

# Installation and operation manual

# **VRV** system air conditioner



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

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 siguranjá

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

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

# Daikin Europe N.V.

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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:

17 (19) deklaruje na wisaną wykączną odpowiedzałność, że produkty, ktrych la deklaracja dutyczy.
18 (19) dedaracja propriora istayune de signostowa se preiera časasala deklaraje.
19 (19) z vso odpownostjo izjavla da so izdaki, na katere se izjana manska:
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21 (19) se preizapypa na cesa orrosopvacr, ve rpodymra: pa kontro se onskaracja.
22 (19) se primi zabidowi papiecni, ka dzyamina, kurems si ekklaracja iakloma:
23 (19) se primi zabidowi papiecni, ka dzyamina, kurems si ekklaracja iakloma:
24 (19) vyhlasuje na vlastuk odopowednost, že vynobky, na korke su rzkulnej lodo vyhlasenie:
25 (19) se vyhlasuje na vlastuk odopowednost, že vynobky, na korke su rzkulnej lodo vyhlasenie:
25 (19) se k sorumi uligu kendisine at drank úzere, bu beyamin igili odugu uimlemi: deklaruje na własną wyłączną odpowiedzialność, że produkty, których ta deklaracja dotyczy:

# FXHQ32AVEB8, FXHQ63AVEB8, FXHQ100AVEB8

are in conformly with the following directules (so or egulation(s), provided that the products are used in accordance with our instructions: folgended in Rothfulm code Vorschriften entisperation, vorsagesext, dass dese genifig useren instruktionen inverwendet werden sont conformes at latura kreiderleg ou reglement(s) survant(s), a condition que les produits scient utilisés conformément a ros instructions.

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

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 C нашими інструкциямі:
 Overbiode Deptemmeseme l'idigande direktiv(er) eller bestemmesle(r), forudstit at produkteme anvendes i overensstemmese med variente se med voros instruktioner.
 Usorinolet Destammeseme l'idigande direktiv(er) eller forskrift(er), forutsatt at produktene buikes i herhold til vare instruktioner:
 and seuza-anven indiktiviken at sexultera mulaisa, acelet production en tablication en training avoid service service service service service mulaisa, acelet perfosits or production en training in order perfosits or production en training in order doming) il ode-doming), uz uvjet da se proizvoif koniste suktadno nasim uputame:
 Indiana service substruction in any variet service ser in overeenstemming zijn met de volgende richtlijn(en) of verordening(en), op voorwaarde dat de producten worden gebruikt overeenkomstig onze

están en conformidad con la(s) siguiente(s) directiva(s) o reglamento(s), siempre que se utilicen de acuerdo con nuestras instrucciones: sono conformi alle direttive o ai regolamenti seguenti, a patto che i prodotti vengano usati in conformità alle nostre istruzioni: 90 20

συμμορφώνονται με την(ις) ακόλουθη(ες) οδηγία(ες) ή κανονισμό(ούς), υπό την προϋπάθεση ότι τα προϊόντα χρησιμοποιούνται σύμφωνα με τις οδηγίες μας estão em conformidade com a(s) seguinte(s) diretiva(s) ou regulamento(s), desde que os produtos sejam utilizados de acordo com as nossas

attirká tolian nurodydas drektyvas arba reglamentus, su sajyga, kad gaminiai bus eksploatuojami laikamis mūsų instrukcijų;
a dibisi skaždam deinklam nei regulaim, ja kari skaždalajumi ikki pilosi saskada arbusi instrukcijamis ristukcijamis instrukcijamis instrukcijamis pakoramis za prepolekatu, že su yrobką podživąju v. žrode s našimi pokymmi:
talimatiarimz dogrutusunta kullanimas kosjulyja aspajdaki drektifeidirektifere veja yūramindijakjoremeliklere uygun oldugunu belgan eder:

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v poslednom platnom vydaní, degistirildiği şekliyle,

с техните изменения, ir jos tolesnes redakcijas,

ar grozījumiem,

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

sellaisina kuin ne ovat muutettuina,

EN 60335-2-40,

в действующей редакции, med tillägg, med foretatte endringer,

som tilføjet, 886256

in der jeweils gültigen Fassung, telles que modifiées, zoals gewijzigd,

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e successive modifiche, όπως έχουν τροποποιηθεί, zoals gewijzigd, en su forma enmendada,

conforme emendado,

spelniąą wymogi rasłępujących dyrektyw lub rozporządzeń, pod warunkiem że produkty używane są zgodnie z naszymi instrukcjami:
 stw. mi conformitale cu imaticane drest be sauregulamente, cu condita ca produsee siż fie utifizae in conformitale cu instructjunile moastre.
 v skłedu z nasłednjo drektwoj-ami) ali predpisomi-d. jod ozgojem, da se żdek uporablejo v skłedu z nastrim rawdio jed oratwojem zadrase prajazuse majazuse.
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 z osa conserczene coc cnegnara poprarmae/lo) mm permatent/lo), npw ycrosiew se rpogymrme ce arozonaen se coonserczene.

Machinery 2006/42/EC\*\*

Electromagnetic Compatibility 2014/30/EU\*

10 under iegitägelse aff en fligt gestämmisten för 12 inehnde til testemmissen i 13 nouddaten säämöksiä. 14 za dodziell klasmovelli. 16 prema odredhama. 16 kövel af. 17 zgodne z postamowlerami. 18 unmänd prevederien. following the provisions of: gemäß den Bestimmungen in: conformément aux dispositions de: siguiendo las disposiciones de: volgens de bepalingen van: secondo le disposizioni di:

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

vastavalt nõuetele: следвайки клаузите на: v skladu z določbami:

> come delineato in <A> e giudicato positivamente 06 Nota\* σύμφωνα με πςπροβλέψεις των: seguindo as disposições de: в соответствии с положениями:

09 Примечание\* 07 Σημείωση\* 10 Bemærk\* 08 Nota\* as set out in <A> and judged positively by <B> according to the Certificate <C>.
we in <A> aufgeführt und von <B> positiv beurteilt gemäß Zertifikat <C>. 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>.

Certificado <C>. telles que définies dans <A> et évaluées positivement par <B> conformément au Certificat <C>

> 03 Remarque\* 02 Hinweis\*

01 Note\*

04 Bemerk\*

05 Nota\*

14 Poznámka\* Cangerencery <C>
Som anibit (4A> og positivt vurderet af <B> i henhold 15 Napomena\*
ill Certifikat <C> 13 Huom\* 12 Merk\* как указано в <A> и подтверждено <B> согласно da <B> al sensi del Centificato <C>. όπως ορίζεται 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>

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a(z) <A> alapján, a(z) <B> igazolta a megdelelést, 21 3a**6enexxa\*** de fal C> Ce tambrán yezelni szgodne z dokumentaga <A> pozyfywną z powie z dokumentaga <A> pozyfywną opinią <B> i Świadectwem <C> opinią <B> i Świadectwem <C> . Kdi je določeno v K47 ii je prejelo pozitivno oceno 24 Poznámka\*
CBV skladus Certifikatom KC;
Mis on silesatulu dokumenicis CAP ja himatud 25 Not\*
Sertifikatolis dokumenicis CBV, vastavati
Sertifikatadile CC; asa cum se prevede în <A> și apreciat pozitiv de <B> conform Certificatului <C> 19 Opomba\* 20 Märkus\* 18 Notă\* som anges i <A> och godkänts av <B> enligt
Certifikat <C>.
som det fernkommer i <A> og vurdert positivt av <B> i henhold til Sertifikatet <C>.

16 Megjegyzés\*

11 Information\*

17 Uwaga\*

както е изложено в <A> и оценено положително от kā norādīts <A> un pozitīvi novērtēts <B> saskaņā ar <B> съгласно Сертификата «С> кајр питофуа «А> ir teigiamai nuspręsta pagal «В> vadovaujantis Sertifikatu «С>. Sertifikātu <C>

ako bolo stanovené v <A> a kladne posúdené <B> podľa Osvedčenia <C> <A>de belirtikigij ve <C> Sertifikasina gôre <B> tarafindan olumlu gôrūş bildirtikigij ūzere.

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20-20-21-22-23-24-25-

AIKIN

Director

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

Ostend, 1st of March 2023 Zandvoordestraat 300, B-8400 Oostende, Belgium

# UKCA - Safety declaration of conformity

# Daikin Europe N.V.

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

FXHQ32AVEB8, FXHQ63AVEB8, FXHQ100AVEB8,

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>.

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Ostend, 1st of March 2023 DATKT, Zandvoordestraat 300, B-8400 Oostende, Belgium DATKTN DATKTN DATKTN DATKTN

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|      | 12.2 Mounting the indoor unit   |     | The <b>full set</b> of latest technical data is available on the Daikir  Pusings Partal (authorities required)                                   |
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#### Unit installation (see "12 Unit installation" [▶ 12])



#### **CAUTION**

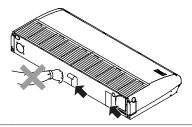
Appliance NOT accessible to the general public, install it in a secured area, protected from easy access.

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



#### **CAUTION**

Do NOT remove the (milky white) tape from the exterior of the indoor unit. Removing the tape may cause an electric shock or a fire.



#### Refrigerant piping installation (see "13 Piping installation" [▶ 16])



#### **CAUTION**

Piping MUST be installed according to instructions given in "13 Piping installation" [ 16]. Only mechanical joints (e.g. braze+flare connections) that are compliant with the latest version of ISO14903 can be used.

#### 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.

#### 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.

#### For the user

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

Always observe the following safety instructions and regulations.

#### 3.1 General



#### **№ WARNING**

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



#### **MARNING**

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:



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



#### 

 Do NOT modify, disassemble, remove, reinstall or repair the unit vourself 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 noncombustible, but it will generate toxic gas when it accidentally leaks into a room where combustion 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.

#### **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.



#### **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.



#### 

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.



#### **№ WARNING**

NEVER touch the air outlet or the horizontal blades while the swing flap is in operation. Fingers may become caught or the unit may break down.



#### **⚠** CAUTION

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



#### 

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.

Maintenance and service (see "7 Maintenance and service" [> 10])



#### ♠ 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

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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.



#### **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 unit exterior, air filter and suction grille.



#### **. WARNING**

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

About the refrigerant (see "7.3 About the refrigerant" [▶ 11])

#### WARNING

- The refrigerant in the system is safe and normally does NOT leak. If the refrigerant leaks in the room, contact with a fire of a burner, a heater or a cooker may result in 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 system until a service person confirms that the portion where the refrigerant leaks is repaired.

Installation and operation manual

Troubleshooting (see "8 Troubleshooting" [▶ 12])



#### **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.

#### 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 non-combustible, but it will generate toxic gas when it accidentally leaks into a room where combustion 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.



#### **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:

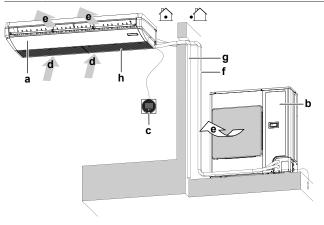
A full overview of allowable combinations (for future system extensions) is available in technical engineering data and should be consulted. Contact your installer to receive more information and professional advice.

#### 4.1 System layout



#### **INFORMATION**

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



- Indoor unit
- Outdoor unit

- User interface
- d Suction air
- Discharge air
- Refrigerant piping + transmission cable
- Drain pipe
- Suction grille and air filter

#### 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.

#### **Operation** 6

#### 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.                    |
| 20   | Fan only. In this mode, air circulates without heating or cooling.   |
| •    | <b>Dry.</b> In this mode, the air humidity will be lowered with a minimal temperature decrease.                                  |
|      | The temperature and fan speed are controlled automatically and cannot be controlled by the controller.                           |
|      | Dry operation will not function if the room temperature is too low.  |
| A W  | <b>Auto.</b> In Auto mode, the indoor unit automatically switches between heating and cooling mode, as required by the setpoint. |
| A)   |  |

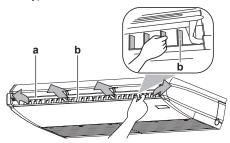
#### 6.2.2 Special heating operation modes

| Operation | Description   |
|-----------|---|
| Defrost   | To prevent a loss of heating capacity due to frost accumulation in the outdoor unit, the system will 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>6/0</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 the home screen:                               |
|           | K(B)(6)   |

#### Adjusting the airflow direction 6.2.3

The following airflow directions can be set:

- Up and down direction (horizontal blades): Using user interface (fixed position or swing)
- Left and right direction (vertical blades): Manually (fixed position only)



- Horizontal blades (up and down direction)
- Vertical blades (left and right direction)

#### Up and down airflow direction setting



#### **INFORMATION**

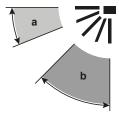
For setting procedure of the airflow direction, see the reference guide or the manual of the used user interface.

When the operation stops, the horizontal blades at the air outlet close automatically.

The following airflow directions can be set:

| Direction  | Display    |
|--|------------|
| <b>Fixed position</b> . The indoor unit blows air in 1 of 5 fixed positions. | <b>₹</b> / |
| <b>Swing</b> . The indoor unit alternates between the 5 positions.           | <b>7/</b>  |

Note: The recommended position of the horizontal blades (flaps) varies according to the operation mode.



Cooling operation

Heating operation



#### **WARNING**

NEVER touch the air outlet or the horizontal blades while the swing flap is in operation. Fingers may become caught or the unit may break down.



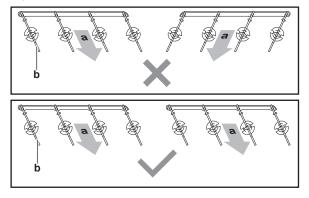
#### **NOTICE**

Avoid operating in the horizontal direction. It may cause dew or dust to settle on the ceiling or flap.

#### Left and right airflow direction setting

The left and right airflow direction can be set only manually in fixed

Make adjustments only after stopping the horizontal blade in order to avoid injury and damage to the appliance. Set both groups of vertical blades in a way so airflows do not cross; otherwise condensate may drip.



Airflow

Vertical blades h

#### 6.3 To operate the system



#### INFORMATION

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

#### 7 Maintenance and service

# 7.1 Precautions for maintenance and service



#### 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.



#### 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.



#### 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, suction grille and the unit exterior.



#### **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.



#### **CAUTION**

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



#### **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.



#### 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.



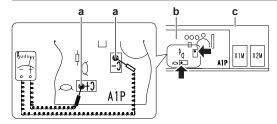
#### NOTICE

When cleaning the heat exchanger, make sure to remove the electronic components above it. Water or detergent might deteriorate the insulation of electronic components and result in burnout of these components.



#### **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.



- a Residual voltage measuring points
- **b** Printed circuit board
- c Control box

# 7.2 Cleaning the unit exterior, air filter and suction grille



#### **CAUTION**

Turn off the unit before cleaning the unit exterior, air filter and suction grille.



#### 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.
- Do NOT scrub firmly when washing the blade with water. Possible consequence: The surface sealing peels off.

#### 7.2.1 To clean the exterior



#### 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 neutral detergent and wipe with a dry cloth.

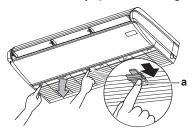
#### 7.2.2 To clean the air filter

#### 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 is displayed.
- If the dirt becomes impossible to clean, change the air filter (= optional equipment).

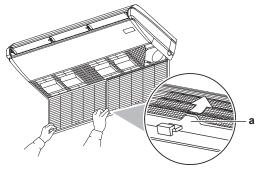
#### How to clean the air filter:

1 Open the suction grille. Simultaneously slide all knobs (2 for class 32, 3 for class 63 and 100) in the direction of the arrow and carefully open the suction grille.



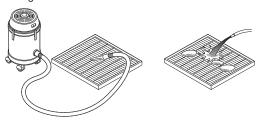
a Knob

2 Remove the air filter. Push up the filter knobs at 2 places and take out the air filter.



a Filter knob

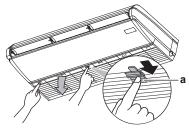
3 Clean the air filter. Use a vacuum cleaner or wash with water. If the air filter is very dirty, use a soft brush and neutral detergent.



- 4 Dry the air filter in the shadow.
- 5 Reattach the air filter and close the suction grille.
- 6 Turn ON the power.
- **7** To remove warning screens, see the reference guide of the user interface.

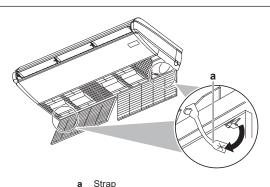
#### 7.2.3 To clean the suction grille

1 Open the suction grille. Simultaneously slide all knobs (2 for class 32, 3 for class 63 and 100) in the direction of the arrow and carefully open the suction grille.



**a** Knob

2 Remove the suction grille. While keeping the suction grille open, unhook the straps from the indoor unit. Then remove the clips (2 for class 32, 3 for class 63 and 100) holding the suction grille.



a Sirap

a Clip

- 3 Remove the air filter. Refer to "7.2.2 To clean the air filter" [> 10].
- 4 Clean the suction grille. Wash with a soft bristle brush and water or neutral detergent. If the suction grille is very dirty, use a typical kitchen cleaner, leave it on for 10 min, then wash it with water.
- 5 Reattach the air filter. Refer to "7.2.2 To clean the air filter" [> 10].
- **6** Reattach the suction grille and close it. (steps 2 and 1 in reverse order).



#### INFORMATION

When closing the suction grille, make sure the straps of the suction grille are not pinched anywhere.

#### 7.3 About the refrigerant

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

Refrigerant type: R410A

Global warming potential (GWP) value: 2087.5



#### NOTICE

Applicable legislation on **fluorinated greenhouse gases** requires that the refrigerant charge of the unit is indicated both in weight and  $CO_2$  equivalent.

Formula to calculate the quantity in  $\text{CO}_2$  equivalent tonnes: GWP value of the refrigerant  $\times$  total refrigerant charge [in kg]/1000

Contact your installer for more information.



#### WARNING

- The refrigerant in the system is safe and normally does NOT leak. If the refrigerant leaks in the room, contact with a fire of a burner, a heater or a cooker may result in 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 system until a service person confirms that the portion where the refrigerant leaks is repaired.

#### 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.   |
| If the user interface displays .  | 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

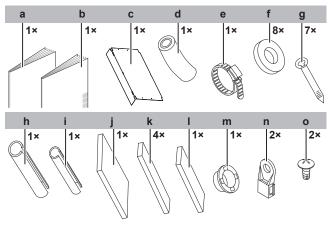
Do NOT try to dismantle the system yourself: dismantling of the system, treatment of the refrigerant, oil and other parts MUST comply with applicable legislation. Units MUST be treated at a specialised treatment facility for reuse, recycling and recovery.

#### For the installer

#### 11 About the box

#### 11.1 Indoor unit

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



- a General safety precautions
- **b** Indoor unit installation and operation manual
- c Paper pattern for installation (part of the packing)
- d Drain hose
- e Metal clamp
- f Washer for hanger bracket
- Tie wraps
- h Insulation piece: Large (gas pipe)
- i Insulation piece: Small (liquid pipe)
- j Large sealing pad

- k Sealing material for gaps around pipes and cables
- I Small sealing pad
- m Resin bushing
- n Wiring fixtureo Screw for wiring fixture

#### 12 Unit installation

#### 12.1 Preparing the installation site

## 12.1.1 Installation site requirements of the indoor unit



#### **INFORMATION**

The sound pressure level is less than 70 dBA.



DAIKIN

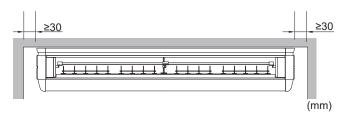
#### CAUTION

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.

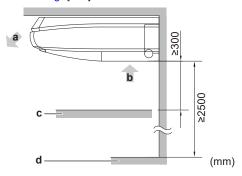
- Paper pattern for installation (accessory). Use the paper pattern
  when selecting the installation location. It contains the dimensions
  of the unit and the locations of suspension bolts, piping outlet,
  drain piping outlet and electric wiring inlet.
- Spacing. Mind the following requirements:

Minimum distance to the wall: 30 mm left and right of the unit, however, ≥200 mm is recommended for easier servicing.



#### Minimum and maximum distance to the floor:

- · Minimum: 2.5 m to avoid accidental touching.
- Maximum: Depends on the capacity class. See "17.1 Field setting" [> 20].



- a Discharge
- **b** Suction
- c Obstacled Floor
- i

#### **INFORMATION**

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

#### 12.2 Mounting the indoor unit

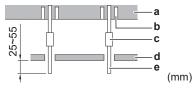
#### 12.2.1 Guidelines when installing the indoor unit



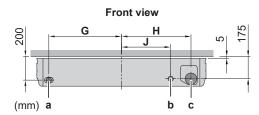
#### **INFORMATION**

**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.

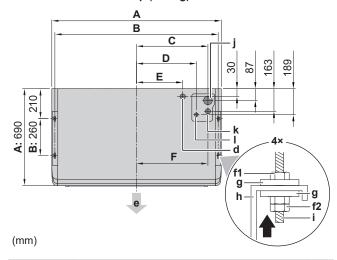
- Ceiling strength. Check whether the ceiling is strong enough to support the weight of the unit. If there is a risk, reinforce the ceiling before installing the unit.
  - For existing ceilings, use anchors.
  - For new ceilings, use sunken inserts, sunken anchors or other field supplied parts.



- a Ceiling slab
- **b** Anchor
- c Long nut with turnbuckle
- d Suspended ceiling
- e Suspension bolt
- Suspension bolts and unit. Use M8~M10 suspension bolts for installation. Attach the hanger bracket to the suspension bolt. Fix it securely using a nut and washer on the top and bottom of the hanger bracket.

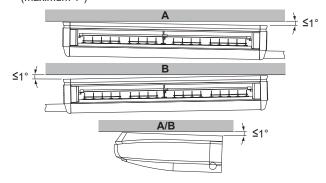


Top (ceiling) view



|   |        | Α    | В    | С   | D   | Е   | F   | G   | Н   | J   |
|---|--------|------|------|-----|-----|-----|-----|-----|-----|-----|
|   | FXHQ32 | 960  | 920  | 378 | 324 | 270 | 375 | 398 | 377 | 260 |
|   | FXHQ63 | 1270 | 1230 | 533 | 479 | 425 | 530 | 553 | 532 | 415 |
| F | XHQ100 | 1590 | 1550 | 693 | 639 | 585 | 690 | 713 | 692 | 575 |

- A Unit dimension
- B Suspension bolt pitch
- a Rear left drain piping outlet hole
- **b** Rear wiring outlet location
- c Wall hole for rear piping outlet (ø100 mm)
- d Top panel wiring outlet position
- e Discharge
- f1 Nut (field supply)
- f2 Double nut (field supply)
- h Hanger bracket
- g Washer for hanger bracket (accessory)
- i Suspension bolt
- j Top panel drain piping connection position
- k Top panel gas side piping connection position
- I Top panel liquid side piping connection positions
- Level. Use the level to make sure the unit is installed horizontally.
   If possible, install the unit so the drain piping side is slightly tilted (maximum 1°)



A Drain piping tilted to the right, or to the right and backB Drain piping tilted to the left, or to the left and back

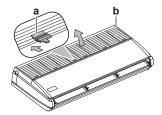


#### NOTICE

Do NOT install the unit tilted in other ways than specified. **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

#### To open the indoor unit

Remove the suction grille. Slide the fixing knobs to the back (2 for class 32, 3 for class 63~100), open the suction grille wide and hold the rear knob. Pull the suction grille to the front to remove it.

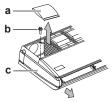


a Fixing knobb Suction grille



a Rear knob

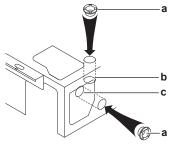
 Remove the decoration side covers (right, left). Remove the fixing screw from both side covers, pull the decoration panel to the front and remove the accessories.



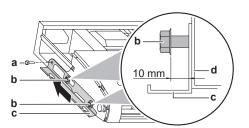
- a Accessories
- **b** Fixing screw for side covers
- c Decoration side cover

#### To mount the indoor unit

1 Open the knockout hole at the wiring inlet at the rear or the top of the unit, and install the resin bushing (accessory).



- a Resin bushing (accessory)
- **b** Knockout hole (for leading in from the top)
- c Knockout hole (for leading in from the rear)
- 2 Remove the hanger bracket. Loosen the 2 hanger bracket installation bolts (M8) on both sides (total 4 places) within 10 mm. Remove the fixing screw (M5) from the rear hanger bracket and pull the hanger bracket backward in the direction of the arrow in order to remove it.

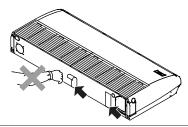


- a Hanger bracket fixing screw (M5)
- b Hanger bracket installation bolt (M8)
- c Hanger bracket
- **d** Indoor unit

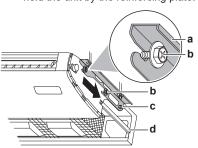


#### **CAUTION**

Do NOT remove the (milky white) tape from the exterior of the indoor unit. Removing the tape may cause an electric shock or a fire.



- 3 Fix the hanger bracket to the suspension bolts. "12.2.1 Guidelines when installing the indoor unit" [> 13].
- 4 Lift up the indoor unit and slide it to the back. Fix the hanger bracket installation bolt (M8) for temporary hanging. Do NOT hold the unit by the reinforcing plate.



- a Hanger bracket
- b Hanger bracket installation bolt (M8)
- c Hanger bracket fixing screw (M5)
- d Reinforcing plate
- 5 Install the hanger bracket fixing screws (M5) on both sides back (2 screws in total).
- **6** Fully tighten all hanger bracket installation bolts (M8) (4 screws in total).
- 7 Make sure the unit is level. Refer to "12.2.1 Guidelines when installing the indoor unit" [> 13].

## 12.2.2 Guidelines when installing the drain piping

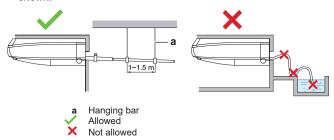
Make sure condensation water can be evacuated properly. This involves:

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

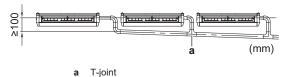
#### **General guidelines**

- 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.



- Condensation. Take measures against condensation. Insulate the complete drain piping in the building.
- 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.



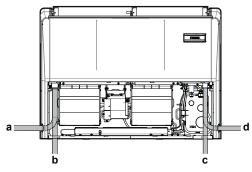
#### To connect the drain piping to the indoor unit



#### NOTICE

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

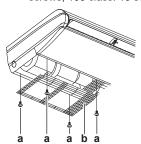
#### Drain piping can be connected from following directions:



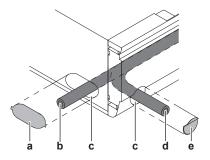
- a Left drain piping
- **b** Rear left drain piping
- c Rear right drain piping
- d Right drain piping

#### Rear left or left drain piping

1 Remove the protective grille (32 class: 7 screws, 63 class: 11 screws, 100 class: 10 screws).



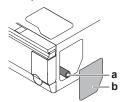
- a Fixing screw for protective grille
- b Protective grille
- 2 Remove the cap from the drain socket and remove the insulation material from the left side and apply it to the right side. Make sure the drain socket is fully pushed in to avoid water leakage.
- 3 Remove the knockout part.



- a Rear left knockout part (sheet metal)
- **b** Rear left drain piping
- c Putty or insulation (field supply)
- d Left drain piping
- e Left knockout part on decoration side panel

#### Rear right drain piping

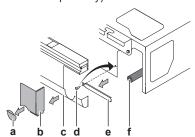
1 Remove the rear piping pipe port cover and cut out the holes for piping. When cutting out the holes, make sure to avoid the knob part of the cover.



- a Rear right drain piping
- **b** Rear piping pipe port cover

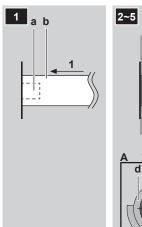
#### Right drain piping

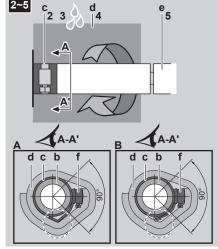
- 1 Remove the reinforcing plate from the right side and put back the screw in the original position on the indoor unit.
- 2 Remove the rectangular part from the decoration side panel (when installing only drain piping on the right side, remove the round part only).



- a Round part
- **b** Rectangular part of the decoration side panel
- c Decoration side panel
- c Decorad Screw
- e Reinforcing plate
- f Right drain piping

#### Drain piping connection

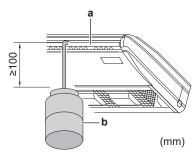




- a Drain pipe connection (attached to the unit)
- **b** Drain hose (accessory)
- c Metal clamp (accessory)
- d Large sealing pad (accessory)
- e Drain piping (field supply)
- f Tightened part of metal clamp
- A In case of bending the end of the metal clamp
- B In case of wrapping the end of the metal clamp with vinyl tape
- 1 Push the drain hose as far as possible over the drain pipe connection.
- 2 Tighten the metal clamp at the base of the drain socket. Wrap the end of the metal clamp with vinyl tape or bend the end inwards to avoid damaging the sealing pad.
- 3 Check for water leaks (see "To check for water leaks" [▶ 16]).
- 4 Wind the large sealing pad (= insulation) around the metal clamp and drain hose, and fix it with tie wraps. Start wrapping from the tightened part of the metal clamp so that the end of the metal clamp is wrapped twice.
- 5 Connect the drain piping to the drain hose.

#### To check for water leaks

Make sure the unit is level in accordance with the instructions in "12.2.1 Guidelines when installing the indoor unit" [\* 13]. Gradually pour approximately 1 I of water through the air discharge outlet, and check for leaks.



- a Air outlet
- **b** Plastic water container with tube length ≥100 mm

#### 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" [> 16]. 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:

| Class  | Pipe outer diameter (mm) |          |  |
|--------|--------------------------|----------|--|
|        | Liquid pipe              | Gas pipe |  |
| 32     | Ø6.4                     | Ø12.7    |  |
| 63+100 | Ø9.5                     | Ø15.9    |  |

#### Refrigerant piping material

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

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

<sup>(</sup>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 $(\emptyset_p)$ | Insulation inner diameter (Ø <sub>i</sub> ) | Insulation thickness (t) |
|-------------------------------------|---|--------------------------|
| 6.4 mm (1/4")                       | 8~10 mm                                     | ≥10 mm                   |
| 9.5 mm (3/8")                       | 12~15 mm                                    | ≥13 mm                   |
| 12.7 mm (1/2")                      | 14~16 mm                                    | ≥13 mm                   |
| 15.9 mm (5/8")                      | 17~20 mm                                    | ≥13 mm                   |



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

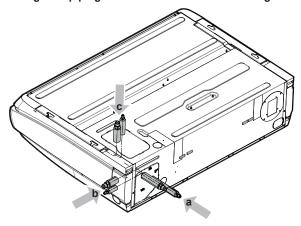
#### 13.2 Connecting the refrigerant piping



DANGER: RISK OF BURNING/SCALDING

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

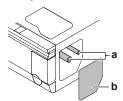
Refrigerant piping can be connected from following directions:



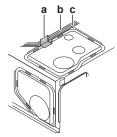
- Rear right piping
- Right piping
- Upward piping

#### Rear right piping

Remove the rear piping pipe port cover and cut out the holes for piping. When cutting out the holes, make sure to avoid the knob part of the cover.



- Rear refrigerant piping
- Rear piping pipe port cover
- Run the field supply pipes through the cut out holes.
- After the drain and refrigerant piping is finished, install the pipe port cover back. Run all the cables (except cable of expansion valve) through the clamp of the pipe port cover and fix.



- Clamp of the pipe port cover
- Cables (except cable of expansion valve)

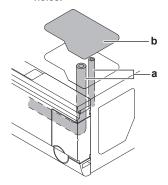
#### **Upward piping**



#### **INFORMATION**

L-shaped connection piping kit (optional accessory) is required.

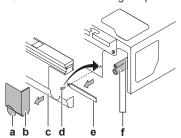
Remove the top pipe port cover and cut out the holes for piping. When cutting out the holes, make sure to avoid the knob part of the cover. Use an L-shaped connection piping kit (optional accessory) for the piping. Run the pipes through the cut out



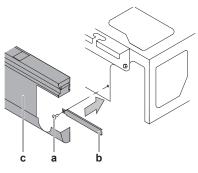
- Upward refrigerant piping
- Top pipe port cover

#### Right piping

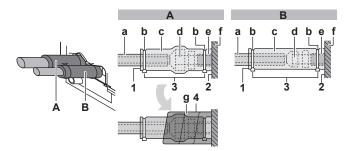
- 1 Remove the reinforcing plate at the right side and put back the screw in the original position on the indoor unit.
- Remove the decoration side panel.
- Remove the rectangular part of the decoration side panel.



- Round part
- b Rectangular part of the decoration side panel
- c d Decoration side panel
- Screw
- Reinforcing plate
- Right refrigerant piping
- After the drain and refrigerant piping is finished, install the reinforcing plate (optional step) and the decoration side panel



- Screw
- Reinforcing plate
- Decoration side panel
- 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 wrap (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 Small sealing pad (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.
- 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.

#### 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.

# 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~               |  |  |  |
| Current      | FXHQ32+63: 0.8 A |  |  |  |
|              | FXHQ100: 1.6 A   |  |  |  |

| 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 mm <sup>2</sup>  |
| 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 | 16 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.

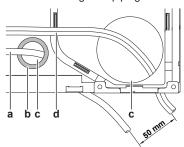
It is important to keep the power supply and the transmission wiring separated from each other. In order to avoid any electrical interference the distance between both wirings should ALWAYS be at least 50 mm.



#### 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 Open the knockout hole and install the resin bushing (accessory). Refer to: "To mount the indoor unit" [▶ 14]. The location depends on the power supply wiring route. For transmission and user interface cable, choosing the same route as the refrigerant piping is recommended.

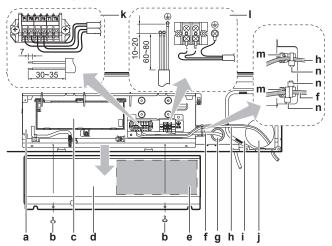


- Power supply wiring
- **b** Resin bushing (accessory)
- Sealing material for gaps around pipes and cables (accessory)
  - User interface cable and transmission cable

- 3 Install the 2 wiring fixtures with screws for wiring fixture (accessory).
- User interface cable: Route the cable through the large cut out hole and connect it to the terminal block (symbols P1, P2).
- Transmission cable: Route the cable through the large cut out hole and connect it 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.
- 6 Power supply cable: Route the cable through the small cut out hole and connect it to the terminal block (L, N, earth). Fix the cable with a tie wrap on the wiring fixture.



- Circuit breaker
- Residual current device

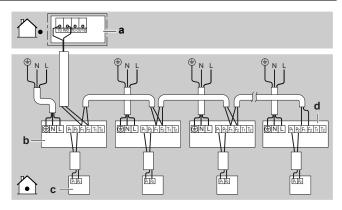


- Control box
- b Service cover screw
- Printed circuit board
- d Service cover
- Wiring diagram label e f Power supply wiring
- Small cut out hole
- User interface cable and transmission cable
- Rear piping cover
- Large cut out hole
- Connection of user interface cable and transmission cable
- 1
- Connection of power supply cable Wiring fixture fixed with a screw (accessory) m
- Tie wrap (accessory)
- Seal all gaps with sealing material (accessory) to prevent small animals from entering the system.
- Reattach the service cover.

#### Complete system examples

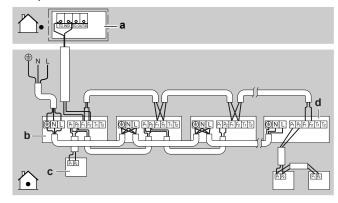
- 1 user interface controls 1 indoor unit.
- Group control or 2 user interfaces control 1 indoor unit
- With BS unit

#### 1 user interface controls 1 indoor unit.



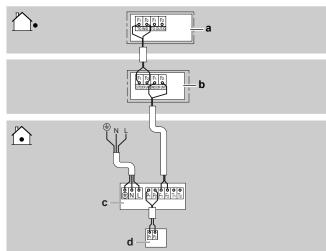
- Outdoor unit
- b Indoor unit
- User interface
- Most downstream indoor unit

#### Group control or 2 user interfaces control 1 indoor unit



- Outdoor unit
- b Indoor unit
  - User interface
- c d Most downstream indoor unit

#### With BS unit



- Outdoor unit
- BS unit b
- Indoor unit

# 15 Finishing the indoor unit installation



#### **NOTICE**

Block any gaps around pipes and cables with sealing material (accessory) to avoid dust from entering the indoor unit.

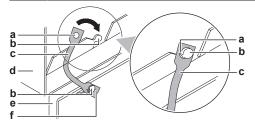
# 15.1 To mount the suction grille and decoration side panel

- 1 Install securely in the reverse order. Refer to "To open the indoor unit" [> 14].
- 2 When installing the suction grille, attach the strap of the suction grille to the hook on the indoor unit.



#### **INFORMATION**

When closing the suction grille, make sure the straps of the suction grille are not pinched anywhere.



- a Round hole
- **b** Hook
- c Strap
- d Indoor unit
- e Suction grille
- f Cross-shaped hole

#### 16 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.

#### 16.1 Checklist before commissioning

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

| <b>3</b> Po | Power up the unit.  |  |  |  |  |
|-------------|---|--|--|--|--|
|             | You have read the complete installation and operation instructions described in the <b>installer and user reference guide</b> . |  |  |  |  |
|             | The indoor unit is properly mounted.  |  |  |  |  |
|             | The <b>outdoor unit</b> is properly mounted.  |  |  |  |  |

| The <b>drain piping</b> is properly installed and insulated, and drainage flows smoothly. Check for water leaks.               |  |  |  |
|--|--|--|--|
| Possible consequence: condensate water might drip.   |  |  |  |
| The <b>refrigerant pipes</b> (gas and liquid) are installed correctly and thermally insulated.                                 |  |  |  |
| There are NO refrigerant leaks.  |  |  |  |
| There are NO missing phases or reversed phases.  |  |  |  |
| The system is properly <b>earthed</b> and the earth terminals are tightened.   |  |  |  |
| The <b>fuses</b> or locally installed protection devices are installed according to this document, and have NOT been bypassed. |  |  |  |
| The <b>power supply voltage</b> matches the voltage on the identification label of the unit.                                   |  |  |  |
| There are NO <b>loose connections</b> or damaged electrical components in the switch box.                                      |  |  |  |
| There are NO damaged components or squeezed pipes on the inside of the indoor and outdoor units.                               |  |  |  |
| The <b>stop valves</b> (gas and liquid) on the outdoor unit are  |  |  |  |

#### 16.2 To perform a test run



#### **INFORMATION**

fully open.

- 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.

#### 17 Configuration

#### 17.1 Field setting

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

- · Ceiling height
- Air volume when thermostat control is OFF
- Time to clean air filter
- Thermostat sensor selection
- Thermostat sensor in group control
- Thermostat differential changeover (if remote sensor is used)
- Automatic changeover differential
- Auto-restart after power failure
- T1/T2 input setting



#### **INFORMATION**

- The connection of optional accessories to the indoor unit might cause changes to some field settings. For more information, see the installation manual of the optional accessory.
- Following setting are only applicable when using the BRC1H52\* user interface. When using any other user interface, see the installation manual or service manual of the user interface.

#### Setting: Ceiling height

This setting must correspond with the actual distance to the floor and the capacity class.

| If the distance to  |  | Then <sup>(1)</sup> |    |    |
|---|--|---------------------|----|----|
| FXHQ32+63   | FXHQ32+63 FXHQ100  |                     | sw | _  |
| ≤2.7  | ≤3.8   | 13 (23)             | 0  | 01 |
| 2.7 <x≤3.5< td=""><td>3.8<x≤4.3< td=""><td></td><td></td><td>02</td></x≤4.3<></td></x≤3.5<> | 3.8 <x≤4.3< td=""><td></td><td></td><td>02</td></x≤4.3<> |                     |    | 02 |

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

<sup>(</sup>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)        | М                   | 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 user interface thermostat sensor is used.

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

#### Setting: Thermostat sensor in group control

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

| If you want to use  | Then <sup>(1)</sup> |    |    |
|---|---------------------|----|----|
|   | M                   | sw | _  |
| Unit sensor only (or remote sensor (if installed)) <sup>(a)</sup>                         | 10 (20)             | 6  | 01 |
| Unit sensor (or remote sensor (if installed)) AND remote controller sensor <sup>(b)</sup> |                     |    | 02 |

- (a) If setting 10(20)-6-01 + 10(20)-2-01 or 10(20)-2-02 or 10(20)-2-03 are set at the same time, then setting for group connection: 10(20)-6-01 has priority.
- (b) If setting 10(20)-6-02 + 10(20)-2-01 or 10(20)-2-02 or 10(20)-2-03 are set at the same time, then setting 10(20)-2-01 or 10(20)-2-02 or 10(20)-2-03 have priority.
- (c) When the remote controller sensor is used in group control, set 10(20)-6-02 and 10(20)-2-03.

### 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: Automatic changeover differential

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

<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

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

<sup>•</sup> LL: Low fan speed

<sup>•</sup> 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.

#### 18 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<br>17°C |

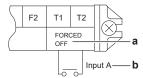
#### Setting: Auto-restart after power failure

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

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.

| 9   |                     |    |    |
|---|---------------------|----|----|
| If you want to change increments to         | Then <sup>(1)</sup> |    |    |
|   | M                   | SW | _  |
| Forced OFF                                  | 12 (22)             | 1  | 01 |
| ON/OFF Operation                            |                     |    | 02 |
| Emergency (recommended for alarm operation) |                     |    | 03 |
| Forced OFF - multi tenant                   |                     |    | 04 |

#### 18 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).

#### 18.1 Wiring diagram

#### 18.1.1 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         | <b>(1)</b> | Protective earth         |
|                  | Connection              |            | Protective earth (screw) |
| □□-← □□,]-       | Connector               | (A), (Z)   | Rectifier                |
| Ť                | Earth                   | -(         | Relay connector          |
| :: <b>I</b> I :: | Field wiring            |            | Short-circuit connector  |
|                  | Fuse                    | -0-        | Terminal                 |
| INDOOR           | Indoor unit             |            | Terminal strip           |
| OUTDOOR          | Outdoor unit            | 0 •        | Wire clamp               |
|                  | Residual current device |            |                          |

| Symbol  | Colour   | Symbol   | Colour |
|---------|----------|----------|--------|
| BLK     | Black    | ORG      | Orange |
| BLU     | Blue     | PNK      | Pink   |
| BRN     | Brown    | PRP, PPL | Purple |
| GRN     | Green    | RED      | Red    |
| GRY     | Grey     | WHT      | White  |
| 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*,<br>HN*, HR*, MR*_A, MR*_B, S*, U,<br>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                                |

<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

Default

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

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