



General safety precautions










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1.1 About the documentation

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



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/SCALDING Indicates a situation that could result in burning/scalding because of extreme hot or cold temperatures. |
|  | DANGER: RISK OF EXPLOSION Indicates a situation that could result in explosion. |
|  | WARNING Indicates a situation that could result in death or serious injury. |
|  | WARNING: FLAMMABLE MATERIAL |
|  | CAUTION Indicates a situation that could result in minor or moderate injury. |
|  | NOTICE Indicates a situation that could result in equipment or property damage. |
|  | INFORMATION Indicates useful tips or additional information. |


Symbols used on the unit:


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


Symbols used in the documentation:

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


1.2 For the user

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



**WARNING**
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.

1.3 For the installer

1.3.1 General

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



DANGER: RISK OF BURNING/SCALDING

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



WARNING

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



WARNING

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



WARNING

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



WARNING

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



CAUTION

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



CAUTION

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



CAUTION

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



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.

1.3.2 Installation site

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

Do NOT install the unit in the following places:

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

1.3.3 Refrigerant — in case of R290



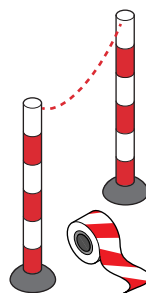
INFORMATION

For more information about "Systems using R290 refrigerant", see the dedicated Service Manual ESIE22-02 (available on <https://my.daikin.eu>).

R290 (propane C3H8) is a refrigerant that displaces air, is a colourless and odourless gas, and forms flammable/explosive mixtures with air.

Before starting work on units charged with R290, the following specific safety measures MUST be applied to avoid creating an explosive atmosphere in case of a refrigerant leak:

- Check if a work permit is required.
- Check that all persons involved have been trained and are wearing/carrying the required personal protective equipment. Installers are required to wear anti-static clothing: trousers, jacket, sweater, T-shirt, shoes.
- Secure the work area by ensuring that no one within a radius of 2 meters can access (e.g. barrier chain). Install CAUTION signalisation (e.g. no smoking allowed).



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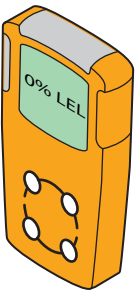
- 4 Check that no flammable materials are stored in the work area and that there are no ignition sources (e.g. power tools, computers, cell phones) within the work area.



- 5 Check if suitable tooling and equipment are available. It is necessary to ensure that common hand tools (screwdriver, fork wrench, pipe cutters, etc.) do NOT constitute a source of ignition. Some specific tools are required to be ATEX certified. ATEX is the European directive of explosion safety. The abbreviation comes from the French words ATmosphere EXplosible. Tools and equipment that are explosion proof contain a symbol and marking indicating the protection level.

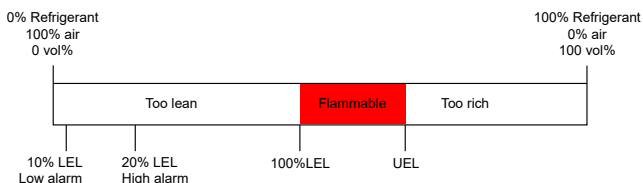


- 6 Always carry a personal gas monitoring system suitable for R290 and make sure it is activated. Place it on the floor near the unit. To be able to detect an explosion hazard, an LEL-detector (lower explosion level) is required.



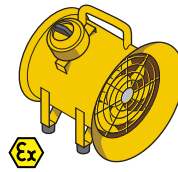
An LEL-detector measures whether a fuel (e.g. R290) is present and which amount is present in the air (vol%). If the mixture is between LEL & UEL and a spark is generated, an explosion can occur.

- A first alarm will be given at 10% of the LEL-value. This is an indication for installers that there is refrigerant present and that there may be a risk of explosion. Immediate action is required: locate and solve leak.
- A second alarm will be given at 20% of the LEL-value. This is an indication for installers that the presence of refrigerant is increasing. From this point onwards it is very dangerous to work on the system.



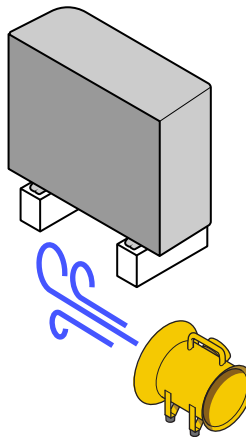
Some gas monitoring systems offer adjustable alarm limits, e.g. 10% and 20% or 15% and 40% of the lower explosion limit (LEL).

- 7 Bring a portable ventilation unit with you and make sure it is activated (except when using an electronic gas leak detector).

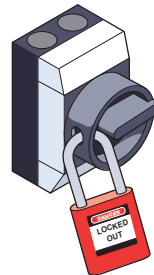


The ventilation unit should be placed near the work area and pointed in a direction that forces any leaked refrigerant away from the work area and installer.

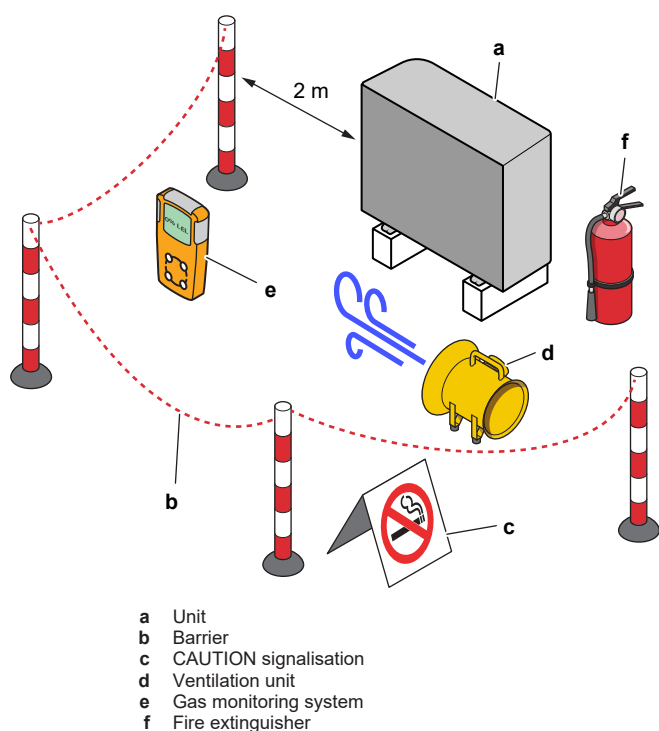
Standard ventilation units cannot be used as the ON/OFF button and fan motor forms a potential ignition source. Therefore, an explosion proof (ATEX) ventilation unit should be used. Additionally, the ventilation unit should be equipped with a power supply cable of at least 3 meter. In this way the unit can be plugged in from outside the work area. Make sure no refrigerant leaks before plugging in or unplugging.



- 8 Have a fire extinguisher at hand (ABC dry powder or CO₂ extinguisher, minimal 2 kg).
- 9 Disconnect the unit from the power supply. Place lockout-tagout (LOTO) equipment on the main switch or fuse to prevent that the unit is accidentally powered on during service activities.



- 10 Perform a Last Minute Risk Assessment on-site.



1.3.4 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 2020/2184.

1.3.5 Electrical



DANGER: RISK OF ELECTROCUTION

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



WARNING

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



WARNING

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



WARNING

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



CAUTION

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



NOTICE

Precautions when laying power wiring:



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

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

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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.

1.4 Glossary

Dealer

Sales distributor for the product.

Authorised installer

Technical skilled person who is qualified to install the product.

User

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

Applicable legislation

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

Service company

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

Installation manual

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

Operation manual

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

Maintenance instructions

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

Accessories

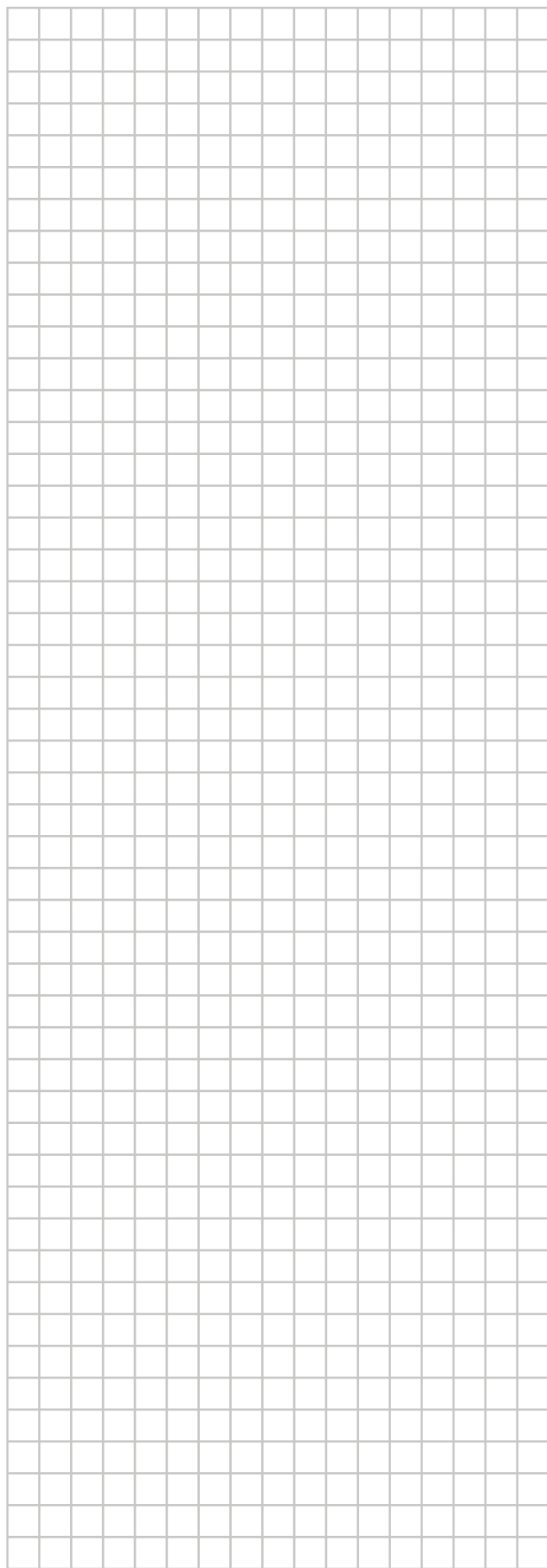
Labels, manuals, information sheets and equipment that are delivered with the product and that need to be installed according to the instructions in the accompanying documentation.

Optional equipment

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

Field supply

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





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DAIKIN INDUSTRIES CZECH REPUBLIC s.r.o.

U Nové Hospody 1155/1, 301 00 Plzeň Skvrňany, Czech Republic

DAIKIN EUROPE N.V.

Zandvoordestraat 300, B-8400 Oostende, Belgium

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