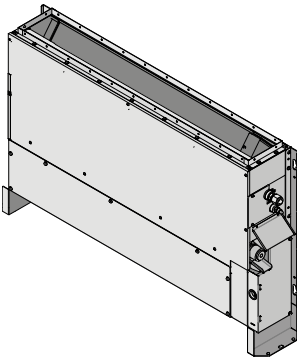




# Installer reference guide

## Split system air conditioners



**FNA25A2VEB**  
**FNA35A2VEB**  
**FNA50A2VEB**  
**FNA60A2VEB**

Installer reference guide  
Split system air conditioners

English

CE - DECLARACION DE CONFORMIDAD  
 CE - DICHLARAZIONE DI CONFORMITA  
 CE - DECLARATION OF CONFORMITY  
 CE - CONFORMITEITSVERKLARING

CE - DECLARACAO DE CONFORMIDADE  
 CE - ЗАЯВЛЕНИЕ О СООТВЕТСТВИИ  
 CE - OVERENSSTEMMELSESERKLÆRING  
 CE - FÖRSÄKRAN OM ÖVERENSSTÄMMELSE

CE - ERKLÄRUNG ÜBER ÜBEREINSTIMMUNG  
 CE - ЛУДЖИТИЈА У РАДНИЦИЈА И У ПУСТА  
 CE - PROHLÁŠENÍ SHODY

CE - IZJAVA O SKLADNOSTI  
 CE - MEGFELHETŐSÉGI NYILATKOZAT  
 CE - DEKLARACIJA ZGODNOSTI  
 CE - DECLARAȚIE DE CONFORMITATE

CE - ATTIKTES, DEKLARACIJA  
 CE - АТІЛ СІТІАС, ДЕКЛАРАЦІА  
 CE - VYHLÁŠENÍ SHODY  
 CE - UYGUNLUK BEYANI

**Daikin Industries Czech Republic s.r.o.**

- 01 (en) declares under its sole responsibility that the air conditioning models to which this declaration relates
- 02 (en) erklärt auf seine alleinige Verantwortung, daß die Modelle der Klimaanlage für die diese Erklärung besimmt ist
- 03 (en) déclare sous sa seule responsabilité que les appareils dont conditionne les par la présente déclaration
- 04 (en) vedkär herfor på egen eksklusivt ansvar för att de airconditioning units värdar ända verkliga beträkning herfor
- 05 (en) declara bajo su única responsabilidad que los modelos de aire acondicionado a los cuales hace referencia la declaración
- 06 (en) δηλώνει υπό αποκλειστική ευθύνη και υπό τον όρο της αποκλειστικής ευθύνης της παρούσης δήλωσης
- 07 (en) ovdje izjavljaju na svojom imenu i odgovornosti da su modeli klima uređaja u kojima su izjavili ovdje istu izjavu odnosi
- 08 (en) déclare sous sa seule responsabilité que les modèles de air conditionné a que essa déclaration se relate

**FNA25A2VEB, FNA35A2VEB, FNA50A2VEB, FNA60A2VEB,**

- 01 are in conformity with the following standard(s) or other normative document(s), provided that these are used in accordance with our instructions:
- 02 (en) deriden følgende Norm(er) eller anden anden Normdokument(er)-dokument(en) enskriftenskriften, under der Voresansvaring, dás sie gemák unserer Anweisungen eingesetzt werden
- 03 sont conformes à la(s) norme(s) ou autre(s) document(s) normatifs, pour autant qu'ils soient utilisés conformément à nos instructions
- 04 conform de volgende norm(en) of één of meer andere bindende documenten zijn, op voorwaarde dat ze worden gebruikt overeenkomstig onze instructies
- 05 están en conformidad con la(s) siguiente(s) norma(s) u otro(s) documento(s) normativo(s), siempre que sean utilizados de acuerdo con nuestras instrucciones
- 06 sono conformi al(l) seguente(s) standard(i) o al(tro) documento(i) a carattere normativo, a patto che vengano usati in conformità alle nostre istruzioni
- 07 ёвно оудовамо по тој(о) стандарто(и) пројекто(и) (и/или Европској конвенцији), у тој(и) пројекто(и) на упростојој(и) одговору на на: оvdje izjavljaju na svojom imenu i odgovornosti

**EN60335-2-40,**

- 10 under egnet til brug og vurderet positivt by
- 11 enligt godkänd av
- 12 gemäß den Vorschriften der
- 03 conformément aux stipulations des:
- 04 overeenkomstig de bepalingen van:
- 05 suvencio las especificaciones de:
- 06 secondo le prescrizioni per:
- 07 je priporilo na dobrotu svojih:
- 08 de acordo com o previsto em:
- 09 в конвенцији с положеними:
- 19 ob upošlevanju dobrih:
- 20 vastavalt nõuetele:
- 21 ссылаючись на требования на:
- 22 likanis nostatit, pateiktam:
- 23 в соответствии с требованиями:
- 24 одбављају стандарта:
- 25 bonu vesplarnama ugnin odatk:
- 17 zgodnie z postanowieniami Dyrektywy:
- 18 in prima prevedentor.

- 01 Note
- 02 Hinweis
- 03 Remarque
- 04 Bemerk
- 05 Nota
- 06 Nota
- 07 Zbiranje
- 08 Nota
- 09 Примечание
- 10 Bemerk

- 01\*\* DICz\*\*\* is authorised to complete the Technical Construction File
- 02\*\* DICz\*\*\* hat die Berechtigung die Technische Konstruktionsakte zusammenzustellen
- 03\*\* DICz\*\*\* est autorisé à compléter le Dossier de Construction Technique
- 04\*\* DICz\*\*\* is bevoegd om het Technisch Constructiedossier samen te stellen
- 05\*\* DICz\*\*\* está autorizado a completar el Archivo de Construcción Técnica
- 06\*\* DICz\*\*\* je autoriziran da redigira i Filea Tehnicu de Constructie

\*\*\*DICz = Daikin Industries Czech Republic s.r.o.



3P480520-5A

Tetsuya Baba  
 Managing Director  
 Pilsen, 3rd of July 2017

U Nové Hospody 1/155, 301 00 Plzeň Skvrňany,  
 Czech Republic

**DAIKIN INDUSTRIES CZECH REPUBLIC s.r.o.**

- 09 (en) заявляет, исключительн по своей ответственности, что модели кондиционеров воздуха, к которым относится настоящее заявление:
- 10 (en) erklærer under ens ansvar, at klimaanlægmodelerne, som denne erklæring vedrører:
- 11 (en) déclare sur sa seule responsabilité que les appareils dont conditionne les par la présente déclaration
- 12 (en) vedkär herfor på eget ansvar för att de luftkonditioneringssystemen som berörs av denna deklaration innehar att:
- 13 (en) proflašuje ve své plné odpovědnosti, že modely klimatizací, k nimž se tato prohlášení vztahuje:
- 14 (en) izjavlja pod svojo izključno odgovornostjo da su modeli klima uređaja na koje se ovdje izjava odnosi:
- 15 (en) tejes felelősséggel nyilatkozni nyeltem, hogy a klímaberendezések modellei, melyekre ez a nyilatkozat vonatkozik:
- 16 (en) заявляет, исключительн по своей ответственности, что модели кондиционеров воздуха, к которым относится настоящее заявление:
- 17 (en) erklærer under ens ansvar, at klimaanlægmodelerne, som denne erklæring vedrører:
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- 21 (en) izjavlja pod svojo izključno odgovornostjo da su modeli klima uređaja na koje se ovdje izjava odnosi:
- 22 (en) tejes felelősséggel nyilatkozni nyeltem, hogy a klímaberendezések modellei, melyekre ez a nyilatkozat vonatkozik:
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- 24 (en) erklærer under ens ansvar, at klimaanlægmodelerne, som denne erklæring vedrører:
- 25 (en) déclare sur sa seule responsabilité que les appareils dont conditionne les par la présente déclaration

- 17 (en) déclare sur sa seule responsabilité que les modèles de climatisation, à laquelle cette déclaration s'applique:
- 18 (en) erklærer under ens ansvar, at klimaanlægmodelerne, som denne erklæring vedrører:
- 19 (en) vedkär herfor på eget ansvar för att de luftkonditioneringssystemen som berörs av denna deklaration innehar att:
- 20 (en) proflašuje ve své plné odpovědnosti, že modely klimatizací, k nimž se tato prohlášení vztahuje:
- 21 (en) izjavlja pod svojo izključno odgovornostjo da su modeli klima uređaja na koje se ovdje izjava odnosi:
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- 24 (en) erklærer under ens ansvar, at klimaanlægmodelerne, som denne erklæring vedrører:
- 25 (en) déclare sur sa seule responsabilité que les modèles de climatisation, à laquelle cette déclaration s'applique:

- 16 megjelöltek az alábbi szabvány(ok)nak, vagy egyéb irányadó dokumentum(ok)nak, ha azokat előírtak szerinti használatjuk:
- 17 szerint a következő normatív (normatív) dokumentumokat normalizálójukról, pod varminten ze uzivane s zuporne z nastavnymi instrukcijami:
- 18 sprijemljajo odgovornostjo (odgovornost) (sami ali) dokumente (dokumente) (normativne), cu conditia de accesta sa se utilizeze in conformitate cu instructiunile noastre:
- 19 skladni z naslednjimi standardi in drugimi normativi, pod pogojem, da se uporabljajo skladu z našimi navodili:
- 20 on vastavuses järgmise (le standardite) ga või teiste normatiivse dokumentidega, kui need kasutatakse vastavalt meie juhenditele:
- 21 съответстват на следващите стандарти или другите нормативни документи, при условие, че използването е в съответствие с нашите инструкции:
- 22 atinja žemai nurodytus standartus ir (arba) kitus norminius dokumentus su sąlyga, kad yra naudojami pagal mūsų nurodymus:
- 23 tad, ja tebi atbilstoš standartu ir (arba) kitus norminius dokumentus su sąlyga, kad yra naudojami pagal mūsų nurodymus:
- 24 si u zbirke z naslednjimi (normativni) dokumentima (dokumentima), za pretpoklad, ze se používajú v súlade s našim navodom:
- 25 útöröl, laimailmazaga góre kulanimasi köszülta aszoklat, standardat ve norm.befelren bejelölte utmutdol:

- 01 Directives as amended
- 02 Direktiven med förändringar
- 03 Directives telles que modifiées
- 04 Richtlijnen zoals gewijzigd
- 05 Directives según se emendado
- 06 Direktive, come da modifica
- 07 Önyitott, öntöz, érvényesítve
- 08 Directivas, conform alteraçã em
- 09 Директива со измененијата
- 10 Direktiver, med senere ændringer
- 11 Direktiven med förändringar
- 12 Directives telles que modifiées
- 13 Richtlijnen zoals gewijzigd
- 14 в правен зана
- 15 Sprijemljajo skladu z našimi navodili
- 16 irányel(ek) és jogszabályok
- 17 z paznesnyimi predpismi
- 18 Direktiver, cu amendamentele respective
- 19 Direktiva z isemi spremembami
- 20 Direktivi kosi modifikacija
- 21 Риректив с реурма ременения
- 22 Direktives su pagidėjimas
- 23 Direktivas un lo papildėjimas
- 24 Sporazici, y planim, rezi
- 25 Değişimlis taleyleje foremlerler

- 21 Zbiranje
- 22 Pasaba
- 23 Plozimes
- 24 Poznamka
- 25 Not
- 21 Zbiranje
- 22 Pasaba
- 23 Plozimes
- 24 Poznamka
- 25 Not

- 13\*\* DICz\*\*\* on valtuoti ba laikinti Techninio Konstrukcijos
- 14\*\* Společnost DICz\*\*\* má oprávnění ke kompletaci souboru technické konstrukce
- 15\*\* DICz\*\*\* est autorisé à compléter le dossier de construction technique
- 16\*\* DICz\*\*\* is bevoegd tot het completeren van het technische constructiedossier
- 17\*\* DICz\*\*\* está autorizado a completar el archivo de construcción técnica
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<A>	DAIKIN.TCF.033A3/03-2017
<B>	DEKRA (NB0344)
<C>	2.178265.0551-EMC

## Table of Contents

<b>1</b>	<b>General safety precautions</b>	<b>3</b>
1.1	About the documentation .....	3
1.1.1	Meaning of warnings and symbols.....	3
1.2	For the installer.....	3
1.2.1	General .....	3
1.2.2	Installation site .....	4
1.2.3	Refrigerant .....	5
1.2.4	Brine.....	6
1.2.5	Water .....	6
1.2.6	Electrical .....	6
<b>2</b>	<b>About the documentation</b>	<b>7</b>
2.1	About this document.....	7
<b>3</b>	<b>About the box</b>	<b>7</b>
3.1	Overview: About the box .....	7
3.2	Indoor unit .....	8
3.2.1	To unpack and handle the unit.....	8
3.2.2	To remove the accessories from the indoor unit.....	8
<b>4</b>	<b>About the units and options</b>	<b>8</b>
4.1	Overview: About the units and options.....	8
4.2	System layout.....	8
4.3	Combining units and options .....	8
4.3.1	Possible options for the indoor unit.....	8
<b>5</b>	<b>Preparation</b>	<b>8</b>
5.1	Overview: Preparation .....	8
5.2	Preparing installation site .....	9
5.2.1	Installation site requirements of the indoor unit .....	9
5.3	Preparing refrigerant piping .....	10
5.3.1	Refrigerant piping requirements.....	10
5.3.2	Refrigerant piping insulation .....	10
5.4	Preparing electrical wiring .....	10
5.4.1	About preparing electrical wiring.....	10
<b>6</b>	<b>Installation</b>	<b>10</b>
6.1	Overview: Installation .....	10
6.2	Mounting the indoor unit.....	10
6.2.1	Precautions when mounting the indoor unit.....	10
6.2.2	Guidelines when installing the indoor unit.....	11
6.2.3	Guidelines when installing the ducting.....	13
6.2.4	Guidelines when installing the drain piping.....	13
6.3	Connecting the refrigerant piping .....	14
6.3.1	About connecting the refrigerant piping .....	14
6.3.2	Precautions when connecting the refrigerant piping ...	14
6.3.3	Guidelines when connecting the refrigerant piping .....	14
6.3.4	Pipe bending guidelines.....	15
6.3.5	To flare the pipe end .....	15
6.3.6	To braze the pipe end .....	15
6.3.7	To connect the refrigerant piping to the indoor unit ...	15
6.4	Connecting the electrical wiring.....	16
6.4.1	About connecting the electrical wiring.....	16
6.4.2	Precautions when connecting the electrical wiring .....	16
6.4.3	Guidelines when connecting the electrical wiring .....	16
6.4.4	To connect the electrical wiring on the indoor unit.....	16
6.4.5	Specifications of standard wiring components.....	17
<b>7</b>	<b>Commissioning</b>	<b>17</b>
7.1	Overview: Commissioning.....	17
7.2	Checklist before commissioning.....	17
7.3	To perform a test run.....	18
7.4	Error codes when performing a test run .....	18
<b>8</b>	<b>Hand-over to the user</b>	<b>19</b>
<b>9</b>	<b>Disposal</b>	<b>19</b>

<b>10</b>	<b>Technical data</b>	<b>19</b>
10.1	Wiring diagram .....	20
<b>11</b>	<b>Glossary</b>	<b>20</b>

## 1 General safety precautions

### 1.1 About the documentation

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

#### 1.1.1 Meaning of warnings and symbols



##### DANGER

Indicates a situation that results in death or serious injury.



##### DANGER: RISK OF ELECTROCUTION

Indicates a situation that could result in electrocution.



##### DANGER: RISK OF BURNING

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



##### DANGER: RISK OF EXPLOSION

Indicates a situation that could result in explosion.



##### WARNING

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



##### WARNING: FLAMMABLE MATERIAL



##### CAUTION

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



##### NOTICE

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



##### INFORMATION

Indicates useful tips or additional information.

Symbol	Explanation
	Before installation, read the installation and operation manual, and the wiring instruction sheet.
	Before performing maintenance and service tasks, read the service manual.
	For more information, see the installer and user reference guide.

### 1.2 For the installer

#### 1.2.1 General

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

# 1 General safety precautions



## NOTICE

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



## WARNING

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



## CAUTION

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



## WARNING

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



## DANGER: RISK OF BURNING

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



## WARNING

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



## CAUTION

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



## NOTICE

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



## NOTICE

Works executed on the outdoor unit are best done under dry weather conditions to avoid water ingress.

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

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

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

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

## 1.2.2 Installation site

- Provide sufficient space around the unit for servicing and air circulation.
- Make sure the installation site withstands the unit's weight and vibration.

- Make sure the area is well ventilated. Do NOT block any ventilation openings.
- Make sure the unit is level.

Do NOT install the unit in the following places:

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

## Instructions for equipment using R32 refrigerant

If applicable.



## WARNING

- Do NOT pierce or burn.
- Do NOT use means to accelerate the defrosting process or to clean the equipment, other than those recommended by the manufacturer.
- Be aware that R32 refrigerant does NOT contain an odour.



## 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.



## NOTICE

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



## WARNING

Make sure installation, servicing, maintenance and repair comply with instructions from Daikin and with applicable legislation (for example national gas regulation) and are executed only by authorised persons.

## Installation space requirements



## NOTICE

- Pipework shall be protected from physical damage.
- Installation of pipework shall be kept to a minimum.



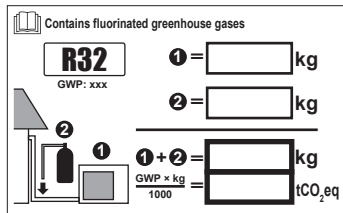
## WARNING

If appliances contain R32 refrigerant, then the floor area of the room in which the appliances are installed, operated and stored must be larger than the minimum floor area defined in table below A (m<sup>2</sup>). This applies to:

- Indoor units **without** refrigerant leakage sensor; in case of indoor units **with** refrigerant leakage sensor, consult the installation manual
- Outdoor units installed or stored indoors (example: winter garden, garage, machinery room)
- Pipework in unventilated spaces

## To determine the minimum floor area

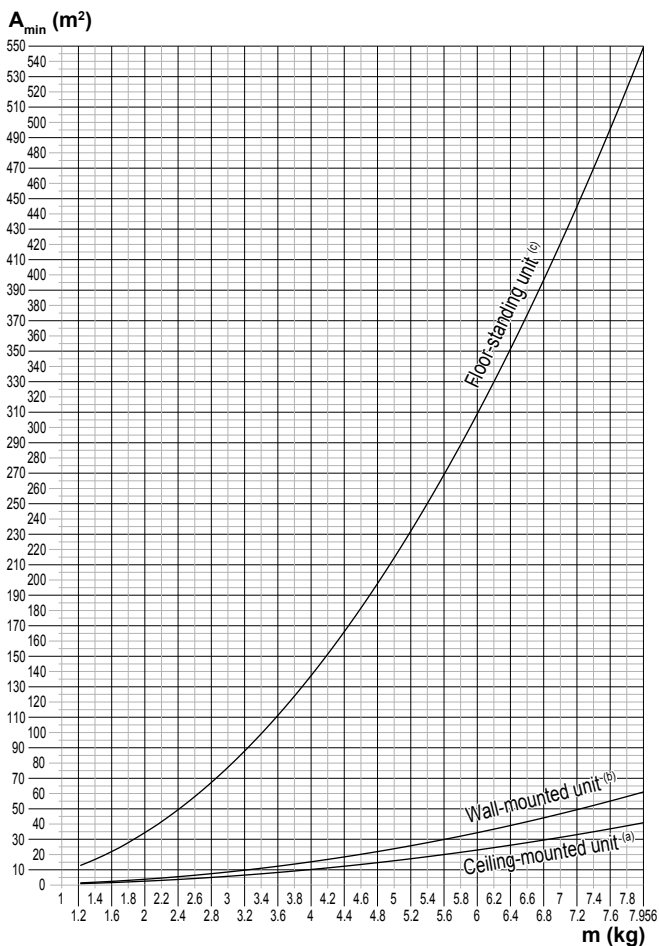
- Determine the total refrigerant charge in the system (= factory refrigerant charge ① + ② additional refrigerant amount charged).



- Determine which graph or table to use.
  - For indoor units: Is the unit ceiling-mounted, wall-mounted or floor-standing?
  - For outdoor units installed or stored indoors, and field piping in unventilated spaces, this depends on the installation height:

If the installation height is...	Then use the graph or table for...
<1.8 m	Floor-standing units
1.8 ≤ x < 2.2 m	Wall-mounted units
≥ 2.2 m	Ceiling-mounted units

- Use the graph or table to determine the minimum floor area.



Ceiling-mounted unit <sup>(a)</sup>		Wall-mounted unit <sup>(b)</sup>		Floor-standing unit <sup>(c)</sup>	
m (kg)	A <sub>min</sub> (m <sup>2</sup> )	m (kg)	A <sub>min</sub> (m <sup>2</sup> )	m (kg)	A <sub>min</sub> (m <sup>2</sup> )
<1.224	—	<1.224	—	<1.224	—
1.225	0.956	1.225	1.43	1.225	12.9
1.4	1.25	1.4	1.87	1.4	16.8
1.6	1.63	1.6	2.44	1.6	22.0
1.8	2.07	1.8	3.09	1.8	27.8
2.0	2.55	2.0	3.81	2.0	34.3
2.2	3.09	2.2	4.61	2.2	41.5
2.4	3.68	2.4	5.49	2.4	49.4
2.6	4.31	2.6	6.44	2.6	58.0
2.8	5.00	2.8	7.47	2.8	67.3
3.0	5.74	3.0	8.58	3.0	77.2
3.2	6.54	3.2	9.76	3.2	87.9
3.4	7.38	3.4	11.0	3.4	99.2
3.6	8.27	3.6	12.4	3.6	111
3.8	9.22	3.8	13.8	3.8	124
4.0	10.2	4.0	15.3	4.0	137
4.2	11.3	4.2	16.8	4.2	151
4.4	12.4	4.4	18.5	4.4	166
4.6	13.5	4.6	20.2	4.6	182
4.8	14.7	4.8	22.0	4.8	198
5.0	16.0	5.0	23.8	5.0	215
5.2	17.3	5.2	25.8	5.2	232
5.4	18.6	5.4	27.8	5.4	250
5.6	20.0	5.6	29.9	5.6	269
5.8	21.5	5.8	32.1	5.8	289
6.0	23.0	6.0	34.3	6.0	309
6.2	24.5	6.2	36.6	6.2	330
6.4	26.1	6.4	39.1	6.4	351
6.6	27.8	6.6	41.5	6.6	374
6.8	29.5	6.8	44.1	6.8	397
7.0	31.3	7.0	46.7	7.0	420
7.2	33.1	7.2	49.4	7.2	445
7.4	34.9	7.4	52.2	7.4	470
7.6	36.9	7.6	55.1	7.6	496
7.8	38.8	7.8	58.0	7.8	522
7.956	40.8	7.956	61.0	7.956	549

- m Total refrigerant charge in the system
- A<sub>min</sub> Minimum floor area
- (a) Ceiling-mounted unit (= Ceiling-mounted unit)
- (b) Wall-mounted unit (= Wall-mounted unit)
- (c) Floor-standing unit (= Floor-standing unit)

## 1.2.3 Refrigerant

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



### NOTICE

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



### NOTICE

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



### WARNING

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



### WARNING

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

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



# 1 General safety precautions



## DANGER: RISK OF EXPLOSION

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

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



## WARNING

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



## NOTICE

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



## NOTICE



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



## WARNING

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

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

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

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



## CAUTION

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

### 1.2.4 Brine

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



## WARNING

The selection of the brine MUST be in accordance with the applicable legislation.



## WARNING

Take sufficient precautions in case of brine leakage. If brine leaks, ventilate the area immediately and contact your local dealer.



## WARNING

The ambient temperature inside the unit can get much higher than that of the room, e.g. 70°C. In case of a brine leak, hot parts inside the unit can create a hazardous situation.



## WARNING

The use and installation of the application MUST comply with the safety and environmental precautions specified in the applicable legislation.

### 1.2.5 Water

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



## NOTICE

Make sure water quality complies with EU directive 98/83 EC.

### 1.2.6 Electrical



## DANGER: RISK OF ELECTROCUTION

- Turn OFF all power supply before removing the switch box cover, connecting electrical wiring or touching electrical parts.
- Disconnect the power supply for more than 1 minute, and measure the voltage at the terminals of main circuit capacitors or electrical components before servicing. The voltage MUST be less than 50 V DC before you can touch electrical components. For the location of the terminals, see the wiring diagram.
- Do NOT touch electrical components with wet hands.
- Do NOT leave the unit unattended when the service cover is removed.



## WARNING

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

**WARNING**

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

**NOTICE**

Precautions when laying power wiring:

- Do not connect wiring of different thicknesses to the power terminal block (slack in the power wiring may cause abnormal heat).
- When connecting wiring which is the same thickness, do as shown in the figure below.



- For wiring, use the designated power wire and connect firmly, then secure to prevent outside pressure being exerted on the terminal board.
- Use an appropriate screwdriver for tightening the terminal screws. A screwdriver with a small head will damage the head and make proper tightening impossible.
- Over-tightening the terminal screws may break them.

**WARNING**

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

**NOTICE**

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

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

## 2 About the documentation

### 2.1 About this document

**INFORMATION**

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

**Target audience**

Authorised installers

**INFORMATION**

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

**Documentation set**

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

- **General safety precautions:**

- Safety instructions that you must read before installing
- Format: Paper (in the box of the indoor unit)

- **Indoor unit installation manual:**

- Installation instructions
- Format: Paper (in the box of the indoor unit)

- **Installer reference guide:**

- Preparation of the installation, good practices, reference data,...
- Format: Digital files on <http://www.daikineurope.com/support-and-manuals/product-information/>

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

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 extranet (authentication required).

## 3 About the box

### 3.1 Overview: About the box

It contains information about:

- Unpacking and handling the units
- Removing the accessories from the units

Keep the following in mind:

- At delivery, the unit must be checked for damage. Any damage must be reported immediately to the carrier's claims agent.
- Bring the packed unit as close as possible to its final installation position to prevent damage during transport.
- Prepare the path along which you want to bring the unit inside in advance.

## 4 About the units and options

### 3.2 Indoor unit



#### WARNING: FLAMMABLE MATERIAL

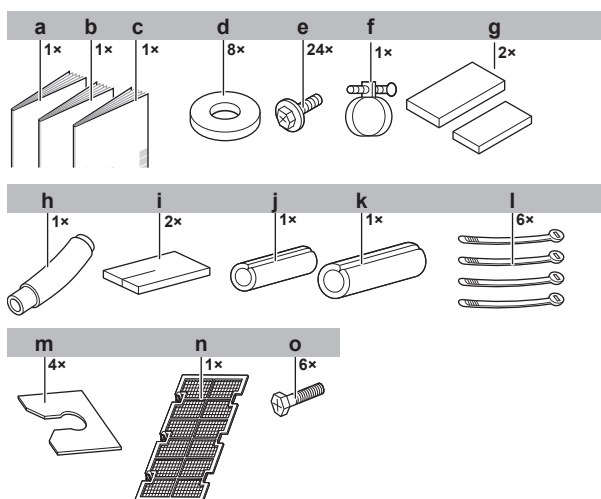
The R32 refrigerant (if applicable) in this unit is mildly flammable.<sup>1</sup>

#### 3.2.1 To unpack and handle the unit

Use a sling of soft material or protective plates together with a rope when lifting the unit. This to avoid damage or scratches to the unit.

Lift the unit by holding on to the hanger brackets without exerting any pressure on other parts, especially on refrigerant piping, drain piping and other resin parts.

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



- a Installation manual
- b Operation manual
- c General safety precautions
- d Washers for hanger bracket
- e Screws for duct flanges
- f Metal clamp
- g Sealing pads: small and large
- h Drain hose
- i Sealing material
- j Insulation piece: Small (liquid pipe)
- k Insulation piece: Large (gas pipe)
- l Tie wraps
- m Washer fixing plate
- n Air filter
- o Levelling screws

## 4 About the units and options

### 4.1 Overview: About the units and options

This chapter contains information about:

- Combining outdoor and indoor units
- Combining the indoor unit with options



#### WARNING

Never use a flammable spray such as hair spray, lacquer or paint near the unit. It may cause a fire.



#### NOTICE

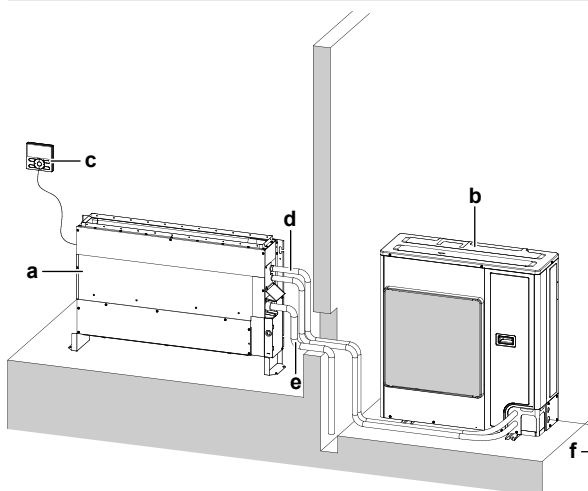
Do not wipe the controller operation panel with benzene, thinner, chemical dust cloth, etc. The panel may get discoloured or the coating peeled off. If it is heavily dirty, soak a cloth in water-diluted neutral detergent, squeeze it well and wipe the panel clean. Wipe it with another dry cloth.

### 4.2 System layout



#### INFORMATION

The following illustration is an example and might NOT match your system layout.



- a Indoor unit
- b Outdoor unit
- c User interface
- d Refrigerant piping + interconnection cable
- e Drain pipe
- f Earth wiring

### 4.3 Combining units and options

#### 4.3.1 Possible options for the indoor unit

Make sure you have the following mandatory options:

- User interface: Wired or wireless

Select a user interface in accordance with the customer's request. Refer to the table below to select a suitable user interface.

User interface	
Wired user interface	BRC1D52/BRC1D61/ BRC1E51A/BRC1E53A7/ BRC1E53B7/BRC1E53C7
Wireless user interface	BRC4C65

## 5 Preparation

### 5.1 Overview: Preparation

This chapter describes what you have to do and know before going on-site.

It contains information about:

- Preparing the installation site
- Preparing the refrigerant piping

<sup>(1)</sup> Only for units using R32 refrigerant. Refer to the outdoor unit specifications for the type of refrigerant to be used.



- Preparing the electrical wiring

### 5.2 Preparing installation site

- Provide sufficient space around the unit for servicing and air circulation.
- Choose the installation location with sufficient place for carrying the unit in and out of the site.



#### CAUTION

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



#### WARNING

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



#### CAUTION

Do NOT install or use in highly airtight spaces, e.g. soundproof chambers or rooms with sealed doors.<sup>1</sup>



#### CAUTION

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

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



#### INFORMATION

Also read the following requirements:

- General installation site requirements. See the "General safety precautions" chapter.
- Refrigerant piping requirements (length, height difference). See further in this "Preparation" chapter.



#### INFORMATION

The sound pressure level is less than 70 dBA.



#### NOTICE

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

It is therefore recommended to install the equipment and electric wires keeping proper distances away from stereo equipment, personal computers, etc.

- Fluorescent lights.** When installing a wireless user interface in a room with fluorescent lights, mind the following to avoid interference:
  - Install the wireless user interface as close as possible to the indoor unit.
  - Install the indoor unit as far as possible from the fluorescent lights.
- Take care that in the event of a water leak, water cannot cause any damage to the installation space and surroundings.

- Choose a location where the hot/cold air discharged from the unit or the operation noise, will NOT disturb anyone.



#### WARNING

Do NOT place objects below the indoor and/or outdoor unit that may get wet. In this condition, condensation on the main unit or refrigerant pipes, air filter dirt or drain blockage may cause dripping. This results in fouling or failure of the object which is located beneath the unit.

- Air flow.** Make sure nothing blocks the air flow.
- Drainage.** Make sure condensation water can be evacuated properly.
- Wall insulation.** When conditions in the wall exceed 30°C and a relative humidity of 80%, or when fresh air is inducted into the wall, then additional insulation is required (minimum 10 mm thickness, polyethylene foam).
- Protective guards.** Make sure to install protective guards on the suction and discharge side to prevent somebody from touching the fan blades or heat exchanger.

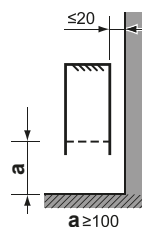
Do NOT install the unit in the following places:

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

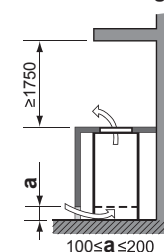
It is NOT recommended to install the unit in the following places because it may shorten the life of the unit:

- Where the voltage fluctuates a lot
- In vehicles or vessels
- Where acidic or alkaline vapour is present
- Use **suspension bolts** for installation.
- Mind the following requirements:

#### Wall-mounted type

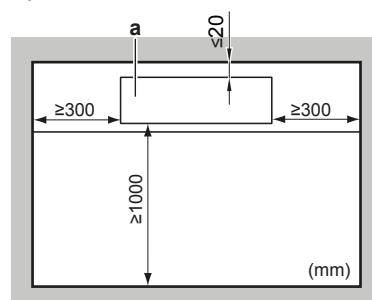


#### Floor-standing type



a Minimum clearance

#### Top view



a Indoor unit

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

<sup>(1)</sup> Only for units using R32 refrigerant. Refer to the outdoor unit specifications for the type of refrigerant to be used.

## 6 Installation

### 5.3 Preparing refrigerant piping

#### 5.3.1 Refrigerant piping requirements



##### INFORMATION

Also read the precautions and requirements in the "General safety precautions" chapter.

#### Refrigerant piping material

- **Piping material:** Phosphoric acid deoxidised seamless copper.
- **Piping temper grade and thickness:**

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

(a) Depending on the applicable legislation and the unit's maximum working pressure (see "PS High" on the unit name plate), larger piping thickness might be required.

#### Refrigerant piping diameter

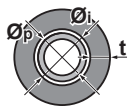
Use the same diameters as the connections on the outdoor units:

Class	L1 liquid piping	L1 gas piping
25/35	Ø6.4	Ø9.5
50/60	Ø6.4	Ø12.7

#### 5.3.2 Refrigerant piping insulation

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

Pipe outer diameter (Ø <sub>p</sub> )	Insulation inner diameter (Ø <sub>i</sub> )	Insulation thickness (t)
6.4 mm (1/4")	8~10 mm	≥10 mm
9.5 mm (3/8")	12~15 mm	
12.7 mm (1/2")	14~16 mm	



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

### 5.4 Preparing electrical wiring

#### 5.4.1 About preparing electrical wiring



##### INFORMATION

Also read the precautions and requirements in the "General safety precautions" chapter.



##### 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, stranded conductor 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

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



##### WARNING

ALWAYS use multicore cable for power supply cables.

## 6 Installation

### 6.1 Overview: Installation

This chapter describes what you have to do and know on-site to install the system.

#### Typical workflow

Installation typically consists of the following stages:

- Mounting the outdoor unit.
- Mounting the indoor unit.
- Connecting the refrigerant piping.
- Checking the refrigerant piping.
- Charging refrigerant.
- Connecting the electrical wiring.
- Finishing the outdoor installation.
- Finishing the indoor installation.

### 6.2 Mounting the indoor unit

#### 6.2.1 Precautions when mounting the indoor unit



##### INFORMATION

Also read the precautions and requirements in the following chapters:

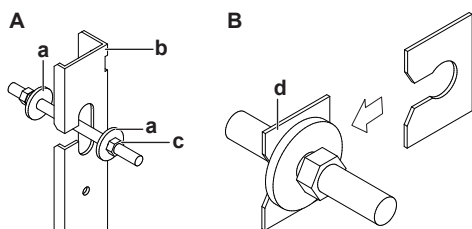
- General safety precautions
- Preparation

6.2.2 Guidelines when installing the indoor unit

**i** INFORMATION

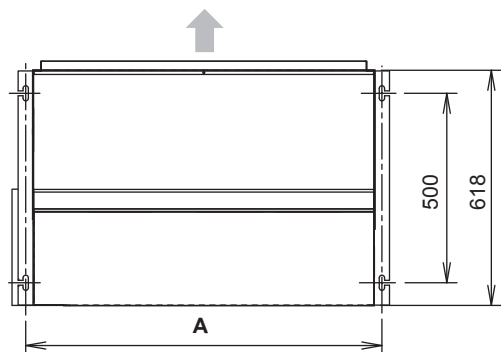
**Optional equipment.** When installing optional equipment, also read the installation manual of the optional equipment. Depending on the field conditions, it might be easier to install the optional equipment first.

- **Wall or floor strength.** Check whether the wall or the floor is strong enough to support the weight of the unit. If there is a risk, reinforce the wall or the floor before installing the unit.
- **Suspension bolts.** Use W3/8 M10 suspension bolts for installation. Attach the hanger bracket to the suspension bolt. Fix it securely using a nut and washer from the upper and lower sides of the hanger bracket.



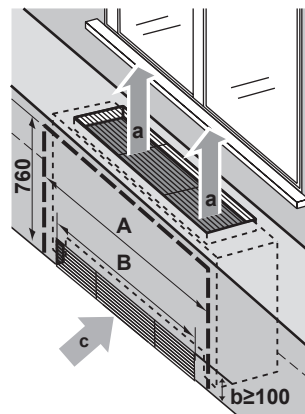
- A Securing the hanger bracket
- B Securing the washers
- a Washer (accessories)
- b Hanger bracket
- c1 Nut (field supply)
- c2 Double nut (field supply)
- d Washer fixing plate (accessory)

- Suspension bolt pitch for fastening to the wall:



Class	A (mm)
25/35	740
50/60	1140

Floor-standing installation



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

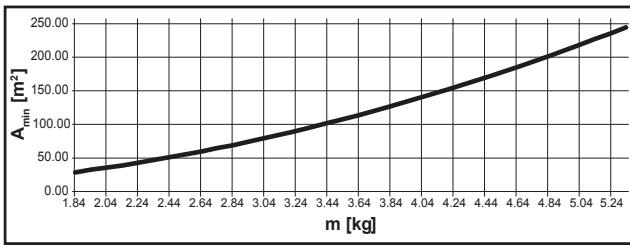
- A Maintenance area width
- B Air inlet grille width
- a Air outlet direction
- b Air inlet grille height
- c Air inlet direction

- To determine the minimum floor area for **floor-standing** indoor unit installation, refer to the table or graph below.<sup>1</sup>

Minimum floor area for indoor unit			
m (kg)	A <sub>min</sub> (m <sup>2</sup> )	m (kg)	A <sub>min</sub> (m <sup>2</sup> )
0.70	No requirements	3.04	78.65
0.76		3.14	83.91
0.86		3.24	89.34
0.96		3.34	94.94
1.06		3.44	100.71
1.16		3.54	106.65
1.26		3.64	112.76
1.36		3.74	119.05
1.46		3.84	125.50
1.56		3.94	132.12
1.66		4.04	138.91
1.76	4.14	145.87	
1.84	28.81	4.24	153.00
1.94	32.03	4.34	160.31
2.04	35.42	4.44	167.78
2.14	38.98	4.54	175.42
2.24	42.70	4.64	183.23
2.34	46.60	4.74	191.22
2.44	50.67	4.84	199.37
2.54	54.91	4.94	207.69
2.64	59.32	5.04	216.19
2.74	63.90	5.14	224.85
2.84	68.64	5.24	233.69
2.94	73.56	5.34	242.69

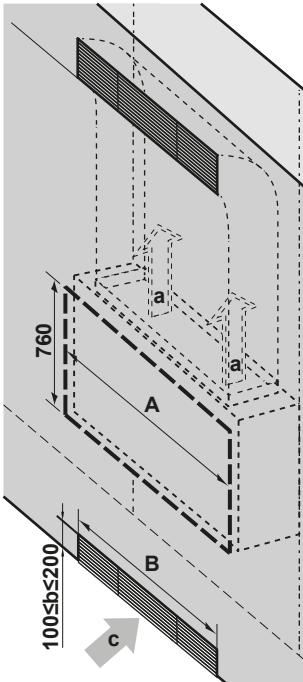
<sup>(1)</sup> Only for units using R32 refrigerant. Refer to the outdoor unit specifications for the type of refrigerant to be used.

## 6 Installation



m Mass of refrigerant  
A<sub>min</sub> Minimum floor area

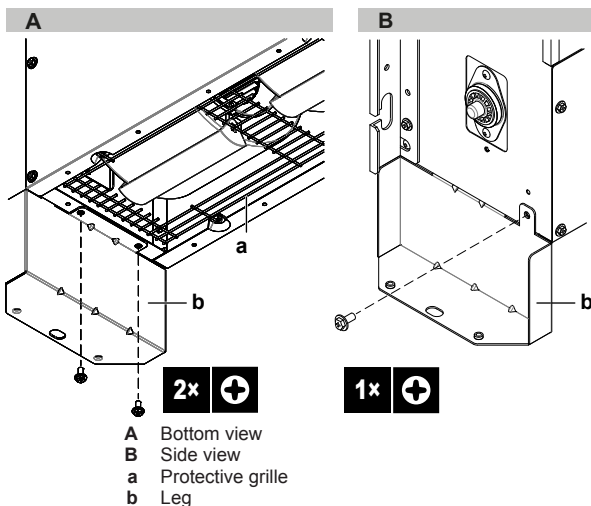
### Wall-mounted installation



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

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

- **External static pressure.** Refer to technical documentation to ensure that the unit's external static pressure is not exceeded.
- **Removing the legs.** If it is necessary to remove the legs, follow these instructions:

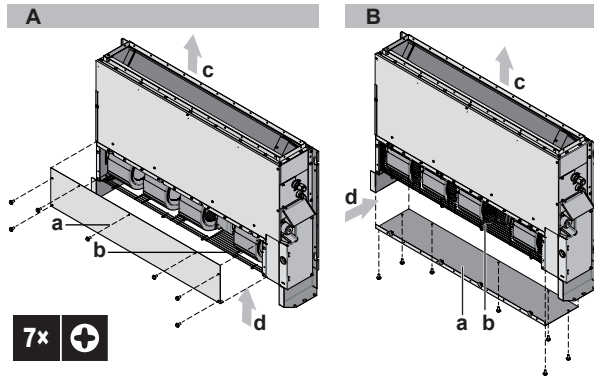


A Bottom view  
B Side view  
a Protective grille  
b Leg

- 1 In case of bottom suction, remove the air filter.
- 2 Remove 4 screws (2 on each side) that hold both legs on the bottom side of the unit.
- 3 Remove 2 screws (1 on each side) on the side of the unit.
- 4 In case of bottom suction, reattach the filter.
- 5 In case of front suction, reinstall 2 screws on the side of the unit.

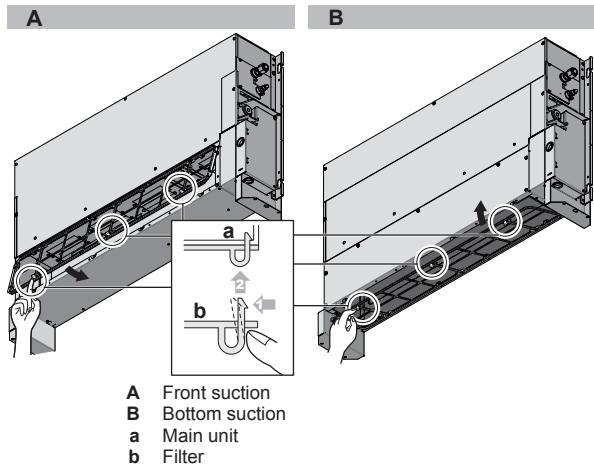
### Install suction cover and air filter (accessory)

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



A Removing the suction cover  
B Reattaching the suction cover  
a Suction cover  
b Protective grille  
c Air inlet  
d Air outlet

- 7 Remove one leg on the opposite side of the electronic component box.
- 8 Reattach the removed suction cover to the bottom side.
- 9 Attach the protective grille to the front side.
- 10 Reattach the leg if necessary.
- 11 Attach the air filter (accessory) by pushing down the hooks (2 hooks for 25/35 type, 3 hooks for 50/60 type).



A Front suction  
B Bottom suction  
a Main unit  
b Filter

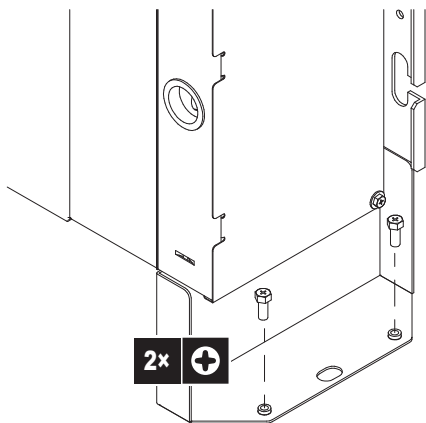
### Install the unit temporarily.

- 12 Attach the hanger bracket to the suspension bolt.
- 13 Fix the unit securely.
- 14 Adjust the unit to fit between the walls.
- **Level.** Make sure the unit is level at all four corners using a level or a water-filled vinyl tube.
- 15 Tighten the upper nut.

## NOTICE

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

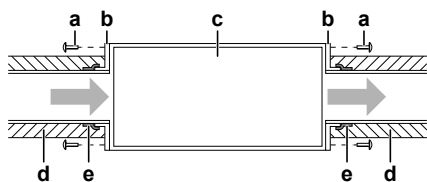
- **Fixing the unit.** Level the unit with the levelling screws (accessory). If the floor is too uneven to level the unit, place the unit on a flat and levelled base. If the unit is in danger of falling over, fasten it to the wall using factory-made holes or to the floor using floor fasteners (field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



### 6.2.3 Guidelines when installing the ducting

The ducting is to be field supplied.

- **Air inlet side.** Attach the duct and intake-side flange (field supply). For connecting the flange, use 7 accessory screws.



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

- **Filter.** Be sure to attach an air filter inside the air passage on the intake side. Use an air filter with dust collecting efficiency  $\geq 50\%$  (gravimetric method). The included filter is not used when the intake duct is attached.
- **Air outlet side.** Connect the duct according to the inside dimension of the outlet-side flange.
- **Air leaks.** Wind aluminium tape around the intake side flange and duct connection. Make sure there are no air leaks at any other connection.
- **Insulation.** Insulate the duct to prevent condensation from forming. Use glass wool or polyethylene foam 25 mm thick.

### 6.2.4 Guidelines when installing the drain piping

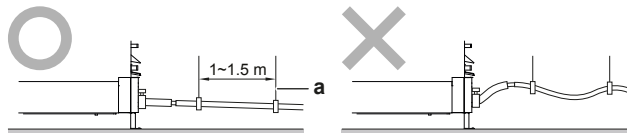
Make sure condensation water can be evacuated properly. This involves:

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

#### General guidelines

- **Pipe length.** Keep drain piping as short as possible.

- **Pipe size.** Keep the pipe size equal to or greater than that of the connecting pipe (vinyl pipe of 20 mm nominal diameter and 26 mm outer diameter).
- **Slope.** Make sure the drain piping slopes down (at least 1/100) to prevent air from being trapped in the piping. Use hanging bars as shown.



- a Hanging bar
- O Allowed
- X Not allowed

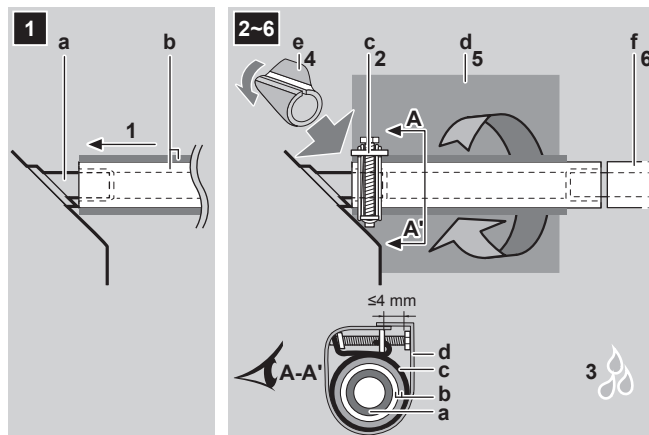
- **Condensation.** Take measures against condensation. Insulate the complete drain piping in the building.

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

## NOTICE

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

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



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

## NOTICE

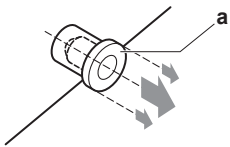
- Do NOT remove the drain pipe plug. Water might leak out.
- Use the drain outlet only to discharge the water if the drain pump is not used or before maintenance.
- Insert and remove the drain plug gently. Excessive force may deform the drain socket of the drain pan.

#### Pull out the plug.

- Do NOT wiggle the plug up and down.

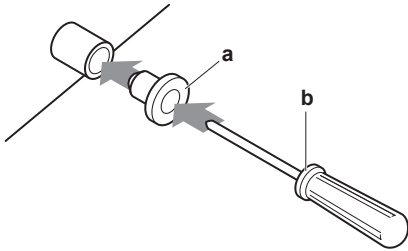


## 6 Installation



### Push in the plug.

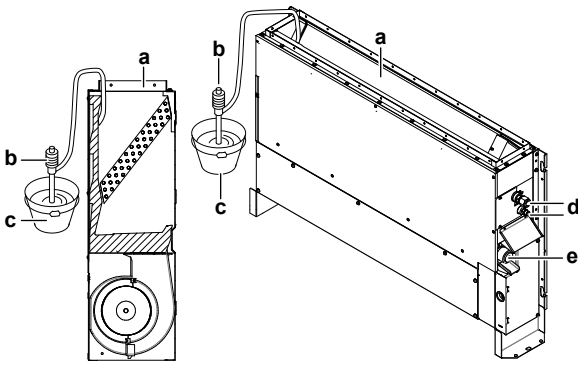
- Set the plug and push it in using a Phillips screwdriver.



a Drain plug  
b Phillips screwdriver

### To check for water leaks

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



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

## 6.3 Connecting the refrigerant piping

### 6.3.1 About connecting the refrigerant piping

#### Before connecting the refrigerant piping

Make sure the outdoor and indoor unit are mounted.

#### Typical workflow

Connecting the refrigerant piping involves:

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

### 6.3.2 Precautions when connecting the refrigerant piping



#### INFORMATION

Also read the precautions and requirements in the following chapters:

- General safety precautions
- Preparation



#### DANGER: RISK OF BURNING



#### CAUTION

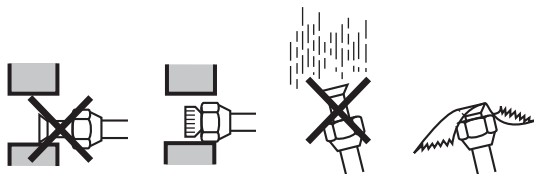
- Do NOT use mineral oil on flared part.
- NEVER install a drier to this unit to guarantee its lifetime. The drying material may dissolve and damage the system.



#### NOTICE

Take the following precautions on refrigerant piping into account:

- Avoid anything but the designated refrigerant to get mixed into the refrigerant cycle (e.g. air).
- Only use R32 or R410A<sup>2</sup> when adding refrigerant.
- Only use installation tools (e.g. manifold gauge set) that are exclusively used for R32 or R410A<sup>2</sup> installations to withstand the pressure and to prevent foreign materials (e.g. mineral oils and moisture) from mixing into the system.
- Install the piping so that the flare is NOT subjected to mechanical stress.
- Protect the piping as described in the following table to prevent dirt, liquid or dust from entering the piping.
- Use caution when passing copper tubes through walls (see figure below).



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



#### INFORMATION

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

### 6.3.3 Guidelines when connecting the refrigerant piping

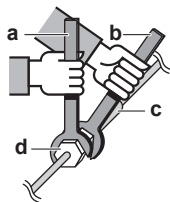
Take the following guidelines into account when connecting pipes:

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

<sup>(2)</sup> Refer to the outdoor unit specifications for the type of refrigerant to be used.



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



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

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

### 6.3.4 Pipe bending guidelines

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

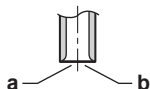
### 6.3.5 To flare the pipe end



#### CAUTION

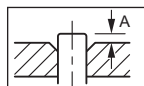
- Incomplete flaring may cause refrigerant gas leakage.
- Do NOT re-use flares. Use new flares to prevent refrigerant gas leakage.
- Use flare nuts that are included with the unit. Using different flare nuts may cause refrigerant gas leakage.

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



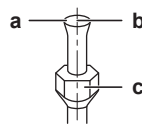
- a Cut exactly at right angles.
- b Remove burrs.

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



	Flare tool for R410A or R32 (clutch type)	Conventional flare tool	
		Clutch type (Ridgid-type)	Wing nut type (Imperial-type)
A	0~0.5 mm	1.0~1.5 mm	1.5~2.0 mm

- Check that the flaring is properly made.

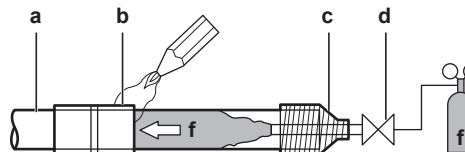


- a Flare's inner surface must be flawless.
- b The pipe end must be evenly flared in a perfect circle.
- c Make sure the flare nut is fitted.

### 6.3.6 To braze the pipe end

The indoor unit and outdoor unit have flare connections. Connect both ends without brazing. If brazing should be needed, take the following into account:

- When brazing, blow through with nitrogen to prevent creation of large quantities of oxidised film on the inside of the piping. This film adversely affects valves and compressors in the refrigerating system and prevents proper operation.
- Set the nitrogen pressure to 20 kPa (0.2 bar) (just enough so it can be felt on the skin) with a pressure-reducing valve.



- a Refrigerant piping
- b Part to be brazed
- c Taping
- d Manual valve
- e Pressure-reducing valve
- f Nitrogen

- Do NOT use anti-oxidants when brazing pipe joints. Residue can clog pipes and break equipment.
- Do NOT use flux when brazing copper-to-copper refrigerant piping. Use phosphor copper brazing filler alloy (BCuP), which does not require flux. Flux has an extremely harmful influence on refrigerant piping systems. For instance, if chlorine based flux is used, it will cause pipe corrosion or, in particular, if the flux contains fluorine, it will deteriorate the refrigerant oil.

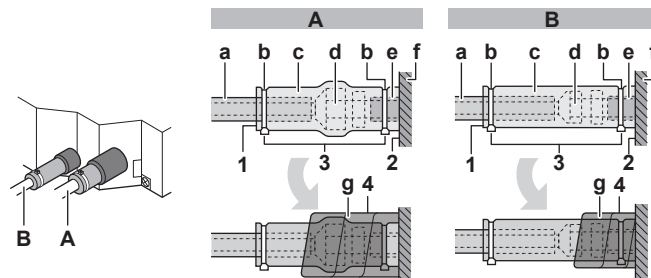
### 6.3.7 To connect the refrigerant piping to the indoor unit



#### WARNING: FLAMMABLE MATERIAL

The R32 refrigerant (if applicable) in this unit is mildly flammable.<sup>1</sup>

- 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 Cable tie (accessory)

<sup>(1)</sup> Only for units using R32 refrigerant. Refer to the outdoor unit specifications for the type of refrigerant to be used.

## 6 Installation

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

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



### NOTICE

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

## 6.4 Connecting the electrical wiring

### 6.4.1 About connecting the electrical wiring

#### Typical workflow

Connecting the electrical wiring typically consists of the following stages:

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

### 6.4.2 Precautions when connecting the electrical wiring



#### INFORMATION

Also read the precautions and requirements in the following chapters:

- General safety precautions
- Preparation



#### DANGER: RISK OF ELECTROCUTION



#### WARNING

ALWAYS use multicore cable for power supply cables.



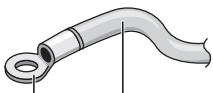
#### WARNING

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

### 6.4.3 Guidelines when connecting the electrical wiring

Keep the following in mind:

- If stranded conductor wires are used, install a round crimp-style terminal on the end of the wire. Place the round crimp-style terminal on the wire up to the covered part and fasten the terminal with the appropriate tool.



- a Stranded conductor wire
- b Round crimp-style terminal

- Use the following methods for installing wires:

Wire type	Installation method
Single-core wire	<p>a Curled single-core wire b Screw c Flat washer</p>
Stranded conductor wire with round crimp-style terminal	<p>a Terminal b Screw c Flat washer O Allowed X Not allowed</p>

#### Tightening torques

Wiring	Screw size	Tightening torque (N•m)
Interconnection cable (indoor↔outdoor)	M4	1.18~1.44
User interface cable	M3.5	0.79~0.97

- If single-core wires are used, be sure to curl the end of the lead. Improper work may cause heat or fire.
- The earth wire between the pull relief and the terminal must be longer than the other wires.

### 6.4.4 To connect the electrical wiring on the indoor unit

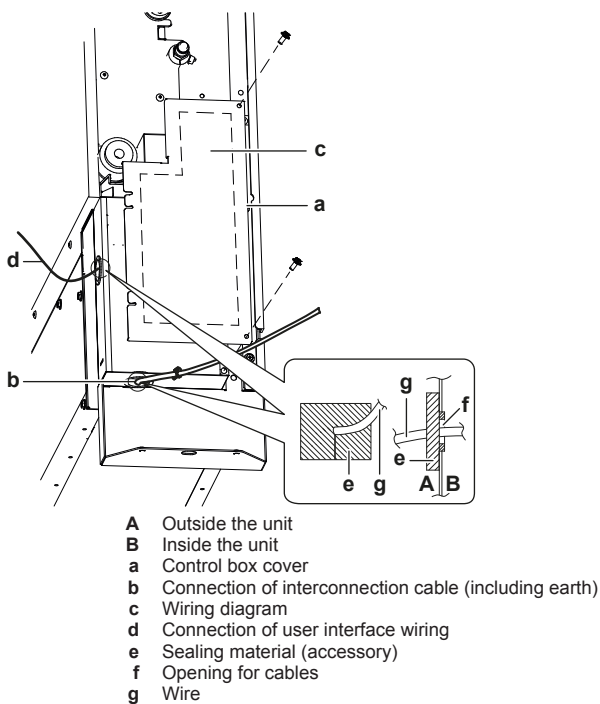
It is important to keep the power supply and the transmission wiring separated from each other. In order to avoid any electrical interference the distance between both wiring should always be at least 50 mm.



#### 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.

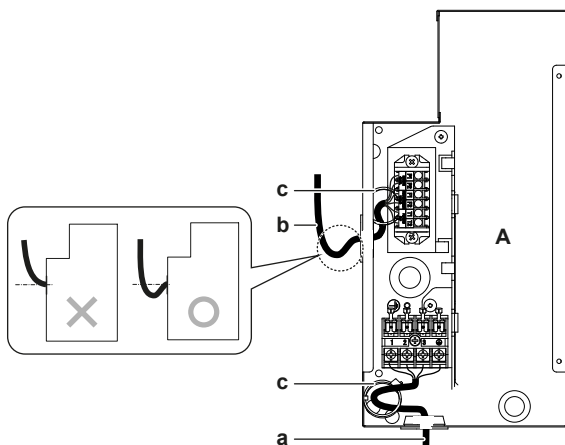
- 1 Remove the service cover.



- 2 **User interface cable:** Route the cable through the frame, connect the cable to the terminal block, and fix the cable with a cable tie.
- 3 **Interconnection cable (indoor↔outdoor):** Route the cable through the frame, connect the cable to the terminal block (make sure the numbers match with the numbers on the outdoor unit, and connect the earth wire), and fix the cable with a cable tie.
- 4 Wrap the cables with the sealing material (accessory) to prevent water from entering the unit. Seal all gaps to prevent small animals from entering the system.

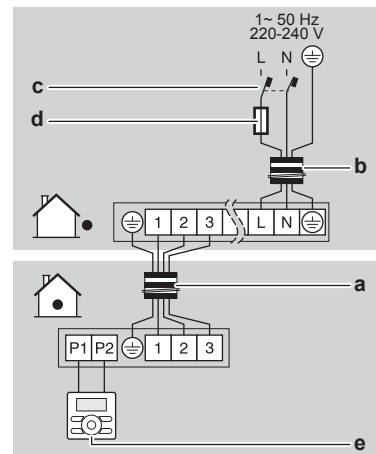
**WARNING**

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



- A** Indoor PC board (ASSY)  
**a** Power supply and earth wiring  
**b** Transmission and user interface wiring  
**c** Clamps  
**X** Not allowed  
**O** Allowed

- 5 Reattach the service cover.



- a** Interconnection cable  
**b** Power supply cable  
**c** Earth leakage circuit breaker  
**d** Fuse  
**e** User interface

## 6.4.5 Specifications of standard wiring components

Component	Specification
Interconnection cable (indoor↔outdoor)	Minimum cable section of 2.5 mm <sup>2</sup> and applicable for 230 V
User interface cable	Vinyl cords with 0.75 to 1.25 mm <sup>2</sup> sheath or cables (2-core wires) Maximum 500 m

# 7 Commissioning

## 7.1 Overview: Commissioning

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

### Typical workflow

Commissioning typically consists of the following stages:

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

## 7.2 Checklist before commissioning

Do NOT operate the system before the following checks are OK:

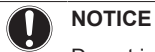
<input type="checkbox"/>	You read the complete installation instructions, as described in the <b>installer reference guide</b> .
<input type="checkbox"/>	The <b>indoor units</b> are properly mounted.
<input type="checkbox"/>	In case a wireless user interface is used: The <b>indoor unit decoration panel</b> with infrared receiver is installed.
<input type="checkbox"/>	The <b>outdoor unit</b> is properly mounted.
<input type="checkbox"/>	There are <b>NO missing phases or reversed phases</b> .
<input type="checkbox"/>	The system is properly <b>earthed</b> and the earth terminals are tightened.
<input type="checkbox"/>	The <b>fuses</b> or locally installed protection devices are installed according to this document, and have not been bypassed.

## 7 Commissioning

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

### 7.3 To perform a test run

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



#### NOTICE

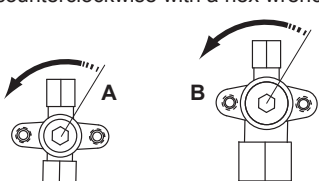
Do not interrupt the test run.



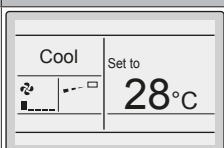
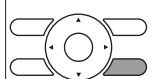
#### INFORMATION

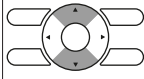
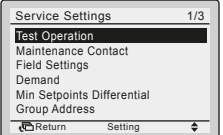
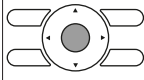
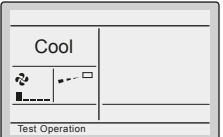
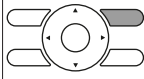
**Backlight.** To perform an ON/OFF action on the user interface, the backlight does not need to be lit. For any other action, it needs to be lit first. The backlight is lit for  $\pm 30$  seconds when you press a button.

#### 1 Perform introductory steps.

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

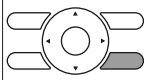
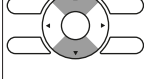
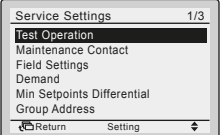
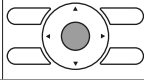
#### 2 Start the test run

#	Action	Result
1	Go to the home menu. 	
2	Press at least 4 seconds. 	The Service Settings menu is displayed.

#	Action	Result
3	Select Test Operation. 	
4	Press. 	Test Operation is displayed on the home menu. 
5	Press within 10 seconds. 	Test run starts.

3 Check operation for 3 minutes.

4 Stop the test run.

#	Action	Result
1	Press at least 4 seconds. 	The Service Settings menu is displayed.
2	Select Test Operation. 	
3	Press. 	The unit returns to normal operation, and the home menu is displayed.



#### NOTICE

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

### 7.4 Error codes when performing a test run

If the installation of the outdoor unit has NOT been done correctly, the following error codes may be displayed on the user interface:

Error code	Possible cause
Nothing displayed (the currently set temperature is not displayed)	<ul style="list-style-type: none"> <li>The wiring is disconnected or there is a wiring error (between power supply and outdoor unit, between outdoor unit and indoor units, between indoor unit and user interface).</li> <li>The fuse on the outdoor or indoor unit PCB has blown.</li> </ul>
A0	<ul style="list-style-type: none"> <li>Refrigerant leak detected.<sup>1</sup></li> </ul>
CH	<ul style="list-style-type: none"> <li>Abnormality of refrigerant leakage sensor.<sup>1</sup></li> </ul>
E3, E4 or L8	<ul style="list-style-type: none"> <li>The stop valves are closed.</li> <li>The air inlet or air outlet is blocked.</li> </ul>

<sup>(1)</sup> Only for units using R32 refrigerant. Refer to the outdoor unit specifications for the type of refrigerant to be used.



Error code	Possible cause
E7	There is a missing phase in case of three-phase power supply units. <b>Note:</b> Operation will be impossible. Turn OFF the power, recheck the wiring, and switch two of the three electrical wires.
L4	The air inlet or air outlet is blocked.
U0	The stop valves are closed.
U2	<ul style="list-style-type: none"> <li>▪ There is a voltage imbalance.</li> <li>▪ There is a missing phase in case of three-phase power supply units. <b>Note:</b> Operation will be impossible. Turn OFF the power, recheck the wiring, and switch two of the three electrical wires.</li> </ul>
U4 or UF	The inter-unit branch wiring is not correct.
UA	The outdoor and indoor unit are incompatible.

## 8 Hand-over to the user

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

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

## 9 Disposal



### NOTICE





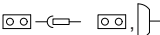











Do not try to dismantle the system yourself: the dismantling of the system, treatment of the refrigerant, oil and other parts must comply with applicable legislation. Units must be treated at a specialised treatment facility for reuse, recycling and recovery.

## 10 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 extranet (authentication required).

# 11 Glossary

## 10.1 Wiring diagram

Unified Wiring Diagram Legend			
For applied parts and numbering refer to the wiring diagram sticker supplied on the unit. Part numbering is realized by Arabic numbers in ascending order for each part and is represented in the overview below by symbol **a** in the part code.			
	: CIRCUIT BREAKER		: PROTECTIVE EARTH
	: CONNECTION		: PROTECTIVE EARTH (SCREW)
	: CONNECTOR		: RECTIFIER
	: EARTH		: RELAY CONNECTOR
	: FIELD WIRING		: SHORT CIRCUIT CONNECTOR
	: FUSE		: TERMINAL
	: INDOOR UNIT		: TERMINAL STRIP
	: OUTDOOR UNIT		: WIRE CLAMP
BLK : BLACK	GRN : GREEN	PNK : PINK	WHT : WHITE
BLU : BLUE	GRY : GREY	PRP,PPL : PURPLE	YLW : YELLOW
BRN : BROWN	ORG : ORANGE	RED : RED	
A*P : PRINTED CIRCUIT BOARD	PS : SWITCHING POWER SUPPLY	BS* : PUSH BUTTON ON / OFF, OPERATION SWITCH	PTC* : THERMISTOR PTC
BZ, H*O : BUZZER	Q* : INSULATED GATE BIPOLAR TRANSISTOR (IGBT)	C* : CAPACITOR	Q*DI : EARTH LEAK CIRCUIT BREAKER
AC*, CN*, E*, HA*, HE, HL*, HN*, HR*, MR*_A, MR*_B, S*, U, V, W, X*A : CONNECTION, CONNECTOR	Q*L : OVERLOAD PROTECTOR	D*, V*D : DIODE	Q*M : THERMO SWITCH
DB* : DIODE BRIDGE	R* : RESISTOR	DS* : DIP SWITCH	R*T : THERMISTOR
E*H : HEATER	RC : RECEIVER	F*U, FL* (FOR CHARACTERISTICS REFER TO PCB INSIDE YOUR UNIT) : FUSE	S*C : LIMIT SWITCH
FG* : CONNECTOR (FRAME GROUND)	S*L : FLOAT SWITCH	H* : HARNESS	S*NPH : PRESSURE SENSOR (HIGH)
H*P, LED*, V*L : PILOT LAMP, LIGHT EMITTING DIODE	S*NPL : PRESSURE SENSOR (LOW)	HAP : LIGHT EMITTING DIODE (SERVICE MONITOR GREEN)	S*PH, HPS* : PRESSURE SWITCH (HIGH)
HIGH VOLTAGE : HIGH VOLTAGE	S*PL : PRESSURE SWITCH (LOW)	IES : INTELLIGENT EYE SENSOR	S*T : THERMOSTAT
IPM* : INTELLIGENT POWER MODULE	S*W, SW* : OPERATION SWITCH	K*R, KCR, KFR, KHuR : MAGNETIC RELAY	SA* : SURGE ARRESTOR
L : LIVE	SR*, WLU : SIGNAL RECEIVER	L* : COIL	SS* : SELECTOR SWITCH
L*R : REACTOR	SHEET METAL : TERMINAL STRIP FIXED PLATE	L*R : REACTOR	T*R : TRANSFORMER
M* : STEPPER MOTOR	TC, TRC : TRANSMITTER	M*C : COMPRESSOR MOTOR	V*, R*V : VARISTOR
M*F : FAN MOTOR	V*R : DIODE BRIDGE	M*P : DRAIN PUMP MOTOR	WRC : WIRELESS REMOTE CONTROLLER
M*S : SWING MOTOR	X* : TERMINAL	MR*, MRCW*, MRM*, MRN* : MAGNETIC RELAY	X*M : TERMINAL STRIP (BLOCK)
N : NEUTRAL	Y*E : ELECTRONIC EXPANSION VALVE COIL	n=* : NUMBER OF PASSES THROUGH FERRITE CORE	Y*R, Y*S : REVERSING SOLENOID VALVE COIL
PAM : PULSE-AMPLITUDE MODULATION	Z*C : FERRITE CORE	PCB* : PRINTED CIRCUIT BOARD	ZF, Z*F : NOISE FILTER
PM* : POWER MODULE			

# 11 Glossary

## Dealer

Sales distributor for the product.

## Authorized installer

Technical skilled person who is qualified to install the product.

## User

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

## Applicable legislation

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

**Service company**

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

**Installation manual**

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

**Operation manual**

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

**Maintenance instructions**

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

**Accessories**

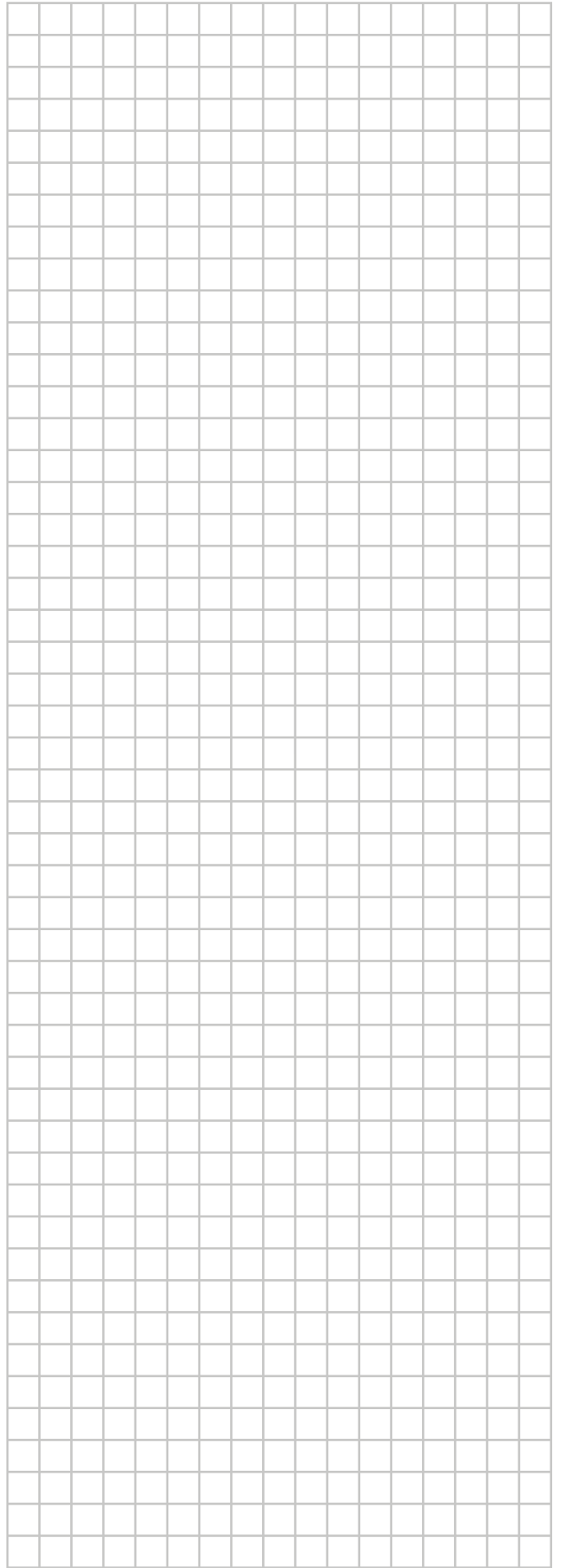
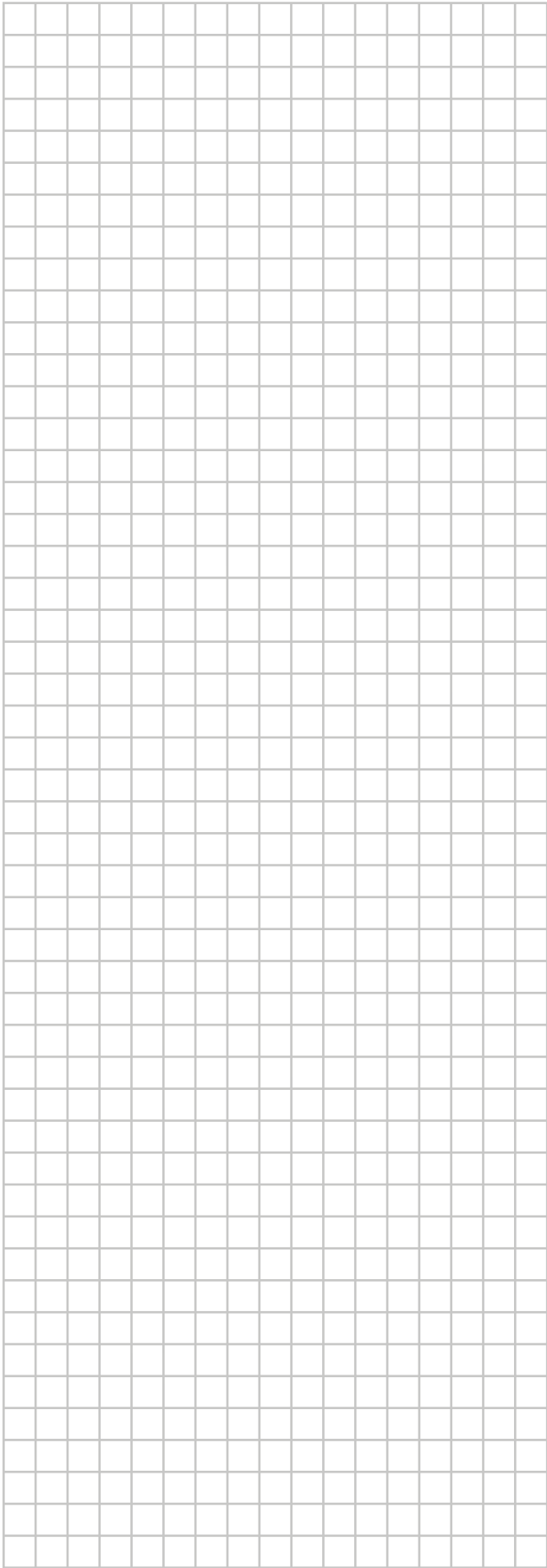
Labels, manuals, information sheets and equipment that are delivered with the product and that need to be installed according to the instructions in the accompanying documentation.

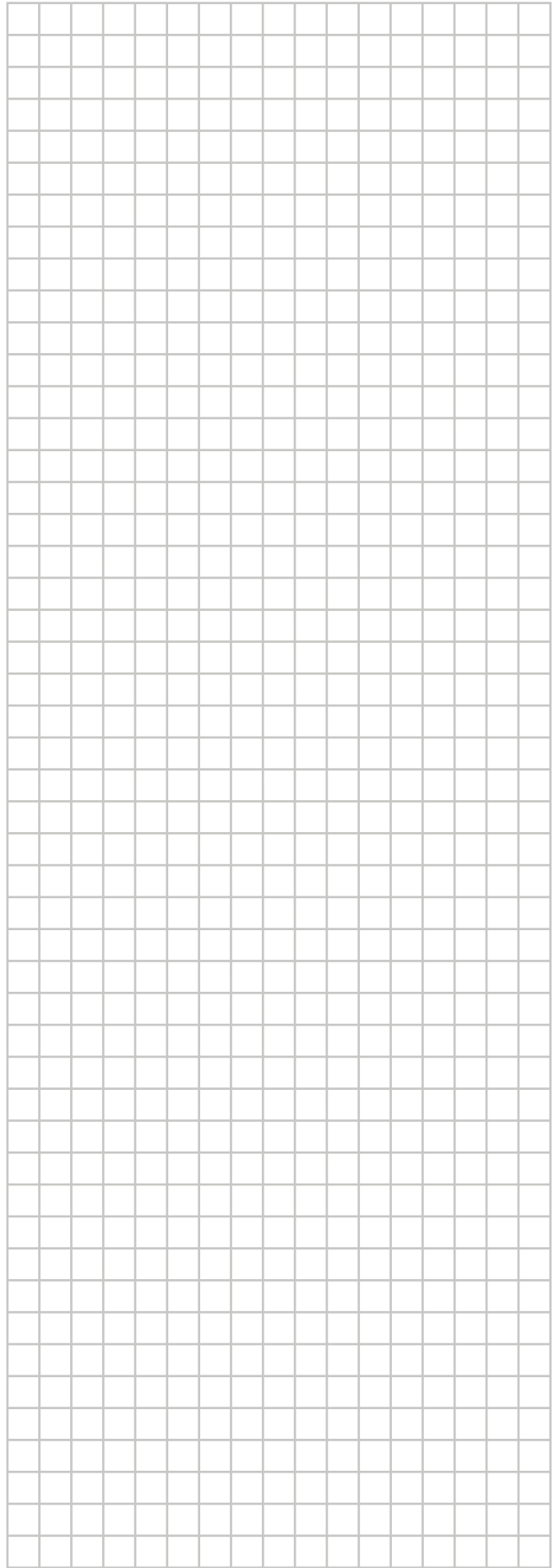
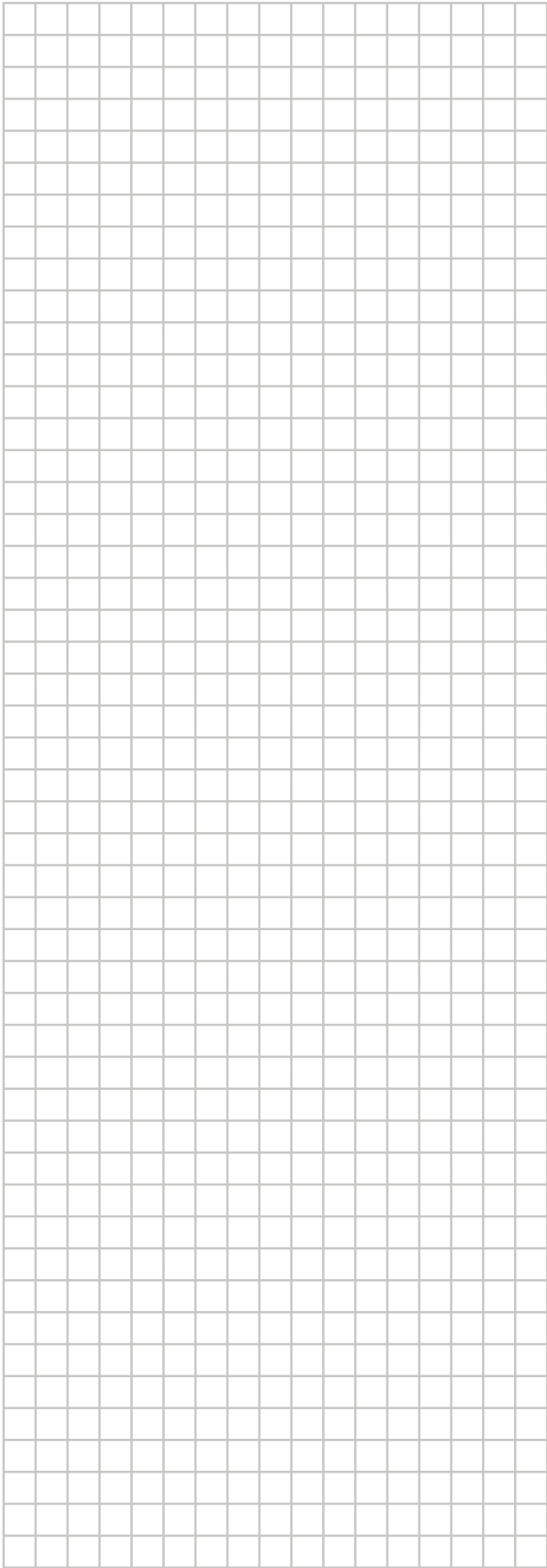
**Optional equipment**

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

**Field supply**

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







ERC

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