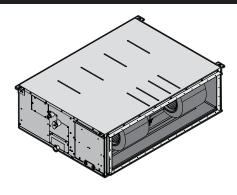


# Installation and operation manual

# **VRV** system air conditioner



U – Safety declaration of conformity
U – Sicherheits-Konformitätserklärung
E – Déclaration de conformité de sécurité
U – Conformiteitsverklaring velligheid

Dichiarazione di conformità in materia di sicurezza UE – Declaración de conformidad sobre seguridad UE – Dichiarazione di conformida in materia di sicurezza ΕΕ – Δήλωση συμμόρφωσης για την ασφάλεια UE – Declaração de conformidade relativa à segurança

EC – Заявление о соответствии требованиям по безопасности EU – Sikkerheds-overensstemmelseserklæring EU – Konformitetsdeklaration för säkerhet

Samsvarserklæring for sikkerhet Turvallisuuden vaatimustenmukaisuusvakuutus Bezpečnostni prohlášeni o shodě 무무무

EU – Izjava o sukladnosti za sigurnost EU – Biztonsági megfelelőségi nyilatkozat UE – Deklaraga zgodności z wymogami bezpieczeństwa UE – Declaraje de conformitate de siguraniá

EU – Varnostna izjava o skladnosti EÜ – Ohutuse vastavusdeklaratsioon EC – Декларация за съответствие за безопасност

EC – Декларация за съответствие за безопасност EŞ – Drošības atbilstības deklarācija EÚ – Vyhlásenie o zhode Bezpečnosť AB – Güvenlik uygunluk beyanı

# Daikin Europe N.V.

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заявляет, исключительно под свою ответственность, что продукция, к которой относится настоящее заявление: deklarerar i egenskap av huvudansvarig, att produkterna som berörs av derma deklaration innebär att: erklærer et fullstendig ansvar for at produktene som er underlagt denne erklæringen: erklærer som eneansvarlig, at produkterne, som er omfattet af denne erklæring: 

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# FXMA200AXVMB, FXMA250AXVMB,

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in overeenstemming zijn met de volgende richtlijn(en) of verordening(en), op voorwaarde dat de producten worden gebruikt overeenkomstig onze

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отвечает требованиям упомянутых ниже директив или нормативных документов три условия эксплуатации данной продукции в соответствии 60

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 Overbiode Deptemmeseme l'idigande direktiv(er) eller bestemmesle(r), foundstit at produkteme anvendes i overensstemmese med variente se med voros instruktioner.
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 u sidaaut sa sijedecom direktivom(ma) ili ode-abom(e), uz uvjet da se proizvodi koniste suktadno našim uputame.
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conforme emendado, som tilføjet, 5684886

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EN 60335-2-40,

vadovaujantis šio dokumento nuostatomis: atbilstoši šādu standartu prasībām nasledovnými ustanoveniami: su standartların hükümlerine:

vastavalt nõuetele; спедвайки клаузите на: v skladu z določbami:

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14 v platném znění, 15 kako je zmijenjeno amandmanima, 16 én môdostikask kandekazéseli, 17 z pôznějszyní zmrámani, 18 ou amandamentele respectíve, 19 kakor je bílo spremenjeno,

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spelniąą wymogi rasłępujących dyrektyw lub rozporządzeń, pod warunkiem że produkty używane są zgodnie z naszymi instrukcjami:
 stw. mi conformitale cu imaticane direkty e sauregulamente, cu condita ca produsee ski feu lifzae in conformitale cu instructjunile moastre.
 v skłedu z nasłednjo cirktyor-ami) ali predpisomi-ci jod opojem, da se żdekt uporaleją v skłedu z nasłem io cirktyor-ami) ali predpisomi-ci jod opojem, da se żdekt uporaleją v skłedu z naśmi navodić jod cirktyor-ami z nastrae (mataruse) mataruse, direktyor-ami z nastrukcji skrewistych i produkty i produkty i produkty i produkty i produkty cirktyor-ami z nastrukcji skrewistych i produkty i produk

ar grozījumiem, 8222248

v poslednom platnom vydaní, degistirildiği şekliyle,

с техните изменения, ir jos tolesnes redakcijas,

following the provisions of: gemäß den Bestimmungen in: conformément aux dispositions de:

Electromagnetic Compatibility 2014/30/EU\*

Machinery 2006/42/EC\*\*

10 under iegitägelse aff en fligt gestämmisten för 12 inehnde til testemmisten er 13 nouddaten stämnöksiä. 14 za dodziell klasmovelli. 15 prema odredhama. 16 kövel af. 17 zgodnie z postamowlemiti. 18 ummänd prevederien. σύμφωνα με πςπροβλέψεις των: seguindo as disposições de: в соответствии с положениями: siguiendo las disposiciones de: volgens de bepalingen van: secondo le disposizioni di:

come delineato in <A> e giudicato positivamente 07 Σημείωση\* 06 Nota\* as set out in <A> and judged positively by <B> according to the Certificate <C>.
we in <A> aufgetfurt and von <B> positiv beunteil gemäß Zertifikat <C>.

11 Information\* 14 Poznámka\* Centrarentor 19 4C2 in orderet af <B> i henhold 15 Napomena\* if Certifikat <C> 13 Huom\* 12 Merk\* как указано в <A> и подтверждено <B> согласно da <B> al sensi del Centificato <C>. όπως αρίξεται στο <A> και κρίνεται θετικά από τον <B> σύμφωνα με το Πιστοποιητικό <C>. conforme estabelecido em <A> e avaliado positivamente por <B> de acordo com o Certificado <C> 09 Примечание\*

08 Nota\*

telles que définies dans <A> et évaluées positivement par <B> conformément au

03 Remarque\* 02 Hinweis\*

01 Note\*

10 Bemærk\*

zoals uiteengezet in <A> en positief beoordeeld door <B> overeenkomstig het Certificaat <C>
tal como se estableæ en <A> y valorado
positivamente por <B> de acuerdo con el
Certificado <C>

04 Bemerk\*

05 Nota\*

Certificat <C>

19 Opomba\* 17 Uwaga\* 20 Märkus\* 18 Notă\* som det fremkommer i <A> og vurdert positivt av <B> i henhold til Sertifikatet <C>. sellaisina kuin ne on esitetty asiakirjassa <A> ja jotka <B> on hyväksynyt Sertifikaatin <C> jak było uvedeno v <A> a pozitivně zijštěno <B> v souladu s Osvědčením <C> kako je izloženo u <A> i pozitivno ocijenjeno od <B> prema Certifikatu <C> som anges i <A> och godkänts av <B> enligt Certifikat <C>

16 Megjegyzés\*

a(z) <A> alapján, a(z) <B> igazolta a meglelelést, 21 3a**6enexxa\*** dzí / C> Centalkány szemí szolta a zdokmentágą A> pozyfywną zgodne z dokmentágą A> pozyfywną opintą <B> i Świadectwem <C> opintą <B> i Świadectwem <C> . Kdi je določeno v K47 ii je prejelo pozitivno oceno 24 Poznámka\*
CBV skladu s Certifikatom KC;
Mis on silesatulu dokumentis K42 je himatud 25 Not\*
Sertifikatolis dokumentis CBV, vastavati
Sertifikatadile KC). 23 Piezīmes\* așa cum se prevede în <A> și apreciat pozitiv de <B> conform Certificatului <C>.

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**TÜV (NB0197** 

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Hiromitsu Iwasaki DATKIN DIDATKIN EUROPE N.V. IN DATKIN DATKIN DATKIN

Director

# UKCA - Safety declaration of conformity

# Daikin Europe N.V.

declares under its sole responsibility that the products to which this declaration relates:

FXMA200AXVMB, FXMA250AXVMB,

are in conformity with the following directive(s) or regulation(s), provided that the products are used in accordance with our instructions:

S.I. 2008/1597: Supply of Machinery (Safety) Regulations 2008\*\* S.I. 2016/1091: Electromagnetic Compatibility Regulations 2016\*

as amended

following the provisions of:

BS EN 60335-2-40,

\* as set out in <A> and judged positively by <B> according to the Certificate <C>.

\*\* Daikin Europe N.V. is authorised to compile the Technical Construction File.

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Table of Contents			
1	<b>Abo</b>	out the documentation About this document	<b>4</b>
2	Spe	cific installer safety instructions	5
	2.1	Instructions for equipment using R32 refrigerant	
		2.1.1 Installation space requirements	7
Fo	or the	user	7
3		r safety instructions	7
	3.1 3.2	General	7 8
4		out the system	10
_	4.1	System layout	10
5		r interface	10
6	<b>Ope</b> 6.1	e <b>ration</b> Operation range	<b>10</b>
	6.2	About operation modes	
		6.2.1 Basic operation modes	
	6.3	6.2.2 Special heating operation modes  To operate the system	
7	Maiı	ntenance and service	11
•	7.1	Precautions for maintenance and service	
	7.2	Cleaning the air filter and air outlet	
		7.2.1 To clean the air filter	
	7.3	About the refrigerant	
		7.3.1 About the refrigerant leakage sensor	
8		ubleshooting	13
9	Relo	ocation	13
10	) Disp	oosal	13
Fo	or the	installer	13
11	Abo	out the box	13
	11.1	Indoor unit	13 13
12	2 Unit 12.1	t <b>installation</b> Preparing the installation site	<b>13</b>
	12.1	12.1.1 Installation site requirements of the indoor unit	
	12.2	Mounting the indoor unit	
		12.2.1 Guidelines when installing the indoor unit	
		12.2.3 Guidelines when installing the drain piping	
13	Pipi	ng installation	17
	13.1	Preparing refrigerant piping	
		<ul><li>13.1.1 Refrigerant piping requirements</li></ul>	
	13.2	Connecting the refrigerant piping	17
		13.2.1 To connect the refrigerant piping to the indoor unit	
14		ctrical installation	18
	14.1 14.2	Specifications of standard wiring components	
15	Con	nmissioning	19
	15.1	Checklist before commissioning	
	15.2	To perform a test run	20

16 Configuration		
16.1	Field setting	20
17 Tec	chnical data	22
17.1	Wiring diagram	22
	17.1.1 Unified wiring diagram legend	22

#### About the documentation 1

#### About this document 1.1



#### **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 + end users



#### INFORMATION

This appliance is intended to be used by expert or trained users in shops, in light industry and on farms, or for commercial 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 and operation manual:
  - · Installation and operation instructions
  - · Format: Paper (in the box of the indoor unit)
- · Installer and user reference guide:
  - Preparation of the installation, good practices, reference data,...
  - Detailed step-by-step instructions and background information for basic and advanced usage
  - · Format: Digital files on https://www.daikin.eu. Use the search function Q 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 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 "12 Unit installation" [▶ 13])

For additional installation site requirements, read also "2.1 Instructions for equipment using R32 refrigerant" [> 6].



#### **WARNING**

The appliance shall be stored in a room without continuously operating ignition sources (example: open flames, an operating gas appliance or an operating electric heater).



#### CAUTION

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

This unit, both indoor and outdoor, is suitable for installation in a commercial and light industrial environment



#### WARNING

Keep any required ventilation openings clear of obstructions.



#### **CAUTION**

This equipment is NOT intended for use in residential locations and will NOT guarantee to provide adequate protection to radio reception in such locations.

Duct installation (see "12.2.2 Guidelines when installing the ducting" [> 15])



#### WARNING

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



#### CAUTION

In case of installation WITHOUT the duct on inlet side, make sure to install the air filter. For more information refer to the option list of the indoor unit.

#### <u>^</u>

#### 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 soundabsorbing 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 "16 Configuration" [> 20]).

### Refrigerant piping installation (see "13 Piping installation" [> 17])



#### **CAUTION**

Piping MUST be installed according to instructions given in "13 Piping installation" [\* 17]. Only mechanical joints (e.g. braze+flare connections) that are compliant with the latest version of ISO14903 can be used.



#### **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.

Electrical installation (see "14 Electrical installation" [▶ 18])



#### 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.

#### 2 Specific installer safety instructions



#### 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**

Prevent hazards due to inadvertent resetting of the thermal cut-out: power to this appliance MUST NOT be supplied through an external switching device, such as a timer, or connected to a circuit that is regularly turned ON and OFF by the utility.



#### CAUTION

- Each indoor unit has to be connected to a separate user interface. Only a safety system compatible remote controller can be used as the user interface. See technical data sheet for remote controller compatibility (e.g. BRC1H52/82\*).
- The user interface has to be put in the same room as the indoor unit. For details, please refer to the installation and operation manual of the user interface.



#### CAUTION

In case shielded wire is used, connect the shielding to the outdoor unit side only.

#### Configuration (see "16 Configuration" [▶ 20])



#### **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)

# 2.1 Instructions for equipment using R32 refrigerant



#### 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**

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

- · 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

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.

#### 2.1.1 Installation space requirements



The total refrigerant charge in the system cannot exceed the requirements for minimum floor area of the smallest room that is served. For minimum floor area requirements for indoor units, see the installation and operation manual of the outdoor unit.

#### WARNING

This appliance contains R32 refrigerant. For the minimum floor area of the room in which the appliance is stored refer to installation and operation manual of the outdoor unit.



#### **NOTICE**

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

#### For the user

#### 3 **User safety instructions**

Always observe the following safety instructions and regulations.

#### 3.1 General



#### 

If you are NOT sure how to operate the unit, contact your installer.



#### 

This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved.

Children SHALL NOT play with the appliance.

Cleaning and user maintenance SHALL NOT be made by children without supervision.



#### WARNING

To prevent electrical shocks or fire:

- Do NOT rinse the unit.
- Do NOT operate the unit with wet hands.
- Do NOT place any objects containing water on the unit.



#### ♠ CAUTION

- Do NOT place any objects or equipment on top of the unit.
- Do NOT sit, climb or stand on the unit.
- Units are marked with the following symbol:



This means that electrical and electronic products may NOT be mixed with unsorted household waste. Do NOT try to dismantle the system yourself: dismantling the system, treatment of the refrigerant, of oil and of other parts MUST be done by an authorised installer and MUST comply with applicable legislation.

Units MUST be treated at a specialised treatment facility for reuse, recycling and recovery. By ensuring this product is disposed of correctly, you will help to prevent potential negative consequences for the environment and human health. For more information, contact your installer or local authority.

Batteries are marked with the following symbol:



**DAIKIN** 

This means that the batteries may NOT be mixed with unsorted household waste. If a chemical symbol is printed beneath the symbol, this chemical symbol means that the battery contains a heavy metal above a certain concentration.

Possible chemical symbols are: Pb: lead (>0.004%).

Waste batteries MUST be treated at a specialised treatment facility for reuse. By ensuring waste batteries are disposed of correctly, you will help to prevent potential negative consequences for the environment and human health.

#### 3.2 Instructions for safe operation

#### **WARNING**

- Do NOT modify, disassemble, remove, reinstall or repair the unit yourself as incorrect dismantling or installation may cause an electrical shock or fire. Contact your dealer.
- In case of accidental refrigerant leaks, make sure there are no naked flames. The refrigerant itself is entirely safe, non-toxic and mildly flammable, but it will generate toxic gas when it accidentally leaks into a room where combustible air from fan heaters, gas cookers, etc. is present. Always have qualified service personnel confirm that the point of leakage has been repaired or corrected before resuming operation.

#### **№ WARNING**

The unit is equipped with a refrigerant leak detection system for safety.

To be effective, the unit MUST be electrically powered at all times after installation, except for short service periods.

#### 

- NEVER touch the internal parts of the controller.
- Do NOT remove the front panel. Some parts inside are dangerous to touch and appliance problems may happen. For checking and adjusting the internal parts, contact your dealer.



#### **WARNING**

This unit contains electrical and hot parts.



#### **№ WARNING**

Before operating the unit, be sure the installation has been carried out correctly by an installer.



#### **∴** CAUTION

It is unhealthy to expose your body to the air flow for a long time.



#### ♠ CAUTION

To avoid oxygen deficiency, ventilate the room sufficiently if equipment with burner is used together with the system.

#### ♠ CAUTION

Do NOT operate the system when using a room fumigation-type insecticide. Chemicals could collect in the unit, and endanger the health of people who are hypersensitive to chemicals.

#### **♠** CAUTION

NEVER expose little children, plants or animals directly to the airflow.



#### **!** WARNING

Do NOT place a flammable spray bottle near the air conditioner and do NOT use sprays near the unit. Doing so may result in a fire.



#### **WARNING**

Keep any required ventilation openings clear of obstructions.

Maintenance and service (see "7 Maintenance and service" [▶ 11])



#### **CAUTION:** Pay attention to the fan!

It is dangerous to inspect the unit while the fan is running.

Make sure to turn OFF the main switch before executing any maintenance task.



#### **CAUTION**

Do NOT insert fingers, rods or other objects into the air inlet or outlet. When the fan is rotating at high speed, it will cause injury.



#### **№ WARNING**

NEVER replace a fuse with a fuse of a wrong ampere ratings or other wires when a fuse blows out. Use of wire or copper wire may cause the unit to break down or cause a fire.



#### 

After a long use, check the unit stand and fitting for damage. If damaged, the unit may fall and result in injury.

#### CAUTION

Before accessing terminal devices, make sure to interrupt all power supply.



#### **DANGER: RISK OF ELECTROCUTION**

To clean the air conditioner or air filter, be sure to stop operation and turn all power supplies OFF. Otherwise, an electrical shock and injury may result.



#### **WARNING**

Be careful with ladders when working in high places.



#### A DANGER: RISK OF **ELECTROCUTION**

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 warning label for persons performing service and maintenance.



#### / CAUTION

Turn off the unit before cleaning the air outlet.



#### **. WARNING**

Do NOT let the indoor unit get wet. Possible consequence: Electrical shock or fire.

About the refrigerant (see "7.3 About the refrigerant" [▶ 12])



#### 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 refrigerant inside the unit is mildly flammable, but normally does NOT leak. If the refrigerant leaks in the room and comes in contact with fire from a burner, a heater, or a cooker, this may result in fire, or the formation of a harmful gas.
- Turn OFF any combustible heating devices, ventilate the room, and contact the dealer where you purchased the unit.
- Do NOT use the unit until a service person confirms that the part from which the refrigerant leaked has been repaired.



#### / WARNING

The appliance shall be stored in a room without continuously operating ignition sources (example: open flames, an operating gas appliance or an operating electric heater).



#### **№ WARNING**

The R32 refrigerant leakage sensor must be replaced after every detection or at the end of its lifetime. ONLY authorised persons may replace the sensor.

Troubleshooting (see "8 Troubleshooting" [▶ 13])



#### **WARNING**

Stop operation and shut OFF the power if anything unusual occurs (burning smells etc.).

Leaving the unit running under such circumstances may cause breakage, electrical shock or fire. Contact your dealer.

#### 4 About the system



#### **WARNING**

- Do NOT modify, disassemble, remove, reinstall or repair the unit yourself as incorrect dismantling or installation may cause an electrical shock or fire. Contact your dealer.
- In case of accidental refrigerant leaks, make sure there are no naked flames. The refrigerant itself is entirely safe, non-toxic and mildly flammable, but it will generate toxic gas when it accidentally leaks into a room where combustible air from fan heaters, gas cookers, etc. is present. Always have qualified service personnel confirm that the point of leakage has been repaired or corrected before resuming operation.



#### **WARNING**

The unit is equipped with a refrigerant leak detection system for safety.

To be effective, the unit MUST be electrically powered at all times after installation, except for short service periods.



#### NOTICE

Do NOT use the system for other purposes. In order to avoid any quality deterioration, do NOT use the unit for cooling precision instruments, food, plants, animals, or works of art.



#### **NOTICE**

For future modifications or expansions of your system:

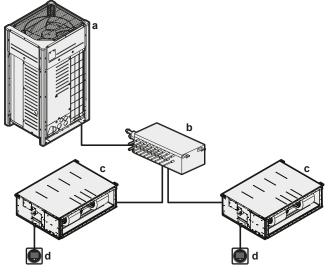
A full overview of allowable combinations (for future system extensions) is available in technical engineering data and should be consulted. Contact your installer to receive more information and professional advice.

#### 4.1 System layout



#### **INFORMATION**

The following figure is an example and may NOT completely match your system layout



- a Outdoor unit
- **b** Multi BS unit
- c Indoor unit
- d Remote controller (user interface)

#### 5 User interface



#### CAUTION

- NEVER touch the internal parts of the controller.
- Do NOT remove the front panel. Some parts inside are dangerous to touch and appliance problems may happen. For checking and adjusting the internal parts, contact your dealer.



#### **NOTICE**

Do NOT wipe the controller operation panel with benzine, thinner, chemical dust cloth, etc. The panel may get discoloured or the coating peeled off. If it is heavily dirty, soak a cloth in water-diluted neutral detergent, squeeze it well and wipe the panel clean. Wipe it with another dry cloth.



#### **NOTICE**

NEVER press the button of the user interface with a hard, pointed object. The user interface may be damaged.



#### NOTICE

NEVER pull or twist the electric wire of the user interface. It may cause the unit to malfunction.

This operation manual offers a non-exhaustive overview of the main functions of the system.

For more information about the user interface, see the operation manual of the installed user interface.

#### 6 Operation

#### 6.1 Operation range



#### INFORMATION

For the operation limits see the technical data of the connected outdoor unit.

#### 6.2 About operation modes



#### INFORMATION

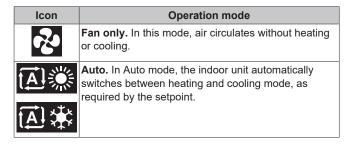
Depending on the installed system, some operation modes will not be available.

- The air flow rate may adjust itself depending on the room temperature or the fan may stop immediately. This is not a malfunction.
- If the main power supply is turned off during operation, operation will restart automatically after the power turns back on again.
- Setpoint. Target temperature for the Cooling, Heating, and Auto operation modes.
- Setback. A function that keeps the room temperature in a specific range when the system is turned off (by the user, the schedule function, or the OFF timer).

#### 6.2.1 Basic operation modes

The indoor unit can operate in various operation modes.

Icon	Operation mode		
***	<b>Cooling.</b> In this mode, cooling will be activated as required by the setpoint, or by Setback operation.		
	<b>Heating</b> . In this mode, heating will be activated as required by the setpoint, or by Setback operation.		



#### 6.2.2 Special heating operation modes

Operation	Description
Defrost  To prevent a loss of heating capacity due to accumulation in the outdoor unit, the system automatically switch to defrost operation.	
	During defrost operation, the indoor unit fan will stop operation, and the following icon will appear on the home screen:
	<b>6/8</b>
	The system will resume normal operation after approximately 6 to 8 minutes.
Hot start  During hot start, the indoor unit fan will stop operation, and the following icon will appear on home screen:	
	<b>6</b> / <b>8</b> / <b>3</b>

#### 6.3 To operate the system



#### **INFORMATION**

For setting of the operation mode or other settings, see the reference guide or operation manual of the user interface.

#### Maintenance and service

#### 7.1 Precautions for maintenance and service



#### CAUTION

See "3 User safety instructions" [▶ 7] to acknowledge all related safety instructions.



#### **NOTICE**

NEVER inspect or service the unit by yourself. Ask a qualified service person to perform this work. However, as end user, you may clean the air filter and air outlet.



#### NOTICE

Maintenance MUST be done by an authorised installer or service agent.

We recommend performing maintenance at least once a year. However, applicable legislation might require shorter maintenance intervals.



#### NOTICE

Do NOT wipe the controller operation panel with benzine, thinner, chemical dust cloth, etc. The panel may get discoloured or the coating peeled off. If it is heavily dirty, soak a cloth in water-diluted neutral detergent, squeeze it well and wipe the panel clean. Wipe it with another dry

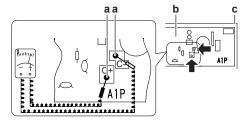
Following symbols may occur on the indoor unit:

Symbol	Explanation
	Measure the voltage at the terminals of main circuit capacitors or electrical components before servicing.



#### **DANGER: RISK OF ELECTROCUTION**

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 warning label for persons performing service and maintenance.



- Residual voltage measuring points (C-, C+)
- Printed circuit board
- Control box

#### 7.2 Cleaning the air filter and air outlet



#### **CAUTION**

Turn off the unit before cleaning the air filter and air outlet.



#### NOTICE

- Do NOT use gasoline, benzene, thinner polishing powder or liquid insecticide. Possible consequence: Discoloration and deformation.
- Do NOT use water or air of 50°C or higher. Possible consequence: Discoloration and deformation.

#### 7.2.1 To clean the air filter



#### **INFORMATION**

Air filter for this unit is an optional equipment. Refer to the option list for available air filter option for your unit.

#### When to clean the air filter:

- Rule of thumb: Clean every 6 months. If the air in the room is extremely contaminated, increase the cleaning frequency.
- Depending on the settings, the user interface can display the "Time to clean filter" notification. Clean the air filter when the notification displays.
- · If the dirt becomes impossible to clean, change the air filter (= optional equipment).

#### How to clean the air filter:

**DAIKIN** Installation and operation manual 11

#### 7 Maintenance and service

- 1 Remove the air filter (composed of 3 equal parts). For the removal procedure 8 mm pre-filter refer to the reference guide of the indoor unit. For other air filter types refer to the installation manual of the filter chamber.
- 2 Clean the air filter. Use a vacuum cleaner or wash with water. If the air filter is very dirty, use a soft brush and neutral detergent.





- 3 Dry the air filter in the shadow.
- 4 Re-attach the air filter.
- 5 Turn ON the power.
- 6 To remove warning screens, see the reference guide of the user interface.

#### 7.2.2 To clean the air outlet



#### WARNING

Do NOT let the indoor unit get wet. **Possible consequence:** Electrical shock or fire.

Clean with a soft cloth. If it is difficult to remove stains, use water or a neutral detergent.

#### 7.3 About the refrigerant

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

Refrigerant type: R32

Global warming potential (GWP) value: 675

Periodical inspections for refrigerant leaks may be required depending on the applicable legislation. Contact your installer for more information.



#### **WARNING: MILDLY FLAMMABLE MATERIAL**

The refrigerant inside this unit is mildly flammable.



#### **WARNING**

- The refrigerant inside the unit is mildly flammable, but normally does NOT leak. If the refrigerant leaks in the room and comes in contact with fire from a burner, a heater, or a cooker, this may result in fire, or the formation of a harmful gas.
- Turn OFF any combustible heating devices, ventilate the room, and contact the dealer where you purchased the unit.
- Do NOT use the unit until a service person confirms that the part from which the refrigerant leaked has been repaired.



#### **WARNING**

The appliance shall be stored in a room without continuously operating ignition sources (example: open flames, an operating gas appliance or an operating electric heater).



#### **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.



#### NOTICE

Applicable legislation on **fluorinated greenhouse gases** requires that the refrigerant charge of the unit is indicated both in weight and CO<sub>2</sub> equivalent.

Formula to calculate the quantity in  ${\rm CO_2}$  equivalent tonnes: GWP value of the refrigerant  $\times$  total refrigerant charge [in kg]/1000

Contact your installer for more information.

#### 7.3.1 About the refrigerant leakage sensor



#### **WARNING**

The R32 refrigerant leakage sensor must be replaced after every detection or at the end of its lifetime. ONLY authorised persons may replace the sensor.



#### **NOTICE**

The R32 refrigerant leakage sensor is a semiconductor detector which may incorrectly detect substances other than R32 refrigerant. Avoid using chemical substances (e.g. organic solvents, hair spray, paint) in high concentrations, in the close proximity of the indoor unit because this may cause misdetection by the R32 refrigerant leakage sensor.



#### NOTICE

Functionality of the safety measures are periodically automatically checked. In case of malfunction, an error code will be displayed on the user interface.



#### INFORMATION

The sensor has a lifetime of 10 years. The user interface displays error "CH-05" 6 months before the end of the sensor lifetime and error "CH-02" after the end of the sensor lifetime. For more information, refer to the reference quide of the user interface and contact your dealer.

#### In case of detection when the unit is operating

- 1 The user interface displays error "A0-11" and emits an alarm sound. The status indicator blinks.
- 2 Contact your dealer immediately. For more information, see the installation manual of the outdoor unit.

#### In case of detection when the unit is in standby

When the detection occurs when the unit is in standby, the unit performs a "false detection check".

#### False detection check

- 1 The fan starts turning on the lowest setting.
- 2 The user interface displays error "A0-13" and emits an alarm sound. The status indicator blinks.
- 3 The sensor checks if a refrigerant leakage or misdetection occurred.
- No refrigerant leakage detected. Result: The system resumes normal operation after approximately 2 minutes.
- Refrigerant leakage detected. Result:

- 1 The user interface displays error "A0-11" and emits an alarm sound. The status indicator blinks.
- 2 Contact your dealer immediately. For more information, see the installation manual of the outdoor unit.



#### **INFORMATION**

The minimum airflow during normal operation or during the refrigerant leakage detection is always >240 m³/h.



#### INFORMATION

To stop the alarm of the user interface, see the reference guide of the user interface.

#### 8 Troubleshooting

If one of the following malfunctions occur, take the measures shown below and contact your dealer.



#### WARNING

Stop operation and shut OFF the power if anything unusual occurs (burning smells etc.).

Leaving the unit running under such circumstances may cause breakage, electrical shock or fire. Contact your dealer.

The system MUST be repaired by a qualified service person.

Malfunction	Measure
If a safety device such as a fuse, a circuit breaker or a residual current device frequently actuates or the ON/ OFF switch does NOT function properly.	Turn OFF all main power supply switches to the unit.
If water leaks from the unit.	Stop operation.
The operation switch does NOT function properly.	Turn OFF the power supply.

Malfunction	Measure
If the user interface displays $oldsymbol{\Delta}$ .	Notify your installer and report the error code. To display an error code see the reference guide of the user interface.

If the system does NOT operate properly except for the above mentioned cases and none of the above mentioned malfunctions is evident, investigate the system in accordance with the following procedures.



#### **INFORMATION**

Refer to the reference guide located on <a href="https://www.daikin.eu">https://www.daikin.eu</a> for more troubleshooting tips. Use the search function  $\mathcal Q$  to find your model.

If after checking all above items, it is impossible to fix the problem yourself, contact your installer and state the symptoms, the complete model name of the unit (with manufacturing number if possible) and the installation date (possibly listed on the warranty card).

#### 9 Relocation

Contact your dealer to remove and reinstall the entire unit. Moving units requires technical expertise.

#### 10 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.

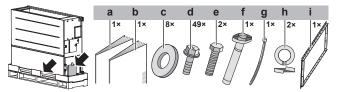
#### For the installer

#### 11 About the box

#### 11.1 Indoor unit

## 11.1.1 To remove the accessories from the indoor unit

1 Remove the accessories from the side of the unit. Air outlet flange is placed under the indoor unit.



- a Installation and operation manual
- **b** General safety precautions
- c Washers for hanger bracket
- d Screws for duct flanges (M5×12)
- e Hexagon head bolt (M10×40)f Attached piping with sealing
- **g** Tie wrap
- h Spring washer
- i Air outlet flange (under the indoor unit)

#### 12 Unit installation

#### 12.1 Preparing the installation site

Avoid installation in an environment with a lot of organic solvents such as ink and siloxane.



#### WARNING

The appliance shall be stored in a room without continuously operating ignition sources (example: open flames, an operating gas appliance or an operating electric heater).

# 12.1.1 Installation site requirements of the indoor unit

#### Minimum floor area requirements



#### CAUTION

The total refrigerant charge in the system cannot exceed the requirements for minimum floor area of the smallest room that is served. For minimum floor area requirements for indoor units, see the installation and operation manual of the outdoor unit.

FXMA-A VRV system air conditioner 3P688304-1C – 2022.12 DAIKIN

#### 12 Unit installation



#### INFORMATION

The sound pressure level is less than 70 dBA.



#### **INFORMATION**

Equipment meets the requirement for commercial and light-industrial location when professionally installed and maintained.



#### NOTICE

If the equipment is installed closer than 30 m to a residential location, the professional installer MUST evaluate the EMC situation before installation.



#### CAUTION

This equipment is NOT intended for use in residential locations and will NOT guarantee to provide adequate protection to radio reception in such locations.



#### CAUTION

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

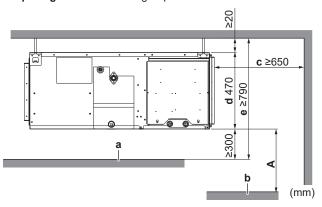
This unit, both indoor and outdoor, is suitable for installation in a commercial and light industrial environment.



#### **WARNING**

Keep any required ventilation openings clear of obstructions.

- Drainage. Make sure condensation water can be evacuated properly.
- Ceiling insulation. When conditions in the ceiling exceed 30°C and a relative humidity of 80%, or when fresh air is inducted into the ceiling, then additional insulation is required (minimum 10 mm thickness, polyethylene foam).
- Protective guards. Make sure to install protective guards (field supply) on the suction and discharge side to prevent somebody from touching the fan blades or heat exchanger.
- Spacing. Mind the following requirements:

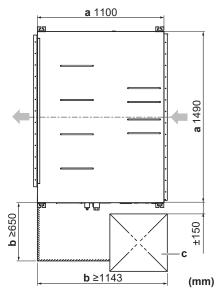


- A Minimum distance to the floor: 2.5 m to avoid accidental touching
- a Ceiling
- **b** Floor surface
- c Maintenance space
- d Minimum required space of installation
- e Minimum space for allowing downward slope 1/100 for drainage
- Discharge grille. Minimum requirement installation height of discharge grille ≥1.8 m.

#### Service space and ceiling opening size

Make sure ceiling opening is big enough to ensure a sufficient clearance for maintenance and service.

#### Top view:



- a Ceiling opening
- **b** Service space
- c Inspection hatch (600×600 mm)



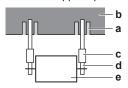
#### **INFORMATION**

Some options may require additional service space. Sees the installation manual of the used option before installation.

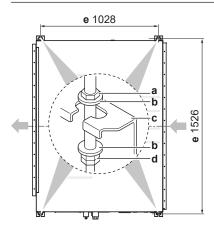
#### 12.2 Mounting the indoor unit

#### 12.2.1 Guidelines when installing the indoor unit

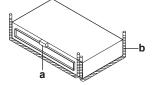
- Ceiling strength. Check whether the ceiling is strong enough to support the weight of the unit. If there is a risk, reinforce the ceiling before installing the unit.
  - · For existing ceilings, use anchors.
  - For new ceilings, use sunken inserts, sunken anchors or other field supplied parts.



- a Anchor
- **b** Ceiling slab
- c Long nut or turnbuckle
- d Suspension bolt
- e Indoor unit
- Suspension bolts. Use M10 suspension bolts for installation.
   Attach the hanger bracket to the suspension bolt. Fix it securely using a nut and washer from the upper and lower sides of the hanger bracket.



- Nut (field supply)
- b Washer (accessories)
- Hanger bracket
- d Double nut (field supply)
- Suspension bolt pitch
- Install the unit temporarily.
- Attach the hanger bracket to the suspension bolt.
- Fix it securely.
- Level. Make sure the unit is level at all four corners using a level or a water-filled vinyl tube.



- Water level b Vinyl tube
- 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.



#### **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.



#### **INFORMATION**

For installation of the optional output PCB or the optional 8 mm pre-filter see the reference guide located on https:// www.daikin.eu. Use the search function Q to find your model

#### Guidelines when installing the ducting



#### **WARNING**

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



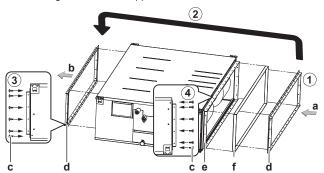
#### **CAUTION**

In case of installation WITHOUT the duct on inlet side, make sure to install the air filter. For more information refer to the option list of the indoor unit.

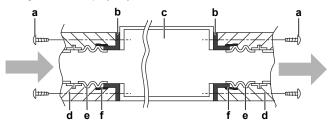
#### CAUTION

- 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 soundabsorbing 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 "16 Configuration" [> 20]).

The ducting is to be field supplied



- Air inlet
- b Air outlet
- Screws for duct flanges
- Air outlet flange
- Air inlet flange
- Transportation case cover
- Remove the air outlet flange from the transportation case cover.
- Move and attach the air outlet flange to the air outlet side.
- Fix the air outlet flange with the 34 screws for duct flanges (accessory)
- Fix the air inlet flange using the remaining 15 screws for duct flanges (accessory).
- Connect the canvas duct to the inside of the flange on both sides
- Connect the duct to the canvas duct on both sides.
- Wind aluminium tape around the flanges and duct connections. Make sure there are no air leaks at any other connection.
- Insulate the ducts to prevent condensation from forming. Use glass wool or polyethylene foam 25 mm thick.



- Screws for duct flanges (accessory)
- Flange (located on the unit)

**DAIKIN** 

d Insulation (field supply)

- Canvas duct (field supply)
- Aluminium tape (field supply)
- Filter. Be sure to attach an air filter inside the air passage on the air inlet side. Use an air filter with dust collecting efficiency ≥50% (gravimetric method).

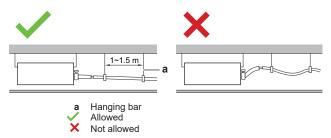
#### Guidelines when installing the drain 12.2.3 piping

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

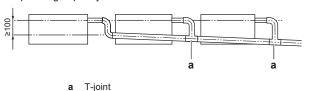
- General guidelines
- Connecting the drain piping to the indoor unit
- Checking for water leaks

#### 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 25 mm nominal diameter and 32 mm outer diameter).
- Slope. Make sure the drain piping slopes down (at least 1/100) to prevent air from being trapped in the piping. Use hanging bars as shown.



- Condensation. Take measures against condensation. Insulate the complete drain piping in the building.
- Combining drain pipes. It is possible to combine drain pipes. Use drain pipes and T-joints with the correct gauge for the operating capacity of the units.

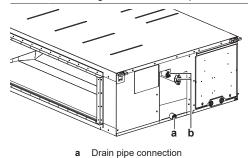


#### To connect the drain piping to the indoor unit



#### NOTICE

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

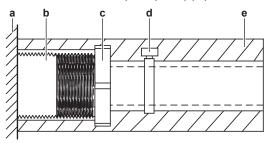


- Refrigerant pipes

#### Drain piping connection

- Pull out the drain plug.
- Install the adapter for the drain hose (field supply).

- 3 Push the drain hose as far as possible over the adapter for the drain hose
- Tighten the metal clamp until the screw head is less than 4 mm from the metal clamp part.
- 5 Check for water leaks (see "To check for water leaks" [▶ 16]).
- 6 Install the insulation piece (drain pipe).



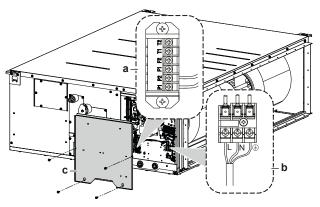
- Indoor unit
- BSP 1" internal thread b
- Adapter (field supply)
- Metal clamp (field supply)
- Insulation material for drain pipe (field supply)

#### To check for water leaks

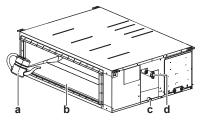
The procedure differs depending on whether installation of the system is already completed. When installation of the system is not yet completed, temporarily connect the user interface and power supply to the unit.

#### When installation of the system is not yet completed

- 1 Temporarily connect electrical wiring.
  - · Remove the service cover.
  - · Connect the power supply.
  - · Connect the user interface.
  - Reattach the service cover.



- User interface terminal block
- Power supply terminal block Service cover with wiring diagram
- 2 Turn ON the power supply.
- Start fan only operation (see the reference guide or the service manual of the user interface).
- Gradually pour approximately 1 I of water to the drain pan, and check for leaks.



- Container with water
- h Drain pan
- С Drain outlet

- d Refrigerant pipes
- 5 Turn OFF the power.
- 6 Disconnect the electrical wiring.
  - · Remove the service cover.
  - Disconnect the power supply.
  - Disconnect the user interface.
  - · Reattach the service cover.

#### When installation of the system is already completed

- 1 Start cooling operation (see the reference guide or the service manual of the user interface).
- 2 Gradually pour approximately 1 I of water to the drain pan, and check for leaks (see "When installation of the system is not yet completed" [• 16]).

#### 13 Piping installation

#### 13.1 Preparing refrigerant piping

#### 13.1.1 Refrigerant piping requirements



#### CAUTION

Piping MUST be installed according to instructions given in "13 Piping installation" [> 17]. Only mechanical joints (e.g. braze+flare connections) that are compliant with the latest version of ISO14903 can be used.



#### 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

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

Pipe outer diameter (mm)		
Liquid pipe	Gas pipe	
Ø9.5	Ø19.1	

#### Refrigerant piping material

- Piping material: phosphoric acid deoxidised seamless copper
- Flare connections: Only use annealed material.
- Piping temper grade and thickness:

Outer diameter (Ø)	Temper grade	Thickness (t) <sup>(a)</sup>	
9.5 mm (3/8")	Annealed (O)	≥0.8 mm	Ø
19.1 mm (3/4")			<u>J.t.</u>

(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.

#### 13.1.2 Refrigerant piping insulation

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

Pipe outer diameter (Ø <sub>p</sub> )	Insulation inner diameter (Ø <sub>i</sub> )	Insulation thickness (t)
9.5 mm (3/8")	10~14 mm	≥13 mm
19.1 mm (3/4")	20~24 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

#### 13.2 Connecting the refrigerant piping



#### DANGER: RISK OF BURNING/SCALDING



#### **INFORMATION**

- For liquid piping, use a flare connection.
- For gas piping, use the attached piping (accessory) and fix it with the hexagon head bolts and spring washers (accessory)

# 13.2.1 To connect the refrigerant piping to the indoor unit



#### CAUTION

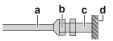
Install the refrigerant piping or components in a position where they are unlikely to be exposed to any substance which may corrode components containing refrigerant, unless the components are constructed of materials that are inherently resistant to corrosion or are suitably protected against corrosion.



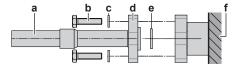
#### WARNING: MILDLY FLAMMABLE MATERIAL

The refrigerant inside this unit is mildly flammable.

- Pipe length. Keep refrigerant piping as short as possible.
- 1 Connect the **liquid piping** to the unit using the flare connections



- a Field piping
- **b** Flare nut (attached to the unit)
- Refrigerant pipe connection (attached to the unit)
- d Indoor unit
- 2 Connect the gas piping using the attached piping (accessory). Fix it to the unit using hexagon head bolts (M10×40) (accessory) and spring washers (accessory). Place sealing (on the attached piping) between the connection.



- a Field piping
- Hexagon head bolt (M10×40)
- c Spring washer (accessory)
- d Attached piping
- e Sealing (on the attached piping)
- f Indoor unit



#### NOTICE

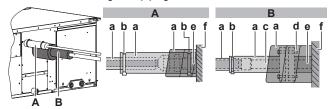
- Join the attached piping (accessory) and the field refrigerant piping (field supply) by brazing before fixing the attached piping to the unit.
- Do NOT braze the refrigerant piping directly to the indoor unit.



#### **CAUTION**

Do NOT reuse sealing (on the attached piping). Always use new sealing to prevent refrigerant gas leaks.

3 Insulate the refrigerant piping on the indoor unit as follows:



- A Liquid piping
- B Gas piping
- a Insulation material (field supply)
- **b** Cable tie (field supply)
- c Attached piping (accessory)
- d Hexagon head bolt and spring washer (accessory)
- e Refrigerant pipe connection (attached to the unit)
- f Unit



#### NOTICE

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

#### 14 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.



#### **WARNING**

Prevent hazards due to inadvertent resetting of the thermal cut-out: power to this appliance MUST NOT be supplied through an external switching device, such as a timer, or connected to a circuit that is regularly turned ON and OFF by the utility.

# 14.1 Specifications of standard wiring components



#### NOTICE

We recommend using solid (single-core) 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.

Power supply		
Voltage	220~240 V/220 V	
Frequency	50/60 Hz	
Phase	1~	
MCA <sup>(a)</sup>	FXMA200: 4.3 A	
	FXMA250 : 5.2 A	

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

Components	
Power supply cable	MUST comply with national wiring regulation.
	3-core cable
	Wire size based on the current, but not less than 1.5 mm <sup>2</sup>
Transmission wiring	Only use harmonised wire providing double insulation and suitable for applicable voltage
	2-core cable
	Minimum size 0.75 mm²
User interface cable	Only use harmonised wire providing double insulation and suitable for applicable voltage
	2-core cable
	Minimum size 0.75 mm²
	Maximum length 500 m
Recommended circuit breaker	6 A
Residual current device	MUST comply with national wiring regulation

# 14.2 To connect the electrical wiring to the indoor unit



#### NOTICE

- Follow the wiring diagram (delivered with the unit, located at the inside of the service cover).
- For instructions on how to connect the optional equipment, see the installation manual delivered with the optional equipment.
- Make sure the electrical wiring does NOT obstruct proper reattachment of the service cover.

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



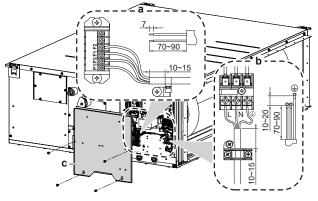
#### **NOTICE**

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

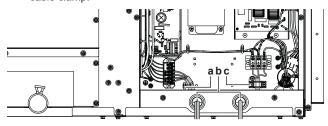
- 1 Remove the service cover.
- 2 User interface cable: Route the cable through the opening for cable, connect the cable to the terminal block (symbols P1, P2).
- 3 Transmission cable: Route the cable through the opening for cable, connect the cable to the terminal block (make sure the symbols F1, F2 match with the symbols on the outdoor unit). Bundle the transmission cable with the user interface cable and fix them with a tie wrap on the wiring fixture.
- **4 Power supply cable**: Route the cable through the frame and connect the cable to the terminal block (L, N, earth). Fix the cable with a tie wrap on the wiring fixture.



- a Circuit breaker
- b Residual current device



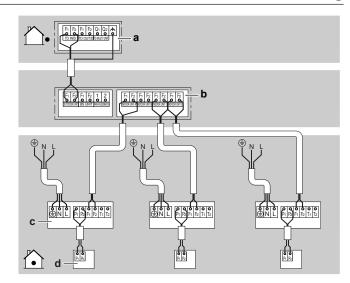
- a User interface cable and transmission cable
- **b** Power supply cable
- c Service cover with wiring diagram
- 5 Plastic clamp for tie wrap (for transmission cable): Pass tie wraps through the plastic clamps and fasten to fix the cables.
- 6 Cable clamp (for power supply cable): Fix the cable with the cable clamp.



- a Plastic clamp for tie wrap
- **b** Opening for cables
- c Cable clamp
- 7 Wrap the sealing (field supply) around the cables to prevent water from entering the unit. Seal all gaps to prevent small animals from entering the system.
- 8 Reattach the service cover.

#### Complete system example

1 user interface controls 1 indoor unit.



- a Outdoor unit
- **b** Multi BS unit
- c Indoor unitd User interface



#### **NOTICE**

For the use of group control and related limitations refer to manual of outdoor unit.



#### CAUTION

- Each indoor unit has to be connected to a separate user interface. Only a safety system compatible remote controller can be used as the user interface. See technical data sheet for remote controller compatibility (e.g. BRC1H52/82\*).
- The user interface has to be put in the same room as the indoor unit. For details, please refer to the installation and operation manual of the user interface.



#### **CAUTION**

In case shielded wire is used, connect the shielding to the outdoor unit side only.

#### 15 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.



#### NOTICE

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

#### 15.1 Checklist before commissioning

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

#### 16 Configuration

You have read the complete installation and operation instructions described in the <b>installer and user reference guide</b> .
Installation
Check that the unit is properly installed, to avoid abnormal noises and vibrations when starting up the unit.
Drainage
Make sure drainage flows smoothly.
Possible consequence: Condensate water might drip.
Ducting
Make sure the ducting is properly installed and insulated.
Field wiring
Be sure that the field wiring has been carried out according to the instructions described in the chapter "14 Electrical installation" [> 18], according to the wiring diagrams and according to the applicable legislation.
Power supply voltage
Check the power supply voltage on the local supply panel. The voltage MUST correspond to the voltage on the nameplate of the unit.
Earth wiring
Be sure that the earth wires have been connected properly and that the earth terminals are tightened.
Fuses, circuit breakers, or protection devices
Check that the fuses, circuit breakers, or the locally installed protection devices are of the size and type specified in the chapter "14 Electrical installation" [> 18]. Be sure that neither a fuse nor a protection device has been bypassed.
Internal wiring
Visually check the electrical component box and the inside of the unit for loose connections or damaged electrical components.
Pipe size and pipe insulation
Be sure that correct pipe sizes are installed and that the insulation work is properly executed.
Damaged equipment
Check the inside of the unit for damaged components or squeezed pipes.
Field settings
Make sure all field settings you want are set. See "16.1 Field setting" [ > 20].

#### 15.2 To perform a test run



#### **INFORMATION**

- Perform the test run according to the instructions in the outdoor unit manual.
- The test run is only completed if there is no malfunction code displayed on the user interface or the outdoor unit 7-segment display.
- See the service manual for the complete list of error codes and a detailed troubleshooting guideline for each error.



#### NOTICE

Do NOT interrupt the test run.

#### 16 Configuration

#### Field setting 16.1

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

- External static pressure setting using:
  - · Airflow automatic adjustment setting
  - User interface
- Air volume when thermostat control is OFF
- Time to clean air filter
- Thermostat sensor selection
- Thermostat differential changeover (if remote sensor is used)
- Differential for automatic changeover
- Auto-restart after power failure
- T1/T2 input setting

#### Setting: External static pressure



#### INFORMATION

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

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

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

To set external static pressure by airflow automatic adjustment function



#### NOTICE

- Do NOT adjust the dampers during the fan only operation for airflow automatic adjustment.
- For the external static pressure higher than 100 Pa, do NOT use airflow automatic adjustment function.
- If the ventilation paths have been changed, perform the airflow automatic adjustment again.
- Test run MUST be done with a dry coil, run the unit for 2 hours with fan only to dry the coil.
- Check if the power supply wiring, duct, air filter are properly attached. If the closing damper is installed in the unit, make sure it is open.
- If there is more than one air inlet and outlet, adjust the dampers so that the airflow rate of each air inlet and outlet is conform with the designed airflow rate.
- Operate the unit in fan only mode prior to using the airflow automatic adjustment function.
- Stop the air conditioning unit.
- Set the value number "—" to 03 for M 11(21) and SW 7.
- Start the air conditioning unit.

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

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

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

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

Check the indoor unit setting: the value number "—" must be set to 01 for  $\bf M$  11(21) and  $\bf SW$  7.

1 Change the value number "—" according to the external static pressure of the duct to be connected as in table below.

M	SW	_	External static pressure (Pa) <sup>(1)</sup>
13(23)	6	01	50
		02	75
		03	100
		04	115
		05	130
		06	150
		07	160
		08	175
		09	190
		10	200
		11	210
		12	220
		13	230
		14	240
		15	250

#### 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 yo		Then <sup>(1)</sup>		
		M	sw	_
During thermostat	LL <sup>(2)</sup>	12 (22)	6	01
OFF at cooling	Setup volume(2)			02
operation	OFF <sup>(a)</sup>			03
	Monitoring 1 <sup>(2)</sup>			04
	Monitoring 2 <sup>(2)</sup>			05
During thermostat	LL <sup>(2)</sup>	12 (22)	3	01
OFF at heating	Setup volume(2)			02
operation	OFF <sup>(a)</sup>			03
	Monitoring 1 <sup>(2)</sup>			04
	Monitoring 2 <sup>(2)</sup>			05

 $<sup>^{\</sup>rm (a)}$  Only use in combination with optional remote sensor or when setting **M** 10 (20), **SW** 2, — 03 is used.

#### Setting: Time to clean air filter

This setting must correspond with the air contamination in the room. It determines the interval at which "Time to clean filter" notification is displayed on the user interface.

If you want an interval of	Then <sup>(1)</sup>		
(air contamination)	M	SW	_
±2500 h (light)	10 (20)	0	01
±1250 h (heavy)			02
Notification ON		3	01
Notification OFF			02

#### Setting: Thermostat sensor selection

This setting must correspond with how/if the remote controller thermostat sensor is used.

When the remote controller thermostat	Then <sup>(1)</sup>			
sensor is	М	sw	_	
Used in combination with indoor unit thermistor	10 (20)	2	01	
Not used (indoor unit thermistor only)			02	
Used exclusively			03	

### Setting: Thermostat differential changeover (if remote sensor is used)

If the system contains a remote sensor, set the increase/decrease increments.

If you want to change increments to	Then <sup>(1)</sup>		
	M	sw	_
1°C	12 (22)	2	01
0.5°C			02

#### Setting: Differential for automatic changeover

Set temperature difference between cooling setpoint and heating setpoint in automatic mode (availability depends on the system type). Differential is cooling setpoint minus heating setpoint.

- M: Mode number First number: for group of units Number between brackets: for individual unit
- SW: Setting number
- —: Value number
- Default
- (2) 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 (low, medium, high) using the fan speed button on the user interface.
  - Monitoring 1, 2: The fan is OFF, but runs for a short time every 6 minutes to detect the room temperature by LL (Monitoring 1) or by L (Monitoring 2).

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

#### 17 Technical data

If you want to	Then <sup>(1)</sup>			Example
set	M	SW	_	
0°C	12 (22)	4	01	cooling 24°C/heating 24°C
1°C			02	cooling 24°C/heating 23°C
2°C			03	cooling 24°C/heating 22°C
3°C			04	cooling 24°C/heating 21°C
4°C			05	cooling 24°C/heating 20°C
5°C			06	cooling 24°C/heating 19°C
6°C			07	cooling 24°C/heating 18°C
7°C			08	cooling 24°C/heating 17°C

#### Setting: Auto-restart after power failure

Depending on the needs of the user, you may disable/enable the automatic restart after a power failure.

If you want auto-restart after power	Then <sup>(1)</sup>		
failure	M	sw	_
Disabled	12 (22)	5	01
Enabled			02

#### Setting: T1/T2 input setting

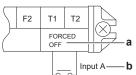


#### **WARNING**

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)

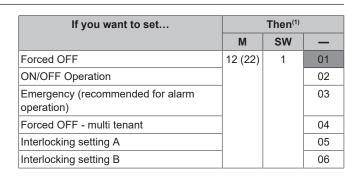
Remote control is available by transmission the external input to the terminals T1 and T2 on the terminal block for the user interface and the transmission wiring.



a Forced OFFb Input A

Wiring requirements	
Wiring specification	Only use harmonized wire providing double insulation and suitable for applicable voltage
	2-core cable
Wiring size	Minimum 0.75 mm <sup>2</sup>
Wiring length	Maximum 100 m
External contact specification	Contact that can make and break the min. load of DC15 V · 1 mA

This setting must correspond with the needs of the user.



#### 17 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).

#### 17.1 Wiring diagram

#### 17.1.1 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	(A), (Z)	Rectifier
Ţ	Earth	-(	Relay connector
==	Field wiring		Short-circuit connector
	Fuse	-0-	Terminal
INDOOR	Indoor unit		Terminal strip
OUTDOOR	Outdoor unit	0 •	Wire clamp
1	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
	Pushbutton ON/OFF, operation switch

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

<sup>•</sup> M: Mode number – First number: for group of units – Number between brackets: for individual unit

<sup>•</sup> SW: Setting number

<sup>· —:</sup> Value number

<sup>•</sup> Default

Symbol	Meaning
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
НАР	Light emitting diode (service monitor green)
HIGH VOLTAGE	High voltage
IES	Intelligent eye sensor
IPM*	Intelligent power module
K*R, KCR, KFR, KHuR, K*M	Magnetic relay
L	Live
L*	Coil
L*R	Reactor
M*	Stepper motor
M*C	Compressor motor
M*F	Fan motor
M*P	Drain pump motor
M*S	Swing motor
MR*, MRCW*, MRM*, MRN*	Magnetic relay
N	Neutral
n=*, N=*	Number of passes through ferrite core
PAM	Pulse-amplitude modulation
PCB*	Printed circuit board
PM*	Power module
PS	Switching power supply
PTC*	PTC thermistor
Q*	Insulated gate bipolar transistor (IGBT)
Q*C	Circuit breaker
Q*DI, KLM	Earth leak circuit breaker
Q*L	Overload protector
Q*M	Thermo switch
Q*R	Residual current device
R*	Resistor
R*T	Thermistor
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

Symbol	Meaning
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



