IMMERGAS

USER'S MANUAL

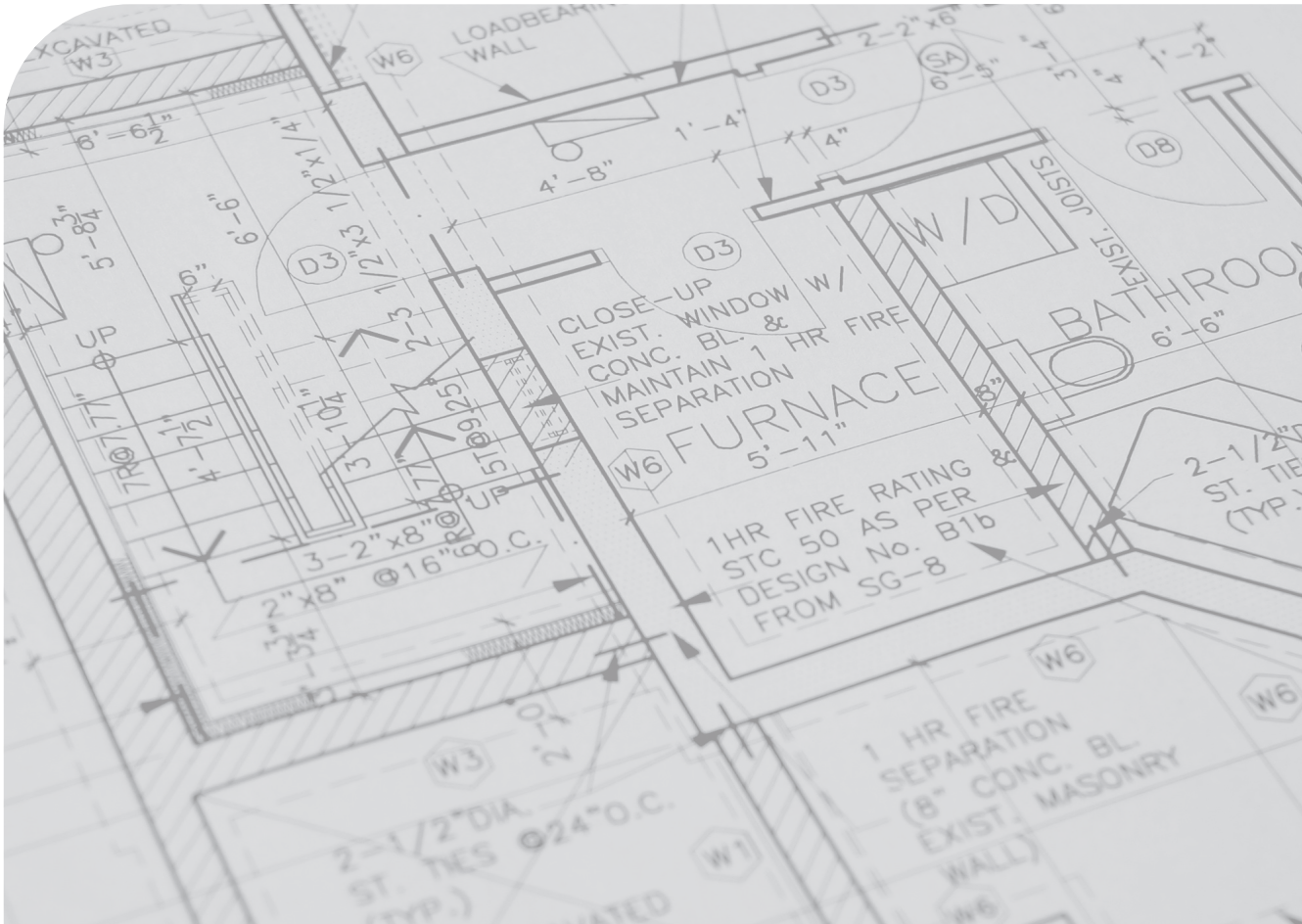
# UI DUCT 9-12-18

Indoor unit for recessed or false ceiling installation

IE

**Instructions and recommendations**
Installer
Maintenance technician
Technical data

*1.049323ENG*



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**DEAR CUSTOMER**

*Congratulations for having chosen a top-quality Immergas product, able to assure well-being and safety for a long period of time. As an Immergas Customer, you can also count on a qualified Authorised Technical After-Sales Centre, prepared and updated to guarantee constant efficiency of your product. Read the following pages carefully: you will be able to draw useful tips on the proper use of the device, compliance with which will confirm your satisfaction with the Immergas product.*
*For assistance and routine maintenance, contact Authorised Technical Service Centres: they have original spare parts and are specifically trained directly by the manufacturer.*

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The company **IMMERGAS S.p.A.**, with registered office in via Cisa Ligure 95 42041 Brescello (RE), declares that the design, manufacturing and after-sales assistance processes comply with the requirements of standard **UNI EN ISO 9001:2015**.

For further details on the product CE marking, request a copy of the Declaration of Conformity from the manufacturer, specifying the appliance model and the language of the country.

The manufacturer disclaims all liability due to printing or transcription errors, reserving the right to make any modifications to its technical and commercial documents without forewarning.

## GENERAL WARNINGS

This booklet contains important information for the:
**Installer**;
**Maintenance technician**.

- The appliance must be installed by qualified and certified personnel.
- The instruction booklet is an integral and essential part of the product and must be given to the new user in the case of transfer or succession of ownership.
- It must be stored with care and consulted carefully, as all of the warnings provide important safety indications for installation, use and maintenance stages.
- In compliance with legislation in force, the systems must be designed by qualified professionals, within the dimensional limits established by the Law. Installation and maintenance must be performed in compliance with the regulations in force, according to the manufacturer's instructions and by professionally qualified staff, intended as staff with specific technical skills in the system sector, as envisioned by the Law.
- Improper installation or assembly of the Immergas appliance and/or components, accessories, kits and devices can cause unexpected problems for people, animals and objects. Read the instructions provided with the product carefully to ensure proper installation.
- This instruction manual provides technical information for installing Immergas products. As for the other issues related to the installation of products (e.g. safety at the workplace, environmental protection, accident prevention), it is necessary to comply with the provisions of the standards in force and the principles of good practice.
- All Immergas products are protected with suitable transport packaging.
- The material must be stored in a dry place protected from the weather.
- Damaged products must not be installed.
- Maintenance must be carried out by skilled technical staff. For example, the Authorised Service Centre that represents a guarantee of qualifications and professionalism.
- The appliance must only be destined for the use for which it has been expressly intended. Any other use will be considered improper and therefore potentially dangerous.
- If errors occur during installation, operation and maintenance, due to non-compliance with technical laws in force, standards or instructions contained in this booklet (or however supplied by the manufacturer), the manufacturer is excluded from any contractual and extra-contractual liability for any damage and the device warranty is invalidated.
- In the event of malfunctions, faults or incorrect operation, turn the appliance off and contact an authorised company (e.g. the Authorised Technical Assistance Centre, which has specifically trained staff and original spare parts). Do not attempt to modify or repair the appliance alone.

## SAFETY SYMBOLS USED

**GENERIC HAZARD**
Strictly follow all of the indications next to the pictogram. Failure to follow the indications can generate hazard situations resulting in possible serious harm to the health of the operator and user in general, and/or serious material damage.

**ELECTRICAL HAZARD**
Strictly follow all of the indications next to the pictogram. The symbol indicates the appliance's electrical components or, in this manual, identifies actions that can cause an electrical hazard.

**MOVING PARTS HAZARD**
The symbol indicates the appliance's moving components that can cause hazards.

**LOW FLAMMABILITY MATERIAL**
The symbol indicates that the appliance contains low flammability material.

**INSTALLER RECOMMENDATIONS**
Read the instruction booklet carefully before installing the product.

**WARNINGS**
Strictly follow all of the indications next to the pictogram. Failure to follow the indications can generate hazard situations resulting in possible minor injuries to the health of the operator and user in general, and/or minor material damage.

**ATTENTION**
Read and understand the appliance's instructions before performing any operation, carefully following the indications provided. Failure to follow the indications can generate appliance malfunctions.

**INFORMATION**
Indicates useful tips or additional information.

**EARTH TERMINAL CONNECTION**
The symbol identifies the appliance's earth terminal connection point.

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## PERSONAL PROTECTIVE EQUIPMENT

**SAFETY GLOVES**

**SAFETY GOGGLES**

**SAFETY FOOTWEAR**

**DISPOSAL METHOD**

**DISPOSAL WARNING**
**The user must not dispose of the appliance at the end of its service life as municipal waste, but send it to appropriate collection centres.**

*This marking on the product means that waste electrical and electronic equipment must not be mixed with generic household waste.*

Do not dispose of this product as unsorted city waste. Incorrect management of waste has potential negative effects on the environment and on human health.
To dispose of the device, refer to waste electrical and electronic equipment collection centres or contact the dealer that you purchased it from.
Discharged batteries must be taken out of the remote controls and disposed of separately in compliance with local regulations.

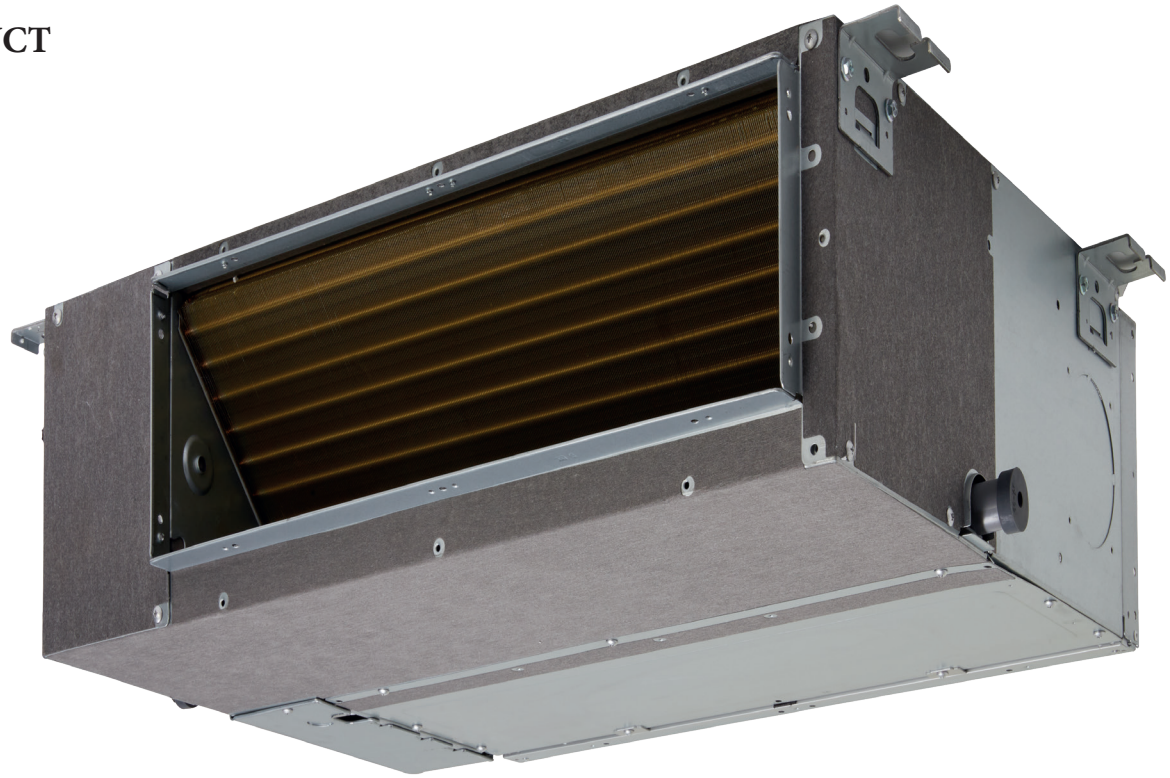
**INDOOR UNIT FEATURES: DUCT**

Direct expansion "split" inverter reversible single phase air to air heat pumps, consisting of an outdoor unit and an indoor unit. There is a separate code for the outdoor and indoor unit.

Main components:
- **Duct Indoor Unit**, consisting of a main structure containing: housing for the electrical box, finned pack heat exchanger, ventilating unit with inverter motor and centrifugal axial fan, a tank for condensate collection fitted with an evacuation pump of the same.

Main specifications:
- Standard wired remote control to control the system;
- Wi-Fi module for remote control via CLIMAsmart app (optional);
- Wide operating range in cooling and central heating mode;
- Possibility of setting a time range, so that air-conditioning automatically switches on and off;
- Dual level energy-saving mode: ECO and GEAR;
- To quickly reach the room setpoint, Turbo mode can be activated to reach the maximum air flow rate;
- Very quiet operation thanks to the Silence function that reduces noise to a minimum;
- Maximum comfort by means of the "Follow Me" function to be able to read the room temperature near the remote control.

**UI DUCT**



*0-01*

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<tr><td>3/8” (9,52 mm)</td><td>• UI DUCT 9<br>• UI DUCT 12</td></tr>
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# 1 INSTALLATION

## 1.1 GENERAL WARNINGS

**This air conditioning unit contains fluorinated greenhouse gases.**
**The appliance operates with R32 refrigerant gas. Do not release R32 into the atmosphere.**
**Note that the gas is odourless.**
**R32 refrigerant gas belongs to the low flammability refrigerant category: class A2L according to standard ISO 817.**
**Strictly follow the instruction handbook before installation and any type of operation on the cooling line.**

**Operators who install and service the appliance must wear the personal protective equipment required by applicable law.**

**In case of anomaly, fault, imperfect functioning of the device (e.g. burning smell, release of smoke or excessive noise), immediately switch off unit and disconnect the electrical power supply. Contact the Authorised Technical Service Centre.**

**Failure to comply with the above implies personal responsibility and invalidates the warranty.**

**WARNINGS** for product use:

- Do not insert fingers or other objects into the air inlet or outlet. This could cause injury.
- Do not run the air conditioner in the vicinity of flammable gases. The emitted gas could collect around the unit and cause a fire. Do not use flammable sprays such as hair spray, spray varnish or paint near the unit.
- Do not run the air conditioner in a humid room, such as a bathroom or laundry room. Excessive exposure to water could cause the electrical components to short circuit.
- Do not expose oneself directly to the air flow for extended periods of time.
- If the air conditioner is installed in a room with burners or other C.H. devices, thoroughly ventilate the room to avoid any lack of oxygen.

The place of installation of the device and relative Immergas accessories must have suitable features (technical and structural), such as to allow for (always in safe, efficient and comfortable conditions):

- installation (according to the provisions of technical legislation and technical regulations);
- maintenance operations (including scheduled, periodic, routine and special maintenance);
- the removal (to the outside of the designated place for loading and transporting the devices and components) as well as the replacement of them with equivalent devices and/or components.

The unit must be installed according to the spaces described in this manual so as to guarantee that both sides are accessible and to allow for repairs and maintenance to be performed.

The manufacturer cannot be held liable for damage resulting from unauthorised changes or improper connection of the electric and cooling lines.

Installation must be carried out according to UNI and IEC regulation standards, current legislation and in compliance with local technical regulations and the required technical procedures.
In particular, standards UNI EN378 and CEI 64-8 need to be complied with.

Before installing the appliance, ensure it has been delivered in perfect condition; if in doubt, contact the supplier immediately.
Packing materials (staples, nails, plastic bags, polystyrene foam, etc.) constitute a hazard and must be kept out of the reach of children.

Check the environmental operating conditions of all parts relevant to installation, referring to the values shown in the technical data table in this booklet.

Make sure to take adequate measures so that the unit is not used to house small animals. Animals that come into contact with electric components could cause operating failures, smoke or fire.
Inform the customer to keep the area around the unit clean.

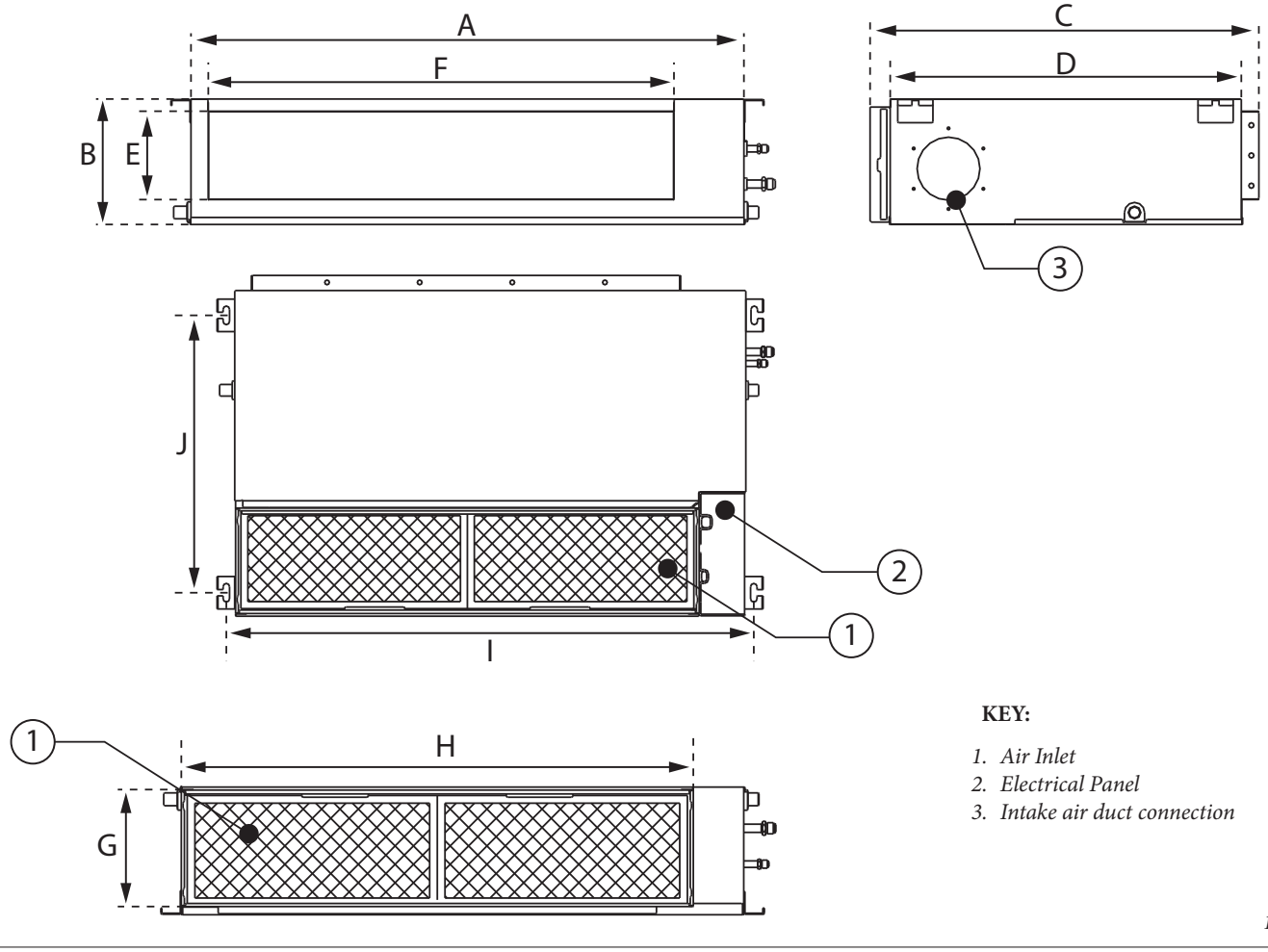
Children of 8 years or older and people with reduced physical, sensorial or mental capacities can use this device as long as they are under supervision or have been instructed and informed regarding the safe use of this device and the possible risks connected to it.
Children must not play with the appliance.
The appliance must not be cleaned and serviced by children without the supervision of an adult.

- Turn the air conditioner off and cut off power if it is not used for a long period of time.
- Switch off the device during storms.
- Make sure that the water condensate drain can flow out without obstruction from the unit to places where it will not bother or damage people, property or animals.
- Do not start the air conditioner with wet hands. This could cause electric shocks.
- Do not use the device for any other purpose than intended.
- Do not climb onto or place objects on the outdoor unit.
- Do not leave the air conditioner for long periods of time with doors or windows open, or if the humidity is very high.

- This device contains refrigerant gas that must be disposed of as special waste.
- The packaging material must be disposed of in compliance with local regulations.

**WARNINGS** for cleaning and maintenance:
- Switch off the device and disconnect the power supply before cleaning or before performing maintenance on it. Failure to observe this rule can cause electric shocks.
- Do not clean the air conditioner with excessive amounts of water.
- Do not clean the air conditioner with flammable detergents.

## 1.2 MAIN DIMENSIONS




**KEY:**

1. *Air Inlet*
2. *Electrical Panel*
3. *Intake air duct connection*

*1-01*

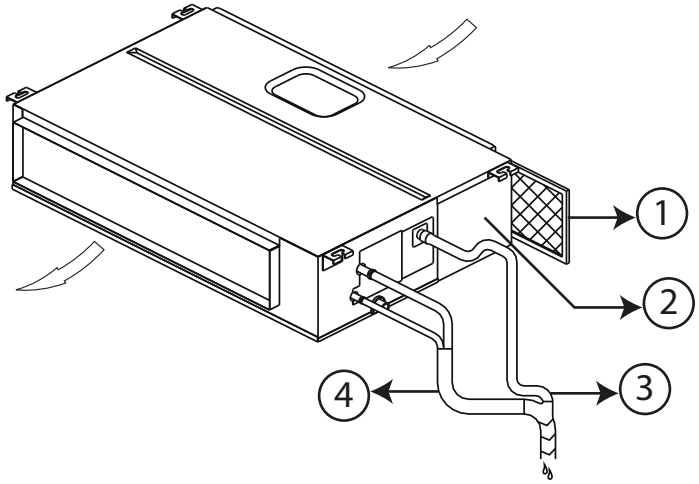
***Dimensions***

| Model | Dimensions (mm) | | | | Air outlet opening (mm) | | Air inlet opening (mm) | | Fixing hooks centre distance (mm) | |
|---|---|---|---|---|---|---|---|---|---|---|
| | A | B | C | D | E | F | G | H | I | J |
| UI DUCT 9 | 700 | 200 | 506 | 450 | 152 | 537 | 186 | 599 | 741 | 360 |
| UI DUCT 12 | | | | | | | | | | |
| UI DUCT 18 | 700 | 245 | 795 | 750 | 178 | 527 | 212 | 592 | 740 | 640 |

***Connections***

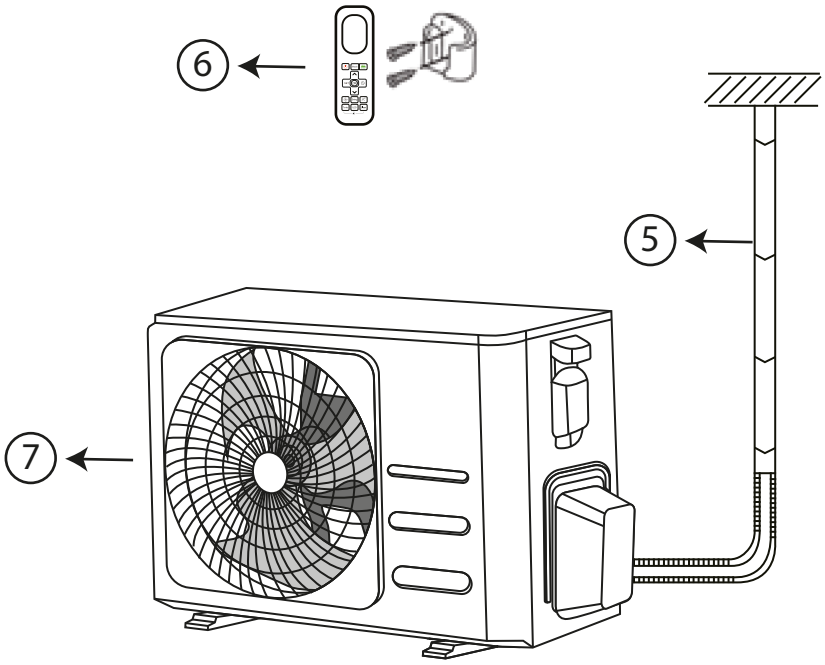
| Model | Net weight (kg) | Condensate drain Ø (mm) | Flow pipe internal Ø (liquid) | Return pipe internal Ø (gas) |
|---|---|---|---|---|
| UI DUCT 9 | 16.6 | 25 | 1/4" (6.35mm) | 3/8" (9.52mm) |
| UI DUCT 12 | | | | |
| UI DUCT 18 | 24.4 | | | 1/2" (12.7mm) |

## 1.3 MAIN COMPONENTS




**KEY:**

1. *Air Filter*
2. *Electrical Panel*
3. *Drain pipe*
4. *Refrigerant pipe*
5. *Wrapping containing connection cable and drain pipes.*
6. *Remote control*
7. *Outdoor Unit (**see the reference manual**)*




*1-02*

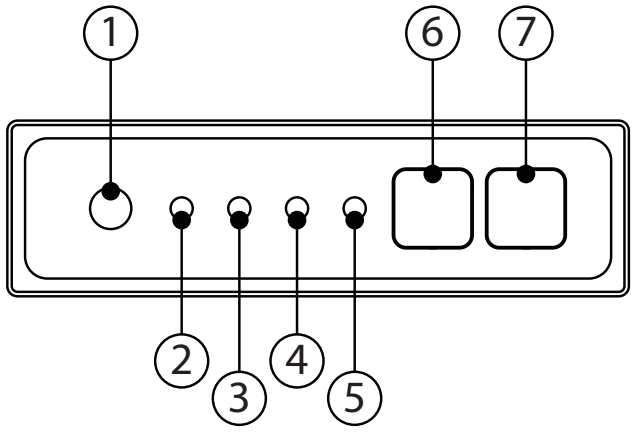
**ATTENTION**
See the reference manual for the specifications and installation of the outdoor unit.

**NOTE:**

- The illustrations are provided by way of example, the actual products could be slightly different
- Installation must be carried out in compliance with local and national standards.
- The air inlet with relative filter can be installed both on the vertical and horizontal side

The air conditioner is made of two (or more) units connected together by pipes (duly insulated) and by a power supply cable. The Indoor Unit needs to be installed on the ceiling in the room being air conditioned. The Outdoor Unit must be installed on the floor or wall, on specific brackets or supports (sold separately).
With monosplit installation, the outdoor unit is only connected to the indoor unit, whereas with multisplit installation to a single outdoor unit, multiple indoor units are connected.

## 1.4 MAIN FEATURES




**KEY:**

1. *Manual Button*
2. *Operation Indicator*
3. *Timer Indicator*
4. *Pre-Def Indicator (Pre-heating or Defrosting)*
5. *Alarm Indicator*
6. *Infrared Receiver*
7. *LED Display*

*1-03*

The illustrations are provided by way of example, the actual products could be slightly different.

- MANUAL Button: This button allows you to select the operating mode in the following order: AUTO, FORCED COOL, OFF.
  - FORCED COOL mode: the operation indicator light flashes. The system works with the fan at high speed for 30 minutes, then switches to AUTO mode. The remote control is disabled during this operating cycle.
  - OFF mode: When the panel is off (OFF mode), the unit switches off and the remote control goes back to being operational.

### 1.4.1 OPERATING TEMPERATURE

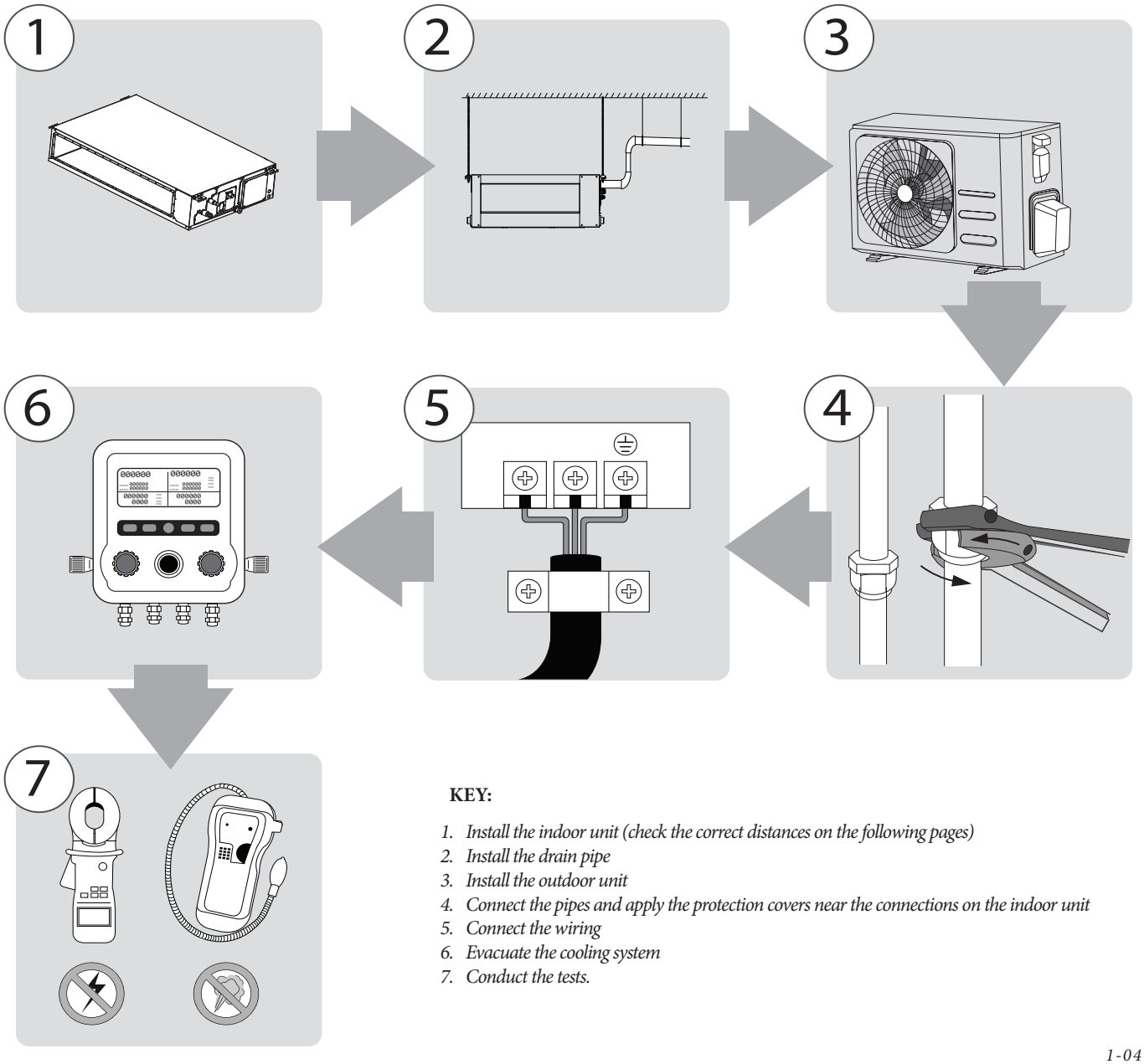
When your air conditioner is used outside of the temperature ranges indicated below, some protection and safety functions could be activated and cause non-optimal performance of the unit.

| | Cooling | Central heating | Dehumidification |
|---|---|---|---|
| Room Temperature | 16°C ÷ 32°C | 0°C ÷ 30°C | 10°C ÷ 32°C |
| External Temperature | -15°C ÷ +50°C | -15°C ÷ +24°C | 0°C ÷ 50°C |

**To further optimise the performance of your unit, do the following:**

- Keep doors and windows closed.
- Limit energy consumption with TIMER ON and TIMER OFF functions.
- Do not block the air intakes and outlets.
- Check and clean the air filters on a regular basis.

## 1.5 OVERVIEW OF INSTALLATION




**KEY:**

1. *Install the indoor unit (check the correct distances on the following pages)*
2. *Install the drain pipe*
3. *Install the outdoor unit*
4. *Connect the pipes and apply the protection covers near the connections on the indoor unit*
5. *Connect the wiring*
6. *Evacuate the cooling system*
7. *Conduct the tests.*

*1-04*

**ATTENTION**
See the reference manual for the specifications of the outdoor unit.

## 1.6 INSTALLATION

**STEP 1:** Choosing the place of installation.

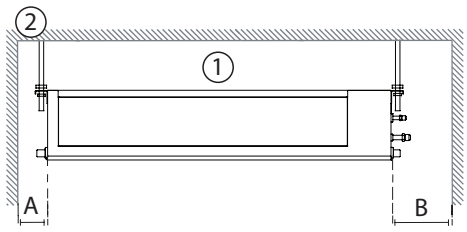
Before installing the indoor unit, choose a place for correct installation. The following guidelines will help you to choose the most appropriate place to install the unit:

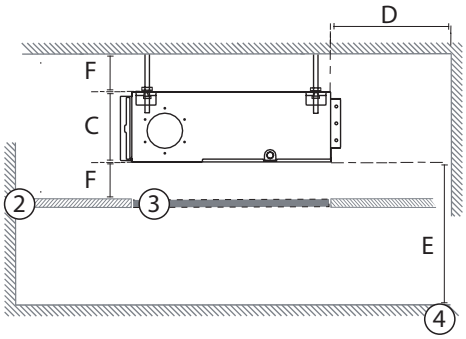
- Make sure that the size of the hooks is adequate for the weight of the Unit.
- There is sufficient clearance space for installation and maintenance.
- There is sufficient clearance space for the cooling pipes and for the condensate drain pipe.
- The ceiling is horizontal and its structure is capable of bearing the weight of the Indoor Unit.
- The air inlet and outlet are clear of obstacles.
- The air flow reaches the entire room.
- There is no direct radiation from radiators.

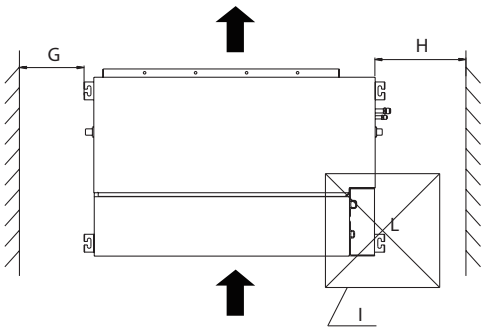
**DO NOT install the unit in the following places:**

- **In areas where hydraulic drilling or fracturing are carried out.**
- **In coastal areas, with a high content of salt in the air.**
- **In areas with gas in the air, such as thermal power plants.**
- **In areas with power surges, such as factories.**
- **In confined spaces, such as closets.**
- **In kitchens that use natural gas.**
- **In areas with strong electromagnetic waves.**
- **In areas where flammable materials or gases are stored.**
- **In rooms with a high moisture content, such as bathrooms or laundries.**

***Recommended distances for correct installation***




**KEY: "View from Below"**

1. *Indoor Unit*
2. *Ceiling*
3. *Access for maintenance*
4. *Floor*

*A. >20 cm*
*B. >30 cm*
*C. >20 cm or >24,5 cm*
*D. >30 cm*
*E. >230 cm*
*F. >2 cm*
*G. 20 cm*
*H. 30 cm*
*I. 60x60 (opening for Inspection)*

*1-05*

**NOTE:**

- It is recommended to also make an additional opening for maintenance/removal of the filter

**STEP 2:** Hanging the Indoor Unit

1. Referring to the figures above, find the best position to install the Unit. To decide where to start from, determine the direction of the pipes to be laid. Especially for ceiling installations, position/prepare the refrigerant pipes, the condensate drain pipes and the internal and external lines in the respective connection points before installing the unit.
2. Check the centre distances of the fixing hooks on the Unit and mark the positions of the 4 holes to be drilled on the ceiling.
3. Drill 4 holes10 cm deep on the internal ceiling, at the marked spots. Hold the drill bit at a right angle with respect to the ceiling.
4. Use a hammer to insert the ceiling hooks (purchased separately) into the drilled holes.

**NOTE:**

- Tie rods or threaded metric parts can also be used. Buy the appropriate fastening systems depending on the type of ceiling and the weight of the unit to be installed (see previous table). Example image of installation with hooks on the left and with threaded bars on the right.

*1-06*

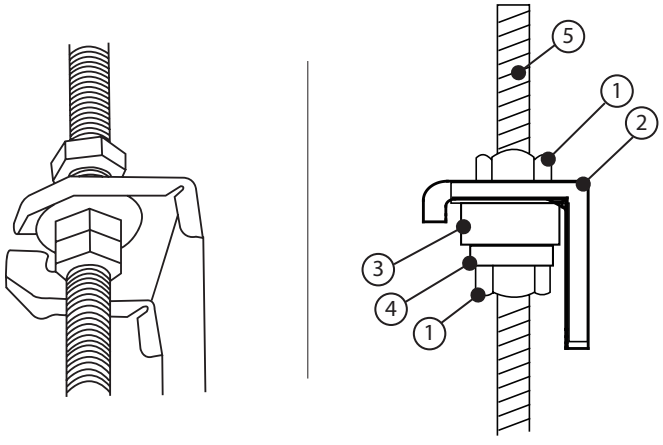
5. Install nuts/lock nuts and washers (purchased separately) on the threaded part of each hook/tie rod.
6. Align the refrigerant pipes, the condensate drain pipes and the internal and external electric cables in the respective connection points before installing the unit. Install the protection covers supplied on the refrigerant pipes near the connections to the unit.

**NOTE:**

- Ensure a minimum slope of 1% towards the outflow side to prevent water from stagnating in the condensate drain pan.

**KEY: "View from Below"**

1. *Nut*
2. *Support bracket (indoor unit)*
3. *Vibration-dampening rubber*
4. *Washer*
5. *Suspension screw*



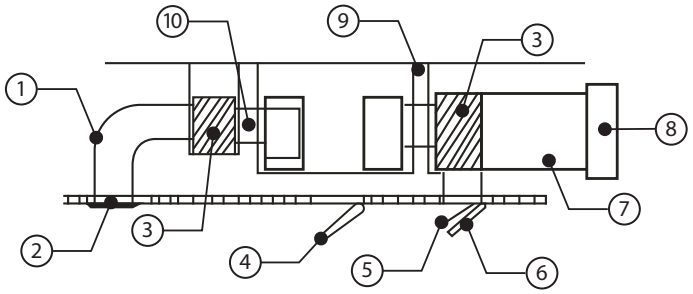

*1-07*

**ATTENTION**
The body of the unit must be perfectly aligned with the hole. Before proceeding, check that the unit and the hole are the same size.

7. Hang the indoor unit. Two persons are needed to safely lift and secure the unit. Hang the support brackets incorporated in the unit to the tie rods coming out of the ceiling, taking care to keep them a certain distance from the false ceiling. Screw the nut and lock nut by hand without tightening them. Level the unit. Tighten the nuts and lock nuts.

**STEP 3:** Installation of duct and accessories

1. Install the filter (purchased separately) based on the size of the air inlet.
2. Install the air connection frame between the unit and the duct.
3. The air inlet duct and air outlet duct must be sufficiently spaced so no problems arise for passage of the air. Example of duct connection diagram:




**KEY:**

1. *Pipe*
2. *Air outlet*
3. *Insulation compartment*
4. *Inspection opening*
5. *Dust Filter*
6. *Air inlet*
7. *Pipe*
8. *Grid*
9. *Filter*
10. *Connection Frame*

*1-08*

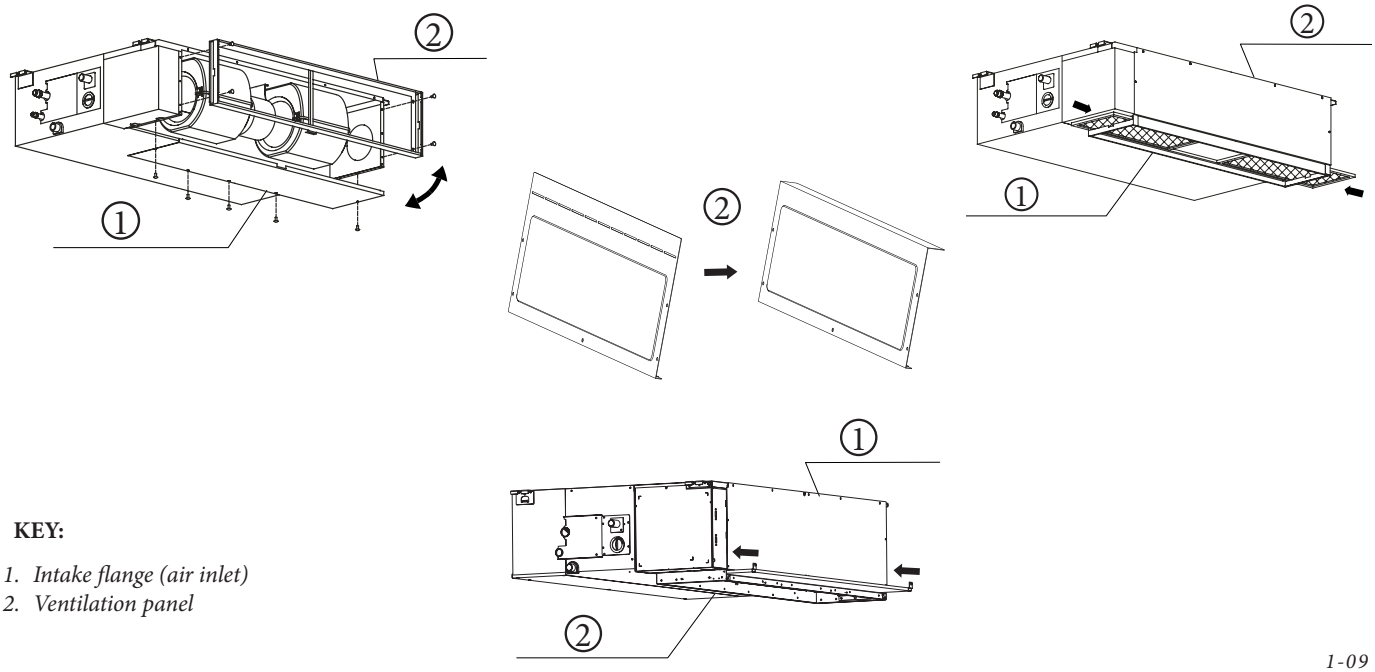
**NOTE:**

- The duct must be at least 1m long and it must be secured with screws on the air inlet.
- The air inlet duct must be installed with a grid screwed onto the duct itself.
- Do not allow the weight of the connection duct to bear on the indoor unit.
- When connecting the duct, use a non-flammable flexible frame to keep it from vibrating.
- Wrap the outside of the duct with insulating expanded material to prevent the formation of condensate.
- On demand by the end user, a bottom layer of insulation can be added to the internal duct to reduce noise.

**STEP 4:** Adjustment of air inlet direction and installation of filter

Adjustment of air inlet direction and installation of filter. The standard default position of the intake flange is at the back of the Unit. Thereby the ventilation panel is below, as shown in the following figure. If you want the air to enter the unit from below, swap the position of the intake flange and of the ventilation panel:

1. Disassemble the ventilation panel and the flange by removing the screws.




**KEY:**

1. *Intake flange (air inlet)*
2. *Ventilation panel*

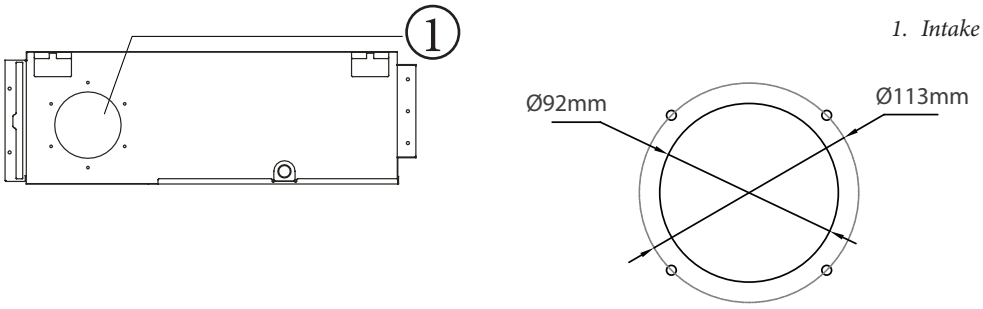
*1-09*

2. Bend that the rear ventilation panel 90° along the dotted area (with pre-cuts). Swap the assembly positions between the ventilation panel and intake flange, then fasten with screws.
3. Install the reticular filter, inserting it in the flange as shown in the figure (see above).

**NOTE:**

- All the images in this manual are for illustrative purposes only. The features of the air conditioner you have purchased could be slightly different, though the appearance is similar.

**STEP 5**: Side intake air duct installation (optional)



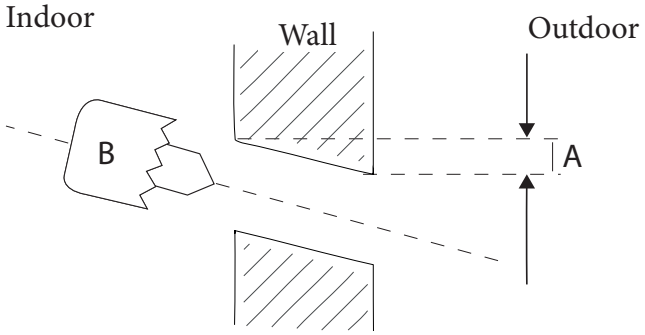

**KEY:**

*1. Intake air duct connection*

*1-10*

**STEP 6:** Drilling hole for connection pipes

1. Drill a hole in the wall for the cooling pipes, the drain pipe and the signal cable that will connect the indoor unit to the outdoor unit.
2. Using a minimum 65mm size cutter bit for the drill, drill a hole in the wall, ensuring that it is angles slightly downwards, so that the outer end is about 12 mm lower than the inner end.




**KEY:**

*A. 12 mm*
*B. Cutter bit*

*1-11*

3. Install a protective wall sealing plate (sold separately) on the newly drilled hole; this protects the edges of the hole and helps seal it at the end of installation.

**ATTENTION**
Make sure to avoid cables, pipes and other sensitive components when drilling the hole in the wall.

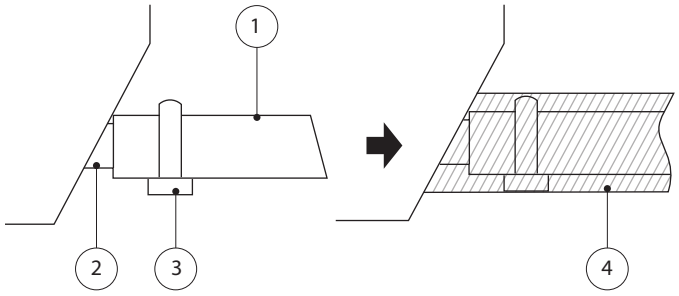
**STEP 7:** Installation of drain pipe

The drain pipe has the task of draining water from the unit. Incorrect installation can cause damage to the unit and other material damage. A polyethylene pipe is required, not supplied as per standard.

**ATTENTION**

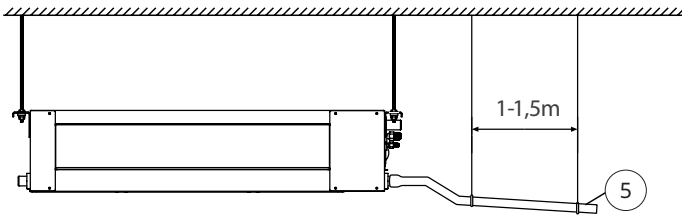
- Insulate all the pipes to prevent the formation of condensate which could cause damage due to water.
- If the drain pipe is bent or installed improperly, water could leak and cause the float switch to malfunction.
- In HEAT mode, the outdoor unit drains water. Check that the drain pipe is in an appropriate area to avoid damage due to water and slipping hazards owing to freezing of the drained water.
- Do NOT pull strongly on the drain pipe as this could cause it to detach.

1. Cover the drain pipe with thermal-insulation material to prevent the formation of condensate and possible water leaks.
2. Connect the end of the drain pipe to the outlet pipe of the unit. Wrap the end of the pipe and firmly secure it with a pipe clamp.




**KEY:**

1. *Drain pipe*
2. *Drain pipe connection port*
3. *Metal pipe clamp*
4. *Insulation Tube*
5. *2% slope*



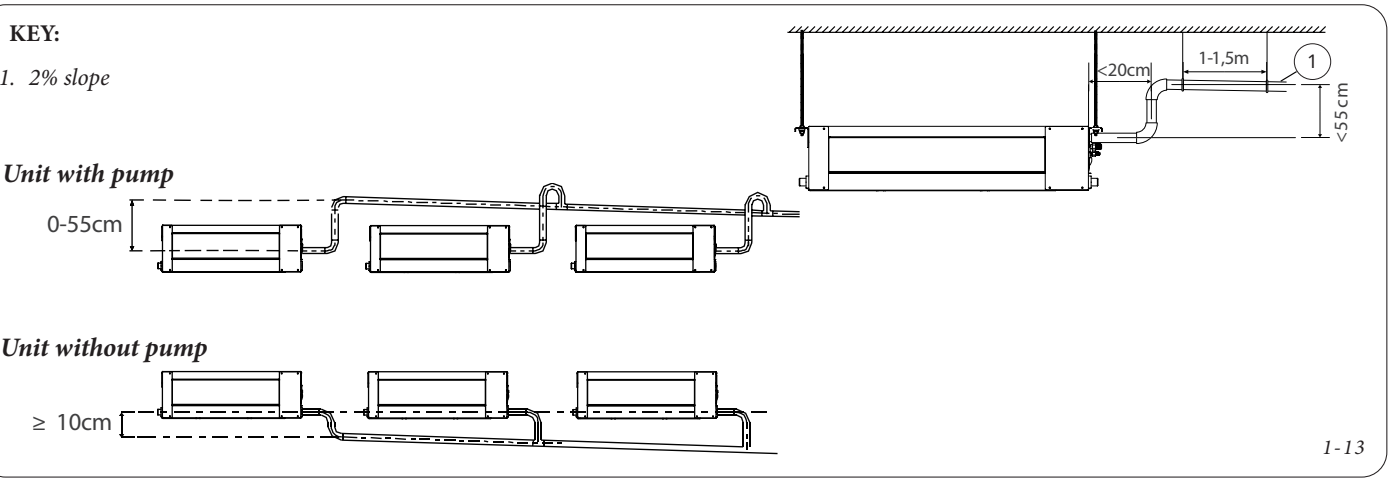

*1-12*

**NOTE**:

- When using an extension for the drain pipe, tighten the connection on the inside of the additional protection pipe to keep it from loosening.
- The drain pipe must slope at least 2% to prevent water from back-flowing into the air conditioner.
- Install suspension elements every 1-1,5 m so that the pipe does not bend. (See image below).
- If the outlet of the drain pipe is higher than the pump fitting located on the body of the unit, apply a lifting pipe for the drain outlet of the indoor unit. The lifting pipe must be installed no higher than 55 cm from the false ceiling.
- The distance between the unit and the lifting pipe must be less than 20cm.
- An incorrect installation can cause water backflow into the unit.

*Installation of drain pipe for unit with pump*

When connecting more than one drain pipe, install them as indicated below:




3. Thread the drain pipe through the hole in the wall. Check that the water flows out to a safe place, without causing damage or slipping hazards.

**NOTE**:

- The outlet of the drain pipe must be at a height of at least 5 cm from the ground.
- Were it to come into contact with the ground, the unit could block and malfunction.
- If the water is drained directly into the sewer system, use a U or S-shaped drain pipe to block odours which otherwise could back-flow inside.

*Drain trial*

Check that the drain pipe is not clogged. In newly constructed buildings, this test must be carried out before finishing the ceiling.

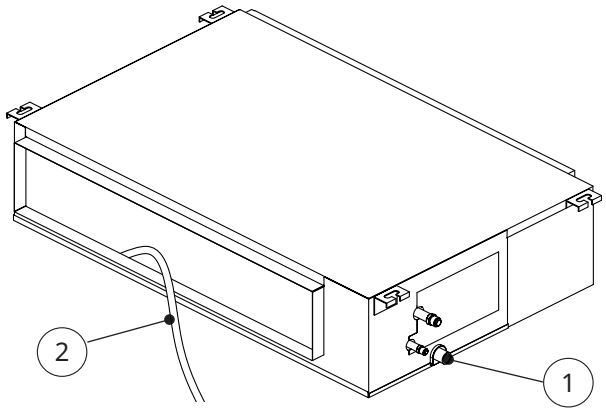
*Unit without pump*

If you decide to drain water by gravity by means of 2 side drains:

1. Fill the collection tray with 2 litres of water
2. Check that the water flows out smoothly from the drain connection.

**NOTE**:

- You may use either the right or left drain connection.




**KEY:**

1. *Drain connection by gravity*
2. *Filling pipe*

*1-14*

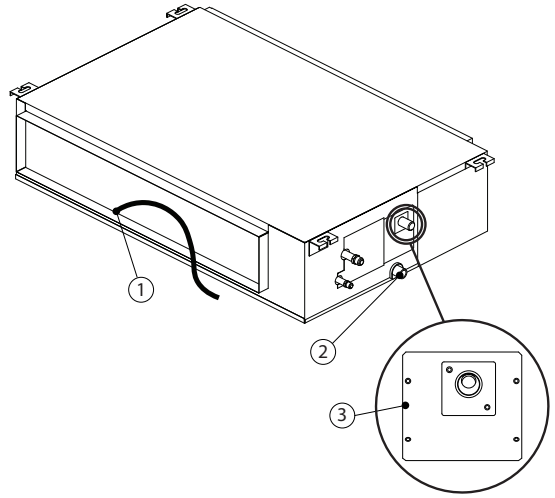
***Unit with pump.***

If you decide to drain water using a pump.
The unit is fitted with pump with float. When water builds up in the tray, the pumps switches on and drains it.

1. Remove the screws from the pump cover and fill the collection tray with 2 litres of water.
2. Switch on the unit in COOL mode
3. Listen to whether the pump is working and correctly draining the water. There could be a one-minute delay depending on the length of the drain pipe.
4. Check to see whether water leaks out of any joints along the piping.
5. Switch the air conditioner off and refit the pump cover.

**NOTE:**

- If you wish to drain using the pump, do not remove the 2 side plugs for draining by gravity




**KEY:**

1. *Filling pipe*
2. *Drain connection by gravity*
3. *Pump cover*

*1-15*

**STEP 8**: Signal and power supply cables connection

The connection cable between the indoor and outdoor unit allows to power the indoor unit(s) and communication.
The type of cable and relative dimensions to be used are indicated in the wiring diagram below. All electrical connections must be made strictly complying with the wiring diagram sticker applied on the inside of the electric compartments cover and checking the connection wiring diagram in this manual.

**ATTENTION**
Before doing any electrical work, read the warnings at the beginning of this manual.

## Attention

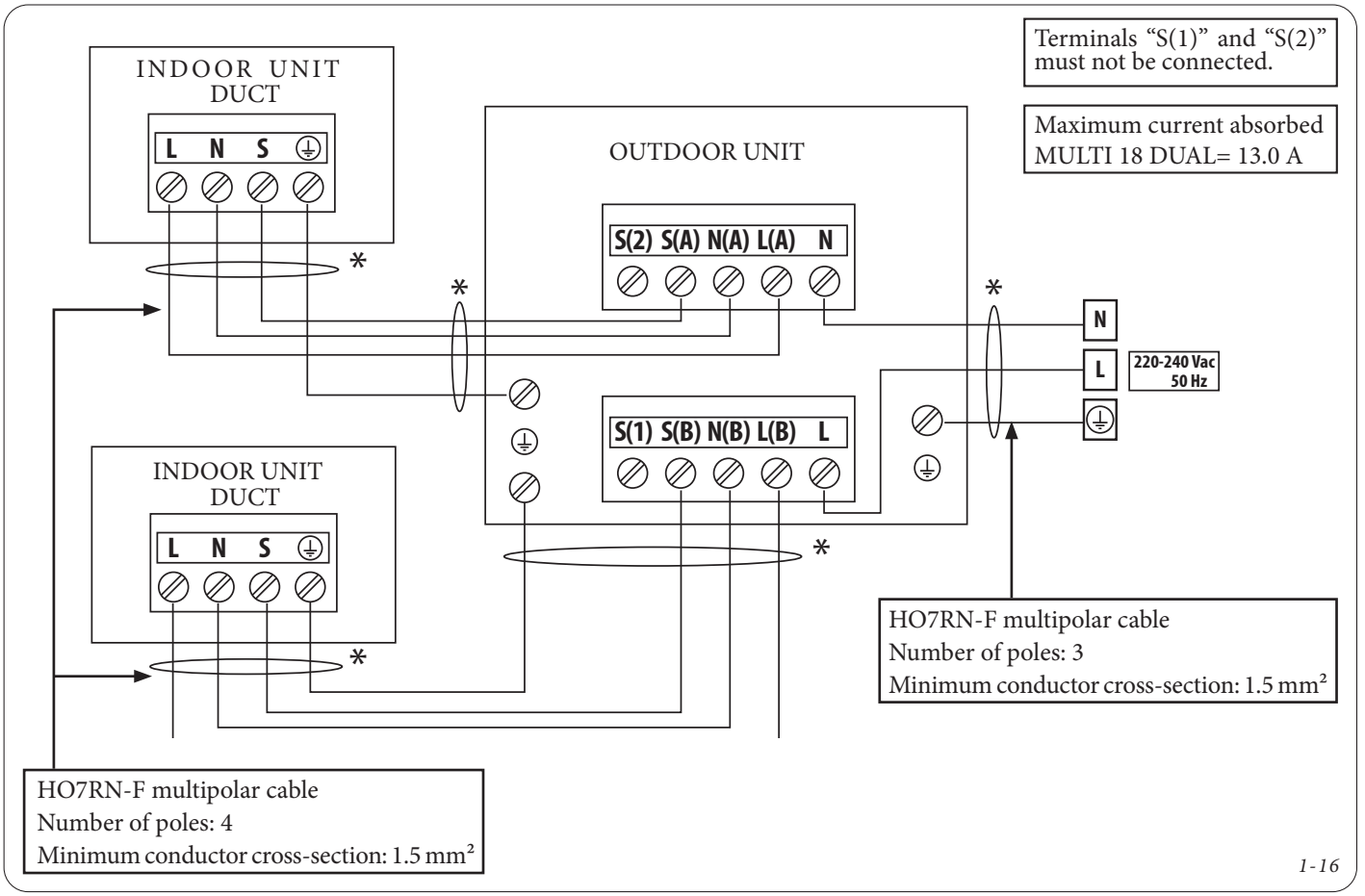
- **When stripping the wires, be sure to clearly identify the "L" phase cable.**
- **Strictly follow the wiring diagram to connect the cables.**

**ATTENTION**
See the reference manual for the specifications of the outdoor unit.

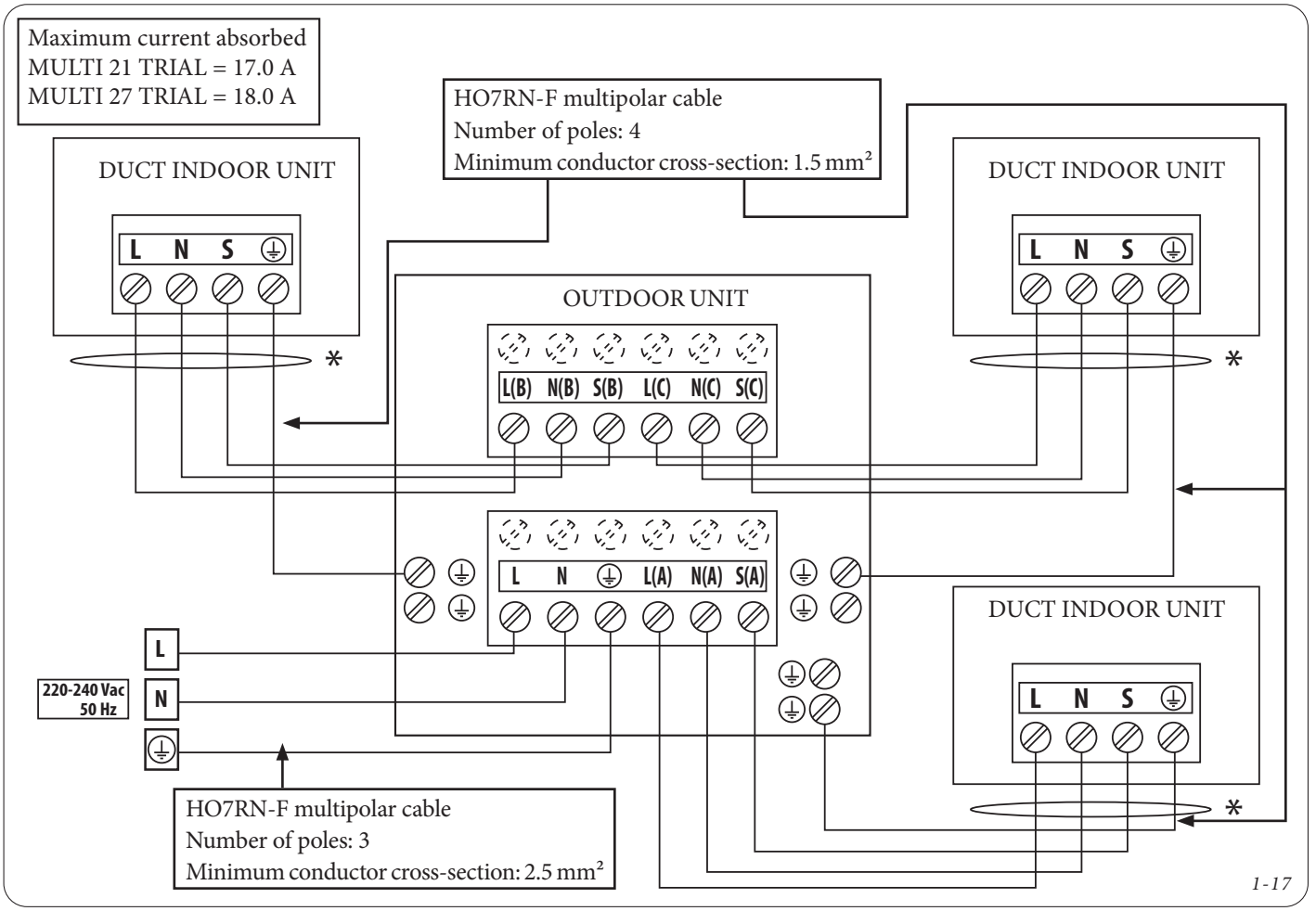
**NOTE:**

- The ferrite needs to be positioned around the cable, before the cable tie (outer side). The ferrite is installed by the installer, the ferrites must be applied where the " ∗ "symbol appears on the wiring diagram.
- Secure the multipolar cables to the relative cable ties.
- Each earthing wire needs to be connected to the closest earthing terminal (only one wire per terminal); do not use the mount's fastening screws.

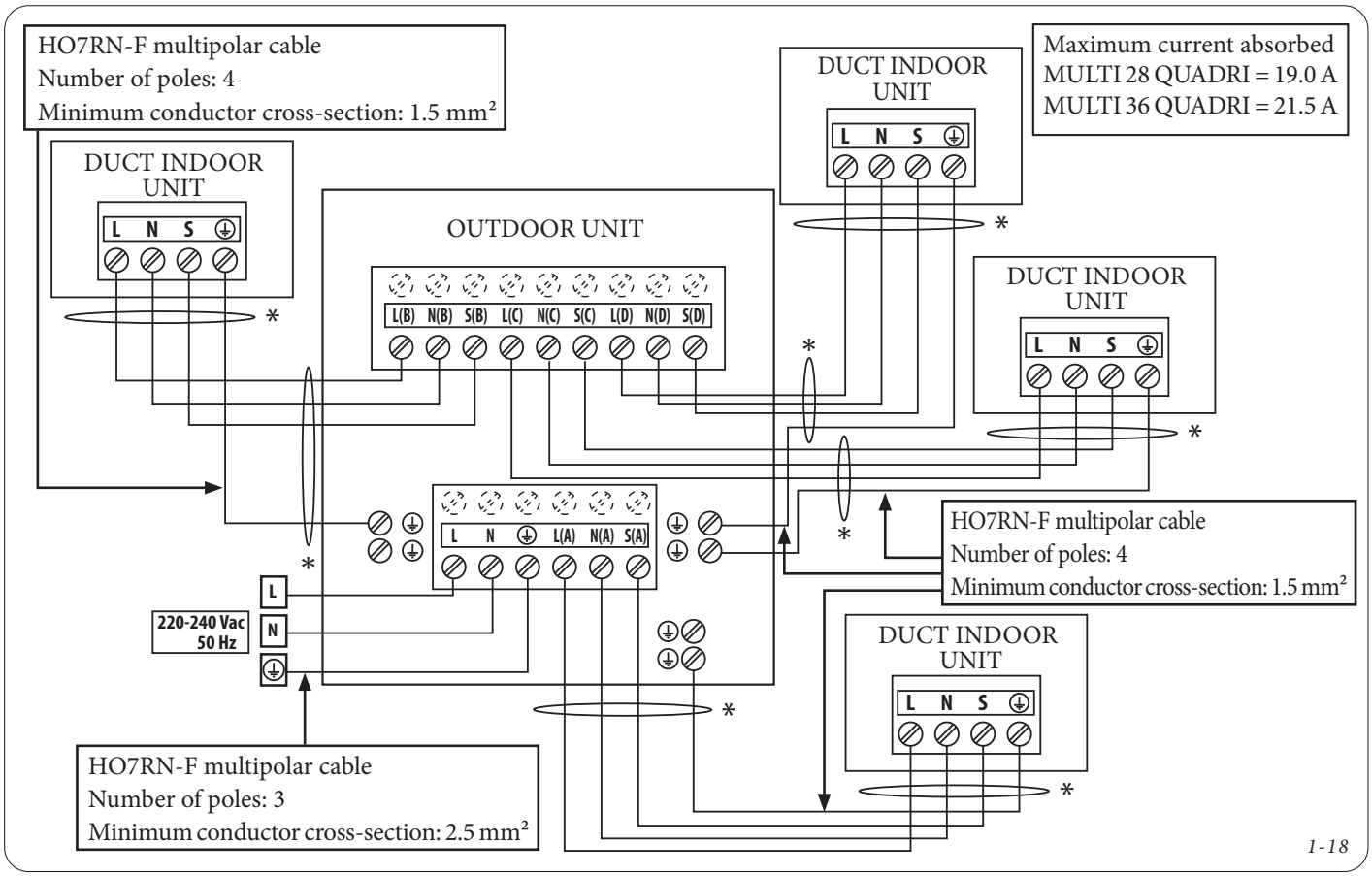
*Wiring Diagrams*

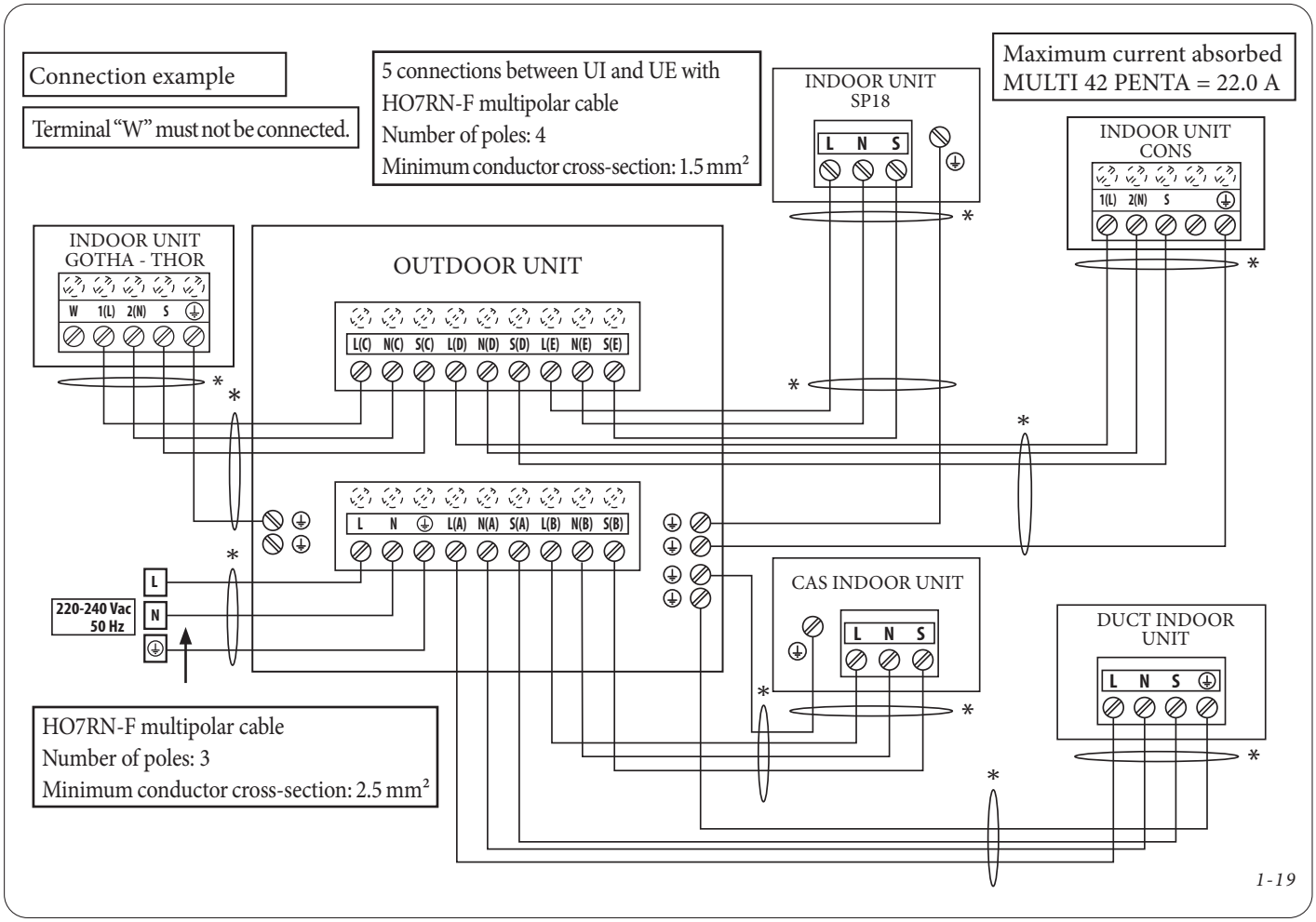



*1-16*




*1-17*

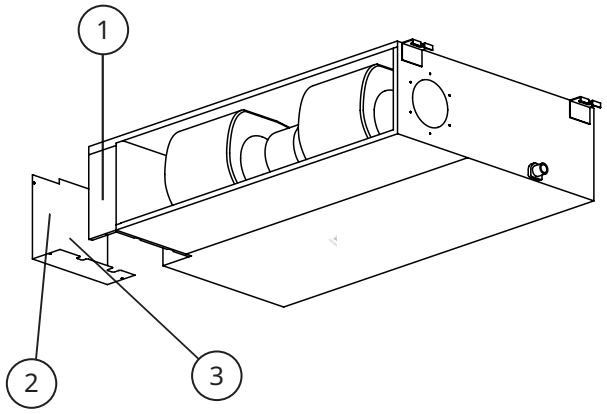

HO7RN-F multipolar cable
Number of poles: 4
Minimum conductor cross-section: 1.5 mm²
Maximum current absorbed
MULTI 28 QUADRI = 19.0 A
MULTI 36 QUADRI = 21.5 A
DUCT INDOOR UNIT
L N S
OUTDOOR UNIT
L(B) N(B) S(B) L(C) N(C) S(C) L(D) N(D) S(D)
L N L(A) N(A) S(A)
220-240 Vac 50 Hz
HO7RN-F multipolar cable
Number of poles: 3
Minimum conductor cross-section: 2.5 mm²
1-18


Connection example
Terminal "W" must not be connected.
5 connections between UI and UE with
HO7RN-F multipolar cable
Number of poles: 4
Minimum conductor cross-section: 1.5 mm²
Maximum current absorbed
MULTI 42 PENTA = 22.0 A
INDOOR UNIT SP18
INDOOR UNIT CONS
1(L) 2(N) S
INDOOR UNIT GOTHA - THOR
W 1(L) 2(N) S
OUTDOOR UNIT
L(C) N(C) S(C) L(D) N(D) S(D) L(E) N(E) S(E)
L N L(A) N(A) S(A) L(B) N(B) S(B)
CAS INDOOR UNIT
DUCT INDOOR UNIT
220-240 Vac 50 Hz
HO7RN-F multipolar cable
Number of poles: 3
Minimum conductor cross-section: 2.5 mm²
1-19

**Signal and power supply cables connection procedure**:

1. Preparing connection cable;
   - Using the wire stripper, remove insulation at both ends of the signal/power cable exposing about 15 mm of inner wires.
   - Remove the insulating sheathing from the ends of the wires.
   - Using the wire-stripper, bend the tabs on the ends of the wire into a U shape.
2. Using a screwdriver, remove the electric compartments cover on the side of the indoor unit. This allows you to access the terminal block below.
3. Thread the power and signal cable through the cable outlet.
4. Connect the U-shaped lugs to the terminals.

Match the colours/labels of the cables to those of the terminal block, then firmly screw the U-shaped lug of each cable to the corresponding terminal. Refer to the above wiring diagram and to the diagram applied on the electric compartments cover. The earthing terminal or screw is marked by the relative symbol. The wires must be securely screwed to the terminal block and to the earthing terminal/screw.

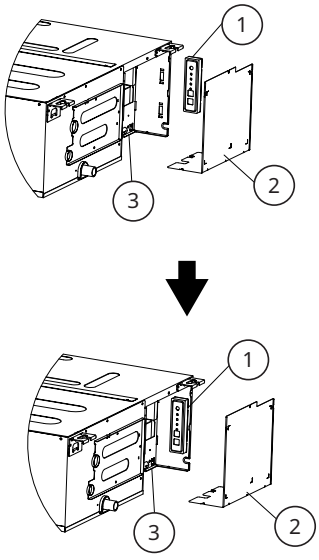



**KEY:**

1. *Electrical Panel*
2. *Cover*
3. *Wiring diagram sticker*

*1-20*

5. Secure the cable with the cable clamp. The cable must not be loosened or pull the U-shaped lugs. Tightly secure the cable clamp to the cable, taking care not to damage the cable itself. The cable clamp must press on the external insulating sheath and not on the individual wires that it is made of.
6. The display panel must be installed in the electrical panel, fitted on the dedicated sheet metal clips. Connect the display panel with its own 10-pin connector, with the cable already pre-assembled on the P.C.B. The other end of the display panel must be connected to the cable extension of the wired remote control (see specific instruction manual).
7. Refit the electric compartments cover and tighten the screws.




**KEY:**

1. *Display Panel*
2. *Electrical Panel*
3. *Cover*

*1-21*

**The cooling circuit can become very hot, keep the interconnection cable away from the copper pipe.**

## 1.7 CONDUCTING THE TESTS

***Before performing the test:***

The test can be performed once the entire system has been completely installed. Confirm the following points before running the test:

- The indoor and outdoor units are correctly installed.
- Pipes and cables are correctly connected.
- No obstacle near the infeed and at the unit outlet that could cause poor performance or malfunctioning of the product.
- The cooling circuit does not leak.
- The draining system has no impediments and the drain is in a safe place.
- Thermal insulation was installed correctly.
- The earthing wires are connected correctly.
- The length of the pipes and the additional capacity of the refrigerant are measured.
- The power voltage is correct for the air conditioner.

**Attention:**
**Failure to run the test can cause damage to the units, damage to the property or personal injury**

***How to run the test:***

1. Open the liquid and gas shut-off valves.
2. Turn on the main power supply switch and let the unit heat up.
3. Set the air conditioner on COOL.
4. For the indoor unit;
   - Make sure that the remote control and relative buttons are working correctly.
   - Make sure that the louvres move correctly and can be modified from the remote control.
   - Check whether the room temperature is measured correctly.
   - Make sure that the indicators on the remote control and on the view panel on the indoor unit are working correctly.
   - Make sure that the manual keys on the indoor unit are working correctly.
   - Check that the draining system is not obstructed and that it drains freely.
   - Make sure there are no anomalous vibrations or noise during operation.
5. For the outdoor unit:
   - Check whether the cooling circuit is leaking.
   - Make sure there are no anomalous vibrations or noise during operation.
   - Make sure that the wind, noise and water generated by the unit do not bother the neighbours or pose a safety hazard.
6. Drain trial;
   - Check that the drain pipe allows water to flow out correctly. In newly constructed buildings, this test should be carried out before finishing the ceiling.
   - Remove the cover. Pour 2,000 ml of water into the tank through the connected pipe.
   - Switch on and activate the air conditioner in cooling mode.
   - Make sure that the drain pump makes no strange noises.
   - Check that the water is emptied. Depending on the pipe, a minute may elapse before the water starts to drain.
   - Check that the piping has no leaks.
   - Stop the air conditioner by pressing the main power switch and refit the cover.

**NOTE**:
If the unit is not working correctly or is not working as expected, refer to the Troubleshooting section of the User Manual for the Indoor Unit before calling customer service.

# 2 INSTRUCTIONS FOR MAINTENANCE

## 2.1 GENERAL WARNINGS

If additional documentation needs to be consulted for extraordinary maintenance, contact the Authorised After-Sales Service.

**Supply of spare parts**
The device's warranty shall be rendered null and void if unapproved or unsuitable parts are used for maintenance or repairs. These will also compromise the product's compliance, and the said product may no longer be valid and fail to meet the current regulations. In regard to the above, only use original Immergas spare parts when replacing components.

## 2.2 CARE AND MAINTENANCE

**ATTENTION:**
**Always switch off the air conditioning system and disconnect power before cleaning and maintenance.**

Clean the inlet filter of the unit before each seasonal start-up.

1. Open the inspection grid in the false ceiling and extract it.
2. Clean the air filter with a vacuum cleaner or wash it with lukewarm water and mild detergent.

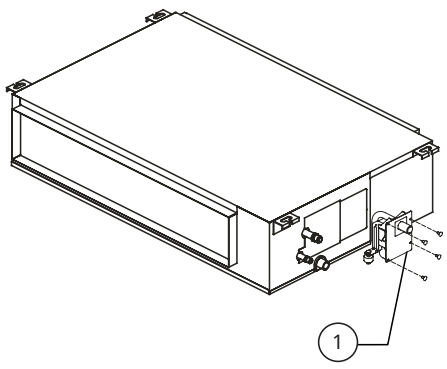
2-01

**NOTE**:
- If using a vacuum cleaner, vacuum the filter by placing the side of the air inlet facing upwards.
- If using water, the side of the air inlet must face the direction opposite the water flow.

3. Rinse the filter with clean water and have a dry in the open air.
4. Do NOT dry the filter in direct sunlight.
5. Refit the filter on the Unit.

***Pump Maintenance;***

1. Remove the 4 screws that secure the pump to the Unit
2. Disconnect the pump power cable and the water level switch cable
3. Disconnect the pump




**KEY:**

*1. Pump*

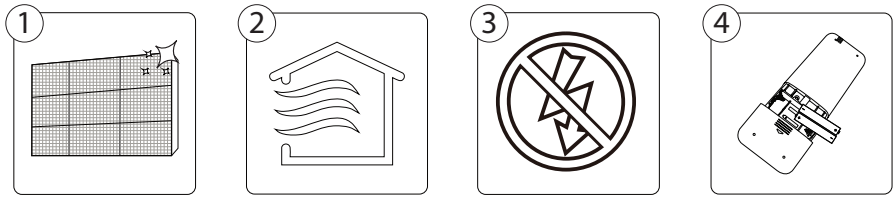
2-02

**ATTENTION:**
**Before changing the filter and cleaning it, switch the unit off and disconnect power.**
**When removing the filter, pay attention as the sharp metal edges could cut you.**
**Do not clean the inside of the indoor unit with water. This could damage the insulation and cause electric shocks or short circuit.**
**Do not expose the filter to direct sunlight when drying as it could shrink.**

**ATTENTION:**
- **Any maintenance or cleaning operation on the unit must be carried out by an authorised technician.**
- **Any repair on the unit must be carried out by an authorised technician.**
- **Operators who install and service the appliance must wear the personal protective equipment required by applicable law.**

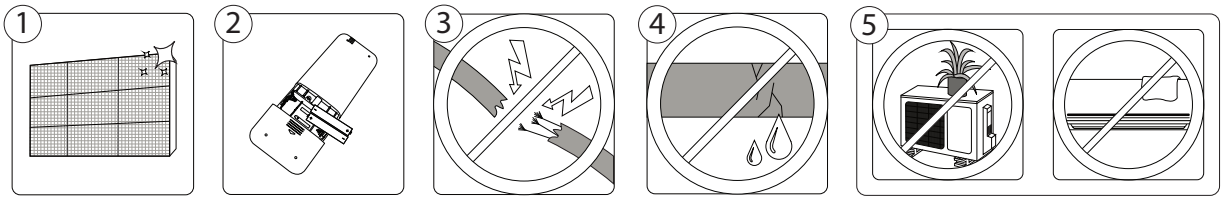
**Long idle period:** *2-03*

1. *Clean all Filters*
2. *Switch on the FAN function until the unit is completely dried*
3. *Switch off the unit and disconnect power*
4. *Take the batteries out of the remote control*




**Switching back on after a Long Idle Period:**

1. *Clean all Filters*
2. *Replace the batteries*
3. *Check for any damaged cables*
4. *Check for any leaks*
5. *Make sure that nothing is blocking the air vents and outlets*



## 2.3 TROUBLESHOOTING

**ATTENTION:**
**If ONE of the following conditions occurs, switch the unit off immediately!**

- **The power cable is damaged or excessively hot.**
- **There is a burning smell.**
- **The unit emits strong or anomalous noise.**
- **When the circuit breaker trips often or when there are blown fuses.**
- **Water or other objects fall inside or outside the unit.**

**DO NOT TRY TO ADDRESS THE PROBLEM ON YOUR OWN! IMMEDIATELY CONTACT AN AUTHORISED TECHNICAL SERVICE CENTRE!**

| Problem | Possible causes |
|---|---|
| The unit does not switch on when the ON/OFF button is pressed | The unit has a 3-minute protection function that prevents it from overloading. The unit cannot be switched back on within three minutes from shutdown. Unit not powered up. |
| The unit switches from COOL/ HEAT mode to FAN mode | The unit can modify the settings to keep frost from forming on it. When the temperature rises, the unit resumes operation in the previously selected mode. |
| | The set temperature has been reached and at that point the unit switches the compressor off. The unit keeps running when the temperature fluctuates again. |
| The indoor unit emits white mist | In moist regions, a large temperature difference between ambient air and conditioned air can cause white mist. |
| Both the indoor unit and outdoor unit emit white mist | When the unit restarts in HEAT mode after defrosting, white mist could be emitted due to the humidity generated by the defrosting process. |
| The indoor unit makes noise | When the fin goes back to its position, a strong noise could occur. |
| | A squeaking noise can occur after having started the unit in HEAT mode due to the expansion and contraction of the plastic parts of the unit. |
| | You can hear a creaking noise when the system stops or when Cooling mode is activated. You can also hear this noise when the drain pump is switched on. |
| Both the indoor unit and outdoor unit make noise | Low hissing noise during operation: this is normal and is caused by the refrigerant gas flowing through the indoor and outdoor units. |
| | Low hissing noise when the system starts up, has just stopped operating or is defrosting: this noise is normal and is caused by the stopping or change of direction of refrigerant gas. |
| | Squeaking noise: the normal expansion and contraction of plastic and metal parts caused by temperature excursions during operation can cause squeaking noise. |
| The outdoor unit makes noise | The unit makes different types of noise based on its current operating mode. |
| Dust is emitted from the indoor or outdoor unit | Dust is emitted from the indoor or outdoor unit. The unit could accumulate dust during long idle periods, which is then emitted when it is switched on. This can be mitigated by covering the unit when idle for a long time. |
| The unit emits a bad smell | The unit can absorb odours from the environment (such as furniture, kitchen, cigarettes, etc.) which are then emitted during operation. |
| | The filters of the unit are mouldy and need to be cleaned. |
| The outdoor unit's fan does not work | During operation, the fan speed is controlled to optimise operation of the product. |
| Operation is irregular, unpredictable or the unit does not respond | Disturbance of cell phone antennas/repeaters can cause the unit to malfunction. In this case, try the following:<br>• Disconnect power, then reconnect.<br>• Press the ON/OFF button on the remote control to restart operation. |

**NOTE:**

If the problems persists, contact the nearest authorised technical service centre. Give them a detailed description of the malfunction and the model number of the unit.

| Problem | Possible causes | Solution |
|---|---|---|
| Poor cooling performance | The set temperature may be higher than the room temperature. | Lower the temperature setting |
| | The heat exchanger on the indoor or outdoor unit is soiled | Clean the concerned heat exchanger |
| | The air filter is dirty | Remove the filter and clean it as instructed |
| | The air inlet or outlet of one of the units is blocked | Switch the unit off, remove the obstruction and switch it back on |
| | Doors and windows are open | Make sure that all doors and windows are closed during operation of the unit |
| | Sunlight generates excessive heat | Close the windows and curtains during periods with intense heat or bright sun |
| | Too many heat sources in the room (people, computers, electronics, etc.) | Reduce the amount of heat sources |
| | Low refrigerant level due to leaks or long-term use | Check for any leaks, seal again if necessary and top up the refrigerant |
| The unit does not work | Power failure | Wait for the supply voltage to be restored |
| | Power is off | Switch power on |
| | The fuse is blown | Replace the fuse |
| | The 3-minute protection of the unit has been activated | Wait three minutes after restarting the unit |
| | The timer is on | Turn the timer off |
| The unit starts and stops frequently | There is too much or too little refrigerant in the system | Check whether there are leaks and recharge the system with refrigerant. |
| | Incompressible gas or moisture have entered the system. | Evacuate the system and recharge with refrigerant |
| | The compressor is broken | Replace the compressor |
| | Voltage too high or too low | Checked the input mains voltage |
| Poor central heating performance | The outdoor temperature is extremely low | Use an auxiliary heating device |
| | Cold air enters through doors and windows | Make sure that all doors and windows are closed during use |
| | Low refrigerant level due to leaks or long-term use | Check for any leaks, top up the refrigerant if necessary |
| The indicator lights keep flashing | The unit could interrupt operation or continue operating in safety. If the indicator lights keep flashing or<br>error codes appear, wait about 10 minutes. The problem could be settled on its own.<br>Otherwise, turn power off and back on. Switch on the unit. If the problem persists, disconnect power and contact your nearest customer assistance centre. | |
| The error code appears and starts with the letters as follows in the display of the window of the indoor unit:<br>•E(x), P(x), F(x)<br>•EH(xx), EL(xx), EC(xx)<br>•PH(xx), PL(xx), PC(xx) | | |

**NOTE:**

If the problem persists after having carried out the above checks and diagnostics, immediately switch the unit off and contact an authorised assistance centre.

# 3 TECHNICAL DATA

## 3.1 DUCT TECHNICAL DATA

| UI DUCT | | 9 | 12 | 18 |
|---|---|---|---|---|
| **Heating performance** | | | | |
| Rated output power | Btu/h (kW) | 10,000 (2.93) | 13,000 (3.81) | 20.000 (6,01) |
| Rated absorbed power | W | 180 | 185 | 200 |
| Rated absorbed current | A | 1.1 | 1.1 | 1.3 |
| Room temperature | °C | 0-30 | 0-30 | 0-30 |
| **Cooling performance** | | | | |
| Rated output power | Btu/h (kW) | 9.000(2,64) | 12.000(3,52) | 18.000(5,28) |
| Rated absorbed power | W | 180 | 185 | 200 |
| Rated absorbed current | A | 1.1 | 1.1 | 1.3 |
| Room temperature | °C | 16-32 | 16-32 | 16-32 |
| **General data** | | | | |
| Nominal useful head (min-max) | Pa | 25 (0-40) | 25 (0-60) | 25 (0-100) |
| Air flow rate (max-med-min) | m³/h | 620-540-450 | 660-570-470 | 900-780-650 |
| Sound pressure (max. - med. - min.) | dB(A) | 40-34.5-27.5 | 41-38-34 | 41-38-34 |
| Sound power | dB(A) | 57 | 58 | 60 |
| Dimensions (H x L x D) | mm | 200x700x506 | 200x700x506 | 245x700x750 |
| Net/gross weight | kg | 16.6/19.8 | 16.6/19.8 | 24.4/29 |
| Liquid/gas refrigerant connections | mm (inch) | 6,35(1/4)<br>9,52(3/8) | 6,35(1/4)<br>9,52(3/8) | 6,35(1/4)<br>12,7(1/2) |

| THE REPORTED NOMINAL DATA REFERS TO THE FOLLOWING CONDITIONS (in compliance with EN 14511) | | |
|---|---|---|
| ENVIRONMENT | COOLING (°C) | CENTRAL HEATING (°C) |
| INDOOR AIR-OUTDOOR AIR Temp. (db/wb) | 27/19 - 35/24 | 20/15 - 7/6 |

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