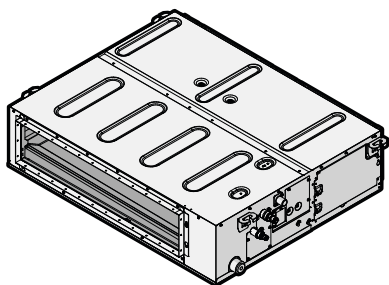


# Installation manual



## Split system air conditioners



**FBA35A2VEB**  
**FBA50A2VEB**  
**FBA60A2VEB**  
**FBA71A2VEB**  
**FBA100A2VEB**  
**FBA125A2VEB**  
**FBA140A2VEB**

**FBA35A2VEB9**  
**FBA50A2VEB9**  
**FBA60A2VEB9**  
**FBA71A2VEB9**

**ADEA35A2VEB**  
**ADEA50A2VEB**  
**ADEA60A2VEB**  
**ADEA71A2VEB**  
**ADEA100A2VEB**  
**ADEA125A2VEB**

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# 1 About the documentation

## 1.1 About this document

### WARNING

Make sure installation, servicing, maintenance, repair and applied materials follow the instructions from Daikin (including all documents listed in "Documentation set") and, in addition, comply with applicable legislation and are performed by qualified persons only. In Europe and areas where IEC standards apply, EN/IEC 60335-2-40 is the applicable standard.

### INFORMATION

Make sure that the user has the printed documentation and ask him/her to keep it for future reference.

#### Target audience

Authorised installers

### INFORMATION

This appliance is intended to be used by expert or trained users in shops, in light industry, and on farms, or for commercial and household use by lay persons.

#### Documentation set

This document is part of a documentation set. The complete set consists of:

- **General safety precautions:**
  - Safety instructions that you **MUST** read before installing
  - Format: Paper (in the box of the indoor unit)
- **Indoor unit installation manual:**
  - Installation instructions
  - Format: Paper (in the box of the indoor unit)
- **Installer reference guide:**
  - Preparation of the installation, good practices, reference data,...
  - Format: Digital files on <https://www.daikin.eu>. Use the search function 🔍 to find your model.

The latest revision of the supplied documentation is published on the regional Daikin website and is available via your dealer.

Scan the QR code below to find the full documentation set and more information about your product on the Daikin website.



The original instructions are written in English. All other languages are translations of the original instructions.

#### Technical engineering data

- A **subset** of the latest technical data is available on the regional Daikin website (publicly accessible).
- The **full set** of the latest technical data is available on the Daikin Business Portal (authentication required).

## 2 Specific installer safety instructions

Always observe the following safety instructions and regulations.

#### General



#### WARNING

Make sure installation, servicing, maintenance, repair and applied materials follow the instructions from Daikin (including all documents listed in "Documentation set") and, in addition, comply with applicable legislation and are performed by qualified persons only. In Europe and areas where IEC standards apply, EN/IEC 60335-2-40 is the applicable standard.

#### Unit installation (see "4 Unit installation" ▶ 4)



#### WARNING

Installation shall be done by an installer, the choice of materials and installation shall comply with the applicable legislation. In Europe, EN378 is the applicable standard.



#### WARNING

Do NOT install the air conditioner at any place where flammable gas may leak out. If the gas leaks out and stays around the air conditioner, a fire may break out.



#### CAUTION

Appliance NOT accessible to the general public. Install it in a secured area, protected from easy access.

This unit is suitable for installation in a commercial, light industrial, household and residential environment.

**WARNING**

For units using the R32 refrigerant it is necessary to keep any required ventilation openings clear of obstructions.

**WARNING**

If one or more rooms are connected to the unit using a duct system, make sure:

- there are no operating ignition sources (example: open flames, an operating gas appliance or an operating electric heater) in case the floor area is less than the minimum floor area A (m<sup>2</sup>).
- no auxiliary devices, which may be a potential ignition source, are installed in the duct work (example: hot surfaces with a temperature exceeding 700°C and electric switching device);
- only auxiliary devices approved by the manufacturer are used in the duct work;
- air inlet AND outlet are connected directly to the same room by ducting. Do NOT use spaces such as a false ceiling as a duct for the air inlet or outlet.

**WARNING**

Do NOT install operating ignition sources (example: open flames, an operating gas appliance or an operating electric heater) in the ductwork.

**CAUTION**

- Make sure the installation of the duct does NOT exceed the setting range of the external static pressure for the unit. Refer to the technical datasheet of your model for the setting range.
- Make sure to install the canvas duct so vibrations are NOT transmitted to the duct or ceiling. Use a sound-absorbing material (insulation material) for the lining of the duct and apply vibration insulation rubber to the hanging bolts.
- When welding, make sure NOT to spatter onto the drain pan or the air filter.
- If the metal duct passes through a metal lath, wire lath or metal plate of the wooden structure, separate the duct and wall electrically.
- Install the outlet grille in a position where the airflow will not come into direct contact with people.
- Do NOT use booster fans in the duct. Use the function to adjust the fan rate setting automatically (see "8 Configuration" ▶ 12).

**Refrigerant piping installation (see "5 Piping installation" ▶ 8)**
**CAUTION**

- Incomplete flaring may cause refrigerant gas leakage.
- Do NOT re-use flares. Use new flares to prevent refrigerant gas leakage.
- Use flare nuts that are included with the unit. Using different flare nuts may cause refrigerant gas leakage.

**CAUTION**

Install the refrigerant piping or components in a position where they are unlikely to be exposed to any substance which may corrode components containing refrigerant, unless the components are constructed of materials that are inherently resistant to corrosion or are suitably protected against corrosion.

**WARNING: FLAMMABLE MATERIAL**

The R32 refrigerant (if applicable) in this unit is mildly flammable. Refer to the outdoor unit specifications for the type of refrigerant to be used.

**Electrical installation (see "6 Electrical installation" ▶ 9)**
**WARNING**

ALWAYS use multicore cable for power supply cables.

**WARNING**

- All wiring MUST be performed by an authorised electrician and MUST comply with the national wiring regulation.
- Make electrical connections to the fixed wiring.
- All components procured on-site and all electrical construction MUST comply with the applicable legislation.

**WARNING**

- If the power supply has a missing or wrong N-phase, equipment might break down.
- Establish proper earthing. Do NOT earth the unit to a utility pipe, surge absorber, or telephone earth. Incomplete earthing may cause electrical shocks.
- Install the required fuses or circuit breakers.
- Secure the electrical wiring with cable ties so that the cables do NOT come in contact with sharp edges or piping, particularly on the high-pressure side.
- Do NOT install a phase advancing capacitor, because this unit is equipped with an inverter. A phase advancing capacitor will reduce performance and may cause accidents.

**WARNING**

Use an all-pole disconnection type breaker with at least 3 mm between the contact point gaps that provides full disconnection under overvoltage category III.

**WARNING**

If the supply cord is damaged, it MUST be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.

**WARNING**

Do NOT extend the power supply or the interconnection cable by using wire connectors, wire connection clamps, taped wires, extension cords.

These can cause overheating, electric shock or fire.

## 3 About the box

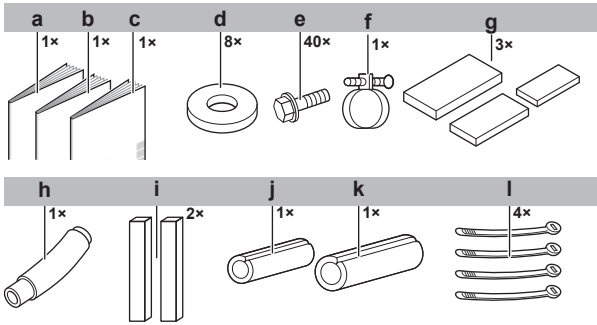
### 3.1 Indoor unit

**WARNING: FLAMMABLE MATERIAL**

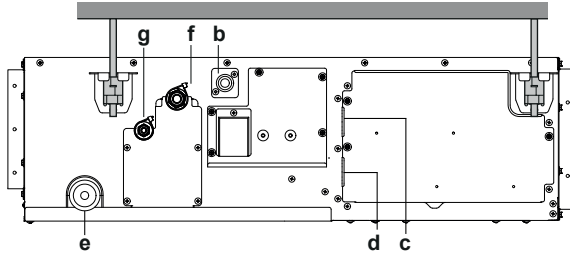
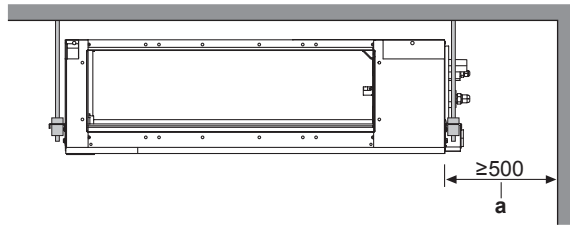
The R32 refrigerant (if applicable) in this unit is mildly flammable. Refer to the outdoor unit specifications for the type of refrigerant to be used.

## 4 Unit installation

### 3.1.1 To remove the accessories from the indoor unit

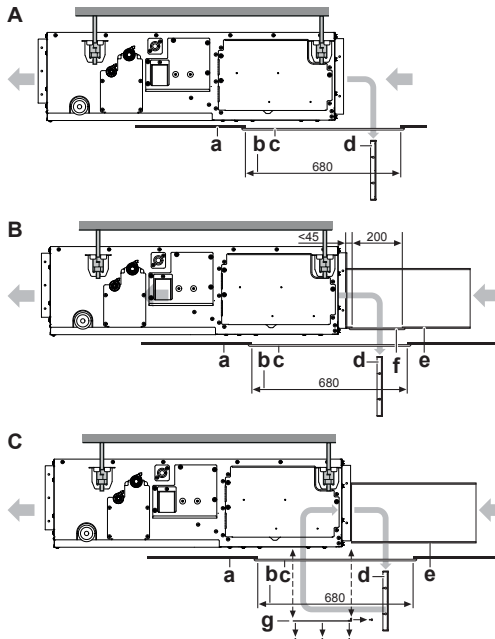


- a Installation manual
- b Operation manual
- c General safety precautions
- d Washers for hanger bracket
- e Screws for duct flanges
- f Metal clamp
- g Sealing pads: Large (drain pipe), medium 1 (gas pipe), medium 2 (liquid pipe)
- h Drain hose
- i Long sealing
- j Insulation piece: Small (liquid pipe)
- k Insulation piece: Large (gas pipe)
- l Tie wraps



- a Service space
- b Drain pipe
- c Power supply wiring port
- d Transmission wiring port
- e Maintenance drain outlet
- f Gas pipe
- g Liquid pipe

#### Installation options:



- A Standard rear suction
  - B Installation with rear duct and duct service opening
  - C Installation with rear duct, no duct service opening
- "4.2.1 Guidelines when installing the indoor unit" [ 4 ]**
- a Ceiling surface
  - b Ceiling opening
  - c Service access panel (field supply)
  - d Air filter
  - e Air inlet filter
  - f Duct service opening
  - g Interchangeable plate

## 4 Unit installation



#### WARNING

Installation shall be done by an installer, the choice of materials and installation shall comply with the applicable legislation. In Europe, EN378 is the applicable standard.

### 4.1 Preparing the installation site

- Provide sufficient space around the unit for servicing and air circulation.



#### WARNING

Do NOT install the air conditioner at any place where flammable gas may leak out. If the gas leaks out and stays around the air conditioner, a fire may break out.

#### 4.1.1 Installation site requirements of the indoor unit



#### INFORMATION

The sound pressure level is less than 70 dBA.



#### CAUTION

Appliance NOT accessible to the general public. Install it in a secured area, protected from easy access.

This unit is suitable for installation in a commercial, light industrial, household and residential environment.



#### WARNING

For units using the R32 refrigerant it is necessary to keep any required ventilation openings clear of obstructions.

- Use **suspension bolts** for installation.
- **Spacing.** Mind the following requirements:

### 4.2 Mounting the indoor unit

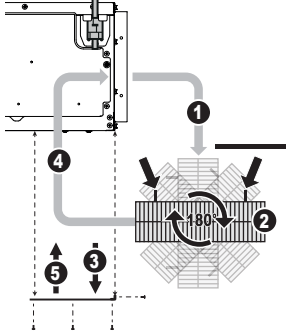
#### 4.2.1 Guidelines when installing the indoor unit



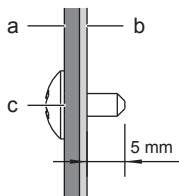
#### INFORMATION

**Optional equipment.** When installing optional equipment, also read the installation manual of the optional equipment. Depending on the field conditions, it might be easier to install the optional equipment first.

- In case of installation with duct, but no duct service opening. Modify the position of the air filters.

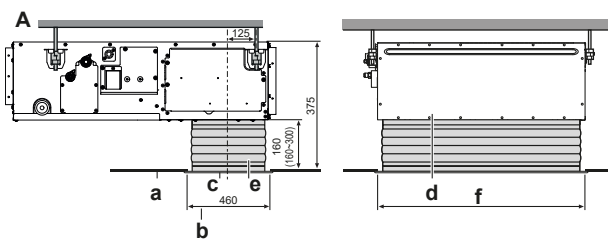


- 1 Remove the air filter(s) from the outside of the unit.
  - 2 Rotate the filter – cloth straps **MUST** be facing up.
  - 3 Remove the interchangeable plate.
  - 4 Insert the filter flat through the front intake side, short side first. The plastic grid must face inside. Cloth straps **MUST** be on top and pulled inside the unit.
  - 5 Reinstall the interchangeable plate.
- When installing an air inlet duct, select fixing screws that stick out 5 mm on the inside of the flange to protect the air filter from damage during maintenance of the filter.



- a Air inlet duct
- b Inside of the flange
- c Fixing screw

- **Ceiling strength.** Check whether the ceiling is strong enough to support the weight of the unit. If there is a risk, reinforce the ceiling before installing the unit.
- **Installation options:**

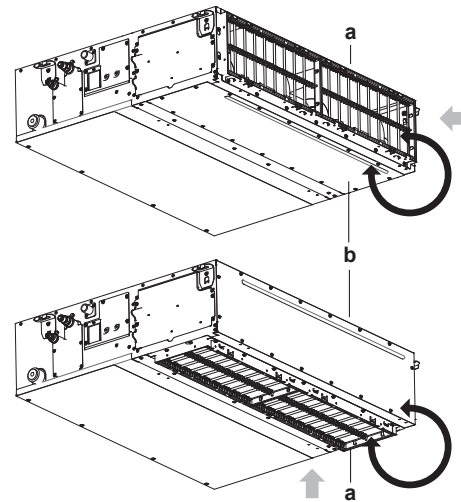


Class	f (mm)
35+50	760
60+71	1060
100~140	1460

- A Mounting the air inlet with a canvas connection
- a Ceiling surface
- b Ceiling opening
- c Air inlet panel (field supply)
- d Indoor unit (back side)
- e Canvas connection for air inlet panel (field supply)

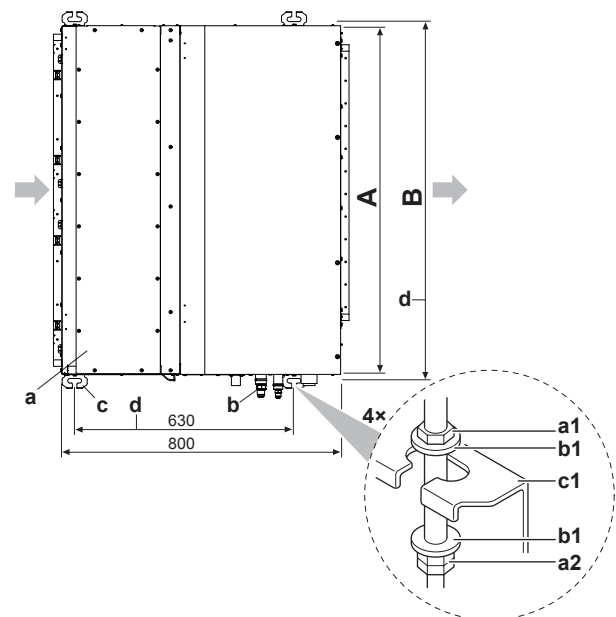
## **i** INFORMATION

The unit can be used with bottom suction by replacing the interchangeable plate by the air filter holding plate.



- a Air filter holding plate with air filter(s)
- b Interchangeable plate

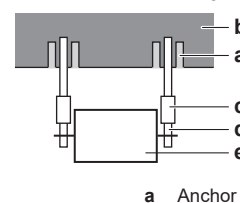
- **Suspension bolts.** Use M10 suspension bolts for installation. Attach the hanger bracket to the suspension bolt. Fix it securely using a nut and washer from the upper and lower sides of the hanger bracket.
- **Ceiling opening size.** Make sure the ceiling opening is within the following limits:



Class	A (mm)	B (mm)
35+50	700	738
60+71	1000	1038
100~140	1400	1438

- a1 Nut (field supply)
- a2 Double nut (field supply)
- b1 Washer (accessories)
- c1 Hanger bracket (attached to the unit)
- a Indoor unit
- b Pipe
- c Hanger bracket pitch (suspension)
- d Suspension bolt spacing

- **Installation example:**



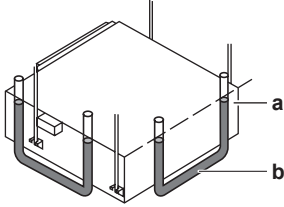
- a Anchor

## 4 Unit installation

- b Ceiling slab
- c Long nut or turn-buckle
- d Suspension bolt
- e Indoor unit

### • Install the unit temporarily.

- 6 Attach the hanger bracket to the suspension bolt.
  - 7 Fix it securely.
- **Level.** Make sure the unit is level at all four corners using a level or a water-filled vinyl tube.



- a Water level
- b Vinyl tube

- 8 Tighten the upper nut.



### NOTICE

Do NOT install the unit tilted. **Possible consequence:** If the unit is tilted against the direction of the condensate flow (the drain piping side is raised), the float switch might malfunction and cause water to drip.

### 4.2.2 Guidelines when installing the ducting



#### WARNING

If one or more rooms are connected to the unit using a duct system, make sure:

- there are no operating ignition sources (example: open flames, an operating gas appliance or an operating electric heater) in case the floor area is less than the minimum floor area A (m<sup>2</sup>).
- no auxiliary devices, which may be a potential ignition source, are installed in the duct work (example: hot surfaces with a temperature exceeding 700°C and electric switching device);
- only auxiliary devices approved by the manufacturer are used in the duct work;
- air inlet AND outlet are connected directly to the same room by ducting. Do NOT use spaces such as a false ceiling as a duct for the air inlet or outlet.



#### WARNING

Do NOT install operating ignition sources (example: open flames, an operating gas appliance or an operating electric heater) in the ductwork.

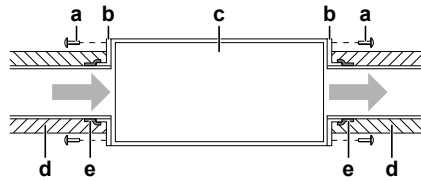


### CAUTION

- Make sure the installation of the duct does NOT exceed the setting range of the external static pressure for the unit. Refer to the technical datasheet of your model for the setting range.
- Make sure to install the canvas duct so vibrations are NOT transmitted to the duct or ceiling. Use a sound-absorbing material (insulation material) for the lining of the duct and apply vibration insulation rubber to the hanging bolts.
- When welding, make sure NOT to spatter onto the drain pan or the air filter.
- If the metal duct passes through a metal lath, wire lath or metal plate of the wooden structure, separate the duct and wall electrically.
- Install the outlet grille in a position where the airflow will not come into direct contact with people.
- Do NOT use booster fans in the duct. Use the function to adjust the fan rate setting automatically (see "8 Configuration" [p 12]).

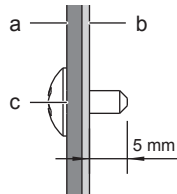
The ducting is to be field supplied.

- **Air inlet side.** Attach the duct and intake-side flange (field supply). For connecting the flange, use screws (accessory).



- a Connection screw (accessory)
- b Flange (field supply)
- c Main unit
- d Insulation (field supply)
- e Aluminium tape (field supply)

- **Fixing screws.** When installing an air inlet duct, select fixing screws that stick out 5 mm on the inside of the flange to protect the air filter from damage during maintenance of the filter.



- a Air inlet duct
- b Inside of the flange
- c Fixing screw

- **Filter.** Be sure to attach an air filter inside the air passage on the intake side. Use an air filter with dust collecting efficiency ≥50% (gravimetric method).
- **Air outlet side.** Connect the duct according to the inside dimension of the outlet-side flange.
- **Air leaks.** Wind aluminium tape around the intake side flange and duct connection. Make sure there are no air leaks at any other connection.
- **Insulation.** Insulate the duct to prevent condensation from forming. Use glass wool or polyethylene foam 25 mm thick.

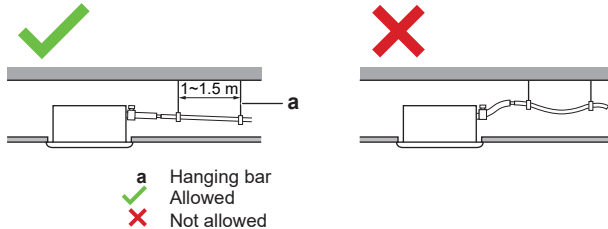
### 4.2.3 Guidelines when installing the drain piping

Make sure condensation water can be evacuated properly. This involves:

- General guidelines
- Connecting the drain piping to the indoor unit
- Checking for water leaks

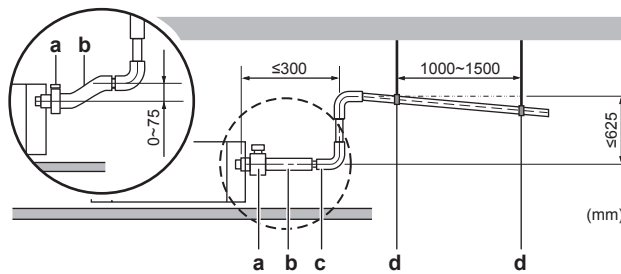
## General guidelines

- **Drain pump.** For this "high lift type", the drainage sounds will be reduced when the drain pump is installed in a higher location. Recommended height is 300 mm.
- **Pipe length.** Keep drain piping as short as possible.
- **Pipe size.** Keep the pipe size equal to or greater than that of the connecting pipe (vinyl pipe of 25 mm nominal diameter and 32 mm outer diameter).
- **Slope.** Make sure the drain piping slopes down (at least 1/100) to prevent air from being trapped in the piping. Use hanging bars as shown.



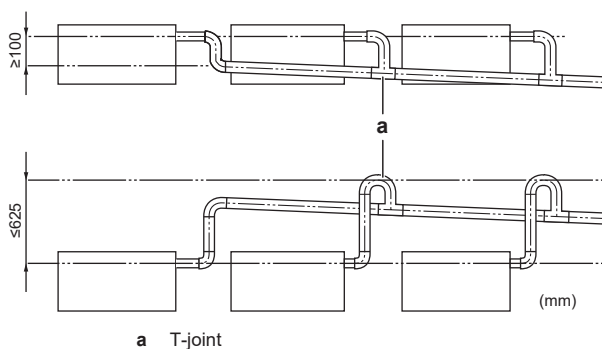
- ✓ a Hanging bar Allowed
- ✗ Not allowed

- **Condensation.** Take measures against condensation. Insulate the complete drain piping in the building.
- **Rising piping.** If necessary to make the slope possible, you can install rising piping.
  - Drain hose inclination: 0~75 mm to avoid stress on the piping and to avoid air bubbles.
  - Rising piping: ≤300 mm from the unit, ≤625 mm perpendicular to the unit.



- a Metal clamp (accessory)
- b Drain hose (accessory)
- c Rising drain piping (vinyl pipe of 25 mm nominal diameter and 32 mm outer diameter) (field supply)
- d Hanging bars (field supply)

- **Combining drain pipes.** You can combine drain pipes. Make sure to use drain pipes and T-joints with the correct gauge for the operating capacity of the units.



- a T-joint

## To connect the drain piping to the indoor unit

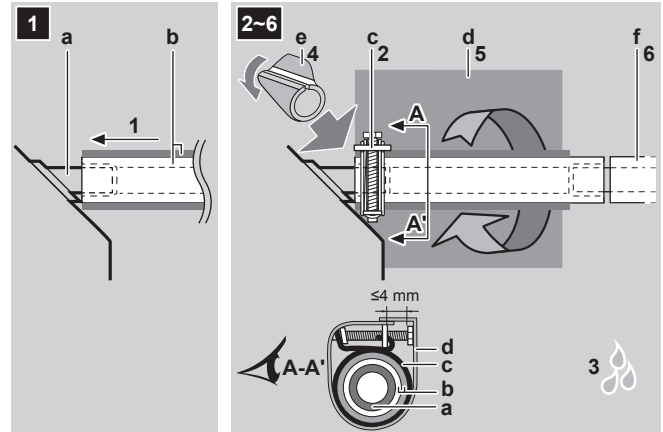


### NOTICE

Incorrect connection of the drain hose might cause leaks, and damage the installation space and surroundings.

- 1 Push the drain hose as far as possible over the drain pipe connection.

- 2 Tighten the metal clamp until the screw head is less than 4 mm from the metal clamp part.
- 3 Check for water leaks (see "To check for water leaks" [▶ 7]).
- 4 Install the insulation piece (drain pipe).
- 5 Wind the large sealing pad (= insulation) around the metal clamp and drain hose, and fix it with cable ties.
- 6 Connect the drain piping to the drain hose.



- a Drain pipe connection (attached to the unit)
- b Drain hose (accessory)
- c Metal clamp (accessory)
- d Large sealing pad (accessory)
- e Insulation piece (drain pipe) (accessory)
- f Drain piping (field supply)

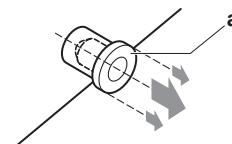


### NOTICE

- Do NOT remove the drain pipe plug. Water might leak out.
- Use the drain outlet only to discharge the water if the drain pump is not used or before maintenance.
- Insert and remove the drain plug gently. Excessive force may deform the drain socket of the drain pan.

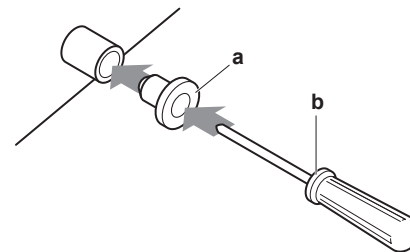
### Pull out the plug.

- Do NOT wiggle the plug up and down.



### Push in the plug.

- Set the plug and push it in using a Phillips screwdriver.



- a Drain plug
- b Phillips screwdriver

## To check for water leaks

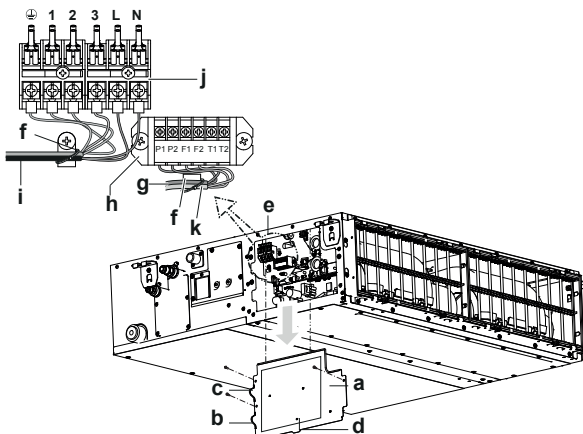
The procedure differs depending on whether electrical wiring is already finished. When electrical wiring is not finished yet, you need to temporarily connect the user interface and power supply to the unit.

### When electrical wiring is not finished yet

- 1 Temporarily connect electrical wiring.

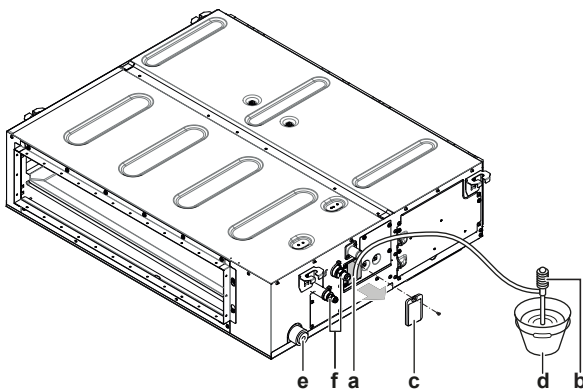
## 5 Piping installation

- 2 Remove the switch box cover (a).
- 3 Connect the single-phase power supply (50 Hz, 230 V) to connections No. 1 and No. 2 on the terminal block for power supply and earth.
- 4 Reattach the switch box cover (a).



- a Switch box cover
- b Transmission wiring port
- c Power supply wiring port
- d Wiring diagram
- e Switch box
- f Plastic clamp
- g User interface wiring
- h Terminal board for unit transmission wiring
- i Power supply wiring
- j Power supply terminal board
- k Transmission wiring between units

- 5 Turn ON the power.
- 6 Start cooling operation (see "7.2 To perform a test run" [▶ 11]).
- 7 Gradually pour approximately 1 l of water through the air discharge outlet, and check for leaks.



- a Water inlet
- b Portable pump
- c Water inlet cover
- d Bucket (adding water through water inlet)
- e Drain outlet for maintenance
- f Refrigerant pipes

- 8 Turn OFF the power.
- 9 Disconnect the electrical wiring.
- 10 Remove the control box cover.
- 11 Disconnect the power supply and earth.
- 12 Reattach the control box cover.

### When electrical wiring is already finished

- 1 Start cooling operation.
- 2 Gradually pour approximately 1 l of water through the air discharge outlet, and check for leaks.

## 5 Piping installation

### 5.1 Preparing refrigerant piping

#### 5.1.1 Refrigerant piping requirements



#### NOTICE

The piping and other pressure-containing parts shall be suitable for refrigerant. Use phosphoric acid deoxidised seamless copper for refrigerant piping.

- Foreign materials inside pipes (including oils for fabrication) must be  $\leq 30$  mg/10 m.

#### Refrigerant piping diameter

For piping connection of the indoor unit, use the following piping diameters:

Class	Pipe outer diameter (mm)	
	Liquid pipe	Gas pipe
35	Ø6.4	Ø9.5
50+60	Ø6.4	Ø12.7
71~140	Ø9.5	Ø15.9

#### Refrigerant piping material

##### Piping material

Phosphoric acid deoxidised seamless copper

##### Flare connections

Only use annealed material.

##### Piping temper grade and thickness

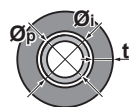
Outer diameter (Ø)	Temper grade	Thickness (t) <sup>(a)</sup>	
6.4 mm (1/4")	Annealed (O)	≥0.8 mm	
9.5 mm (3/8")			
12.7 mm (1/2")			
15.9 mm (5/8")			

<sup>(a)</sup> Depending on the applicable legislation and the maximum working pressure of the unit (see "PS High" on the unit name plate), larger piping thickness might be required.

#### 5.1.2 Refrigerant piping insulation

- Use polyethylene foam as insulation material:
  - with a heat transfer rate between 0.041 and 0.052 W/mK (0.035 and 0.045 kcal/mh°C)
  - with a heat resistance of at least 120°C
- Insulation thickness:

Pipe outer diameter (Ø <sub>p</sub> )	Insulation inner diameter (Ø <sub>i</sub> )	Insulation thickness (t)
6.4 mm (1/4")	8~10 mm	≥10 mm
9.5 mm (3/8")	10~14 mm	≥13 mm
12.7 mm (1/2")	14~16 mm	≥10 mm
15.9 mm (5/8")	16~20 mm	≥13 mm



If the temperature is higher than 30°C and the humidity is higher than RH 80%, the thickness of the insulation materials should be at least 20 mm to prevent condensation on the surface of the insulation.



## 5.2 Connecting the refrigerant piping



**DANGER: RISK OF BURNING/SCALDING**

### 5.2.1 To connect the refrigerant piping to the indoor unit



#### CAUTION

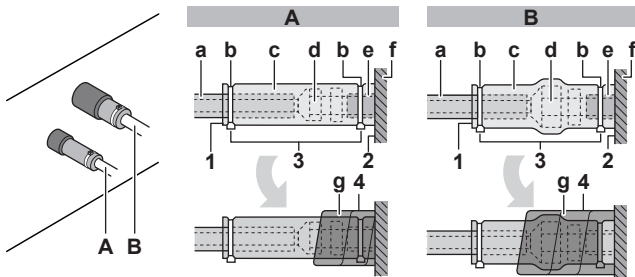
Install the refrigerant piping or components in a position where they are unlikely to be exposed to any substance which may corrode components containing refrigerant, unless the components are constructed of materials that are inherently resistant to corrosion or are suitably protected against corrosion.



#### WARNING: FLAMMABLE MATERIAL

The R32 refrigerant (if applicable) in this unit is mildly flammable. Refer to the outdoor unit specifications for the type of refrigerant to be used.

- **Pipe length.** Keep refrigerant piping as short as possible.
- **Flare connections.** Connect refrigerant piping to the unit using flare connections.
- **Insulation.** Insulate the refrigerant piping on the indoor unit as follows:



- A Liquid piping  
B Gas piping

- a Insulation material (field supply)  
b Tie wrap (field supply)  
c Insulation pieces: Large (gas pipe), small (liquid pipe) (accessories)  
d Flare nut (attached to the unit)  
e Refrigerant pipe connection (attached to the unit)  
f Unit  
g Sealing pads: Medium 1 (gas pipe), medium 2 (liquid pipe) (accessories)

- 1 Turn up the seams of the insulation pieces.
- 2 Attach to the base of the unit.
- 3 Tighten the tie wrap on the insulation pieces.
- 4 Wrap the sealing pad from the base of the unit to the top of the flare nut.



#### NOTICE

Make sure to insulate all refrigerant piping. Any exposed piping might cause condensation.

## 6 Electrical installation



**DANGER: RISK OF ELECTROCUTION**



#### WARNING

ALWAYS use multicore cable for power supply cables.



#### WARNING

If the supply cord is damaged, it MUST be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.

## 6.1 Specifications of standard wiring components



#### NOTICE

We recommend using solid wires. If stranded wires are used, slightly twist the strands to consolidate the end of the conductor for either direct use in the terminal clamp or insertion in a round crimp-style terminal. Details are described in "Guidelines when connecting the electrical wiring" in the installer reference guide.

Component	Class				
	35+50	60+71	100	125+140	
Power supply cable	MCA <sup>(a)</sup>	1.4 A	1.3 A	3.5 A	3.9 A
	Voltage	220~240 V			
	Phase	1~			
	Frequency	50/60 Hz			
	Wire sizes	Must comply with applicable legislation			
Interconnection cable	Minimum cable section of 2.5 mm <sup>2</sup> and applicable for 220~240 V				
User interface cable	Vinyl cord with 0.75 to 1.25 mm <sup>2</sup> sheath or cables (2 core wires) Maximum 500 m				
Recommended field fuse	16 A				
Residual current device / Earth leakage circuit breaker	For units with a separate power supply line, ALWAYS install a residual current device (RCD) with an instantaneous action. The installed RCD MUST comply with the national wiring regulation.				

<sup>(a)</sup> MCA=Minimum circuit ampacity. Stated values are maximum values (see electrical data of indoor unit for exact values).

## 6.2 To connect the electrical wiring to the indoor unit



#### WARNING

Do NOT extend the power supply or the interconnection cable by using wire connectors, wire connection clamps, taped wires, extension cords.

These can cause overheating, electric shock or fire.



#### NOTICE

- Follow the wiring diagram (delivered with the unit, located on the switch box cover).
- Make sure the electrical wiring does NOT obstruct proper reattachment of the service cover.

It is important to keep the power supply and the interconnection wiring separated from each other. In order to avoid any electrical interference, the distance between both wirings should ALWAYS be at least 50 mm.



#### NOTICE

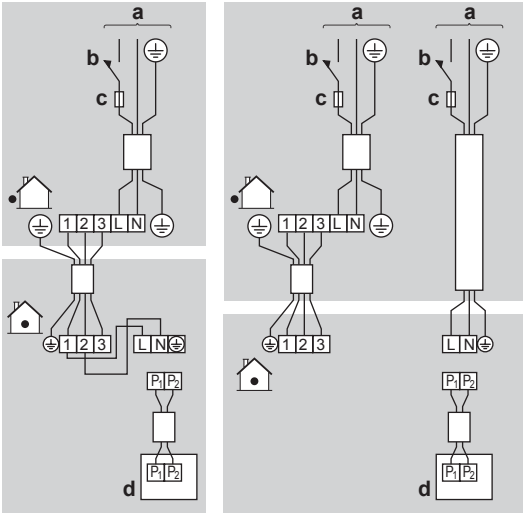
Be sure to keep the power line and interconnection line apart from each other. Interconnection wiring and power supply wiring may cross, but may NOT run parallel.

- 1 Remove the service cover.
- 2 **User interface cable:** Route the cable through the frame, connect the cable to the terminal block, and fix the cable with a cable tie.

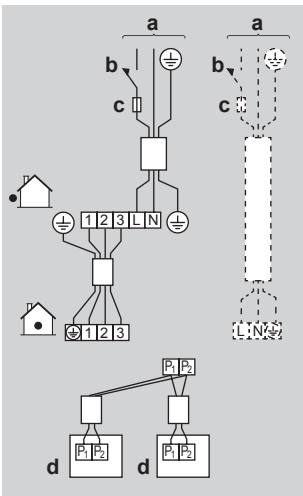
## 6 Electrical installation

- 3 **Interconnection cable** (indoor↔outdoor): Route the cable through the frame, connect the cable to the terminal block (make sure the numbers match with the numbers on the outdoor unit, and connect the earth wire), and fix the cable with a cable tie.
- 4 Divide the small sealing (accessory) and wrap it around the cables to prevent water from entering the unit. Seal all gaps to prevent small animals from entering the system.
- 5 Reattach the service cover.

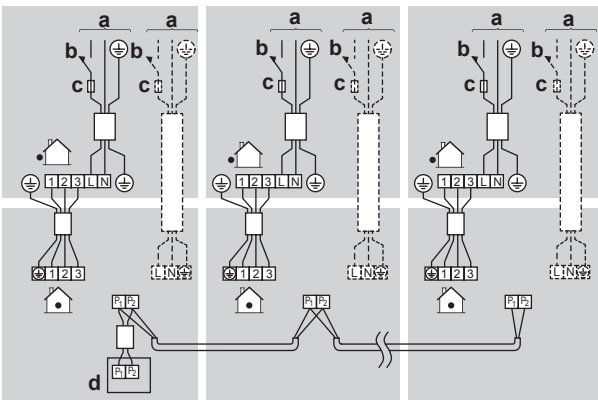
### • When using 1 user interface with 1 indoor unit.



### • When using 2 user interfaces<sup>(1)</sup>



### • When using group control<sup>(1)</sup>



- a Power supply  
b Main switch  
c Fuse

<sup>(1)</sup> Dashed line represents separate power supply.

### d User interface

- **Master unit:** Be sure to connect the wiring when combining with a simultaneously operating multi-type in group control.

### **i** INFORMATION

In case of group control, it is not necessary to assign a group address to the indoor unit. The group address is automatically set when the power is turned on.

- Use separate power supply only in case of following combination:

1×FBA35A + RXS35L or RXM35M
2×FBA35A + RZAG71N7Y1B
3×FBA35A + RZAG100N7Y1B or RZAG71N7Y1B
4×FBA35A + RZAG125/140N7Y1B or RZAG100N7Y1B
2×FBA50A + RZAG100N7Y1B or RZAG71N7Y1B
3×FBA50A + RZAG125/140N7Y1B or RZAG100N7Y1B
4×FBA50A + RZQ200C or RZA200D
2×FBA60A + RR100/125B or RQ100/125B or RZAG125N7Y1B
3×FBA60A + RZQ200C or RZA200D
4×FBA60A + RZQ200C or RZA250D
1×FBA71A + RZAG71N7Y1B
2×FBA71A + RR100/125B or RQ100/125B or RZAG140N7Y1B or RZAG125N7Y1B or RZAG100N7Y1B
3×FBA71A + RZQ200C or RZA200D
1×FBA100A + RZAG100N7Y1B or RZAG71N7Y1B
2×FBA100A + RZQ200C or RZA200D
1×FBA125A + RZAG125N7Y1B
2×FBA125A + RZQ200C or RZA250D
1×FBA140A + RZAG140N7Y1B or RZAG125N7Y1B or RZAG100N7Y1B

- **EN/IEC 61000-3-12** provided that the short-circuit power  $S_{sc}$  is greater than or equal to the minimum  $S_{sc}$  value at the interface point between the user's supply and the public system.
  - EN/IEC 61000-3-12 = European/International Technical Standard setting the limits for harmonic currents produced by equipment connected to public low-voltage systems with input current >16 A and ≤75 A per phase.
  - It is the responsibility of the installer or user of the equipment to ensure, by consultation with the distribution network operator if necessary, that the equipment is connected ONLY to a supply with a short-circuit power  $S_{sc}$  greater than or equal to the minimum  $S_{sc}$  value.
- If the combination of units is one from table below, a separate power supply can be used. Not necessary to consult with distribution network operator as long as local requirements for installation exist.
- If there is requirement to use common power supply for the units from the table below, the connection of units complies with **EN/IEC 61000-3-12**.
- Ensure that equipment is connected only to a supply with a short-circuit power  $S_{sc}$  greater than or equal to  $S_{sc}$  in table below.

Combination	FBA <sup>(a)</sup>						
	35	50	60	71	100	125	140
RZQG71L	2 (—)	—	—	1 (—)	—	—	—
RZQG100L	3 (2.31)	2 (1.30)	—	—	1 (0.73)	—	—
RZQG125L	4 (3.33)	3 (2.32)	2 (2.05)	—	—	1 (0.74)	—
RZQG140L	4 (3.33)	3 (2.32)	—	2 (2.05)	—	—	1 (0.74)

Combination	FBA <sup>(a)</sup>						
	35	50	60	71	100	125	140
RZQSG71L	2 (1.10)	—	—	1 (1.22)	—	—	—
RZQSG100L	2 (1.65)	2 (—)	—	—	1 (—)	—	—
RZQSG125L	4 (3.33)	3 (2.32)	2 (2.05)	—	—	1 (0.74)	—
RZQSG140L	4 (3.33)	3 (2.32)	—	2 (2.05)	—	—	1 (0.74)

<sup>(a)</sup> Number of connected indoor units ( $S_{sc}$  [MVA]).  
If the  $S_{sc}$  value is NOT mentioned (—) in the table for the used combination, use the common power supply.  
If the  $S_{sc}$  value is mentioned in the table, both the common power supply or a separate power supply can be used.

## 7 Commissioning



### NOTICE

ALWAYS operate the unit with thermistors and/or pressure sensors/switches. If NOT, burning of the compressor might be the result.

### 7.1 Checklist before commissioning

<input type="checkbox"/>	You read the complete installation instructions, as described in the <b>installer reference guide</b> .
<input type="checkbox"/>	The <b>indoor units</b> are properly mounted.
<input type="checkbox"/>	In case a wireless user interface is used: The <b>indoor unit decoration panel</b> with infrared receiver is installed.
<input type="checkbox"/>	The <b>outdoor unit</b> is properly mounted.
<input type="checkbox"/>	There are <b>NO missing phases</b> or <b>reversed phases</b> .
<input type="checkbox"/>	The system is properly <b>earthed</b> and the earth terminals are tightened.
<input type="checkbox"/>	The <b>fuses</b> or locally installed protection devices are installed according to this document, and have NOT been bypassed.
<input type="checkbox"/>	The <b>power supply voltage</b> matches the voltage on the identification label of the unit.
<input type="checkbox"/>	<b>Fuses, circuit breakers, or protection devices</b> Check that the fuses, circuit breakers, or the locally installed protection devices are of the size and type specified in the chapter " <a href="#">6.1 Specifications of standard wiring components</a> " (▶ 9]. Be sure that neither a fuse nor a protection device has been bypassed.
<input type="checkbox"/>	There are <b>NO loose connections</b> or damaged electrical components in the switch box.
<input type="checkbox"/>	The <b>insulation resistance</b> of the compressor is OK.
<input type="checkbox"/>	There are <b>NO damaged components</b> or <b>squeezed pipes</b> on the inside of the indoor and outdoor units.
<input type="checkbox"/>	There are <b>NO refrigerant leaks</b> .
<input type="checkbox"/>	The correct pipe size is installed and the <b>pipes</b> are properly insulated.
<input type="checkbox"/>	The <b>stop valves</b> (gas and liquid) on the outdoor unit are fully open.

### 7.2 To perform a test run

This task is only applicable when using the BRC1E52 or BRC1E53 user interface. When using any other user interface, see the installation manual or service manual of the user interface.



### NOTICE

Do NOT interrupt the test run.



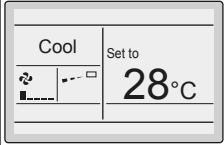
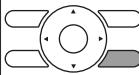
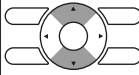
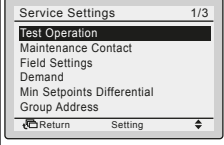

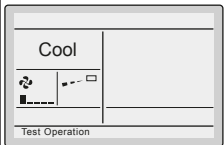

### INFORMATION

**Backlight.** To perform an ON/OFF action on the user interface, the backlight does not need to be lit. For any other action, it needs to be lit first. The backlight is lit for ±30 seconds when you press a button.

#### 1 Perform introductory steps.


#	Action
1	Open the liquid stop valve and gas stop valve by removing the cap and turning counterclockwise with a hex wrench until it stops.
2	Close the service cover to prevent electric shocks.
3	Turn ON power for at least 6 hours before starting operation to protect the compressor.
4	On the user interface, set the unit to cooling operation mode.

#### 2 Start the test run

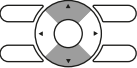
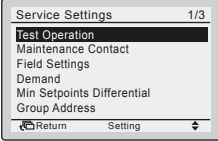

#	Action	Result
1	Go to the home menu.	
2	Press at least 4 seconds. 	The Service Settings menu is displayed.
3	Select Test Operation. 	
4	Press. 	Test Operation is displayed on the home menu. 
5	Press within 10 seconds. 	Test run starts.

#### 3 Check operation for 3 minutes.

#### 4 Stop the test run.

#	Action	Result
1	Press at least 4 seconds. 	The Service Settings menu is displayed.

## 8 Configuration

#	Action	Result
2	Select Test Operation. 	
3	Press. 	The unit returns to normal operation, and the home menu is displayed.

## 8 Configuration

### 8.1 Field setting

Make the following field settings so that they correspond with the actual installation setup and with the needs of the user:

- External static pressure setting using:
  - Airflow automatic adjustment setting
  - User interface
- Airflow rate when thermostat control is OFF
- Time to clean air filter
- Simultaneous operation system individual settings
- Computerised control (forced OFF and ON/OFF operation)

#### Setting: External static pressure



#### INFORMATION

- The fan speed of the indoor unit is preset to ensure the standard external static pressure.
- To set a higher or lower external static pressure, reset the initial setting with the user interface.

Settings for external static pressure can be achieved in 2 ways:

- Using the airflow automatic adjustment function
- Using the user interface

#### To set external static pressure by airflow automatic adjustment function



#### NOTICE

- Do NOT adjust the dampers during the fan only operation for airflow automatic adjustment.
- For the external static pressure higher than 100 Pa, do NOT use airflow automatic adjustment function.
- If the ventilation paths have been changed, perform the airflow automatic adjustment again.

- Test run MUST be done with a dry coil, run the unit for 2 hours with fan only to dry the coil.
- Check if the power supply wiring, duct, air filter are properly attached. If the closing damper is installed in the unit, make sure it is open.
- If there is more than one air inlet and outlet, adjust the dampers so that the airflow rate of each air inlet and outlet is conform with the designed airflow rate.

- Operate the unit in **fan only mode** prior to using the airflow automatic adjustment function.
- Stop** the air conditioning unit.
- Set the value** number **C2/—** to 03 for **M** 11(21) and **C1/SW** 7.
- Start** the air conditioning unit.

<sup>(1)</sup> Field settings are defined as follows:

- M**: Mode number – **First number**: for group of units – **Number between brackets**: for individual unit
- SW**: Setting number / **C1**: First code number
- : Value number / **C2**: Second code number
- : Default

**Result:** The operation lamp lights up and the unit starts the fan operation for airflow automatic adjustment.

- After airflow automatic adjustment is finished (air conditioning unit will stop) check if the value number **C2/—** is set to 02. If there is no change, perform the setting again.

Setting content:	Then <sup>(1)</sup>		
	M	C1/SW	C2/—
Airflow adjustment is OFF	11(21)	7	01
Completion of automatic airflow adjustment			02
Start of automatic airflow adjustment			03

#### To set external static pressure by the user interface

Check the indoor unit setting: the value number **C2/—** must be set to 01 for **M** 13(23) and **C1/SW** 6.

- Change the value number **C2/—** according to the external static pressure of the duct to be connected as in table below.

External static pressure <sup>(1)</sup>									
M	C1/SW	C2/—	Class						
			35	50	60	71	100	125	140
13(23)	6	01	30	30	30	30	40	50	50
		02	—	—	—	—	—	—	—
		03	30	30	30	30	—	—	—
		04	40	40	40	40	40	—	—
		05	50	50	50	50	50	50	50
		06	60	60	60	60	60	60	60
		07	70	70	70	70	70	70	70
		08	80	80	80	80	80	80	80
		09	90	90	90	90	90	90	90
		10	100	100	100	100	100	100	100
		11	110	110	110	110	110	110	110
		12	120	120	120	120	120	120	120
		13	130	130	130	130	130	130	130
		14	140	140	140	140	140	140	140
		15	150	150	150	150	150	150	150

#### Setting: Air volume when thermostat control is OFF

This setting must correspond with the needs of the user. It determines the fan speed of the indoor unit during thermostat OFF condition.

- If you have set the fan to operate, set the air volume speed:

	If you want		Then <sup>(1)</sup>		
	Outdoor unit		M	C1/SW	C2/—
	General	2MX/3MX/4MX/5MX			
During cooling operation	LL <sup>(2)</sup>		12 (22)	6	01
	Setup volume <sup>(2)</sup>				02
	OFF				03
	Monitoring 1 <sup>(2)</sup>				04
	Monitoring 2 <sup>(2)</sup>				05
During heating operation	LL <sup>(2)</sup>		12 (22)	3	01
	Setup volume <sup>(2)</sup>				02
	OFF				03
	Monitoring 1 <sup>(2)</sup>				04
	Monitoring 3 <sup>(2)</sup>				05

### Setting: Time to clean air filter

This setting must correspond with the air contamination in the room. It determines the interval at which the **TIME TO CLEAN AIR FILTER** notification is displayed on the user interface. When using a wireless user interface, you must also set the address (see the installation manual of the user interface).

If you want an interval of... (air contamination)	Then <sup>(1)</sup>		
	M	C1/SW	C2/—
±2500 h (light)	10(20)	0	01
±1250 h (heavy)			02
No notification		3	02

- **2 user interfaces:** When using 2 user interfaces, one must be set to "MAIN" and the other to "SUB".

### Setting: Individual setting in a simultaneous operation system

#### **i** INFORMATION

This function is for SkyAir outdoor units (**Example:** RZAG) only.

We recommend using the optional user interface to set the slave unit.

Perform the following steps:

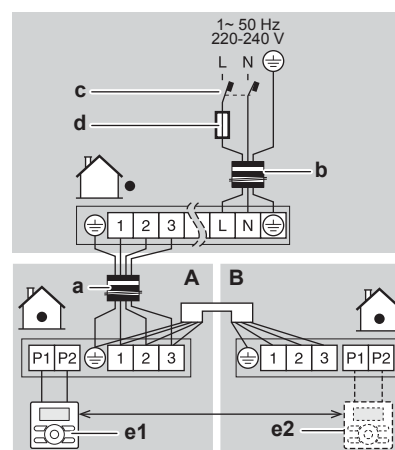
- 1 Change the second code number to 02 to perform individual setting on the slave unit.

If you want to set the slave unit as...	Then <sup>(1)</sup>		
	M	C1/SW	C2/—
Unified setting	21(11)	01	01
Individual setting			02

- 2 Perform field setting for the master unit.
- 3 Turn off the main power supply switch.
- 4 Disconnect the remote controller from the master unit and connect it to the slave unit.
- 5 Change to individual setting.

- 6 Perform field setting for the slave unit.
- 7 Turn off the main power supply or, in case of more slave units, repeat the previous steps for all slave units.
- 8 Disconnect the user interface from the slave unit and reconnect it to the master unit.

It is not necessary to rewire the remote controller from the master unit if the optional user interface is used. (However, remove the wires attached to the user interface terminal board of the master unit)

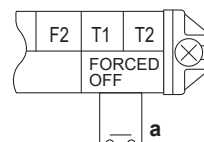


- A Master unit
- B Slave unit
- a Interconnection cable
- b Power supply cable
- c Earth leakage circuit breaker
- d Fuse
- e1 Main user interface
- e2 Optional user interface

### Setting: 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 block for user interface (there is no polarity).



a Input A

Wire specification	
Wire specification	Sheathed vinyl cord or cable (2 wire)
Gauge	0.75~1.25 mm <sup>2</sup>
External terminal	Contact that can ensure the minimum applicable load of 15 V DC, 10 mA.

#### Actuation

Forced OFF	ON/OFF operation	Input from protection device
Input ON stops operation (impossible by user interface)	Input OFF → ON: Turns the unit ON	Input ON enables control by user interface

<sup>(1)</sup> Field settings are defined as follows:

- **M:** Mode number – **First number:** for group of units – **Number between brackets:** for individual unit
- **SW:** Setting number / **C1:** First code number
- **—:** Value number / **C2:** Second code number
- **■:** Default

<sup>(2)</sup> Fan speed:

- **LL:** Low fan speed (set during thermostat OFF)
- **L:** Low fan speed (set by the user interface)
- **Setup volume:** The fan speed corresponds to the speed the user has set using the fan speed button on the user interface.
- **Monitoring 1, 2, 3:** The fan is OFF, but runs for a short time every 6 minutes to detect the room temperature by **LL** (Monitoring 1), **Setup volume** (Monitoring 2) or **L** (Monitoring 3).

## 9 Technical data

Forced OFF	ON/OFF operation	Input from protection device
Input OFF enables control by user interface	Input ON → OFF: Turns the unit OFF	Input OFF stops operation: Triggers A0 error code

### How to select FORCED OFF and ON/OFF OPERATION

- 1 Turn on the power and then use the user interface to select operation.
- 2 Change setting:

If you want...	Then <sup>(1)</sup>		
	M	C1/SW	C2/—
Forced OFF	12 (22)	1	01
ON/OFF operation			02
Input from protection device			03

## 9 Technical data

- A **subset** of the latest technical data is available on the regional Daikin website (publicly accessible).
- The **full set** of the latest technical data is available on the Daikin Business Portal (authentication required).

### 9.1 Wiring diagram

#### 9.1.1 Unified wiring diagram legend

For applied parts and numbering, refer to the wiring diagram on the unit. Part numbering is by Arabic numbers in ascending order for each part and is represented in the overview below by "\*" in the part code.

Symbol	Meaning	Symbol	Meaning
	Circuit breaker		Protective earth
			Noiseless earth
			Protective earth (screw)
	Connection		Rectifier
	Connector		Relay connector
	Earth		Short-circuit connector
	Field wiring		Terminal
	Fuse		Terminal strip
	Indoor unit		Wire clamp
	Outdoor unit		Heater
	Residual current device		

Symbol	Colour	Symbol	Colour
BLK	Black	ORG	Orange
BLU	Blue	PNK	Pink
BRN	Brown	PRP, PPL	Purple
GRN	Green	RED	Red
GRY	Grey	WHT	White

Symbol	Colour	Symbol	Colour
SKY BLU	Sky blue	YLW	Yellow

Symbol	Meaning
A*P	Printed circuit board
BS*	Pushbutton ON/OFF, operation switch
BZ, H*O	Buzzer
C*	Capacitor
AC*, CN*, E*, HA*, HE*, HL*, HN*, HR*, MR*_A, MR*_B, S*, U, V, W, X*A, K*R_*, NE	Connection, connector
D*, V*D	Diode
DB*	Diode bridge
DS*	DIP switch
E*H	Heater
FU*, F*U, (for characteristics, refer to PCB inside your unit)	Fuse
FG*	Connector (frame ground)
H*	Harness
H*P, LED*, V*L	Pilot lamp, light emitting diode
HAP	Light emitting diode (service monitor green)
HIGH VOLTAGE	High voltage
IES	Intelligent eye sensor
IPM*	Intelligent power module
K*R, KCR, KFR, KHuR, K*M	Magnetic relay
L	Live
L*	Coil
L*R	Reactor
M*	Stepper motor
M*C	Compressor motor
M*F	Fan motor
M*P	Drain pump motor
M*S	Swing motor
MR*, MRCW*, MRM*, MRN*	Magnetic relay
N	Neutral
n=*, N=*	Number of passes through ferrite core
PAM	Pulse-amplitude modulation
PCB*	Printed circuit board
PM*	Power module
PS	Switching power supply
PTC*	PTC thermistor
Q*	Insulated gate bipolar transistor (IGBT)
Q*C	Circuit breaker
Q*DI, KLM	Earth leak circuit breaker
Q*L	Overload protector
Q*M	Thermo switch
Q*R	Residual current device
R*	Resistor
R*T	Thermistor

<sup>(1)</sup> Field settings are defined as follows:

- **M**: Mode number – **First number**: for group of units – **Number between brackets**: for individual unit
- **SW**: Setting number / **C1**: First code number
- **—**: Value number / **C2**: Second code number
- : Default

Symbol	Meaning
RC	Receiver
S*C	Limit switch
S*L	Float switch
S*NG	Refrigerant leak detector
S*NPH	Pressure sensor (high)
S*NPL	Pressure sensor (low)
S*PH, HPS*	Pressure switch (high)
S*PL	Pressure switch (low)
S*T	Thermostat
S*RH	Humidity sensor
S*W, SW*	Operation switch
SA*, F1S	Surge arrester
SR*, WLU	Signal receiver
SS*	Selector switch
SHEET METAL	Terminal strip fixed plate
T*R	Transformer
TC, TRC	Transmitter
V*, R*V	Varistor
V*R	Diode bridge, Insulated-gate bipolar transistor (IGBT) power module
WRC	Wireless remote controller
X*	Terminal
X*M	Terminal strip (block)
Y*E	Electronic expansion valve coil
Y*R, Y*S	Reversing solenoid valve coil
Z*C	Ferrite core
ZF, Z*F	Noise filter

ERC



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