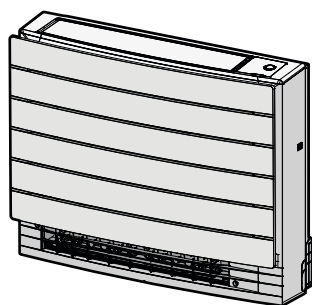




Installer reference guide

Split system air conditioners



CVXM20A3V1B
FVXM25A3V1B
FVXM35A3V1B
FVXM50A3V1B

CVXM20A3V1B9
FVXM25A3V1B9
FVXM35A3V1B9
FVXM50A3V1B9

FVXTM30A3V1B

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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.

Latest revisions of the supplied documentation may be available on the regional Daikin website or via your dealer.

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



The original documentation is written in English. All other languages are translations.

Technical engineering data

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

2 General safety precautions

2.1 About the documentation

- The original documentation is written in English. All other languages are translations.
- The precautions described in this document cover very important topics, follow them carefully.
- The installation of the system, and all activities described in the installation manual and in the installer reference guide **MUST** be performed by an authorised installer.

2.1.1 Meaning of warnings and symbols



DANGER

Indicates a situation that results in death or serious injury.



DANGER: RISK OF ELECTROCUTION

Indicates a situation that could result in electrocution.



DANGER: RISK OF BURNING/SCALDING

Indicates a situation that could result in burning/scalding because of extreme hot or cold temperatures.



DANGER: RISK OF EXPLOSION

Indicates a situation that could result in explosion.



WARNING

Indicates a situation that could result in death or serious injury.



WARNING: FLAMMABLE MATERIAL



CAUTION

Indicates a situation that could result in minor or moderate injury.



NOTICE





Indicates a situation that could result in equipment or property damage.





INFORMATION

Indicates useful tips or additional information.

Symbols used on the unit:

| Symbol | Explanation |
|---|--|
|  | Before installation, read the installation and operation manual, and the wiring instruction sheet. |
|  | Before performing maintenance and service tasks, read the service manual. |
|  | For more information, see the installer and user reference guide. |
|  | The unit contains rotating parts. Be careful when servicing or inspecting the unit. |

Symbols used in the documentation:

| Symbol | Explanation |
|---|---|
|  | Indicates a figure title or a reference to it. Example: "▲ 1–3 Figure title" means "Figure 3 in chapter 1". |
|  | Indicates a table title or a reference to it. Example: "■ 1–3 Table title" means "Table 3 in chapter 1". |

2.2 For the installer

2.2.1 General

If you are NOT sure how to install or operate the unit, contact your dealer.



DANGER: RISK OF BURNING/SCALDING

- Do NOT touch the refrigerant piping, water piping or internal parts during and immediately after operation. It could be too hot or too cold. Give it time to return to normal temperature. If you MUST touch it, wear protective gloves.
- Do NOT touch any accidental leaking refrigerant.



WARNING

Improper installation or attachment of equipment or accessories could result in electrical shock, short-circuit, leaks, fire or other damage to the equipment. ONLY use accessories, optional equipment and spare parts made or approved by Daikin.



WARNING

Make sure installation, testing and applied materials comply with applicable legislation (on top of the instructions described in the Daikin documentation).



WARNING

Tear apart and throw away plastic packaging bags so that nobody, especially children, can play with them. Possible risk: suffocation.



WARNING

Provide adequate measures to prevent that the unit can be used as a shelter by small animals. Small animals that make contact with electrical parts can cause malfunctions, smoke or fire.



CAUTION

Wear adequate personal protective equipment (protective gloves, safety glasses,...) when installing, maintaining or servicing the system.



CAUTION

Do NOT touch the air inlet or aluminium fins of the unit.



CAUTION

- Do NOT place any objects or equipment on top of the unit.
- Do NOT sit, climb or stand on the unit.

In accordance with the applicable legislation, it might be necessary to provide a logbook with the product containing at least: information on maintenance, repair work, results of tests, stand-by periods,...

Also, at least, following information **MUST** be provided at an accessible place at the product:

- Instructions for shutting down the system in case of an emergency
- Name and address of fire department, police and hospital
- Name, address and day and night telephone numbers for obtaining service

In Europe, EN378 provides the necessary guidance for this logbook.

2.2.2 Installation site

- Provide sufficient space around the unit for servicing and air circulation.
- Make sure the installation site withstands the weight and vibration of the unit.
- Make sure the area is well ventilated. Do NOT block any ventilation openings.
- Make sure the unit is level.

Do NOT install the unit in the following places:

- In potentially explosive atmospheres.
- In places where there is machinery that emits electromagnetic waves. Electromagnetic waves may disturb the control system, and cause malfunction of the equipment.
- In places where there is a risk of fire due to the leakage of flammable gases (example: thinner or gasoline), carbon fibre, ignitable dust.
- In places where corrosive gas (example: sulphurous acid gas) is produced. Corrosion of copper pipes or soldered parts may cause the refrigerant to leak.
- In bathrooms.

Instructions for equipment using R32 refrigerant



A2L

WARNING: MILDLY FLAMMABLE MATERIAL

The refrigerant inside this unit is mildly flammable.

**WARNING**

- Do NOT pierce or burn refrigerant cycle parts.
- Do NOT use cleaning materials or means to accelerate the defrosting process other than those recommended by the manufacturer.
- Be aware that the refrigerant inside the system is odourless.

**WARNING**

The appliance shall be stored so as to prevent mechanical damage and in a well-ventilated room without continuously operating ignition sources (example: open flames, an operating gas appliance or an operating electric heater) and have a room size as specified below.

**WARNING**

The appliance shall be stored as follows:

- in such a way as to prevent mechanical damage.
- in a well-ventilated room without continuously operating ignition sources (example: open flames, an operating gas appliance or an operating electric heater).
- in a room with dimensions as specified in Special requirements for R32 units.

**WARNING**

Make sure installation, servicing, maintenance and repair comply with instructions from Daikin and with applicable legislation and are executed **ONLY** by authorised persons.

**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 (m²).
- 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**

- Take precautions to avoid excessive vibration or pulsation to refrigeration piping.
- Protect the protection devices, piping and fittings as much as possible against adverse environmental effects.
- Provide space for expansion and contraction of long runs of piping.
- Design and install piping in refrigerating systems such as to minimise the likelihood of hydraulic shock damaging the system.
- Mount the indoor equipment and pipes securely and protect them to avoid accidental rupture of equipment or pipes in case of events such as moving furniture or reconstruction activities.



CAUTION

Do NOT use potential sources of ignition in searching for or detection of refrigerant leaks.



NOTICE

- Do NOT re-use joints and copper gaskets which have been used already.
- Joints made in installation between parts of refrigerant system shall be accessible for maintenance purposes.

Installation space requirements



WARNING

If appliances contain R32 refrigerant, then the floor area of the room in which the appliances are installed, operated and stored must be larger than the minimum floor area A (m²).

- FVXM-A and CVXM-A product range is allowed to be combined ONLY with systems with total refrigerant amount ≤1.842 kg (no floor area limitation applies).
- For FVXM-A9 and CVXM-A9 product range, refer to the "[To determine the minimum floor area](#)" [► 24].



NOTICE

- Protect pipework from physical damage.
- Keep the pipework installation to a minimum.

2.2.3 Refrigerant — in case of R410A or R32

If applicable. See the installation manual or installer reference guide of your application for more information.



DANGER: RISK OF EXPLOSION

Pump down – Refrigerant leakage. If you want to pump down the system, and there is a leak in the refrigerant circuit:

- Do NOT use the unit's automatic pump down function, with which you can collect all refrigerant from the system into the outdoor unit. **Possible consequence:** Self-combustion and explosion of the compressor because of air going into the operating compressor.
- Use a separate recovery system so that the unit's compressor does NOT have to operate.



WARNING

During tests, NEVER pressurise the product with a pressure higher than the maximum allowable pressure (as indicated on the nameplate of the unit).



WARNING

Take sufficient precautions in case of refrigerant leakage. If refrigerant gas leaks, ventilate the area immediately. Possible risks:

- Excessive refrigerant concentrations in a closed room can lead to oxygen deficiency.
- Toxic gas might be produced if refrigerant gas comes into contact with fire.

**WARNING**

ALWAYS recover the refrigerant. Do NOT release them directly into the environment. Use a vacuum pump to evacuate the installation.

**WARNING**

Make sure there is no oxygen in the system. Refrigerant may ONLY be charged after performing the leak test and the vacuum drying.

Possible consequence: Self-combustion and explosion of the compressor because of oxygen going into the operating compressor.

**NOTICE**

- To avoid compressor breakdown, do NOT charge more than the specified amount of refrigerant.
- When the refrigerant system is to be opened, refrigerant MUST be treated according to the applicable legislation.

**NOTICE**

Make sure refrigerant piping installation complies with applicable legislation. In Europe, EN378 is the applicable standard.



**NOTICE**

Make sure the field piping and connections are NOT subjected to stress.

**NOTICE**

After all the piping has been connected, make sure there is no gas leak. Use nitrogen to perform a gas leak detection.

- In case recharge is required, see the nameplate of the unit. It states the type of refrigerant and necessary amount.
- The unit is factory charged with refrigerant and depending on pipe sizes and pipe lengths some systems require additional charging of refrigerant.
- ONLY use tools exclusively for the refrigerant type used in the system, this to ensure pressure resistance and prevent foreign materials from entering into the system.
- Charge the liquid refrigerant as follows:

| If | Then |
|--|--|
| A siphon tube is present (i.e., the cylinder is marked with "Liquid filling siphon attached") | Charge with the cylinder upright.  |
| A siphon tube is NOT present | Charge with the cylinder upside down.  |

- Open refrigerant cylinders slowly.

- Charge the refrigerant in liquid form. Adding it in gas form may prevent normal operation.



CAUTION

When the refrigerant charging procedure is done or when pausing, close the valve of the refrigerant tank immediately. If the valve is NOT closed immediately, remaining pressure might charge additional refrigerant. **Possible consequence:** Incorrect refrigerant amount.

2.2.4 Electrical



DANGER: RISK OF ELECTROCUTION

- Turn OFF all power supply before removing the switch box cover, connecting electrical wiring or touching electrical parts.
- Disconnect the power supply for more than 10 minutes, and measure the voltage at the terminals of main circuit capacitors or electrical components before servicing. The voltage MUST be less than 50 V DC before you can touch electrical components. For the location of the terminals, see the wiring diagram.
- Do NOT touch electrical components with wet hands.
- Do NOT leave the unit unattended when the service cover is removed.



WARNING

If NOT factory installed, a main switch or other means for disconnection, having a contact separation in all poles providing full disconnection under overvoltage category III condition, MUST be installed in the fixed wiring.



WARNING

- ONLY use copper wires.
- Make sure the field wiring complies with the applicable legislation.
- All field wiring MUST be performed in accordance with the wiring diagram supplied with the product.
- NEVER squeeze bundled cables and make sure they do NOT come in contact with the piping and sharp edges. Make sure no external pressure is applied to the terminal connections.
- Make sure to install earth wiring. Do NOT earth the unit to a utility pipe, surge absorber, or telephone earth. Incomplete earth may cause electrical shock.
- Make sure to use a dedicated power circuit. NEVER use a power supply shared by another appliance.
- Make sure to install the required fuses or circuit breakers.
- Make sure to install an earth leakage protector. Failure to do so may cause electrical shock or fire.
- When installing the earth leakage protector, make sure it is compatible with the inverter (resistant to high frequency electric noise) to avoid unnecessary opening of the earth leakage protector.



WARNING

- After finishing the electrical work, confirm that each electrical component and terminal inside the electrical components box is connected securely.
- Make sure all covers are closed before starting up the unit.

**CAUTION**

- When connecting the power supply: connect the earth cable first, before making the current-carrying connections.
- When disconnecting the power supply: disconnect the current-carrying cables first, before separating the earth connection.
- The length of the conductors between the power supply stress relief and the terminal block itself **MUST** be as such that the current-carrying wires are tightened before the earth wire is in case the power supply is pulled loose from the stress relief.

**NOTICE**

Precautions when laying power wiring:



- Do NOT connect wiring of different thicknesses to the power terminal block (slack in the power wiring may cause abnormal heat).
- When connecting wiring which is the same thickness, do as shown in the figure above.
- For wiring, use the designated power wire and connect firmly, then secure to prevent outside pressure being exerted on the terminal board.
- Use an appropriate screwdriver for tightening the terminal screws. A screwdriver with a small head will damage the head and make proper tightening impossible.
- Over-tightening the terminal screws may break them.

Install power cables at least 1 meter away from televisions or radios to prevent interference. Depending on the radio waves, a distance of 1 meter may NOT be sufficient.

**NOTICE**

ONLY applicable if the power supply is three-phase, and the compressor has an ON/OFF starting method.

If there exists the possibility of reversed phase after a momentary black out and the power goes ON and OFF while the product is operating, attach a reversed phase protection circuit locally. Running the product in reversed phase can break the compressor and other parts.

3 Specific installer safety instructions

Always observe the following safety instructions and regulations.

Unit installation (see "6 Unit installation" [▶ 22])



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

- CVXM-A and FVXM-A Floor Standing range is allowed to be combined ONLY with systems with total refrigerant amount **≤1.842 kg**. Therefore in case of combination with outdoor units 3MXM40 or 3MXM52, the total liquid refrigerant piping length of the installation MUST be ≤30 m.
- For CVXM-A9 and FVXM-A9 refer to "To determine the minimum floor area" [▶ 24].



WARNING

The appliance shall be stored so as to prevent mechanical damage and in a well-ventilated room without continuously operating ignition sources (e.g. open flames, an operating gas appliance, or an operating electric heater). The room size shall be as specified in the General safety precaution.



CAUTION

For walls containing a metal frame or a metal board, use a wall embedded pipe and wall cover in the feed-through hole to prevent possible heat, electrical shock, or fire.

Piping installation (see "7 Piping installation" [▶ 37])



WARNING

- Take precautions to avoid excessive vibration or pulsation to refrigeration piping.
- Protect the protection devices, piping and fittings as much as possible against adverse environmental effects.
- Provide space for expansion and contraction of long runs of piping.
- Design and install piping in refrigerating systems such as to minimise the likelihood of hydraulic shock damaging the system.
- Mount the indoor equipment and pipes securely and protect them to avoid accidental rupture of equipment or pipes in case of events such as moving furniture or reconstruction activities.



CAUTION

Piping and joints of a split system shall be made with permanent joints when inside an occupied space except joints directly connecting the piping to the indoor units.



DANGER: RISK OF BURNING/SCALDING

**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.

Electrical installation (see "8 Electrical installation" [▶ 43])**DANGER: RISK OF ELECTROCUTION****WARNING**

ALWAYS use multicore cable for power supply cables.

**WARNING**

- All wiring MUST be performed by an authorised electrician and MUST comply with the applicable 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 shock.
- 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 use taped wires, extension cords, or connections from a star system. They can cause overheating, electrical shock or fire.
- 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 connect the power supply to the indoor unit. This could result in electrical shock or fire.

**WARNING**

- Do NOT use locally purchased electrical parts inside the product.
- Do NOT branch the power supply for the drain pump, etc. from the terminal block. This could result in electrical shock or fire.

**WARNING**

Keep the interconnection wiring away from copper pipes without thermal insulation as such pipes will be very hot.

4 About the box

Keep the following in mind:

- At delivery, the unit **MUST** be checked for damage and completeness. Any damage or missing parts **MUST** be reported immediately to the claims agent of the carrier.
- Bring the packed unit as close as possible to its final installation position to prevent damage during transport.
- Prepare in advance the path along which you want to bring the unit to its final installation position.
- When handling the unit, take into account the following:



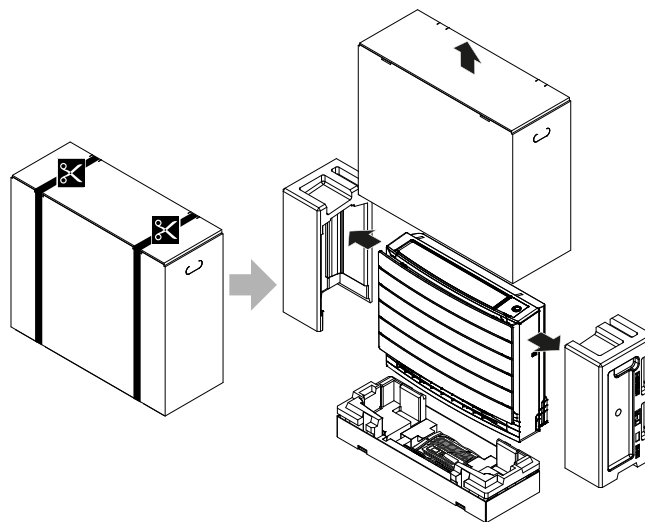
Fragile, handle the unit with care.



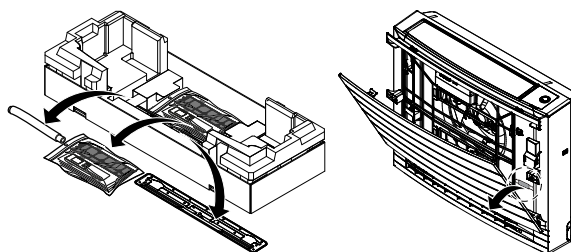
Keep the unit upright in order to avoid damage.

4.1 Indoor unit

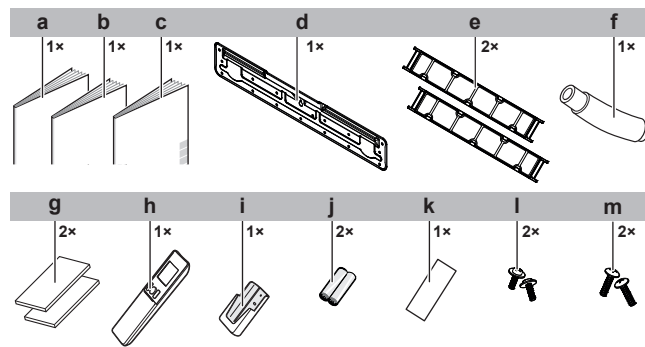
4.1.1 To unpack the indoor unit



4.1.2 To remove the accessories from the indoor unit



- 1** Remove the accessories located at the bottom of the package. Spare SSID sticker is located on the unit.



- a Installation manual
- b Operation manual
- c General safety precautions
- d Mounting plate (attached to the unit)
- e Titanium apatite deodorising filter
- f Drain hose
- g Insulation piece
- h Wireless remote control (user interface)
- i Wireless remote control
- j Dry battery AAA.LR03 (alkaline) for wireless remote control
- k Spare SSID sticker (attached to the unit)
- l Screws for fixing drain hose
- m White head screws (for final installation of the front grille)

- **Spare SSID sticker.** Do NOT throw away the spare sticker. Keep it in a safe place in case it is needed in the future (e.g. in case the front grille is replaced, attach it to the new front grille).

5 About the unit

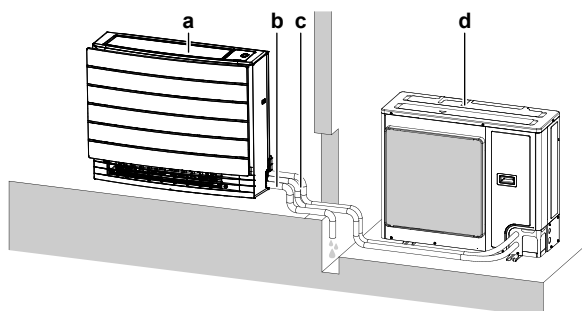


A2L

WARNING: MILDLY FLAMMABLE MATERIAL

The refrigerant inside this unit is mildly flammable.

5.1 System layout



- a Indoor unit
- b Drain piping
- c Refrigerant piping (gas and liquid)
- d Outdoor unit

5.2 Operation range

Use the system in the following temperature and humidity ranges for safe and effective operation.

| CVXM, FVXM | | |
|--------------------|--------------------------------------|------------------------|
| | Cooling and drying ^{(a)(b)} | Heating ^(a) |
| Indoor temperature | 18~32°C DB 14~23°C WB | 10~30°C DB |
| Indoor humidity | ≤80% ^(b) | — |

^(a) A safety device might stop the operation of the system if the unit runs outside its operation range.

^(b) Condensation and water dripping might occur if the unit runs outside its operation range.

| FVXTM | | |
|--------------------|--------------------------------------|------------------------|
| | Cooling and drying ^{(a)(b)} | Heating ^(a) |
| Indoor temperature | 18~32°C DB 14~23°C WB | 10~30°C DB |
| Indoor humidity | ≤80% ^(b) | — |

^(a) A safety device might stop the operation of the system if the unit runs outside its operation range.

^(b) Condensation and water dripping might occur if the unit runs outside its operation range.

5.3 About the wireless LAN

For detailed specifications, installation instructions, setting methods, FAQ, declaration of conformity and the latest version of this manual, visit app.daikineurope.com.



INFORMATION: Declaration of conformity

- Daikin Industries Czech Republic s.r.o. declares that the radio equipment type inside of this unit is in compliance with Directive 2014/53/EU and S.I. 2017/1206: Radio Equipment Regulations 2017.
- This unit is considered as combined equipment according to the definition of Directive 2014/53/EU and S.I. 2017/1206: Radio Equipment Regulations 2017.

5.3.1 Precautions when using the wireless LAN

Do NOT use near:

- **Medical equipment.** E.g. persons using cardiac pacemakers or defibrillators. This product may cause electromagnetic interference.
- **Auto-control equipment.** E.g. automatic doors or fire alarm equipment. This product may cause faulty behaviour of the equipment.
- **Microwave oven.** It may affect wireless LAN communications.

5.3.2 Basic parameters

| What | Value |
|--------------------------|--|
| Frequency range | 2400 MHz~2483.5 MHz |
| Radio protocol | IEEE 802.11b/g/n |
| Radio frequency channel | 13ch |
| Output power | 13 dBm |
| Effective radiated power | 15 dBm (11b) / 14 dBm (11g) / 14 dBm (11n) |
| Power supply | DC 14 V / 100 mA |

5.3.3 Setting the wireless LAN

The customer is responsible for providing:

- Smartphone or tablet with minimum supported version of Android or iOS, specified on app.daikineurope.com
- Internet line and communicating device, such as modem, router, etc.
- Wireless LAN access point.
- Installed free ONECTA application.

To install the ONECTA app

- 1 Go to Google Play (for Android devices) or the App Store (for iOS devices) and search for "ONECTA".
- 2 Follow the directions on the screen to install the ONECTA app.

**INFORMATION**

Scan the QR code to download and install the ONECTA app on your mobile phone or tablet:



6 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.

In this chapter

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| 6.3.1 | To install the indoor unit | 28 |
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| 6.5 | Mounting the user interface | 35 |
| 6.5.1 | To mount the wireless remote control holder | 35 |

6.1 Preparing the installation site

Choose an installation location with sufficient space to transport the unit in and out of the site.

Do NOT install the unit in places often used as work place. In case of construction works (e.g. grinding works) where a lot of dust is created, the unit MUST be covered.



WARNING

The appliance shall be stored as follows:

- in such a way as to prevent mechanical damage.
- in a well-ventilated room without continuously operating ignition sources (example: open flames, an operating gas appliance or an operating electric heater).
- in a room with dimensions as specified in Special requirements for R32 units.

6.1.1 Installation site requirements of the indoor unit



INFORMATION

Also read the precautions and requirements in the "2 General safety precautions" [▶ 6].



INFORMATION

The sound pressure level is less than 70 dBA.

**WARNING**

- CVXM-A and FVXM-A Floor Standing range is allowed to be combined ONLY with systems with total refrigerant amount **≤1.842 kg**. Therefore in case of combination with outdoor units 3MXM40 or 3MXM52, the total liquid refrigerant piping length of the installation MUST be ≤30 m.
- For CVXM-A9 and FVXM-A9 refer to "To determine the minimum floor area" [▶ 24].

**NOTICE**

The equipment described in this manual may cause electronic noise generated from radio-frequency energy. The equipment complies to specifications that are designed to provide reasonable protection against such interference. However, there is no guarantee that interference will not occur in a particular installation.

It is therefore recommended to install the equipment and electric wires in such a way that they keep a proper distance from stereo equipment, personal computers, etc.

Install power cables at least 1 meter away from televisions or radios to prevent interference. Depending on the radio waves, a distance of 1 meter may NOT be sufficient.

- **Fluorescent lights.** When installing a wireless remote control (user interface) in a room with fluorescent lights, mind the following to avoid interference:
 - Install the wireless remote control (user interface) as close as possible to the indoor unit.
 - Install the indoor unit as far as possible from the fluorescent lights.
- Take care that in the event of a water leak, water cannot cause any damage to the installation space and surroundings.
- Choose a location where the operation noise or the hot/cold air discharged from the unit will not disturb anyone and the location is selected according to the applicable legislation.
- **Air flow.** Make sure nothing blocks the air flow.
- **Drainage.** Make sure condensation water can be evacuated properly.
- **Wall insulation.** When conditions in the wall exceed 30°C and a relative humidity of 80%, or when fresh air is inducted into the wall, then additional insulation is required (minimum 10 mm thickness, polyethylene foam).
- **Wall or floor strength.** Check whether the wall or the floor is strong enough to support the weight of the unit. If there is a risk, reinforce the wall or the floor before installing the unit.

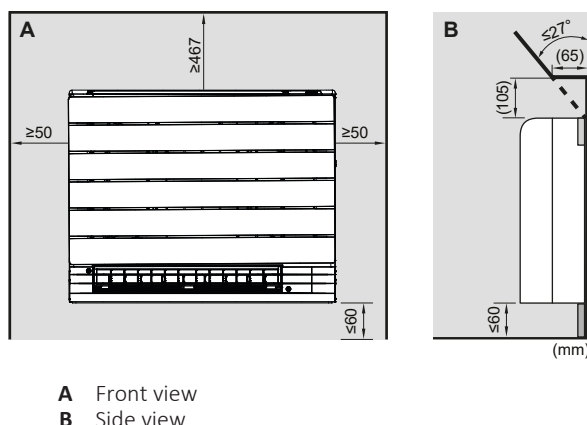
Do NOT install the unit in the following places:

- In places where a mineral oil mist, spray or vapour may be present in the atmosphere. Plastic parts may deteriorate and fall off or cause water leakage.

It is NOT recommended to install the unit in the following places because it may shorten the life of the unit:

- Where the voltage fluctuates a lot
- In vehicles or vessels
- Where acidic or alkaline vapour is present
- In places where a mineral oil mist, spray or vapour may be present in the atmosphere. Plastic parts may deteriorate and fall off or cause water leakage.
- In places where the unit would be in the path of direct sunlight.

- In bathrooms.
- Sound sensitive areas (e.g. near a bedroom), so that the operation noise will cause no trouble.
- **Spacing.** Mind the following requirements:



- Do not install the unit more than 60 mm above the floor.

To determine the minimum floor area

- The system using R32 refrigerant is restricted with respect to the total refrigerant charge and/or the floor area that is served.
- To determine the total refrigerant charge (**m**) in the system see the Installation manual of the outdoor unit.

Note: It is not allowed to install an indoor unit in a room with area $< A_{\min}$ (m^2).

- Depending on the total refrigerant charge (**m**), the minimum floor area is (**A_{min}**).



INFORMATION

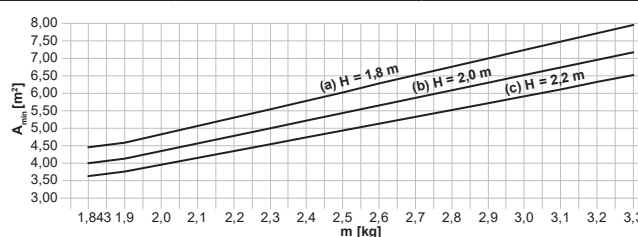
- Use following table and graph for CVXM-A9 and FVXM-A9.
- If the required exact value for the total refrigerant charge in the system (**m**) is not listed below, use the closest higher value.

The total refrigerant charge (**m**), the minimum floor area is (**A_{min}**) limitation depends also on room height (**H**) and if the unit is installed **ABOVE** or **UNDER** ground level.

If indoor unit is installed in room ABOVE ground level

| m (kg) | A _{min} (m ²) | | |
|--------------|------------------------------------|---------|---------|
| | H=2.2 m | H=2.0 m | H=1.8 m |
| ≤ 1.842 | No limitations | | |
| 1.843 | 3.64 | 4.00 | 4.45 |
| 1.9 | 3.75 | 4.13 | 4.58 |
| 2.0 | 3.95 | 4.34 | 4.83 |
| 2.1 | 4.15 | 4.56 | 5.07 |
| 2.2 | 4.34 | 4.78 | 5.31 |
| 2.3 | 4.54 | 4.99 | 5.55 |
| 2.4 | 4.74 | 5.21 | 5.79 |
| 2.5 | 4.94 | 5.43 | 6.03 |

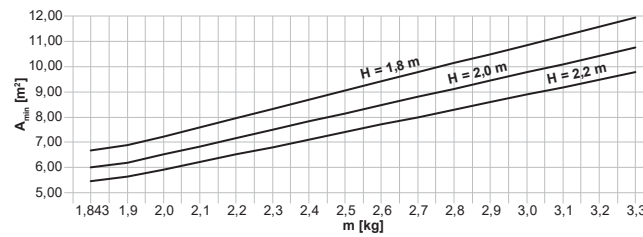
| m (kg) | A_{\min} (m ²) | | |
|--------|------------------------------|---------|---------|
| | H=2.2 m | H=2.0 m | H=1.8 m |
| 2.6 | 5.13 | 5.65 | 6.27 |
| 2.7 | 5.33 | 5.86 | 6.51 |
| 2.8 | 5.53 | 6.08 | 6.76 |
| 2.9 | 5.73 | 6.30 | 7.00 |
| 3.0 | 5.92 | 6.51 | 7.24 |
| 3.1 | 6.12 | 6.73 | 7.48 |
| 3.2 | 6.32 | 6.95 | 7.72 |
| 3.3 | 6.51 | 7.17 | 7.96 |



A_{\min} Minimum floor area
 m Total refrigerant charge in the system
 H Height of the room

If indoor unit is installed in room UNDER ground level

| m (kg) | A_{\min} (m ²) | | |
|--------|------------------------------|---------|---------|
| | H=2.2 m | H=2.0 m | H=1.8 m |
| ≤1.842 | No limitations | | |
| 1.843 | 5.46 | 6.00 | 6.67 |
| 1.9 | 5.63 | 6.19 | 6.88 |
| 2.0 | 5.92 | 6.51 | 7.24 |
| 2.1 | 6.22 | 6.84 | 7.60 |
| 2.2 | 6.51 | 7.17 | 7.96 |
| 2.3 | 6.81 | 7.49 | 8.32 |
| 2.4 | 7.11 | 7.82 | 8.69 |
| 2.5 | 7.40 | 8.14 | 9.05 |
| 2.6 | 7.70 | 8.47 | 9.41 |
| 2.7 | 8.00 | 8.79 | 9.77 |
| 2.8 | 8.29 | 9.12 | 10.13 |
| 2.9 | 8.59 | 9.45 | 10.50 |
| 3.0 | 8.88 | 9.77 | 10.86 |
| 3.1 | 9.18 | 10.10 | 11.22 |
| 3.2 | 9.48 | 10.42 | 11.58 |
| 3.3 | 9.77 | 10.75 | 11.94 |



A_{min} Minimum floor area
m Total refrigerant charge in the system
H Ceiling height of the room

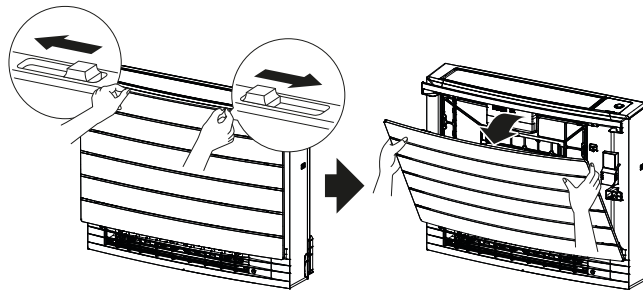
Example: If the indoor unit is installed in room with ceiling height 2 m, located above ground level and the total refrigerant change of the connected system is 2.3 kg, than minimum floor area is 4.99 m².

Example: If the indoor unit is installed in room with floor area 4.99 m², ceiling height 2 m, located above ground level, than the total refrigerant change is ≤2.3 kg.

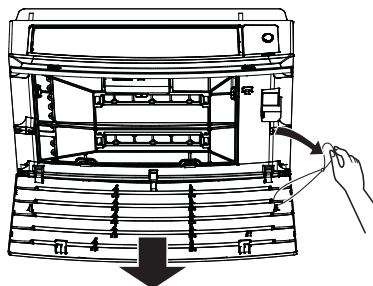
6.2 Opening the unit

6.2.1 To remove the front panel

- 1 Slide both sliders in the direction of the arrows until they click.



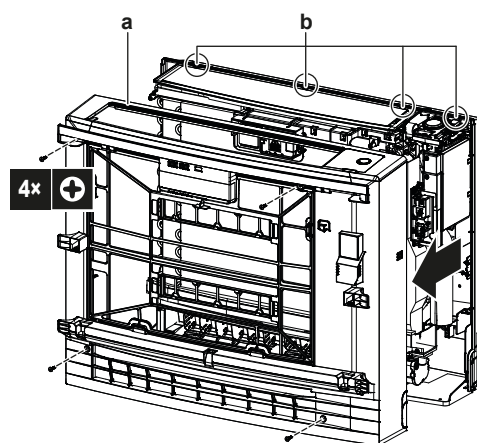
- 2 Open the front panel and remove the string.



- 3 Remove the front panel.

6.2.2 To remove the front grille

- 1 Remove the front panel. See ["6.2.1 To remove the front panel"](#) [▶ 26].
- 2 Remove the 4 screws, remove the grille from 4 tabs on the top and remove the front grille while pulling it toward you.

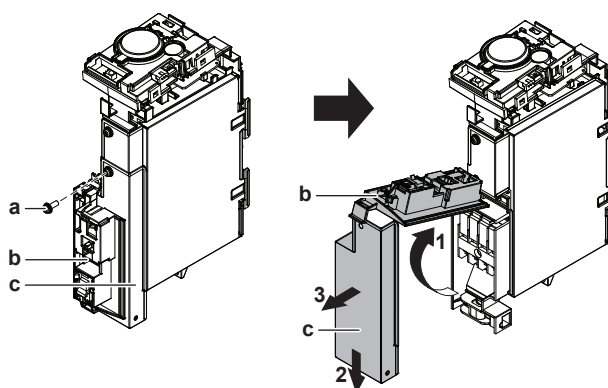


a Front grille
b Tabs

6.2.3 To open the terminal block and remove the electrical wiring box cover

To open the terminal block

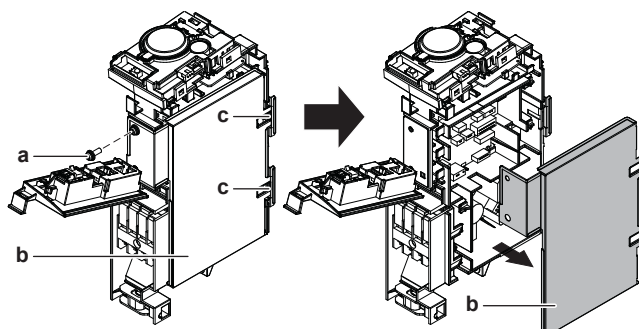
- 1 Remove the front grille.
- 2 Remove 1 lower screw.
- 3 Lift the sensor securing plate.
- 4 Move the metal plate cover down and then towards you to remove it.



a Screw
b Sensor securing plate
c Metal plate cover

To remove the electrical wiring box cover

- 1 Open the terminal block.
- 2 Remove 1 screw from the electrical wiring box.
- 3 Unhook the 2 tabs on the electrical wiring box cover and remove it.



a Screw

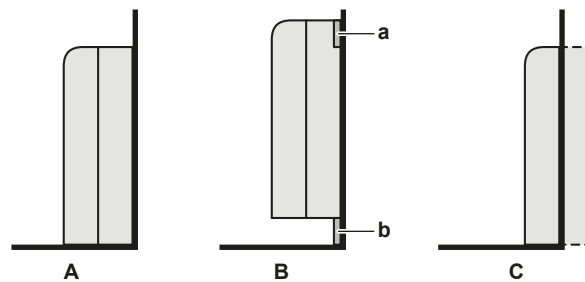
- b** Wiring box cover
- c** Tabs

6.3 Mounting the indoor unit

6.3.1 To install the indoor unit

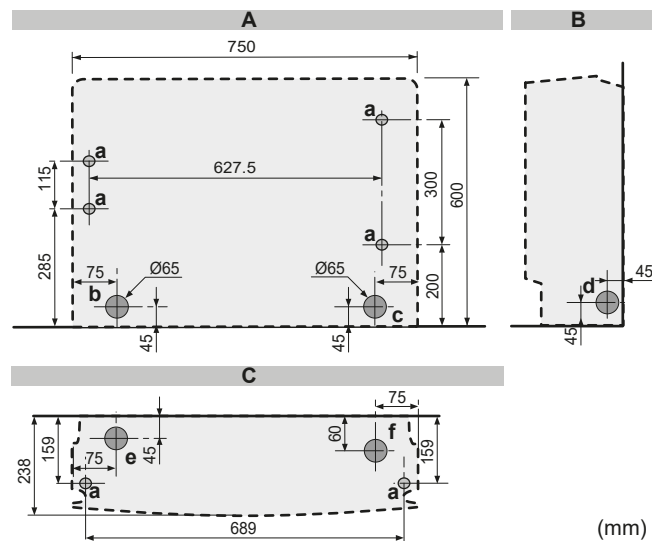
Installation options

There are 3 possible type of installation for the indoor unit.



- A** Floor (exposed) installation
- B** Wall (exposed) installation
- C** Half concealed installation
- a** Mounting plate
- b** Skirting board

Floor-standing installation

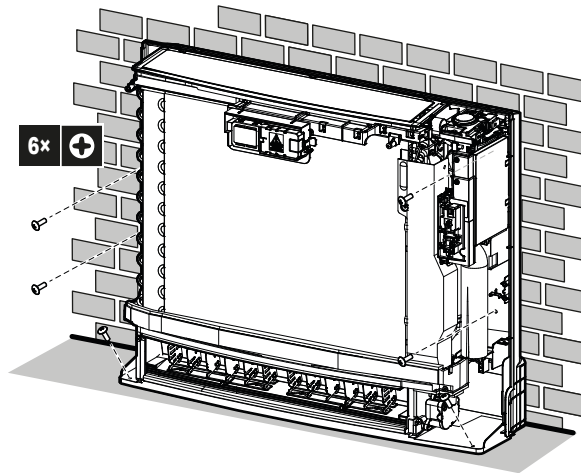


6-1 Indoor unit installation drawing: Floor-standing installation

- A** Front view
- B** Side view
- C** Top view
- a** Screw hole 6x
- b** Left-back piping hole location
- c** Right-back piping hole location
- d** Left/right piping hole location
- e** Left-bottom piping hole location
- f** Right-bottom piping hole location

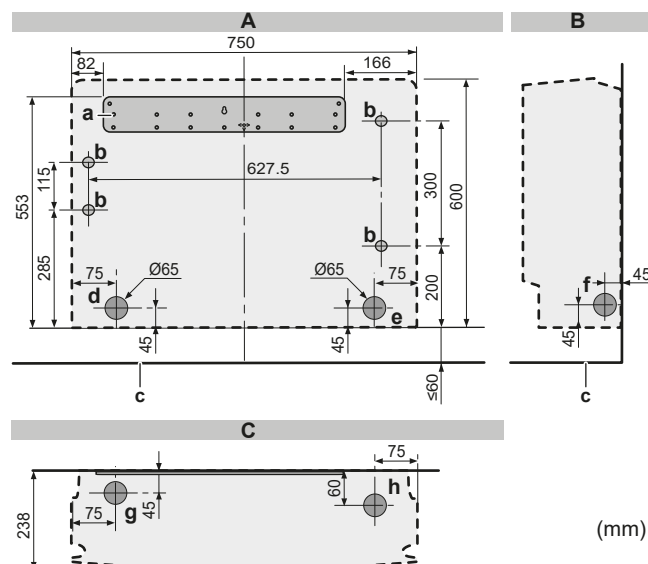
- 1 Drill a wall hole, depending on which side piping is taken out. See "6.3.2 To drill a wall hole" [▶ 32].
- 2 Open the front panel and remove the front grille.
- 3 Remove the slit portions using nippers. See "6.3.3 To remove the slit portions" [▶ 32].

- 4 Secure the unit to the wall and floor using 6 screws M4×25L (field supply).



- 5 When the complete installation is finished, attach the front panel and the front grille in their original position.

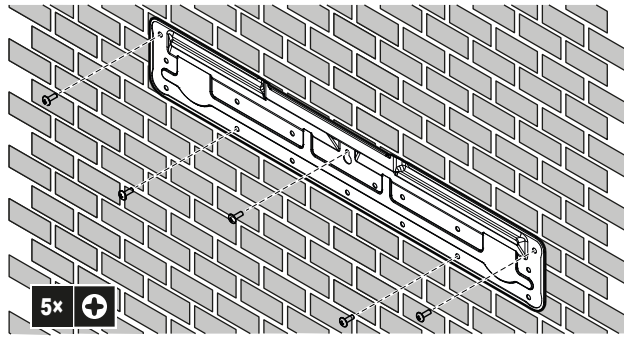
Wall-mounted installation



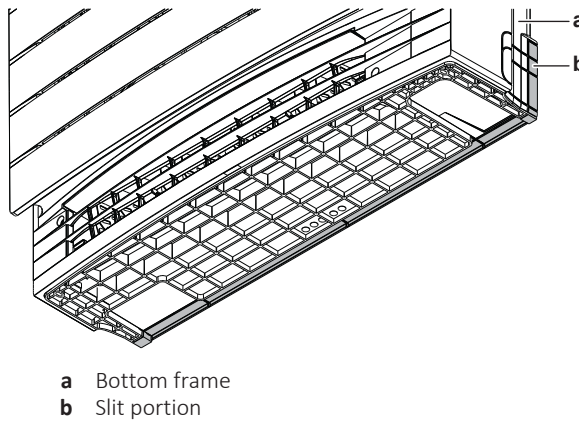
6-2 Indoor unit installation drawing: Wall-mounted installation


- A Front view
- B Side view
- C Top view
- a Mounting plate
- b Screw hole 4x
- c Floor
- d Left-back piping hole location
- e Right-back piping hole location
- f Left/right piping hole location
- g Left-bottom piping hole location
- h Right-bottom piping hole location

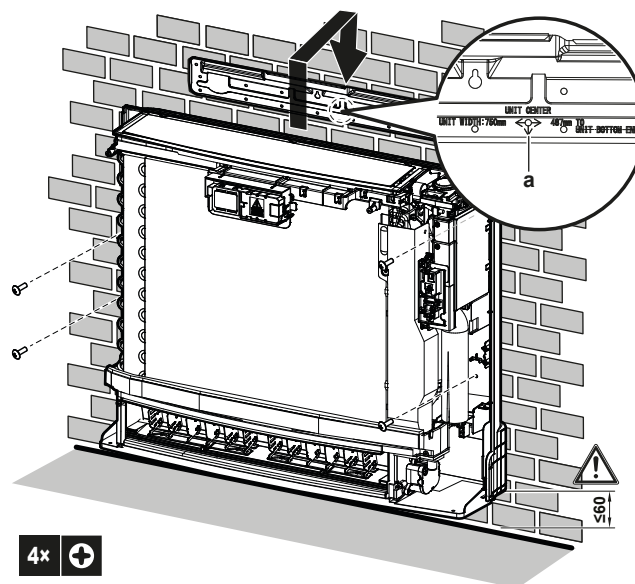
- 6 Temporarily secure the mounting plate on the wall.
- 7 Make sure the mounting plate is level.
- 8 Mark the centres of the drilling points on the wall.
- 9 Secure the mounting plate on the wall using 5 screws M4×25L (field supply).



- 10 Drill a wall hole, depending on which side piping is taken out. See "[6.3.2 To drill a wall hole](#)" [▶ 32].
- 11 Open the front panel and remove the front grille.
- 12 Remove the slit portions using nippers. See "[6.3.3 To remove the slit portions](#)" [▶ 32].
- 13 If necessary for the skirting board, remove the slit portion on the bottom frame.

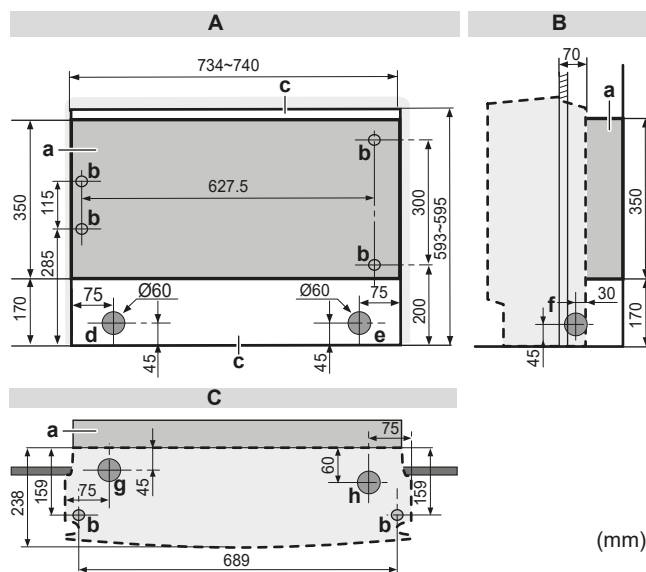


- 14 Align the unit using the alignment symbol  on the mounting plate: 375 mm from the alignment symbol to the each side (unit width 750 mm), 487 mm from the alignment symbol to the bottom of the unit.
- 15 Hook the unit on the mounting plate and secure the unit to the wall using 4 screws M4×25L (field supply).



- 16** When the complete installation is finished, attach the front panel and the front grille in their original position.

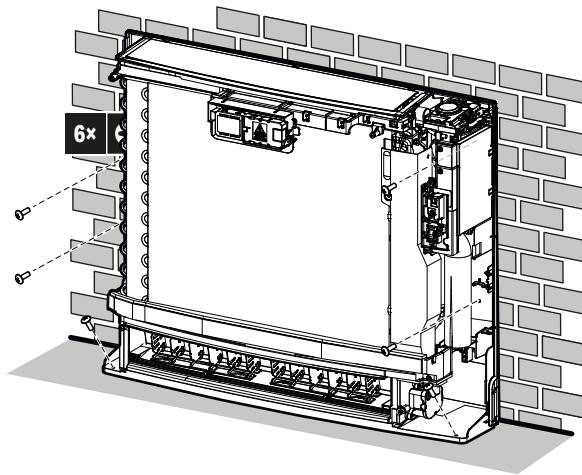
Half-concealed installation



6-3 Indoor unit installation drawing: Half-concealed installation

- A Front view
- B Side view
- C Top view
- a Extra filler board
- b Screw hole 6x
- c Hole
- d Left-back piping hole location
- e Right-back piping hole location
- f Right/left piping hole location
- g Left-bottom piping hole location
- h Right-bottom piping hole location

- 17** Make a hole in the wall as illustrated above.
- 18** Install the extra filler board (field supply) in accordance with the space between the unit and the wall. Make sure there is no gap between the unit and the wall.
- 19** Drill a wall hole, depending on which side piping is taken out. See ["6.3.2 To drill a wall hole"](#) [▶ 32].
- 20** Remove the slit portions using nippers. See ["6.3.3 To remove the slit portions"](#) [▶ 32].
- 21** Open the front panel, remove the front grille, remove the top and side casings.
- 22** Secure the unit to the extra filler board and to the floor using 6 screws M4×25L (field supply).



- 23** When the complete installation is finished, attach the front panel and the front grille in their original position.

6.3.2 To drill a wall hole



CAUTION

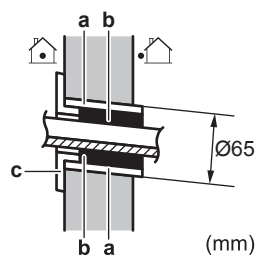
For walls containing a metal frame or a metal board, use a wall embedded pipe and wall cover in the feed-through hole to prevent possible heat, electrical shock, or fire.



NOTICE

Be sure to seal the gaps around the pipes with sealing material (field supply), in order to prevent water leakage.

- 1** Bore a 65 mm large feed-through hole in the wall with a downward slope towards the outside.
- 2** Insert a wall embedded pipe into the hole.
- 3** Insert a wall cover into the wall pipe.

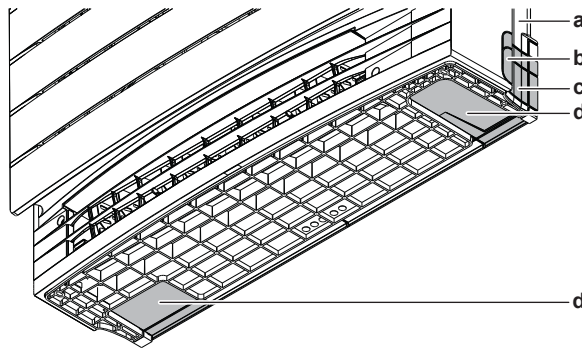


- a** Wall embedded pipe
- b** Putty
- c** Wall hole cover

- 4** After completing wiring, refrigerant piping and drain piping, do NOT forget to seal the gap with putty.

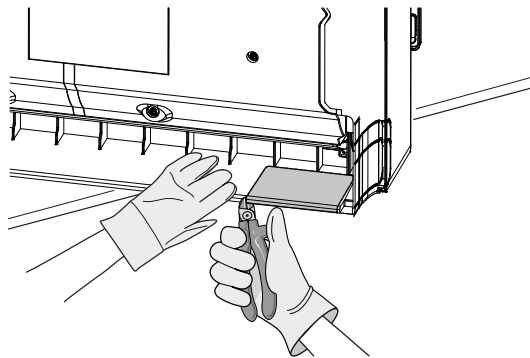
6.3.3 To remove the slit portions

For side piping (left/right) and bottom piping (left/right) slit portions must be removed. Remove slit portions according to where the piping is taken out.

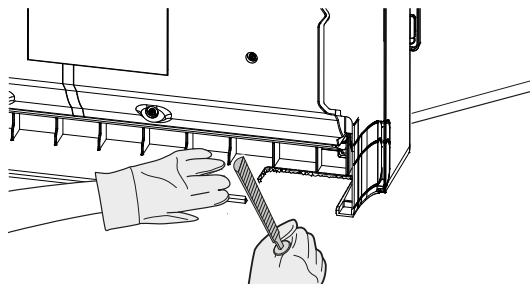


- a Bottom frame
- b Slit portion for side piping on the front grille (same on the other side)
- c Slit portion for side piping on the bottom frame (same of the other side)
- d Slit portion for the bottom piping

1 Cut off the slit portion using nippers.



2 Remove an burrs along the cut section using a half round needle file.



6.4 Connecting the drain piping

In this chapter

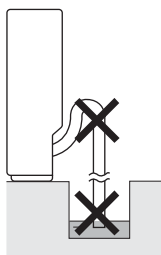
| | | |
|-------|---|----|
| 6.4.1 | General guidelines..... | 33 |
| 6.4.2 | To connect the drain piping to the indoor unit..... | 34 |
| 6.4.3 | To check for water leaks | 35 |

6.4.1 General guidelines

- **Pipe length.** Keep drain piping as short as possible.
- **Pipe size.** Use rigid polyvinyl chloride pipe with 20 mm nominal diameter and 26 mm outer diameter.

**NOTICE**

- Install the drain hose with a downward slope.
- Traps are NOT permitted.
- Do NOT put the end of the hose in water.



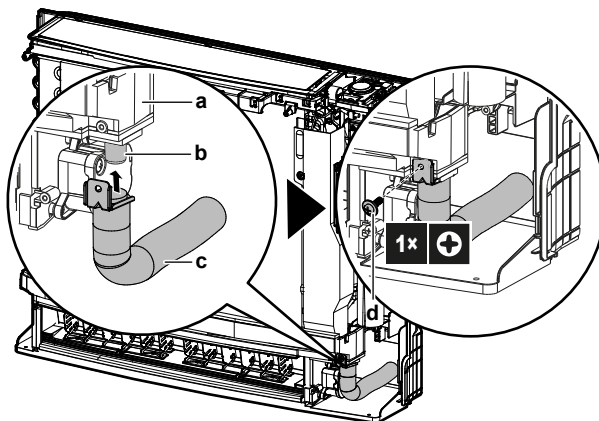
- **Drain hose.** Drain hose (accessory) is 220 mm long and with 18 mm outer diameter on the connecting side.
- **Extension hose.** Use rigid polyvinyl chloride pipe (field supply) with 20 mm nominal diameter as extension hose. When connecting an extension hose, use a polyvinyl adhesive agent for glueing.
- **Condensation.** Take measures against condensation. Insulate the complete drain piping in the building.

6.4.2 To connect the drain piping to the indoor unit

**NOTICE**

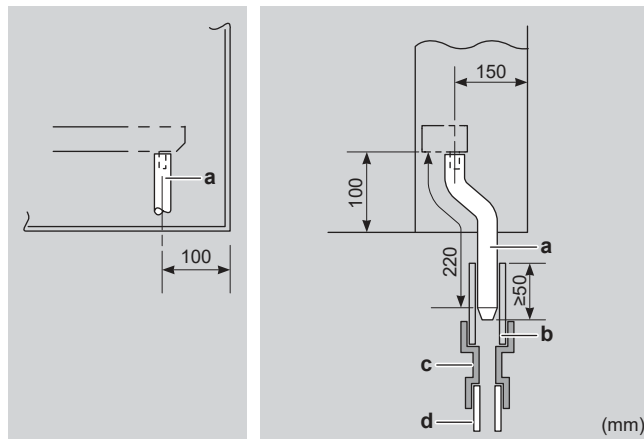
Incorrect connection of the drain hose might cause leaks, and damage the installation space and surroundings.

- 1 Push the drain hose (accessory) as far as possible over the drain socket and fix it with 1 screw (accessory).



- a Drain pan
- b Drain socket
- c Drain hose (accessory)
- d Screw (accessory)

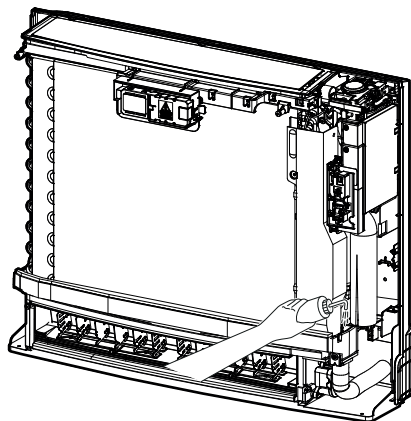
- 2 Check for water leaks (see ["6.4.3 To check for water leaks"](#) [▶ 35]).
- 3 Insulate the indoor drain socket and drain hose with ≥ 10 mm insulation material to prevent condensation.
- 4 Connect the drain piping to the drain hose. Insert the drain hose ≥ 50 mm, so it will not be pulled out of the drain pipe.



- a Drain hose (accessory)
- b Vinyl chloride drain pipe (VP-30) (field supply)
- c Reducer (field supply)
- d Vinyl chloride drain pipe (VP-20) (field supply)

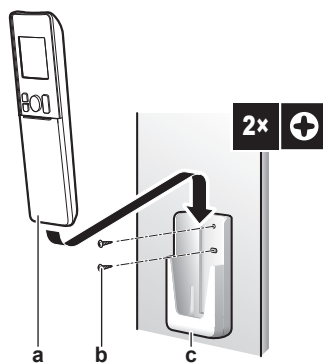
6.4.3 To check for water leaks

- 1 Remove the air filters.
- 2 Gradually pour approximately 1 l of water in the drain pan, and check for water leaks.



6.5 Mounting the user interface

6.5.1 To mount the wireless remote control holder



- a Wireless remote control
- b Screws (field supply)
- c Wireless remote control holder

- 1** Choose a place where the signal can reach the unit.
- 2** Fix the holder (accessory) to the wall or a similar location using 2 M3×20L screws (field supply).
- 3** Insert the wireless remote control into the holder.

7 Piping installation

In this chapter

| | | |
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| 7.1 | Preparing refrigerant piping..... | 37 |
| 7.1.1 | Refrigerant piping requirements..... | 37 |
| 7.1.2 | Refrigerant piping insulation..... | 38 |
| 7.2 | Connecting the refrigerant piping..... | 38 |
| 7.2.1 | About connecting the refrigerant piping..... | 38 |
| 7.2.2 | Precautions when connecting the refrigerant piping..... | 39 |
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| 7.2.4 | Pipe bending guidelines..... | 40 |
| 7.2.5 | To flare the pipe end..... | 40 |
| 7.2.6 | To connect the refrigerant piping to the indoor unit..... | 41 |

7.1 Preparing refrigerant piping

7.1.1 Refrigerant piping requirements



CAUTION

Piping and joints of a split system shall be made with permanent joints when inside an occupied space except joints directly connecting the piping to the indoor units.



NOTICE

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



INFORMATION

Also read the precautions and requirements in the ["2 General safety precautions"](#) [▶ 6].



INFORMATION

Additional refrigerant charge is NOT allowed in case of combination of the outdoor unit **3MXM40** or **3MXM52** with the indoor units **CVXM-A** and/or **FVXM-A**. The total piping length MUST be ≤30 m. For CVXM-A9 and FVXM-A9 refer to ["To determine the minimum floor area"](#) [▶ 24].

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

Refrigerant piping diameter


Use the same diameters as the connections on the outdoor units:

| Class | Pipe outer diameter (mm) | |
|-------|--------------------------|------------|
| | Liquid piping | Gas piping |
| 20~35 | Ø6.4 | Ø9.5 |
| 50 | Ø6.4 | Ø12.7 |

Refrigerant piping material

- Piping material:** phosphoric acid deoxidised seamless copper
- Flare connections:** Only use annealed material.

▪ **Piping temper grade and thickness:**

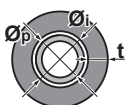
| Outer diameter (\varnothing) | Temper grade | Thickness (t) ^(a) | |
|----------------------------------|--------------|------------------------------|---|
| 6.4 mm (1/4") | Annealed (O) | ≥0.8 mm |  |
| 9.5 mm (3/8") | | | |
| 12.7 mm (1/2") | | | |

^(a) 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.

7.1.2 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 (\varnothing_p) | Insulation inner diameter (\varnothing_i) | Insulation thickness (t) |
|---|---|--------------------------|
| 6.4 mm (1/4") | 8~10 mm | ≥10 mm |
| 9.5 mm (3/8") | 12~15 mm | ≥13 mm |
| 12.7 mm (1/2") | 14~16 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.

7.2 Connecting the refrigerant piping

7.2.1 About connecting the refrigerant piping

Before connecting the refrigerant piping

Make sure the outdoor and indoor unit are mounted.

Typical workflow

Connecting the refrigerant piping involves:

- Connecting the refrigerant piping to the indoor unit
- Connecting the refrigerant piping to the outdoor unit
- Insulating the refrigerant piping
- Keeping in mind the guidelines for:
 - Pipe bending
 - Flaring pipe ends
 - Using the stop valves

7.2.2 Precautions when connecting the refrigerant piping

**INFORMATION**

Also read the precautions and requirements in the following chapters:

- "2 General safety precautions" [▶ 6]
- "7.1 Preparing refrigerant piping" [▶ 37]

**DANGER: RISK OF BURNING/SCALDING****NOTICE**

- Use the flare nut fixed to the unit.
- To prevent gas leakage, apply refrigeration oil **ONLY** to the inside of the flare. Use refrigeration oil for R32 (FW68DA).
- Do **NOT** reuse joints.

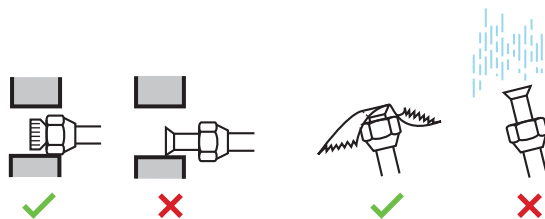
**NOTICE**

- Do **NOT** use mineral oil on flared part.
- **NEVER** install a drier to this R32 unit to guarantee its lifetime. The drying material may dissolve and damage the system.

**NOTICE**

Take the following precautions on refrigerant piping into account:

- Avoid anything but the designated refrigerant to get mixed into the refrigerant cycle (e.g. air).
- Only use R32 when adding refrigerant.
- Only use installation tools (e.g. manifold gauge set) that are exclusively used for R32 installations to withstand the pressure and to prevent foreign materials (e.g. mineral oils and moisture) from mixing into the system.
- Install the piping so that the flare is **NOT** subjected to mechanical stress.
- Do **NOT** leave pipes unattended at the site. If the installation is **NOT** done within 1 day, protect the piping as described in the following table to prevent dirt, liquid or dust from entering the piping.
- Use caution when passing copper tubes through walls (see figure below).



| Unit | Installation period | Protection method |
|--------------|--------------------------|------------------------|
| Outdoor unit | >1 month | Pinch the pipe |
| | <1 month | Pinch or tape the pipe |
| Indoor unit | Regardless of the period | |

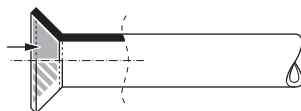
**NOTICE**

Do NOT open the refrigerant stop valve before checking the refrigerant piping. When you need to charge additional refrigerant it is recommended to open the refrigerant stop valve after charging.

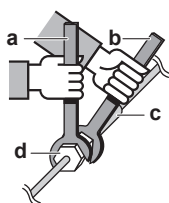
7.2.3 Guidelines when connecting the refrigerant piping

Take the following guidelines into account when connecting pipes:

- Coat the flare inner surface with ether oil or ester oil when connecting a flare nut. Tighten 3 or 4 turns by hand, before tightening firmly.



- ALWAYS use 2 wrenches together when loosening a flare nut.
- ALWAYS use a spanner and torque wrench together to tighten the flare nut when connecting the piping. This to prevent nut cracking and leaks.



- a Torque wrench
- b Spanner
- c Piping union
- d Flare nut

| Piping size (mm) | Tightening torque (N•m) | Flare dimensions (A) (mm) | Flare shape (mm) |
|------------------|-------------------------|---------------------------|------------------|
| Ø6.4 | 15~17 | 8.7~9.1 | |
| Ø9.5 | 33~39 | 12.8~13.2 | |
| Ø12.7 | 50~60 | 16.2~16.6 | |

7.2.4 Pipe bending guidelines

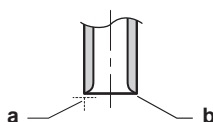
Use a pipe bender for bending. All pipe bends should be as gentle as possible (bending radius should be 30~40 mm or larger).

7.2.5 To flare the pipe end

**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.

- 1 Cut the pipe end with a pipe cutter.
- 2 Remove burrs with the cut surface facing down so that the chips do NOT enter the pipe.



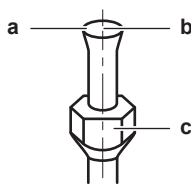
- a Cut exactly at right angles.
- b Remove burrs.

- 3 Remove the flare nut from the stop valve and put the flare nut on the pipe.
- 4 Flare the pipe. Set exactly at the position as shown in the following figure.



| | Flare tool for R32 (clutch type) | Conventional flare tool | |
|---|-------------------------------------|------------------------------|----------------------------------|
| | | Clutch type (Ridgid-type) | Wing nut type (Imperial-type) |
| A | 0~0.5 mm | 1.0~1.5 mm | 1.5~2.0 mm |

- 5 Check that the flaring is properly made.



- a Flare's inner surface MUST be flawless.
- b The pipe end MUST be evenly flared in a perfect circle.
- c Make sure the flare nut is fitted.

7.2.6 To connect the refrigerant piping to the indoor unit

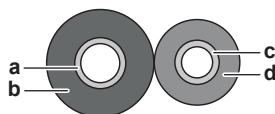


A2L

WARNING: MILDLY FLAMMABLE MATERIAL

The refrigerant inside this unit is mildly flammable.

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



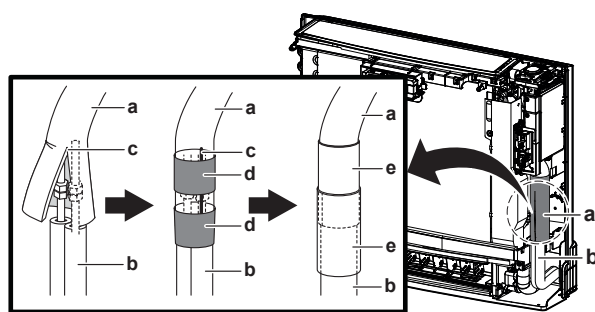
- a Gas pipe
- b Gas pipe insulation
- c Liquid pipe
- d Liquid pipe insulation



NOTICE

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

- 3 Close the slit on the refrigerant pipe connection and secure it with a tape (field supply). Make sure there are no gaps.
- 4 Wrap the slit and the end of the insulation of the connected refrigerant piping with insulation piece (accessory). Make sure there are no gaps.



- a** Refrigerant pipe connection
- b** Refrigerant piping (field supply)
- c** Slit
- d** Tape
- e** Insulation piece (accessory)

8 Electrical installation

In this chapter

| | | |
|-------|--|----|
| 8.1 | About connecting the electrical wiring | 43 |
| 8.1.1 | Precautions when connecting the electrical wiring | 43 |
| 8.1.2 | Guidelines when connecting the electrical wiring | 44 |
| 8.1.3 | Specifications of standard wiring components | 46 |
| 8.2 | To connect the electrical wiring to the indoor unit | 46 |
| 8.3 | To connect optional accessories (wired user interface, central user interface, wireless adapter, etc.) | 47 |

8.1 About connecting the electrical wiring

Before connecting the electrical wiring

Make sure the refrigerant piping is connected and checked.

Typical workflow

Connecting the electrical wiring typically consists of the following stages:

- 1 Making sure the power supply system complies with the electrical specifications of the units.
- 2 Connecting the electrical wiring to the outdoor unit.
- 3 Connecting the electrical wiring to the indoor unit.
- 4 Connecting the main power supply.

8.1.1 Precautions when connecting the electrical wiring



DANGER: RISK OF ELECTROCUTION



WARNING

- All wiring **MUST** be performed by an authorised electrician and **MUST** comply with the applicable 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

ALWAYS use multicore cable for power supply cables.



INFORMATION

Also read the precautions and requirements in the "[2 General safety precautions](#)" [▶ 6].



INFORMATION

Also read "[8.1.3 Specifications of standard wiring components](#)" [▶ 46].



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 shock.
- 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 use taped wires, extension cords, or connections from a star system. They can cause overheating, electrical shock or fire.
- 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 connect the power supply to the indoor unit. This could result in electrical shock or fire.



WARNING

- Do NOT use locally purchased electrical parts inside the product.
- Do NOT branch the power supply for the drain pump, etc. from the terminal block. This could result in electrical shock or fire.



WARNING

Keep the interconnection wiring away from copper pipes without thermal insulation as such pipes will be very hot.

8.1.2 Guidelines when connecting the electrical wiring

Keep the following in mind:



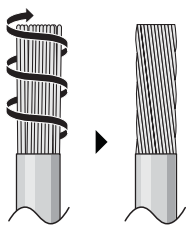
NOTICE

We recommend using solid (single-core) wires. If stranded wires are used, twist the conductor to consolidate the end or twist the conductor to consolidate the end in combination with the usage of a round crimp-style terminal on the end of the conductor.

To prepare stranded conductor wire for installation

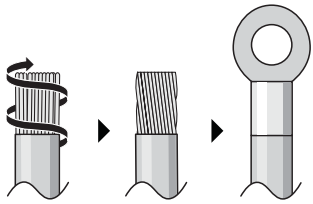
Method 1: Twisting conductor

- 1 Strip insulation (20 mm) from the wires.
- 2 Twist the end of the conductor to create a "solid-like" connection.

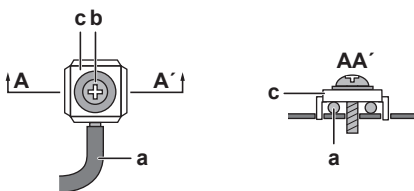
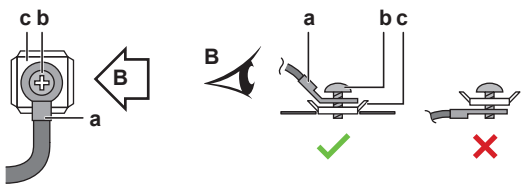


Method 2: Using round crimp-style terminal

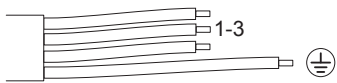
- 1 Strip insulation from wires and twist the end of each wire.
- 2 Install a round crimp-style terminal on the end of the wire. Place the round crimp-style terminal on the wire up to the covered part and fasten the terminal with the appropriate tool.



Use the following methods for installing wires:

| Wire type | Installation method |
|--|---|
| Single-core wire Or Stranded conductor wire twisted to "solid-like" connection | <div></div> <p>a Curled wire (single-core or twisted stranded conductor wire)</p> <p>b Screw</p> <p>c Flat washer</p> |
| Stranded conductor wire with round crimp-style terminal | <div></div> <p>a Terminal</p> <p>b Screw</p> <p>c Flat washer</p> <p>✓ Allowed</p> <p>✗ NOT allowed</p> |

- The earth wire between the wire retainer and the terminal must be longer than the other wires.



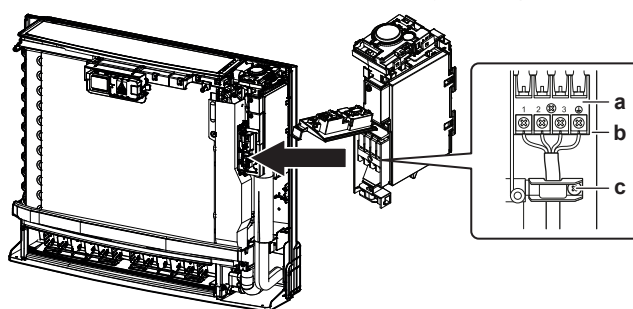
8.1.3 Specifications of standard wiring components

| Component | | |
|---|-----------|---|
| Interconnection cable (indoor↔outdoor) | Voltage | 220~240 V |
| | Wire size | Only use harmonized wire providing double insulation and suitable for applicable voltage 4-core cable 1.5 mm ² ~2.5 mm ² (based on outdoor unit) |

8.2 To connect the electrical wiring to the indoor unit

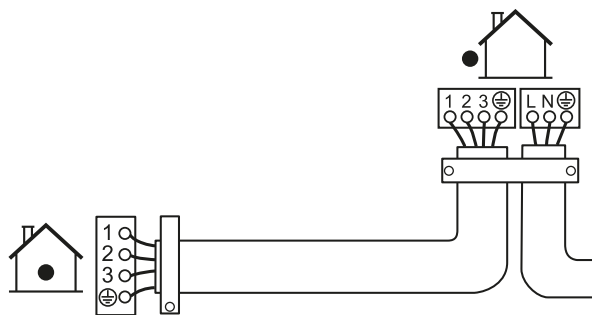
Electrical work should be carried out in accordance with the installation manual and the national electrical wiring rules or code of practice.

- 1 Open the terminal block.
- 2 Strip the wire ends approximately 15 mm.
- 3 Match wire colours with terminal numbers on indoor and outdoor unit's terminal blocks and firmly screw wires to the corresponding terminals.
- 4 Connect the earth wires to the corresponding terminals.



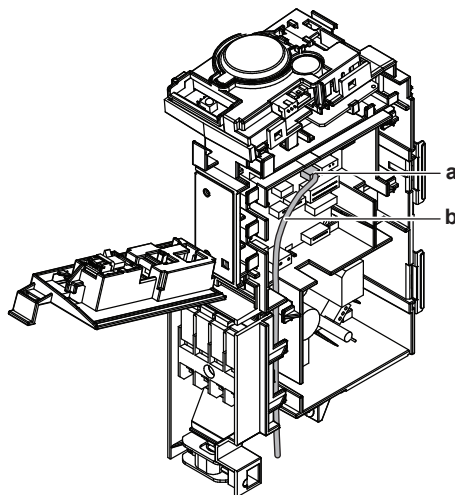
- a Terminal block
b Electrical component block
c Cable clamp

- 5 Pull the wires to make sure that they are securely attached, then retain the wires with the cable clamp.
- 6 Make sure that the wires do not come in contact with the metal parts of the heat exchanger.
- 7 In case of connecting to an optional adapter, see ["8.3 To connect optional accessories \(wired user interface, central user interface, wireless adapter, etc.\)"](#) [▶ 47].



8.3 To connect optional accessories (wired user interface, central user interface, wireless adapter, etc.)

- 1** Remove the electrical wiring box cover.
- 2** Connect the optional adapter wire to the S21 connector. To connect the optional adapter wire to the option, refer to the installation manual of the optional adapter.
- 3** Lead the wire as shown in the figure below.



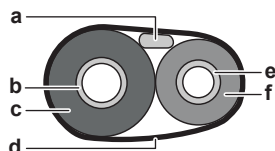
a S21connector
B Optional adapter wire

- 4** Close the electrical wiring box cover.

9 Finishing the indoor unit installation

9.1 To finish the indoor unit installation

- 1 After the drain piping, refrigerant piping and the electrical wiring are finished. Wrap the refrigerant pipes and the interconnection cable with insulation tape. Overlap at least half the width of the tape with each turn.



- a Interconnection cable
- b Gas pipe
- c Gas pipe insulation
- d Insulation tape
- e Liquid pipe
- f Liquid pipe insulation

- 2 Pass the pipes through the wall hole and seal the gaps with putty.

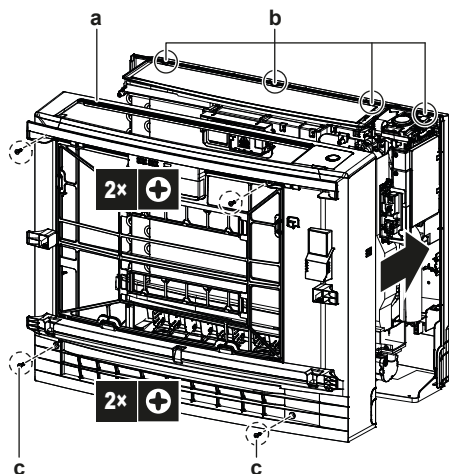
9.2 Closing the unit

9.2.1 To close the electrical wiring box and close the terminal block

- 1 Hook the electrical wiring box onto the 2 tabs, close it, and fix it with 1 screw.
- 2 Attach the front metal cover and fix it with the screw.
- 3 Close the sensor securing plate.

9.2.2 To re-install the front grille

- 1 Attach the front grille to the original position.
- 2 Secure the front grille in 4 tabs.
- 3 Secure with the 2 original screws on the top part and with the 2 white head screws (accessory) on the bottom part.

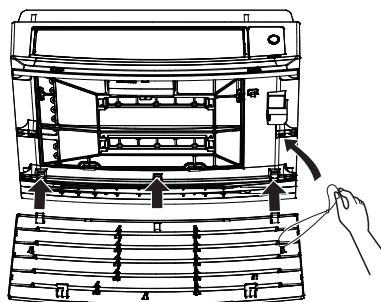


- a Front grille
- b 4 tabs

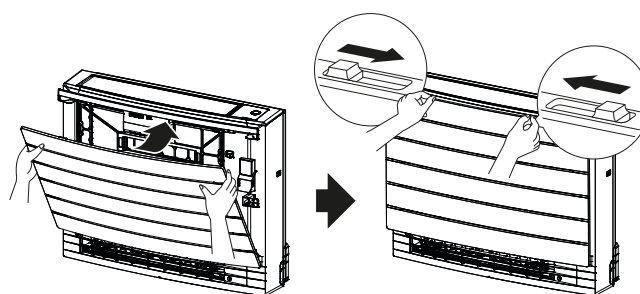
c White head screws (accessory)

9.2.3 To re-install the front panel

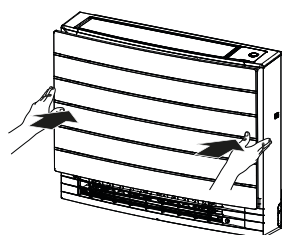
- 1 Insert the front panel into the grooves of the unit (3 places) and attach the string.



- 2 Close the front panel and slide both sliders until they click.



- 3 Push on the sides of the front panel to make sure the front panel is securely fixed.



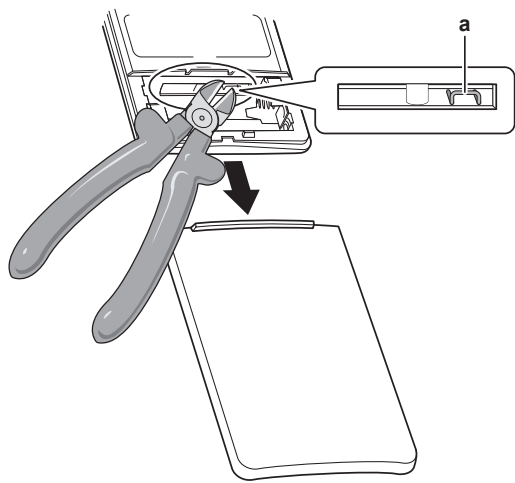
10 Configuration

10.1 To set a different channel of the indoor unit infrared signal receiver

In case 2 indoor units are installed in 1 room, different addresses for 2 user interfaces can be set.

- 1 Remove the cover and the batteries from the user interface.
- 2 Cut the address jumper J4.

| Address jumper J4 | Address |
|----------------------------|---------|
| Factory setting | 1 |
| After cutting with nippers | 2 |








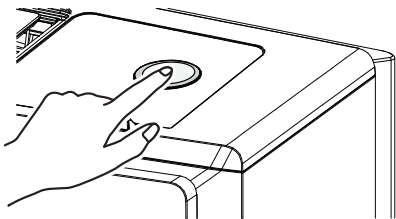
a Address jumper J4



NOTICE

Be careful NOT to damage any of the surrounding parts when cutting the address jumper.

- 3 Turn the power supply on.
- 4 Press the middle of  and  simultaneously.
- 5 Press , select  and press .
- Result:** The Daikin eye will start to blink.
- 6 Press the indoor unit ON/OFF switch while the Daikin eye is blinking.



INFORMATION

If the setting could NOT be completed while the Daikin eye was blinking, repeat the setting process from the beginning.

- 7 When the setting is complete, press .

Result: The user interface will return to the home screen.

11 Commissioning



NOTICE

General commissioning checklist. Next to the commissioning instructions in this chapter, a general commissioning checklist is also available on the Daikin Business Portal (authentication required).

The general commissioning checklist is complementary to the instructions in this chapter and can be used as a guideline and reporting template during commissioning and hand-over to the user.

11.1 Overview: Commissioning

This chapter describes what you have to do and know to commission the system after it is installed.

Typical workflow

Commissioning typically consists of the following stages:

- 1 Checking the "Checklist before commissioning".
- 2 Performing a test run for the system.

11.2 Checklist before commissioning

- 1 After the installation of the unit, check the items listed below.
- 2 Close the unit.
- 3 Power up the unit.

| | |
|--------------------------|---|
| <input type="checkbox"/> | You read the complete installation instructions, as described in the installer reference guide . |
| <input type="checkbox"/> | The indoor units are properly mounted. |
| <input type="checkbox"/> | The outdoor unit is properly mounted. |
| <input type="checkbox"/> | Air inlet/outlet Check that the air inlet and outlet of the unit is NOT obstructed by paper sheets, cardboard, or any other material. |
| <input type="checkbox"/> | There are NO missing phases or reversed phases . |
| <input type="checkbox"/> | The refrigerant pipes (gas and liquid) are thermally insulated. |
| <input type="checkbox"/> | Drainage Make sure drainage flows smoothly. Possible consequence: Condensate water might drip. |
| <input type="checkbox"/> | The system is properly earthed and the earth terminals are tightened. |
| <input type="checkbox"/> | The fuses or locally installed protection devices are installed according to this document, and have NOT been bypassed. |
| <input type="checkbox"/> | The power supply voltage matches the voltage on the identification label of the unit. |
| <input type="checkbox"/> | The specified wires are used for the interconnection cable . |
| <input type="checkbox"/> | The indoor unit receives the signals of the user interface . |

| | |
|--------------------------|--|
| <input type="checkbox"/> | There are NO loose connections or damaged electrical components in the switch box. |
| <input type="checkbox"/> | The insulation resistance of the compressor is OK. |
| <input type="checkbox"/> | There are NO damaged components or squeezed pipes on the inside of the indoor and outdoor units. |
| <input type="checkbox"/> | There are NO refrigerant leaks . |
| <input type="checkbox"/> | The correct pipe size is installed and the pipes are properly insulated. |
| <input type="checkbox"/> | The stop valves (gas and liquid) on the outdoor unit are fully open. |

11.3 To perform a test run




Prerequisite: Power supply MUST be in the specified range.

Prerequisite: Test run may be performed in cooling or heating mode.

Prerequisite: Test run should be performed in accordance with the operation manual of the indoor unit to make sure that all functions and parts are working properly.

- 1 In cooling mode, select the lowest programmable temperature. In heating mode, select the highest programmable temperature. Test run can be disabled if necessary.
- 2 When the test run is finished, set the temperature to a normal level. In cooling mode: 26~28°C, in heating mode: 20~24°C.
- 3 The system stops operating 3 minutes after the unit is turned OFF.

11.3.1 To perform a test run using the wireless remote control

- 1 Press  to switch the system on.
- 2 Press the middle of  and **Mode** simultaneously.
- 3 Press  twice to choose **7°** and confirm selection by pressing **Mode**.

Result: **7°** on the display indicates that the test run is selected. Test run operation will stop automatically after about 30 minutes.

- 4 To stop operation sooner, press the ON/OFF button.

12 Hand-over to the user

Once the test run is finished and the unit operates properly, make sure the following is clear for the user:

- Make sure that the user has the printed documentation and ask him/her to keep it for future reference. Inform the user that he can find the complete documentation at the URL mentioned earlier in this manual.
- Explain the user how to properly operate the system and what to do in case of problems.
- Show the user what to do for the maintenance of the unit.

13 Disposal

**NOTICE**

Do NOT try to dismantle the system yourself: dismantling of the system, treatment of the refrigerant, oil and other parts **MUST** comply with applicable legislation. Units **MUST** be treated at a specialised treatment facility for reuse, recycling and recovery.

14 Technical data







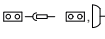












- A **subset** of the latest technical data is available on the regional Daikin website (publicly accessible).
- The **full set** of latest technical data is available on the Daikin Business Portal (authentication required).

14.1 Wiring diagram

| Translation of wiring the diagram notes | |
|---|---|
| On wiring diagram | Translation |
| Caution: When the main power is turned OFF and then back on again, operation will resume automatically. | Caution: When the main power is turned OFF and then back on again, operation will resume automatically. |
| Notice: (*) Applicable for units with refrigerant leakage sensor only. | Notice: (*) Applicable for units with refrigerant leakage sensor only. |

14.1.1 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 |
|  | | | |
|  | | | |
|  | Connection |  | Protective earth (screw) |
|  | Connector |  | Rectifier |
|  | Earth |  | Relay connector |
|  | Field wiring |  | Short-circuit connector |
|  | Fuse |  | Terminal |
|  | Indoor unit |  | Terminal strip |
|  | Outdoor unit |  | Wire clamp |
|  | 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 |

| Symbol | Meaning |
|-------------|---|
| 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 |
| 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 |

15 Glossary

Dealer

Sales distributor for the product.

Authorised installer

Technical skilled person who is qualified to install the product.

User

Person who is owner of the product and/or operates the product.

Applicable legislation

All international, European, national and local directives, laws, regulations and/or codes that are relevant and applicable for a certain product or domain.

Service company

Qualified company which can perform or coordinate the required service to the product.

Installation manual

Instruction manual specified for a certain product or application, explaining how to install, configure and maintain it.

Operation manual

Instruction manual specified for a certain product or application, explaining how to operate it.

Maintenance instructions

Instruction manual specified for a certain product or application, which explains (if relevant) how to install, configure, operate and/or maintain the product or application.

Accessories

Labels, manuals, information sheets and equipment that are delivered with the product and that need to be installed according to the instructions in the accompanying documentation.

Optional equipment

Equipment made or approved by Daikin that can be combined with the product according to the instructions in the accompanying documentation.

Field supply

Equipment NOT made by Daikin that can be combined with the product according to the instructions in the accompanying documentation.

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