

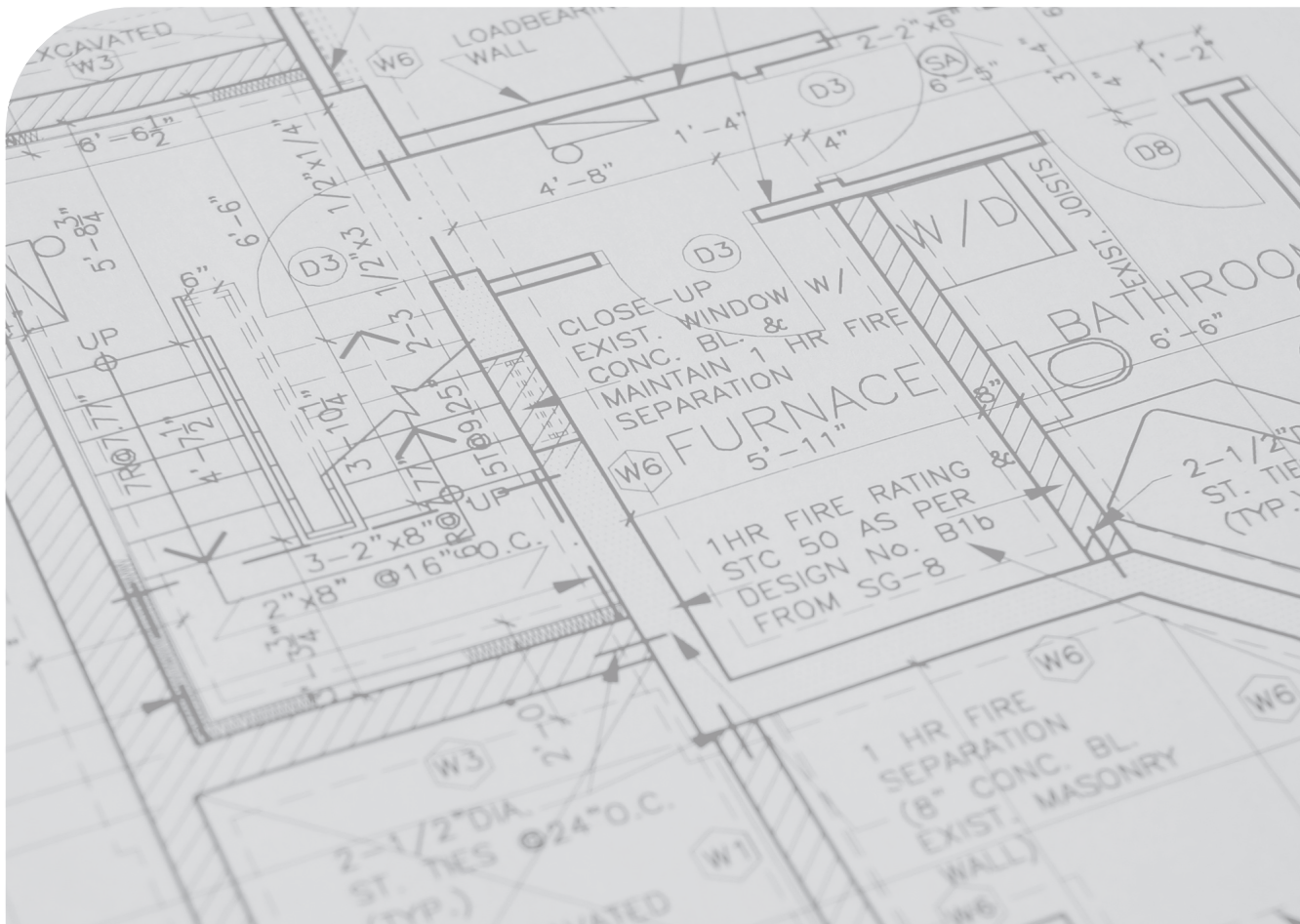


UI THOR 9-12-18-24 UI GOTHA 9-12 UE THOR 9-12-18-24 UE GOTHA 9-12

IE

Instructions and
recommendations
Installer
User
Maintenance technician
Technical Data

1.049216ENG





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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.

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;

User;

Maintenance technician.

- The user must carefully read the instructions provided.
- The user must limit operations on the appliance only to those explicitly allowed in the specific section.
- 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.

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.



MONOSPLIT AIR CONDITIONERS FEATURES: GOTHA AND THOR

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:

- **Outdoor unit** (UE GOTHA/UE THOR), which mainly includes rotary compressor, inverter electronics, throttle valve, 4-way valve for cycle inversion, finned exchange coil with outdoor air (with single fan), Interception cocks for the R32 circuit. The cooling circuit is already pre-charged with R32 refrigerant.
- **Indoor unit** (UI GOTHA/UE THOR), split with wall-mounted direct expansion, containing the rest of the components of the cooling circuit for connection to the outdoor unit, as well as the relative management and communication electronics;

Main specifications:

- When the system is switched off, the outdoor unit swaps the direction of rotation of the fan to eliminate any impurities on the exchange coil;
- Air purification ioniser, it electrically charges the molecules of the gases in the air. The generated ions attract and link to the micro-particles suspended in the air, thus purifying the air in the room (GOTHA only);
- Breeze Away function to prevent an air draught directly to the body, thus providing greater comfort (THOR only);
- Standard infrared remote control to control the system;
- Wi-Fi module for remote control via standard CLIMAsmart app (optional for THOR);
- No risk of pipes freezing (important in cold climates);
- Wide range of operation in cooling (up to an outdoor temperature of 50°C) and in heating (down to an outdoor temperature of -20°C);
- Back lit pop-up display on indoor unit;
- Standard installation template;
- Possibility of setting a time range, so that air-conditioning automatically switches on and off;
- The Swing function automatically oscillates the horizontal fins of the indoor unit to vertically direct the air flow (manual vertical fins);
- 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 THOR - UE THOR UI GOTHA - UE GOTHA



0-01



CONTENT OF THE PACKAGING

INDOOR UNIT		
Description		Qty
Supplied documentation	<ul style="list-style-type: none"> • Remote control manual • Safety manual • User manual • Warranty Leaflet 	1
Mounting plate	Referred to "INSTALLATION" paragraph	1
Remote control	-	1
Battery	AAA LR03	2
Remote control mount with screws	-	1+2
Screws with plugs	-	5+5
Carbon filter	-	1
Wifi Kit	-	1 (ONLY FOR GOTHIA)

OUTDOOR UNIT		
Description		Qty
Supplied documentation	<ul style="list-style-type: none"> • Safety manual • User manual • Warranty Leaflet 	1
Drain coupling	<ul style="list-style-type: none"> • Drain coupling • Coupling gasket 	1



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.



The plugs (supplied as standard with the Indoor Unit) must be used exclusively to fix it to the wall. They only ensure adequate support if inserted correctly (according to technical standards) in walls made of solid or semi-hollow brick or block. In the case of walls made of hollow bricks or blocks, partitions with limited static properties, or in any case walls other than those indicated, a static test must be carried out on the mounting system.



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.



NOTE ON FLUORINATED GASES:

- Installation, maintenance of the cooling circuit and the uninstallation of this unit must be carried out by a certified technician.
- The refrigerant gas leak check must be carried out in accordance with the relative legislation. This job must be carried out by certified personnel only.
- Remember that it is mandatory to report interventions to the FGAS database established by Presidential Decree 16 November 2018, No 146, as amended.
- Bear in mind that the refrigerant that escapes from the appliance in the event of a leak has a higher density than air and can accumulate at the bottom of the installation site. Refrigerant stagnation can create a fire or explosion hazard. In case of possible refrigerant stagnation, follow the safety measures of EN 378. For units installed outdoors in a place where the release of refrigerant may stagnate, follow the guidelines of EN 378.

**Electrical WARNINGS:**

- All cables must be compliant with local and national electrical regulations, and must be installed by authorised technicians.
- All electrical connections must be set up according to the electrical connection diagram located on the panels of the indoor and outdoor units and according to the wiring diagram provided in this manual.
- In case of issues with the power supply, suspend unit installation; explain the reasons and refuse to install the units until the issue is resolved.
- The rated power supply of the power line must be 220-240V (50Hz) \pm 10%. A power supply outside of the stated tolerances may cause malfunctions, electrical shocks or fires. Observe the L-N polarity.
- On the electrical power supply line there must be an overvoltage protection device, a circuit breaker or fuse, and a residual current device (RCD).
- On the electrical power supply line there must be multi-pole circuit breaker with class III overvoltage category in compliance with the installation rules.
- For electrical power supply it is not allowed to use adapters, multi-plugs and extensions.
- Make sure that the Unit is correctly earthed and that the earthing system is efficient and set up to standard.
- Each cable must be securely connected. Non-secure connections can cause the terminal to heat, thereby causing malfunctions and possible fires.
- Do not allow the cables to touch or rest on cooling pipes, on the compressor or on any mobile part of the unit.
- Before performing any electrical work or cleaning, be sure to cut off the power supply to the units.

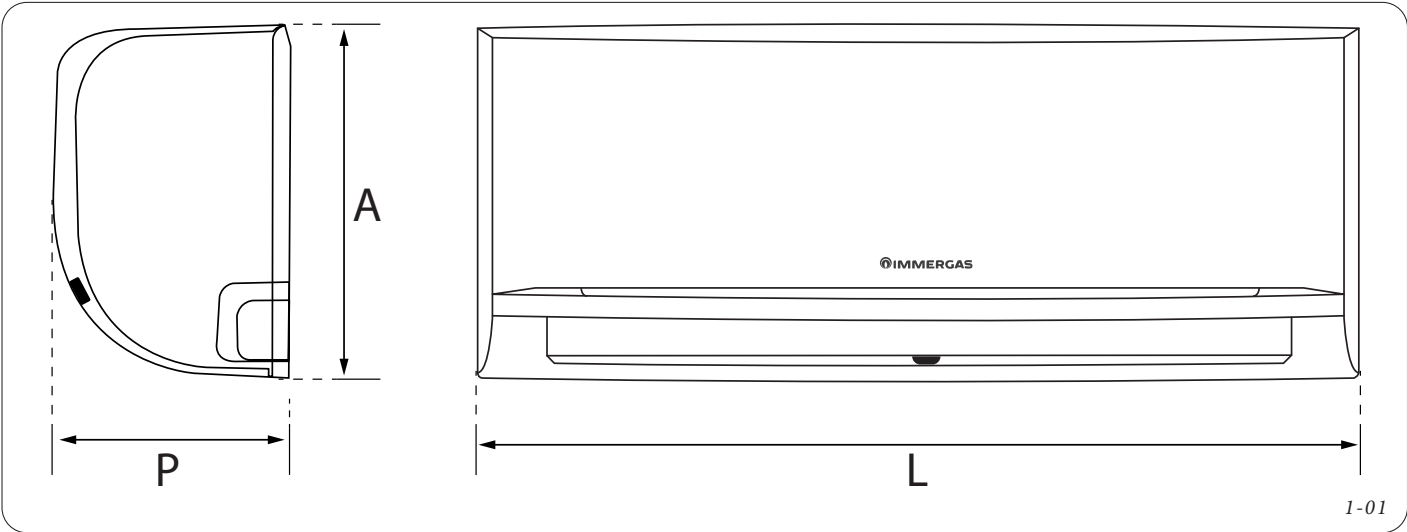
WARNINGS for product installation:

- Installation must be carried out according to the installation instructions. Improper installation could cause refrigerant leaks, electric shocks or fire. This device must be installed in compliance with the national electrical code.
- For installation only use the included specified accessories, parts and pieces. The use of non-standard parts can cause a fault on the unit.
- Install the unit in a solid position that can support its weight. If the chosen position cannot support the weight of the unit, or installation is not carried out correctly, the unit can fall and cause serious injuries and damage.
- Handle the device with care.
- Do not install the unit where it can be exposed to combustible gas leaks. If gas accumulates around the unit, this can cause a fire.
- Do not turn on the unit until all work is complete.
- When moving or relocating the air conditioner, consult expert technicians for unit disconnection and reinstallation.
- The outdoor unit is designed for outdoor installation only.
- Do not install the unit or parts of it on stairs, landings or other elements constituting escape routes, thereby obstructing the free passage.
- Do not install near sources of heat.
- The unit must be positioned in such a way as to avoid refrigerant leaking in homes or otherwise endangering people, animals, objects and property. In the event of a leak, the refrigerant must not be able to flow into vents, doors, hatches, drains or other openings.
- Do not position in basement windows or similar environments.
- Avoid obstacles or barriers that cause recirculation of exhaust air.



1.2 INSTALLING THE INDOOR UNIT

1.2.1 MAIN DIMENSIONS



Dimensions

Model		Dimensions (L mm)	Dimensions (P mm)	Dimensions (A mm)
THOR	UI THOR 9	729	204	292
	UI THOR 12	805	205	296
	UI THOR 18	971	230	321
	UI THOR 24	1082	234	337
GOTHA	UI GOTHA 9	805	205	296
	UI GOTHA 12			

Connections

Model		Net weight (kg)	Condensate drain Ø (mm)	Flow pipe internal Ø (liquid)	Return pipe internal Ø (gas)
THOR	UI THOR 9	8.0	16	1/4" (6.35 mm)	3/8" (9.52 mm)
	UI THOR 12	8.7	16	1/4" (6.35 mm)	3/8" (9.52 mm)
	UI THOR 18	11.2	16	1/4" (6.35 mm)	1/2" (12.7 mm)
	UI THOR 24	13.6	16	3/8" (9.52 mm)	5/8" (15.9 mm)
GOTHA	UI GOTHA 9	8.7	16	1/4" (6.35 mm)	3/8" (9.52 mm)
	UI GOTHA 12	8.7	16	1/4" (6.35 mm)	3/8" (9.52 mm)

INSTALLER

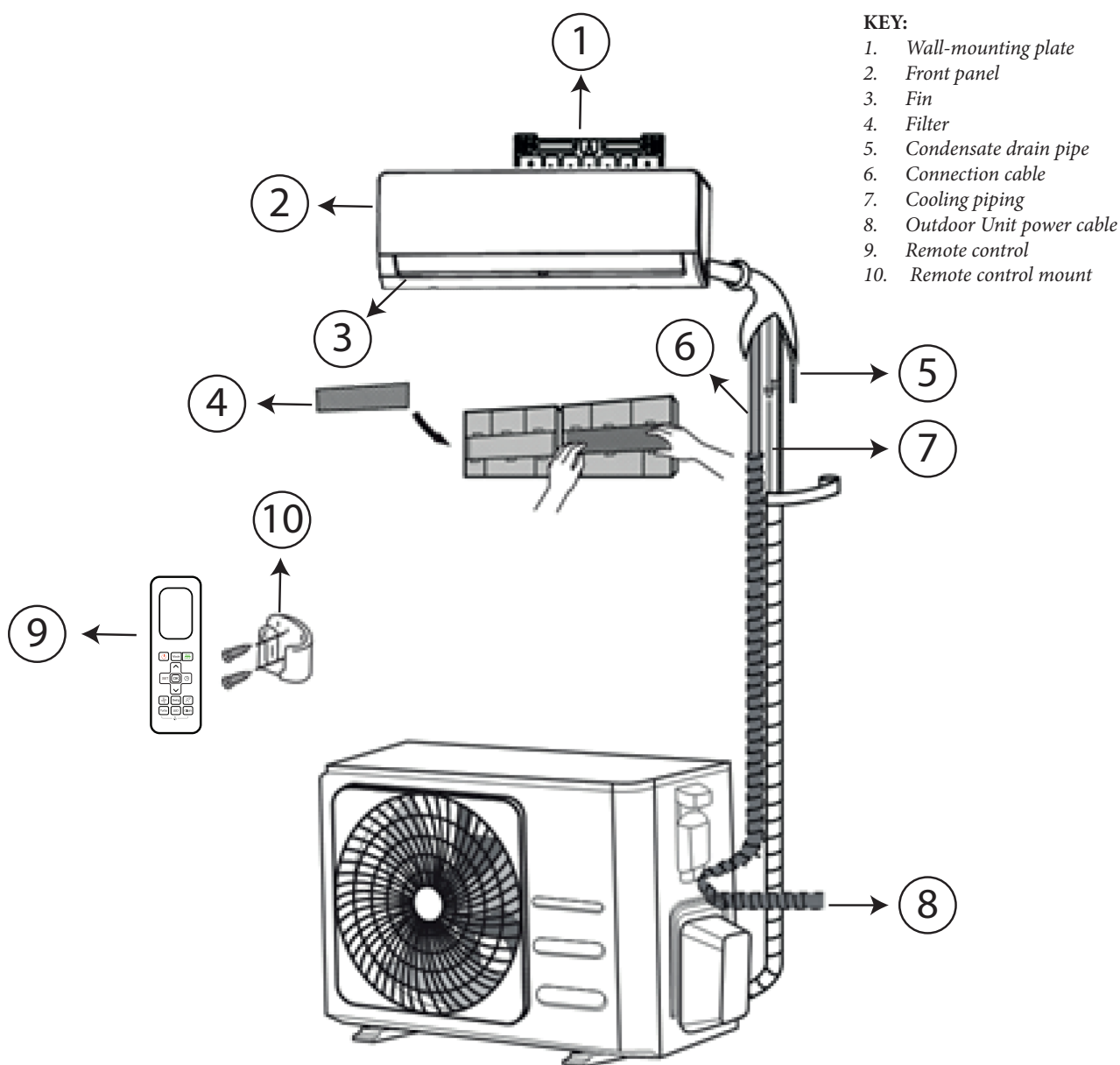
USER

MAINTENANCE TECHNICIAN

TECHNICAL DATA



1.2.2 MAIN COMPONENTS



1-02

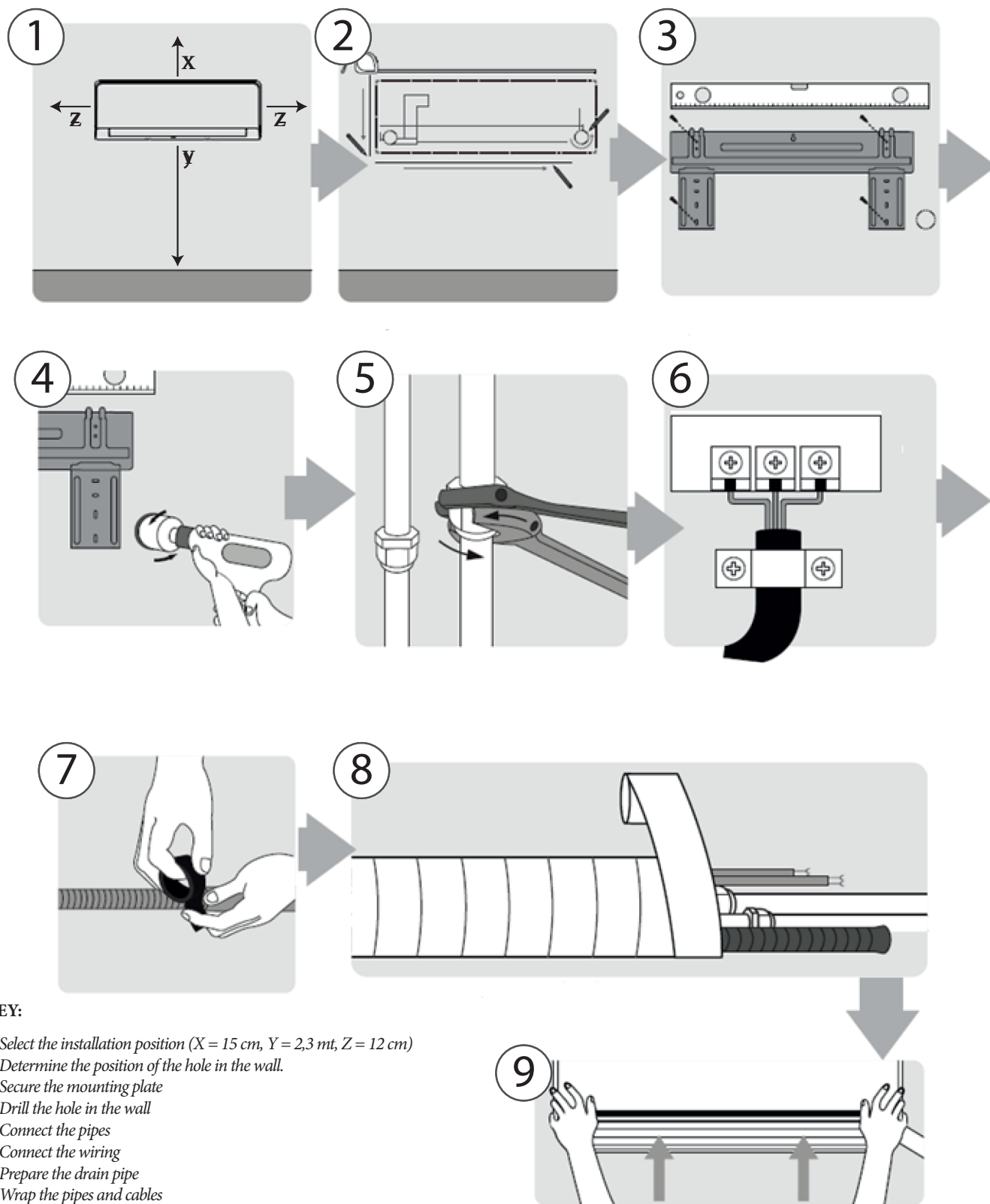
NOTE:

- The drawing refers both to the GOTHA solution and to the THOR solution
- The pipes can be connected on the left side, right side or at the back of the indoor unit
- 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 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 a wall of 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.

1.2.3 OVERVIEW OF INSTALLATION



KEY:

1. Select the installation position (X = 15 cm, Y = 2,3 mt, Z = 12 cm)
2. Determine the position of the hole in the wall.
3. Secure the mounting plate
4. Drill the hole in the wall
5. Connect the pipes
6. Connect the wiring
7. Prepare the drain pipe
8. Wrap the pipes and cables
9. Mount the indoor unit

1-03

INSTALLER

USER

MAINTENANCE TECHNICIAN

TECHNICAL DATA



1.2.4 INSTALLATION

Before installing the indoor unit, see the label on the box of the product to make sure that the model number of the indoor unit matches the number of the Outdoor Unit.

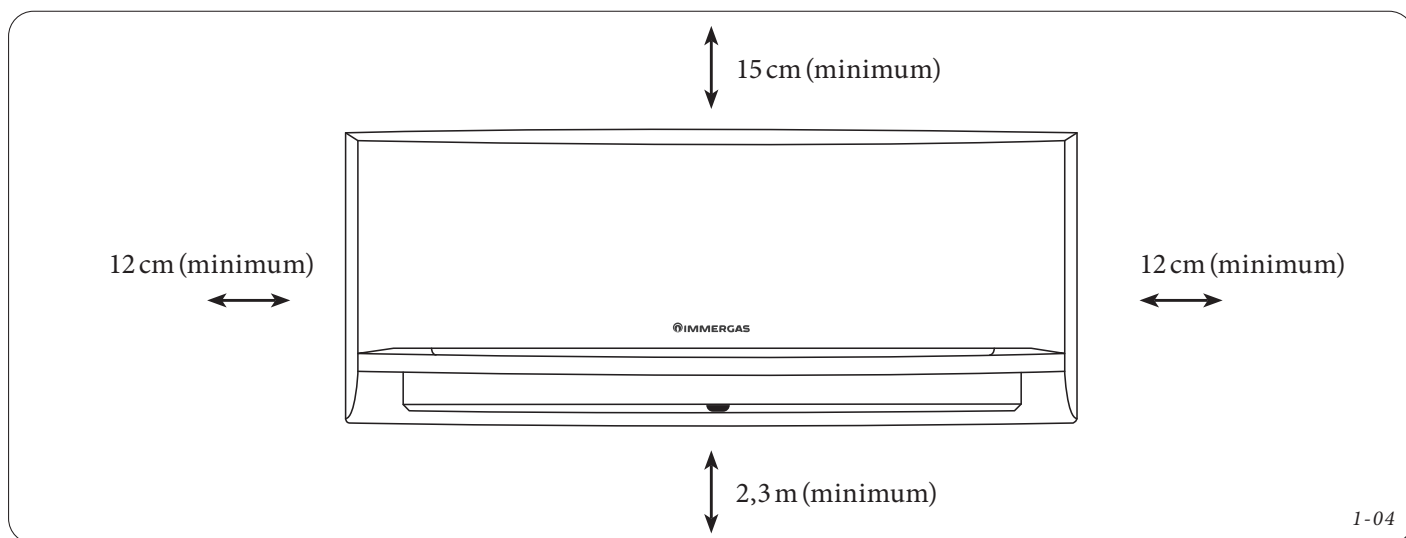
STEP 1: Choosing the place of installation.

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:

- Good air flow.
- Adequate drainage.
- Noise from the outdoor unit must not bother other people.
- Make sure that the installation mount can bear the weight of the unit without vibrating.
- Make sure that the installation wall can bear the weight of the unit.
- Keep a distance of at least 1 metre from electrical devices (e.g. TV, radio, Computer)

Refer to the following diagram to guarantee proper distance from walls and ceiling.



DO NOT install the unit in the following places:
 Close to any source of heat, vapour or combustible gas
 Close to flammable objects such as curtains or clothing
 Close to any obstacle that can block the air circulation
 Close to a communication door
 In a place under direct sunlight

NOTE regarding hole in the wall:

If there is no fixed refrigerant pipe, when choosing the location, keep in mind that sufficient space must be left for the signal cable and for the chiller pipes connecting the indoor unit and outdoor unit. The standard position for all the piping is on the right side of the indoor unit (looking at it from the front), nonetheless the pipe of the unit can be installed both on its right or left.

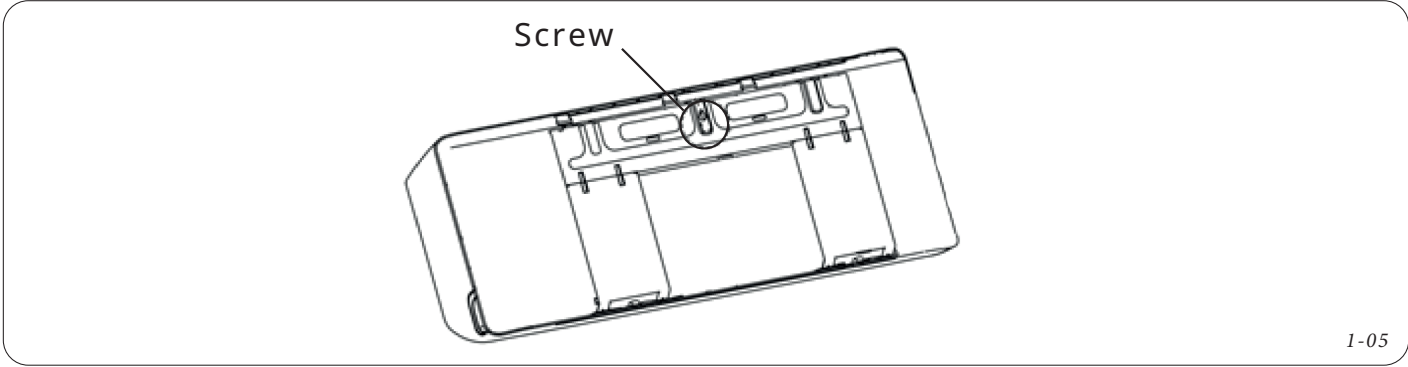
STEP 2: Wall-mounting plate (template) fixing

The mounting plate is the component on which the indoor unit is installed.

1. Remove the screw that joins the mounting plate to the back of the indoor unit.
2. Place the mounting plate against the wall, in a place that complies with all of the indications given above. Use a level to position it so that it is perfectly level both vertically and horizontally.
3. Drill a hole for the provided plugs (pay attention not to perforate or damage hidden pipes or cables in the wall)



- Secure the mounting plate to the wall using the supplied screws.
- Make sure that the mounting plate is flush against the wall.

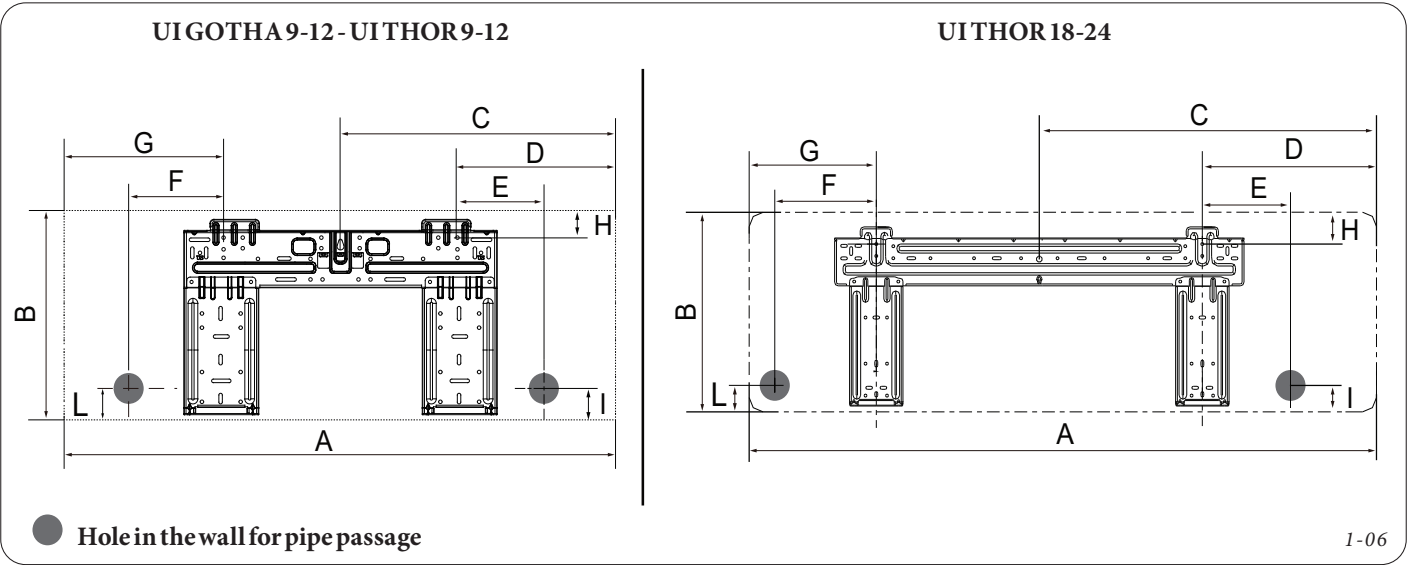


NOTEfor cement or brick walls:
 If the wall is made of bricks, cement or similar materials, drill 5 mm diameter holes and insert the supplied anchor plugs, then fix the mounting plate to the wall by tightening the screws directly inside the anchor plugs.

STEP 3: Drilling hole for connection pipes

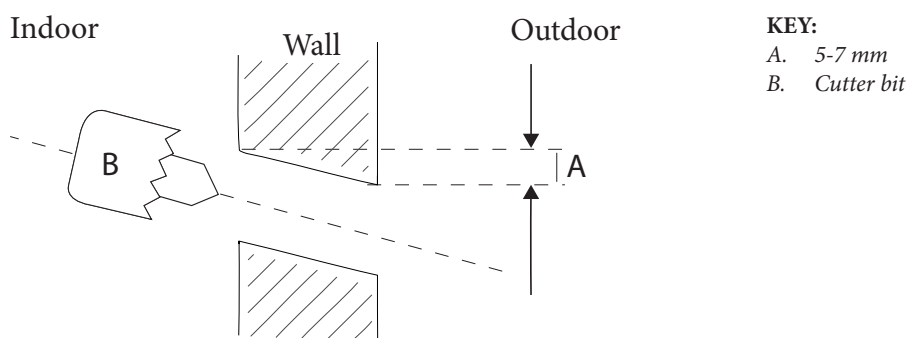
Drill a hole in the wall for the refrigerant pipes, the drainage pipe and the signal cable that will connect the indoor unit to the outdoor unit.

- Determine the position of the hole in the wall depending on the position of the mounting plate. Refer to the image with the dimensions of the mounting plate to determine the ideal position. The hole in the wall must have a minimum diameter of 65mm (at least 90mm for UI Thor-24) and with an angle inclined slightly downwards, so that the slope facilitates water drainage (see figure below and table)



Model		Dimensions Indoor Unit			Mounting Plate Dimensions						
		A (in mm)	B (in mm)	C (in mm)	D (in mm)	E (in mm)	F (in mm)	G (in mm)	H (in mm)	I (in mm)	L (in mm)
THOR	UI THOR 9	729	292	348,4	179	136	101	-	37	49	49
	UI THOR 12	805	295	403	231	121	190	230	36	53	47
	UI THOR 18	971	321	527	247	139	106	165	37	48	48
	UI THOR 24	1082	337	603	322	173	129	199	55	54	54
GOTHA	UI GOTHA 9	805	295	403	231	121	190	230	36	53	47
	UI GOTHA 12	805	295	403	231	121	190	230	36	53	47

- Using a minimum 65mm size cutter bit for the drill (for UI Thor-24 it must be a minimum of 90mm), drill a hole in the wall, ensuring that it is angled slightly downwards, so that the outer end is about 5-7mm lower than the inner end.



1-07

- 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.



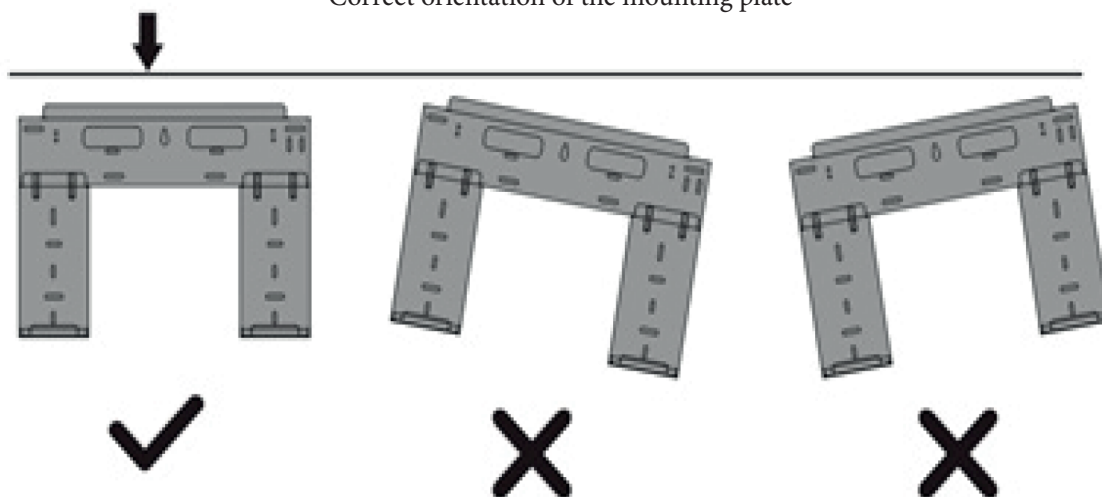
ATTENTION

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

The indoor units have different sizes and therefore different mounting plates. To be sure to have sufficient space to mount the indoor unit, check the following dimensions:

- Plate width
- Plate height
- Indoor unit width
- Indoor unit height
- Recommended position to drill the hole in the wall
- Distances between bores

Correct orientation of the mounting plate

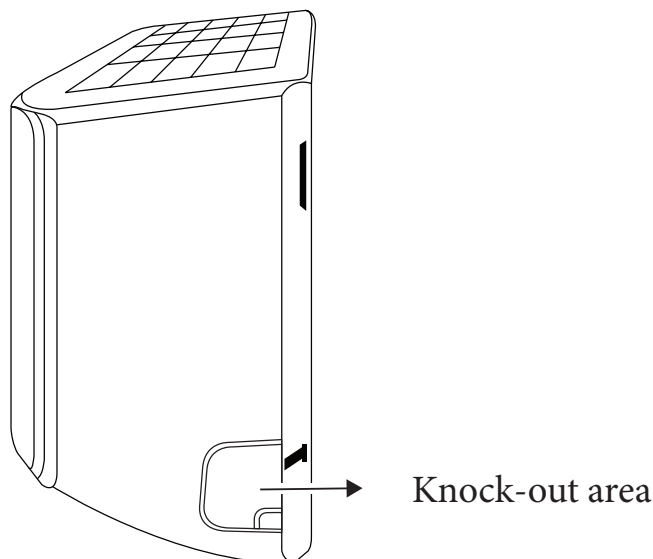


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STEP 4: Preparation of cooling pipes

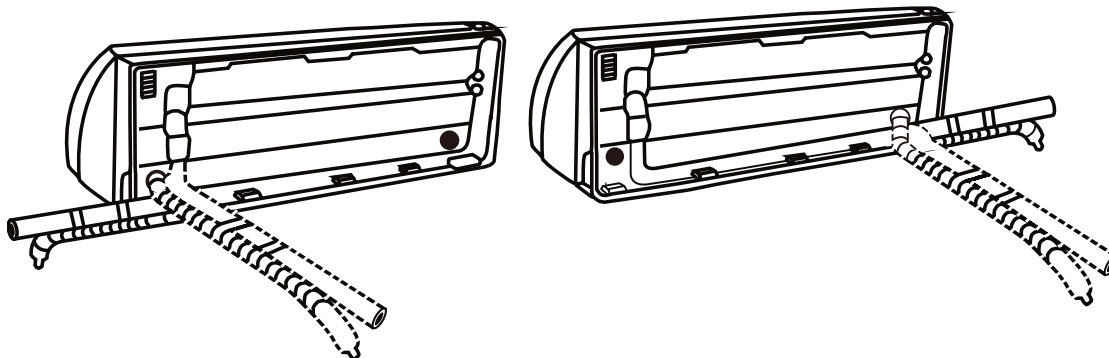
The cooling pipes are located inside an insulated sleeve connected to the back of the indoor unit. The pipes must be prepared before threading them through the hole in the wall.

1. Based on the position of the hole in the wall for the mounting plate, choose the side from which the pipes will exit the unit.
2. If the hole in the wall is behind the unit, maintain the knock-out area without cutting it. If the hole in the wall is on the side of the indoor unit, remove the plastic side knock-out area. This will create an opening through which the pipes will come out of the unit. Use a pair of pliers if the knock-out area is difficult to remove by hand.



1-09

3. Cut approximately 40 mm of pipe insulation layer to facilitate the connection process, to check for gas leaks and to detect any dents.
4. If the cooling pipes are already present (hidden setup), go right to the next paragraph (Drain pipe connection step). Whereas if there is no connection inserted in the wall, connect the cooling pipes of the unit to the connection pipes joining the indoor unit to the outdoor unit. Refer to the dedicated paragraph in this manual regarding the Connection of cooling pipes for detailed instructions.
5. Based on the position of the holes in the wall for the mounting plate, determine the required angle of the pipes.
6. Grasp the cooling pipes at the base of the bend.
7. Bend the pipes towards the hole slowly and with constant pressure. Do not dent, damage or crush the pipes during this operation as it could jeopardise operation of the unit.



1-10

NOTE on the pipe outlet:

The cooling pipes can exit the indoor unit from 4 different angles:
Right side, left side, right rear side and left rear side as shown in the figure.



STEP 5: Connection of drain pipe

By default, the drain pipe is connected on the left side of the unit (in a front position with respect to the back of the unit). However it can also be connected on the right side.

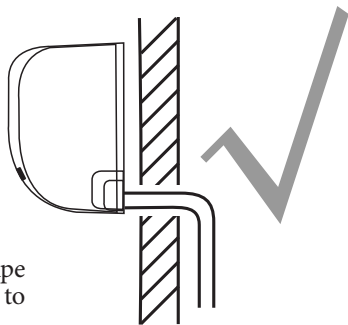
1. To guarantee adequate drainage, connect the drain pipe on the same side that the cooling pipes exit the unit.
2. Firmly connect the drain pipe to the condensate drain hose union and install the safety clip (already present).
3. Wrap the connection point firmly with Teflon tape to guarantee proper sealing and to avoid leaks.
4. Wrap the portion of the drain pipe left inside with insulation foam to prevent condensate.
5. Remove the air filter and pour a small amount of water into the drain tank to make sure the water flows smoothly.
6. To avoid unwanted leaks, plug the unused drain hole with the supplied rubber plug.



Make sure to arrange the drain pipe as indicated in the figures below.
Do NOT twist the drain pipe
Do NOT form a siphon
Do NOT insert the end of the drain pipe in water or in a closed collection container and/or where the water level can reach the pipe. The end of the pipe must always remain outside.

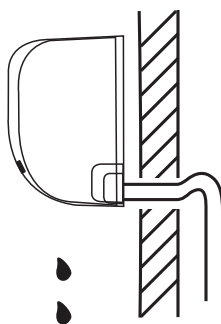
CORRECT

Make sure that the drain pipe has no bends or bottlenecks to guarantee correct drainage.



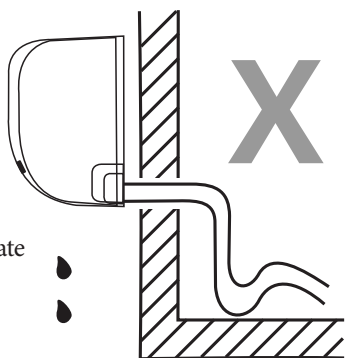
INCORRECT

Bends in the drain pipe create a siphon



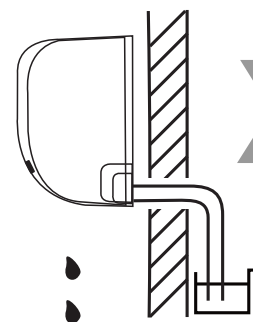
INCORRECT

Bends in the drain pipe create a siphon



INCORRECT

Do NOT insert the end of the drain pipe in water or in a closed water collection container. This would hinder correct drainage

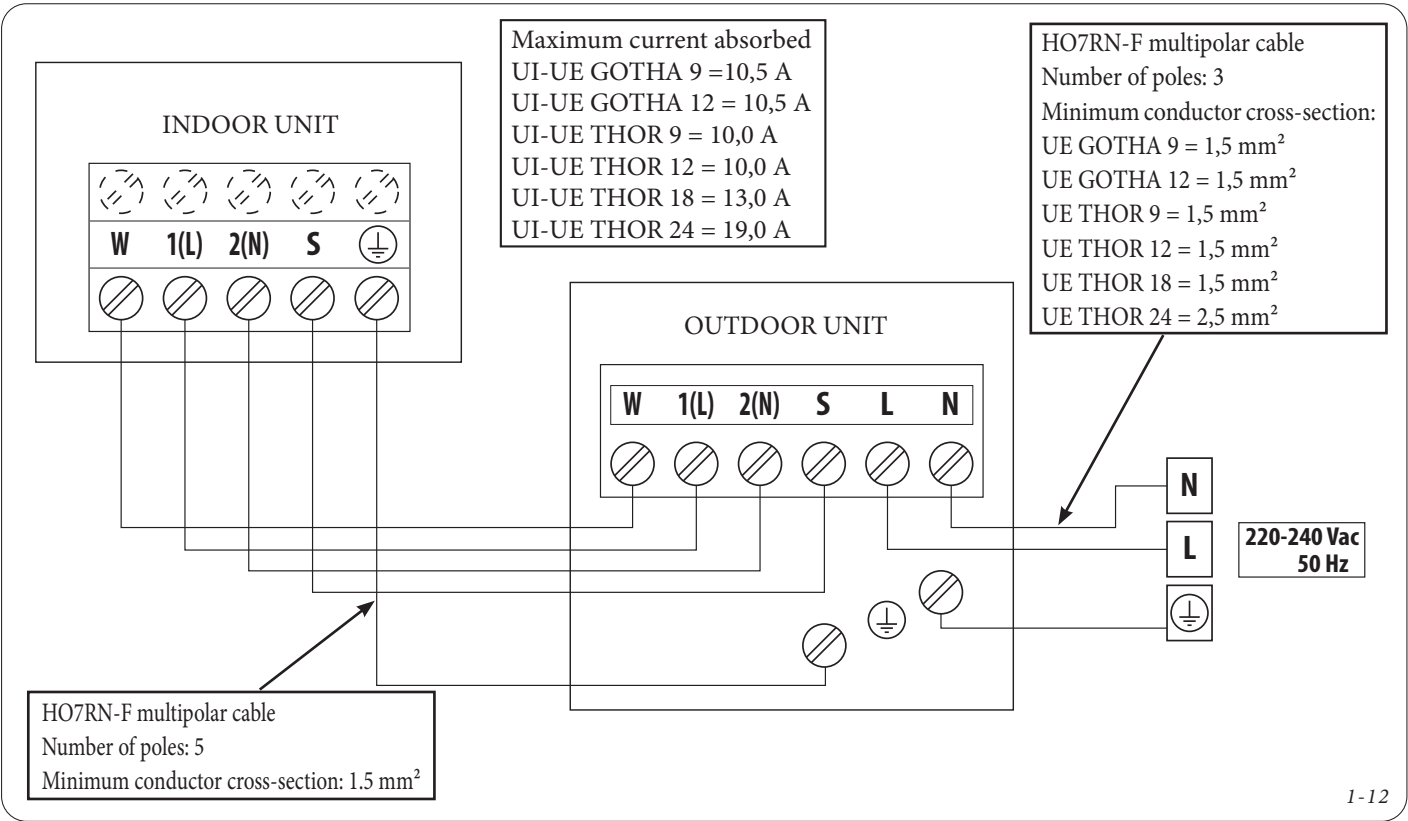


STEP 6: Signal and power supply cables connection

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 front panel 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.

The maximum absorbed current of the Unit is stated in the data nameplate, located on the Unit’s side panel.
The P.C.B. is designed with a fuse to protect against power overload.
The fuse specifications are printed on the P.C.B.

Signal and power supply cables connection procedure:

1. Preparing connection cable
 - a. Using the wire stripper, remove insulation at both ends of the signal/power cable exposing about 40 mm of inner wires.
 - b. Remove the insulating sheathing from the ends of the wires.
 - c. Using the wire-stripper, bend the tabs on the ends of the wire into a U shape.

INSTALLER

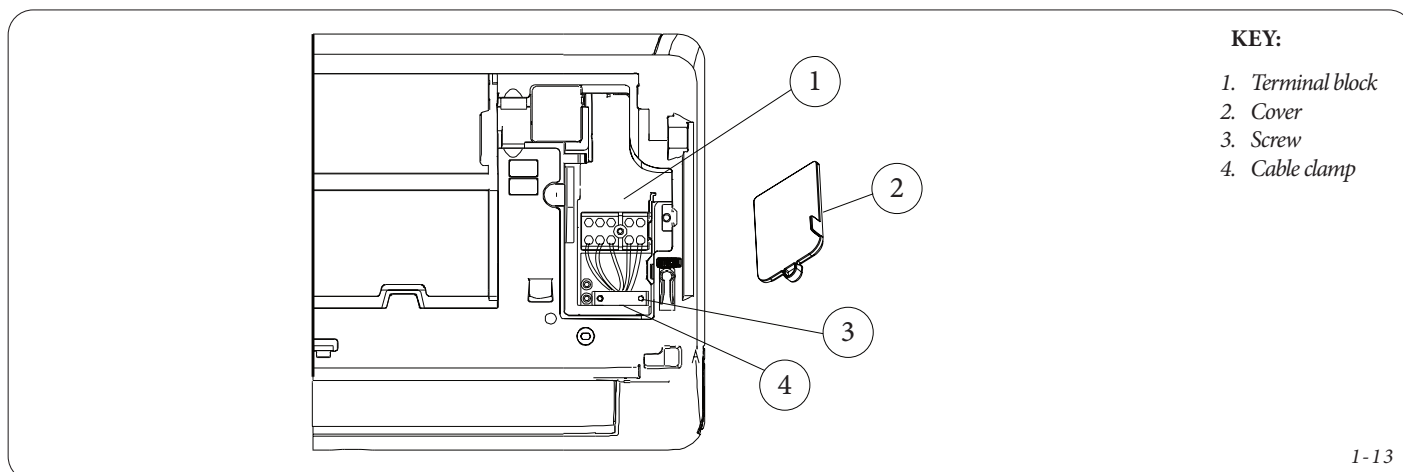
USER

MAINTENANCE TECHNICIAN

TECHNICAL DATA



- Open the front panel of the indoor unit.
- Using a screwdriver, remove the terminal block cover on the right side of the unit. This allows you to access the terminal block below.



1-13

- Unscrew the terminal of the cable below the terminal block and set it aside.
- Standing in front of the back of the unit, remove the plastic panel on the bottom left side.
- Thread the cable through the opening, from the back of the unit to the front.
- Standing in front of the unit, connect each wire to the terminal block, which is marked by letters and numbers, according to the wiring diagram. 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.
- After checking, make sure that each connection is secure, use the cable clamp to fix the cable to the unit.
- 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.
- Put the cable cover back on and close the front panel.

The outdoor unit must be connected to a 220 - 240 V/50HZ power supply line by a breaker or fuse and RCD.

These devices must comply with regulations in force and sized for the maximum absorbed current as stated in the table.

Indoor Unit Outdoor Unit	Nominal Values		Tolerable Voltage Range		Maximum current absorbed	Maximum absorbed power
	Hz	V	V	V	A	W
UI - UE GOTHA 9	50	220-240	198	264	10.5	2200
UI - UE GOTHA 12	50	220-240	198	264	10.5	2200
UI - UE THOR 9	50	220-240	198	264	10	2150
UI - UE THOR 12	50	220-240	198	264	10	2150
UI - UE THOR 18	50	220-240	198	264	13	2500
UI - UE THOR 24	50	220-240	198	264	19	3700

NOTE:

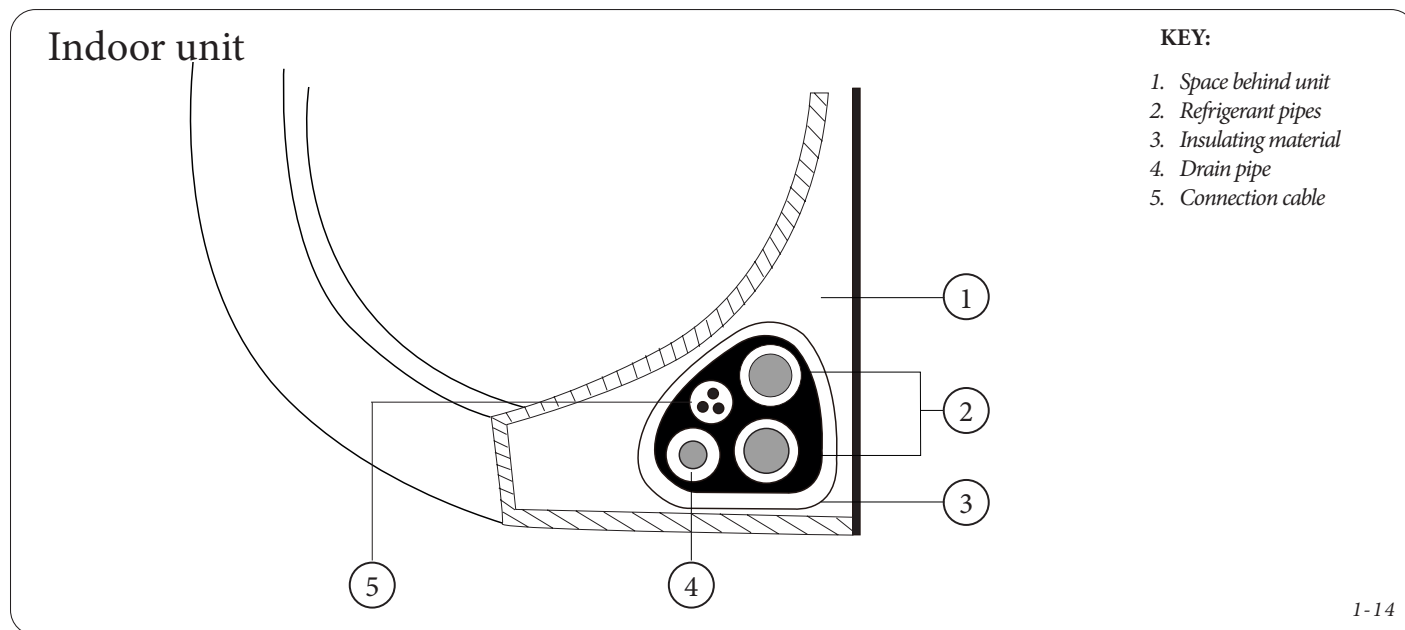
- Inserting one or more potential-free contacts between terminals "W", the air conditioner will enter standby mode when the contact is open.
- Secure the multipolar cables to the relative cable ties.
- Each earthing wire needs to be connected to the closest earthing terminal (only one wire per terminal); do not use the mount's fastening screws.

The RCD must not have a differential current greater than 30 mA, and be at least type A (do not use RCD type AC).



STEP 7: Wrapping pipes and cables

Before passing the pipes and cable through the hole in the wall, they must be wrapped together to save space, and to protect and insulate them.



ATTENTION

Make sure that the drain pipe is at the lower part of the bundle. Placing it at the top could cause the drain tank to overflow causing flooding.

1. Wrap the drain pipe, cooling pipes and cable as indicated in the image below.
2. Using vinyl adhesive tape, fix the drain pipe at the bottom of the cooling pipes.
3. Using insulating tape, wrap the signal cable, the cooling and drain pipes tightly together. Again check that all the objects are tied together as shown in the previous figure.



ATTENTION

While wrapping as indicated above, keep the ends of the pipes free; you must be able to have access to them to check for leaks at the end of the installation process.

STEP 8: Mounting the indoor unit

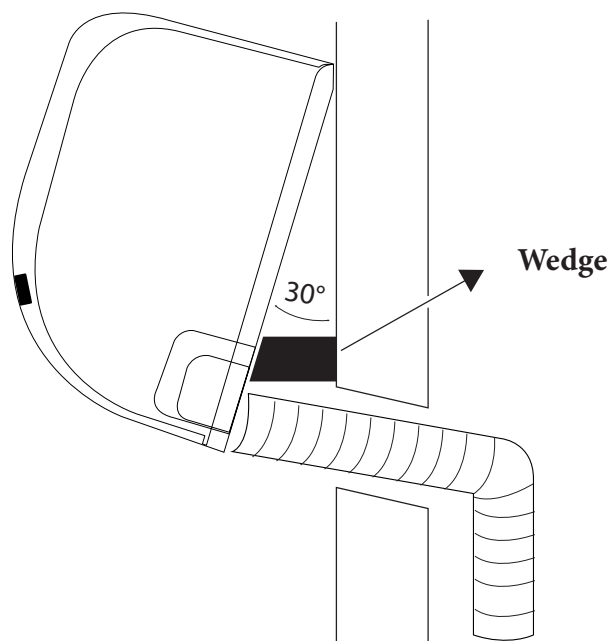
If a new connection pipes have been installed on the outdoor unit, proceed as follows:

1. If you have already passed the cooling pipes through the hole in the wall, proceed from point 4
2. If not, again check that the ends of the cooling pipes are sealed to prevent filth or foreign bodies from entering.
3. Slowly thread the bundle of cooling pipes, the drain pipe and the signal cable through the hole in the wall.
4. Couple the top of the indoor unit to the upper hook of the fixing plate.
5. Check that the indoor unit is firmly secured to the plate by applying slight pressure on the left and right sides of the unit. The unit must not sway or move.
6. Applying even pressure, push the bottom half of the indoor unit downwards. Keep pushing until the unit snaps on the hooks of the mounting plate.
7. Again check that the unit is firmly installed by applying slight pressure on both sides of the unit.



If the cooling pipes are already recessed in the wall, proceed as follows:

1. Couple the top of the indoor unit to the upper hook of the fixing plate.
2. Use a bracket or wedge to prop up the unit, leaving enough space to connect the cooling pipes, the signal pipe and the drain pipe.
3. Connect the drain pipe and the cooling pipes (see dedicated paragraphs in this manual).
4. Keep the connection point of the pipes accessible to be able to perform leak tests (see paragraph Electrical tests and gas leak tests).
5. After the leak test, wrap the connection point with insulating tape.
6. Remove the bracket or wedge supporting the unit.
7. Applying even pressure, push the bottom half of the indoor unit downwards. Keep pushing until the unit snaps on the hooks of the mounting plate.



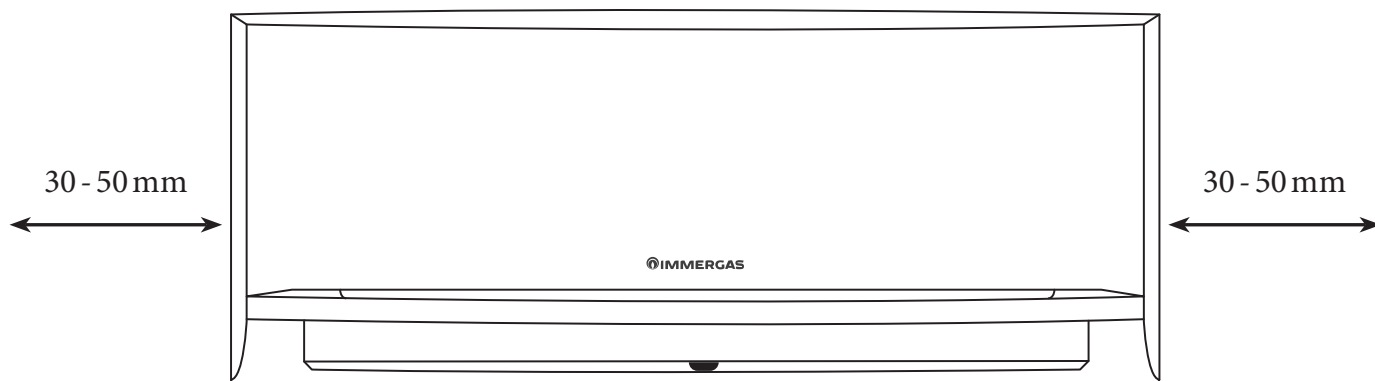
1-15



INFORMATION

Keep in mind that the hooks of the fixing plate are smaller than the cavities at the back of the unit. This allows you to adjust the position of the unit, with the plate already fixed to the wall, approximately 30-50mm to the right or left depending on the model.

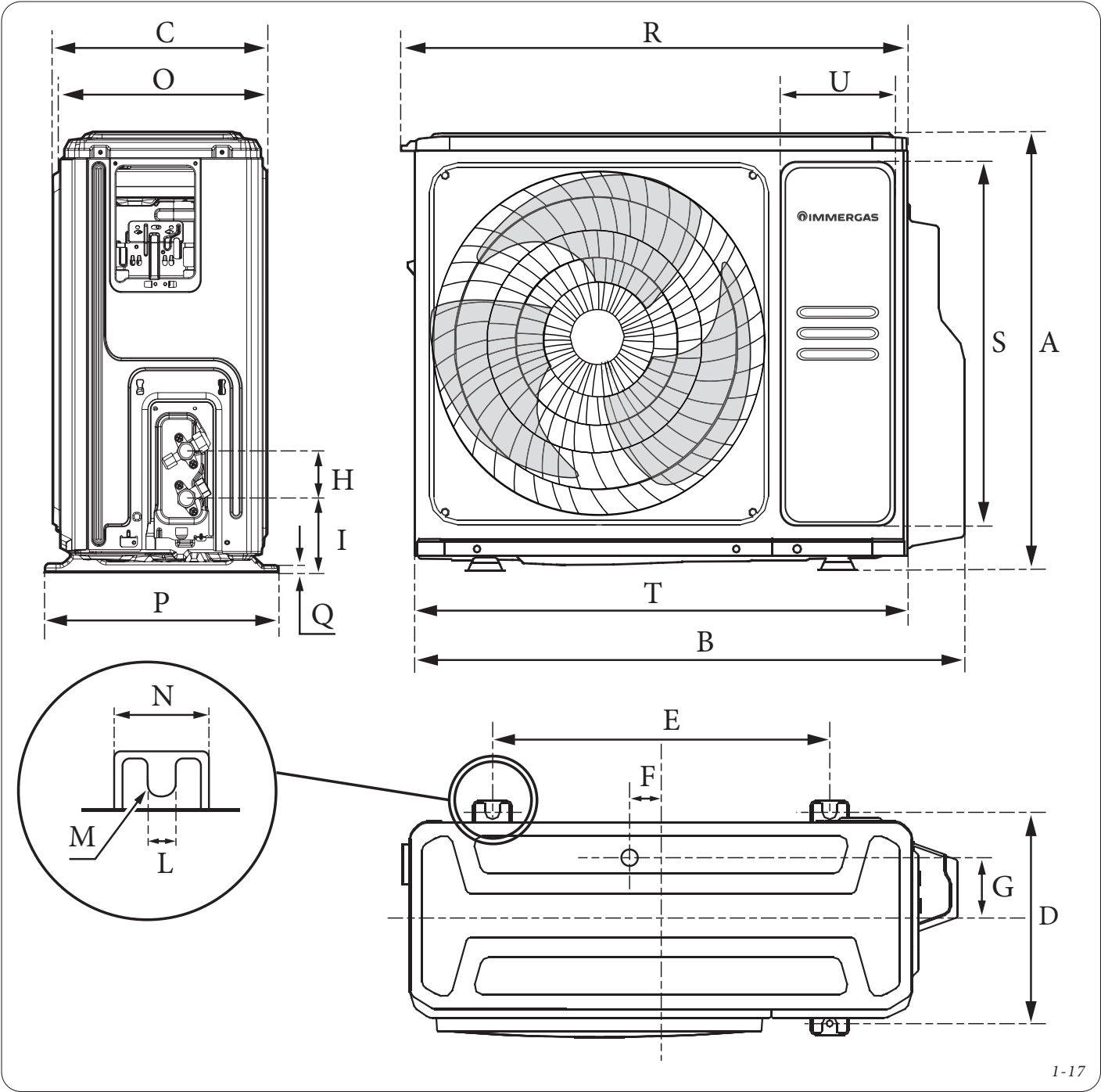
Move to left or right



1-16

1.3 OUTDOOR UNIT INSTALLATION

1.3.1 MAIN DIMENSIONS



Dimensions in mm.

EU models	A	B	C	D	E	F	G	H	I	L	M	N	O	P	Q	R	S	T	U
THOR 9	495	790	270	255	452	16,5	76,5	60	87	11	R 6	49	245	281	7,6	727	396	720	180,4
THOR 12	495	790	270	255	452	16,5	76,5	60	87	11	R 6	49	245	281	7,6	727	396	720	180,4
THOR 18	554	874	330	317	511	49	105	60	95	10	R 6,5	58	307	346	-	815	434,2	805	204,1
THOR 24	673	955	342	348	663	61	52	60	108	12	R 6	74	325	380	11	895	552	890	193
GOTHA 9	555	835	303	286	452	18	76	60	93	10	R 5	62	274	314	-	784	435	765	182
GOTHA 12	555	835	303	286	452	18	76	60	93	10	R 5	62	274	314	-	784	435	765	182



INSTALLER

USER

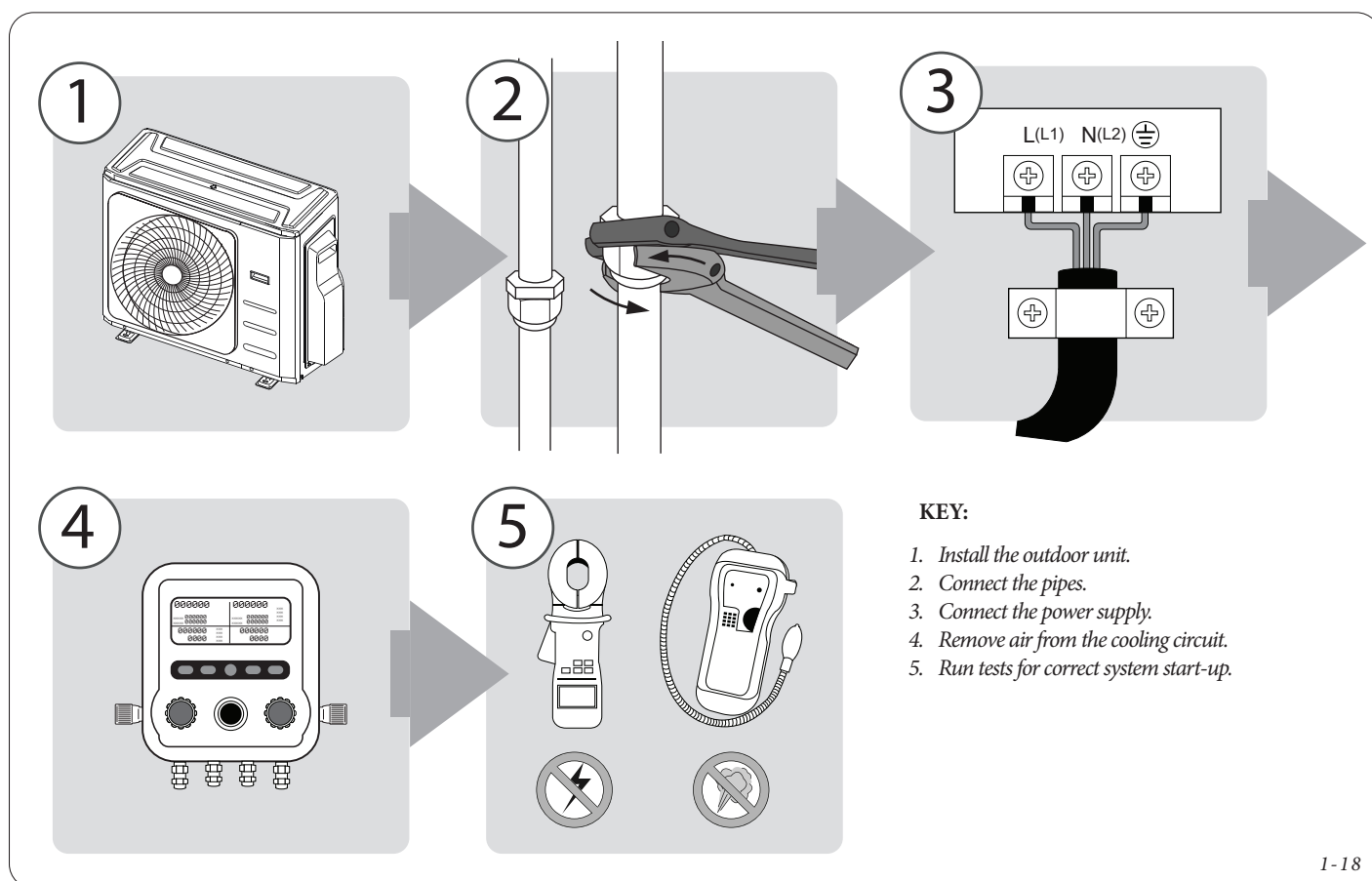
MAINTENANCE TECHNICIAN

TECHNICAL DATA

Connections

EU models	R32 refrigerant liquid	R32 refrigerant gas	Net weight [Kg]	Condensate drain [mm]
THOR 9	1/4"(6.35 mm)	3/8"(9.52 mm)	23.5	16
THOR 12	1/4"(6.35 mm)	3/8"(9.52 mm)	23.7	16
THOR 18	1/4"(6.35 mm)	1/2"(12.7 mm)	33.5	16
THOR 24	3/8"(9.52 mm)	5/8"(15.9 mm)	43.9	16
GOTHA 9	1/4" (6.35 mm)	3/8" (9.52 mm)	26.4	16
GOTHA 12	1/4" (6,35 mm)	3/8" (9,52 mm)	26.4	16

1.3.2 OVERVIEW OF INSTALLATION



1-18

1.3.3 INSTALLATION

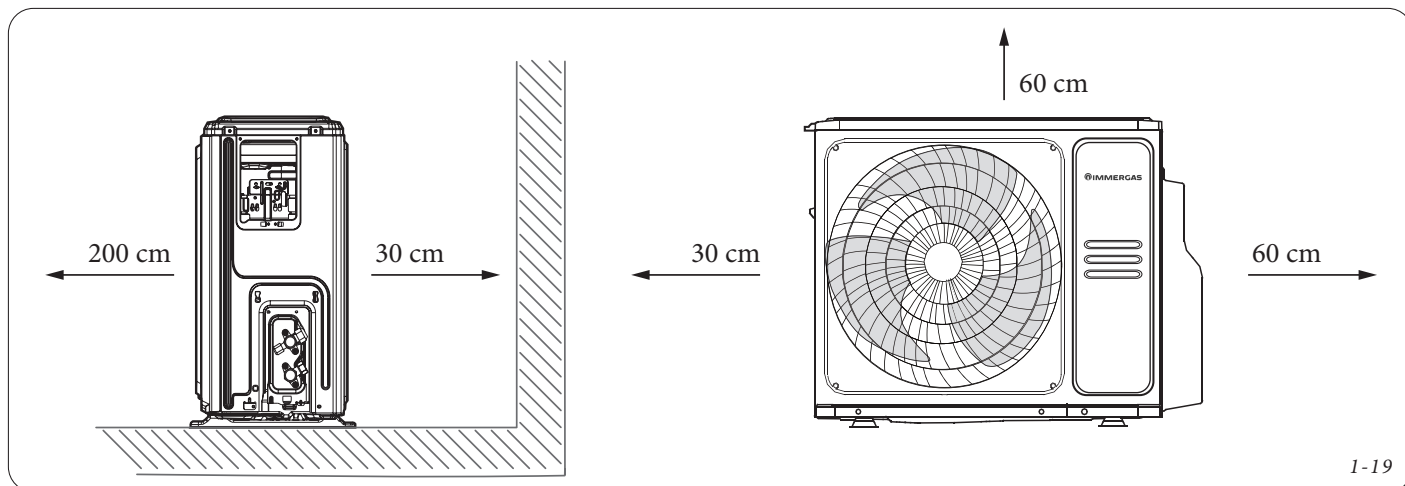
It is necessary for the outdoor unit to be handled and stored in a vertical position, for the purpose of ensuring adequate availability of the oil contained in the cooling circuit and avoid any damage to the compressor.

STEP 1: Choosing the place of installation

Before installing the outdoor unit, choose an appropriate place.

Below are the indications that will help you choose an appropriate place for unit installation and with the following features:

- Observe all of the installation dimensions as in the figure;
- Good air and ventilation flow



- Noise from the unit must not bother other people.
- Make sure that the mount/wall/partition can bear the weight of the unit and does not vibrate.
- Protected against extended periods of direct sunlight or rain.



DO NOT install the unit in the following places:
DO NOT install near an obstruction that could block air inlet and outlet
DO NOT install on a public road, crowded areas or where the noise of the unit can bother other people.
DO NOT install near animals or plants that can get harmed by the hot air exhaust coming from the unit.
DO NOT install near any source of combustible gas
DO NOT install in a place exposed to an excessive amount of dust and/or salty air.

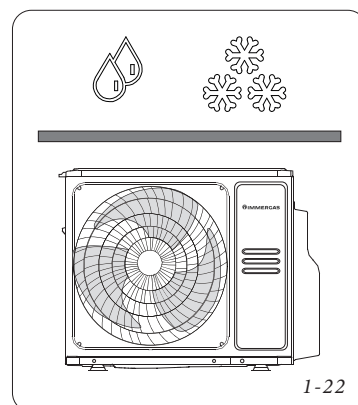
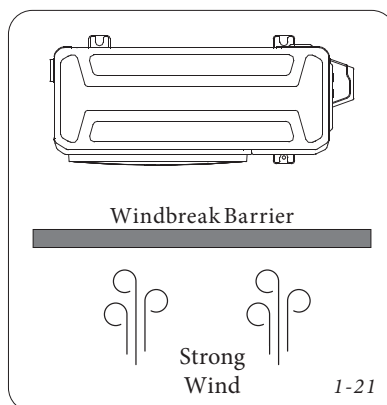
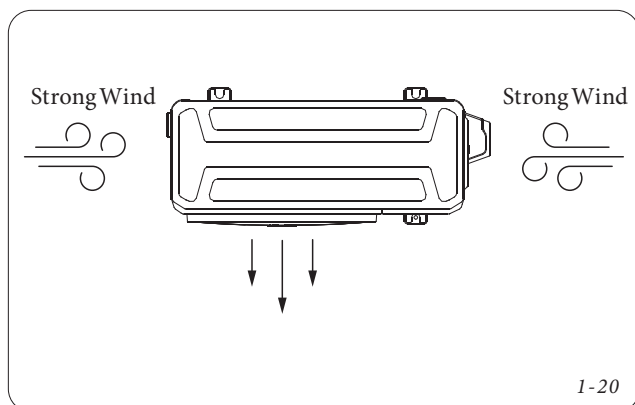
Special considerations for extreme weather conditions

If the unit is exposed to strong wind:

- Install the unit so that the air outlet fan is at a right angle with respect to the wind direction (1-20).
- If necessary, set up a barrier in front of the unit to protect it from strong winds (1-21).

If the is often exposed to rain or snow:

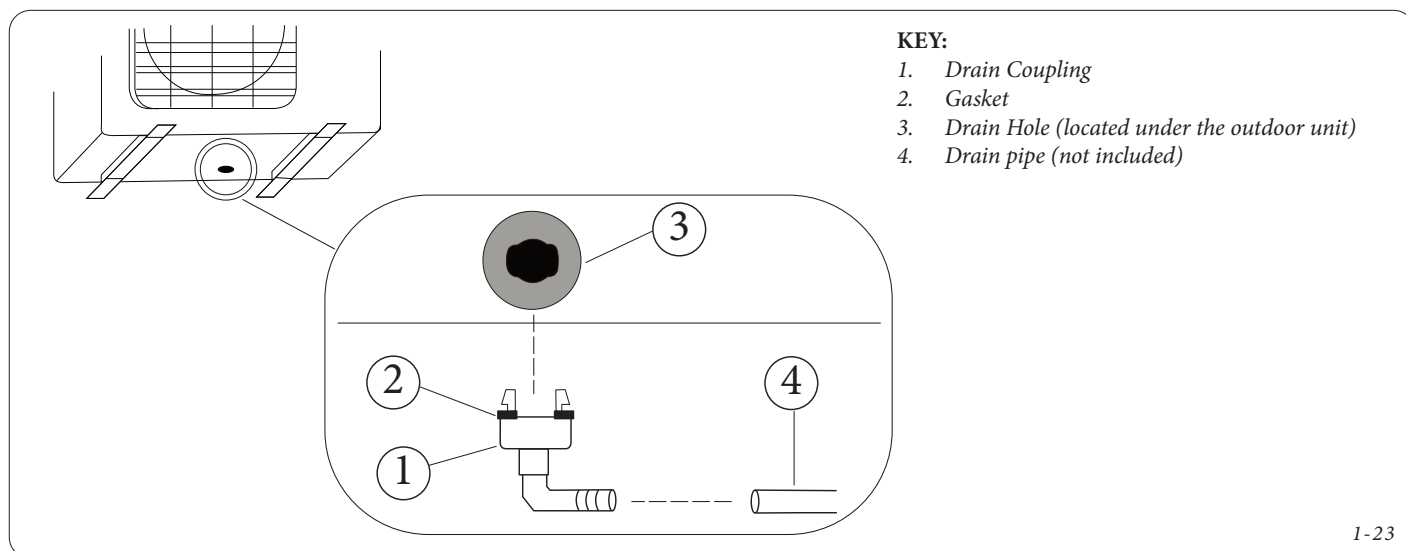
- set up a guard above the unit to protect it from the elements, taking care to not obstruct the flow of air around the unit (1-22).



STEP 2: Installation of condensate drain coupling

Before securing the outdoor unit to the floor, it is necessary to install the condensate drain coupling as follows:

- Install the rubber gasket in its place on the drain coupling.
- Insert the drain coupling in the hole on the bottom of the unit.
- Turn the drain coupling 90° towards the front part of the unit, until it clicks into place.
- Connect a pipe (not included) to the drain coupling so that the condensate flows into the relative duct.

**ATTENTION**

For installation in particularly cold climates, make sure that the condensate drain pipe is as vertical as possible to guarantee quick drainage of the water. If the water flows out too slowly, it could freeze in the pipe and flood the unit.

STEP 3: Anchoring the unit to the floor

Based on the place of installation, set up the right anchoring system for the machine and the use of adequate vibration dampers (sold separately), to install under the supporting feet of the outdoor unit.

When anchoring to the ground, refer to the technical drawings in the “Main Dimensions” paragraph after having the correct position of the supporting feet.

**INFORMATION**

If the unit is standing on the floor, it is advisable to purchase the dedicated Immergas floor-mount kit with the relative instructions.

If the unit is wall-mounted, it is advisable to purchase the dedicated Immergas wall-mount brackets kit with the relative instructions.



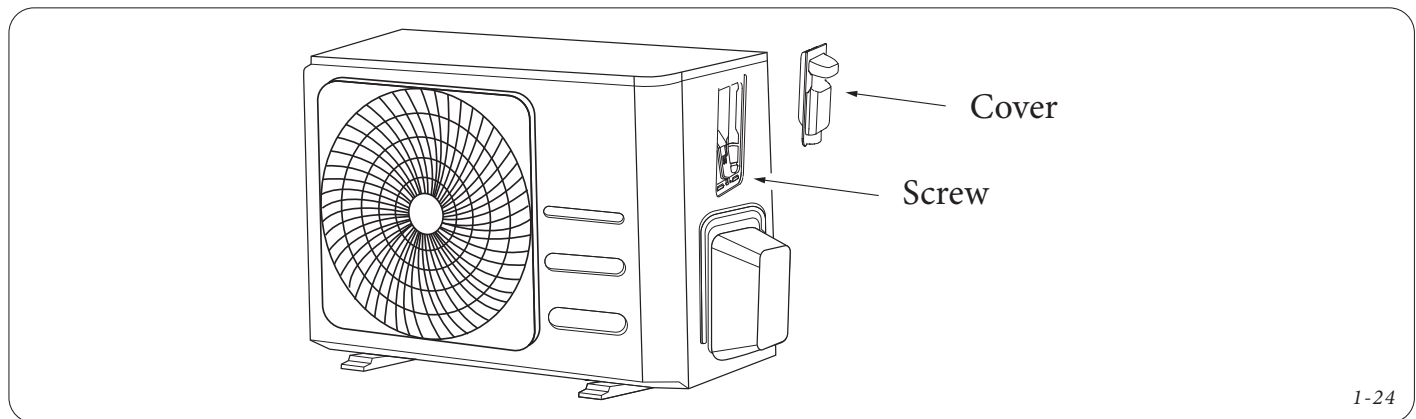
Attention

Before doing any electrical work, read the warnings at the beginning of this manual. Before performing any electrical work or cleaning, be sure to cut off the power supply to the units.

When stripping the wires, be sure to clearly identify the “L” phase cable.

The terminal block for the outdoor unit power supply cables and connection to the indoor unit, is protected by a cover on the side of the outdoor unit.

The electric connections diagram is located inside the cover and in the wiring diagram in this manual. All electrical connections must be strictly set up according to these guidelines.



1. Prepare the cable for the connection.

The type of cable and its cross-section are indicated in the wiring diagram in this manual (previous pages). The maximum absorbed current of the Units is stated in the data nameplate, located on the Unit's side panel, and in the wiring diagram herein. The maximum absorbed current of the units is required for the correct sizing of the power cables, protection breakers or fuses.

- Use a wire-stripper to expose about 40 cm of internal wire on both ends of the signal/power supply cable.
- 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. Remove the screws to take off the cover and access the terminal block of the electrical cables.

3. Unscrew the cable clamp under the terminal block and set it aside.

4. Connect each wire to the terminal block, which is marked by letters and numbers, according to the wiring diagram. 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.

5. After ensuring that each connection is secure, roll the cables to avoid rain water from getting into the machine.

6. 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.

7. Using PVC insulating tape, insulate the unused cables; arrange them so that they are not touching any electrical or metal component.

8. Put the cover back in place and screw it on, taking care to pass the cables through the hole created in the cover.



1.3.4 CONNECTION OF COOLING PIPE

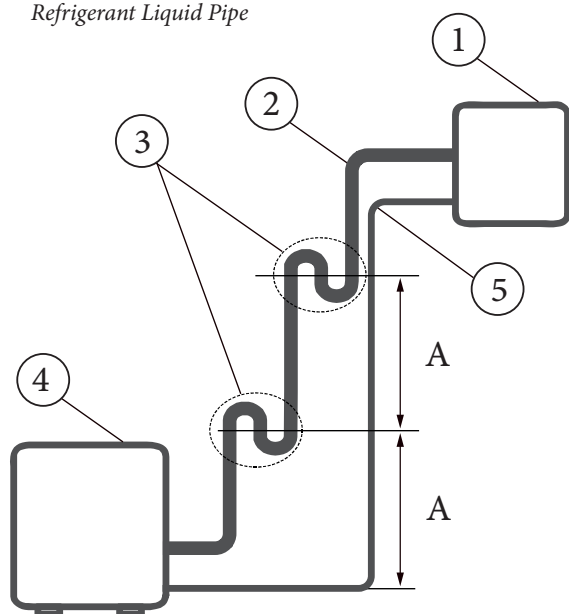
When the refrigerant pipes are connected, do not let substances or gases other than the specified refrigerant get in. The pressure of other gases or substances reduces the capacity of the unit and can cause an abnormally high pressure in the cooling cycle. This can cause explosions and injuries.

The cooling circuit of GOTHA e THOR-air conditioners uses the refrigerant R32, therefore, it is necessary to take some measures for the proper operation of the machine:

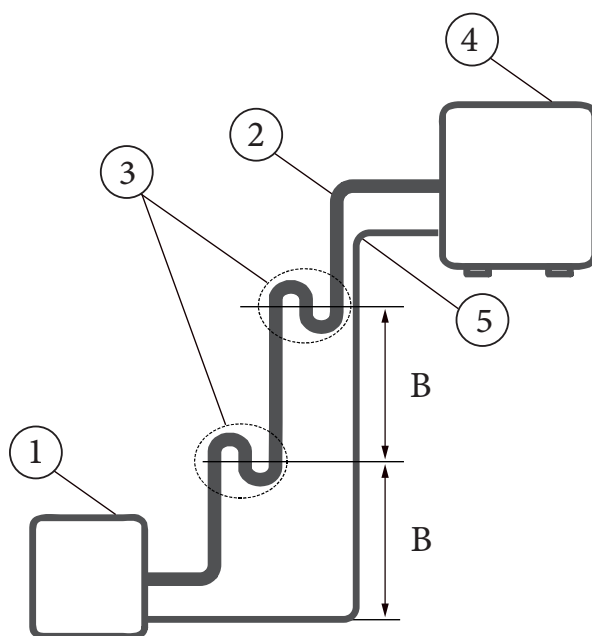
- the nominal efficiency was tested on the unit with a pipe 5 m long. A minimum route of 3 m is required for operation to reduce excess vibrations and noise to a minimum;
- make sure that the minimum bending radius of the pipes is at least 10 cm;
- only use equipment and fittings for R32;
- for especially elevated height differences, siphons must be installed on the gas pipes for the deposit of oil, as indicated in the figure below;

KEY:

1. Indoor Unit
2. GAS pipe
3. Oil siphon
4. Outdoor unit
5. Refrigerant Liquid Pipe


KEY:

- A. 10 m
- B. 6 m



I-25

- the length of the pipes between the outdoor and indoor unit and the height difference must not exceed the indicated limits.

Outdoor Unit	Gas pipe outside diameter [mm - inch]	Liquid line pipe outside diameter [mm - inch]	Maximum length R32 preload (liquid pipe)	Maximum length with top up (liquid pipe)	Indoor unit-outdoor unit maximum height difference	R32 refrigerant pre-charge	Top-up for every additional metre of the liquid line
UE GOTHA 9	Ø 9.52 - 3/8"	Ø 6.35 - 1/4"	≤ 5 m	25 m	10 m	0.62 kg	12 g/m
UE GOTHA 12	Ø 9.52 - 3/8"	Ø 6.35 - 1/4"	≤ 5 m	25 m	10 m	0.62 kg	12 g/m
UE THOR 9	Ø 9.52 - 3/8"	Ø 6.35 - 1/4"	≤ 5 m	25 m	10 m	0.6 kg	12 g/m
UE THOR 12	Ø 9.52 - 3/8"	Ø 6.35 - 1/4"	≤ 5 m	25 m	10 m	0.65 kg	12 g/m
UE THOR 18	Ø 12.7 - 1/2"	Ø 6.35 - 1/4"	≤ 5 m	30 m	20 m	1.1 kg	12 g/m
UE THOR 24	Ø 15.9 - 5/8"	Ø 9.52 - 3/8"	≤ 5 m	50 m	25 m	1.45 kg	24 g/m





ATTENTION FOR THE USE OF R32 REFRIGERANT

When using a flammable refrigerant, the device must be kept in a well-ventilated area where the size of the room corresponds to the area of the room, as specified for operation. The device must be installed, used and kept in a room larger than 4m².

- The mechanical connections of the pipes are not allowed in-wall/floor.
- The pipe connections must have maximum allowed gas leak of 3g/year at 25% the maximum allowed pressure.
- The connections of the pipes used inside must be compliant with ISO 14903.

The installation room for the indoor unit must observe the minimum surface area requirements (A_{min} in m²) shown in the following table:

Refrigerant type	Installation height H _o (m)	Load Quantity in kg Minimum Surface of area (m ²)						
		1,224 kg	1,836 kg	2,448 kg	3,672 kg	4,896 kg	6,12 kg	7,956 kg
R32	0.6		29	51	116	206	321	543
	1.0		10	19	42	74	116	196
	1.8		3	6	13	23	36	60
	2.2		2	4	9	15	24	40

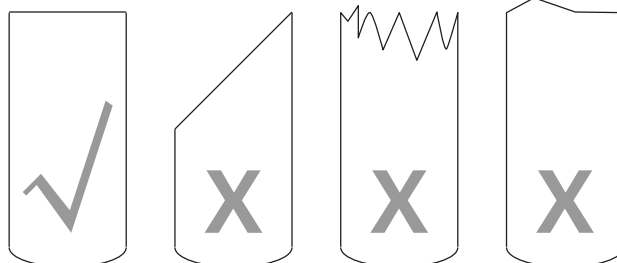
Insulating the chiller lines.

- during operation, the gas and liquid pipes could reach very high or very low temperatures, making it necessary to insulate them efficiently. Otherwise, product performance would be ruined, with the possible breakage of the compressor;
- the insulation material must be able to withstand temperatures exceeding 120°C;
- the gas and liquid pipes must be insulated separately. Insulating them together would downgrade their performance.

Step 1: Cutting the pipes

When preparing refrigerant pipes, be very careful to cut them and flare them correctly. This ensures efficient operation and minimising the need for future maintenance.

1. Measure the distance between indoor and outdoor unit.
2. Using a pipe cutter, cut the pipe a bit longer than the measured distance.
3. Make sure that the pipe is cut at a 90° angle.



1-26



DO NOT DEFORM THE PIPE DURING CUTTING:
damaging, denting or deforming the pipe during cutting will drastically reduce the unit's heating efficiency.



Step 2: Remove any burrs

Burrs can affect the tightness of the connection of the refrigerant pipes. They must be completely removed.

1. Hold the pipe with a downwards angle to avoid the burrs from falling into the pipe.
2. Using a reamer or a deburring machine, remove all of the burrs from the cut section of the pipe.

Step 3: Flare the ends of the pipes

Correct flaring is **essential for obtaining water-tightness**.

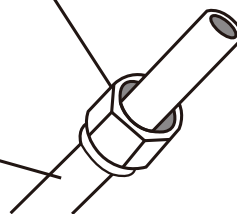
1. After removing the burrs from the cut pipe, close the ends with PVC tape to avoid foreign materials from getting into the pipe.
2. Coat the pipe with insulating material.
3. Place flared nuts on both ends of the pipe, making sure they are in the right direction.

**ATTENTION**

It is NOT possible to change the direction of the nut after flaring.

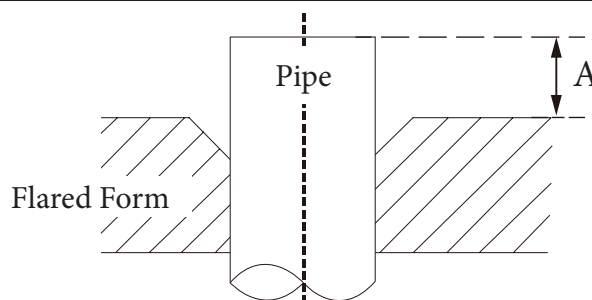
Countersunk nut

Copper pipe



1-27

4. When ready to perform the flaring work, remove the PVC tape from the ends of the pipe. Block the flared shape on the end of the pipe (see below).



1-28

5. The end of the pipe must go beyond the flared shape according to the dimensions given in the table below (see figure in Point 4).

Pipe outside diameter (mm)	A (mm)	
	Min.	Max.
Ø 6.35 mm (1/4")	0.7	1.3
Ø 9.52 mm (3/8")	1.0	1.6
Ø 12.7 mm (1/2")	1.0	1.8
Ø 15.9 mm (5/8")	2.0	2.2

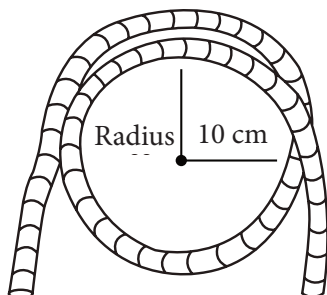
6. Position the flaring tool on the shape.
7. Turn the handle of the flaring tool clockwise until the pipe is completely flared.
8. Remove the flaring tool, then check the end of the pipe for any cracks and that it is evenly flared.





ATTENTION

MINIMUM CURVATURE RADIUS: when refrigerant pipes are bent, make sure that the minimum bending radius is at least 10cm.



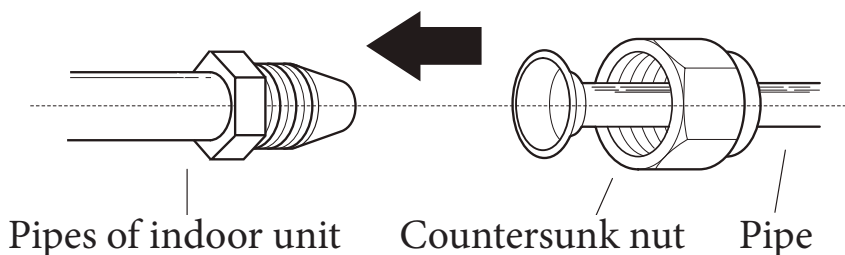
1-29

Step 4: Pipe Connection

When connecting refrigerant pipes, be careful not to use an excessive torque or not to deform the pipes in any way. One must first connect the low pressure pipe, then the high pressure one.

• Indoor Unit

1. Align the centre of the two pipes to be connected.



1-30

2. Tighten the countersunk nut as tightly as possible by hand.
3. Grasp the nut on the pipe of the unit using a spanner.
4. Firmly holding the nut, use a torque wrench to tighten the countersunk nut according to the torque value indicated in the table below. Slightly loosen the nut, then tighten again.

Pipe outside diameter (mm)	Tightening torque (N*m)	Flaring dimensions (B) (mm)	Flaring shape
Ø 6.35 mm (1/4")	18 ~ 20	8.4 ~ 8.7	
Ø 9.52 mm (3/8")	32 ~ 39	13.2 ~ 13.5	
Ø 12.7 mm (1/2")	49 ~ 59	16.2 ~ 16.5	
Ø 15.9 mm (5/8")	57 ~ 71	19.2 ~ 19.7	



DONOT USE EXCESSIVE TORQUE:

Excessive force can break the nut or damage the refrigerant pipes. Do not exceed the torque requisites provided in the table above.

INSTALLER

USER

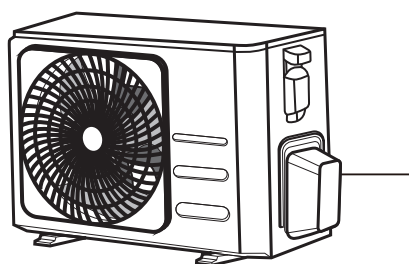
MAINTENANCE TECHNICIAN

TECHNICAL DATA

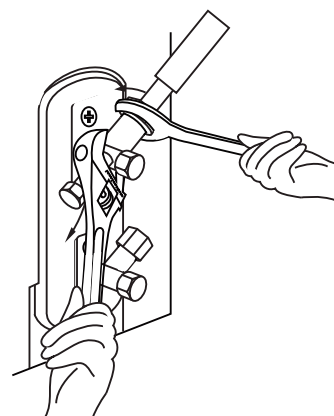


• Outdoor Unit

1. Unscrew the valve cover on the side of the outdoor unit.
2. Remove the protective caps from the ends of the valves.
3. Align the flared end of the pipe with each valve and tighten the flared nut as tight as possible by hand.
4. Using a spanner, grip the valve body. **DO NOT** grip the nut that seals the service valve.
5. While firmly gripping the valve body, use a torque wrench to tighten the flared nut according to the correct torque values.
6. Slightly loosen the flared nut, then tighten again.
7. Repeat points 3 to 6 for the remaining pipes.



Valve cover



1-31

1.3.5 COOLING CIRCUIT VACUUM OPERATIONS

Air and foreign objects in the cooling circuit can reduce efficiency, cause an anomalous rise in pressure damaging the air conditioner, cause the unit to stop, damage to property and people.

Use a vacuum pump and a vacuum gauge to remove any non condensing gases and humidity from the cooling system.



ATTENTION, BEFORE PERFORMING VACUUM OPERATIONS:

- check that the electrical supply of the connection pipes between indoor and outdoor units are connected correctly.
- the vacuum operation **MUST** be performed after checking the tightness of the system, as per EN378-2, according to the principles of good manufacturing practice.

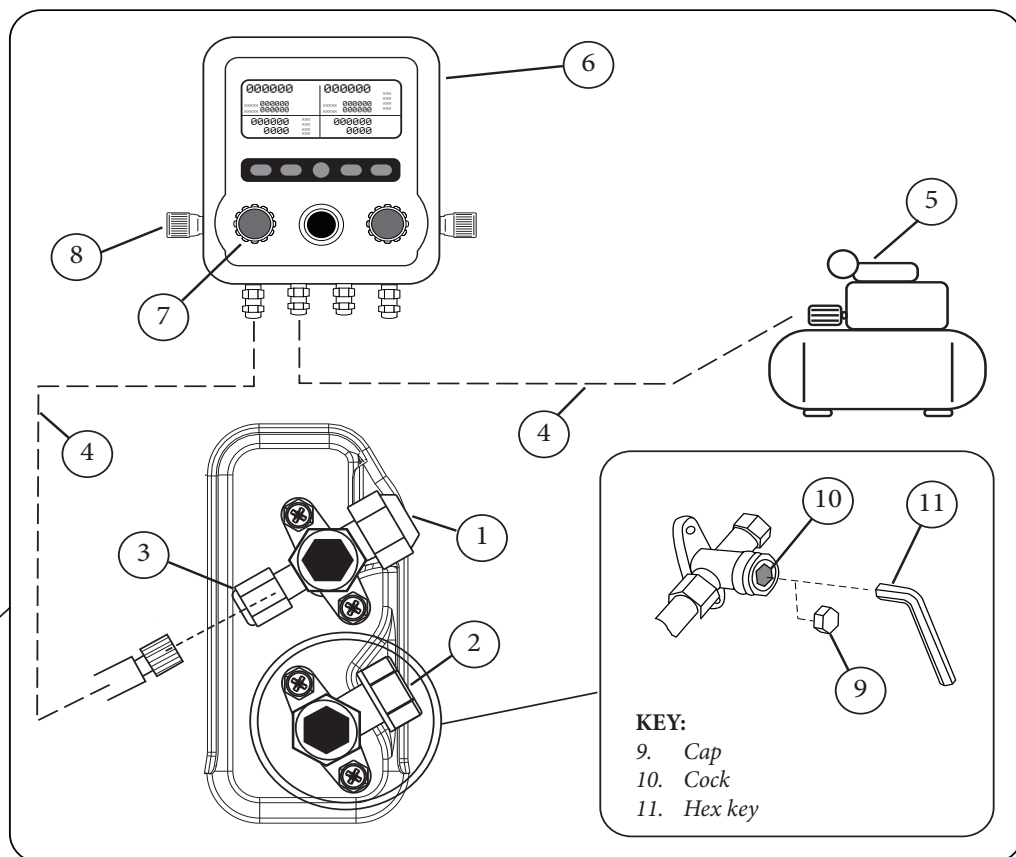
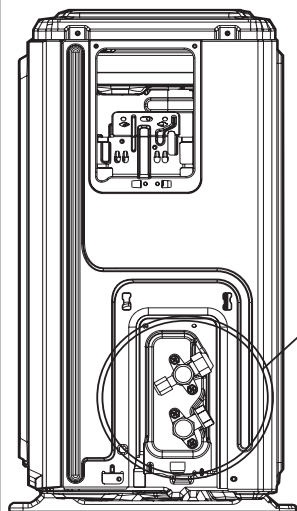
- a. Unscrew the caps from the cocks and from the outdoor unit service outlet.
- b. Connect a flexible hose (for conditioning) from the manometric unit to the service outlet.
- c. Connect a flexible hose (for conditioning) from the manometric unit to the vacuum pump.
- d. Open the “LOW” and “VAC” actuator of the manometric unit (**Check that the remaining actuators are closed if not used**).
- e. Turn on the vacuum pump to remove air from the cooling pipe.
- f. Leave the vacuum pump on until the value of 500 mtor is reached (the value will be visible on the indicator of the manometric unit).
- g. Close the “LOW” and “VAC” actuator, turn off the vacuum pump.
- h. Disconnect a flexible hose (for conditioning) from the service outlet.
- i. Proceed with opening the cocks by inserting the hex key into the valves until completely open.
- j. Reposition the caps on the cocks and on the service outlet.



GENTLY OPEN THE VALVES:
Do not try to force the valve to open any more.

KEY:

1. Gas valve
2. Refrigerant Liquid Valve
3. Service outlet
4. Flexible Conditioning Hose
5. Vacuum pump
6. Digital manometric unit (Integrated vacuum switch)
7. "VAC" actuator
8. "LOW" actuator



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ATTENTION:

- The vacuum operation must be carried out upon initial installation and when the device is repositioned.

1.3.6 ADDITIONAL REFRIGERANT CHARGE

Some systems require an additional charge depending on the length of the pipes. The standard length of pipes varies based on the model. The nominal efficiency was tested on the unit with 5m pipe length. The refrigerant must be added in through the low pressure valve of the outdoor unit. The additional refrigerant to be charge can be calculated with the following formula:

Connection pipe length (m)	Venting method	Additional refrigerant	
> Standard pipe length	Vacuum pump	Liquid side: Ø 6.35 mm (1/4") R32: (Pipe length - standard length x number of combinable indoor units) x 12g/m	Liquid side: Ø 9.52 mm (3/8") R32: (Pipe length - standard length x number of combinable indoor units) x 24g/m

Fill in the label for the refrigerant charge applied to the product with permanent ink, as instructed below:

- 1; factory refrigerant charge of the product (see data nameplate)
- 2; amount of additional refrigerant charged on-site
- 1+2; total refrigerant charge

Make sure that the total refrigerant charge does not exceed the maximum refrigerant charge specified below:

Outdoor Unit	1 - Refrigerant pre-charge (gr.)	2 - Additional refrigerant max q.ty (gr.)	1+2 - Max allowed load (gr.)
UE GOTH 9	620	240	860
UE GOTH 12	620	240	860
UE THOR 9	600	240	840
UE THOR 12	650	240	890
UE THOR 18	1100	300	1400
UE THOR 24	1450	1080	2530

The equivalent CO2 tonnes are calculated according to the formula

- Kg x GWP / 1000

GWP: Global Warning Potential= 675 for R32

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1.3.7 CHECKING ELECTRICAL AND GAS LEAKAGE

Electrical safety checks:

- Check that the electrical system of the unit is safe and functioning correctly.
- Check the earthing both visually and by measuring the resistance with a tester.
- During test run, check for any electrical leakage using an electric probe and a multimeter to run a complete test.
- If an electrical leakage is found, immediately switch off the unit and call an authorised electrician to fix it.



ATTENTION - RISK OF ELECTRIC SHOCK:

All cables must be compliant with local and national electric regulations and must be installed by an authorised technician.

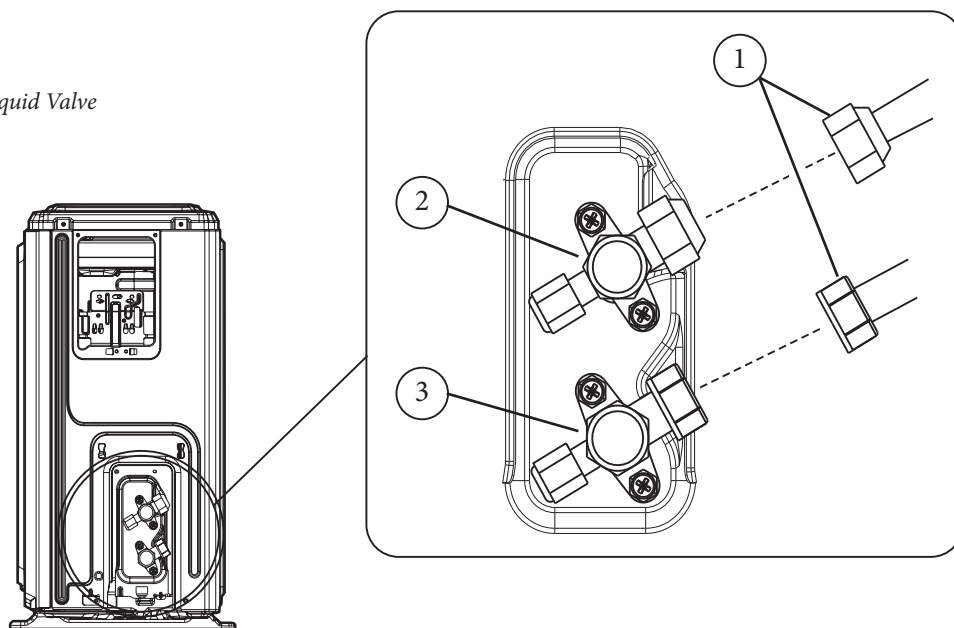
Gas leak checks:

- Check that the gas and refrigerant liquid valves (high and low pressure) are completely open.
- Check all fittings by their nuts and confirm that the system does not have any leaks. There are two different methods to check for gas leaks:
 1. With bubbles; using a soft brush, apply soapy water or liquid detergent on all pipe fitting points of the indoor and outdoor units (**bubbling means there is a leak**).
 2. Leak tester method; refer to the instructions manual of the device for correct use.

After confirming that all pipe connection points DO NOT have any leaks, put the cover back on the valves on the outdoor unit.

KEY:

1. Fitting nuts
2. Gas valve
3. Refrigerant Liquid Valve



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1.3.8 PERFORMING THE TEST

Conduct the Test Run for at least 30 minutes.

- 1. Connect the power supply to the unit.
- 2. Press the ON/OFF button on the remote control to switch it on.
- 3. Press the MODE button to scroll the following functions, one at a time:
 - COOL - Select the lowest possible temperature
 - HEAT - Select the highest possible temperature
- 4. Leave each function running for 5 minutes and perform the following checks:

List of checks to carry out	Passed / Failed	
No electric leak		
The unit is earthed properly		
All the terminals are adequately covered		
The indoor and outdoor units are securely installed		
There are no leaks in the pipe connection points	Outdoors (2):	Indoor (2):
Water flows out correctly from the drain pipe		
All the pipes are properly insulated		
The unit performs the COOLING function correctly		
The unit performs the HEATING function correctly		
The fins of the indoor unit rotate properly		
The indoor unit responds to the remote control		

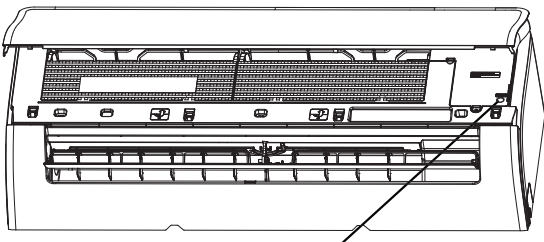
During operation, the pressure of the refrigerant circuit increases. This may reveal leaks that were not present during the initial check. During the test run, take time to recheck that there are no leaks on all the connection points of the refrigerant pipes. Refer to the section on gas leaks in this manual.

- 5. After having successfully completed the test and confirmed that all the check points in the list have been passed, proceed as follows:
 - a. Using the remote control, restore the unit to normal operating temperature
 - b. Using insulating tape, wrap the connections of the internal refrigerant pipes left uncovered during installation of the indoor unit.



IF THE ROOM TEMPERATURE IS LOWER THAN 16°C:
The remote control cannot be used to activate the COOL function when room temperature is below 16°C. In this case, you may use the MANUAL CONTROL button to test the COOL function.

- 1. Raise the front panel of the indoor unit until it snaps into place.
- 2. The MANUAL CONTROL button is on the right side of the unit. Press twice to select the COOL function.
- 3. Conduct the customary Test Run.



Manual control button



2 INDOOR UNIT FUNCTIONS

2.1 GENERAL WARNINGS



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.



- Do not insert fingers or other objects into the air inlet or outlet. This could cause injury.
- Do not climb on the appliance, do not use the appliance as a supporting surface.

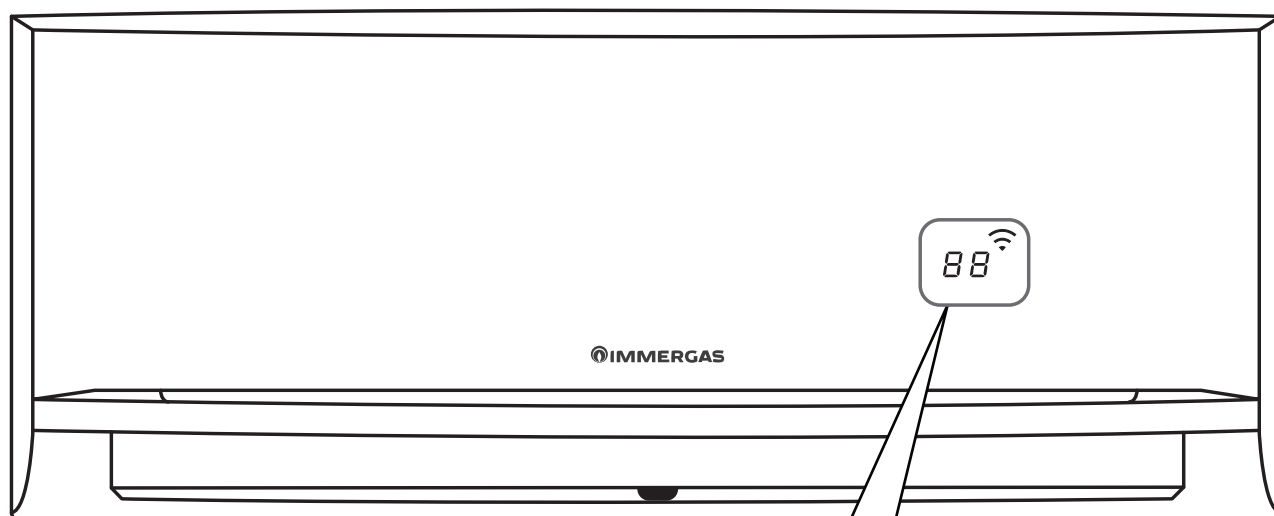


- Do not run the air conditioner in the vicinity of flammable gases. The emitted gas could collect around the unit and cause a fire. Do not use flammable sprays such as hair spray, spray varnish or paint near the unit.
- Never clean the appliance or connected parts with easily flammable substances.



The use of components involving use of electrical power requires some fundamental rules to be observed such as:

- Do not touch the appliance with wet or moist parts of the body;
- Do not touch when barefoot either;
- Never pull electrical cables or leave the appliance exposed to atmospheric agents (rain, sunlight, etc.);
- The appliance power cable must not be replaced by the user;
- In the event of damage to the cable, switch off the appliance and contact exclusively qualified staff for replacement;
- If the appliance is NOT to be used for a certain period, disconnect the main Indoor Unit external switch.
- 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.



Meaning of display icons



WLAN connection active



Temperature display (in numerical format)



Activation of certain Functions is displayed. Indicates, with indoor unit off, that the switch-on timer is active.



Deactivation of certain functions is displayed



Automatic defrost active.



Antifreeze protection active: the indoor unit maintains the room air temperature at 8°C minimum.



Self-cleaning function active.

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2.3 DISPLAY ERRORS

When the indoor unit detects an acknowledged error, the LED flashes and the corresponding error code is displayed. Based on the type of appliance purchased, for possible error codes are listed in the following table:

DISPLAY	MEANING
EH00/EH0A	Indoor Unit EEprom fault
EH08	Internal board-display communication fault
FL01	Indoor and outdoor unit communication fault
EH02	Communication signal fault (Reception)
EH03	Indoor unit fan rotation anomaly
EH60	T1 temperature sensor fault
EH61	T2 temperature sensor fault
FL0C	Refrigerant fault detection
PC00	Electric over-absorption
EC53	T4 temperature sensor fault
EC52	T3 temperature sensor fault
EC54	TS temperature sensor fault
EC56	T2B temperature sensor fault
EC51	Outdoor unit EEprom fault
EC07	Outdoor unit fan rotation anomaly
PC08	I PM overcurrent IGBT overcurrent
PC10	Insufficient power supply voltage
PC01	Supply voltage error
PC11	Excessive supply voltage
PC12	DC voltage anomaly
PC02	Excessive compressor head temperature (>105° C)
PC03	Pressure switch trip
PC04	Inverter control fault
PC41	CT circuit fault
PC42	Failed compressor rotation
PC43	Power failure (3Ph models)
PC44	Compressor rotation speed fault
PC45	PWM fault
PC46	Compressor rotation speed measuring circuit malfunction
PC40	Main board-display board communication error
PC49	Protection from excessive compressor absorption
PC0A	T3 overtemperature
PC06	T5 overtemperature
PC08	Over absorption (CT)
PH09	Fan stop due to insufficient heat exchanger temperature (Central heating)
PH90	Evaporator overtemperature



PH91	Evaporator freezing
PC0F	PFC circuit malfunction
LC05	Frequency limitation for supply voltage
LC03	Frequency limitation for supply current
LC02	Frequency limitation for compressor flow temperature
LC01	Frequency limitation for external heat exchanger temperature
LC00	Frequency limitation for internal heat exchanger temperature
LC06	Frequency limitation for PFC
LC07	Frequency limitation for external device intervention

Other possible errors:

The display could show a confused code or a code not defined by the manual. Make sure that this code is not the temperature reading.

2.4 OPERATING TEMPERATURE

Ideal performance for “COOL - HEAT - DRY” modes can be achieved in the following temperature ranges.

When your air conditioner is used beyond the following temperature ranges, some safety protection functions can get activated and cause non-optimal unit performance.

	COOLING mode	HEATING mode	DRY mode
Room temperature	16°C - 32°C	0°C - 30°C	10°C - 32°C
External temperature	-15°C - +50°C	-20°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.

2.5 MAIN FUNCTIONS

• AUTO-MODE:

automatic mode, in this mode the air conditioner, depending on the indoor, outdoor and set temperature, chooses whether to work in heating, cooling, drying or ventilation.

• COOLING MODE:

possible when the outdoor temperature is between -15°C and 50°C.

• DRYING MODE:

the air conditioner works in cooling, there is NO indoor temperature control.

• HEATING MODE:

possible when the outdoor temperature is between -20°C and 24°C.

• FAN MODE:

fan mode, the outdoor unit remains off, only the fan speed can be managed and not the temperature.

• TIMER FUNCTION:

an on-off timer can be enabled, within the current day (not a calendar).

• SLEEP FUNCTION:

in heating mode the air conditioner lowers the setpoint temperature by 1°C for each hour of operation up to a maximum of 2°C and vice versa in cooling.



- **AUTO-RESTART FUNCTION:**

in case of a power failure while the air conditioner is running, when restored, this would operate according to the previously defined settings.

- **ACTIVE CLEAN:**

this function, through alternated defrost cycles, removes dust and grease built-up on the heat exchanger of the indoor unit.

- **FOLLOW ME:**

allows the machine to read and control the temperature of the room directly by remote control.

- **DEFROSTING MODE:**

in this mode the text «DF» appears on the indoor unit, the internal fan stops running and the outdoor unit works forcing heating gas to pass through the external heat exchanger

- **8°C HEATING:**

allows the machine to switch on automatically when the temperature of the indoor unit drops below 8°C, function used to prevent empty rooms from freezing during winter.

- **BREEZE AWAY:**

the function is activated to prevent the air-conditioned air flow from blowing directly on the user (only possible in fan, cooling and dryer mode).

- **FRESH FUNCTION:**

the function activates the air ionizer (only for Gotha models).

- **ELECTRICAL ENERGY CONSUMPTION CONTROL:**

pressing the gear key limits consumption to 50% or 75% (with every press of the key) .

- **WIRELESS CONTROL:**

allows the air conditioner to be controlled via APP by using a smartphone from remote (function Optional for Thor models and standard for Gotha models).

NOTE:

All the functions indicated above are explained in detail in the Remote control instruction booklet inside the package of the purchased product.

2.6 MANUAL FUNCTION (WITHOUT REMOTE CONTROL)



ATTENTION:

The manual button is only intended for tests and emergency operations. Please do not use this function unless the remote control has been lost or when strictly necessary. To restore standard operation, use the remote control to activate the unit. The unit must be off before setting it in manual mode.

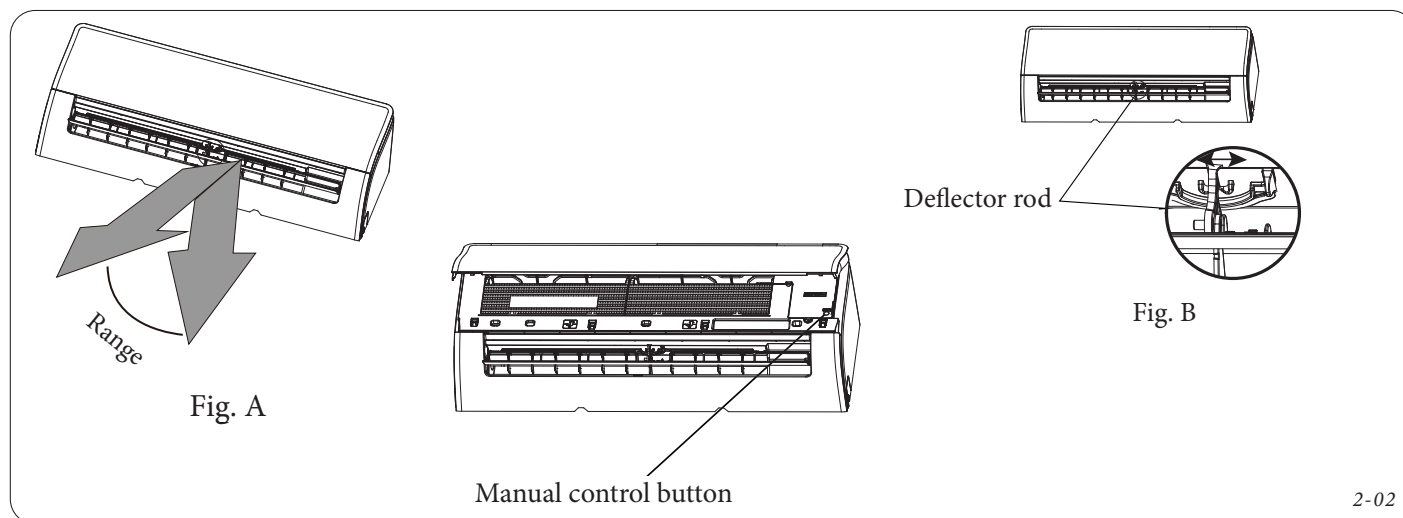
To operate the unit manually:

1. Open the front panel of the indoor unit.
2. Identify the MANUAL CONTROL button on the right side of the unit.
3. Press the MANUAL CONTROL button once to activate AUTOMATIC mode.
4. Press the MANUAL CONTROL button again to activate COOLING mode.
5. Press the MANUAL CONTROL button a third time to switch the unit off.
6. Close the front panel.

The horizontal angle of the air flow must be set manually. Grasp the deflector rod (see Fig.B) and adjust it manually in the required direction. For certain units, the horizontal angle of the air flow can be set by remote control. Please refer to the remote control manual.

NOTE:

Do not move the vent by hand (See Fig. A). This would cause a synchronism failure of the vent. Should this happen, switch the unit off and unplug it for a few seconds, then switch it back on. This resets the vent.



ATTENTION:

Do not place your fingers inside or near the fan or suction side of the unit. The high-speed fan inside the unit can cause injury.

2.7 OTHER FUNCTIONS

• Mould protection

When the unit switches off from COOL, AUTO (COOL), or DRY mode, the air conditioner keeps running at very low-power to dry condensate water and prevent the growth of mould.

• Detecting refrigerant leak

The indoor unit automatically displays “EL0C” or flashing LEDs (depending on the model) when a refrigerant leak is detected.

• Air flow angle setting.

When the unit is on, use the SWING/DIRECT button on the remote control to set the air flow direction (vertical angle). Please refer to the remote control manual for details.

• Memory of the fin angle

When the unit is switched on, the fin automatically moves back to the previous position.



ATTENTION:

When using COOL or DRY mode, do not set the vent at too vertical an angle for long periods of time. This can cause condensation of water on the vent blade, which drops on the floor or furniture.

When using COOL or HEAT mode, setting the deflector at too small an angle can reduce performance of the unit due to limited air flow.

NOTE:

The following functions are not available for multisplit air-conditioners:
Active Clean, Silence, Breeze Away, refrigerant leak detection and Eco functions.



3 INSTRUCTIONS FOR MAINTENANCE

3.1 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.



**ATTENTION:**

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

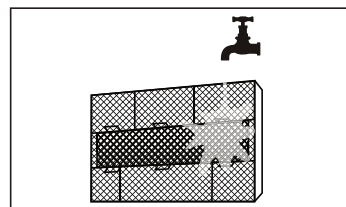
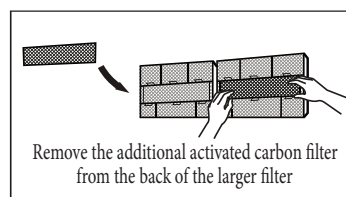
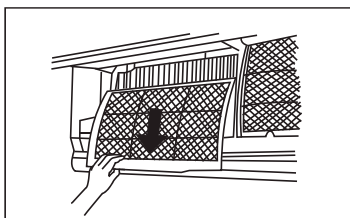
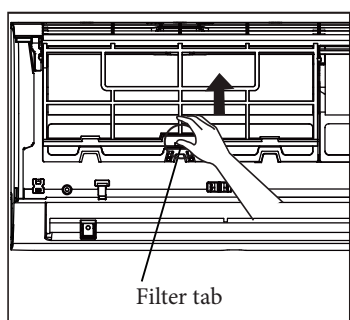
**ATTENTION:**

Use only a soft dry cloth to clean the unit. If the unit is particularly dirty, you may use a cloth soaked in warm water to clean it.

- Do not clean the unit using chemical products or chemically treated rags.
- Do not use benzene, paint thinner, dust polisher or other solvents to clean the unit. They can cause the plastic surface to break or deform.
- Do not use water hotter than 40°C to clean the front panel. This could deform or fade the panel.

A clogged air conditioner can reduce the cooling efficiency of your unit and be harmful to your health. It is recommended to clean the filter once every two weeks.

1. Lift the front panel of the indoor unit.
2. First press the tab at the end of the filter to release the lock, and then lift it and pull it out towards you.
3. Then extract the filter.
4. Your filter has an additional filter with activated carbon; remove it from the larger filter. Clean the carbon filter with a hand a vacuum cleaner.
5. Clean the large air filter with soap and warm water. Make sure to use a mild cleanser.
6. Rinse the filter with running water and then shake off any excess water.
7. Dry it in a fresh and dry place without exposing it to direct sunlight.
8. When dried, reattach the additional activated carbon filter to the larger filter, then slide it back onto the indoor unit.
9. Close the front panel of the indoor unit.



3-01





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.

- **Reminder for cleaning the air filter (optional)**

After 240 hours of use, the window of the indoor unit display flashes "CL". This is a reminder to clean the filter. After 15 seconds, the unit will go back to the previous display.

To reset the reminder, press the LED button on your remote control 4 times or the MANUAL CONTROL button 3 times. If you do not reset the reminder, the indicator "CL" will flash again when the unit is restarted.

- **Reminder for replacing the air filter (optional)**

After 2,880 hours of use, the window of the indoor unit display flashes "nF". This is a reminder to replace the filter. After 15 seconds, the unit will go back to the previous display.

To reset the reminder, press the LED button on your remote control 4 times or the MANUAL CONTROL button 3 times. If you do not reset the reminder, the indicator "nF" will flash again when the unit is restarted.

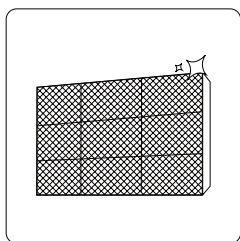


ATTENTION:

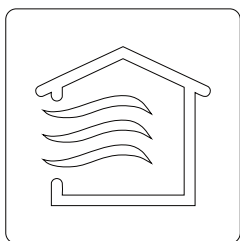
Any maintenance or cleaning operation on the outdoor unit must be carried out by an authorised technician. Any repair on the unit must be carried out by an authorised technician.

If the air conditioner is not expected to be used for a long period of time, act as indicated in 3-02.

After long idle periods, or before periods of frequent use, act as indicated in 3-03.



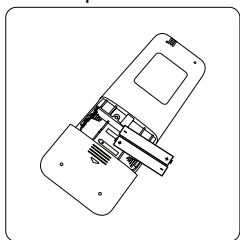
Clean all filters



Switch on the FAN function until the unit is completely dried

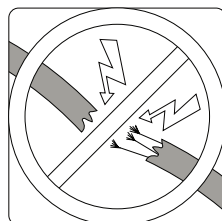


Switch off the unit and disconnect power

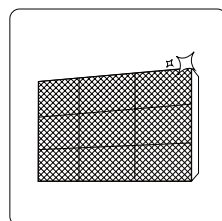


Take the batteries out of the remote control

3-02



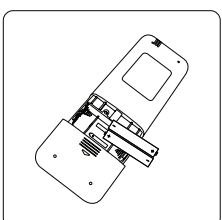
Check for any damaged cables



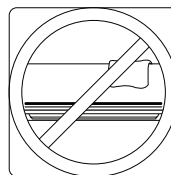
Clean all filters



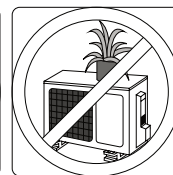
Check for any leaks



Replace the batteries



Make sure that nothing is blocking the air vents and outlets



3-03



**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.
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: <ul style="list-style-type: none"> • Disconnect power, then reconnect. • 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 SILENCE function is activated (optional)	The SILENCE function may reduce product performance by reducing the operational frequency. Deactivate the SILENCE function.
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 batteries in the remote control are flat	Replace the batteries
	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 error codes appear, wait about 10 minutes. The problem could be settled on its own. 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: •E(x), P(x), F(x) •EH(xx), EL(xx), EC(xx) •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.



4 TECHNICAL DATA

4.1 GOTHA TECHNICAL DATA

GOTHA		9	12
Heating performance			
Rated output power (min - max)	Btu/h	10,000 (2,800-11.500)	13,000 (3,640-14,950)
Rated output power (min - max)	kW	2.93 (0.82-3.37)	3.81 (1.07-4.38)
Rated absorbed power	W	651	977
Rated COP	-	4.5	3.9
Rated absorbed current	A	2.83	4.24
Operating temperature	°C	-20/24	-20/24
Cooling performance			
Rated output power (min - max)	Btu/h	9,000 (3,500-11,000)	12,000 (4,700-14,700)
Rated output power (min - max)	kW	2,64 (1,03-3,22)	3,52 (1,38-4,31)
Rated absorbed power	W	628	1005
Rated EER	-	4.2	3.5
Rated absorbed current	A	2.73	4.37
Operating temperature	°C	-15/50	-15/50
Indoor unit			
Air flow rate (max. - med. - min.)	m³/h	510-360-300	520-370-310
Sound pressure (max. - med. - min.)	dB(A)	37-31-22	39-33-22
Sound power	dB(A)	54	55
Dimensions (H x L x D)	mm	296x805x205	296x805x205
Net/gross weight	kg	8.7/11.5	8.7/11.3
Outdoor unit			
Compressor type	-	Rotary DC inverter	Rotary DC inverter
Air flow rate	m³/h	2,150	2,200
Sound pressure	dB(A)	54	54.5
Sound power	dB(A)	58	61
Dimensions (H x L x D)	mm	555x765x303	555x765x303
Net/gross weight	kg	26.4/28.8	26.4/28.7
General data			
Electric power supply	Ph/V/Hz	1 Ph/220-240/50	1 Ph/220-240/50
Max. absorbed power	W	2,200	2,200
Maximum current absorbed	A	10.5	10.5
Type of refrigerant/GWP	-	R32/675	R32/675
Refrigerant pre-charge	kg	0.62	0.62
Liquid/gas refrigerant connections	mm(inch)	6.35(1/4)-9.52(3/8)	6.35(1/4)-9.52(3/8)

INSTALLER

USER

MAINTENANCE TECHNICIAN

TECHNICAL DATA

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



4.2 THOR TECHNICAL DATA

INSTALLER

USER

MAINTENANCE TECHNICIAN

TECHNICAL DATA

THOR		9	12	18	24
Heating performance					
Rated output power (min - max)	Btu/h	10.000 (2.800-11.500)	13.000 (3.650-14.950)	18.400 (10.580-19.960)	25.000 (5.300-28.000)
Rated output power (min - max)	kW	2.93 (0.82-3.37)	3.81 (1.07-4.38)	5.39 (3.1-5.85)	7,33 (1,55-8,21)
Rated absorbed power	W	771	1027	1.433	1.949
Rated COP	-	3.8	3.71	3.76	3.76
Rated absorbed current	A	3.35	4.46	6.23	8.47
Operating temperature	°C	-20/24	-20/24	-20/24	-20/24
Cooling performance					
Rated output power (min - max)	Btu/h	9,000 (3.500-11.000)	12.000 (4.700-14.700)	18.000 (6.600-21.400)	24.000 (7.200-28.000)
Rated output power (min - max)	kW	2,64 (1,03-3,22)	3,52 (1,38-4,31)	5,28 (1,93-6,27)	7,03 (2,11-8,21)
Rated absorbed power	W	733	1.089	1.550	2.111
Rated EER	-	3.6	3.23	3.4	3.33
Rated absorbed current	A	3.18	4.73	6.7	9.18
Operating temperature	°C	-15/50	-15/50	-15/50	-15/50
Indoor unit					
Air flow rate (max. - med. - min.)	m³/h	460-330-260	530-400-350	800-600-500	1,090-770-610
Sound pressure (max. - med. - min.)	dB(A)	37-32-22	37-32-22	41/37/31	46/37/34.5
Sound power	dB(A)	54	55	56	62
Dimensions (H x L x D)	mm	292x729x204	296x805x205	321x971x230	337x1082x234
Net/gross weight	kg	8.0/10.5	8.7/11.5	11.2/14.6	13.6/17.3
Outdoor unit					
Compressor type	-	Rotary DC inverter	Rotary DC inverter	Rotary DC inverter	Rotary DC inverter
Air flow rate	m³/h	1,850	1,850	2,100	3,500
Sound pressure	dB(A)	55.5	56	57	60
Sound power	dB(A)	62	62	65	67
Dimensions (H x L x D)	mm	495x720x270	495x720x270	554x805x330	673x890x342
Net/gross weight	kg	23.5/25.4	23.7/25.5	33.5/36.1	43.9/46.9
General data					
Electric power supply	Ph/V/Hz	1 Ph/220-240/50	1 Ph/220-240/50	1 Ph/220-240/50	1 Ph/220-240/50
Max. absorbed power	W	2,150	2,150	2.500	3.700
Maximum current absorbed	A	10	10	13	19
Type of refrigerant/GWP	-	R32/675	R32/675	R32/675	R32/675
Refrigerant pre-charge	kg	0.60	0.65	1.1	1.45
Liquid/gas refrigerant connections	mm(inch)	6.35(1/4)-9.52(3/8)	6.35(1/4)-9.52(3/8)	6.35(1/4)-12.7(1/2)	9.52(3/8)-15.9(5/8)

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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