DAIKIN

Installation manual

THE KEY FOR
SMART INFORMATION

Scan and
find out
more

www

Split system air conditioners

FNA25A2VEB
FNA35A2VEB
FNA50A2VEB
FNA60A2VEB

FNA25A2VEB9
FNA35A2VEB9
FNA50A2VEB9
FNA60A2VEB9

Installation manual
Split system air conditioners

English

Table of contents

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.

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

Target audience

Authorised installers

> ℹ **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.

FNA-A   FNA-A9

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 (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**

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

⚠ **CAUTION**

Do NOT install or use in highly airtight spaces, e.g. soundproof chambers or rooms with sealed doors.[1]

⚠ **CAUTION**

This unit is equipped with electrically powered safety measures, such as a refrigerant leak detector. In order to be effective, the unit must be electrically powered at all times after installation, except for short service periods.[1]

⚠ **CAUTION**

Do NOT install or use in places filled with smoke, gas, chemicals etc. Sensors inside the indoor unit may detect these substances, and display a refrigerant leak abnormality.[1]

⚠ **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" [▶ 9])

⚠ **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" [▶ 10])

⚠ **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.

---

[1] Only for units using R32 refrigerant. Refer to the outdoor unit specifications for the type of refrigerant to be used.
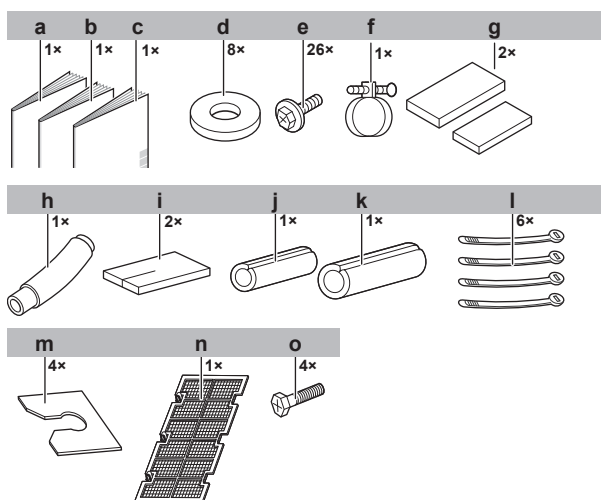
3 About the box

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.

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: small and large
h	Drain hose
i	Sealing material
j	Insulation piece: Small (liquid pipe)
k	Insulation piece: Large (gas pipe)
l	Tie wraps
m	Washer fixing plate
n	Air filter
o	Levelling screws

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.
▪ Choose the installation location with sufficient space for carrying the unit in and out of the site.

⚠️ **CAUTION**

Do NOT install or use in places filled with smoke, gas, chemicals etc. Sensors inside the indoor unit may detect these substances, and display a refrigerant leak abnormality.[1]

⚠️ **CAUTION**

Do NOT install or use in highly airtight spaces, e.g. soundproof chambers or rooms with sealed doors.[1]

⚠️ **CAUTION**

This unit is equipped with electrically powered safety measures, such as a refrigerant leak detector. In order to be effective, the unit must be electrically powered at all times after installation, except for short service periods.[1]

⚠️ **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

ℹ️ **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.
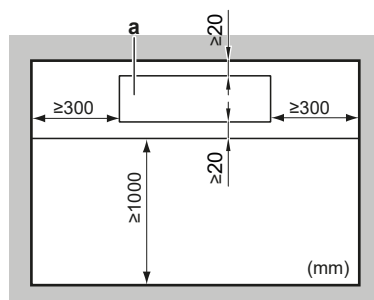
⚠️ **WARNING**

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:

A	Wall-mounted type
B	Floor-standing type
a	Minimum clearance
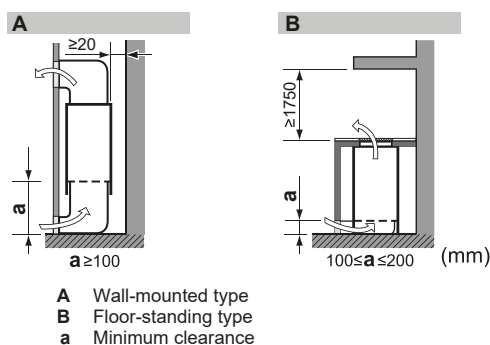
Top view:

a	Indoor unit

▪ Install the unit with a prebuilt fully enclosed casing with removable access panel, suction air grille and discharge grille. These removable parts shall prevent access to the unit and can ONLY be removed using a removal tool.
▪ In case of installation under a window sill, make sure that there is no short-circuit of air.

---

[1] Only for units using R32 refrigerant. Refer to the outdoor unit specifications for the type of refrigerant to be used.

4.2 Mounting the indoor unit

### 4.2.1 Guidelines when installing the indoor unit

ℹ️ 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.

▪ **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.

▪ **Suspension bolts.** Use W3/8 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.
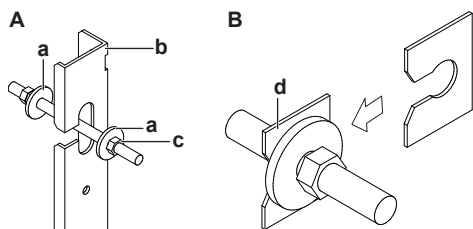
A	Securing the hanger bracket
B	Securing the washers
a	Washer (accessories)
b	Hanger bracket
c1	Nut (field supply)
c2	Double nut (field supply)
d	Washer fixing plate (accessory)

▪ Suspension bolt pitch for fastening to the wall:
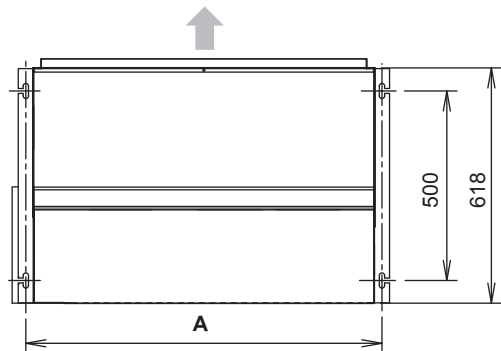
Class	A (mm)
25&35	740
50&60	1140

Minimum floor area[(1)]

To determine the minimum floor area, refer to the table or the graph below.

1 Depending on the amount of the total refrigerant charge in the system (m), the minimum floor area is (A_{min}).

ℹ️ INFORMATION

▪ If the required exact value for the total refrigerant charge in the system (m) is not listed below, use the closest higher value.

▪ In case the total refrigerant charge in the system is >3.9 kg, refer to "**To determine the minimum floor area**" in the **General safety precaution**.

|	FNA25&35	FNA50&60
m (kg)	**A_{min} (m²)**	
≤1.842	No requirements	
1.843	6.2	5.5
1.9	6.4	5.7
2	6.8	6.0
2.1	7.1	6.3
2.2	7.4	6.6
2.3	7.8	6.9
2.4	8.1	7.2
2.5	8.4	7.5
2.6	8.8	7.8
2.7	9.1	8.1
2.8	9.5	8.4
2.9	9.8	8.7
3	10.1	9.0
3.1	10.5	9.3
3.2	10.8	9.6
3.3	11.1	9.9
3.4	11.5	10.2
3.5	11.8	10.4
3.6	12.2	10.7
3.7	12.5	11.0
3.8	12.8	11.3
3.9	13.2	11.6
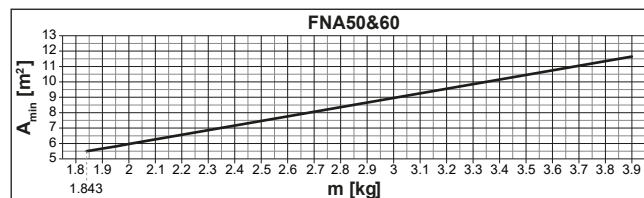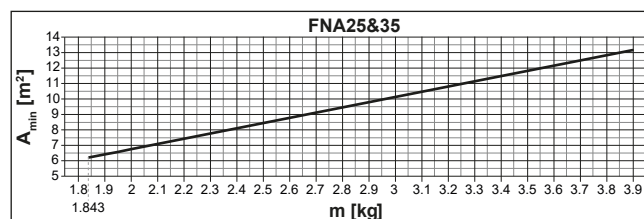
A_{min}	Minimum floor area
m	Refrigerant charge amount in the system

[(1)] Only for units using R32 refrigerant in combination with a user interface BRC1H52*. Refer to the outdoor unit specifications for the type of refrigerant to be used.
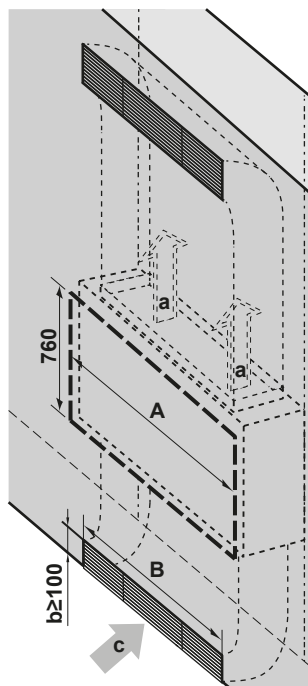
4 Unit installation

Floor-standing installation
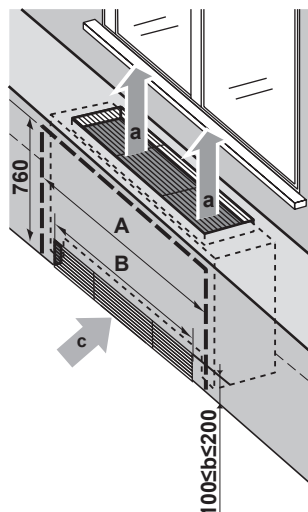
A Maintenance area width
B Air inlet grille width
a Air outlet direction
b Air inlet grille height
c Air inlet direction

| Class	A (mm)	B (mm)
25&35	1350	660
50&60	1750	1060

## Wall-mounted installation

A Maintenance area width
B Air inlet grille width
a Air outlet direction
b Air inlet grille height
c Air inlet direction

| Class	A (mm)	B (mm)
25&35	1350	660
50&60	1750	1060

▪ **External static pressure.** Refer to technical documentation to ensure that the unit's external static pressure is not exceeded.

▪ **Removing the legs.** If it is necessary to remove the legs, follow these instructions:

A Bottom view
B Side view
a Protective grille
b Leg
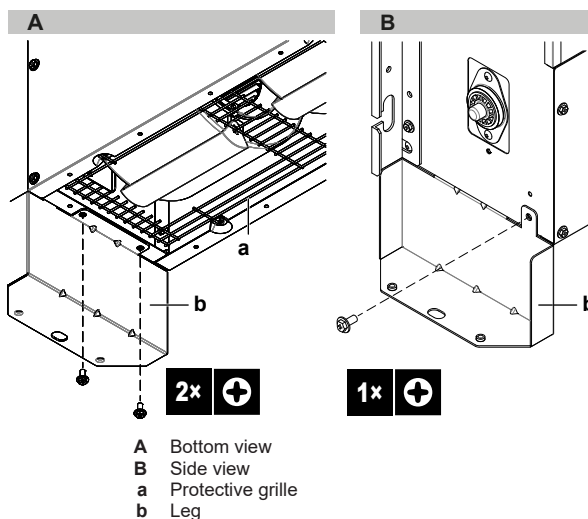
1 In case of bottom suction, remove the air filter.

2 Remove 4 screws (2 on each side) that hold both legs on the bottom side of the unit.

3 Remove 2 screws (1 on each side) on the side of the unit.

4 In case of bottom suction, reattach the filter.

5 In case of front suction, reinstall 2 screws on the side of the unit.

▪ **Install suction cover and air filter (accessory)**

6 In case of front suction, remove the protective grille and the suction cover from the front side.

A Removing the suction cover
B Reattaching the suction cover
a Suction cover
b Protective grille
c Air inlet
d Air outlet
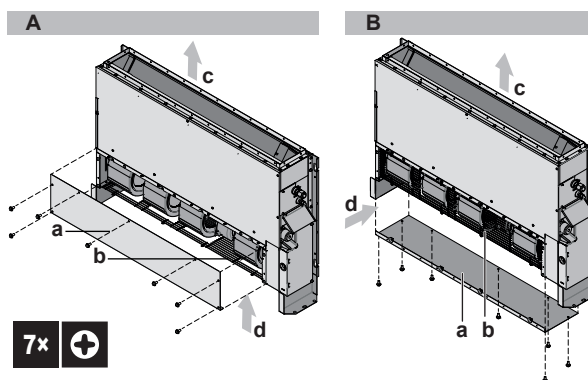
7 Remove one leg on the opposite side of the electronic component box.

8 Reattach the removed suction cover to the bottom side.

9 Attach the protective grille to the front side.

10 Reattach the leg if necessary.

11 Attach the air filter (accessory) by pushing down the hooks (2 hooks for 25+35 type, 3 hooks for 50+60 type).

A	Front suction
B	Bottom suction
a	Main unit
b	Filter
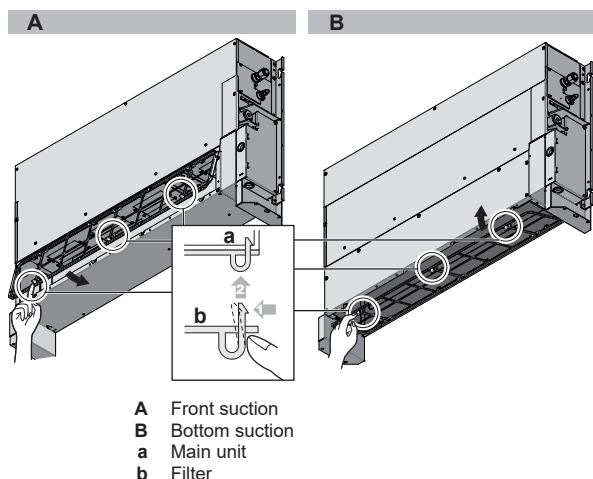
▪ **Install the unit temporarily.**

12 Attach the hanger bracket to the suspension bolt.

13 Fix the unit securely.

14 Adjust the unit to fit between the walls.

▪ **Level.** Make sure the unit is level at all four corners using a level or a water-filled vinyl tube.

15 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.

▪ **Fixing the unit.** Level the unit with the levelling screws (accessory). If the floor is too uneven to level the unit, place the unit on a flat and levelled base. If the unit is in danger of falling over, fasten it to the wall using factory-made holes or to the floor using floor fasteners (field supply).
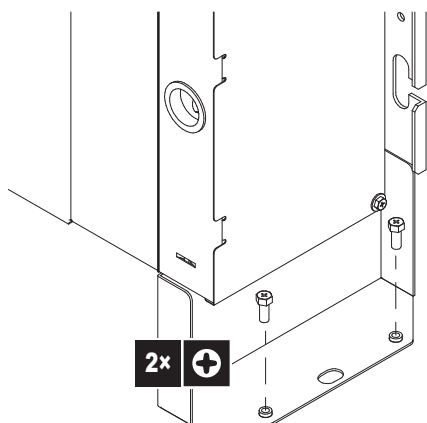
4.2.2   Guidelines when installing the ducting

> **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 (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**
>
> 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. For setting refer to the installation manual of the used user interface.

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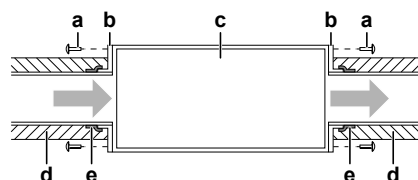
a	Connection screw (accessory)
b	Flange (field supply)
c	Main unit
d	Insulation (field supply)
e	Aluminium tape (field supply)

▪ **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). The included filter is not used when the intake duct is attached.

▪ **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

- **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 20 mm nominal diameter and 26 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.
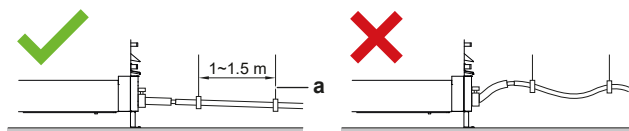
a	Hanging bar
✓	Allowed
✗	Not allowed

- **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.
- **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.
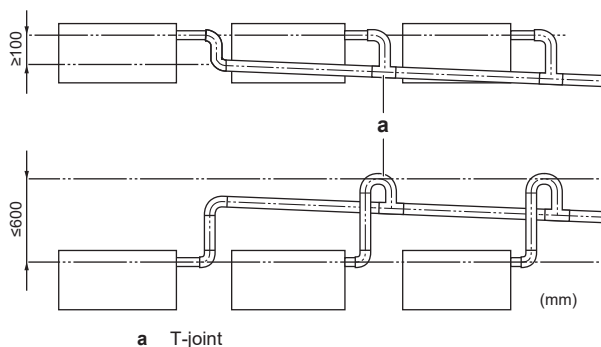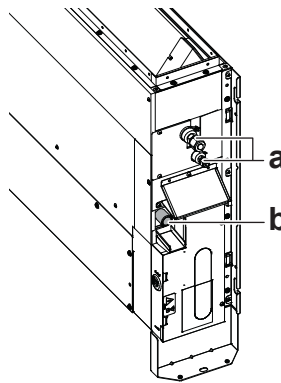

a T-joint

#### 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.

a Refrigerant pipes
b Drain pipe connection

Drain piping connection

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" [▶ 9]).
4 Wind the large sealing pad (= insulation) around the metal clamp and drain hose, and fix it with large tie wraps (accessory).
5 Connect the drain piping to the drain hose.
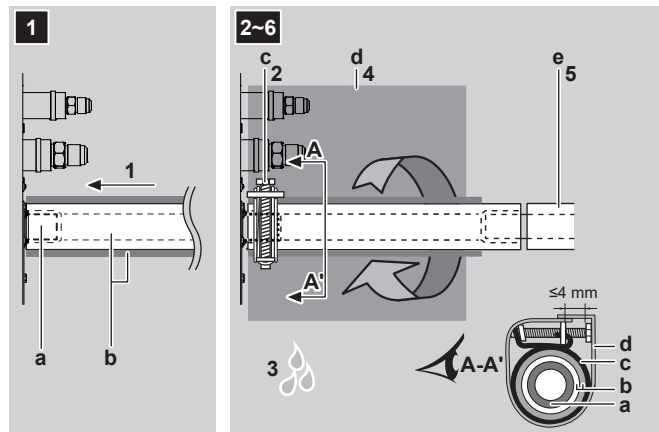
a Drain pipe connection (attached to the unit)
b Drain hose (accessory)
c Metal clamp (accessory)
d Large sealing pad (accessory)
e Drain piping (field supply)

> **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.
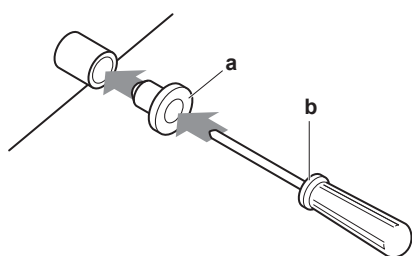
Drain outlet for maintenance

Pull out the plug.

- Do NOT wiggle the plug up and down.
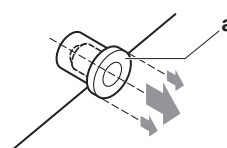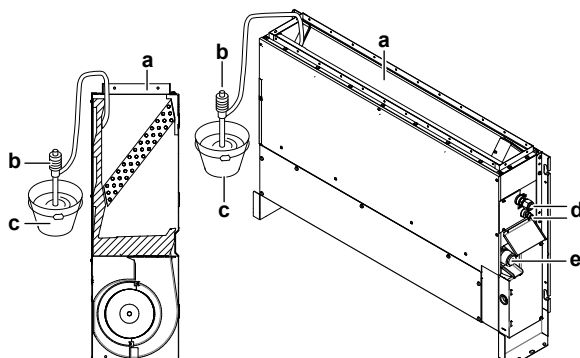

Push in the plug.

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

a Drain plug
b Philips screwdriver

To check for water leaks

Gradually pour approximately 1 l of water in the drain pan, and check for water leaks.

a Air outlet
b Portable pump
c Bucket
d Refrigerant pipes
e Drain outlet

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 ≤30 mg/10 m.

Refrigerant piping diameter

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

	Pipe outer diameter (mm)	
Class	**Liquid pipe**	**Gas pipe**
25+35	Ø6.4	Ø9.5
50+60	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 (Ø)	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.

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$_p$)	Insulation inner diameter (Ø$_i$)	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	≥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:
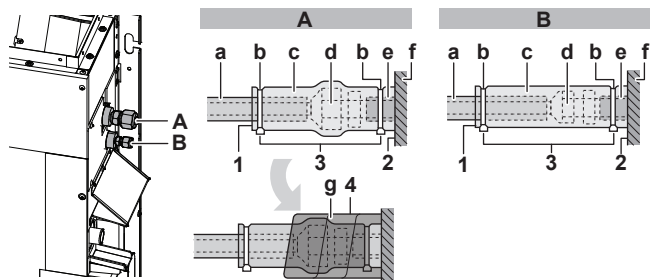
A Gas piping
B Liquid piping

a Insulation material (field supply)
b Tie wraps: Large (accessory)
c Insulation pieces: Large (gas pipe), small (liquid pipe) (accessory)
d Flare nut (attached to the unit)
e Refrigerant pipe connection (attached to the unit)
f Unit
g Sealing pads: Small (gas pipe) (accessory)

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**
>
> 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.

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	Specification
Interconnection cable (indoor↔outdoor)	Only use harmonized wire providing double insulation and suitable for applicable voltage
	4-core cable
	Minimum size 2.5 mm²

Component	Specification
User interface cable	Only use harmonized wire providing double insulation and suitable for applicable voltage
	2-core cable
	Minimum size 0.75 mm²
	Maximum length 500 m

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.
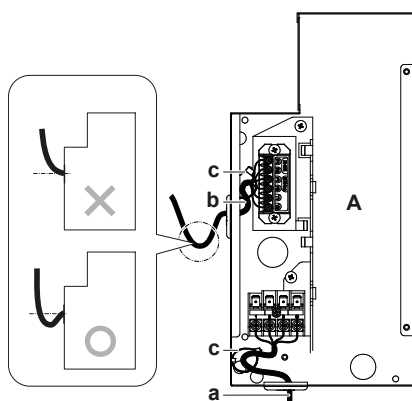
1 Remove the service cover.
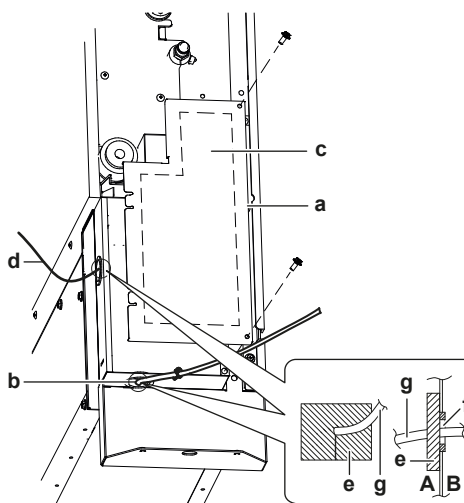
A Outside the unit
B Inside the unit
a Control box cover
b Connection of interconnection cable (including earth)
c Wiring diagram
d Connection of user interface wiring
e Sealing material (accessory)
**f** Opening for cables
g Wire

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.

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 Wrap the cables with the sealing material (accessory) to prevent water from entering the unit. Seal all gaps to prevent small animals from entering the system.

A Indoor PCB (assembly)
a Power supply and earth wiring
b Transmission and user interface wiring
c Clamps
X Not allowed
O Allowed

5 Reattach the service cover.
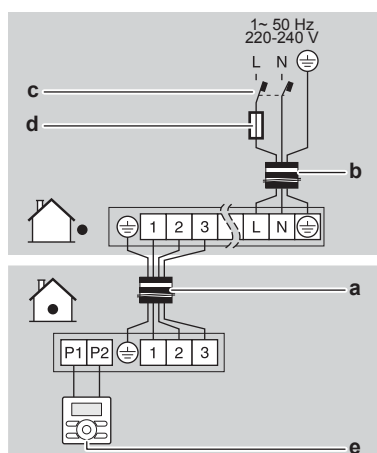
a Interconnection cable
b Power supply cable
c Earth leakage circuit breaker
d Fuse
e User interface

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

1 After the installation of the unit, check the items listed below.

2 Close the unit.

3 Power up the unit.

☐	You read the complete installation instructions, as described in the **installer reference guide**.
☐	The **indoor units** are properly mounted.
☐	In case a wireless user interface is used: The **indoor unit decoration panel** with infrared receiver is installed.
☐	The **outdoor unit** is properly mounted.

☐	There are NO **missing phases** or **reversed phases**.
☐	The system is properly **earthed** and the earth terminals are tightened.
☐	The **fuses** or locally installed protection devices are installed according to this document, and have NOT been bypassed.
☐	The **power supply voltage** matches the voltage on the identification label of the unit.
☐	There are NO **loose connections** or damaged electrical components in the switch box.
☐	The **insulation resistance** of the compressor is OK.
☐	There are NO **damaged components** or **squeezed pipes** on the inside of the indoor and outdoor units.
☐	There are NO **refrigerant leaks**.
☐	The correct pipe size is installed and the **pipes** are properly insulated.
☐	The **stop valves** (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.
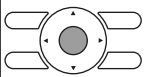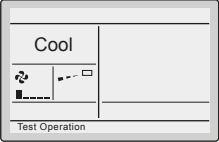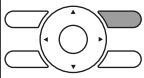
1 Perform introductory steps.

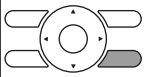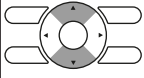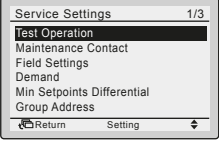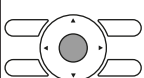| #	Action
1	Open the liquid stop valve and gas stop valve by removing the cap and turning counterclockwise with a hex wrench until it stops.
2	Close the service cover to prevent electric shocks.
3	Turn ON power for at least 6 hours before starting operation to protect the compressor.
4	On the user interface,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

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

NOTICE

When the indoor unit fan rotates and the operation light flashes after trial operation, there is a risk of refrigerant leakage. In that case, immediately ventilate the room and contact your dealer.[1]

8 Configuration

▪ **External static pressure setting.** See the technical documentation for the range of the external static pressure setting.

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:

▪ Air volume when thermostat control is OFF
▪ Time to clean air filter
▪ Simultaneous operation system individual settings
▪ Computerised control (forced OFF and ON/OFF operation)

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.

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

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

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[2]		
	M	**C1/ SW**	**C2/ —**
Unified setting	21(11)	01	01
Individual setting			02

---

[1] Only for units using R32 refrigerant. Refer to the outdoor unit specifications for the type of refrigerant to be used.
[2] 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
[3] 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).

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)
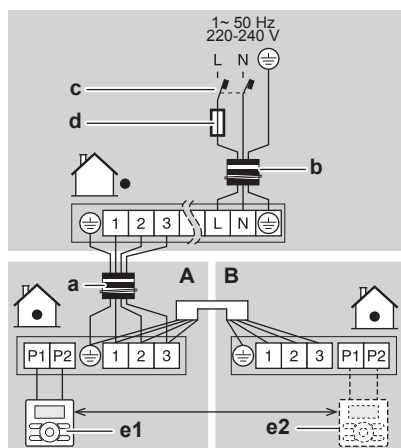

A	Master unit
B	Slave unit
a	Interconnection cable
b	Power supply cable
c	Earth leakage circuit breaker
d	Fuse
e1	Main user interface
e2	Optional user interface

**Setting: Computerised control (forced OFF and ON/OFF operation)**

⚠ **WARNING**

In case of R32 refrigerant, terminal connections T1/T2 are for fire alarm input ONLY. Fire alarm has a higher priority than R32 safety and shuts the entire system down.
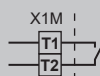
a Fire alarm input signal (potential free contact)

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).
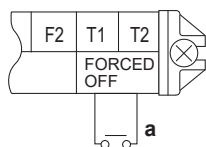
a Input A

Wire specification	
Wire specification	Sheathed vinyl cord or cable (2 wire)

Wire specification	
Gauge	0.75~1.25 mm²
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
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[1]		
	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	Indoor unit	○ ●	Wire clamp
OUTDOOR	Outdoor unit		Heater

[1] 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
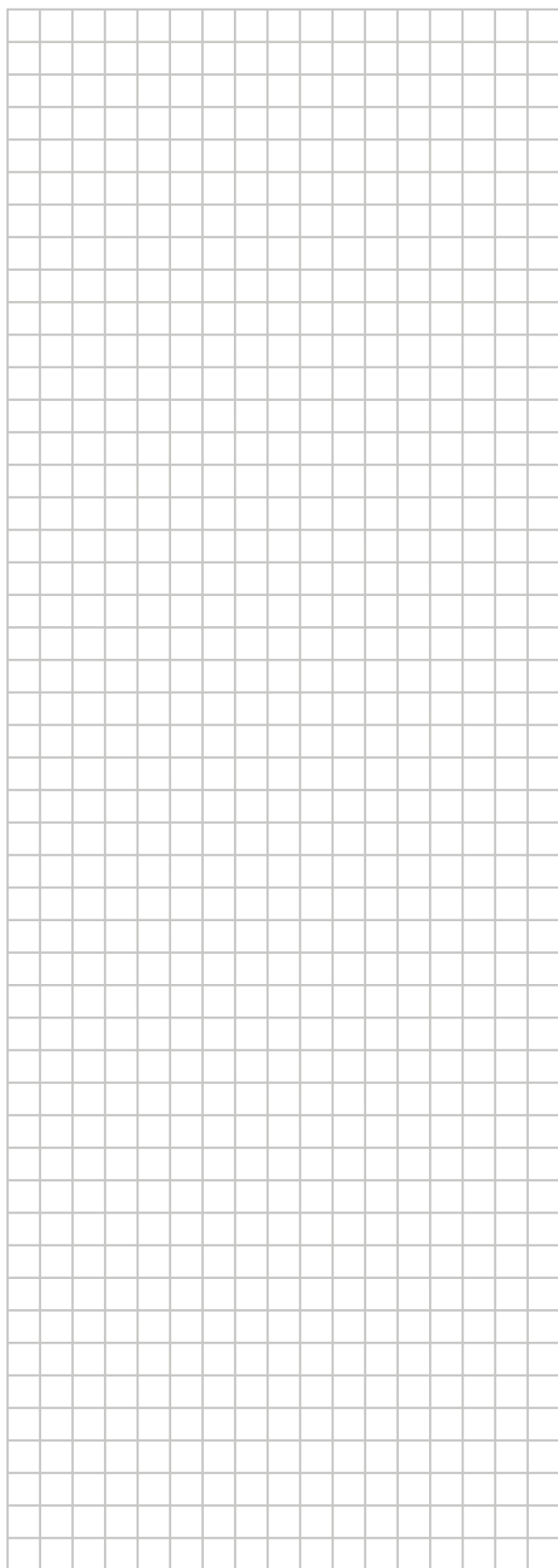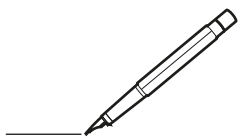- **—**: Value number / **C2**: Second code number
- ▨: Default

9 Technical data

Symbol	Meaning	Symbol	Meaning
	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
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

Symbol	Meaning
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

EAC