

△ CAUTION This mark indicates procedures which, if improperly performed, might possibly result in personal harm to the user, or damage to properly.	△ WARNING	the user.
		This mark indicates procedures which, if improperly performed, might possibly result in personal harm to the user, or damage to property.

	Pressure is high and cannot be measured with a conventional gauge. To prevent erroneous mixing of other
Gauge manifold	refrigerants, the diameter of each port has been changed.
Gauge mannoro	It is recommended the gauge with seals -0.1 to 5.3 MPs (-76 cmHg to 53 kgflcmf) for high pressure.
	-0.1 to 3.8 MPs (-76 cmHg to 38 kgflom') 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.

Dopper pipes	
I is necessary to use seamless copper pipes and it is desirable that the amount of residual oil is less than 40 mg/10m. Do not use copper pipes having a col- speed, deformed or discolored portion (especially on the interior surface). Oth-	F
swise, the expansion valve or capitlary tube may become blocked with con- aminants.	d
As an air conditioner using R410A incurs pressure higher than when using 122, it is necessary to choose adequate materials.	
Thicknesses of copper pipes used with FM10A are as shown in Table1. Never	



ľ	(1) For the room air conditioner to operate satisfactorily, install it as outlined in this installation instruction sheet.
I	(2) Connect the indoor unit and outdoor unit with the room air conditioner piping and cords available standards parts. This installation instruction sheet describes the correct connections using the installation set available from our standard parts.
	(3) Installation work must be performed in accordance with national wiring standards by authorized personnel only.
ĺ	(4) 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.
l	(5) Do not use an extension cord.

	SELECTING THE MOUNTING POSITION			
	<b>∆</b> 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			
	(1) Do not install where there is the danger of combustible gas leakage.			
	(2) Do not install near heat sources.			
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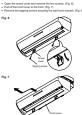






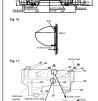
## INSTALLATION PROCEDURE







(2)	As the weight of the indoor unit is 15 to 18 kg (33 to 4 lbs), it should be installed after properly examining the place where it is intended to be installed. If the place inot strong enough, a plank or girder should be used to make the place sufficiently strong so that the wall or support the weight.
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STANDARD ACCESSORIES

O IIII

Omm

CONNECTING PIPING		
If the wall pipe is not used, the cord interconnecting the indoor and outdoor units may touch metal and cause elec- tric leakage.		





## 2. CUTTING THE HOLE IN THE WALL FOR THE









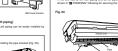




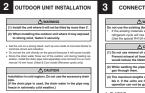


















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⚠ CAUTION

After connecting the piping, check the jage with gas leak detector.

## (1) Before starting work, check that power is not being supplied to indoor unit and the outdoor unit.

- (2) Match the terminal block numbers and connection cord colors of the indoor unit and the outdoor unit. Erroneous wiring may cause burning of the electric parts.
- (3) Connect the connection cords firmly to the terminal block. Imperfect installation may cause a fire. (4) Always fasten the outside covering of the connection
- cord with the cord clamp. (If the insulator is chafed, electric leakage may occur.)
- (5) Always connect the ground wire.

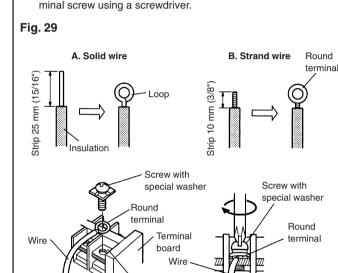
## **HOW TO CONNECT WIRING** TO THE TERMINALS

## A. For solid core wiring (or F-cable)

- (1) Cut the wire end with a wire cutter or wire-cutting pliers, then strip the insulation to about 25 mm (15/16") to expose the solid wire.
- (2) Using a screwdriver, remove the terminal screw(s) on the terminal (3) Using pliers, bend the solid wire to form a loop suitable for the
- terminal screw. (4) Shape the loop wire properly, place it on the terminal board and
- tighten securely with the terminal screw using a screwdriver.

## B. For strand wiring

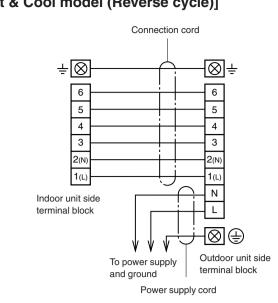
- (1) Cut the wire end with a wire cutter or wire-cutting pliers, then strip the insulation to about 10 mm (3/8") to expose the strand wiring. 2) Using a screwdriver, remove the terminal screw(s) on the terminal
- (3) Using a round terminal fastener or pliers, securely clamp a round terminal to each stripped wire end.
- (4) Position the round terminal wire, and replace and tighten the ter-



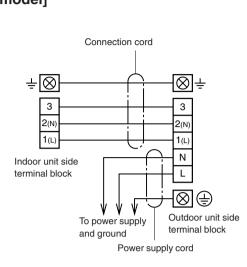
## 1. CONNECTION DIAGRAM

## Fig. 30

## [Heat & Cool model (Reverse cycle)]



## [Cooling model]

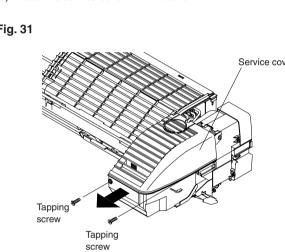


## 2. INDOOR UNIT SIDE

(1) Remove the service cover (Fig. 31).

(3) Connect the end of the connection cord fully into the terminal block. (4) Fasten the connection cord with a cord clamp. (5) Install the service cover with the screw.

## Fig. 31



## Mount to position high on the wall: Use the table below to set the wall mounting position. Indoor unit / circuit board Mounting height Jumper wire (JM1)

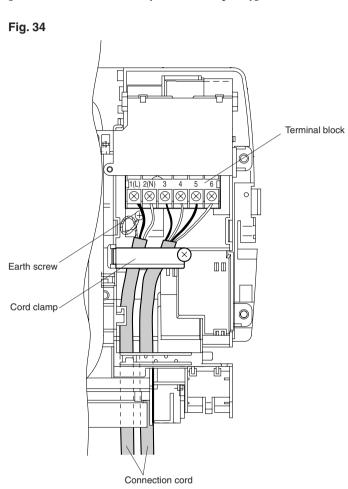
## [Heat & Cool model (Reverse cycle)]

Connect (primary setting)

Disconnect

1.5 m - 2.0 m

2.0 m - 2.5 m



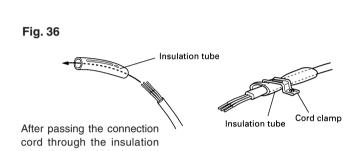
# Fig. 35 Terminal block Earth screw Cord clamp <sup>2</sup>

## 3. OUTDOOR UNIT SIDE

[Cooling model]

## **⚠** CAUTION Use VW-1, 12 mm diameter, 0.5 to 1.0 mm thick, connection PVC tube as the insulation tube.

- (1) Process the end of the connection cords to the dimensions shown in (2) Connect the end of the connection cord fully into the terminal block
- and fasten with the screws. (3) Fasten the sheath with a cord clamp. (Fig. 36)

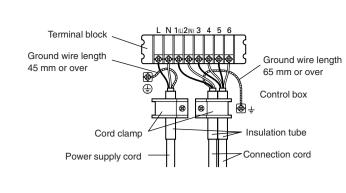


## (4) Install the terminal cover. (Fig. 38)

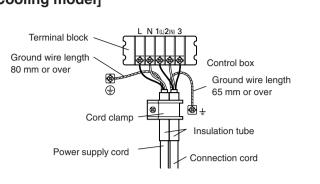
tube, fasten it with the cord

## Fig. 37

[Heat & Cool model (Reverse cycle)]

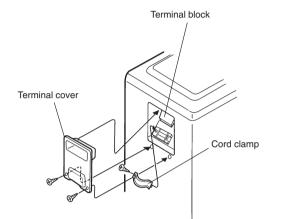


## [Cooling model]



**CAUTION** 

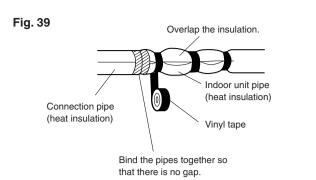
## When routing the ground wires, leave slack as shown in the illustrations.



## **FINISHING**

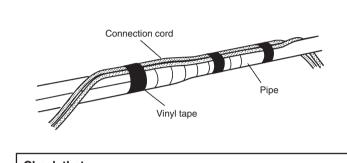
## 1. CONNECTION PIPE, CORD AND DRAIN HOSE

- (1) Insulate between pipes.
- For ① Rear, ② Right, and ③ Bottom piping, overlap the connection
- For ④ Left rear and ⑤ Left piping, butt the connection pipe heat insulation and indoor unit pipe heat insulation together and bind



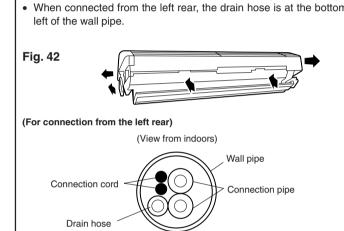
• For ④ Left rear and ⑤ Left piping, wrap the area which accommodates the rear piping housing section with cloth tape.

Fig. 41

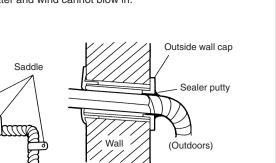


## Check that:

The top and bottom hooks are hooked firmly and the indoor uni does not move to the front and rear or left and right. The indoor unit is accurately positioned horizontally and vertically. When connected from the left rear, the drain hose is at the bottom



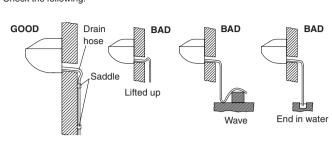
(3) Fasten the connection pipe to the outside wall with a saddle, etc. (4) Fill the gap between the outside wall pipe hole and the pipe with sealer so that rain water and wind cannot blow in.



(5) Fasten the drain hose to the outside wall, etc.

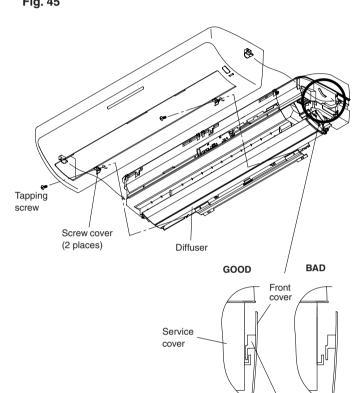
Fig. 44 Check the following:

Fig. 43



## 2. INSTALLING FRONT COVER

- Carefully attach the front cover to the diffuser on the front of the body of the indoor unit.
- Secure the lower section of the front cover with tapping screws in two locations and close the screw cover.
- Push in the following hooks from the outside: front hook, 3 locations; side hook, 2 locations; under hook, 1 location
- The last step is to push in the hook above the blower outlet.



## **POWER**

(1) The rated voltage of this product is 230 V A.C.

(3) Always use a special branch circuit and install a spe-

cial breaker to supply power to the room air conditioner.

(5) The circuit breaker is installed in the permanent wiring. Always use a circuit that can trip all the poles of the wiring and has an isolation distance of at least 3

that the room air conditioner can be operated safely and positively.

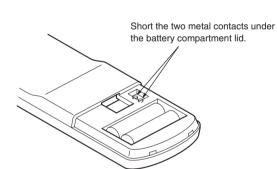
related laws and regulations and electric company standards.

air conditioner current and the current of other electrical appliances. When the current contracted capacity is insufficient, change the contracted capacity.

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

- Perform test operation and check items 1 and 2 below. For the operation method, refer to the operating manual.
- The outdoor unit may not run, depending on the room temperature. In this case, the 'TEST RUN' signal is received during air conditioner operation (use a metallic object to short the two metal contacts under the battery compartment lid and send the 'TEST RUN' signal from the remote control unit).

## Fig. 47



Operation can be checked by lighting and flashing of the display section OPERATION and TIMER lamps. Perform judgement in accordance with the following.

When the air conditioner is run by pressing the remote control unit test run button, the OPERATION and TIMER lamps flash slowly at the same time.

Test running

Error

The OPERATION, TIMER and SWING lamps operate as follows (Table 8) according to the error contents.

## Table 8

: Fast flashing : Slow flashing

	Error display		
Error contents	OPERATION (RED)	TIMER (YELLOW)	SWING (ORANGE)
Indoor unit circuit board error	0	0	_
Indoor unit room temperature sensor wire opened	2 times	0	_
Indoor unit room temperature sensor wire short circuited	2 times	0	0
Indoor unit piping sensor wire opened	3 times	0	_
Indoor unit piping sensor short circuited	3 times	0	0
Indoor unit fan error	6 times	0	_

## **CHECK ITEMS**

## (1) INDOOR UNIT

(1) Is operation of each button on the remote control unit normal? (2) Does each lamp light normally? (3) Do not air flow direction louvers operate normally?

(5) Is there any abnormal noise and vibration during operation? (2)OUTDOOR UNIT

(4) Is the drain normal?

- (1) Is there any abnormal noise and vibration during operation? (2) Will noise, wind, or drain water from the unit disturb the neighbors? (3) Is there any gas leakage?
- Do not operate the air conditioner in the test running state for a long • For the operation method, refer to the operating manual and perform operation check.

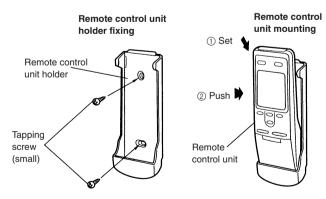
## REMOTE CONTROL UNIT

a stove, etc.

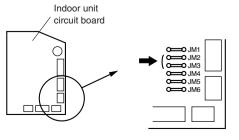
## (1) Check that the indoor unit correctly receives the signal from the remote control unit, then install the re-

paying careful attention to the following: Avoid places in direct sunlight. Select a place that will not be affected by the heat from

stalling the remote control unit, check that it operates positively. ping screw (Fig. 48).



## CODES



## **INSTALLATION**

## **⚠** CAUTION

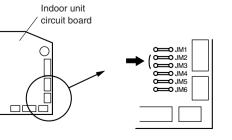
mote control unit holder. (2) Select the remote control unit holder selection site by

## 1. REMOTE CONTROL UNIT HOLDER INSTALLA-

• Install the remote control unit with a distance of 7 m between the remote control unit and the photocell as the criteria. However, when in-• Install the remote control unit holder to a wall, pillar, etc. with the tap-

## 2. SWITCHING REMOTE CONTROL UNIT SIGNAL

· Air conditioner settings

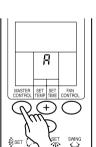


## Remote control unit settings

## (1) Press the START/STOP button and display only the clock.



(2) Press the MASTER CONTROL button continuously for more than five seconds to display the current signal code.



(3) Change the signal code with the +/- button (--) b



- (4) Press the MASTER CONTROL button again to return to the clock display and change the signal code.
- Confirm the setting of the remote control unit signal code and the printed circuit board settings. If these are not confirmed, the remote control unit cannot be used to operate for the air conditioner.

## Table 9

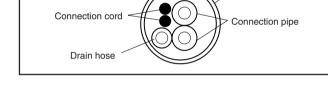
Jumpe	er wire	Remote control unit	
JM2 JM3		signal code	
Connect	Connect	A (Primary setting)	
Connect	Disconnect	В	
Disconnect	Connect	С	
Disconnect	Disconnect	D	

## **CUSTOMER GUIDANCE**

- Explain the following to the customer in accordance with the operating
- (1) Starting and stopping method, operation switching, temperature adjustment, timer, air flow switching, and other remote control unit op-

(2) Air filter removal and cleaning, and how to use the air louvers.

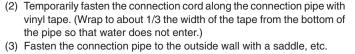
(3) Give the operating manual and installation instruction sheet to the (4) If the signal code is changed, explain to the customer how it changed (the system returns to signal code A when the batteries in the remote



(6) Perform wiring work in accordance with standards so

Install a leakage circuit breaker in accordance with the

## **⚠** CAUTION



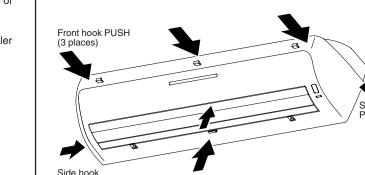
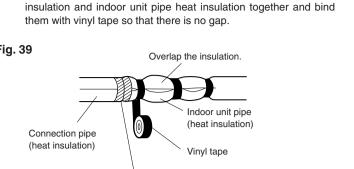


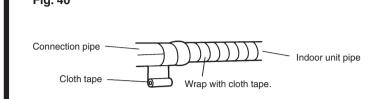
Fig. 46

## **⚠ WARNING**

## (1) The power source capacity must be the sum of the room

- pipe heat insulation and indoor unit pipe heat insulation and bind them with vinyl tape so that there is no gap.





• For ④ Left rear and ⑤ Left piping, bind the connection cord to the top of the pipe with vinyl tape.

