

**DAIKIN**

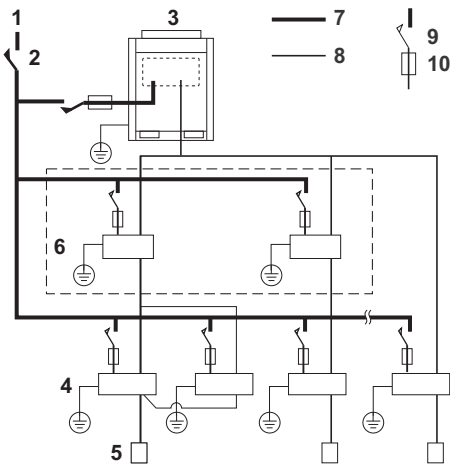


# INSTALLATION AND OPERATION MANUAL

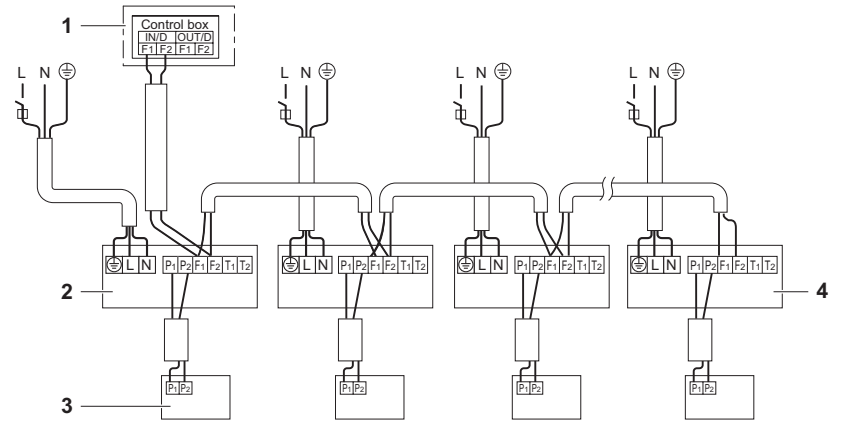
**VRV** System air conditioners

FXLQ20P2VEB  
FXLQ25P2VEB  
FXLQ32P2VEB  
FXLQ40P2VEB  
FXLQ50P2VEB  
FXLQ63P2VEB

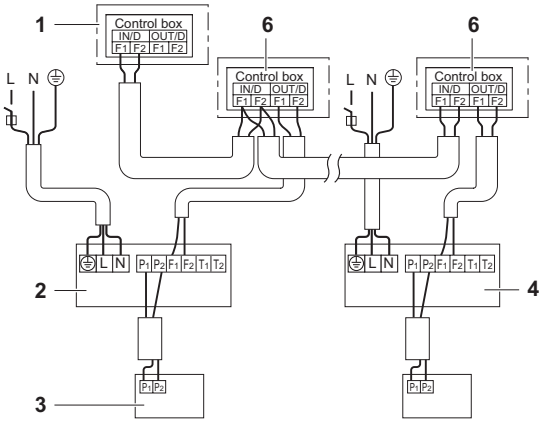
FXNQ20P2VEB  
FXNQ25P2VEB  
FXNQ32P2VEB  
FXNQ40P2VEB  
FXNQ50P2VEB  
FXNQ63P2VEB



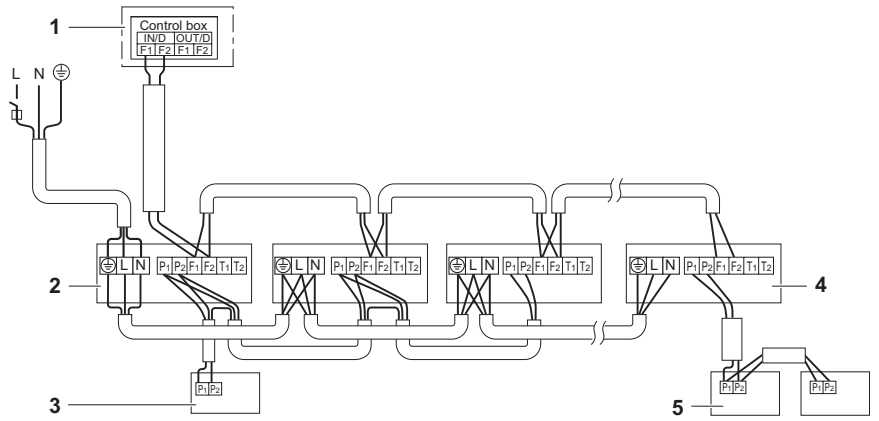
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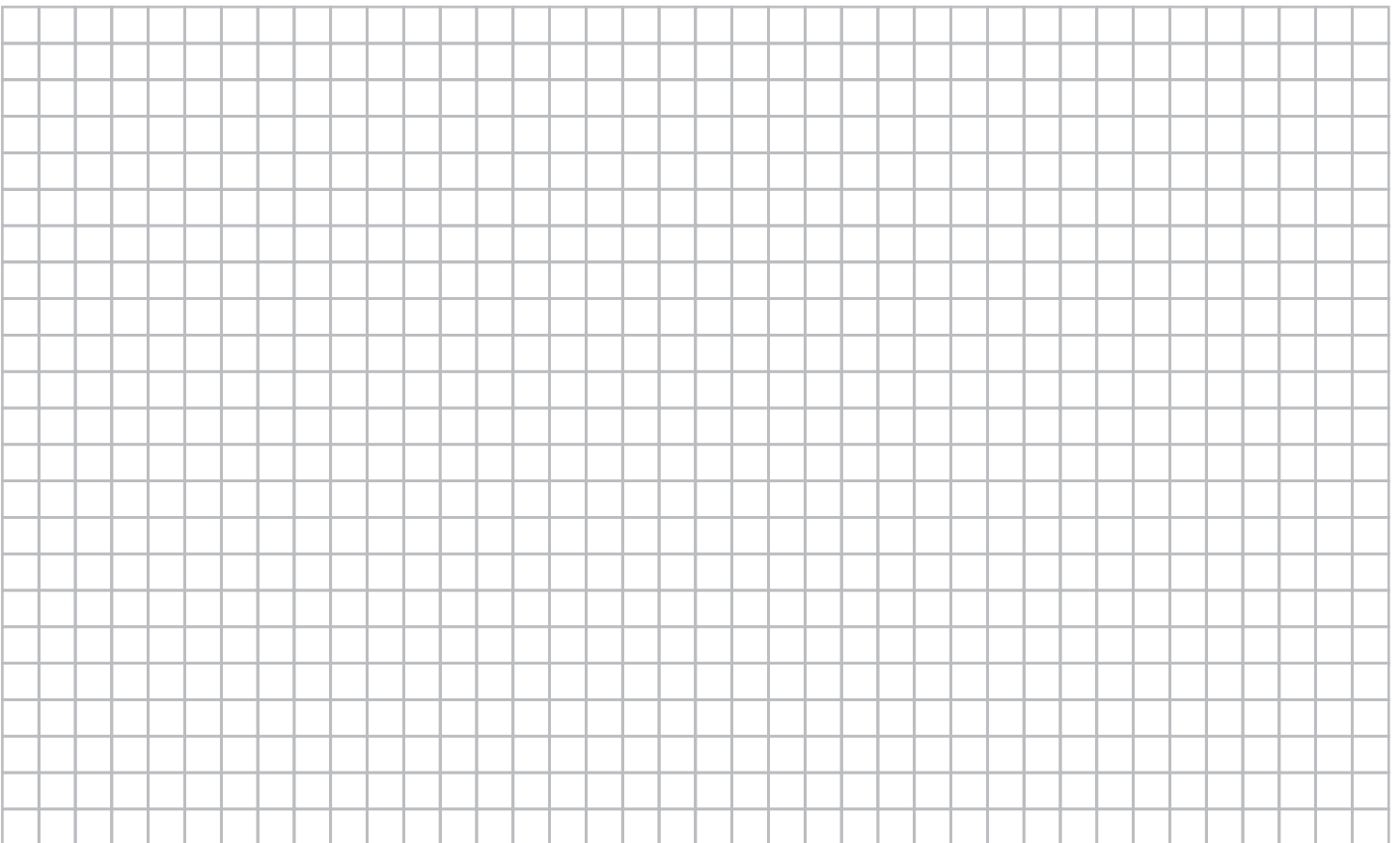
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Thank you for purchasing this product.



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 AND SPARE PARTS MADE BY DAIKIN WHICH ARE SPECIFICALLY DESIGNED FOR USE WITH THE EQUIPMENT AND HAVE THEM INSTALLED BY A PROFESSIONAL.

BE SURE TO WEAR ADEQUATE PERSONAL PROTECTION EQUIPMENT (PROTECTION GLOVES, SAFETY GLASSES, ...) WHEN PERFORMING INSTALLATION, MAINTENANCE OR SERVICE TO THE UNIT.

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.



Installation must be done by a licensed technician. The choice of materials and installation must comply with the applicable national and international regulations.

**Model identification**

- FXLQ : Floor Standing unit
- FXNQ : Concealed Floor Standing unit

**Before installation**

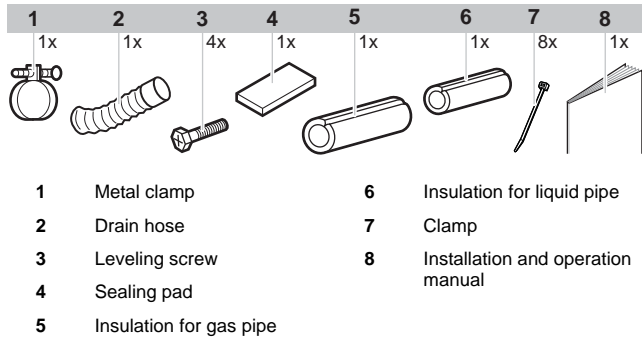
- Leave the unit inside its packaging until you reach the installation site. Where unpacking is unavoidable, use a sling of soft material or protective plates together with a rope when lifting, this to avoid damage or scratches to the unit.
- At delivery, the unit must be checked and any damage must be reported immediately to the carrier claims agent.
- 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.
- When moving the unit while removing it from the carton box, be sure to lift it without exerting any pressure on other parts, especially the refrigerant piping, drain piping and other resin parts.
- Tear apart and throw away plastic packaging bags so that children will not play with them. Children playing with plastic bags face danger of death by suffocation.

**Precautions**

- 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.
  - Where there is no risk of flammable gas leaking.
  - The equipment is not intended for use in a potentially explosive atmosphere.
- Do not install accessories on the casing directly. Drilling holes in the casing may damage electrical wires and consequently cause fire.
- This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved.
- Children shall not play with the appliance.
- Cleaning and user maintenance shall not be made by children without supervision.
- This appliance is intended to be used in shops, in light industry and on farms or for commercial use by lay persons.
- Sound pressure is less than 70 dB(A).

## Accessories

Check if the following accessories are included with your unit.



## Optional accessories

There are two types of remote controllers: wired and wireless.

- Select a remote controller according to customer request and install in an appropriate place.
- Refer to catalogues and technical literature for selecting a suitable remote controller.

Information requirements for fan coil units					
Item	Symbol	Value	Unit		
Cooling capacity (sensible)	$P_{rated, c}$	A	kW		
Cooling capacity (latent)	$P_{rated, c}$	B	kW		
Heating capacity	$P_{rated, h}$	C	kW		
Total electric power input	$P_{elec}$	D	kW		
Sound power level (per speed setting if applicable)	$L_{WA}$	E	dB		
Contact details	DAIKIN INDUSTRIES CZECH REPUBLIC s.r.o. U Nové Hospody 1/1155, 301 00 Plzeň Skvrňany, Czech Republic				
THE ABOVE TABLE RELATES TO THE MODELS AND VALUES STATED IN THIS TABLE					
	A	B	C	D	E
FXLQ20P2VEB	1.7	0.5	2.5	0.049	54
FXLQ25P2VEB	2.1	0.7	3.2	0.049	54
FXLQ32P2VEB	2.5	1.1	4	0.09	54
FXLQ40P2VEB	3.1	1.4	5	0.09	57
FXLQ50P2VEB	3.9	1.7	6.3	0.11	58
FXLQ63P2VEB	4.9	2.2	8	0.11	59

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

Tick 3 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 or heating.
<input type="checkbox"/>	Is the unit fully insulated and checked for air leaks? 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 or heating.
<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.
- This unit can be installed on the floor or be mounted to a wall.

## Important information regarding the refrigerant used

This product contains fluorinated greenhouse gases.  
Do not vent gases into the atmosphere.

Refrigerant type: **R410A**

GWP <sup>(1)</sup> value: **2087.5**

<sup>(1)</sup> 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.



### NOTICE regarding tCO<sub>2</sub>eq

In Europe, the **greenhouse gas emissions** of the total refrigerant charge in the system (expressed as tonnes CO<sub>2</sub>-equivalent) is used to determine the maintenance intervals. Follow the applicable legislation.

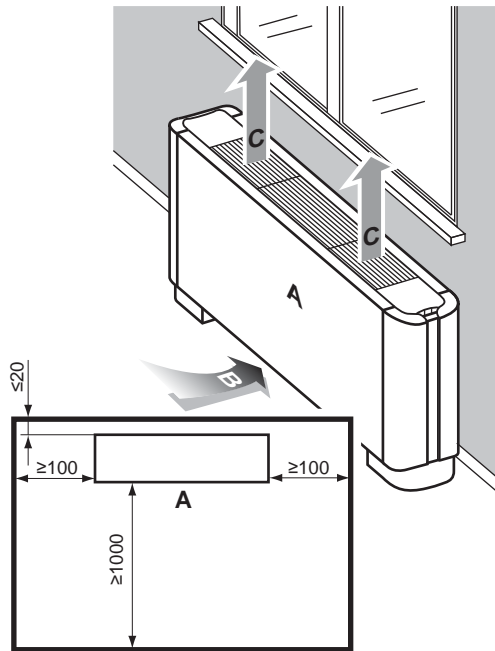
### Formula to calculate the greenhouse gas emissions:

GWP value of the refrigerant × Total refrigerant charge [in kg] / 1000

## Selecting installation site

- Select an installation site where the following conditions are fulfilled and that meets your customer's approval.
  - The installation location is frost-free.
  - Where optimum air distribution can be ensured.
  - Where nothing blocks air passage.
  - Where condensate water can be properly drained.
  - Where the floor or wall is strong enough to bear the indoor unit weight.
  - 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.)
- Install the unit according to the figures below.  
Unit of measurement = mm

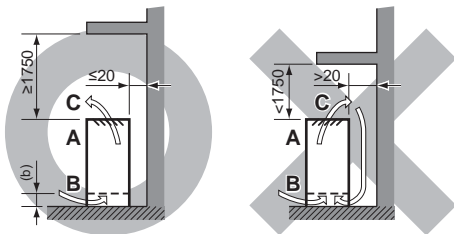
For **FXLQ** units only



- A** Front side
- B** Air inlet direction
- C** Air outlet direction<sup>(a)</sup>

(a) The air outlet direction can be chosen by rotating the discharge grille.

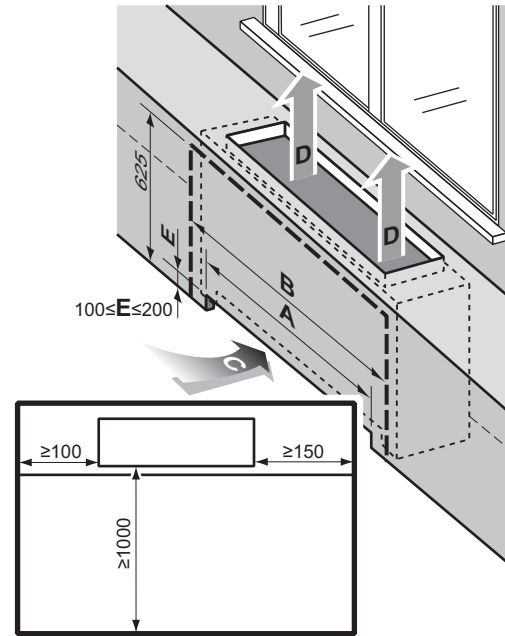
**NOTE** Make sure no short circuit of air is caused when placing the unit directly under a windowsill.



(b)  $\geq 200$  mm in case of wall mounting

- 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.)
- When installing the wireless remote controller kit, the communication distance between wireless remote controller and indoor unit might be shorter if there are fluorescent lights who are electrically started in the room. The indoor unit must be installed as far as possible away from fluorescent lights.
- Do not place objects that are susceptible to moisture directly beneath the indoor or outdoor units. Under certain conditions,

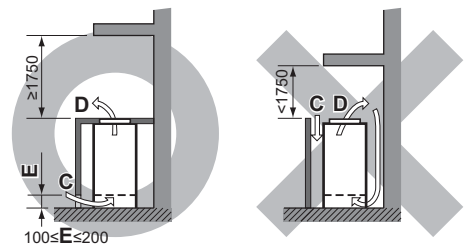
For **FXNQ** units only



- A** Width of air inlet
- B** Width of maintenance area
- C** Air inlet direction
- D** Air outlet direction

	Model		
	20+25	32+40	50+63
<b>A</b>	570	710	990
<b>B</b>	1030	1170	1450

**NOTE** Make sure no short circuit of air is caused when placing the unit directly under a windowsill.



## Indoor unit installation

As for the parts to be used for installation work, be sure to use the provided accessories and specified parts designated by our company.

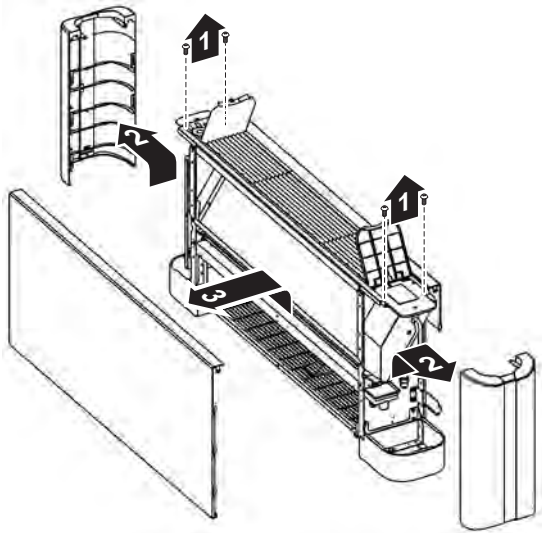
Make sure wiring, piping and drain piping meets your customer's requirements and must comply with local and national regulations.



Ensure the unit is level when installed so that drainage flows smoothly. If inclined, water can leak.

### How to open and close the front panel (for FXLQ units only)

To open the front panel, remove 4 screws from the corner pieces, unhook the corner pieces and remove the front panel as shown in the figure below.



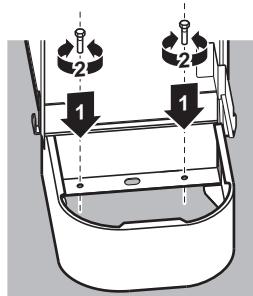
To close the front panel, use the opposite method.

### Floorstanding installation



Make sure that the floor is strong enough to bear the unit weight.

- 1 Level the indoor unit with the leveling screws (accessory part).  
If the floor is too uneven to level the unit, place the unit on a flat and level base.

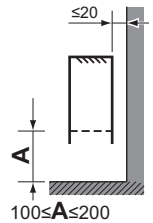


- 2 If the unit is in danger of falling over, either fasten to the wall using the holes provided, or fasten to the floor with a field supplied floor fastener.

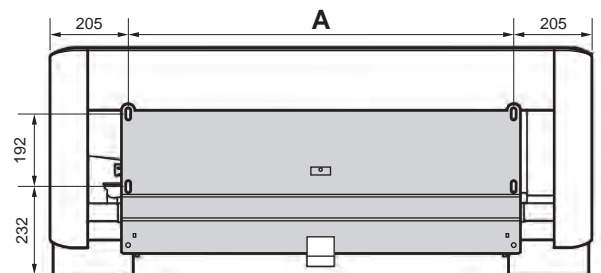
## Wallmounted installation



- Check whether the wall is strong enough to bear the weight of the unit. If there is a risk, reinforce the wall before installing the unit.
- Use the installation mount on the rear of the unit for installation.
- The unit requires minimum 100 mm clearance on the bottomside for air intake and maximum 20 mm clearance from the wall by using spacers (field supply).



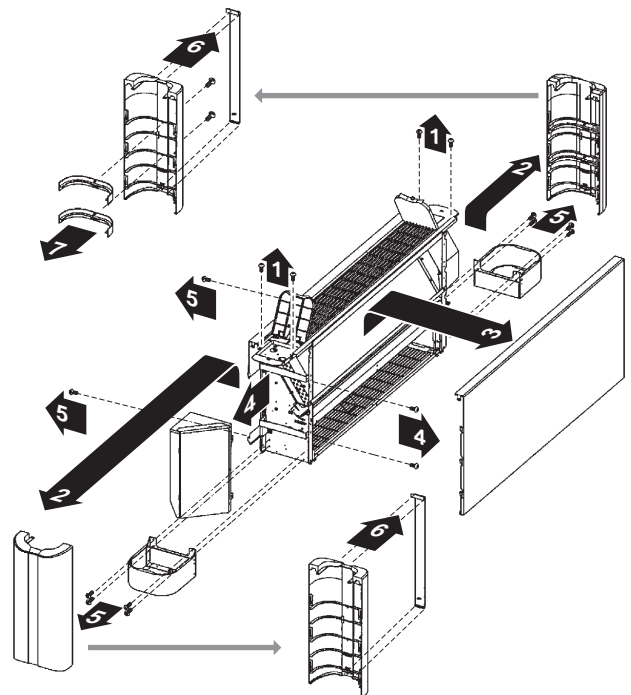
- 1 Positioning of holes for fastening to the wall.  
Unit of measurement = mm.

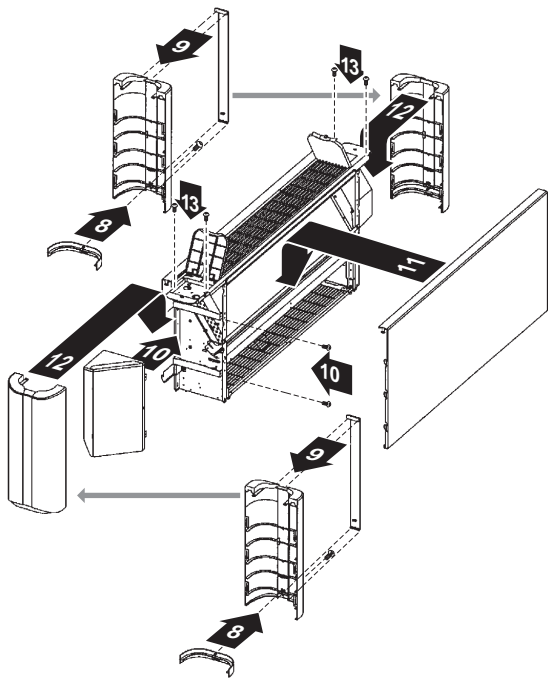


Model	A (mm)
20 + 25	590
32 + 40	730
50 + 63	1010

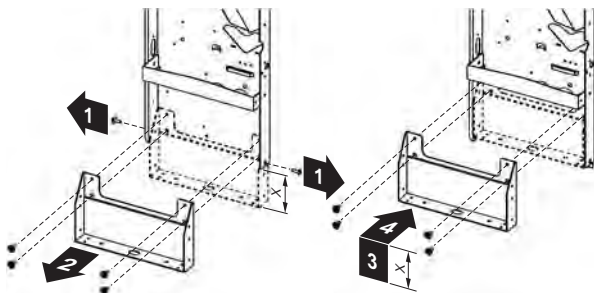
- 2 The legs can be removed if the indoor unit is to be hung on a wall. To do so, remove the legs and mount the 2 decorationstrips to the corner pieces as shown in the figures below.

- For FXLQ units only





■ For FXNQ units only



X Height to reduce

**NOTE** When mounting the unit to a wall, operating sound may become bigger.

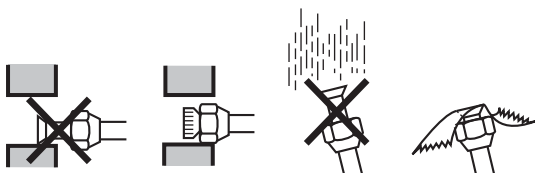
## Refrigerant piping work

For refrigerant piping of outdoor unit, refer to the installation manual supplied with the outdoor unit.

Before rigging tubes, check which type of refrigerant is used.

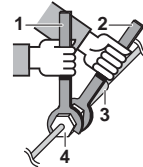
**!** All field piping must be provided by a licensed refrigeration technician and must comply with the relevant local and national codes.

- Use a pipe cutter and flare suitable for the used refrigerant.
- To prevent dust, moisture or other foreign matter from infiltrating the tube, either pinch the end, or cover it with tape.



Place	Installation period	Protection method
	More than a month	Pinch the pipe
	Less than a month	Pinch or tape the pipe
	Regardless of the period	

- Use copper alloy seamless pipes (ISO 1337).
- The outdoor unit is charged with refrigerant.
- To prevent water leakage, execute heat insulation work completely on both sides of the gas and liquid piping. When using a heat pump, the temperature of the gas piping can reach up to approximately 120°C. Use insulation which is sufficiently heat resistant.
- Be sure to use both a spanner and torque wrench together when connecting or disconnecting pipes to/from the unit.

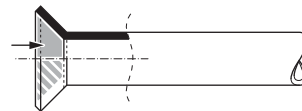


- 1 Torque wrench
- 2 Spanner
- 3 Piping union
- 4 Flare nut

- Do not mix anything other than the specified refrigerant, such as air, etc..., inside the refrigerant circuit.
- Flares should not be re-used. New ones should be made in order to prevent leaks. Only use annealed flare nuts included with the unit. Using different flare nuts may cause the refrigerant to leak.
- Refer to the table below for the dimensions of flare nut spaces and the appropriate tightening torque. (Overtightening may damage the flare and cause leaks.)

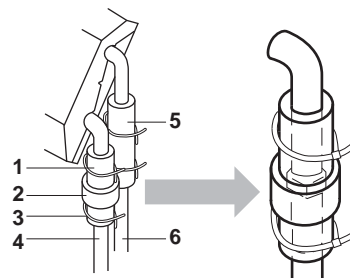
Pipe gauge (mm)	Tightening torque (N·m)	Flare dimension A (mm)	Flare shape
Ø6.4	15~17	8.7~9.1	
Ø9.5	33~39	12.8~13.2	
Ø12.7	50~60	16.2~16.6	
Ø15.9	63~75	19.3~19.7	

- When connecting the flare nut, coat the flare inner surface with ether oil or ester oil and initially tighten 3 or 4 turns by hand before tightening firmly.



- Be sure to insulate local piping all the way into the pipe connections inside the unit. Exposed piping may cause condensation or may cause burns when touched.
- After all piping has been connected, use nitrogen to perform a gas leak check. A toxic gas may be released by the refrigerant gas leaking indoor and being exposed to flames from an area heater, cooking stove, etc. If the refrigerant gas leaks during the work, ventilate the area.

- Finally, insulate as shown in the figure below.

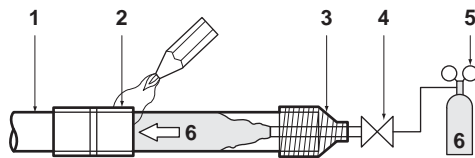


- 1 Insulation for gas pipe (accessory part)
- 2 Sealing pad (accessory part) (wrapped over union)
- 3 Clamp (4x accessory part)
- 4 Gas pipe
- 5 Insulation for liquid pipe (accessory part)
- 6 Liquid pipe



## Cautions for brazing

- Be sure to carry out a nitrogen blow when brazing. Brazing without carrying out nitrogen replacement or releasing nitrogen into the piping will create large quantities of oxidized film on the inside of the pipes, adversely affecting valves and compressors in the refrigerating system and preventing normal operation.
- When brazing while inserting nitrogen into the piping, nitrogen must be set to 0.02 MPa with a pressure-reducing valve (=just enough so that it can be felt on the skin).



- 1 Refrigerant piping
- 2 Part to be brazed
- 3 Taping
- 4 Hand valve
- 5 Pressure-reducing valve
- 6 Nitrogen

- Do not use anti-oxidants when brazing the pipe joints. Residue can clog pipes and break equipment.
- Do not use flux when brazing copper-to-copper refrigerant piping. Use phosphor copper brazing filler alloy (BCuP) which does not require flux.
- Flux has an extremely harmful influence on refrigerant piping systems. For instance, if chlorine based flux is used, it will cause pipe corrosion or, in particular, if the flux contains fluorine, it will deteriorate the refrigerant oil.

- Use R410A only when adding refrigerant

### Installation tools:

Make sure to use installation tools (gauge manifold charge hose, etc.) that are exclusively used for R410A installations to withstand the pressure and to prevent foreign materials (e.g. mineral oils and moisture) from mixing into the system.

### Vacuum pump:

Use a 2-stage vacuum pump with a non-return valve

Make sure the pump oil does not flow oppositely into the system while the pump is not working.

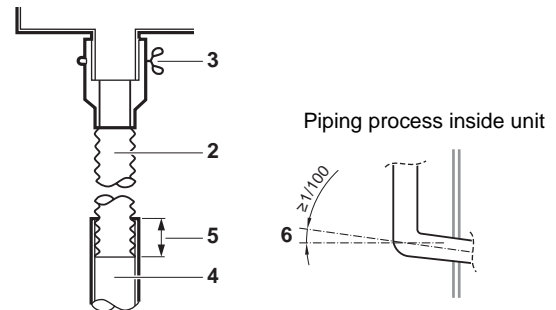
Use a vacuum pump which can evacuate to  $-100.7$  kPa (5 Torr,  $-755$  mm Hg).

## Drain piping work

Rig the drain pipe as shown below. Improperly rigged piping could lead to leaks and eventually wet furniture and belongings.

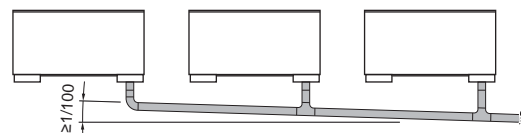
- 1 Carry out the drain piping

Connect the drain hose (accessory part) using the attached hose and parts, as shown in the figure below.



- 1 Drip pan
- 2 Drain hose (accessory part)
- 3 Metal clamp (accessory part)
- 4 3/4" drain pipe
- 5 Cut to a suitable length
- 6 Slope

- 2 If converging multiple drain pipes, install according to the procedure shown below. Use a slope downwards at a gradient of at least 1/100.



Select converging drain pipes with a size that is suitable for the operating capacity of the unit.

- 3 After piping work is finished, check if drainage flows smoothly. Pour approximately 1 liter of water slowly in the air outlet and check drainage flow.
- 4 Be sure to insulate all indoor pipes.



### 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 the drain pipe will become blocked if water remains in the drain pipe.

- Protect or enclose refrigerant tubing to avoid mechanical damage.
- Installation shall be done by an installer, the choice of materials and installation shall comply with the applicable legislation. In Europe the EN378 is the applicable standard that shall be used.

# Electric wiring work

## General instructions



### DANGER: ELECTRICAL SHOCK




Switch off all power supply before removing the switch box service panel or before making any connections or touching electrical parts.

To avoid electric shock, be sure to disconnect the power supply 1 minute or more before servicing the electrical parts. Even after 1 minute, always measure the voltage at the terminals of main circuit capacitors or electrical parts and, before touching, be sure that those voltages are 50 V DC or less.

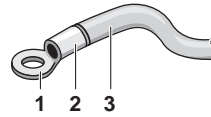
When service panels are removed, live parts can be easily touched by accident.

Never leave the unit unattended during installation or servicing when service panel is removed.

- Be sure to use a dedicated power supply. Never use a power supply shared by another appliance.
- All field supplied parts and materials and electric works must be conform to local and national regulations.
- All wiring must be performed by an authorized electrician.
- Use copper wire only.
- Follow the "Wiring diagram" attached to the unit to wire the outdoor unit, indoor units and the remote controller. For details how to mount the remote controller, refer to the "Installation manual of the remote controller".
- Attach the earth leakage circuit breaker and fuse to the power supply line.
- A main switch or other means for disconnection, having a contact separation in all poles, must be incorporated in the fixed wiring in accordance with relevant local and national legislation. 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 block 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.
- Be sure to ground the air conditioner.
- Do not connect the ground wire to:
  - gas pipes: might cause explosions or fire if gas leaks.
  - telephone ground wires or lightning rods: might cause abnormally high electric potential in the ground during lightning storms.
  - plumbing pipes: no grounding effect if hard vinyl piping is used.
- Make sure electrical wires are stripped equally. 
- Use an all-pole disconnection type breaker with at least 3mm between the contact point gaps.
- If the supply cord is damaged, it must be replaced by the manufacturer, a service agent or similarly qualified persons in order to avoid a hazard.

## Precautions

- 1 Observe the notes mentioned below when wiring to the power supply terminal board.
  - Use a round crimp-style terminal for insulation sleeve for connection to the terminal block for wiring the units. When none are available, follow the instructions below.



- 1 Round crimp-style terminal
- 2 Attach insulation sleeve
- 3 Wiring

- 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 dimension, 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. Use torques according to the table below.

Terminal	Size	Tightening torque (N•m)
Terminal block for remote controller	M3.5	0.79~0.97
Power supply terminal block	M4	1.18~1.44
Ground terminal	M4	1.44~1.94

- When attaching the control box lid, make sure not to pinch any wires and make sure that the wiring does not come in contact with the piping and sharp edges.
  - After all wiring connections are done, fill in any gaps in the casing wiring holes with putty or insulation material (field supply) thus to prevent small animals or dirt from entering the unit from outside and causing short circuits in the control box.
- 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 greater than 2 mm<sup>2</sup> (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 dimensions 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 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 control box cover. Make sure the cover closes tight. Incomplete connections could result in overheating, and in the worse case, electric shock or fire.
  - 7 Fasten wiring with clamps (accessory part).

## Electrical characteristics

Model	Hz	Volts	Voltage range	Power supply		Fan motor	
				MCA	MFA	kW	FLA
20	50/60	220-240/220	±10%	0.3	16	0.015	0.2
25				0.3	16	0.015	0.2
32				0.6	16	0.025	0.5
40				0.6	16	0.025	0.5
50				0.6	16	0.035	0.5
63				0.6	16	0.035	0.5

MCA: Minimum Circuit Amps (A)

MFA: Maximum Fuse Amps (A)

FLA: Full Load Amps (A)

**NOTE** For details, refer to "Electrical data" in the technical data book.

## Specifications for field supplied fuses and wire

Model	Power supply wiring		Size
	Field fuses	Wire	
20-63	16 A	H05VV-U3G	Local codes

Model	Wire	Size
20-63	Sheathed wire (2)	0.75-1.25 mm <sup>2</sup>

**NOTE** For details, refer to "Wiring examples" on page 9.

Allowable length of transmission wiring between indoor and outdoor units, and between the indoor unit and the remote controller is as follows:

1. Outdoor unit - indoor unit: maximum 1000 m (total wiring length: 2000 m)
2. Indoor unit - remote controller: maximum 500 m

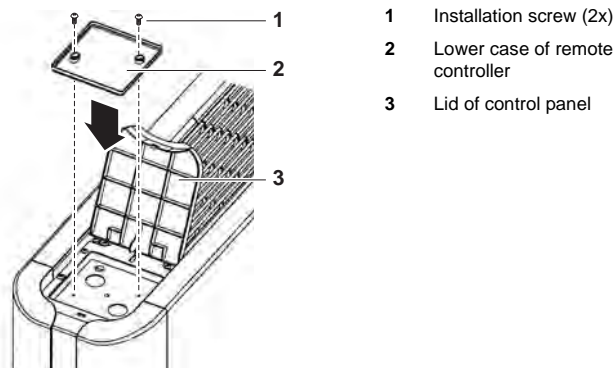
## How to install the remote controller and wiring inside the unit

### Remote controller installation

**NOTE** Refer to the installation manual of the remote controller for instructions on fastening and wiring work.

For FXLQ units only

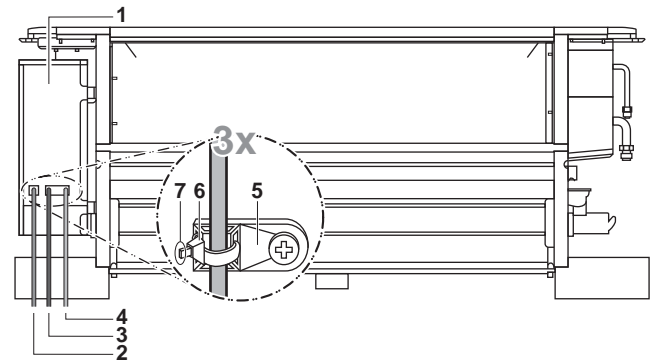
If mounting a remote controller on the unit, mount the remote controller (optional accessory) as shown in the figure.



Open the left side lid of the control panel and mount the lower case of the remote controller.

## Wiring installation

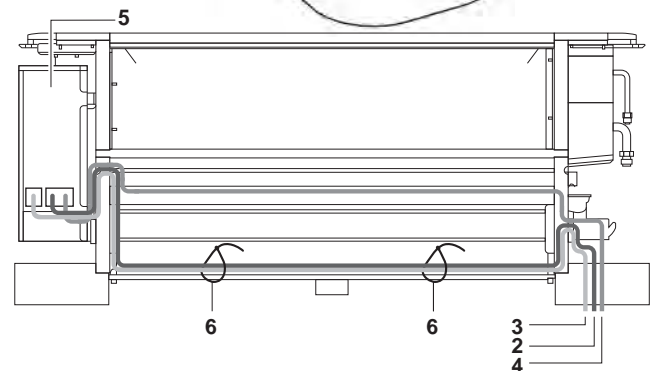
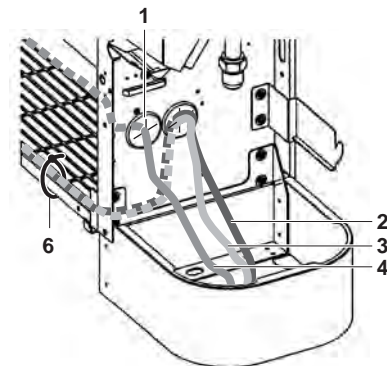
Remove the control box cover and connect the wiring.



- 1 Control box
- 2 Power supply wiring (field supply)
- 3 Remote controller wiring (field supply)
- 4 Transmission wiring (field supply)
- 5 Clamp fastener
- 6 Clamp (accessory part)
- 7 Cut off excess after fastening

**NOTE** For control box wiring, also refer to the "Electric Wiring Diagram" label on the control box cover.

If wiring from the piping side, wire as shown in the figure below.



- 1 Pass through hole of opposite frame panel in same manner
- 2 Remote controller wiring
- 3 Transmission wiring
- 4 Power supply wiring and ground wiring
- 5 Control box
- 6 Fasten with clamp (accessory part)



Do not switch the remote controller wiring, transmission wiring and power supply wiring when connecting the wires to the terminal blocks.

## Wiring examples

Fit the power supply wiring of each unit with a switch and fuse as shown in figure 1.

1	Power supply	6	BS unit (only for heat recovery system)
2	Main switch		
3	Outdoor unit	7	Power supply wiring
4	Indoor unit	8	Transmission wiring
5	Remote controller	9	Switch
		10	Fuse

### Complete system example (3 systems)

When using 1 remote controller for 1 indoor unit. (Normal operation) (See figure 2)

For group control or use with 2 remote controllers (See figure 4)

When including BS unit (See figure 3)

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

### PRECAUTIONS

- 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.
- For a group control remote controller, choose the remote controller that suits the indoor unit which has the most functions.
- 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.

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

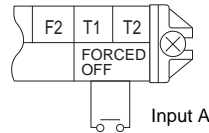
When using 2 remote controllers, one must be set to "MAIN" and the other to "SUB". Refer to the installation manual of the remote controller.

### Computerised control (forced off and on/off operation)

#### 1 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 <sup>2</sup>
Length	Maximum 100 m
External terminal	Contact that can ensure the minimum applicable load of 15 V DC, 10 mA



#### 2 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 $\bar{0}$ on: turns on the unit (impossible by remote controllers)
Input "off" enables control	input on $\bar{0}$ off: turns off the unit by remote controller

#### 3 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 remote controller manual.
- When in the field set mode, select mode No. 12, then set the first code 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.)

### 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.


## Test operation

Refer to the installation manual of the outdoor unit.

The operation lamp of the remote controller will flash when an error occurs. Check the error code on the liquid crystal display to identify the trouble.

Error code	Meaning
A8	Error in power supply to indoor unit
C1	Transmission error between fan driver PCB and controller PCB of the indoor unit
C6	Improper combination of fan driver PCB of the indoor unit or setting failure in control PCB type
U3	Test operation of the indoor unit has not been finished

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

Error code	Meaning
	There is a short circuit at the forced off terminals (T1, T2)
U4 or UH	- The power on the outdoor unit is off - The outdoor unit has not been wired for power supply - Incorrect transmission
no display	- The power on the indoor unit is off - The indoor unit has not been wired for power supply - Incorrect transmission wiring, forced off wiring or remote controller wiring


## Maintenance



### Caution

- 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 touch the internal parts during and immediately after operation.  
Your hands may suffer burns if you touch the internal parts. To avoid injury, give the internal parts time to return to normal temperature or, if you must touch them, be sure to wear proper gloves.
- Do not use water or air of 50°C or higher for cleaning air filters and outside panels.
- Do not wash the air conditioner with water.  
Doing so may result in an electric shock.
- Do not operate for many hours with opened windows.  
This may cause condensation.
- Do not stand or place objects on the air conditioner.  
This could result in injury due to falling or turning over.
- Do not place containers with water on the air conditioner.  
If the containers are turned over, the water could result in equipment failure or electric shock and fire.
- Do not operate the unit with the control panel lid open.  
If water gets inside the panel, it could result in equipment failure or electric shock.
- If the main power supply is turned off during operation, operation will restart automatically after the power turns back on again.

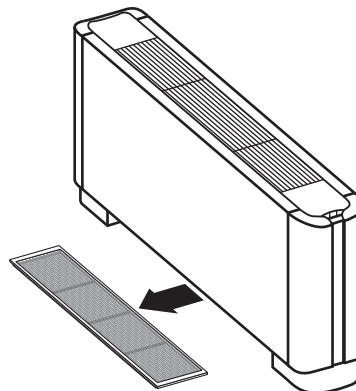
## How to clean the air filter

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

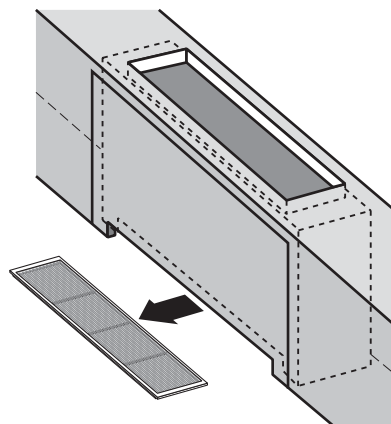
Increase the frequency of cleaning if the unit is installed in a room where the air is extremely contaminated.

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

- 1 Remove the air filter.  
For **FXLQ** units



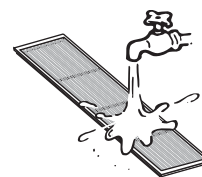
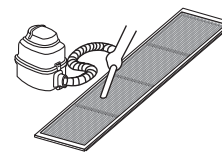
For **FXNQ** units



- 2 Clean the air filter.  
Use vacuum cleaner (A) or wash the air filter with water (B).

(A) Using a vacuum cleaner

(B) Washing with water



When the air filter is very dirty, use soft brush and neutral detergent.

Remove water and dry in the shade.

- 3 Fix the air filter.
- 4 After turning on the power, press FILTER SIGN RESET button.  
The "TIME TO CLEAN AIR FILTER" display is turned off.

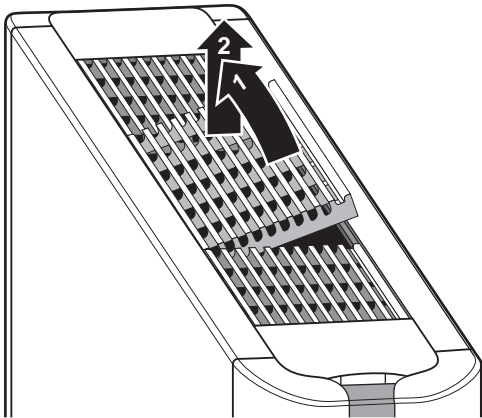
## How to clean air outlet and outside panels

- Clean with soft cloth.
- When it is difficult to remove stains, use water or neutral detergent.
- Clean the air inlet grille when it is shut.

**NOTE** Do not use gasoline, benzene, thinner, polishing powder, liquid insecticide. It may cause discolouring or warping.

Do not let the indoor unit get wet. It may cause an electric shock or a fire.

## Removal and installation of discharge grille (for FXLQ units only)



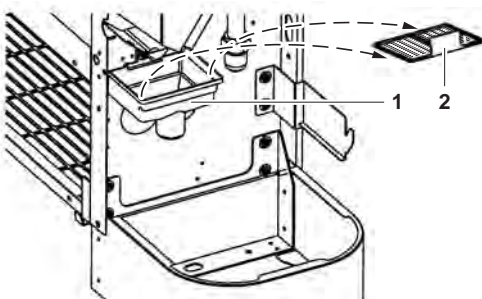
Lift the rear using the front as a leverage. To install use the opposite method.

**NOTE** Be sure to install the discharge grille in the same way as before removal. Otherwise the air flow direction will be averse with a short circuit of air or a wrong spreading of air as possible result. Refer to the figures mentioned in the note on page 3.

## How to clean the drain strainer

The drain strainer clears dirt out of the drain water and prevents the piping from clogging. However, if the strainer mesh gets clogged, water may overflow. Remove and wash the mesh with water before and after seasons when the unit is in use and once during those seasons.

- 1 Remove the drain strainer in the drip pan under the drain pan and wash off any dirt that may have accumulated.



- 1 Drip pan
- 2 Drain strainer (take out)

- 2 Return the drain strainer to its previous position so that the strainer does not leak.

**NOTE** Because cleaning requires removing the front panel, contact your local dealer.

## Start up after a long stop

Confirm the following:

- Check that the air inlet and outlet are not blocked. Remove any obstacle.
- Check if the earth is connected.

Clean the air filter and outside panels.

- After cleaning the air filter, make sure to attach it.

Turn on the main power supply switch.

- The control panel display lights up when the power is turned on.
- To protect the unit, turn on the main power switch at least 6 hours before operation.

## What to do when stopping the system for a long period

Turn on FAN OPERATION for half a day and dry the unit.

- Refer to the operation manual of the outdoor unit.

Cut off the power supply.

- When the main power switch is turned on, there is some power consumption even if the system is not operating.
- The remote controller display is turned off when the main power switch is turned off.

## Disposal requirements





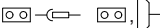













Your product and the batteries supplied with the controller are marked with this symbol. This symbol means that electrical and electronic products and batteries shall not be mixed with unsorted household waste. For batteries, a chemical symbol can be printed beneath the symbol. This chemical symbol means that the battery contains a heavy metal above a certain concentration. Possible chemical symbols are:

- Pb: lead (>0.004%)

Do not try to dismantle the system yourself: the dismantling of the product, treatment of the refrigerant, of oil and of other parts must be done by a qualified installer in accordance with relevant local and national legislation. Units and waste batteries must be treated at a specialized treatment facility for re-use, recycling and recovery. By ensuring correct disposal, you will help to prevent potential negative consequences for the environment and human health. Please contact the installer or local authority for more information.

# Unified wiring diagram legend

Unified Wiring Diagram Legend			
For applied parts and numbering refer to the wiring diagram sticker supplied on the unit. Part numbering is realized by Arabic numbers in ascending order for each part and is represented in the overview below by symbol <sup>***</sup> in the part code.			
	: CIRCUIT BREAKER		: PROTECTIVE EARTH
	: CONNECTION		: PROTECTIVE EARTH (SCREW)
	: CONNECTOR		: RECTIFIER
	: EARTH		: RELAY CONNECTOR
	: FIELD WIRING		: SHORT CIRCUIT CONNECTOR
	: FUSE		: TERMINAL
	: INDOOR UNIT		: TERMINAL STRIP
	: OUTDOOR UNIT		: WIRE CLAMP
BLK : BLACK	GRN : GREEN	PNK : PINK	WHT : WHITE
BLU : BLUE	GRY : GREY	PRP, PPL : PURPLE	YLW : YELLOW
BRN : BROWN	ORG : ORANGE	RED : RED	
A*P : PRINTED CIRCUIT BOARD	PS : SWITCHING POWER SUPPLY		
BS* : PUSH BUTTON ON / OFF, OPERATION SWITCH	PTC* : THERMISTOR PTC		
BZ, H*O : BUZZER	Q* : INSULATED GATE BIPOLAR TRANSISTOR (IGBT)		
C* : CAPACITOR	Q*DI : EARTH LEAK CIRCUIT BREAKER		
AC*, CN*, E*, HA*, HE, HL*, HN*, HR*, MR*_A, MR*_B, S*, U, V, W, X*A, K*R_*	Q*L : OVERLOAD PROTECTOR		
D*, V*D : DIODE	Q*M : THERMO SWITCH		
DB* : DIODE BRIDGE	R* : RESISTOR		
DS* : DIP SWITCH	R*T : THERMISTOR		
E*H : HEATER	RC : RECEIVER		
F*U, FU* (FOR CHARACTERISTICS REFER TO PCB INSIDE YOUR UNIT)	S*C : LIMIT SWITCH		
FG* : CONNECTOR (FRAME GROUND)	S*L : FLOAT SWITCH		
H* : HARNESS	S*NPH : PRESSURE SENSOR (HIGH)		
H*P, LED*, V*L : PILOT LAMP, LIGHT EMITTING DIODE	S*NPL : PRESSURE SENSOR (LOW)		
HAP : LIGHT EMITTING DIODE (SERVICE MONITOR GREEN)	S*PH, HPS* : PRESSURE SWITCH (HIGH)		
HIGH VOLTAGE : HIGH VOLTAGE	S*PL : PRESSURE SWITCH (LOW)		
IES : INTELLIGENT EYE SENSOR	S*T : THERMOSTAT		
IPM* : INTELLIGENT POWER MODULE	S*W, SW* : OPERATION SWITCH		
K*R, KCR, KFR, KHuR, K*M	SA*, F1S : SURGE ARRESTOR		
L : LIVE	SR*, WLU : SIGNAL RECEIVER		
L* : COIL	SS* : SELECTOR SWITCH		
L*R : REACTOR	SHEET METAL : TERMINAL STRIP FIXED PLATE		
M* : STEPPER MOTOR	T*R : TRANSFORMER		
M*C : COMPRESSOR MOTOR	TC, TRC : TRANSMITTER		
M*F : FAN MOTOR	V*, R*V : VARISTOR		
M*P : DRAIN PUMP MOTOR	V*R : DIODE BRIDGE		
M*S : SWING MOTOR	WRC : WIRELESS REMOTE CONTROLLER		
MR*, MRCW*, MRM*, MRN*	X* : TERMINAL		
N : NEUTRAL	X*M : TERMINAL STRIP (BLOCK)		
n = *, N = *	Y*E : ELECTRONIC EXPANSION VALVE COIL		
PAM : PULSE-AMPLITUDE MODULATION	Y*R, Y*S : REVERSING SOLENOID VALVE COIL		
PCB* : PRINTED CIRCUIT BOARD	Z*C : FERRITE CORE		
PM* : POWER MODULE	ZF, Z*F : NOISE FILTER		

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