

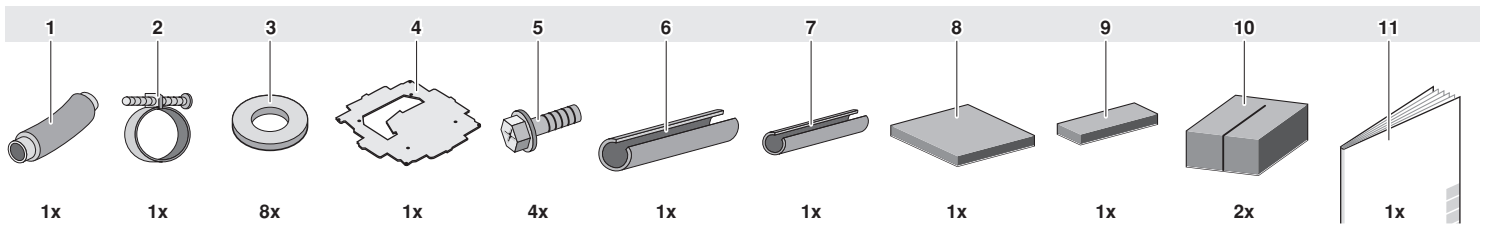
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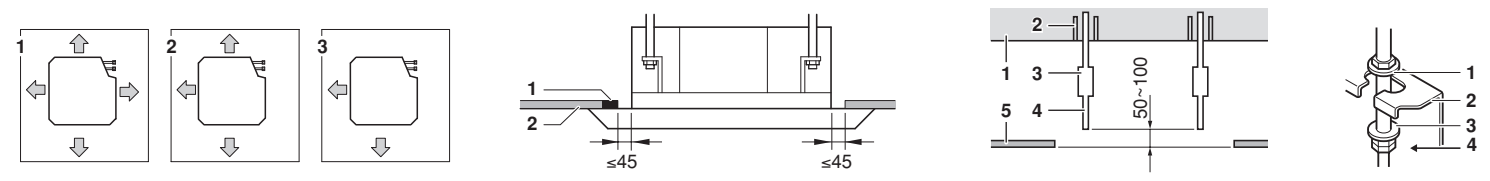
INSTALLATION AND OPERATION MANUAL

***VRV* System air conditioners**

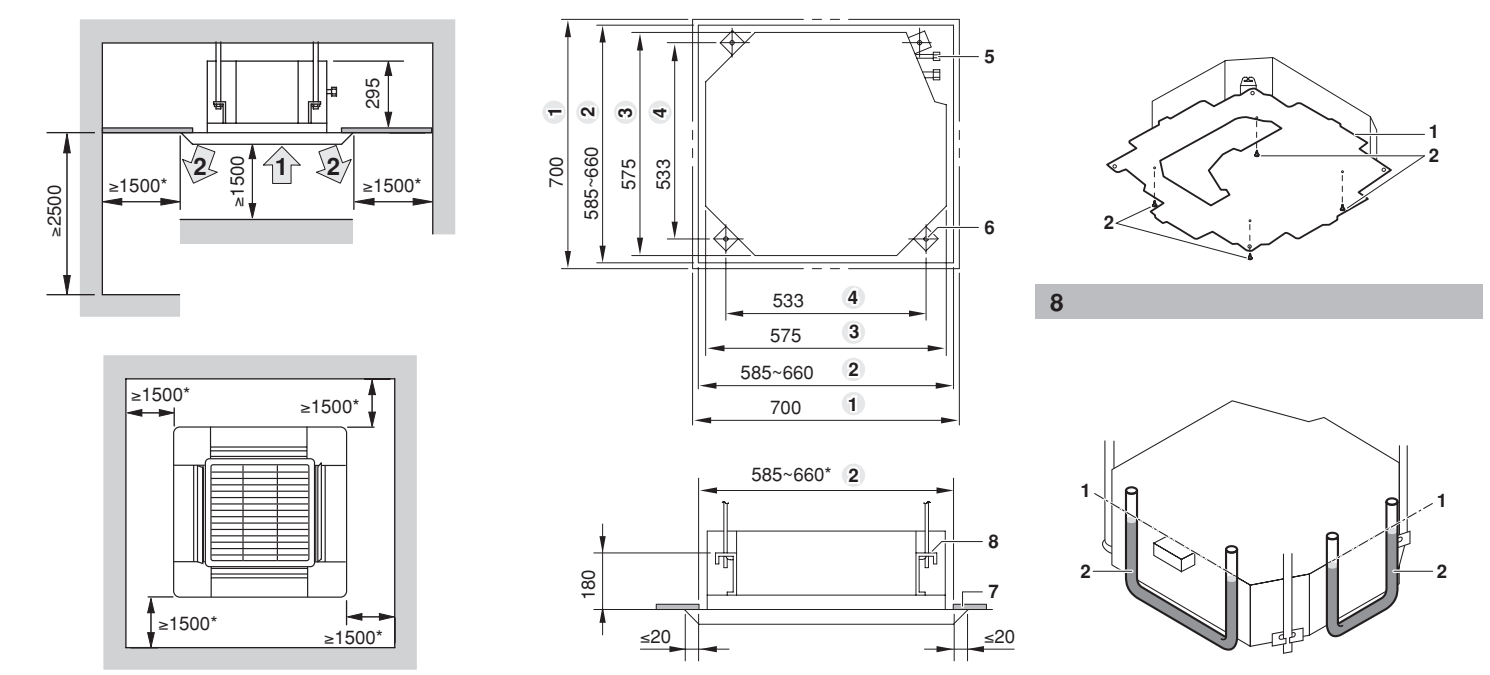
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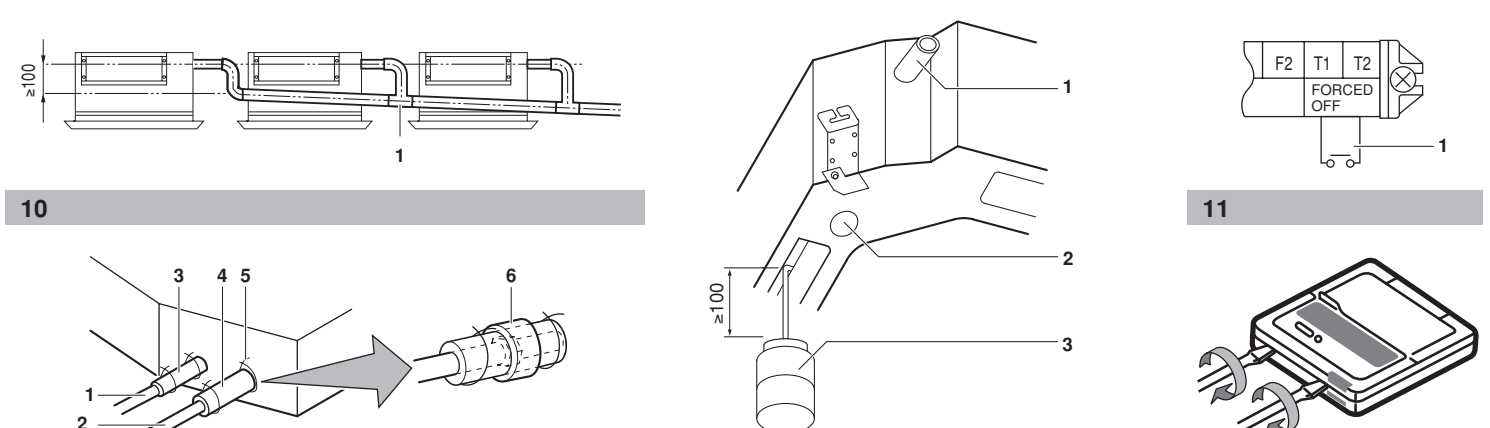
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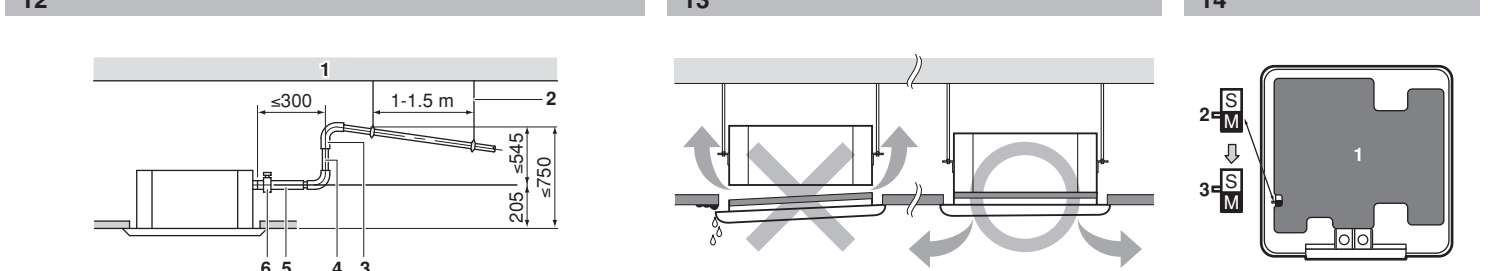
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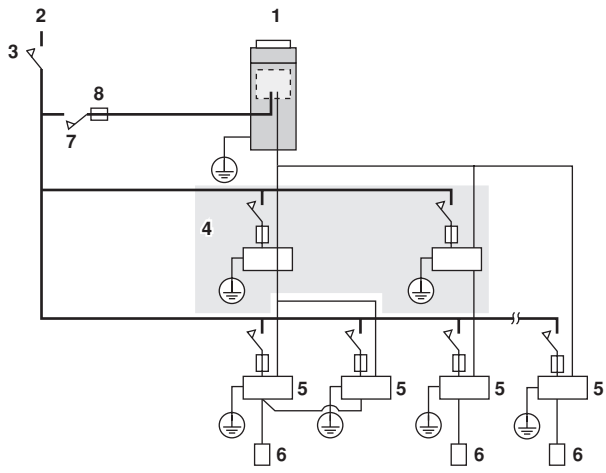


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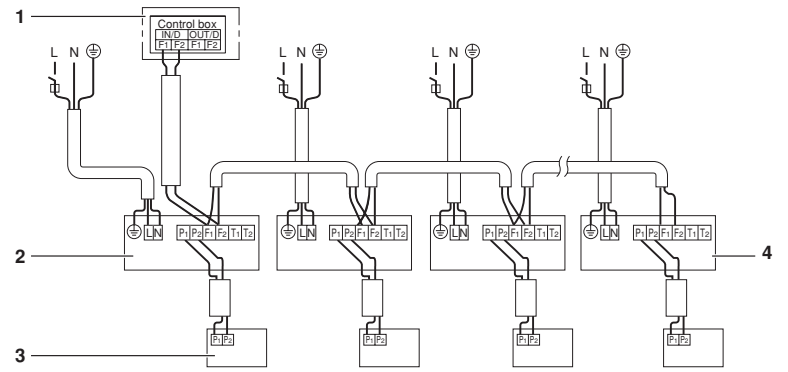


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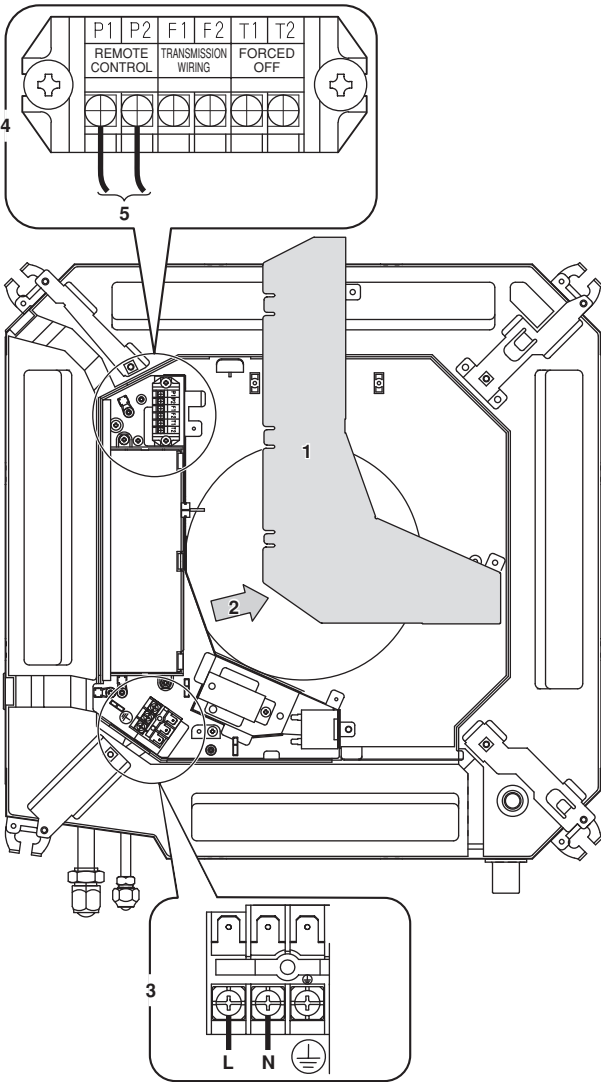




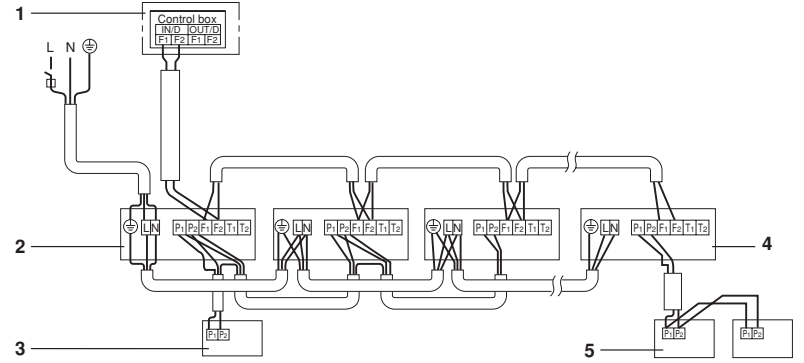
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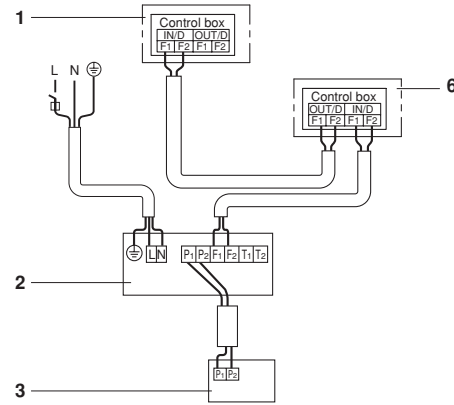
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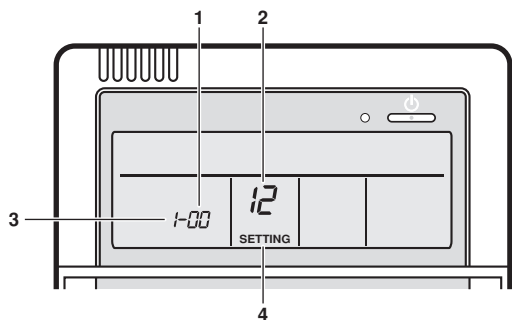
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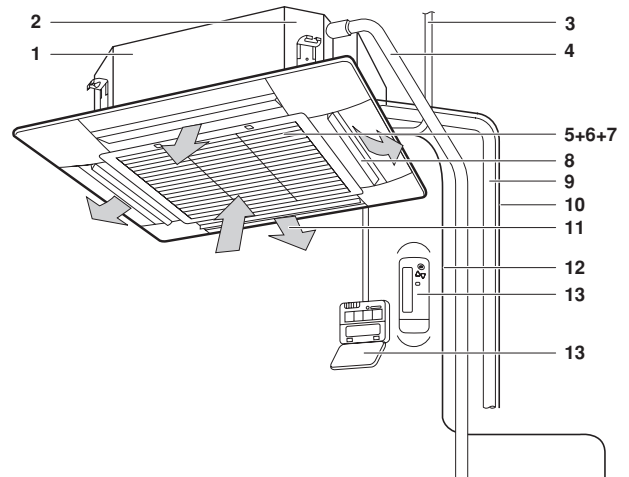
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READ THESE INSTRUCTIONS CAREFULLY BEFORE INSTALLATION. KEEP THIS MANUAL IN A HANDY PLACE FOR FUTURE REFERENCE.

IMPROPER INSTALLATION OR ATTACHMENT OF EQUIPMENT OR ACCESSORIES COULD RESULT IN ELECTRIC SHOCK, SHORT-CIRCUIT, LEAKS, FIRE OR OTHER DAMAGE TO THE EQUIPMENT. BE SURE ONLY TO USE ACCESSORIES MADE BY DAIKIN WHICH ARE SPECIFICALLY DESIGNED FOR USE WITH THE EQUIPMENT AND HAVE THEM INSTALLED BY A PROFESSIONAL.

IF UNSURE OF INSTALLATION PROCEDURES OR USE, ALWAYS CONTACT YOUR DAIKIN DEALER FOR ADVICE AND INFORMATION.

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

BEFORE INSTALLATION

- When moving the unit while removing it from the carton box, be sure to lift it by holding on to the four lifting lugs without exerting any pressure on other parts, especially on the swing flap, the refrigerant piping, drain piping, and other resin parts.
- Leave the unit inside its packaging until you reach the installation site. Where unpacking is unavoidable, use a sling of soft material or protective plates together with a rope when lifting, this to avoid damage or scratches to the unit.
- Especially, do not unfasten the packing case (top) guarding the switch box until suspending the unit.
- Refer to the installation manual of the outdoor unit for items not described in this manual.
- Caution concerning refrigerant series R410A:
The connectable outdoor units must be designed exclusively for R410A.
- Do not place objects in direct proximity of the outdoor unit and do not let leaves and other debris accumulate around the unit. Leaves are a hotbed for small animals which can enter the unit. Once in the unit, such animals can cause malfunctions, smoke or fire when making contact with electrical parts.

Precautions

- This appliance is not intended for use by persons, including children, with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety. Children should be supervised to ensure that they do not play with the appliance.
- Do not install or operate the unit in rooms mentioned below.
 - Places with mineral oil, or filled with oil vapour or spray like in kitchens. (Plastic parts may deteriorate.)
 - Where corrosive gas like sulphurous gas exists. (Copper tubing and brazed spots may corrode.)
 - Where volatile flammable gas like thinner or gasoline is used.
 - Where machines generating electromagnetic waves exist. (Control system may malfunction.)
 - Where the air contains high levels of salt such as air near the ocean and where voltage fluctuates a lot (e.g. in factories). Also in vehicles or vessels.
 - The equipment is not intended for use in a potentially explosive atmosphere.
- When selecting the installation site, use the supplied paper pattern for installation.
- Do not install accessories on the casing directly. Drilling holes in the casing may damage electrical wires and consequently cause fire.

Accessories

Check if the following accessories are included with your unit.

See figure 1

- | | |
|----|--|
| 1 | Drain hose |
| 2 | Metal clamp |
| 3 | Washer for hanger bracket |
| 4 | Paper pattern for installation |
| 5 | Screws (M5) for paper pattern for installation |
| 6 | Insulation for gas pipe fitting |
| 7 | Insulation for liquid pipe fitting |
| 8 | Large sealing pad |
| 9 | Small sealing pad |
| 10 | Sealing material |
| 11 | Installation and operation manual |

Optional accessories

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

For the following items, take special care during construction and check after installation is finished

Tick ✓ when checked	
<input type="checkbox"/>	Is the indoor unit fixed firmly? The unit may drop, vibrate or make noise.
<input type="checkbox"/>	Is the gas leak test finished? It may result in insufficient cooling.
<input type="checkbox"/>	Is the unit fully insulated? Condensate water may drip.
<input type="checkbox"/>	Does drainage flow smoothly? Condensate water may drip.
<input type="checkbox"/>	Does the power supply voltage correspond to that shown on the name plate? The unit may malfunction or components may burn out.
<input type="checkbox"/>	Are wiring and piping correct? The unit may malfunction or components may burn out.
<input type="checkbox"/>	Is the unit safely grounded? Dangerous at electric leakage.
<input type="checkbox"/>	Is the wiring size according to specifications? The unit may malfunction or components may burn out.
<input type="checkbox"/>	Is nothing blocking the air outlet or inlet of either the indoor or outdoor units? It may result in insufficient cooling.
<input type="checkbox"/>	Are refrigerant piping length and additional refrigerant charge noted down? The refrigerant charge in the system might not be clear.

Notes to the installer

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

IMPORTANT INFORMATION REGARDING THE REFRIGERANT USED

This product contains fluorinated greenhouse gases covered by the Kyoto Protocol.

Refrigerant type: R410A

GWP⁽¹⁾ value: 1975

⁽¹⁾ GWP = global warming potential

Periodical inspections for refrigerant leaks may be required depending on European or local legislation. Please contact your local dealer for more information.

SELECTING INSTALLATION SITE

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

For this unit you can select different air flow directions. It is necessary to purchase an optional blocking pad kit to discharge the air in 2 or 3 directions.

1 Select an installation site where the following conditions are fulfilled and that meets your customer's approval.

- Where optimum air distribution can be ensured.
- Where nothing blocks air passage.
- Where condensate water can be properly drained.
- Where the false ceiling is not noticeably on an incline.

- Where sufficient clearance for maintenance and service can be ensured.
- Where piping between indoor and outdoor units is possible within the allowable limit. (Refer to the installation manual of the outdoor unit.)
- This is a class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.
- Keep indoor unit, outdoor unit, power supply wiring and transmission wiring at least 1 meter away from televisions and radios. This is to prevent image interference and noise in those electrical appliances.
(Noise may be generated depending on the conditions under which the electric wave is generated, even if 1 meter is kept.)

2 Ceiling height

Install this unit where the height of bottom panel is more than 2.5 m so that the user cannot easily touch.

3 Air flow directions

Select the air flow directions best suited to the room and point of installation. (For air discharge in 2 or 3 directions, it is necessary to make field settings by means of the remote controller and to close the air outlet(s). Refer to the installation manual of the optional blocking pad kit and to the chapter "Field setting" on page 7.) (See figure 2 (⇧ = air flow direction))

- 1 Air discharge in 4 directions
- 2 Air discharge in 3 directions
- 3 Air discharge in 2 directions

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

(The installation pitch is marked on the paper pattern for installation. Refer to it to check for points requiring reinforcing.) Space required for installation see figure 6 (⇧ = air flow direction)

- 1 Air inlet
- 2 Air outlet

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



PREPARATIONS BEFORE INSTALLATION

1. Relation of ceiling opening to unit and suspension bolt position. (See figure 7)

- 1 Decoration panel dimensions
- 2 Ceiling opening dimensions
- 3 Indoor unit dimensions
- 4 Suspension bolt pitch dimensions
- 5 Refrigerant piping
- 6 Suspension bolt (x4)
- 7 False ceiling
- 8 Hanger bracket

NOTE



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

(See figure 3)

- 1 Sealing material
- 2 False ceiling

2. Make the ceiling opening needed for installation where applicable. (For existing ceilings.)

- Refer to the paper pattern for installation for the ceiling opening dimensions.
- Create the ceiling opening required for installation. From the side of the opening to the casing outlet, implement the refrigerant and drain piping and wiring for remote controller (unnecessary for wireless type) and indoor-outdoor unit wiring. Refer to each piping or wiring section.
- After making an opening in the ceiling, it may be necessary to reinforce ceiling beams to keep the ceiling level and to prevent it from vibrating. Consult the builder for details.

3. Install the suspension bolts. (use either a M8 or M10 size bolt.)

Use anchors for existing ceilings, and a sunken insert, sunken anchors or other field supplied parts for new ceilings to reinforce the ceiling in order to bear the weight of the unit. Adjust clearance from the ceiling before proceeding further.

Installation example see [figure 4](#).

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

NOTE All the above parts are field supplied.



For other installation than standard installation, contact your Daikin dealer for details.

INDOOR UNIT INSTALLATION

When installing optional accessories, read also the installation manual of the optional accessories. Depending on the field conditions, it may be easier to install optional accessories before the indoor unit is installed (except for the decoration panel). However, for existing ceilings, install fresh air inlet component kit and branch duct before installing the unit.

1. Install the indoor unit temporarily.

- Attach the hanger bracket to the suspension bolt. Be sure to fix it securely by using a nut and washer from the upper and lower sides of the hanger bracket.

Securing the hanger bracket see [figure 5](#).

- 1 Nut (field supply)
- 2 Hanger bracket
- 3 Washer (supplied with the unit)
- 4 Tighten with double nuts (field supply)

2. Fix the paper pattern for installation. (For new ceilings only.)

- The paper pattern for installation corresponds with the measurements of the ceiling opening. Consult the builder for details.
- The centre of the ceiling opening is indicated on the paper pattern for installation. The centre of the unit is indicated on the paper pattern for installation.
- After removing the packaging material from the paper pattern for installation, attach the paper pattern for installation to the unit with the supplied screws as shown in [figure 8](#).

- 1 Paper pattern for installation (supplied with the unit)
- 2 Screws (supplied with the unit)

3. Adjust the unit to the right position for installation.

(Refer to the chapter "Preparations before installation" on [page 2](#).)

4. Check if the unit is horizontally levelled.

- Do not install the unit tilted. The indoor unit is equipped with a built-in drain pump and float switch. (If the unit is tilted against condensate flow, the float switch may malfunction and cause water to drip.)
- Check if the unit is levelled at all four corners with a water level or a water-filled vinyl tube as shown in [figure 9](#).

- 1 Water level
- 2 Vinyl tube

5. Remove the paper pattern for installation. (For new ceilings only.)

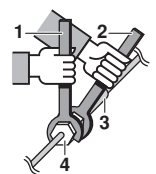
REFRIGERANT PIPING WORK



All field piping must be provided by a licensed refrigeration technician and must comply with the relevant local and national codes.

- For refrigerant piping of outdoor unit, refer to the installation manual supplied with the outdoor unit.
- Execute heat insulation work completely on both sides of the gas piping and the liquid piping. Otherwise, this can sometimes result in water leakage. (When using a heat pump, the temperature of the gas piping can reach up to approximately 120°C. Use insulation which is sufficiently resistant.)
- Also, in cases where the temperature and humidity of the refrigerant piping sections might exceed 30°C or RH 80%, reinforce the refrigerant insulation (20 mm or thicker). Condensation may form on the surface of the insulating material.
- Before rigging tubes, check which type of refrigerant is used.
- Use a pipe cutter and flare suitable for the used refrigerant.
- Apply ether oil or ester oil around the flare portions before connecting.
- To prevent dust, moisture or other foreign matter from infiltrating the tube, either pinch the end, or cover it with tape.
- Use copper alloy seamless pipes (ISO 1337).
- The outdoor unit is charged with refrigerant.
- Be sure to use both a spanner and torque wrench together when connecting or disconnecting pipes to/from the unit.

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



- Do not mix anything other than the specified refrigerant, such as air, etc., inside the refrigerant circuit.
- Refer to the table below for the dimensions of flare nuts and the appropriate tightening torque. (Overtightening may damage the flare and cause leaks.)

Pipe gauge	Tightening torque	Flare dimension A (mm)	Flare shape
Ø6.4	14.2~17.2 N•m (144~176 kgf•cm)	8.7~9.1	
Ø12.7	49.5~60.3 N•m (504~616 kgf•cm)	16.2~16.6	

NOTE **Not recommended but in case of emergency.**



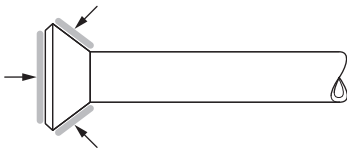
You must use a torque wrench but if you are obliged to install the unit without a torque wrench, you may follow the installation method mentioned below.

After the work is finished, make sure to check that there is no gas leak.

When you keep on tightening the flare nut with a spanner, there is a point where the tightening torque suddenly increases. From that position, further tighten the flare nut within the angle shown below:

Pipe size	Further tightening angle	Recommended arm length of tool
Ø6.4 (1/4")	60~90°	±150 mm
Ø12.7 (1/2")	30~60°	±250 mm

- When connecting the flare nut, coat the flare both inside and outside with refrigerating ether or ester oil and initially tighten by hand 3 or 4 turns before tightening firmly. Coat here with ether oil or ester oil



- Check the pipe connector for gas leaks, then insulate it as shown in figure 12.

- Liquid pipe
- Gas pipe
- Insulation for fitting of liquid line (supplied with the unit)
- Insulation for fitting of gas line (supplied with the unit)
- Clamps (use 2 clamps per insulation)
- Small sealing pad (supplied with the unit)

- Wrap the sealing pad only around the insulation for the joints on the gas piping side.

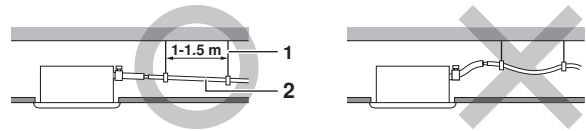


Be sure to insulate any field piping all the way to the piping connection inside the unit. Any exposed piping may cause condensation or burns if touched.

- If the refrigerant gas leaks during the work, ventilate the area. A toxic gas is emitted by the refrigerant gas being exposed to a fire.
- Finally make sure there is no refrigerant gas leak. A toxic gas may be released by the refrigerant gas leaking indoor and being exposed to flames from an area heater, cooking stove, etc.

DRAIN PIPING WORK

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

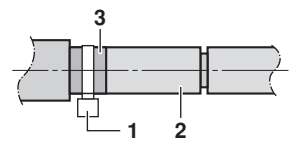


- Hanging bar
- ≥1/100 gradient

1. Install the drain pipes.

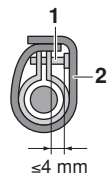
- Keep piping as short as possible and slope it downwards so that air may not remain trapped inside the pipe.
- Keep pipe size equal to or greater than that of the connecting pipe (PVC pipe, nominal diameter 20 mm, outside diameter 26 mm).
- Insert the drain hose into the drain socket up to the base, and tighten the clamp securely within the portion of a grey tape.
- Tighten the clamp until the screw head is less than 4 mm from the hose.

- Metal clamp (supplied with the unit)
- Drain hose (supplied with the unit)
- Grey tape (field supply)



- Insulate the drain hose inside the building.
- If the drain hose cannot be sufficiently set on a slope, fit the hose with drain raising piping (field supply).
- Make sure that heat insulation work is executed on the following 2 spots to prevent any possible water leakage due to dew condensation.
 - Indoor drain pipe
 - Drain socket
- Wrap the supplied sealing pad over the clamp and drain hose to insulate.

- Metal clamp (supplied with the unit)
- Large sealing pad (supplied with the unit)



How to perform piping (See figure 15)

- Ceiling slab
- Hanger bracket
- Drain raising pipe
- Raising section
- Drain hose (supplied with the unit)
- Metal clamp (supplied with the unit)

Precautions

- Install the drain raising pipes at a height of less than 545 mm.
- Install the drain raising pipes at a right angle to the indoor unit and no more than 300 mm from the unit.

NOTE



- The incline of attached drain hose should be 75 mm or less so that the drain socket does not have to stand additional force.
- To ensure a downward slope of 1:100, install hanging bars every 1 to 1.5 m.
- If unifying multiple drain pipes, install the pipes as shown in figure 10. Select converging drain pipes whose gauge is suitable for the operating capacity of the unit.

- T-joint converging drain pipes

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

- Open the water inlet lid, add approximately 2 l of water gradually and check the drainage flow.

Method of adding water. See [figure 13](#).

- 1 Drain pipe
- 2 Service drain outlet with rubber plug. Use this outlet to drain water from the drain pan.
- 3 Plastic container for pouring



- Drain piping connections
Do not connect the drain piping directly to sewage pipes that smell of ammonia. The ammonia in the sewage might enter the indoor unit through the drain pipes and corrode the heat exchanger.
- Keep in mind that it will become the cause of getting drain pipe blocked if water collects on drain pipe.

When electric wiring work is finished






Check drainage flow during COOL running, explained in the chapter "Test operation" on [page 8](#).

When electric wiring work is not finished

- Remove the switch box lid and connect the power supply and remote controller to the terminals.

See [figure 22](#).

- 1 Switch box lid
- 2 Remove the switch box lid (take off 2 screws)
- 3 Power supply terminal block
- 4 Remote controller terminal block
- 5 Remote controller wiring

- Next, press the inspection/test operation button  on the remote controller. The unit will engage the test operation mode. Press the operation mode selector button  until selecting fan operation . Then, press the on/off button . The indoor unit fan and drain pump will start up. Check that the water has drained from the unit. Press  to go back to the first mode.

- Note that the fan also starts rotating.
- Attach the switch box lid as before.

ELECTRIC WIRING WORK

General instructions

- All field supplied parts and materials and electric works must conform to local codes.
- Use copper wire only.
- Follow the "Wiring diagram" attached to the unit body to wire the outdoor unit, indoor units and the remote controller. For details on hooking up the remote controller, refer to the "Installation manual of the remote controller".
- All wiring must be performed by an authorized electrician.
- A circuit breaker capable of shutting down power supply to the entire system must be installed.
Note that the operation will restart automatically if the main power supply is turned off and then turned back on again.

- This system consists of multiple indoor units. Mark each indoor unit as unit A, unit B..., and be sure the terminal board wiring to the outdoor unit and BS unit are properly matched. If wiring and piping between the outdoor unit and an indoor unit are mismatched, the system may cause a malfunction.
- Refer to the installation manual attached to the outdoor unit for the size of power supply electric wire connected to the outdoor unit, the capacity of the circuit breaker and switch, and wiring instructions.
- Be sure to ground the air conditioner.
- Do not connect the ground wire to gas pipes, water pipes, lightning rods, or telephone ground wires.
 - Gas pipes: might cause explosions or fire if gas leaks.
 - Water pipes: no grounding effect if hard vinyl piping is used.
 - Telephone ground wires or lightning rods: might cause abnormally high electric potential in the ground during lightning storms.

Electrical characteristics

Model	Units			Power supply		Fan motor	
	Hz	Volts	Voltage range	MCA	MFA	kW	FLA
FXZQ15	50	220-240	≤264 ≥198	0.8	15	0.055	0.6
FXZQ20				0.8	15	0.055	0.6
FXZQ25				0.8	15	0.055	0.6
FXZQ32				0.8	15	0.055	0.6
FXZQ40				0.8	15	0.055	0.6
FXZQ50				0.9	15	0.055	0.7

MCA: Min. circuit Amps (A)

MFA: Max. Fuse Amps (A)

kW: Fan Motor Rated Output (kW)

FLA: Full Load Amps (A)

NOTE For details, refer to "Electrical data".



Specifications for field supplied fuses and wire

Model	Power supply wiring			Remote controller wiring and Transmission wiring	
	Field fuses	Wire	Size, length	Wire	Size
FXZQ15	16 A	H05VV-U3G	Wire size and length must comply with local codes.	Sheathed wire (2 wire)	0.75~1.25 mm ²
FXZQ20					
FXZQ25					
FXZQ32					
FXZQ40					
FXZQ50					

NOTE



- For details, refer to the chapter "Wiring example" on [page 7](#).
- Allowable length of transmission wiring between indoor and outdoor units, and between the indoor unit and the remote controller is as follows:
 - Outdoor unit - indoor unit: ≤1000 m (total wiring length: 2000 m)
 - Indoor unit - remote controller: ≤500 m

WIRING EXAMPLE AND HOW TO SET THE REMOTE CONTROLLER

How to connect wiring (See figure 25)

- Power supply wiring and ground wire
Remove the switch box lid and connect wires of matching number to the power supply terminal block (3P) inside. (See E). And connect the ground wire to the terminal block. In doing this, pull the wires inside through the hole and fix the wires securely with a field supplied clamp. (See B).
Give enough slack to the wires between the clamp and power supply terminal block.
- Transmission wiring and remote controller wiring.
Remove the switch box lid and pull the wires inside through the hole and connect to the terminal block for remote controller (6P). (See C and A). (No polarity) Securely fix the remote controller cord with a field supplied clamp.
Give enough slack to the wires between the clamp and the terminal block for the remote controller.
- After connection, attach sealing material. (See D).
- Be sure to attach it to prevent the infiltration of water from the outside. (See D).

- A Remote controller and transmission wiring
- B Power supply wiring
- C How to connect power supply terminal block (6P) for remote controller and transmission wiring
- D Be sure to attach delivered sealing material to prevent the infiltration of water as well as any insects and other small creatures from the outside. Otherwise a short-circuit may occur inside the switch box.
- E How to connect terminal block with ground wire (3P)
 - 1 Switch box lid
 - 2 Wiring diagram label (on the backside of the switch box lid)
 - 3 Remote controller wiring
 - 4 Transmission wiring
 - 5 Terminal block for remote controller (6P)
 - 6 Power supply wiring
 - 7 Power supply terminal block
 - 8 Clamp (field supply)
 - 9 Clamp (field supply)
 - 10 Clamp material
 - 11 Sealing material (supplied with the unit)
 - 12 Wiring to outside
 - 13 Outside
 - 14 Inside
 - 15 Be sure to clamp the wire sheath.
After securing the clamp to the clamp material, cut off any extra material.

Precautions

- 1 Observe the notes mentioned below when wiring to the power supply board.
 - Do not connect wires of different gauge to the same power supply terminal. (Looseness in the connection may cause overheating.)
 - When connecting wires of the same gauge, connect them according to the figure.



Use the specified electric wire. Connect the wire securely to the terminal. Lock the wire down without applying excessive force to the terminal. (tightening torque 1.31 N•m±10%)

- 2 Keep total current of crossover wiring between indoor units less than 12 A. Branch the line outside the terminal board of the unit in accordance with electrical equipment standards, when using two power wiring of a gauge greater than 2 mm² (Ø1.6).
The branch must be sheathed in order to provide an equal or greater degree of insulation as power supply wiring itself.
- 3 Do not connect wires of different gauge to the same grounding terminal. Looseness in the connection may deteriorate the protection.
- 4 Remote controller cords and wires connecting the units should be located at least 50 mm away from power supply wiring. Not following this guideline may result in malfunction due to electrical noise.
- 5 For the remote controller wiring, refer to the "Installation manual of the remote controller" supplied with the remote controller.
- 6 Never connect the power supply wiring to the terminal board for transmission wiring. This mistake could damage the entire system.
- 7 Use only specified wires and tightly connect wires to the terminals. Be careful that wires do not place external stress on the terminals. Keep wiring in neat order so that they do not obstruct other equipment such as popping open the service cover. Make sure the cover closes tight. Incomplete connections could result in overheating, and in the worse case, electric shock or fire.

WIRING EXAMPLE

- Fit the power supply wiring of each unit with a switch and fuse as shown in figure 18.

- 1 Outdoor unit
 - 2 Power supply
 - 3 Main switch
 - 4 BS unit (only for heat recovery system)
 - 5 Indoor unit
 - 6 Remote controller
 - 7 Switch
 - 8 Fuse
- Power supply wiring
 Transmission and remote controller wiring

Complete system example (3 systems)

- See figures 19, 20 and 21.

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

When using 1 remote controller for 1 indoor unit. (Normal operation.) (See figure 19).

For group control or use with 2 remote controllers (See figure 20).

When including BS unit (See figure 21).

NOTE



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

Precautions

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

FIELD SETTING

Field setting must be made on the remote controller in function of the installation condition.

- Setting can be made by changing the "Mode number", "First code No." and "Second code No."
- For setting and operation, refer to the "Field settings" in the installation manual of the remote controller.

Summary of field settings

Mode No. (Note 1)	First code No.	Description of setting	Second code No. (Note 2)			
			01	02	03	04
10 (20)	0	Filter contamination - Heavy/Light = Setting to define time between 2 filter cleaning display indications. (When contamination is high, setting can be changed to half the time inbetween 2 filter cleaning display indications.)	Ultra-long-life filter ±10,000 hrs.	±5,000 hrs.	—	—
			Light ±2,500 hrs.	Heavy ±1,250 hrs.	—	—
			Long-life filter	—	—	—
			Standard filter	±200 hrs.	±100 hrs.	—
	1	Long-life filter type Change the setting when ultra-long-life filter is installed. This setting is important for time between 2 filter cleaning display indications (refer to 10-0-0X).	Long-life filter	Ultra-long-life filter	—	—
	2	Thermostat sensor selection	Use both the unit sensor (or remote sensor if installed) AND the remote controller sensor. (See note 5+6)	Use unit sensor only (or remote sensor if installed). (See note 5+6)	Use remote controller sensor only. (See note 5+6)	—
3	Setting for display of time between 2 filter cleaning display indications	Display	Do not display	—	—	
5	Information to I-manager, I-touch controller	Only unit sensor value (or remote sensor value if installed).	Sensor value as set by 10-2-0X or 10-6-0X.	—	—	
6	Thermostat sensor in group control	Use unit sensor only (or remote sensor if installed). (See note 6)	Use both the unit sensor (or remote sensor if installed) AND the remote controller sensor. (See note 4+5+6)	—	—	
12 (22)	0	Output signal X1-X2 of the optional KRP1B PCB kit	Thermostat-on+ compressor run	—	Operation	Mal-function
	1	ON/OFF input from outside (T1/T2 input) = Setting when forced ON/OFF is to be operated from outside.	Forced OFF	ON/OFF operation	—	—
	2	Thermostat differential changeover = Setting when remote sensor is used.	1°C	0.5°C	—	—
	3	Fan setting during thermostat OFF at heating operation	LL	Set speed	OFF (See note 3)	—
	4	Differential automatic changeover	0°C	1°C	2°C	3°C (See note 7)
	5	Auto-restart after power failure	Disabled	Enabled	—	—
9	Fixed cool/heat master	Disabled	Enabled	—	—	
13 (23)	0	Setting for air outlet velocity This setting is to be changed in function of ceiling height.	≤2.7 m	>2.7 ≤3.0 m	>3.0 ≤3.5 m	—
	1	Selection for air flow direction This setting is to be changed when blocking pad optional kit is used.	4-way flow	3-way flow	2-way flow	—
	4	Airflow direction range setting This setting is to be changed when range of swing flap movement needs to be changed.	Upper	Normal	Lower	—
	5	Setting for adjustment of fan speed (phase control)	Standard	Option 1	Option 2	—
15 (25)	3	Drain pump operation + humidifier interlock	Equipped	Not equipped	—	—

Note 1 : Setting is carried out in the group mode, however, if the mode number inside parentheses is selected, indoor units can also be set individually.

Note 2 : Factory settings of the Second code No. are marked in grey backgrounds.

Note 3 : Only use in combination with optional remote sensor or when setting 10-2-03 is used.

Note 4 : If group control is selected and remote sensor is to be used, then set 10-6-02 & 10-2-03.

Note 5 : If setting 10-6-02 + 10-2-01 or 10-2-02 or 10-2-03 are set at the same time, then setting 10-2-01, 10-2-02 or 10-2-03 have priority.

Note 6 : If setting 10-6-01 + 10-2-01 or 10-2-02 or 10-2-03 are set at the same time, then setting for group connection, 10-6-01 has priority and for individual connection, 10-2-01, 10-2-02 or 10-2-03 have priority.

Note 7 : More settings for Differential automatic change over temperatures are:

05	4°C
06	5°C
07	6°C
08	7°C

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

Control by 2 Remote Controllers (Controlling 1 indoor unit by 2 remote controllers)

When using 2 remote controllers, one must be set to "MAIN" and the other to "SUB".

Main/Sub changeover

- Insert a wedge-head screwdriver into the recess between the upper and lower part of the remote controller and, working from the 2 positions, pry off the upper part. (See figure 14) (The remote controller PC board is attached to the upper part of the remote controller.)
- Turn the main/sub changeover switch on one of the two remote controller PC boards to "S". (See figure 17) (Leave the switch of the other remote controller set to "M".)
 - Remote controller PC board
 - Factory setting
 - Only one remote controller needs to be changed

Computerised control (forced off and on/off operation)

- Wire specifications and how to perform wiring.
 - Connect input from outside to terminals T1 and T2 of the terminal board (remote controller to transmission wiring).

Wire specification	Sheathed vinyl cord or cable (2 wire)
Gauge	0.75~1.25 mm ²
Length	≤100 m
External terminal	Contact that can ensure the minimum applicable load of 15 V DC, 10 mA

See figure 11

- Input A
- Actuation
 - The following table explains "forced off" and "on/off operations" in response to input A.

Forced off	on/off operation
Input "on" stops operation	input off → on: turns on the unit (impossible by remote controllers)
Input "off" enables control	input on → off: turns off the unit (by remote controller)

- How to select forced off and on/off operation
 - Turn the power on and then use the remote controller to select operation.
 - Set the remote controller to the field set mode. For details, refer to the chapter "How to set in the field", in the manual of the remote controller.
 - When in the field set mode, select mode No. 12, then set the first code (switch) No. to "1". Then set second code (position) No. to "01" for forced off and to "02" for on/off operation. (forced off at factory set.) (See figure 23)
 - Second code No.
 - Mode No.
 - First code No.
 - Field set mode

Centralized control

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

INSTALLATION OF THE DECORATION PANEL

Read the chapter "Test operation" on page 8 before making a test run without attaching the decoration panel.

Refer to the installation manual delivered with the decoration panel.

After installing the decoration panel, ensure that there is no space between the unit body and decoration panel. Otherwise air may leak through the gap and cause dewdrop. (See figure 16)

TEST OPERATION

Refer to the installation manual of the outdoor unit.

- The operation lamp of the remote controller will blink when an error occurs. Check the error code on the liquid crystal display to identify the trouble. An explanation of error codes and the corresponding trouble are provided on "Caution for servicing" of the outdoor unit.

If any of the items in the table below are displayed, there may be a problem with the wiring or power, so check the wiring again.

Remote control display	Content
"Concentrated Management" is lit up	<ul style="list-style-type: none"> There is a short circuit at the FORCED OFF terminals (T1, T2)
"L4" is lit up "LH" is lit up	<ul style="list-style-type: none"> The power on the outdoor unit is OFF. The outdoor unit has not been wired for power supply. Incorrect wiring for the transmission wiring and/or FORCED OFF wiring.
No display	<ul style="list-style-type: none"> The power on the indoor unit is OFF. The indoor unit has not been wired for power supply. Incorrect wiring for the remote controller wiring, the transmission wiring and/or the FORCED OFF wiring.

MAINTENANCE


IMPORTANT

- ONLY A QUALIFIED SERVICE PERSON IS ALLOWED TO PERFORM MAINTENANCE.
- BEFORE OBTAINING ACCESS TO TERMINAL DEVICES, ALL POWER SUPPLY CIRCUITS MUST BE INTERRUPTED.
- DO NOT USE WATER OR AIR OF 50°C OR HIGHER FOR CLEANING AIR FILTERS AND OUTSIDE PANELS.
- WHEN CLEANING THE HEAT EXCHANGER, BE SURE TO REMOVE THE SWITCHBOX, FAN MOTOR AND DRAIN PUMP. WATER OR DETERGENT MAY DETERIORATE THE INSULATION OF ELECTRIC COMPONENTS AND RESULT IN BURN-OUT OF THESE COMPONENTS.

See [figure 24](#)

- 1 Indoor unit
- 2 Drain pumping out device (built-in)
Drain water removed from the room during cooling.
- 3 Power supply wiring
- 4 Drain pipe
- 5 Suction grille
- 6 Air filter (inside suction grille)
- 7 Model name label (inside suction grille)
- 8 Air flow flap (at air outlet)
- 9 Refrigerant pipe
- 10 Transmission wiring
- 11 Air outlet
- 12 Grounding wire
Conducts electricity from the unit into the ground to prevent electric shock.
- 13 Remote controller

How to clean the air filter

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

Increase the frequency of cleaning if the unit is installed in a room where the air is extremely contaminated.

(As a yardstick for yourself, consider cleaning the filter once a half year.)

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


1. Open the suction grill.
Push both knobs simultaneously and carefully lower the grille. (Identical procedure for closing.) (See [figure 26](#))
2. Remove the air filters.
Pull the hook of the air filter out diagonally downward and remove the filter. (See [figure 27](#))
3. Clean the air filter.
Use a vacuum cleaner or wash the air filter with water.
When the air filter is very dirty, use a soft brush and neutral detergent.



Remove water and dry in the shade.


4. Fix the air filter.
Attach the air filter to the suction grill by hanging it to the projected portion above the suction grill.
Press the bottom of the air filter against the projections on the bottom of the grille to snap the air filter into its place. (See [figure 28](#))
5. Shut the air inlet grill.
Refer to item No. 1.

6. After turning power on, press the FILTER SIGN RESET button. The "TIME TO CLEAN AIR FILTER" display disappears. (For details, refer to the operation manual of the outdoor unit.)

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

How to clean the air outlet and outside panels

- Clean with a soft cloth.
- When it is difficult to remove stains, use water or neutral detergent.
- When the blade is extremely contaminated, remove it as below and clean it.


NOTE 

- Do not use gasoline, benzene, thinner, polishing powder nor liquid insecticide. It may cause discolouring or warping.
- Do not let the indoor unit get wet. It may cause electric shock or fire.

How to clean the suction grill

1. Open the suction grill.
Push both knobs simultaneously and carefully lower the grille. (Identical procedure for closing.) (See [figure 26](#))
2. Detach the suction grill.
Open the suction grill 45 degrees and lift it upward. (See [figure 29](#))
3. Detach the air filter.
See the figure in item No. 2 in chapter "How to clean the air filter" on page 9.
4. Clean the suction grill.
Wash it with a soft brush and neutral detergent, and dry thoroughly.



NOTE  When the suction grill is very dirty, use a typical kitchen cleaner and let it sit for about 10 minutes. Then, wash it with water.

5. Fix the air filter.
See the figure in item No. 4 in chapter "How to clean the air filter" on page 9.
6. Re-attach the suction grill.
See item No. 2.
7. Close the suction grill.
See item No. 1.

DISPOSAL REQUIREMENTS

Dismantling of the unit, treatment of the refrigerant, of oil and of other parts must be done in accordance with relevant local and national legislation.

WIRING DIAGRAM

	: FIELD WIRING	BLK	: BLACK	PNK	: PINK
	: TERMINAL	BLU	: BLUE	RED	: RED
	: CONNECTOR	GRN	: GREEN	WHT	: WHITE
		ORG	: ORANGE	YLW	: YELLOW

- A1PPRINTED CIRCUIT BOARD
- C1.....CAPACITOR (FAN MOTOR)
- F1UFUSE (250 V/5 A)
- F2UFIELD FUSE
- HAP.....LIGHT EMITTING DIODE (SERVICE MONITOR - GREEN)
- KPR.....MAGNETIC RELAY (DRAIN PUMP)
- M1F.....MOTOR (INDOOR FAN)
- M1P.....MOTOR (DRAIN PUMP)
- M1S.....MOTOR (SWING FLAP)
- Q1DI.....FIELD EARTH LEAK DETECTOR
- Q1MTHERMO SWITCH (M1F EMBEDDED)
- R1TTHERMISTOR (AIR)
- R2T,R3TTHERMISTOR (COIL)
- S1L.....FLOAT SWITCH
- T1RTRANSFORMER (220-240 V/22 V)
- V1TR.....PHASE CONTROL CIRCUIT
- X1M,X2MTERMINAL STRIP
- Y1EELECTRONIC EXPANSION CIRCUIT

WIRED REMOTE CONTROLLER

- R1TTHERMISTOR (AIR)
- SS1SELECTOR SWITCH (MAIN/SUB)

RECEIVER/DISPLAY UNIT (ATTACHED TO WIRELESS REMOTE CONTROLLER)

- A3P,A4PPRINTED CIRCUIT BOARD
- BS1ON/OFF BUTTON
- H1PLIGHT EMITTING DIODE (SERVICE MONITOR - RED)
- H2PLIGHT EMITTING DIODE (SERVICE MONITOR - GREEN)
- H3PLIGHT EMITTING DIODE (SERVICE MONITOR - RED)
- H4PLIGHT EMITTING DIODE (SERVICE MONITOR - ORANGE)
- SS1SELECTOR SWITCH (MAIN/SUB)
- SS2SELECTOR SWITCH (WIRELESS ADDRESS SET)

CONNECTOR FOR OPTIONAL PARTS

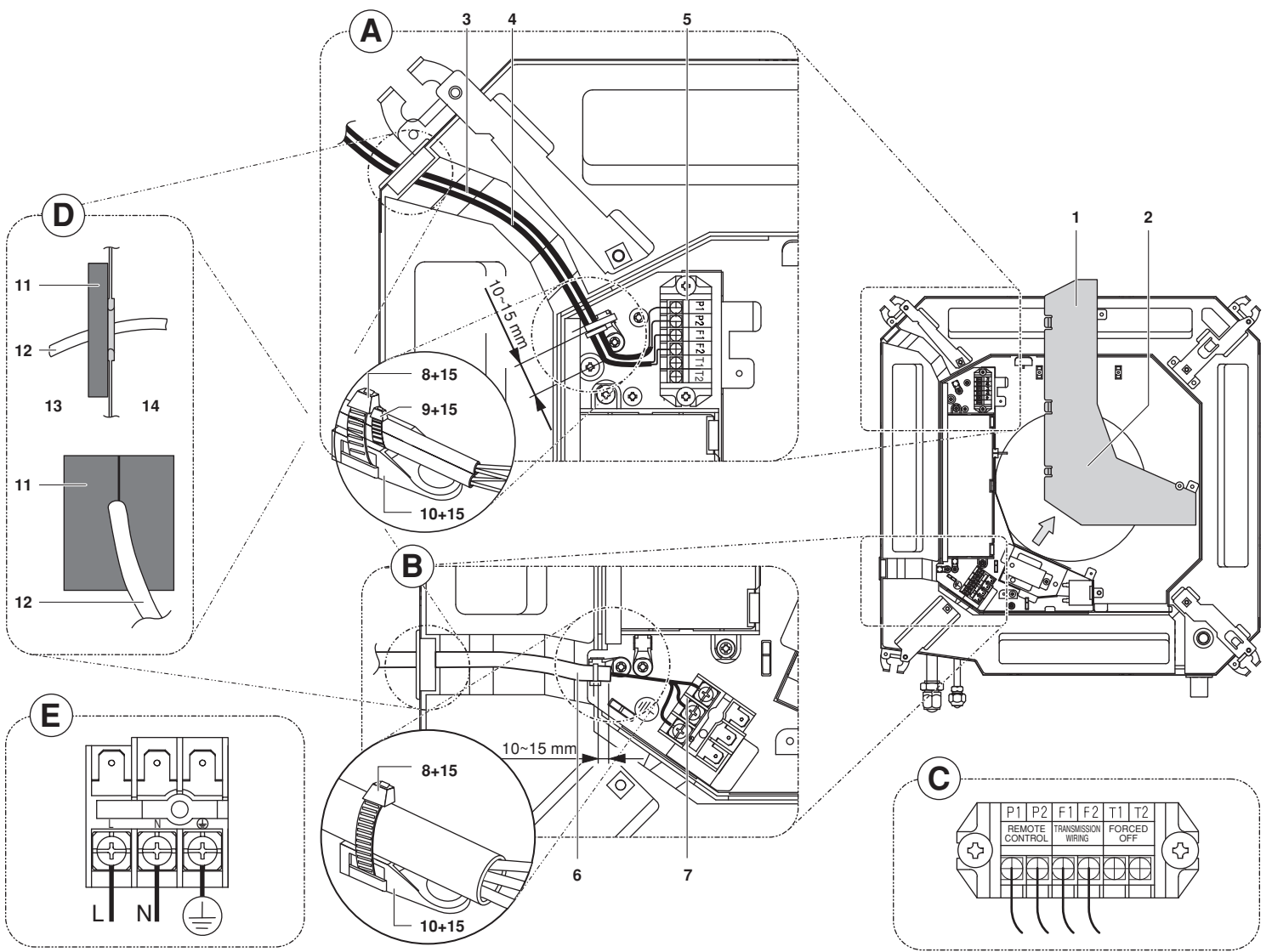
- X16ACONNECTOR (ADAPTOR FOR WIRING)
- X18ACONNECTOR (ADAPTOR FOR ELECTRICAL APPENDICES)

RECEIVER/DISPLAY UNIT	:
WIRED REMOTE CONTROLLER	:
SWITCH BOX	:
INPUT FROM OUTSIDE	:
TRANSMISSION WIRING	:
CENTRAL REMOTE CONTROLLER	:

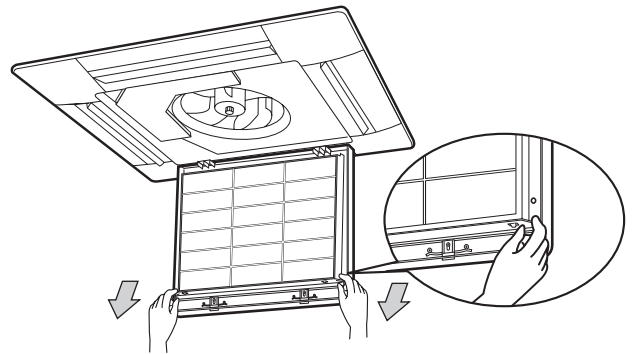
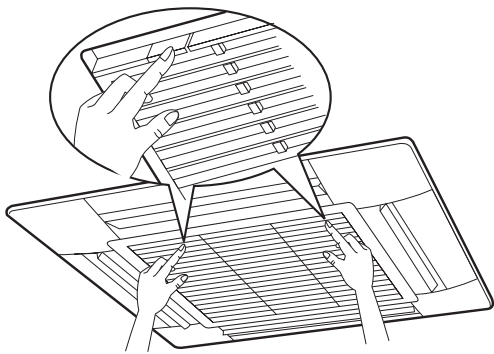
NOTE



1. WHEN USING THE CENTRAL REMOTE CONTROLLER, SEE MANUAL FOR CONNECTION TO THE UNIT.
2. X23A IS CONNECTED WHEN THE CENTRAL REMOTE CONTROLLER IS USED.
3. WHEN CONNECTING THE INPUT WIRES FROM OUTSIDE, FORCED OFF OR ON/OFF CONTROL OPERATION CAN BE SELECTED BY THE REMOTE CONTROLLER. SEE INSTALLATION MANUAL FOR MORE DETAILS.
4. REMOTE CONTROLLER VARIES ACCORDING TO THE COMBINATION SYSTEM. SEE TECHNICAL DATA AND CATALOGS, ETC., BEFORE CONNECTING.

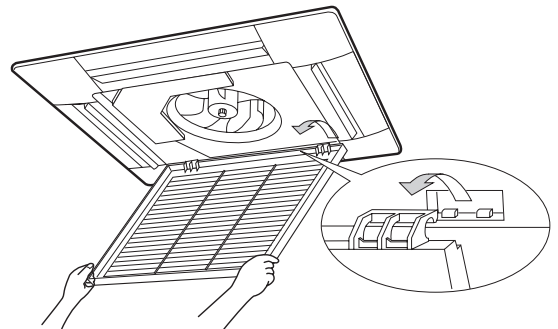
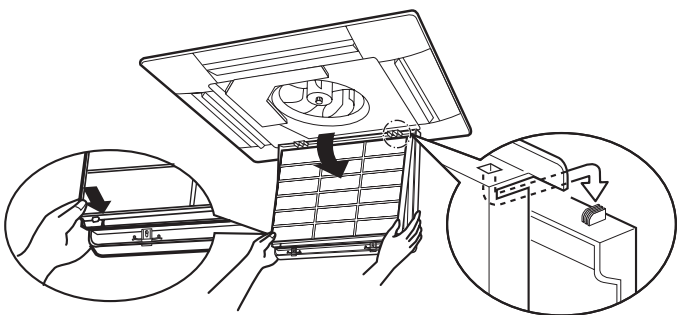


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