# (PART NO. 9366382034-05)

For authorized service personnel only.

**SHEET** 

<b>⚠ WARNING</b>	This mark indicates procedures which, if improperly performed, might lead to the death or serious injury of the user.
<b>⚠</b> CAUTION	This mark indicates procedures which, if improperly performed, might possibly result in personal harm to the user, or damage to property.

	This air conditioner uses new refrigerant HFC (R410A).
	pasic installation work procedures are the same as conventional refrigerant models. ever, pay careful attention to the following points:
in Es	ince the working pressure is 1.6 times higher than that of conventional refrigerant models, some of the piping stallation and service tools are special. (See the table below.) specially, when replacing a conventional refrigerant model with a new refrigerant R410A model, always replace proventional piping and flare nuts with the R410A piping and flare nuts.

- Models that use refrigerant R410A have a different charging port thread diameter to prevent erroneous charging with conventional refrigerant and for safety. Therefore, check beforehand. [The charging port thread diameter for R410A is Be more careful that foreign matter (oil, water, etc.) does not enter the piping than with refrigerant models. Also, when
- When charging the refrigerant, take into account the slight change in the composition of the gas and liquid phases, and always charge from the liquid phase side whose composition is stable.

Tool name	Contents of change		
	Pressure is high and cannot be measured with a conventional gauge. To prevent erroneous mixing of other		
Cours monifold	refrigerants, the diameter of each port has been changed.		
Gauge manifold	It is recommended the gauge with seals -0.1 to 5.3 MPa (-76 cmHg to 53 kgf/cm²) for high pressure0.1 to		
	3.8 MPa (-76 cmHg to 38 kgf/cm²) for low pressure.		
Charge hose	To increase pressure resistance, the hose material and base size were changed.		
Vacuum pump	A conventional vacuum pump can be used by installing a vacuum pump adapter.		
Gas leakage detector	Special gas leakage detector for HFC refrigerant R410A.		
<b>.</b>			

It is necessary to use seamless copper pipes and it is desirable that the amount of residual oil is less than 40 mg/10 m. Do not use copper pipes having a collapsed deformed or discolored portion (especially on the interior surface). Otherwise, the expansion valve or capillary tube may become blocked with contaminants. As an air conditioner using R410A incurs pressure higher than when using conventional refrigerant, it is necessary to choose adequate materials. Thicknesses of copper pipes used with R410A are as shown in the table. Never use copper pipes thinner than that in the table even when it is available on

storing the piping, securely seal the openings by pinching, taping, etc.

Thicknesses of Annealed Copper Pipes (R4		
Pipe outside diameter	Thickness	
6.35 mm (1/4 in.)	0.80 mm	
9.52 mm (3/8 in.)	0.80 mm	
12.70 mm (1/2 in.)	0.80 mm	
15.88 mm (5/8 in.)	1.00 mm	
10.05 (0/4 : )	1 00	

# STANDARD PARTS

The following installation parts are furnished.

# INDOOR UNIT ACCESSORIES

Name and Shape	Q'ty	Application
Coupler heat insulation	2	For indoor side pipe joint
Screw (2)	2	For installing the remote controller
Special nut A (large flange)	4	For installing indoor unit
Special nut B (small flange)	4	For installing indoor unit
Template	1	For ceiling hole cutting
Binder	1 (small)	For remote controller and remote controller cable binding
Blower cover insulation	2	For discharged air
Hook wire	2	For installing intake grille
Remote controller	1	
Remote controller cable	1	For connecting the remote controller

# **OUTDOOR UNIT ACCESSORIES**

Name a	ind Shape	Q'ty	Application
Drain pipe		1	For outdoor unit drain piping work (May not be
Drain cap		2	supplied, depending on the model.)
Insulation (sea	all)	1	For filling in a gap at the entrance of connection cables

# **CONNECTION PIPE** REQUIREMENT

The maximum lengths of this product are shown in the following table. If the units are further apart than this correct operation can not be guaranteed.		

Diameter	Liquid	9.52 mm (3/8 in.)
	Gas	15.88 mm (5/8 in.)
Pipe	Max.	30 m
length	Min.	5 m
Maximum height (between indoor and outdoor)		15 m

Use pipe with water-resistant heat insulation

# **↑** CAUTION

Install heat insulation around both the gas and liquid pipes Failure to do so may cause water leaks. Use heat insulation with heat resistance above 120 °C (Reverse cycle model only) In addition, if the humidity level at the installation location

of the refrigerant piping is expected to exceed 70%, install heat insulation around the refrigerant piping. If the ex pected humidity level is 70-80%, use heat insulation tha is 15 mm or thicker and if the expected humidity exceeds 80%, use heat insulation that is 20 mm or thicker. If heat insulation is used that is not as thick as specified condensation may form on the surface of the insulation In addition, use heat insulation with heat conductivity of 0.045 W/(m·K) or less (at 20 °C).

# **ELECTRICAL REQUIREMENT**

,	Electric wire size and breaker capacity:			
	Power supply cable (mm²)	MAX.	4.0	
		MIN.	3.5	
	Connection cable (mm²)	MAX.	2.5	
		MIN.	1.5	

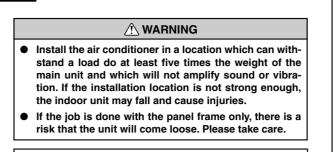
- Always use H07RN-F or equivalent to the connection cable. • Install all electrical works in accordance to the standard.
- Install the disconnect device with a contact gap of at least 3 mm in all
- poles nearby the units. (Both indoor unit and outdoor unit) • Install the circuit breaker nearby the units.

# **OPTIONS**

The following options are available. ADDITIONAL GRILLE ASSY: UTG-AGEA-W (P/N 9002230002) • Simple remote controller: UTB-YPB (P/N 9077582006)

# **INSTALLATION PROCEDURE**

# INDOOR UNIT INSTALLATION

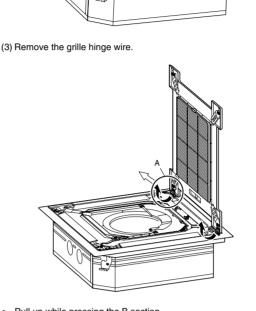


REMOVING THE INTAKE GRILLE 1) Push the intake grille pushbuttons (two places). (2) Open the intake grille. Pull up in the direction of the arrow while holding down the C section of the figure (4 locations)

REMOVING THE PANEL FRAME

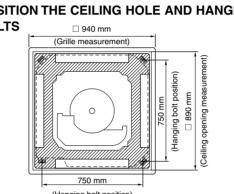
the figure (4 locations)

Pull up the corner sections (A) of the panel frame as shown in



**↑** CAUTION Pull up while pressing the B section. Always remove the panel frame after removing the intake

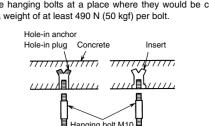
# 1. POSITION THE CEILING HOLE AND HANGING

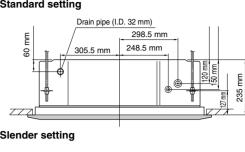


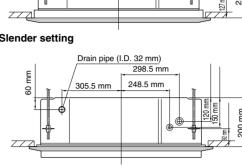
# 2. HANGING PREPARATIONS

• Firmly fasten the hanging bolts as shown in the figure or by another

. Install the hanging bolts at a place where they would be capable of holding a weight of at least 490 N (50 kgf) per bolt.





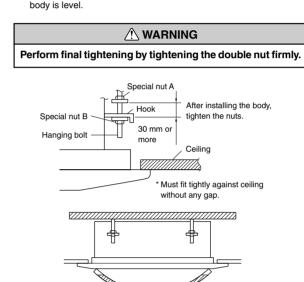


### 3. BODY INSTALLATION

[The ceiling rear height is 235 mm or more.] [Standard setting] [The ceiling rear height is 200 mm or more.] [Slender setting]

- (1) Install special nut A, then special nut B onto the hanging bolt. (2) Rise the body and mount its hooks onto the hanging bolt between the
- (3) Turn special nut B to adjust the height of the body.

Using a level, or vinyl hose filled with water, fine adjust so that the



# With slender setting, turn the panel frame $90\ensuremath{^\circ}$ as shown in the dia Grille setting method has been changed at the marked pos tions on the panel frame and panel base.

INSTALLING THE PANEL FRAME

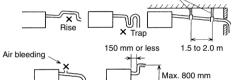
# **INSTALLING DRAIN PIPE**

**↑** CAUTION Install the drain pipe in accordance with the instructions in this installation instruction sheet and keep the area warm enough to prevent condensation. Problems with the piping may lead to water leaks.

NOTE: Install the drain pipe.

Install the drain pipe with downward gradient (1/50 to 1/100) and so there are no rises or traps in the pipe.
Use general hard polyvinyl chloride pipe (VP25) [outside diameter

- 32 mm] and connect it with adhesive (polyvinyl chloride) so that there
  - is no leakage. When the pipe is long, install supporters.
- Do not perform air bleeding.
  Always heat insulate the indoor side of the drain pipe.
- When desiring a high drain pipe height, rise it up to 800 mm or less from the ceiling within a range of 150 mm from the body. A rise dimen



(1) Remove the cap, and connect the gauge manifold and the vacuum

# **↑** WARNING

⊕ For the air conditioner to operate satisfactorily, install it as outlined in this installation instruction sheet.

■ The same of th Connect the indoor unit and outdoor unit with the air conditioner piping and cables available standards parts. This installa-

- tion instruction sheet describes the correct connections using the installation set available from our standard parts. Installation work must be performed in accordance with national wiring standards by authorized personnel only.
- 🗓 If refrigerant leaks while work is being carried out, ventilate the area. If the refrigerant comes in contact with a flame, it produces a toxic gas.
- Do not use an extension cable.
- 6 Do not turn on the power until all installation work is complete.
- Be careful not to scratch the air conditioner when handling it.
- After installation, explain correct operation to the customer, using the operating manual. • Let the customer keep this installation instruction sheet because it is used when the air conditioner is serviced or moved.

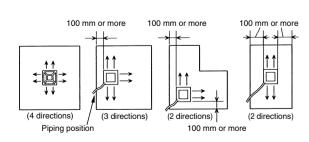
# **SELECTING THE MOUNTING POSITION**

# **↑** WARNING Install at a place that can withstand the weight of the indoor and outdoor units and install positively so that the units will not topple or fall.

## **↑** CAUTION Do not install where there is the danger of combustible gas leakage. Do not install near heat sources.

If children under 10 years old may approach the unit, take preventive measures so that they cannot reach

Especially, the installation place is very important for the split type air conditioner because it is very difficult to move from place to place after the Decide the mounting position together with the customer as follows: The discharge direction can be selected as shown below.



r iping position	
<u> </u>	LUTION
Since 2-way outlet as shown problems, do not set it.	n below causes performance

(1) Install the indoor unit on a place having a sufficient strength so that it withstands against the weight of the indoor unit. (2) The inlet and outlet ports should not be obstructed; the air should be

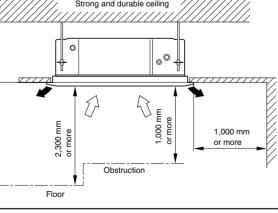
able to blow all over the room. (3) Leave the space required to service the air conditioner.

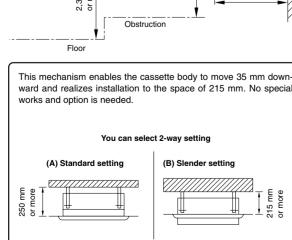
(7) Install the unit where noise and vibrations are not amplified.

- (6) A place from where drainage can be extracted outdoors easily.
- Strong and durable ceiling

# works and option is needed.

- (4) The ceiling rear height as shown in the figure.
- (5) A place from where the air can be distributed evenly throughout the





# **OUTDOOR UNIT**

**⚠** WARNING Install the unit where it will not be tilted by more than 5°.

When installing the outdoor unit where it may exposed to strong wind, fasten it securely.

- (1) Install the outdoor unit in a location which can withstand the weight of the unit and vibration, and which can install horizontally
- (2) Provide the indicated space to ensure good airflow.
- (3) If possible, do not install the unit where it will be exposed to direct sunlight (If necessary, install a blind that does not interfere with the airflow.)
- (4) Do not install the unit near a source of heat, steam, or flammable gas. During heating operation, drain water flows from the outdoor unit
- Therefore, install the outdoor unit in a place where the drain water flow will not be obstructed. (Reverse cycle model only)
- (6) Do not install the unit where strong wind blows or where it is very dusty.
- (7) Do not install the unit where people pass. (8) Install the outdoor unit in a place where it will be free from being dirty or getting wet by rain as much as possible.
- (9) Install the unit where connection to the indoor unit is easy.

When there are obstacles at the back side.

• When there are obstacles at the back side with the installation of

• When there are obstacles at the back and front sides.

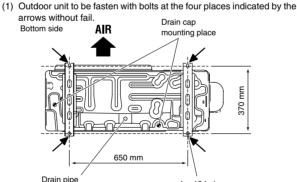
• When there are obstacles at the back, side(s), and top.

\* If the space is larger than that is stated, the condition

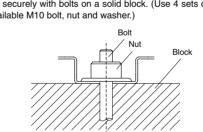
# **OUTDOOR UNIT INSTALLATION**

(4) Remove the intake grille.

1. OUTDOOR UNIT PROCESSING



(2) Fix securely with bolts on a solid block. (Use 4 sets of commercially available M10 bolt, nut and washer.)



- operation, install the drain pipe and connect it to a commercial 16 mm hose. (Reverse cycle model only)
- (4) When installing the drain pipe, plug all the holes other than the drain pipe mounting hole in the bottom of the outdoor unit with putty so there is no water leakage. (Reverse cycle model only)

**⚠** CAUTION

When the outdoor temperature is 0 °C or less, do not

If the drain pipe and drain cap are used, the drain water

use the accessory drain pipe and drain cap.

# in the pipe may freeze in extremely cold weather. (Reverse cycle model only)

# **CONNECTING THE PIPE**

**↑** CAUTION Do not use mineral oil on flared part. Prevent mineral oil from getting into the system as this would reduce

- the lifetime of the units. While welding the pipes, be sure to blow dry nitrogen gas through them.
- The maximum lengths of this product are shown in the table. If the units are further apart than this, correct operation can not be quaranteed

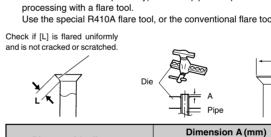
Pipe outside diameter

15.88 mm (5/8 in.)

19.05 mm (3/4 in.)

(1) Cut the connection pipe to the necessary length with a pipe cutter.

(2) Hold the pipe downward so that cuttings will not enter the pipe and remove the burrs. (3) Insert the flare nut (always use the flare nut attached to the indoor and outdoor units respectively) onto the pipe and perform the flare processing with a flare tool.



0 to 0.5
Dimension B $^0_{-0.4}$ (mm)
Dimension B -0.4 (mm) 9.1
. ,

When using conventional flare tools to flare R410A pipes, the dimension A should be approximately 0.5 mm more than indicated in the table (for flaring with R410A flare tools) to achieve the specified flaring. Use a thickness gauge to measure the dimension A.

C-101		
/idth across flats	Pipe outside diameter	Width across flats of Flare nut
	6.35 mm (1/4 in.)	17 mm
	9.52 mm (3/8 in.)	22 mm
	12.70 mm (1/2 in.)	26 mm
	15.88 mm (5/8 in.)	29 mm
	19.05 mm (3/4 in.)	36 mm

# 2. BENDING PIPES

The pipes are shaped by your hands. Be careful not to collapse them Do not bend the pipes in an angle more than 90° When pipes are repeatedly bend or stretched, the material will harden. making it difficult to bend or stretch them any more. Do not bend or stretch the pipes more than three times.

Bend the pipe with a radius of curvature of 150 mm or If the pipe is bent repeatedly at the same place, it will

To prevent breaking of the pipe, avoid sharp bends.

### 3. CONNECTION PIPES Indoor unit

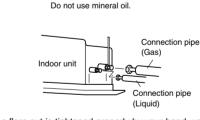
(1) Detach the caps and plugs from the pipes. **⚠** CAUTION

\* Allowable space between the unit and the ceiling 5 mm or less

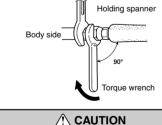
① Be sure to apply the pipe against the port on the indoor unit correctly. If the centering is improper, the flare nut cannot be tightened smoothly. If the flare nut is forced to turn, the threads will be damaged.

② Do not remove the flare nut from the indoor unit pip until immediately before connecting the connection pipe

(2) Centering the pipe against port on the indoor unit, turn the flare nut with your hand. o prevent gas leakage, coat the flare surface with alkylbenzene oil (HAB).



(3) When the flare nut is tightened properly by your hand, use a torque wrench to finally tighten it.

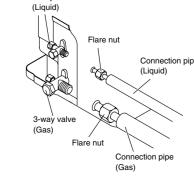


Hold the torque wrench at its grip, keeping it in the right

correctly.			
Tightening torque			
14 to 18 N·m (140 to 180 kgf·cm)			
33 to 42 N·m (330 to 420 kgf·cm)			
50 to 62 N·m (500 to 620 kgf·cm)			
63 to 77 N·m (630 to 770 kgf·cm)			

Tighten the flare nut of the connection pipe at the outdoor unit valve connector. The tightening method is the same as that as at the indoor side.

19.05 mm (3/4 in.) dia. 100 to 110 N·m (1000 to 1100 kgf·cm)



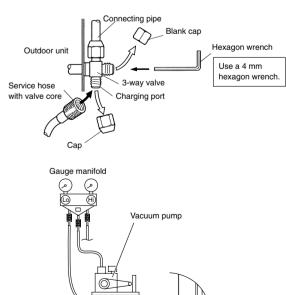
### (2) Vacuum the indoor unit and the connecting pipes until the pressure gauge indicates -0.1 MPa (-76 cmHg). (3) When -0.1 MPa (-76 cmHg) is reached, operate the vacuum pump

for at least 30 minutes. (4) Disconnect the service hoses and fit the cap to the charging valve to the specified torque. (5) Remove the blank caps, and fully open the spindles of the 2-way

pump to the charging valve by the service hoses.

and 3-way valves with a hexagon wrench [Torque: 6~7 N·m (60 to b) lighten the blank caps of the 2-way valve and 3-way valve to the

6.35 mm (1/4 in.) 20 to 25 N·m (200 to 250 kgf·cm) 9.52 mm (3/8 in.) 20 to 25 N·m (200 to 250 kgf·cm) 12.70 mm (1/2 in.) 25 to 30 N·m (250 to 300 kgf·cm) 15.88 mm (5/8 in.) 30 to 35 N⋅m (300 to 350 kgf⋅cm) 19.05 mm (3/4 in.) 35 to 40 N·m (350 to 400 kgf·cm) Charging port cap 10 to 12 N·m (100 to 120 kgf·cm)



# **↑** CAUTION Do not purge the air with refrigerants, but use a vacuum

pump to vacuum the installation! There is no extra refrigerant in the outdoor unit for air purging! Use a vacuum pump and gauge manifold and

charging hose for R410A exclusively. Using the same vacuum for different refrigerants may damage the vacuum pump or the unit.

- Continued on back

9366382034-05 IM front.p65 9/2/10, 13:46 Between 7.5 m and 30 m, when using a connection pipe other than that in the table, charge additional refrigerant with 40 g (1.4 oz)/1 m (3.3 ft) (Reverse cycle model), 20 g (0.71 oz)/1 m (3.3 ft) (Cooling model) as the

### **↑** CAUTION When moving and installing the air conditioner, do not mix gas other than the specified refrigerant (R410A)

inside the refrigerant cycle. When charging the refrigerant R410A, always use an electronic balance for refrigerant charging (to

measure the refrigerant by weight). When charging the refrigerant, take into account the slight change in the composition of the gas and liquid phases, and always charge from the liquid phase side whose

Add refrigerant from the charging valve after the completion of the work. If the units are further apart than the maximum pipe

length, correct operation can not be guaranteed.

# **6. GAS LEAKAGE INSPECTION**

composition is stable.

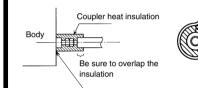
After connecting the piping, check the all joints for gas leakage with gas leak detector.

**CAUTION** 

When inspecting gas leakage, always use the vacuum pump for pressure. Do not use nitrogen gas.

# 7. HEAT INSULATION ON THE PIPE JOINTS (INDOOR SIDE ONLY)

After checking for gas leaks, insulate by wrapping insulation around the two parts (gas and liquid) of the indoor unit coupling, using the coupler After installing the coupler heat insulation, wrap both ends with vinyl tape so that there is no gap



**↑** CAUTION Must fit tightly against body without any gap.

# **⚠** WARNING The rated voltage of this product is 230 V A.C. 50 Hz.

**POWER** 

Before turning on verify that the voltage is within th 198 V to 264 V range.

Always use a special branch circuit and install a special receptacle to supply power to the air conditioner Use a special branch circuit breaker and receptacle

matched to the capacity of the air conditioner. (Install in accordance with standard.) Perform wiring work in accordance with standards so

that the air conditioner can be operated safely and posi-Install a leakage special branch circuit breaker in ac-

cordance with the related laws and regulations and elec

The power source capacity must be the sum of the air conditioner current and the current of other electrical appliances. When the current contracted capacity is in

When the voltage is low and the air conditioner is difficult to start, contact the power company the voltage

sufficient, change the contracted capacity.

# **ELECTRICAL WIRING**

**⚠** WARNING Before starting work, check that power is not being supplied to the indoor unit and outdoor unit.

Match the terminal board numbers and connection cable colors with those of the outdoor unit. Erroneous wiring may cause burning of the electric

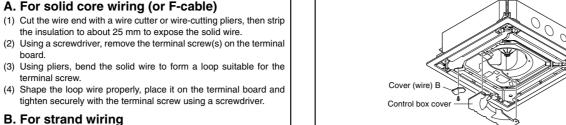
Connect the connection cables firmly to the terminal board. Imperfect installation may cause a fire.

Always fasten the outside covering of the connection cable with the cable clamp. (If the insulator is chafed, electric leakage may occur.)

Always connect the ground wire.

### **HOW TO CONNECT WIRING TO THE TERMINALS**

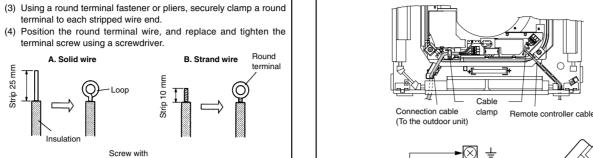
A. For solid core wiring (or F-cable) (1) Cut the wire end with a wire cutter or wire-cutting pliers, then strip

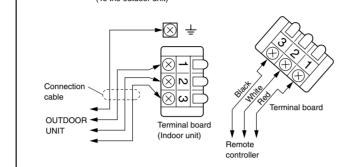


(1) Cut the wire end with a wire cutter or wire-cutting pliers, then strip (2) After wiring is complete, clamp the remote controller cable and conthe insulation to about 10 mm to expose the strand wiring. nection cable with the cable clamp. Using a screwdriver, remove the terminal screw(s) on the terminal (3) Install the control box cover and cover (wire) B

3. INDOOR UNIT

nection cable.



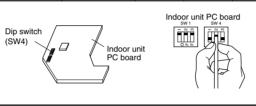


(1) Remove the control box cover and cover (wire) B and install the con-

# Ceiling height setting

Set the DIP switch for the ceiling height according to the table below.

Ceiling height		DIP-SW4		
(m)		1	2	3
2.5 - 3.0	Normal	-	OFF	OFF
3.0 - 3.5	High ceiling 1	_	ON	OFF
More than 3.5	High ceiling 2	_	OFF	ON
Less than 2.5	Low ceiling	_	ON	ON



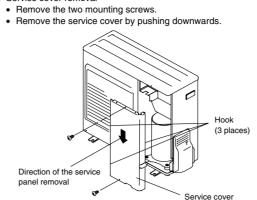
**⚠** CAUTION

# ① If the setting for a low ceiling is selected, the capacity of the air conditioner decreases slightly.

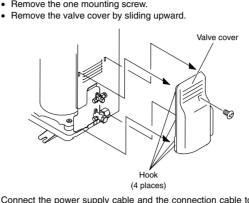
2) Do not set any switches other than those specified in this sheet or the remote controller installation in struction sheet. The air conditioner may not operate correctly if any switches other than those specified are changed.

# 4. OUTDOOR UNIT

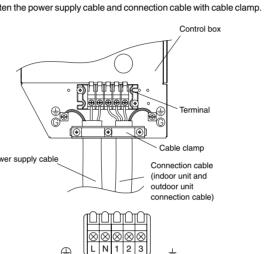
Service cover removal



(2) Valve cover removal · Remove the one mounting screw.



(3) Connect the power supply cable and the connection cable to termi-(4) Fasten the power supply cable and connection cable with cable clamp.



Indoor unit

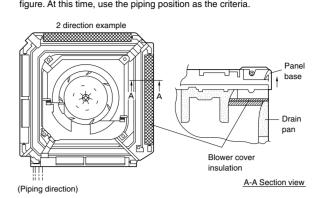
(6) Put the service cover and valve cover back after completion of the

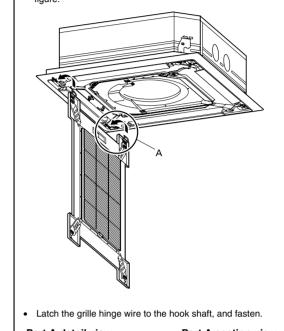
**↑** CAUTION

Do not make power supply cable and connection cable come in contact with valve (Gas).

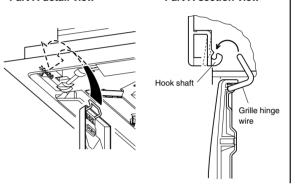
(5) Fill in a gap at the entrance of the cables with insulation (seal)

Install the blower cover insulation only when the outlet direction is not Two blower cover insulations are packed with the indoor unit Install the blower cover insulation at the diffuser position shown in the



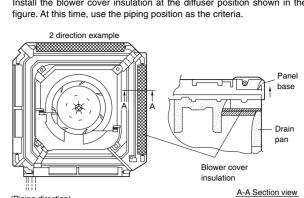


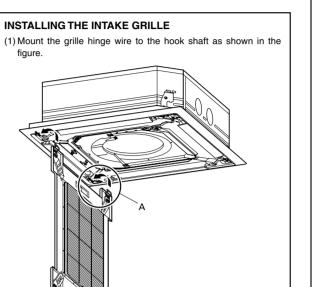
Part A detail view

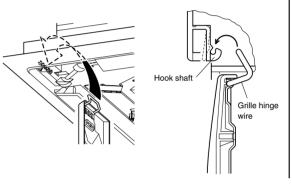


# **GRILLE INSTALLATION**

**BLOWER COVER INSULATION** 







# Pass the hook wire through the panel base from the rear side as shown in the figure, and fasten to the reinforced metal fitting of the intake grille using a screw. Section view \_\_\_\_\_ Loosen the screw, put the loop of the hook wire over it, and tighte the screw again. **↑** CAUTION Install the intake grille hook wire to the grille assen bly. If it falls, it may cause injuries. (4) Bring up the intake grille by pushing it up at an angle as shown ir the figure, and fasten.

(2) Install the hook wire.

# REMOTE CONTROLLER **SETTING**

**↑** CAUTION When detecting the room temperature Temperature sensor using the remote controller, please set up the remote controller according to If the remote controller is not well set. the correct room temperature will not be detected, and thus the abnormal ons like "not cooled" or "not heated" will occ even if the air conditioner is running normally.

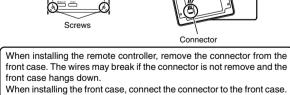
 A location with an average temperature for the roon · Not directly exposed to the outlet air from the air-· Out of direct sunlight.

· Away from the influence of other heat sources. When installing the remote controller and cable near a source of electromagnetic waves, separate the remote controller from the source of the electromagnetic waves and use shielded cable

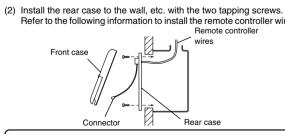
Do not touch the remote controller PC board and PC board parts directly with your hands.

### I. INSTALLING THE REMOTE CONTROLLER 1) Open the operation panel on the front of the remote controller, re-

move the two screws indicated in the following figure, and then remove the front case of the remote controller



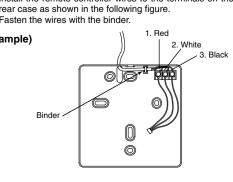
front case hangs down. When installing the front case, connect the connector to the front case.



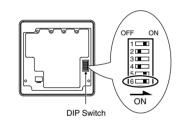
Install the remote controller wires so as not to be direct touched with your hand.

2. ROUTING THE REMOTE CONTROLLER WIRES

(1) Install the remote controller wires to the terminals on the top of the rear case as shown in the following figure. (2) Fasten the wires with the binder.



# 3. SETTING THE DIP SWITCHES When using a battery (memory backup)



Change the DIP switch setting to use batteries. (The DIP switch is not set to use batteries at the factory.)

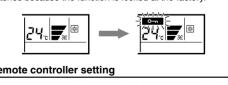
Change DIP switch No. 6 from OFF to ON. If batteries are not used, all of the settings stored in memory will be deleted if there is a power failure.

### 4. SETTING THE ROOM TEMPERATURE DETEC-TION LOCATION The detection location of the room temperature can be selected from the following three examples. Choose the detection location that is best for

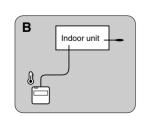
A. Indoor unit setting (factory setting)

The room temperature is detected by the indoor unit temperature sensor.

(1) When the THERMO SENSOR button is pressed, the lock display flashes because the function is locked at the factory.



The room temperature is detected by the remote controller temperature



(1) Press the THERMO SENSOR button for 5 seconds or more to unlock the function. The thermo sensor display flashes and then disappears

when the function is unlocked. (2) Press the THERMO SENSOR button. The thermo sensor display appears.

(3) Press the THERMO SENSOR button again for 5 seconds or more to

lock the function. The thermo sensor display flashes and then remains on when the function is locked. (4) Make sure that the function is locked.

# C. Indoor unit/remote controller setting (room temperature sensor selection)

The temperature sensor of the indoor unit or the remote controller can be used to detect the room temperature.

2. CONNECTION CABLE PREPARATION

**⚠** CAUTION

Do not bundle the remote controller cable, or wire the remote controller cable in parallel, with the indoor unit con-

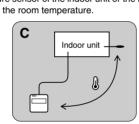
nection wire (to the outdoor unit) and the power supply

Outdoor unit

cable. It may cause erroneous operation.

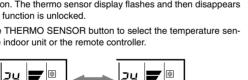
1. CONNECTION DIAGRAMS

White



(1) Press the THERMO SENSOR button for 5 seconds or more to unlock the function. The thermo sensor display flashes and then disappears when the function is unlocked.

(2) Press the THERMO SENSOR button to select the temperature sensor of the indoor unit or the remote controller.



♠ CAUTION When select the "Remote controller setting", if the detected temperature value between the temperature sensor of the indoor unit and the temperature sensor of the remote controller varies significantly, it is likely to return to the control status of temperature sensor

② As the temperature sensor of remote controller detects the temperature near the wall, when there is a certain difference between the room temperature and the wall temperature, the sensor will not detect the room Especially when the outer side of the wall on which the sensor is positioned is exposed to the open air, it is recommended to use the temperature sensor of the indoor unit to detect the room temperature when the indoor and outdoor temperature difference is significant.

3 The temperature sensor of the remote controller is not only used when there is a problem in the detection of the temperature sensor of the indoor unit.

# NOTES

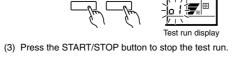
If the function to change the temperature sensor is used as shown in examples A and B (other than example C), be sure to lock the detection location. If the function is locked, the lock display om will flash when the THERMO SENSOR button is pressed.

# **TEST RUN**

of the indoor unit temporarily.

Supply power to the crankcase heater for at least 12 hours before the start of operation in winter

(1) Stop the air conditioner operation. (2) Press the MODE button and the FAN button simultaneously for 2 seconds or more to start the test run.



**↑** CAUTION



# 2. OUTDOOR UNIT LEDS

# [SELF-DIAGNOSIS]

(1) Stop the air conditioner operation.

When the error indication "E:EE" is displayed, follow the following items to perform the self-diagnosis. "E:EE" indicates an error has occurred.

(2) Press the SET TEMP. buttons  $\Lambda/V$  simultaneously for 5

# Refer to the following tables for the description of each error code.

more to stop the self-diagnosis.

1. REMOTE CONTROLLER DISPLAY

(3) Press the SET TEMP. buttons  $\Lambda/V$  simultaneously for 5 seconds or

Error contents

pen		
nort-		
open		
short-		
uited		
Model error		
Indoor fan error		

Heat & Cool model (reverse cycle) only When a malfunction occurs in the outdoor unit, the LEDs on the circuit board light to indicate the error. Refer to the following table for the description of each error according to the LEDs.

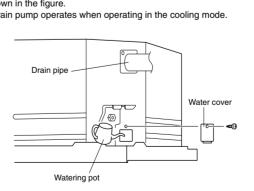
# Quick flash continued | Quick flash continue Power source connection error 1 quick flash repeated | Lighting continued Discharge tempera 2 guick flash repeated | Lighting continued Outdoor heat

exchanger temper 2 sec. ture sensor error 3 quick flash repeated | Lighting continued 4 quick flash repeated | Lighting continued Outdoor temperature sensor error Communication signal quick flash repeated Lighting continued Indoor unit error quick flash repeated Lighting continued Discharge temperat 8 quick flash repeated Lighting continued High pressure error 5 quick flash repeated | Dislighting continued | Discharge temperate 6 quick flash repeated | Dislighting continued | High pressure

When the fault is cleared, the LED lamp goes off. However, for discharge pipe temperature abnormal and high pressure abnormal, the LED lamp lights continuously for 24 hours, as long as the power is not turned off.

# 3. CHECKING DRAINAGE

To check the drain, remove the water cover and fill with 2 to 3  $\ell$  of water as shown in the figure. The drain pump operates when operating in the cooling mode.



# **SPECIAL INSTALLATION METHODS**

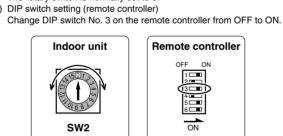
**↑** CAUTION When setting the rotary switch and DIP switches, do not touch any other parts on the circuit board directly with your bare hands. Be sure to turn off the main power.

1. GROUP CONTROL SYSTEM A number of indoor units can be operated at the same time using a single remote controller.

# Wiring method (indoor unit to remote controller)

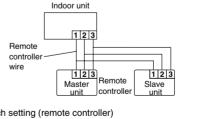


indoor unit circuit board. The rotary switch is normally set to 0.



# 2. DUAL REMOTE CONTROLLERS (OPTIONAL) Two separate remote controllers can be used to operate the indoor units.

(1) Wiring method (indoor unit to remote controller)



Set the re-		DIP switch Nos.	1 and 2 according to t
Number of	of Master unit		Remote controlle
remote controllers	DIP-SW No. 1	DIP-SW No. 2	Tiemote controlle
1 (Normal)	ON	OFF	OFF ON
2 (Dual)	OFF	OFF	
			4 🞞
Number of	Slave unit		6 🗖
remote controllers	DIP-SW No. 1	DIP-SW No. 2	
1 (Normal)	_	_	DIP Switch
2 (Dual)	ON	ON	

failure etc., it restarts automatically after the power recovers. (Operated by setting before the power failure) The auto restart function can be

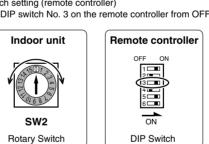
(1) DIP switch setting (indoor unit)

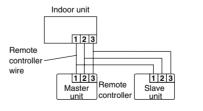
SW1 SW4 DIP Switch

# [DIP-SWITCH SETTING]

Indoor unit

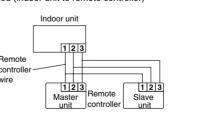
Set the unit number of each indoor unit using the rotary switch on the





Set the re- following to		DIP switch Nos.	1 and 2 according to
Number of	Master unit		Remote controll
remote controllers	DIP-SW No. 1	DIP-SW No. 2	Tiemote control
1 (Normal)	ON	OFF	OFF ON
2 (Dual)	OFF	OFF	
			4 <b>-</b>
Number of	Slave unit		6 □■□
remote controllers	DIP-SW No. 1	DIP-SW No. 2	
1 (Normal)	_	-	DIP Switch
2 (Dual)	ON	ON	

Change the DIP switch (SW1-1) on the indoor unit circuit board from ON to OFF. The auto restart function will be canceled.



IP switch setting (remote controller) et the remote controller DIP switch Nos. 1 and 2 according to the telephone table.				
nber of	Maste	Remote controlle		
ote trollers	DIP-SW No. 1	DIP-SW No. 2		
lormal)	ON	OFF	OFF ON	
(Dual)	OFF	OFF		
			4 <b>-</b>	
nber of ote	Slave unit		6□■□	
trollers	DIP-SW No. 1	DIP-SW No. 2		
lormal)	1	_	DIP Switch	
(Dual)	ON	ON		

# 3. CANCELING AUTO RESTART

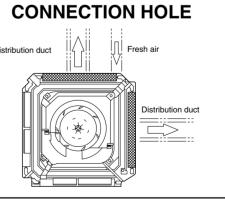
When the air conditioner power was temporarily turned off by a power

Invalidity | Validity \* Auto restart setting \* Temperature correction \_\_\_ \* setting for heating — \* — Remote controller setting

Remote controller					
	NO.	SW state		<b>.</b>	
		OFF	ON	Detail	
DIP-Switch	1		*	Dual remote controller	
	2	*		setting	
	3	One unit *	Multiple unit	Group control setting	
	4	Heat & Cool model	Cooling only model	Model setting	
	5	Invalidity	Validity *	Auto changeover setting	

# \*: Factory setting **OPENING THE DUCT**

6 Invalidity\* Validity Memory backup setting



### **⚠** CAUTION When performing hole opening work, be careful not to damage the drain pan.

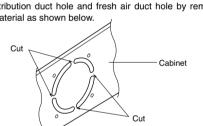
When connecting the distribution duct, to make the air flow easily, block the outlet port with the blower cover insulation as shown by the hatched lines in the figure For the blocking direction, refer to blower cover insu lation figure.

### 1. DIMENSION Screw position and connection hole which are fresh air duct and distribu-

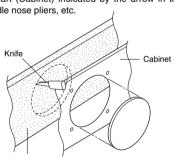
P. D 120 P. D 88 12-ø3.3 self tapping screw holes (for 4 mm)

# 2. DISTRIBUTION DUCT AND FRESH AIR DUCT **HOLE PROCESSING**

Use the distribution duct hole and fresh air duct hole by removing the insulation material as shown below.



• Cut off the part (Cabinet) indicated by the arrow in the figure with nippers, needle nose pliers, etc.



Open the holes and cut the insulation with a knife.

\* Be careful not to damage the internal parts. \* Be careful not to cut yourself on the cutout in the metal plate. \* Please remove the insulation (inner box) left over after cutting. Connect the distribution duct.

\* When mounting the duct, block the gap so that there is no cold air \* Insulate the duct and cut connection. **⚠** CAUTION

The air conditioner cannot take in fresh air by itself. When

# connecting a fresh air duct, always use a duct fan.

**SAFETY PRECAUTIONS** 

# **⚠ WARNING** During installation, make sure that the refrigerant pipe

Do not operate the compressor under the condition of refrigerant piping not attached properly with 2-way or 3-way valve open. This may cause abnormal pressure in the refrigeration

cycle that leads to breakage and even injury.

is in operation with 2-way or 3-way valve open.

cause breakage, injury, etc.

is attached firmly before you run the compressor.

During the pump-down operation, make sure that the compressor is turned off before you remove the refrigerant piping. Do not remove the connection pipe while the compressor

cycle that leads to breakage and even injury. When installing and relocating the air conditioner, do not mix gases other than the specified refrigerant (R410A) to enter the refrigerant cycle. If air or other gas enters the refrigerant cycle, the pressure

inside the cycle will rise to an abnormally high value and

This may cause abnormal pressure in the refrigeration

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