D) Drain pipe
- (E) Refrigerant pipe
- (F) Branch duct hole diagram (view from either side)
- (G) Cut out hole
- (H) 14-ø2.8 burring hole
- (I) ø150 cut out hole
- (J) ø175 burring hole pitch
- (K) Fresh air intake hole diagram
- (L) 3-ø2.8 burring hole
- (M) ø125 burring hole pitch
- (N) ø100 cut out hole
- (O) Ceiling

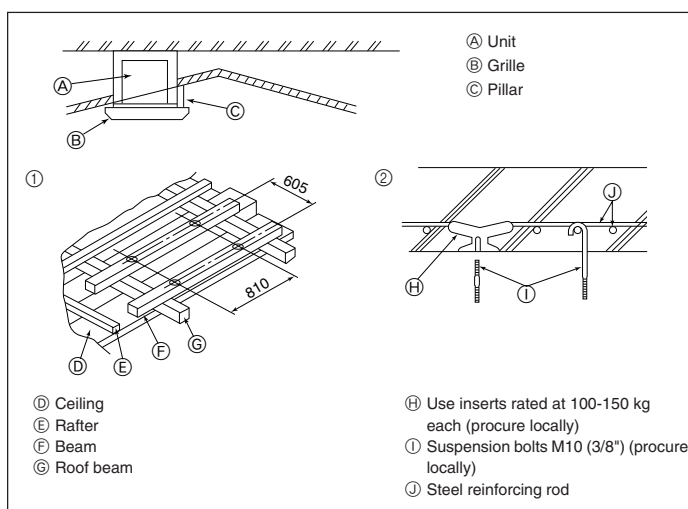


Fig. 2-4

### 2.4. Suspension structure (Give site of suspension strong structure) (Fig. 2-4)

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

- 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.
- Cut and remove the ceiling foundation.
- Reinforce the ends of the ceiling foundation where it has been cut and add ceiling foundation for securing the ends of the ceiling board.
- When installing the indoor unit on a slanting ceiling, attach a pillar between the ceiling and the grille and set so that the unit is installed horizontally.

#### ① Wooden structures

- Use tie beams (single storied 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 Ferro-concrete structures

Secure the suspension bolts using the method shown, or use steel or wooden hangers, etc. to install the suspension bolts.

## 2. Installing the indoor unit

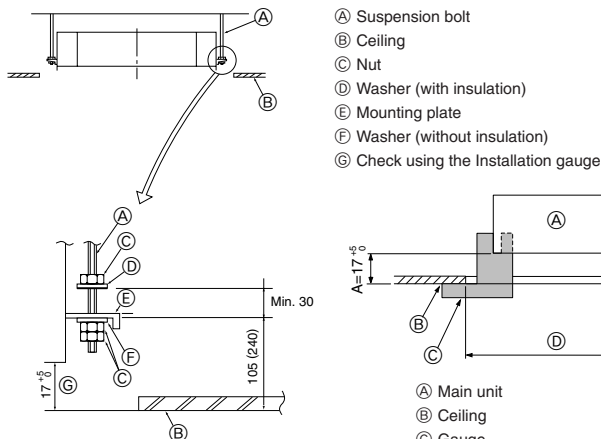


Fig. 2-5

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

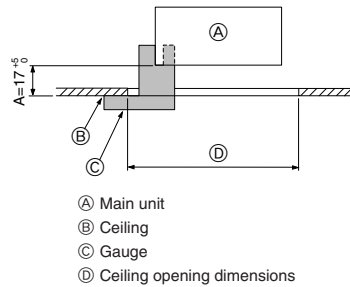


Fig. 2-6

- Ⓐ Main unit
- Ⓑ Ceiling
- Ⓒ Gauge
- Ⓓ Ceiling opening dimensions

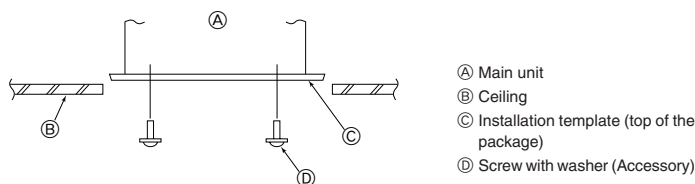


Fig. 2-7

- Ⓐ Main unit
- Ⓑ Ceiling
- Ⓒ Installation template (top of the package)
- Ⓓ Screw with washer (Accessory)

## 3. Refrigerant pipe and drain pipe

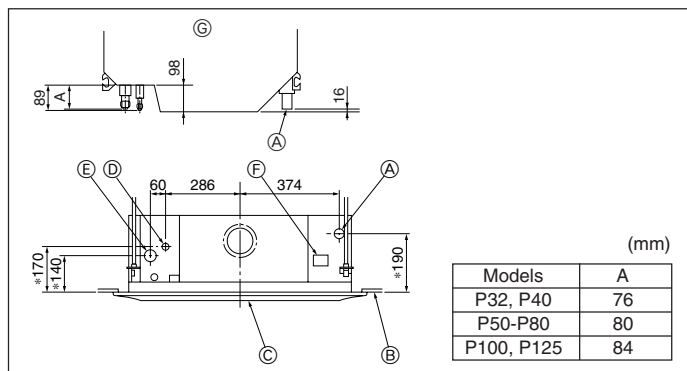


Fig. 3-1

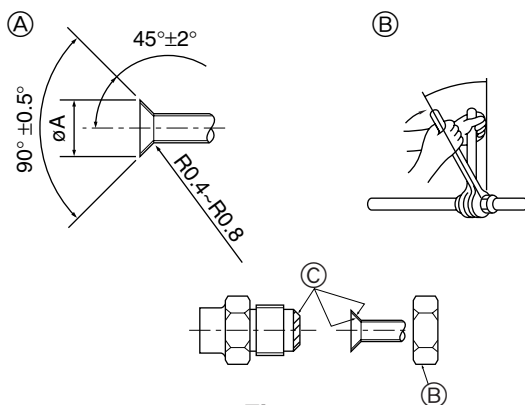


Fig. 3-2

### 2.5. Unit suspension procedures (Fig. 2-5)

Suspend the main unit as shown in the diagram.

Figures given in parentheses represent the dimensions in case of installing optional multi function casement.

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.
- Make sure that step A is performed within 17-22 mm. Damage could result by failing to adhere to this range. (Fig. 2-6)

#### ⚠ Caution:

Use the top half of the box as a protective cover to prevent dust or debris from getting inside the unit prior to installation of the decorative cover or when applying ceiling materials.

### 2.6. Confirming the position of main unit and tightening the suspension bolts (Fig. 2-7)

- 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 (top of the package) 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.

### 3.1. Refrigerant and drainage piping locations of indoor unit

The figure marked with \* in the drawing represent the dimensions of the main unit excluding those of the optional multi function casement. (Fig. 3-1)

- Ⓐ Drain pipe
- Ⓑ Ceiling
- Ⓒ Grille
- Ⓓ Refrigerant pipe (liquid)
- Ⓔ Refrigerant pipe (gas)
- Ⓕ Water supply inlet
- Ⓖ Main unit

- When the optional multi-functional casement is installed, add 135 mm to the dimensions marked on the figure.

### 3.2. Connecting pipes (Fig. 3-2)

- 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 refrigerant piping insulation provided to insulate indoor unit connections. Insulate carefully.

#### Ⓐ 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
ø19.05	22.9 - 23.3

### 3. Refrigerant pipe and drain pipe

#### Ⓑ Refrigerant pipe sizes & Flare nut tightening torque

	R407C or R22				R410A				Flare nut O.D.	
	Liquid pipe		Gas pipe		Liquid pipe		Gas pipe		Liquid pipe (mm)	Gas pipe (mm)
	Pipe size (mm)	Tightening torque (N.m)	Pipe size (mm)	Tightening torque (N.m)	Pipe size (mm)	Tightening torque (N.m)	Pipe size (mm)	Tightening torque (N.m)		
P20/25/32/40	ODø6.35 (1/4")	14 - 18	ODø12.7 (1/2")	49 - 61	ODø6.35 (1/4")	14 - 18	ODø12.7 (1/2")	49 - 61	17	26
P50	ODø9.52 (3/8")	34 - 42*	ODø15.88 (5/8")	68 - 82*	ODø6.35 (1/4")	34 - 42	ODø12.7 (1/2")	68 - 82	22	29
P63/80	ODø9.52 (3/8")	34 - 42	ODø15.88 (5/8")	68 - 82	ODø9.52 (3/8")	34 - 42	ODø15.88 (5/8")	68 - 82	22	29
P100/125	ODø9.52 (3/8")	34 - 42	ODø19.05 (3/4")	100 - 120*	ODø9.52 (3/8")	34 - 42	ODø15.88 (5/8")	100 - 120	22	36

\* Use the provided flare nut for the following pipes: Liquid pipe of P50, P100, P125, and gas pipe of P50.

Ⓒ Apply refrigerating machine oil over the entire flare seat surface.

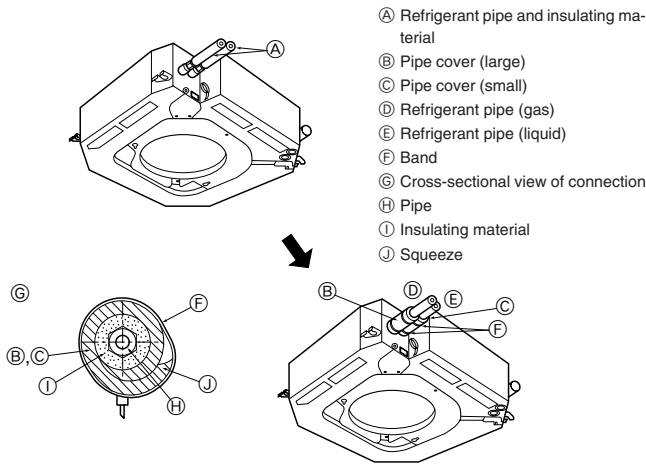


Fig. 3-3

### 3.3. Indoor unit (Fig. 3-3)

#### Heat insulation for refrigerant pipes:

- 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.
  - 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.
  - Secure both ends of each pipe cover with the enclosed bands. (Attach the bands 20 mm from the ends of the pipe cover.)
- 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.)

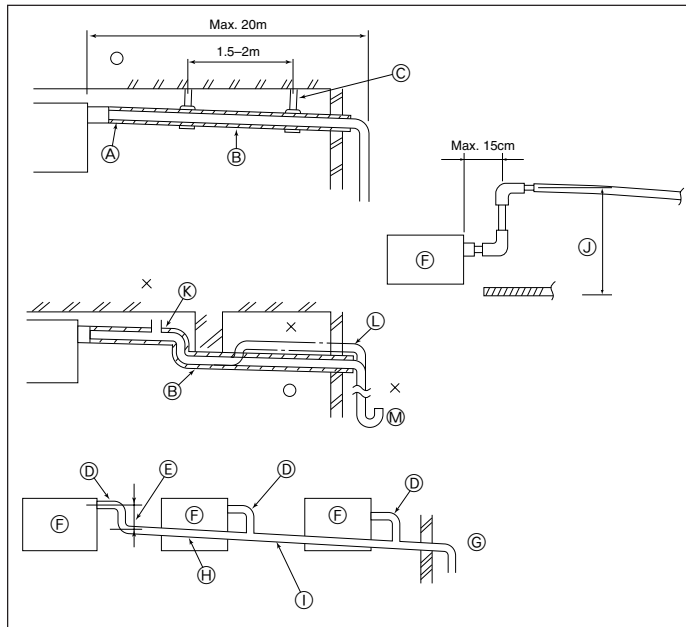


Fig. 3-4

### 3.4. Drainage piping work (Fig. 3-4)

- Use VP25 (O.D. ø32 (1-1/4") PVC TUBE) for drain piping and provide 1/100 or more downward slope.
- Be sure to connect the piping joints using a polyvinyl type adhesive.
- Observe the figure for piping work.
- Use the included drain hose to change the extraction direction.

- Correct piping
  - Wrong piping
- A) Insulation (9 mm or more)
  - B) Downward slope (1/100 or more)
  - C) Support metal
  - K) Air bleeder
  - L) Raised
  - M) Odor trap

#### Grouped piping

- D) O. D. ø32 PVC TUBE
- E) Make it as large as possible
- F) Indoor 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

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

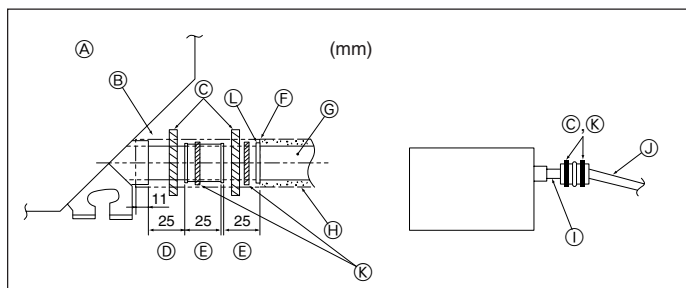


Fig. 3-5

## 4. Electrical work

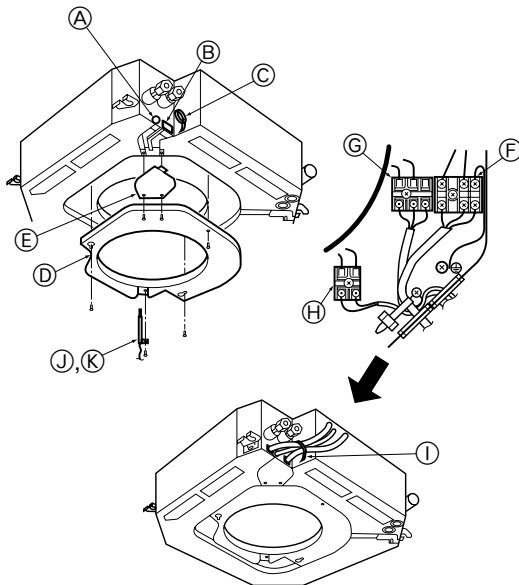


Fig. 4-1

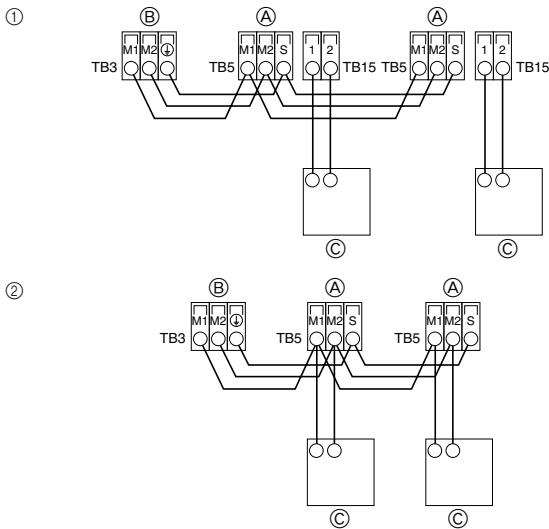


Fig. 4-2

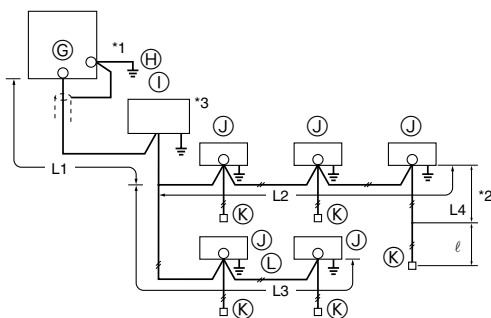


Fig. 4-3

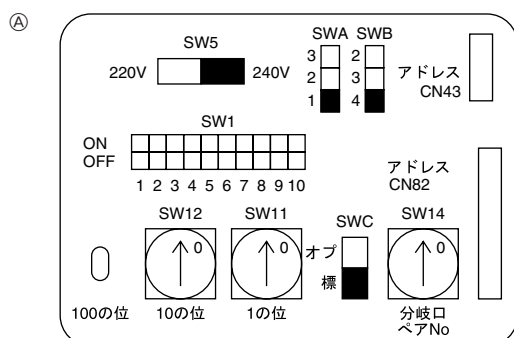


Fig. 4-4

### 4.1. Indoor unit (Fig. 4-1)

1. Remove the holder and intake sensor.
2. Remove two electrical wiring service panels.
3. Wire the power cable and control cable separately through the respective wiring entries given in the diagram.

- Do not allow slackening of the terminal screws.
- Always install earth.  
(Earth cable dia: Thicker than 1.6 mm)
- Considering the case of suspending the electrical box during services, leave the wiring some allowance. (Approx. 50 to 100 mm)

#### ▶ Selecting non-fuse breaker (NF) or earth leakage breaker (NV).

A means for the disconnection of the supply with an isolation switch, or similar device, in all active conductors shall be incorporated in the fixed wiring.

#### Power supply wiring

- Power supply codes of appliance shall not be lighter than design 245 IEC 53 or 227 IEC 53.
- A switch with at least 3 mm contact separation in each pole shall be provided by the air conditioner installation.

Power cable size: more than 1.5 mm<sup>2</sup>.

- |  |  |
|--|--|
| Ⓐ Entry for control cable                            | Ⓔ Power supply terminals (with earth terminal) |
| Ⓑ Entry for power                                    | Ⓞ Transmission terminals                       |
| Ⓒ Clamp  | Ⓢ MA Remote controller terminal                |
| Ⓓ Service panel for indoor controller switch setting | Ⓤ Secure with the clamp                        |
| Ⓔ Service panel for electrical wiring                | Ⓦ Intake sensor                                |
|  | Ⓧ Holder                                       |

### 4.2. Connecting remote controller, indoor and outdoor transmission cables (Fig. 4-2)

- Connect indoor unit TB5 and outdoor unit TB3. (Non-polarized 2-wire)  
The "S" on indoor unit TB5 is a shielding wire connection. For specifications about the connecting cables, refer to the outdoor unit installation manual.
- Install a remote controller following the manual supplied with the remote controller.
- Connect the remote controller's transmission cable within 10 m using a 0.75 mm<sup>2</sup> core cable. If the distance is more than 10 m, use a 1.25 mm<sup>2</sup> junction cable.

#### ① MA Remote controller

- Connect the "1" and "2" on indoor unit TB15 to a MA remote controller. (Non-polarized 2-wire)
- DC 9 to 13 V between 1 and 2 (MA remote controller)

#### ② M-NET Remote controller

- Connect the "M1" and "M2" on indoor unit TB5 to a M-NET remote controller. (Non-polarized 2-wire)
  - DC 24 to 30 V between M1 and M2 (M-NET remote controller)
- |   |
|---|
| Ⓐ Terminal block for indoor transmission cable  |
| Ⓑ Terminal block for outdoor transmission cable |
| Ⓒ Remote controller                             |

### Constraints on transmission cable (Fig. 4-3)

Longest wiring length (L1+L2+L4 or L1+L3 or L2+L3+L4): less than 200 m  
Length between indoor unit and remote controller (ℓ): within 10 m

- |                           |
|---------------------------|
| Ⓔ Outdoor unit            |
| Ⓢ Earth                   |
| Ⓤ BC controller           |
| Ⓦ Indoor unit             |
| Ⓧ M-NET Remote controller |
| Ⓨ Non-polarized 2-wire    |

#### Note:

- \*1 Put the transmission cable earth via the outdoor unit's earth terminal (Ⓢ) to the ground.
- \*2 If the remote controller cable exceeds 10 m, use a 1.25 mm<sup>2</sup> diameter cable over the exceeded portion, and add that exceeded portion to within 200 m.
- \*3 The BC controller is required only for simultaneous cooling and heating series R2.

### 4.3. Setting addresses (Fig. 4-4)

(Be sure to operate with the main power turned OFF.)

- There are two types of rotary switch setting available: setting addresses 1 to 9 and over 10, and setting branch numbers.

#### Note:

- Please set the switch SW5 according to the power supply voltage.
- Set SW5 to 240 V side when the power supply is 230 and 240 volts.
- When the power supply is 220 volts, set SW5 to 220 V side.

- |                 |
|-----------------|
| Ⓐ Address board |
|-----------------|

## 4. Electrical work

### 4.4. Switch setting for high ceiling or at the time of changing the number air outlets

In this unit, the volume and speed of airflow can be adjusted by setting the switches (SWA and SWB) on the indoor controller board.

#### ■ PLFY-P32-P80VAM

SWB	SWA	①	②	③
		Standard	High ceiling ①	High ceiling ②
④	4 direction	2.7 m	3.0 m	3.5 m
③	3 direction	3.0 m	3.3 m	3.5 m
④	2 direction	3.3 m	3.5 m	—

#### ■ PLFY-P100, P125VAM

SWB	SWA	①	②	③
		Standard	High ceiling ①	High ceiling ②
④	4 direction	3.2 m	3.6 m	4.2 m
③	3 direction	3.6 m	4.0 m	4.2 m
②	2 direction	4.0 m	4.2 m	—

### 4.5. Sensing room temperature with the built-in sensor in a remote controller

If you want to sense room temperature with the built-in sensor in a remote controller, set SW1-1 on the control board to "ON". The setting of SW1-7 and SW1-8 as necessary also makes it possible to adjust the air flow at a time when the heating thermometer is OFF.

### 4.6. Types of control cables

#### 1. Wiring transmission cables: Shielding wire CVVS or CPEVS

- Cable diameter : More than 1.25 mm<sup>2</sup>

#### 2. M-NET Remote control cables

Kind of remote control cable	Shielding wire MVVS
Cable diameter	More than 0.5 to 1.25 mm <sup>2</sup>
Remarks	When 10 m is exceeded, use cable with the same specifications as transmission line wiring.

#### 3. MA Remote control cables

Kind of remote control cable	2-core cable (unshielded)
Cable diameter	0.3 to 1.25 mm <sup>2</sup>

## 5. Installing the grille

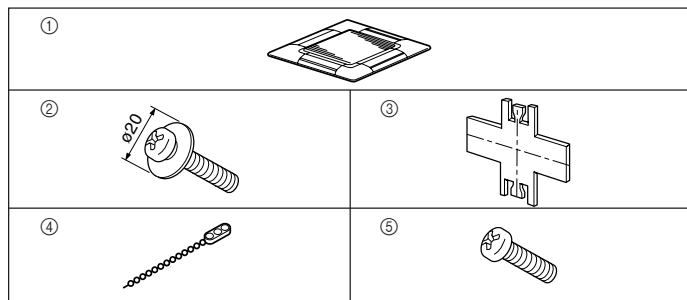


Fig. 5-1

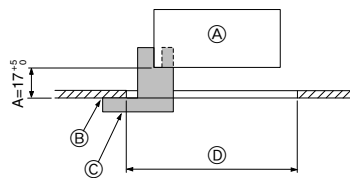


Fig. 5-2

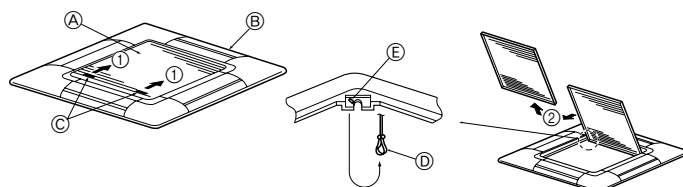


Fig. 5-3

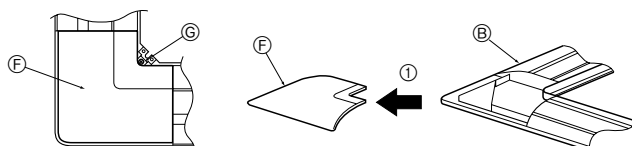


Fig. 5-4

### 5.1. Checking the contents (Fig. 5-1)

- This kit contains this manual and the following parts.

	Accessory name	Q'ty	Remark
①	Grille	1	950 × 950 (mm)
②	Screw with captive washer	4	M5 × 0.8 × 25
③	Gauge	1	(Divided into four parts)
④	Fastener	2	
⑤	Screw	4	4 × 8

### 5.2. Preparing to attach the grille (Fig. 5-2)

- With the gauge ③ supplied with this kit, adjust and check the positioning of the unit relative to the ceiling. If the unit is not properly positioned relative to the ceiling, it may allow air leaks or cause condensation to collect.
- Make sure that the opening in the ceiling is within the following tolerances: 860 × 860 - 910 × 910
- Make sure that step A is performed within 17-22 mm. Damage could result by failing to adhere to this range.

- Ⓐ Main unit
- Ⓑ Ceiling
- Ⓒ Gauge ③ (inserted into the unit)
- Ⓓ Ceiling opening dimensions


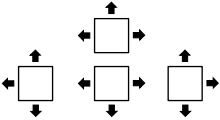
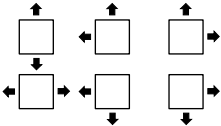
#### 5.2.1. Removing the intake grille (Fig. 5-3)

- 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.

#### 5.2.2. Removing the corner panel (Fig. 5-4)

- Remove the screw from the corner of the corner panel. Slide the corner panel as indicated by the arrow ① to remove the corner panel.
- Ⓐ Intake grille
  - Ⓑ Grille
  - Ⓒ Intake grille levers
  - Ⓓ Grille hook
  - Ⓔ Hole for the grille's hook
  - Ⓕ Corner panel
  - Ⓖ Screw

## 5. Installing the grille

	4-directional	3-directional
Blowout direction patterns	One pattern: Factory setting 	4 patterns: One air outlet fully closed 
Blowout direction patterns	2-directional 6 patterns: Two air outlet fully closed 	

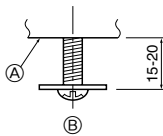


Fig. 5-5

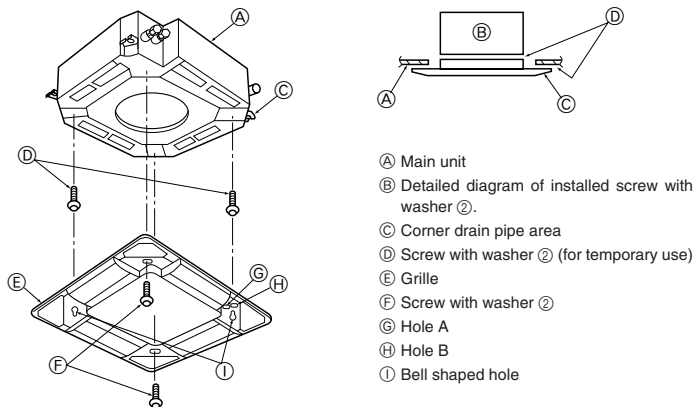


Fig. 5-6

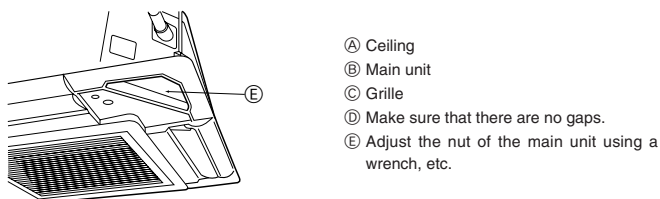


Fig. 5-7

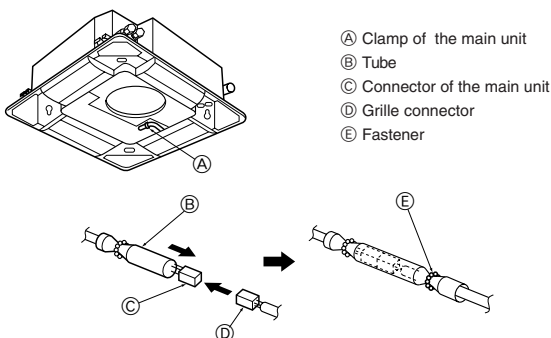


Fig. 5-8

### 5.3. Selection of the air outlets

For this grille the discharge direction is available in 11 patterns. Also, by setting the Remote controller to the appropriate settings, you can adjust the air-flow and speed. Select the required settings from the Table according to the location in which you want to install the unit.

- 1) Decide on the discharge direction pattern.
- 2) Be sure to set the remote controller to the appropriate settings, according to the number of air outlets and the height of the ceiling on which the unit will be installed.

#### Note:

For 3 and 2-directional, please use the air outlet shutter plate (option).

### 5.4. Installing the grille

#### 5.4.1. Preparations (Fig. 5-5)

- Install the two enclosed screws with washer ② in the main unit (at the corner drain pipe area and at the opposite corner) as shown in the diagram.

#### 5.4.2. Temporary installation of the grille (Fig. 5-6)

- Temporarily secure the grille using the bell shaped holes by aligning the corner drain pipe area of the main unit with the two holes of the grille that are marked A and B.  
\* Make sure that the lead wiring of the grille does not get pinched between the grille and the main unit.

#### 5.4.3. Securing the grille (Fig. 5-7)

- Secure the grille to the main unit by tightening the previously installed two screws (with captive washer) as well as the two remaining screws (with captive washer).  
\* Make sure that there are no gaps between the main unit and the grille or the grille and the ceiling.

#### Fixing gaps between the grille and the ceiling

With the grille attached, adjust the height of the main unit to close the gap.

#### 5.4.4. Wire connection (Fig. 5-8)

- Be sure to connect the unit to the connector (white, 10-pole). Next, attach the white glass tube that comes with the main unit so that the tube covers the connector. Close the opening of the glass tube with the fastener.
- Make sure that there is no slack in the lead wire at the clamp of the main unit.

#### ⚠ Warning:

If the connector is not covered with the glass tube, tracking resulting in fire may occur.



## 5. Installing the grille

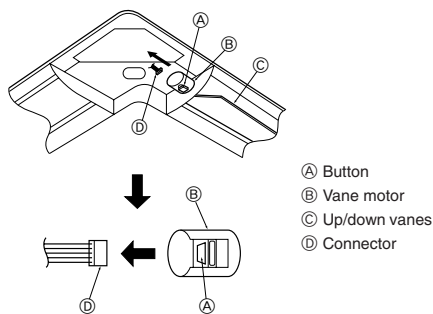


Fig. 5-9

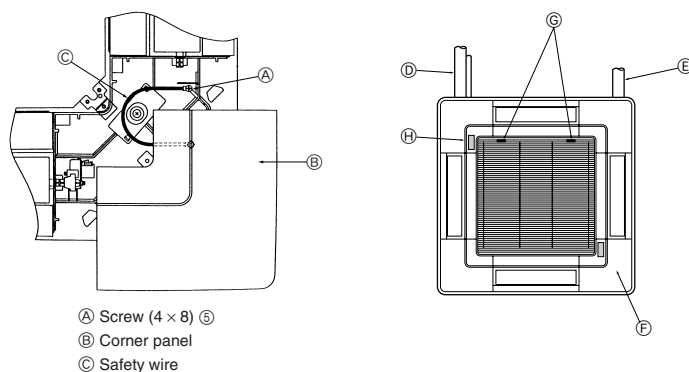


Fig. 5-10

## 6. Test run (Fig. 6-1)

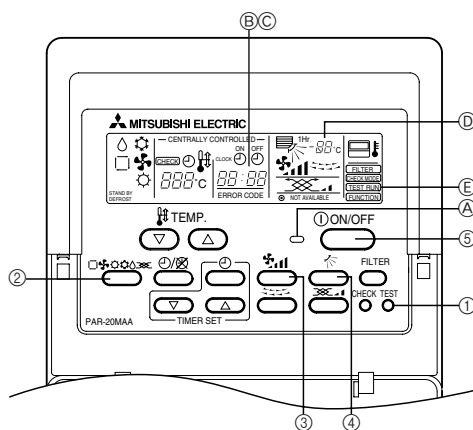


Fig. 6-1

### 5.5. Locking the up/down airflow direction (Fig. 5-9)

The vanes of the unit can be set and locked in up or down orientations 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.
- ② Injuries and or an electrical shock may occur while the fan of the unit is rotating. 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.

### 5.6. 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.

### 5.7. Installing the intake grille (Fig. 5-10)

**Note:**

When reinstalling the corner panels (each with a safety wire attached), connect the other end of each safety wire to the grille using a screw (4 pcs, 4 x 8) as shown in the illustration.

- \* If the corner panels are not attached, they may fall off while the unit is operating.
- Perform the procedure that is described in "5.2. Preparing to attach the grille" in reverse order to install the intake grille and the corner panel.
- Multiple units can be installed with grille so that the position of the logo on each corner panel is consistent with the other units regardless of the orientation of the intake grille. Align the logo on the panel according to the wishes of the customer as shown in the diagram to the left. (The position of the grille can be changed.)

- ① Refrigerant piping of the main unit
- ② Drain piping of the main unit
- ③ Position of the corner panel when sent from the factory (logo attached).
- \* Installation in any position is possible.
- ④ Position of the levers on the intake grille when sent from the factory.
- \* Although the clips can be installed in any of four positions, the configuration shown here is recommended.
- (It is not necessary to remove the intake grille when maintenance is performed on the electric component box of the main unit.)
- ⑤ Receiver (Only PLP-6AALM Panel)

- ① Press [TEST RUN] button twice → displaying [TEST RUN] on the screen.
- ② Press [Selecting operation] button. → Check that wind is blowing out.
- ③ Press [Fan speed adjustment] button. → Check that the wind speed is changed.
- ④ Press [Up/down airflow selection] button to change wind direction.
- ⑤ Press [ON/OFF] button to clear test run. → Test run stops.

- ① Lighting in operation
- ② Displaying inspection code
- ③ Displaying remaining test run time
- ④ Displaying indoor unit's liquid pipe temperature
- ⑤ Displaying test run

**Note:**

- The 2-hour-set timer is activated to automatically stop test run after two hours.
- The remote controller displays the temperature of the indoor unit's liquid pipe on the temperature display section during test run.

### 6.1. Check of drainage (Fig. 6-2)

- During the trial run, ensure the water is being properly drained out and that no water is leaking from joints.
  - Always check this during installation even if the unit is not required to provide cooling/drying at that time.
  - Similarly, check the drainage before finishing ceiling installation in a new premises.
- (1) Remove the cover of the water supply inlet and add about 1000 cc of water using a water supply pump etc. During this process, be careful not to spray water into the drain pump mechanism.
  - (2) Confirm that water is being drained out through the drainage outlet, after switching over from remote control mode to trial run mode.
  - (3) After checking the drainage, ensure that the cover is replaced and the power supply is isolated.
  - (4) After confirming the drainage system is functioning, replace the drain plug.

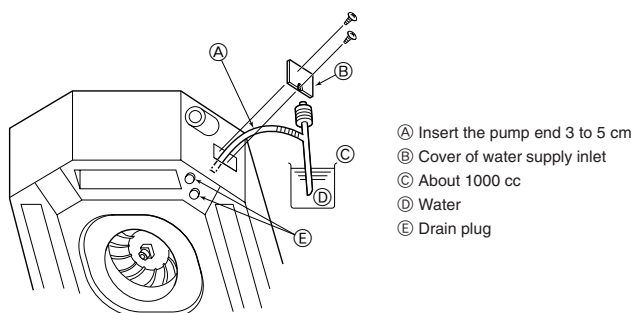


Fig. 6-2

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

The product at hand is based on the following EU regulations:

- Low Voltage Directive 73/23/ EEC
- Electromagnetic Compatibility Directive 89/336/ EEC

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