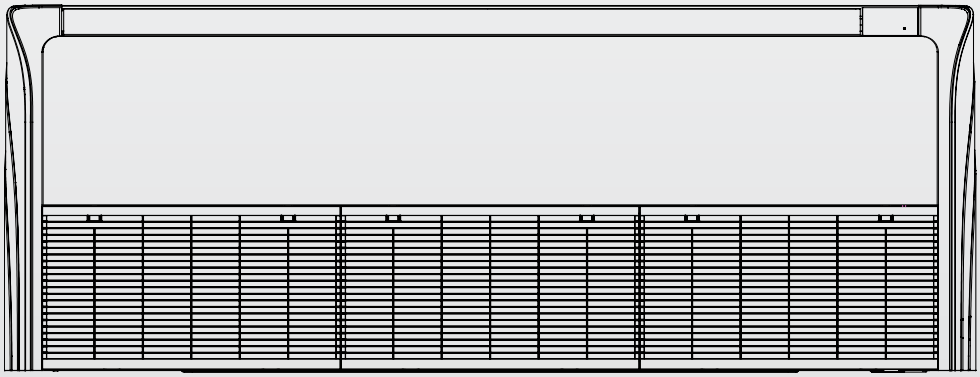
cod.Doc-0093022rev.0 04/2019



AMS P

SERIES R32

EN INSTALLATION AND TECHNICAL SERVICE INSTRUCTIONS

RIELLO

Dear Technician,
We would like to congratulate you on having recommended a ***RIELLO*** *unit: a modern product that is capable of ensuring maximum comfort at length, with a high degree of reliability, efficiency, quality and safety.*
While your technical skills and knowledge will certainly be more than sufficient, this booklet contains all the information that we have deemed necessary for the device's correct and easy installation.

Thank you again, and keep up the good work.

RIELLO

COMPLIANCE

RIELLO AMS P heat pumps **are compliant** with the following European Directives:
- Low Voltage Directive 2014/35/EU
- Electromagnetic Compatibility Directive 2014/30/EU
- RoHS Directive 2011/65/EU
- ErP Directive 2009/125/EC and Regulation 2012/206/EC
- WEEE Directive 2012/19/EU
- F-Gas Regulation 2014/517/EU

CE

RANGE

Model	Code
AMS 100 P	20159404
AMS 125 P	20159405
AMS 140 P	20159406

ACCESSORIES
For the complete list of accessories and the information relating to their usage combinations, please refer to the catalogue.

TABLE OF CONTENTS

The following symbols are used on the product:

The R32 refrigerant gas is slightly inflammable and odourless. Avoid proximity to sources of ignition in continuous operation (open flames, gas household appliances, electric stoves, lit cigarettes, etc).

For more information, see the installation and technical service instructions.

Before performing maintenance and service tasks, read the installation and technical service instructions.

Before the installation, read the installation and technical service instructions.

The following symbols are used in this publication:

WARNING = actions requiring special care and appropriate training.

DO NOT = actions that MUST ON NO ACCOUNT be carried out.

This booklet cod. Doc-0093022 rev. 0 (04/2019) consists of 27 pages.

1 GENERAL INFORMATION

1.1 General Notices

⚠ When you get the product, check immediately that the contents are all present and undamaged. Contact the dealer **RIELLO** if you notice any problems.

⚠ The product' s installation must be carried out by an authorised company that will issue a declaration of the installation's conformity to the product's owner once the work has been completed, indicating that the work has been carried out in accordance with the standards of good practice, current National and Local regulations, and the indications provided by **RIELLO** in the instruction booklet accompanying the device.

⚠ The R32 refrigerant gas is slightly inflammable and odourless. Carefully read the safety data sheet available from the dealer and see table "Minimum floor area for ceiling installation" *p. 8*.

⚠ The product must be used for its intended purpose, as stated by **RIELLO** for which it has been expressly manufactured. **RIELLO** shall bear no responsibility, whether of a contractual or non-contractual nature, for any damage caused to people, animals, or property due to incorrect installation, adjustments, or maintenance, or improper use.

⚠ Suitable clothing, instrumentation, and accident-prevention devices must be utilized during the installation and/or maintenance operations. **RIELLO** shall bear no responsibility for any failure to comply with current safety and accident-prevention regulations.

⚠ During installation and/or service operations, keep the area around the unit tidy and clean.

⚠ Comply with the legislation in force on the country of deployment with regard to the use and disposal of packaging, of cleaning and maintenance products and for the management of the unit's decommissioning.

⚠ Any repair and maintenance interventions must be carried out by **RIELLO** Technical Support Service, in accordance with the provisions contained in this publication. Do not modify or tamper with the unit as dangerous situations may arise and the unit manufacturer will not be liable for any damage caused.

⚠ In the event of any functional anomalies or fluid leaks, set the system's main switch to its "off" position. Promptly contact your local **RIELLO** Technical Support Service, and do not perform any interventions upon the device on your own.

⚠ The units contain refrigerant gas: operate carefully so as to avoid damaging the gas circuit and the fin bank.

⚠ Any gas leaks indoors can generate toxic gases if they come into contact with naked flames or high temperature bodies, in case of leaks, please air the rooms thoroughly.

⚠ Do not place any inflammable object (spray cans) within a 1 metre radius from the air expulsion.

⚠ According to EU Regulation no. 517/2014 regarding certain fluorinated greenhouse gases, the total amount of refrigerant contained within the installed system must be indicated. This information can be found on the unit technical data plate.

⚠ This unit contains fluorinated greenhouse gases covered by the Kyoto protocol. Maintenance and disposal activities must be carried out exclusively by skilled personnel.

⚠ This booklet is an integral part of the device, and must therefore be carefully preserved, and must ALWAYS accompany it, even in the event that it is sold to another Owner or User, or is transferred to another system. If it is damaged or lost, another copy can be requested to **RIELLO** Technical Support Service in your Area.

1.2 Safety precautions

It should be noted that the use of products that utilize electric energy requires certain essential safety regulations to be respected, including the following:

⛔ Do not allow children or unassisted disabled people to use the unit.

⛔ Do not touch the unit while barefoot and/or partially wet.

⛔ Do not spray or throw water directly on the unit.

⛔ It is strictly forbidden to touch the coil fins, the moving parts, to place any body parts between them, or to insert pointy objects into the grilles.

⛔ It is forbidden to perform any technical interventions or cleaning operations before having disconnected the device from its electrical power supply, by setting the system's main switch to its "OFF" position.

⛔ It is forbidden to modify the safety or regulation devices without the authorisation of the manufacturer.

⛔ Do not pull, detach or twist the electrical wires coming out of the unit, even when the unit is disconnected from the power grid.

⛔ The packing material must not be disposed of in the surrounding environment and must be kept out of children reach, as it can be dangerous. It must be disposed of according to the regulations in force.

1.3 Unit description

RIELLO AMS P is an indoor unit for ceiling or floor installation, suitable for use commercial premises in combination with the outdoor unit. The multiple-speed fan DC motor improves performance and sound comfort.
Control, regulation and programming of the unit are carried out by means of the infra-red remote control, whose functions and use are detailed in the user manual.
The R32 refrigerant allows high yields, thus placing **RIELLO AMS P** among the most efficient devices on the market.

1.4 Safety and adjustment devices

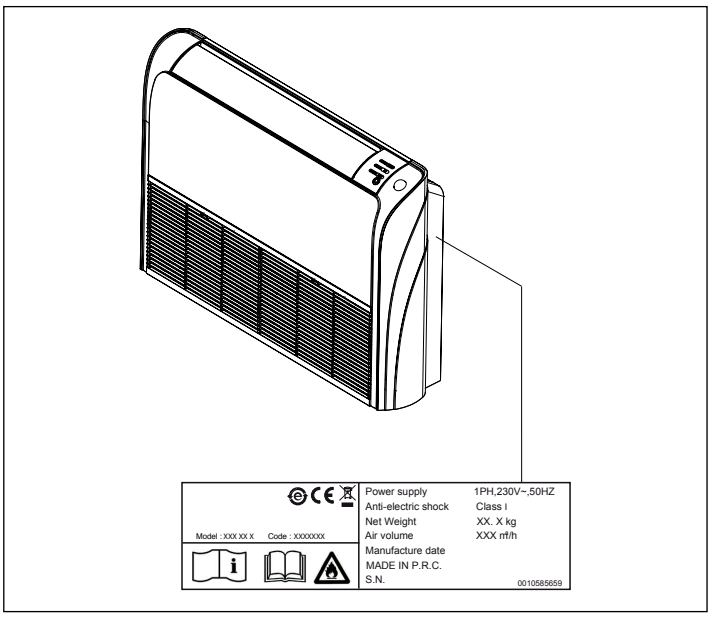
The device safety and setting are achieved thanks to:
- heat exchanger temperature sensor transmitting the detected value to the control panel, which is trigged in case of abnormal temperature with regard to the operating mode
- room air temperature sensor transmitting the detected value to the control panel in order to control the operation of the outdoor unit and regulate the room temperature

⚠ Safety device replacement must be carried out by **RIELLO** Technical Support Service, using only original components. Please refer to the spare parts catalogue.

⛔ IT IS FORBIDDEN to operate the device with faulty safety systems.

1.5 Identification

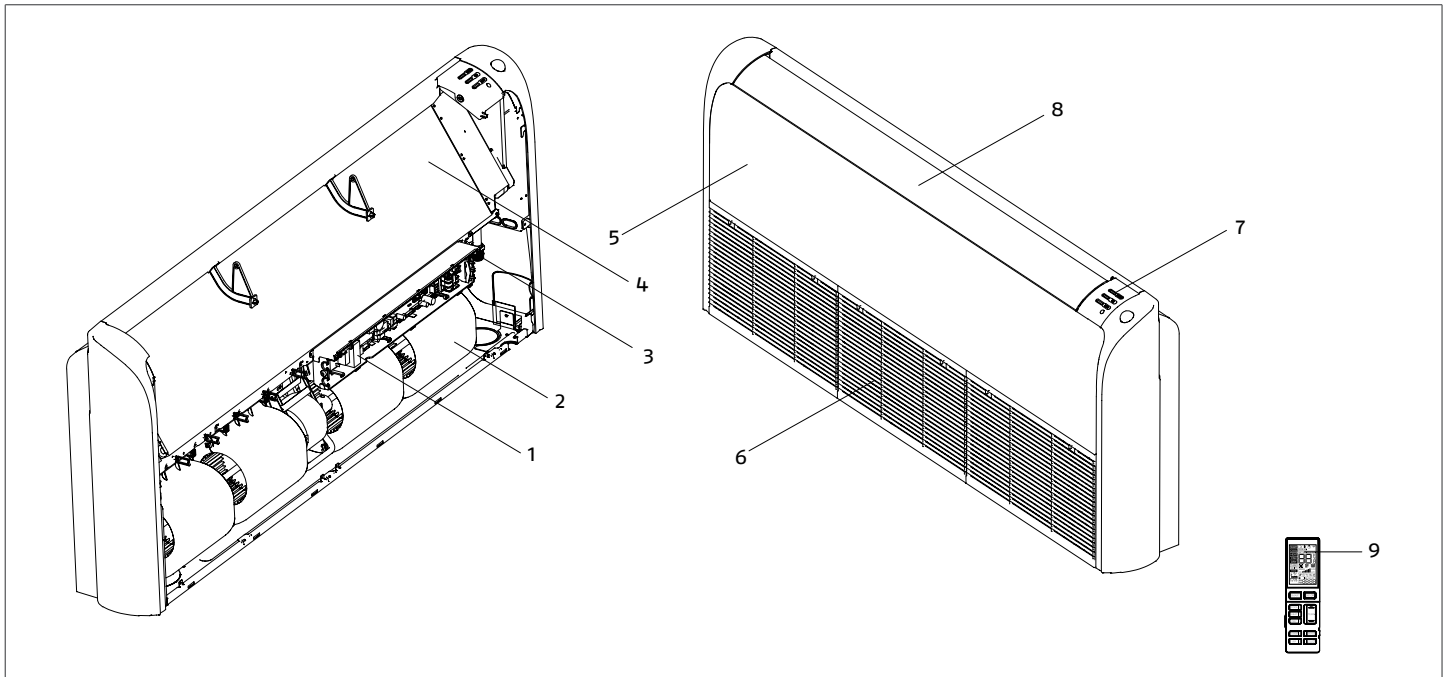
The unit can be identified through the technical data plate:



Technical data plate
Contains the device's technical and performance data.

⚠ The tampering, removal, or absence of the identification plates will not allow the product to be properly identified by its serial number.

1.6 Layout



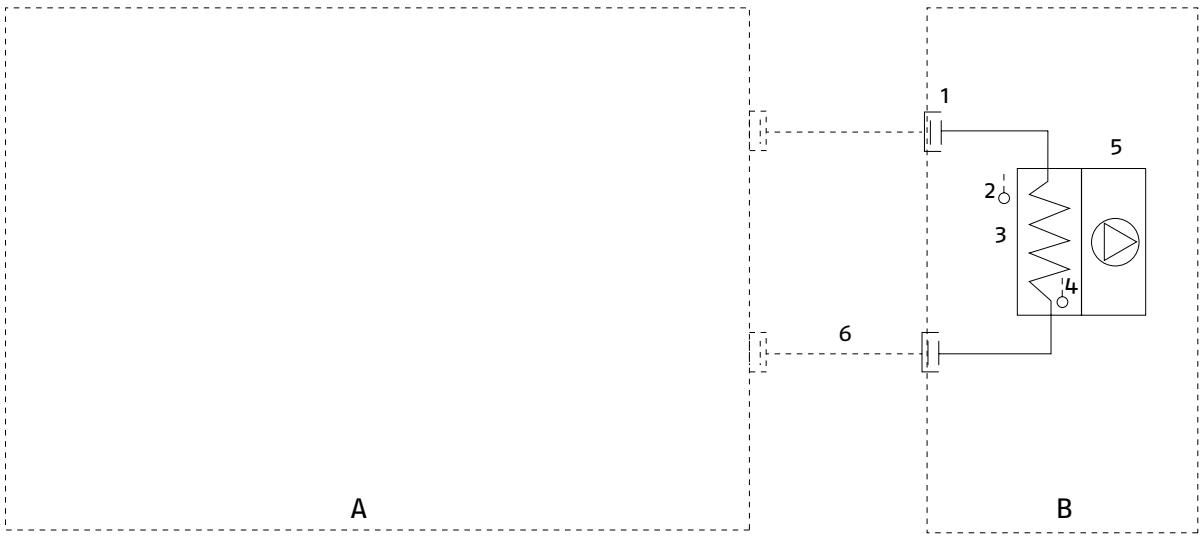
1	Electrical box	**4**	Heat exchanger	**7**	Display
2	Fan	**5**	Front panel	**8**	Motorised deflector
3	Refrigerant connections	**6**	Air intake grille	**9**	Remote control

1.7 Technical specifications

Model	100	125	140	
Electrical characteristics				
Power supply		230/1/50		V/Ph/Hz
Fan				
Quantity	3	4	4	no.
Nominal power input	0,12	0,15	0,15	kW
Nominal current consumption	0,52	0,70	0,70	A
Maximum air flow	1600	2050	2150	m³/h
Medium air flow	1400	1900	1980	m³/h
Minimum air flow	1280	1600	1800	m³/h
Superminimum air flow	1160	1400	1600	m³/h
Maximum speed	900	1000	1050	rpm
Medium speed	830	920	970	rpm
Minimum speed	760	840	890	rpm
Super minimum speed	700	750	800	rpm
Cooling sound levels				
Superminimum sound pressure	37	38	39	dB(A)
Minimum sound pressure	41	43	44	dB(A)
Medium sound pressure	43	45	46	dB(A)
Maximum sound pressure	47	48	49	dB(A)
Maximum sound power	61	64	65	dB(A)
Heating sound levels				
Superminimum sound pressure	38	38	39	dB(A)
Minimum sound pressure	42	43	44	dB(A)
Medium sound pressure	44	45	46	dB(A)
Maximum sound pressure	48	48	49	dB(A)
Maximum sound power	62	64	65	dB(A)

⚠ Performance data are indicated in the matching outdoor unit manual.

1.8 Cooling circuit



A Outdoor unit
B Indoor unit
1 Refrigerant connections
2 Room air probe
3 Heat exchanger
4 Heat exchanger sensor
5 Electric fan
6 Connection pipes

2 INSTALLATION

⚠ Ensure that the installation and operation sites are properly ventilated in order to disperse any gas leaks that could cause flames during activities with intense heat generation and high temperature.

⚠ Avoid proximity to sources of ignition in continuous operation (open flames, gas household appliances, electric stoves, lit cigarettes, etc).

⚠ Use equipment suitable for the system refrigerant.

⚠ Use an electronic leak finder properly calibrated for the system refrigerant.

⛔ It is forbidden to use leak finders with halogen lamps.

2.1 Receiving the product

RIELLO AMS P is supplied in a single package, protected by a cardboard packaging, polystyrene elements and a polyethylene film. The following items can be found inside the packaging:
Document envelope:

- Instruction's book for the installer and for the Technical Service in Italian
- Instruction's book for the installer and for the Technical Service in English
- user instruction booklet in Italian
- user instruction booklet in English
- Warranty/Spare parts labels.
- contact sheets

It is also supplied as kit:

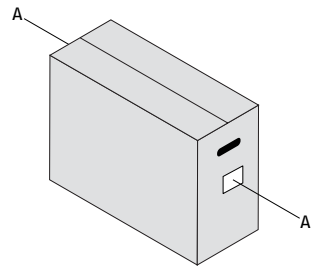
- remote control
- no. 2 AAA batteries
- no. 2 screws for remote control support
- flare nut for liquid pipe
- flare nut for gas pipe
- insulating material for liquid piping
- insulating material for gas pipe
- 8 washer M8
- 4 screws 4 x 16
- 2 screws 4 x 20
- 4 anti-vibration mountings
- 4 washer M8
- 1 insulating material sheet
- 4 clamps

⚠ The Instruction book comes with the equipment and it should be taken, read and kept carefully.

⚠ The document envelope must be kept in a safe place. Any duplicate must be requested from RIELLO S.p.A. which reserves to charge the cost.

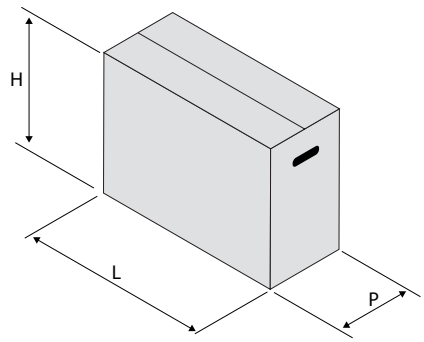
⚠ Remove the supplied material and the control panel from the fan housing before installing the unit.

2.2 Labels positioning

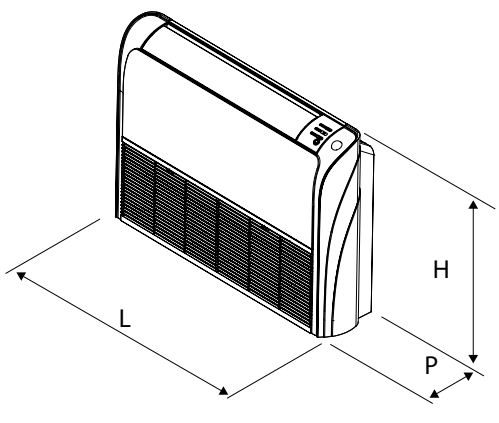


A Package label

2.3 Dimensions and weight



Model	100	125	140	
Packaging dimensions				
H	779	779	779	mm
L	1425	1750	1750	mm
P	305	305	305	mm
Weight	41,9	51,0	51,0	kg



Model	100	125	140	
Product dimensions				
H	680	680	680	mm
L	1325	1650	1650	mm
P	230	230	230	mm
Weight	33,5	43,0	43,0	kg

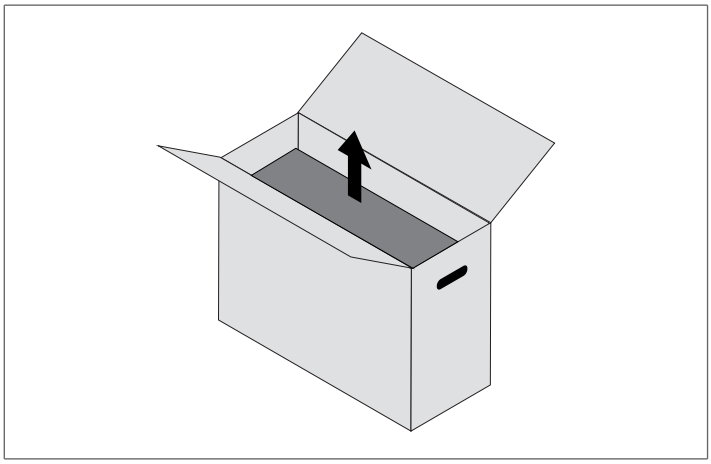
2.4 Storage

⚠ The product must be stored of according to the regulations in force.

2.5 Handling and removal of the packing

⚠ Before unpacking, personal protective clothing should be worn and used transport means and tools suitable for the size and weight of the unit.

The product can be handled manually.



Follow the below instructions for packing removal and product handling:

— transport the equipment in the installation place
— cut strapping bands
— remove the packaging cover
— remove the protection elements
— remove the polyethylene bag
— remove the document envelope
— take out the device by lifting it up
— remove accessories and control panel from the fan compartment

⚠ In manual operation it is compulsory to respect always the maximum weight per person provided for by the national laws and standards.

⚠ Handle with care

⚠ The packing material must not be disposed of in the surrounding environment and must be kept out of children reach, as it can be dangerous. It must be disposed of according to the regulations in force.

2.6 Place of installation

The location of **RIELLO AMS P** devices must be determined by the system's designer or by another competent person, and must take into account the technical requirements, as well as any current local regulations.

⚠ The product uses R32 refrigerant gas and must be installed in rooms with a minimum floor area, as indicated in the following table, depending on the total refrigerant charge of the system (given by the sum of the factory charge of the outdoor unit and, if appicable, the additional charge).

⚠ The amount of refrigerant charged inside the unit refer to the INSTALLATION AND TECHNICAL SERVICE INSTRUCTIONS of outdoor unit used.

Minimum floor area for ceiling installation

mc kg	A min m²	mc kg	A min m²
0,2	No requirements	2,1	2,81
0,6		2,2	3,09
0,8		2,3	3,38
1,0		2,4	3,68
1,1		2,5	3,99
1,224		2,6	4,31
1,225	0,96	2,8	5,00
1,3	1,08	3,0	5,74
1,4	1,25	3,4	7,38
1,5	1,44	3,8	9,22
1,6	1,63	4,2	11,26
1,7	1,84	4,6	13,50
1,8	2,07	5,0	15,96
1,9	2,30	5,4	18,61
2,0	2,55	5,8	21,47

mc: refrigerant charge of the system
A min: minimum floor area for indoor unit

Minimum floor area for floor installation

mc kg	A min m²	mc kg	A min m²
0,2	No requirements	2,1	37,84
0,6		2,2	41,53
0,8		2,3	45,39
1,0		2,4	49,42
1,1		2,5	53,63
1,224		2,6	58,00
1,225	12,88	2,8	67,27
1,3	14,50	3,0	77,22
1,4	16,82	3,4	99,19
1,5	19,31	3,8	123,90
1,6	21,97	4,2	151,36
1,7	24,80	4,6	181,56
1,8	27,80	5,0	214,51
1,9	30,98	5,4	250,21
2,0	34,32	5,8	288,65

mc: refrigerant charge of the system
A min: minimum floor area for indoor unit

RIELLO AMS P is designed for indoor ceiling or floor installation:

— install the indoor unit in the room to be air-conditioned
— its position must allow for the circulation of treated air in the whole room
— consider an area where there are no obstacles to the regular air delivery and intake

Check that:

— the support wall is able to support the device weight
— the wall section does not feature building supporting ele-

ments, pipes or power lines

Avoid:

— installing the device in hallways or passageways
— any obstacles or barriers that will cause the expelled air to recirculate
— locations with aggressive or explosive atmospheres or with inflammable fluids
— direct exposure to sunlight and proximity to heat sources
— humid locations or positions where the unit could come into contact with water
— environment containing oil vapours
— locations with high frequency contamination

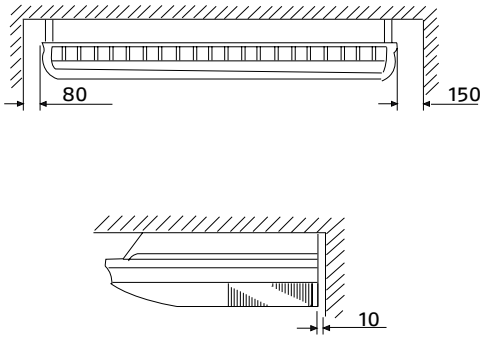
⚠ Avoid placing the unit less than 1 metre away from radio and video systems.

⚠ A detachable section cut into the suspended ceiling is required in order to access the unit.

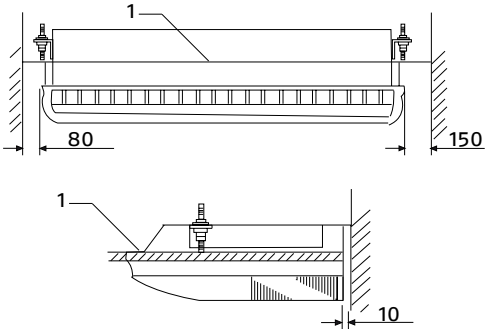
2.7 Recommended distances

The distances for the device installation and maintenance are shown in the figure. The indicated spaces are necessary in order to prevent the airflow from being blocked, as well as to allow normal cleaning and maintenance operations to be carried out.

CEILING INSTALLATION

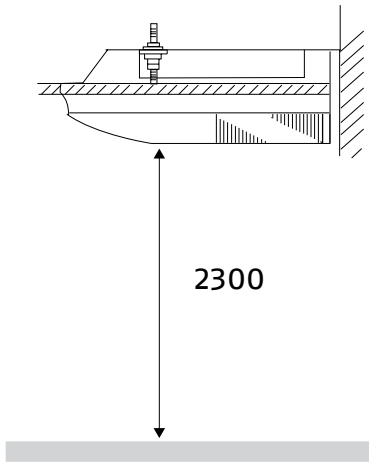


IN THE CEILING INSTALLATION



1 false ceiling

HIGH SPACING DISTANCE



2.8 Installation on old systems or systems in need of upgrading

When **RIELLO AMS P** is installed on old systems or systems in need of upgrading, it is recommended to ensure that:

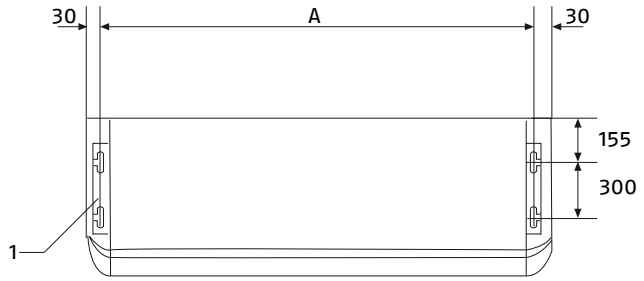
— the electrical system is compliant with the applicable regulations and has been installed by qualified professionals

⚠ In the event of a replacement, the system must be inspected by the designer or by another competent person, and must be compliant with the technical requirements, as well as the current legislations and regulations.

⚠ The manufacturer shall bear no responsibility for any damages caused by incorrect system installation.

2.9 Positioning

RIELLO AMS P is designed for ceiling horizontal or vertical floor installation and must be fixed to the support wall.
In the ceiling positioning they can be fixed or partially embedded in the false ceiling.
The appliance is designed with fixing brackets:



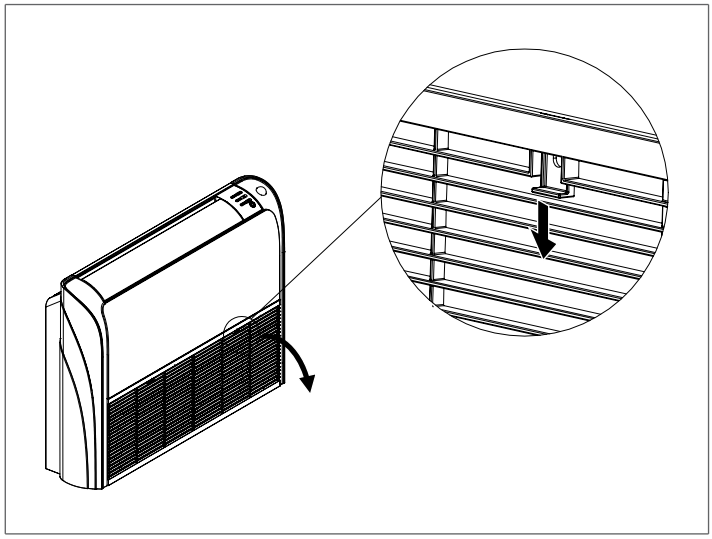
1 Fixing brackets

Model	100	125	140	
Template dimensions				
A	1204	1530		mm

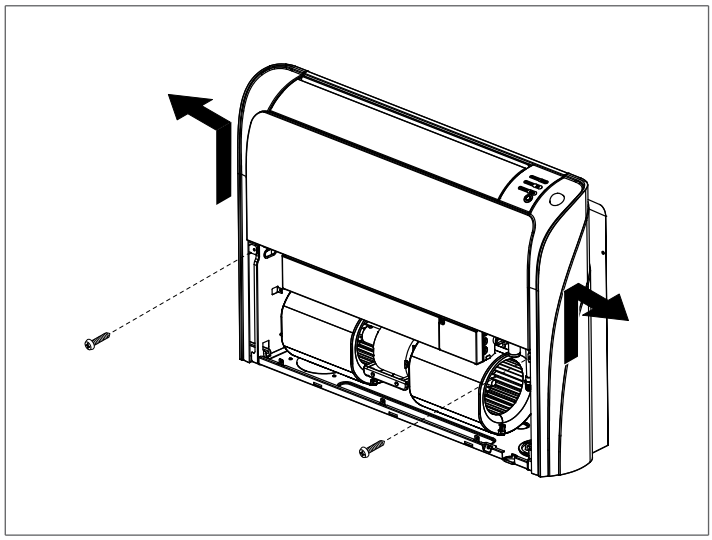
To access the fixing brackets it is necessary to remove the side

panels.

Side panels removing:



— open the fixing pin
— open the air intake grill
— unfasten the grid
— repeat for all elements



— unscrew the fastening screws
— remove the side panels

Leak test:

The unit is supplied as pre-charged with nitrogen.

— partially loosen one fitting plug
— check for nitrogen leaks to verify that there is pressure inside the device

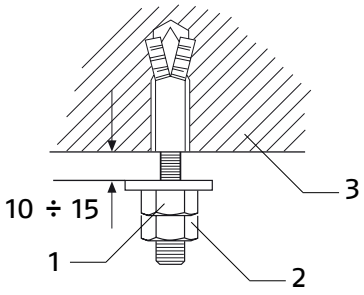
⚠ If pressure down, do not continue installation and check for leakage inside the unit.

⚠ Contact **RIELLO** Technical Support Service.

Horizontal ceiling mounting

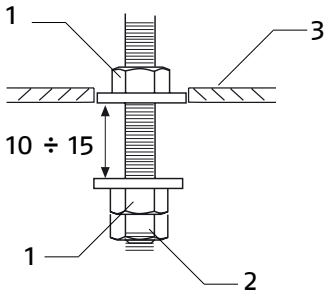
— position the support rods and fix them properly to the bearing structures

WITHOUT FALSE CEILING



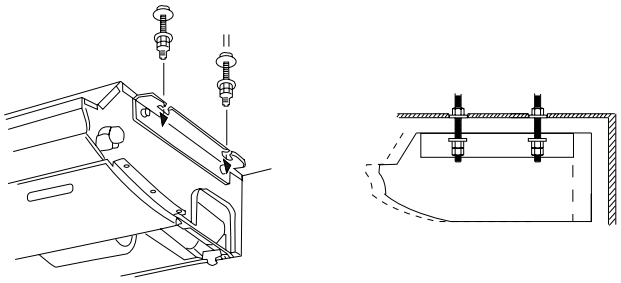
1 Fastening nut (supplied)
2 Fastening nut M10 (not supplied)
3 Ceiling

WITH FALSE CEILING



1 Fastening nut (supplied)
2 Fastening nut M10 (not supplied)
3 false ceiling

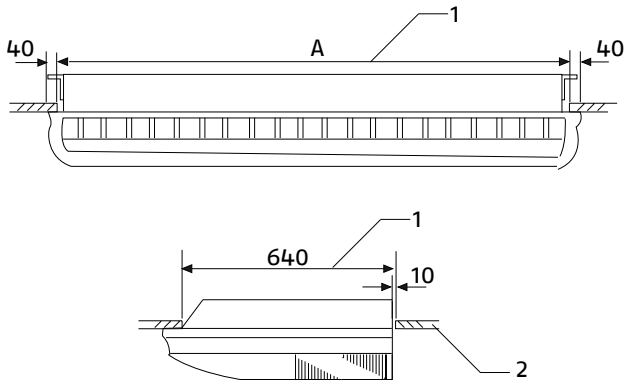
— place the nuts on the threaded bars



1 Threaded rods
2 Support bracket
3 false ceiling
4 4 ways panel

— hook the unit to the threaded bars

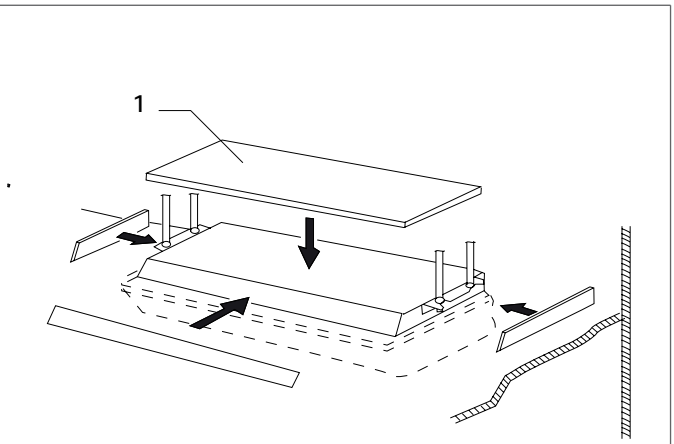
With false ceiling



1 Hole in false ceiling
2 false ceiling

Model	100	125	140	
Template dimensions				
A	1204	1530		mm

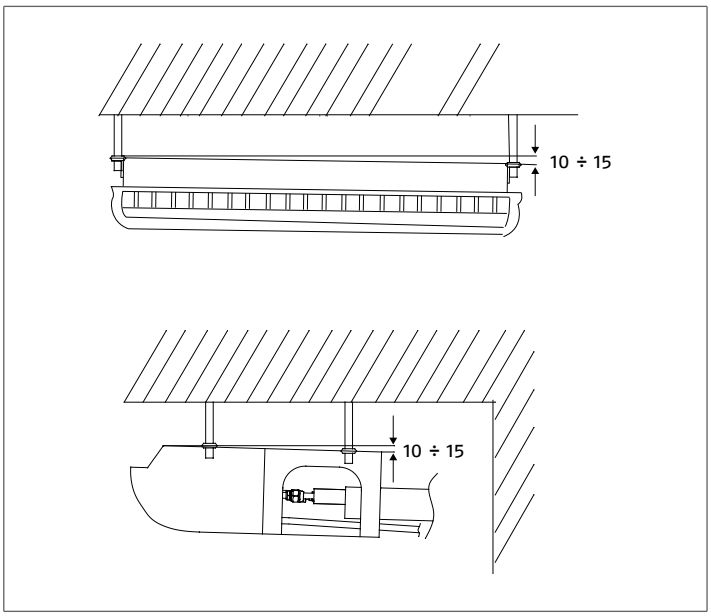
— make an opening in the false ceiling



1 Insulating material

⚠ Apply the thermal insulating suitable material to prevent and the formation of condensation.

— regulate the height of installation of the unit
— center the unit over the opening



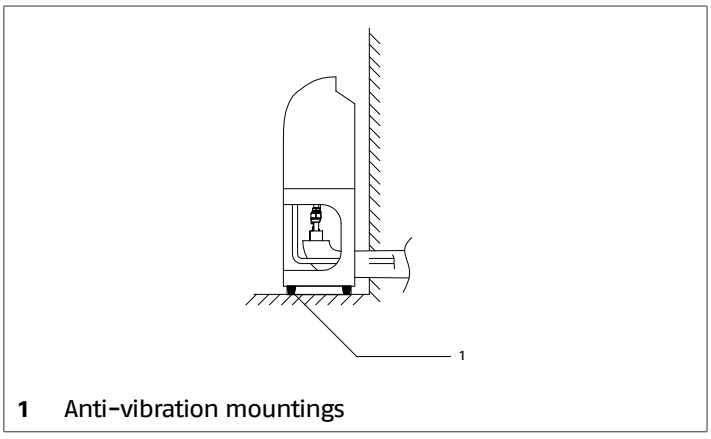
— regulate the unit's position so as to create a slope towards the condensation drainage
— tighten the fastening nut

⚠ Seal the nuts with some liquid thread lock.

⚠ The support rods must be attached to structures able to support the weight of the unit.

⚠ The incorrect positioning of the device can cause water leakage.

Vertical positioning on floor

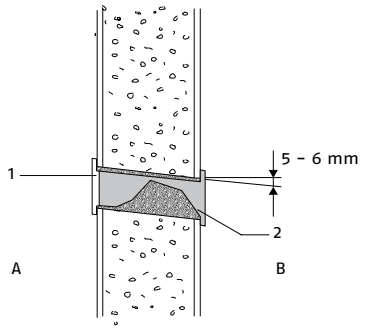


1 Anti-vibration mountings

Before positioning:

— fasten the anti-vibration supports supplied with the device

Drilling into the wall:



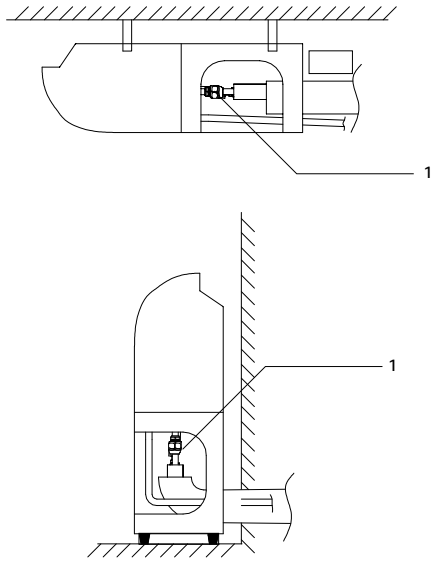
A Inner side
B 0uter side
1 Hole protective insert, supplied
2 Plastic tube

— drill the through hole into the wall
— keep a downward inclination toward the external side
— insert a plastic tube in the hole in order to protect the connections
— introduce the supplied hole protection insert on the internal side of the wall
— seal with stucco

⚠ In case of connections on the rear side of the unit, refer to chapter "Refrigerating connection" for the position of the hole.

2.10 Refrigerating connection

The dimensions and positions of **RIELLO AMS P** cooling connections are shown hereunder.



1 Refrigerant connections

Model	100	125	140	
Connections				
Liquid line connection	3/8"			Inches
Gas line connection	5/8"			Inches
Liquid line connection	9,52			mm
Gas line connection	15,88			mm

⚠ For indications concerning distances and differences in height of connection pipes, refer to the matching outdoor unit manual.

⚠ Use clean hoses. Make sure the inside is free of dust, residues, water.

⚠ Avoid the entry of uncondensable gases (air) in the circuit, otherwise, with the unit in operation, high pressures with the risk of damages might ensue.

⚠ Use copper pipes for cooling systems.

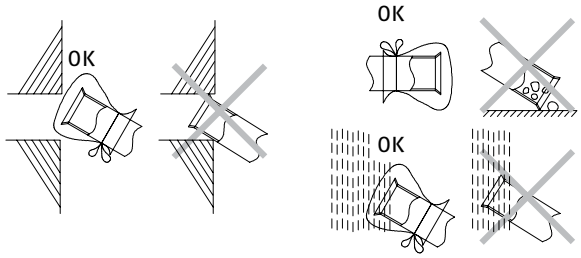
⛔ It is forbidden to use second-hand cooling lines since their flare connection seal is not guaranteed.

⛔ It is forbidden to use pre-charged cooling lines.

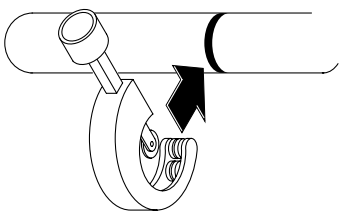
⛔ It is forbidden to carry out welding operations with refrigerant inside the cooling circuit. If necessary, the refrigerant must be recovered and the circuit must be cleaned with nitrogen without oxygen.

Connections

— position the connecting pipes

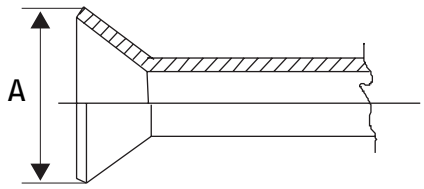


⚠ Before threading the lines through the hole in the wall, close the lines ends.

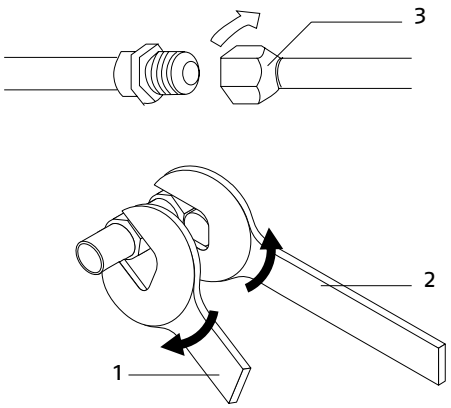


— cut the pipe end square using a pipe cutter

— remove burrs keeping the cut edge facing down
— remove the flare nut on the unit connection
— insert it into the connection pipe
— flare the tube

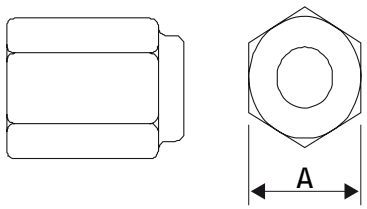


Pipe Ø		A
mm	inches	mm
6,35	1/4	9,1
9,52	3/8	13,2
12,70	1/2	16,6
15,88	5/8	19,7



1 Key
2 Torque wrench
3 Flare nut

Pipe Ø		Tightening torque
mm	inches	Nm
6,35	1/4	18
9,52	3/8	42
12,70	1/2	55
15,88	5/8	60



Pipe Ø		A
mm	inches	mm
6,35	1/4	17
9,52	3/8	22
12,70	1/2	26
15,88	5/8	29

— bring line ends with flare connection close to their coupling on the unit
— manually rotate the flare nuts by 3 - 4 turns
— tighten the connections using a spanner and a counter spanner

⚠ Use a torque wrench to tighten so as to prevent damage to flare nuts and gas leaks.

⚠ Use equipment suitable for the system refrigerant.

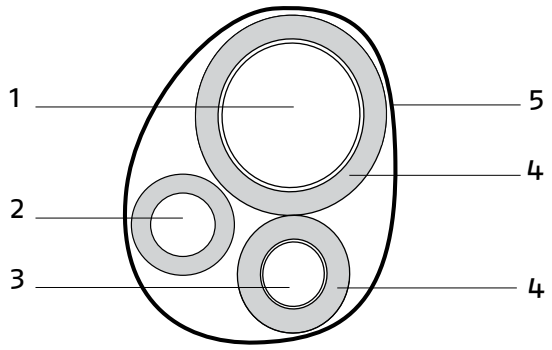
⚠ Avoid using the refrigerant oil on the external part of the flaring.

⚠ Avoid proximity to sources of ignition in continuous operation (open flames, gas household appliances, electric stoves, etc.).

⚠ As for circuit leak and pneumatic vacuum tests, refer to the matching outdoor unit instruction booklet for the installer.

Pipe insulation

Connection pipes must be thermally insulated to prevent dispersions of heat or formation of condensate.



1 Gas pipe
2 Condensation discharge
3 Liquid pipe
4 Heat insulation
5 Adhesive tape

— insulate the liquid and gas pipes separately
— use insulating material that is thicker than 15 mm
— ensure that the insulating material adheres to the pipe without gaps
— fix using adhesive tape

⚠ Do not tighten the adhesive tape too much, so as to avoid damaging the insulation.

⚠ Avoid partial insulation of the pipes.

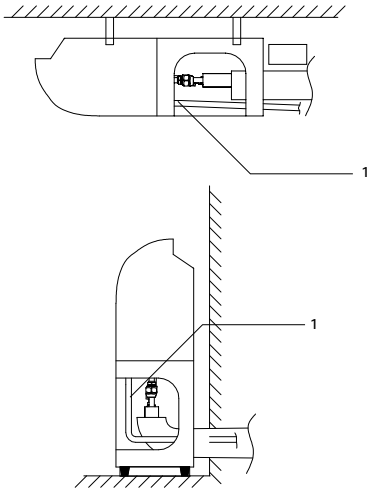
⚠ In case of use with outdoor temperature above 30 °C and relative humidity above 80%, increase wall thickness up to 20 mm.

For gas pipes:
— ensure that the material used resists to temperatures up to 120°C

For liquid pipes:
— ensure that the material used resists to temperatures up to 70°C

2.11 Condensate discharge connection

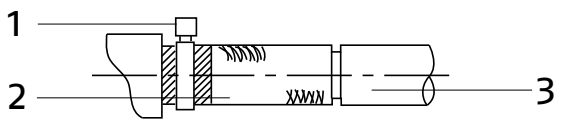
RIELLO AMS P is equipped with condensate drain pan which is produced during cooling operation and which must be conveyed to a place suitable for drain



1 Condensation discharge

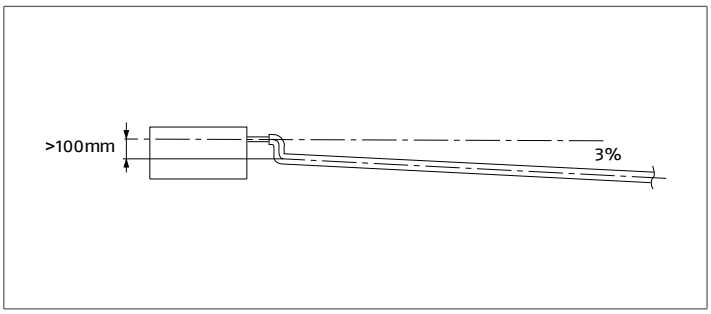
Model	100	125	140	
Connections				
Condensate discharge attachment Ø	VP25			mm

Connections

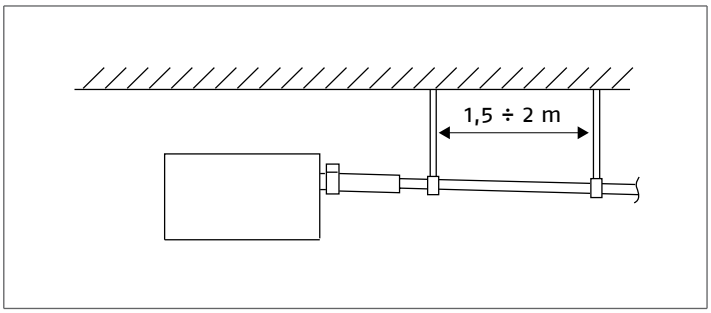


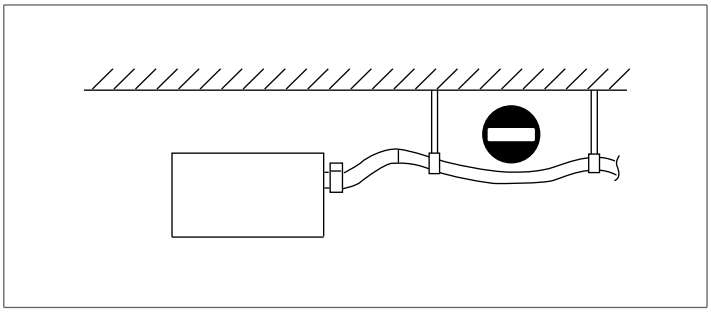
1 Hose clamp
2 Condensate discharge pipe
3 Drainage pipe

— connect a rubber drainage pipe
— direct it toward a suitable place for discharge

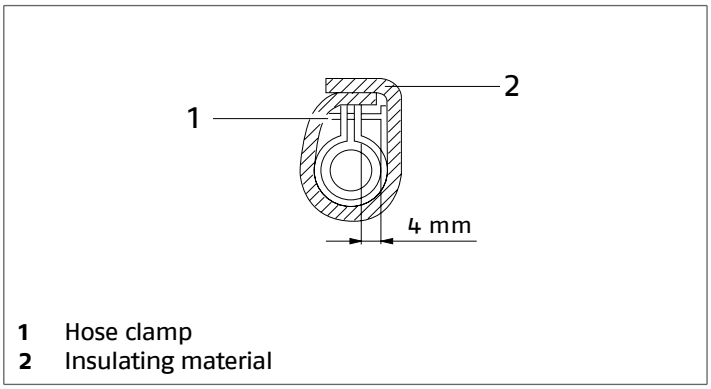


— keep a slope of 3%





— support the drain pipe properly



1 Hose clamp
2 Insulating material

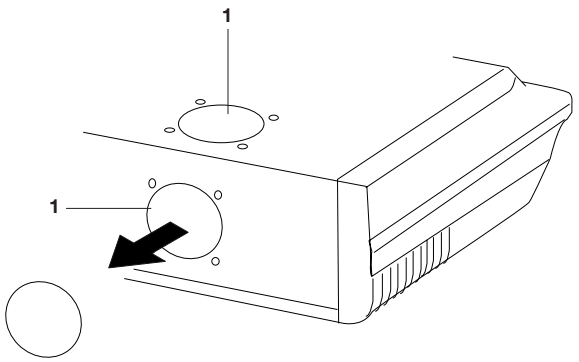
— insulate the joints

Drainage check

After electrical connection:
— charge 1,2 l water into the condensate tray
— check that it flows out correctly through the drainage pipe

External air intake

External air intake
If necessary, it is possible to introduce fresh air through one of the two connections on the unit. The connection are closed by pre-cut metal sheet.



1 Pre-cut metal sheet

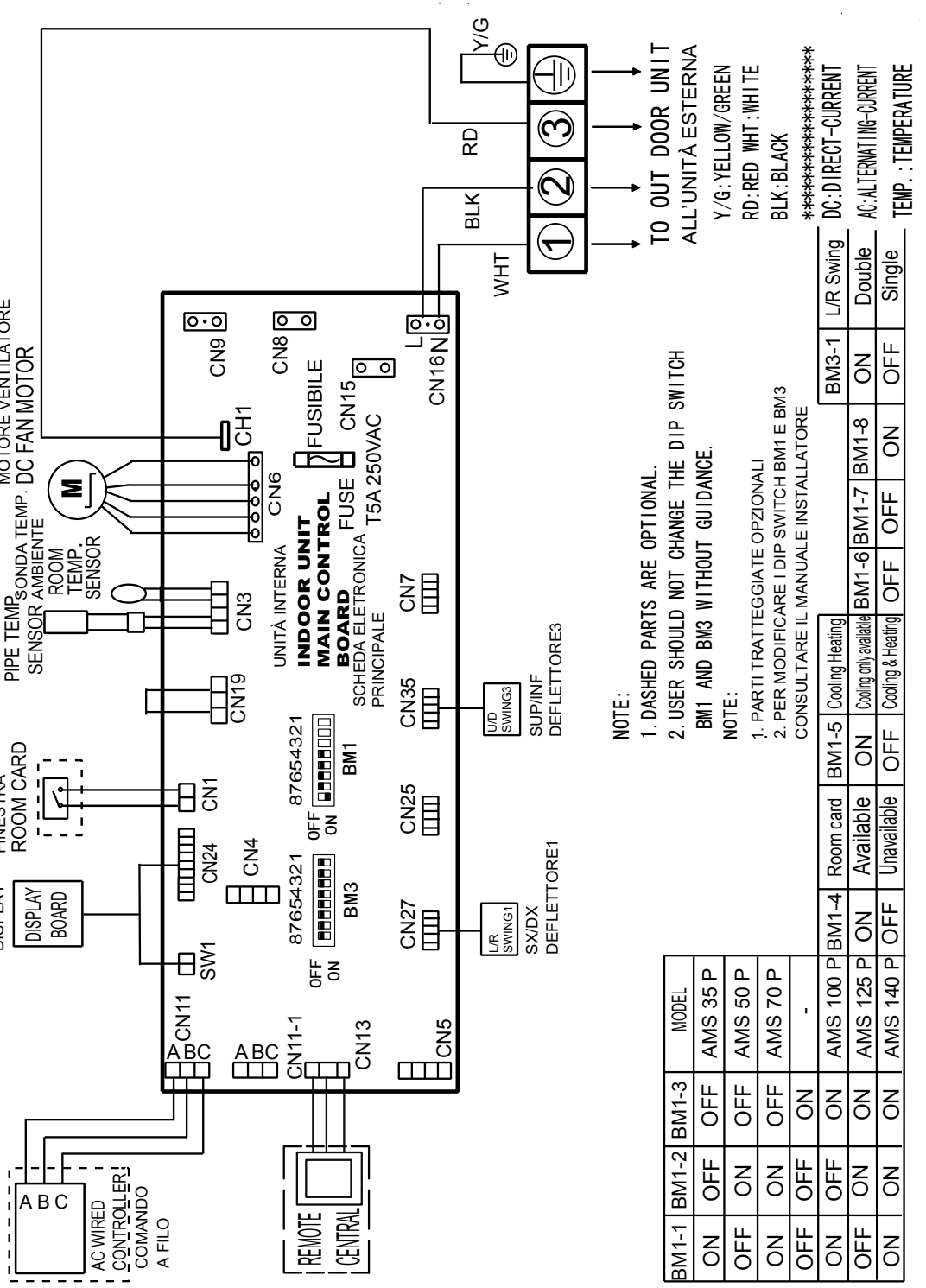
— select another connection
— remove the pre-cut metal sheet
— connect a circular duct to the prepared connection
— seal the connection

⚠ When removing the pre-cut sheet, take special care not to damage the internal components.

⚠ The edges of the pre-cut sheet and its housing are sharp, use personal protection elements during the operations.

2.12 Wiring diagram

MODEL 100 – 125 – 140



BM1-1	BM1-2	BM1-3	MODEL
ON	OFF	OFF	AMS 35 P
OFF	ON	OFF	AMS 50 P
ON	ON	OFF	AMS 70 P
OFF	OFF	ON	-
ON	OFF	ON	AMS 100 P
OFF	ON	ON	AMS 125 P
ON	ON	ON	AMS 140 P

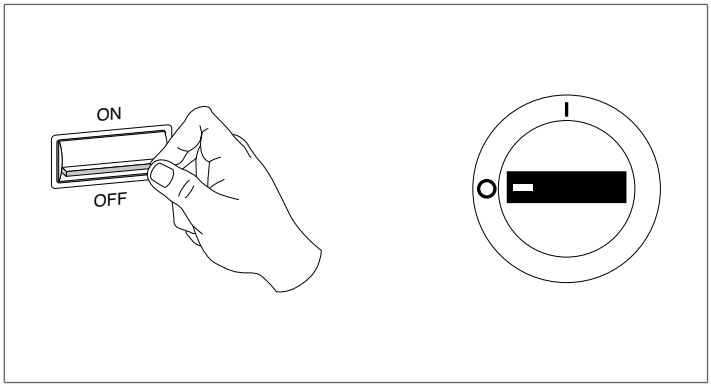
BM1-4	Room card
ON	Available
OFF	Unavailable

BM1-5	Cooling Heating
ON	Cooling only available
OFF	Cooling & Heating

BM1-6	BM1-7	BM1-8	BM3-1	L/R Swing
OFF	OFF	ON	ON	Double
	ON	OFF	OFF	Single

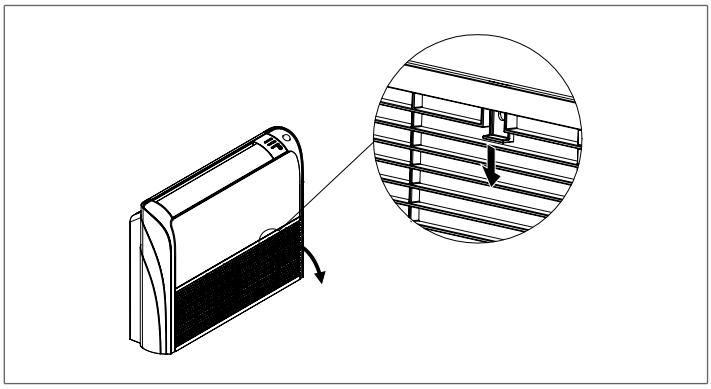
2.13 Electrical connection

AMS P it leaves the factory completely wired, and only requires a connection to the outdoor unit.

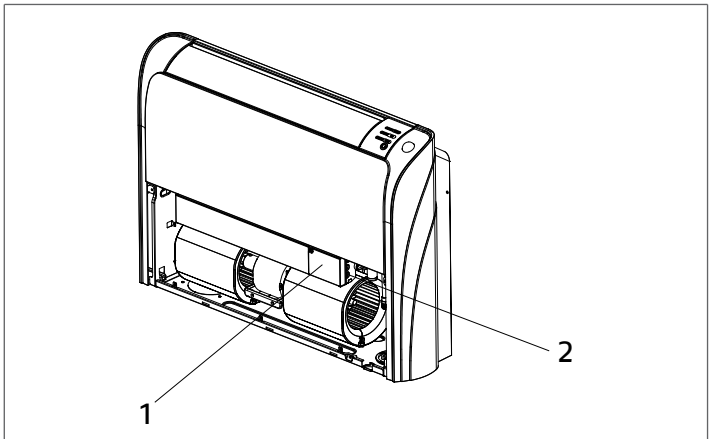


— position the system's main switch in the "0FF" position.

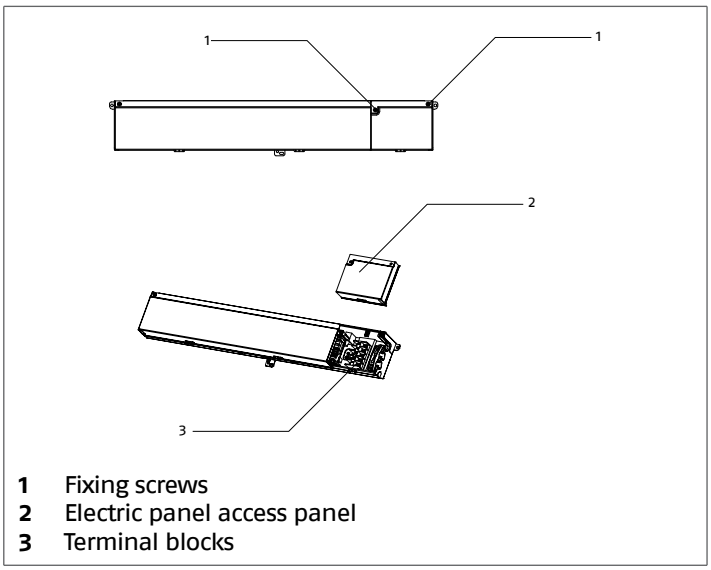
To access the terminal board:



— open the fixing pin
— open the air intake grill
— unfasten the grid
— repeat for all elements

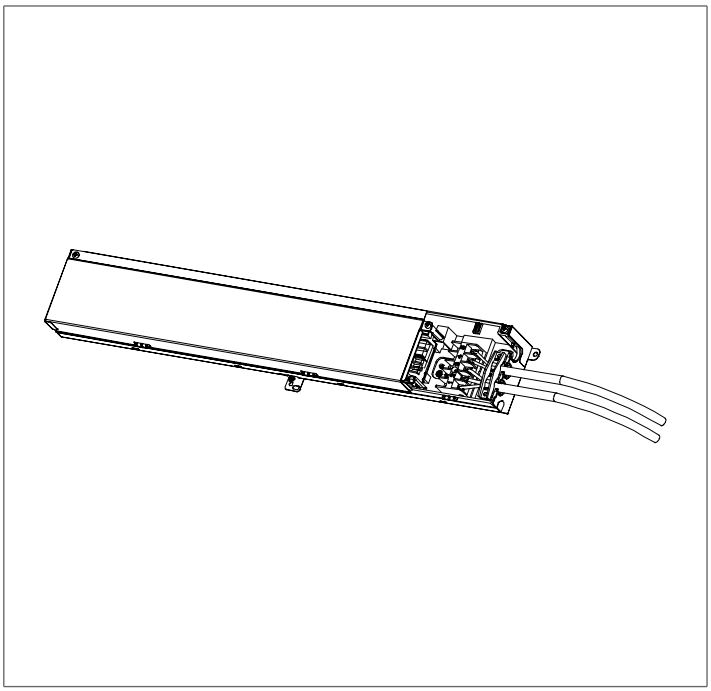


1 Electrical box
2 Connections input

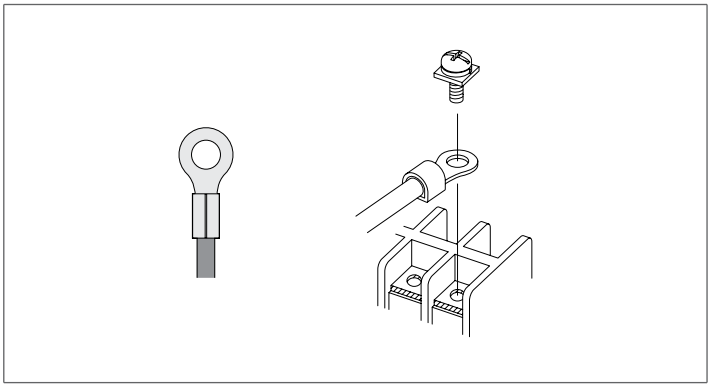


1 Fixing screws
2 Electric panel access panel
3 Terminal blocks

— unscrew the fastening screws
— remove the electric panel access panel



— make the electric connections according to the diagrams on the installation booklet of the matching outdoor unit



⚠ It is compulsory to use ring crimp terminals to connect to the terminal board.

For the sizing of the electrical cables, use the following table:

Model	100	125	140	
Electrical characteristics				
Power supply	230/1/50			V/Ph/Hz
Power cable	H07RN-F			Type
Power cable	3 x 4			n. x mm²
Signal cable	4 x 2,5			n. x mm²

⚠ The cable sections specified in the table are minimum requirements. The correct size must be calculated taking into account the actual length, the type of routing and other conditions set by the existing regulations.

— fasten the wires with the wire retainer
— check the correct positioning of the cable gland
— complete the electric connections and refit all components by performing the described operations in reverse order

Mandatory items:

— connect the device to a properly functioning earthing system
— for any electrical intervention, always refer to the wiring diagrams contained within this booklet
— take anti-static precautions in case of weather conditions where humidity is less than 40%

⚠ Electric connections shall be made in compliance with national regulations.

⚠ Avoid placing the connection cables less than 1 metre away from radio and video systems.

⚠ Avoid using mobile phones.

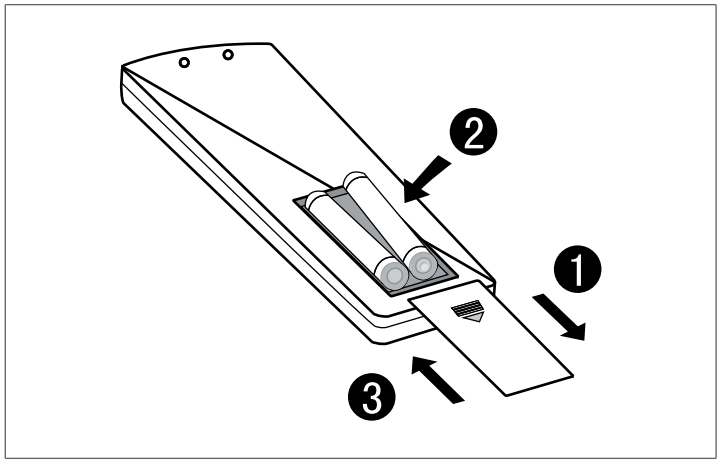
⛔ It is forbidden to earth the device together with pipes, lightning conductors or the earthing system of a telephone line. Using an improper earthing system can cause electric shocks.

2.14 Remote control

Control, setting and programming operations are carried out with the IR remote control.
The electronics modulates the device operation according to the temperatures detected by the probes inside the indoor and outdoor units.

Battery insertion

The remote control is powered by two AAA batteries (1.5 V) housed at the back, under a cover.
Should you notice a poorer reception or if display information fades out, the batteries must be changed.
To fit or change batteries:



— remove the cover by pressing it down and lifting it up
— if present, remove old batteries
— fit new batteries according to proper polarity

⚠ Two 1.5V AAA batteries are supplied with the unit for its first set-up.

⚠ Never mix and match new and old batteries or different types of batteries.

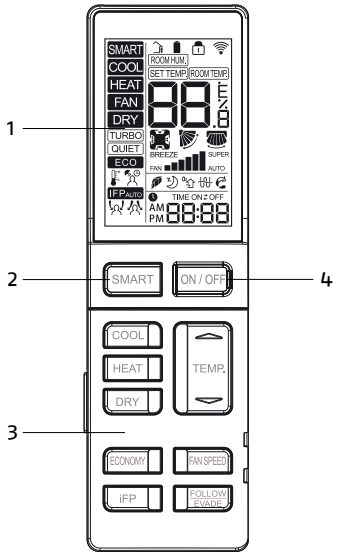
⚠ When you remove the batteries, all settings in the remote control will be deleted. Fit the new batteries and reprogram.

⚠ Do not dispose of old batteries in the environment. Always take them to the suitable containers at points of sale.

Function keys

The remote control features a small door in the key area:

DOOR CLOSED



1 Display
2 Smart button
3 Quick function keys
4 On- Off key

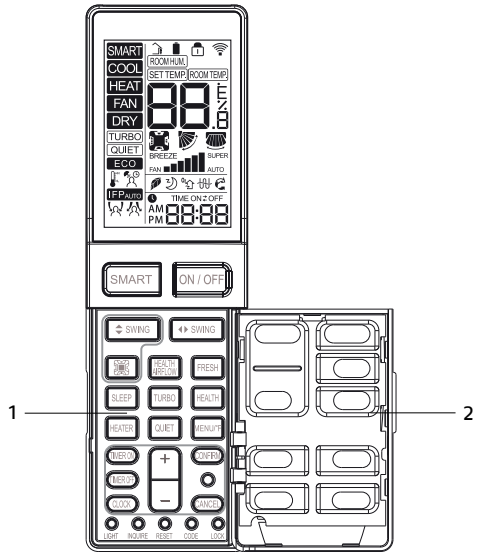
When the door is closed, you can activate the quick functions, such as choosing the operating mode and setting the desired temperature.

⚠ Ensure that the door is fully closed. If this is not the case, the external keys will not work.

Function keys with door closed

SMART	Enables Automatic mode
ON / OFF	It switches the device on and off
COOL	It activates the Cooling mode
HEAT	It activates the Heating mode
DRY	It activates the Dehumidification mode
TEMP.	It increases or decreases the selected parameter value
ECONOMY	Enables ECO function
iFP	Function not available
FAN SPEED	Select required ventilation speed: minimum, medium, maximum or automatic
FOLLOW EVADE	Function not available

DOOR OPEN



1 Door
2 Advanced function keys

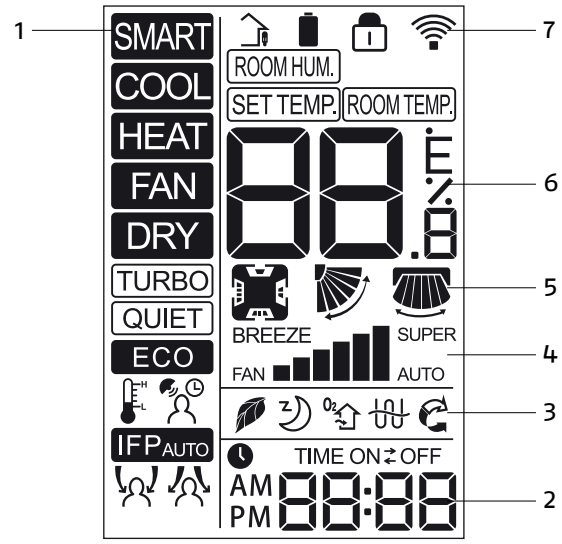
When the door is open, you can access the advanced functions, e.g. time scheduling and motor-driven deflector settings.

Function keys with door open

SWING	It activates and deactivates the automatic movement of the horizontal deflector or stops it in a specific position
SWING	It activates and deactivates the automatic movement of the vertical deflector or stops it in a specific position Function not available for Cassette unit
	Select the desired deflector
HEALTH AIRFLOW	It enables the Health Air Flow function
FRESH	Enable Fresh function (low speed ventilation) Not available for Consolle unit
SLEEP	It activates the Sleep function
TURBO	Enable Turbo function (maximum speed ventilation)
HEALTH	Function not available
HEATER	Function not available
QUIET	Enable Quiet function
MENU/°F	It switches the temperature scale from Celsius to Fahrenheit and vice versa
TIMER ON	Gives access to Timer ON settings
TIMER OFF	Gives access to Timer OFF settings
CLOCK	It gives access to current time change settings
+ −	It increases or decreases the selected parameter value
CONFIRM	Confirm the settings
CANCEL	Delete the settings
LIGHT	Switch on or off the unit display
INQUIRE	Indoor unit processing
RESET	Press to restart the air conditioner
CODE	Private function
LOCK	Keys locking

Remote control display

The remote control display shows the settings as changed by the user and the detected weather conditions.
The backlit display is divided in areas according to function type.



1 Operating mode
2 Timer settings
3 Functions
4 Fan settings
5 Motor-driven deflector settings
6 Climatic settings
7 Remote control status

Operating mode

SMART	Smart mode enabled
COOL	Cooling mode enabled
HEAT	Heating mode enabled
FAN	Ventilation mode enabled
DRY	Dehumidification mode enabled
TURBO	Turbo function enabled
QUIET	Quiet function enabled
ECO	Economy function enabled
IFP AUTO	Not available

Timer settings

88:88 Timer setting value or current time display

ON Switch on timer enabled

OFF Switch off timer enabled

Functions

Not available

Sleep function enabled

Fresh function enabled
Not available for Consolle unit

Not available

Health Airflow function enabled

Fan settings

Fan speed set

BREEZE Quiet speed enabled

SUPER Turbo speed enabled

AUTO Auto speed enabled

Motor-driven deflector settings

Deflectors enabled
Available for Cassette unit only

Horizontal deflector position

Vertical deflector position
Not available for Cassette unit

Climatic settings

1. Detected ambient humidity
2. Required temperature when using the button
3. Detected ambient temperature

Remote control status

Signal transmission upon pressing the keys

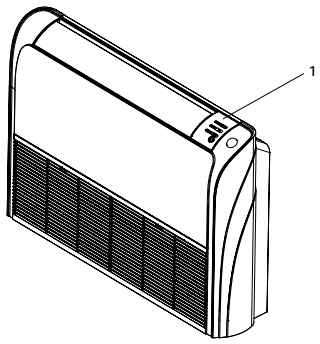
Battery level

Remote control keys locked

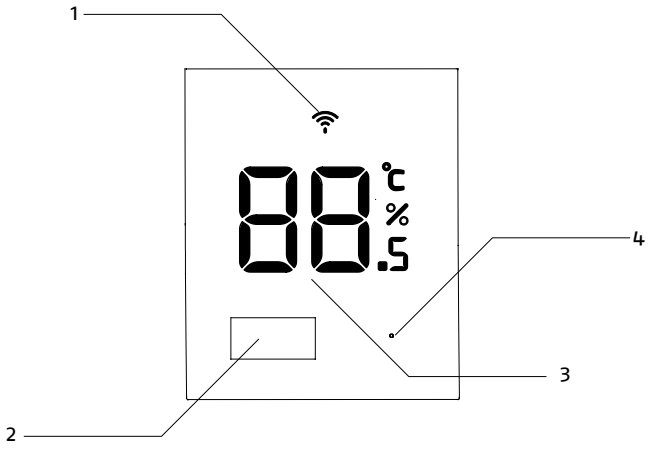
WiFi connection enabled

Unit display

The unit display shows the active functioning mode, the temperature and the alarms, if any.



1 Display



1 Wi-Fi on
2 Remote control receiver
3 Temperature indication, alarm code
4 Emergency switch

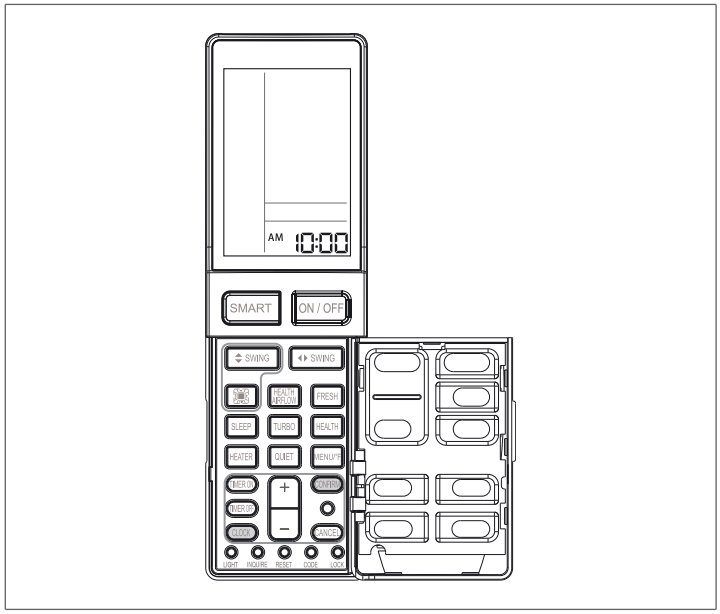
3 COMMISSIONING AND MAINTENANCE

3.1 Preparation for first commissioning

Prior to commissioning, it is necessary to check that:
- all the safety conditions have been met
- all distances have been respected
- the electrical connections have been properly completed
- power supply values are correct.
- the earthing has been carried out correctly
- all the connections have been properly tightened

Time setting

The current time must be set before using the remote control:



- open the door
- press CLOCK
- work on TEMP.
- select the current time

Each time the key is pressed, the values changes by 1. By keeping the key pressed down, the value changes faster.

- confirm with CONFIRM

Microswitch setting

On the main electronic board there are microswitches to manage some functions.

Factory settings

Description	BM1							
	1	2	3	4	5	6	7	8
Model 35	ON	OFF	OFF	-	-	-	-	-
Model 50	OFF	ON	OFF	-	-	-	-	-
Model 70	ON	ON	OFF	-	-	-	-	-
Room Card function deactivated (Default)	-	-	-	OFF	-	-	-	-
Room Card function activated	-	-	-	ON	-	-	-	-
Heat pump (Default)	-	-	-	-	OFF	-	-	-
Cooling only	-	-	-	-	ON	-	-	-
Reserved	-	-	-	-	-	OFF	-	-
Reserved	-	-	-	-	-	ON	-	-
Reserved	-	-	-	-	-	-	OFF	-
Reserved	-	-	-	-	-	-	ON	-
Reserved	-	-	-	-	-	-	-	OFF

BM1-1, BM1-2, BM1-3
Model setting; do not change.

BM1-4
It enables and disables the "Roomcard" function:
OFF = disabled (factory setting)
- if the clean contact "Roomcard" opens, the unit will turn off automatically. Remote control can be used to turn on the unit again
- if the clean contact "Roomcard" closes, the unit will prepare to start in stand-by mode. Remote control must be used to turn on the unit again

ON = enabled
- if the clean contact "Roomcard" opens, the unit will turn off automatically. Remote control can not be used to turn on the unit again
- if the clean contact "Roomcard" closes, the unit will prepare to start in stand-by mode. Remote control must be used to turn on the unit again

⚠ Contact "Roomcard" is bridged by factory default.

⚠ For the location of the free contact and its connector, refer to the chapter "Wiring diagram" .

BM1-5
Heat pump operation (OFF) or only cooling operation (ON).

⚠ Factory set is heat pump (OFF).

BM1-6, BM1-7, BM1-8
Model setting; do not change.

⚠ Cut off the power supply before adjusting.

BM3-1
Motorised deflector (left/right)
ON: double
OFF: single

BM3-2, BM3-3, BM3-4
Reserved. Do not change factory setting

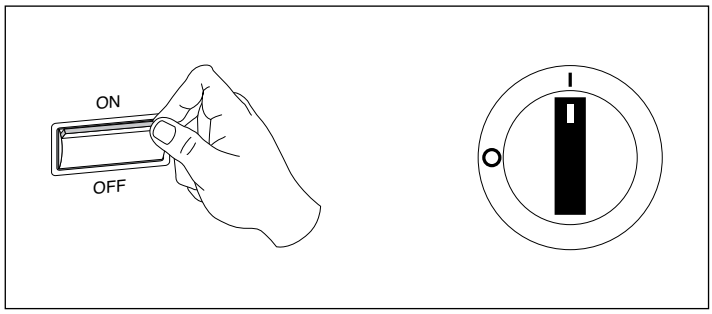
BM3-5, BM3-6, BM3-7, BM3-8
Reserved switches for addressing multiple indoor units to a single control panel. For instructions, refer to the user manual of the wired control panel.

BM3				
5	6	7	8	Indoor unit address
OFF	OFF	OFF	OFF	0 (master)
OFF	OFF	OFF	ON	1 (slave)
OFF	OFF	ON	OFF	2 (slave)
OFF	OFF	ON	ON	3 (slave)
OFF	ON	OFF	OFF	4 (slave)
OFF	ON	OFF	ON	5 (slave)
OFF	ON	ON	OFF	6 (slave)
OFF	ON	ON	ON	7 (slave)
ON	OFF	OFF	OFF	8 (slave)
ON	OFF	OFF	ON	9 (slave)
ON	OFF	ON	OFF	10 (slave)
ON	OFF	ON	ON	11 (slave)
ON	ON	OFF	OFF	12 (slave)
ON	ON	OFF	ON	13 (slave)
ON	ON	ON	OFF	14 (slave)
ON	ON	ON	ON	15 (slave)

⚠ The indoor unit is factory-set as a master unit (OFF).

3.2 Putting into service

After having completed all the operations required to prepare for first commissioning, do the following to activate the device:



— position the system's main switch in the "ON" position.
— activate the unit with the remote control
— check its operation in the different modes

⚠ The compressor activates 3 minutes after unit activation.

⚠ Refer to the user booklet as for the use of the remote control.

Start-up in cooling mode with low temperatures
When the indoor air temperature is less than 16 °C the unit does not start in cooling mode. In case either it is necessary to check the operation in these conditions it can be used the emergency switch positioned on the unit's electronic board.
Open the electrical panel and access the electronic board following what is indicated in the chapter "Electrical connection" .
To switch on:
— keep the emergency switch pressed down until a double acoustic signal is emitted
— the air-conditioner starts in cooling mode with high ventilation speed and active air deflector
To switch off:
— press the emergency switch again

⚠ This operation must be carried out in specific conditions and not for usual operation.

Checks during and after the first commissioning

After starting the device, check that:
— the current consumed by the compressor is less than the maximum permitted
— the device is operating under the recommended operating conditions
— the unit is able to stop and start up again

⚠ Should any of the above-listed controls have problems: turn the device off and call the Technical Service immediately.

⚠ Do not touch the device pipes to prevent potential burns.

⚠ Take anti-static precautions in case of weather conditions where humidity is less than 40%.

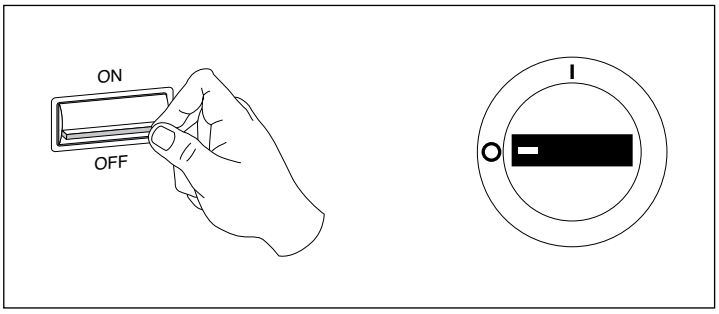
⚠ Avoid using mobile phones.

3.3 Temporary shutdown

In order to shut down the unit for periods of brief absences:
— only use the remote control to disable the unit

3.4 Stop for an extended period of time

If the device has not been used for an extended period of time, carry out the following operations:
— start the device in ventilation mode
— select the maximum speed
— let the device run for 6 hours
— deactivate the unit with the remote control



— position the system's main switch in the "OFF" position.

3.5 Ordinary maintenance

Routine maintenance is fundamental for keeping the equipment efficient, safe and reliable. It can be performed periodically by the Technical Support Service, whose staff is technically qualified and can use genuine spare parts, if necessary.

⚠ Original conditions must be restored after performing the required maintenance operations.

⚠ All described operations MUST be carried out under the following conditions:
— cold device
— device NOT supplied with electric power
— suitable personal protection equipment

⛔ Do not open the access covers and carry out technical or cleaning activities before disconnecting the unit from the power grid by positioning the system's main switch in the "OFF" position

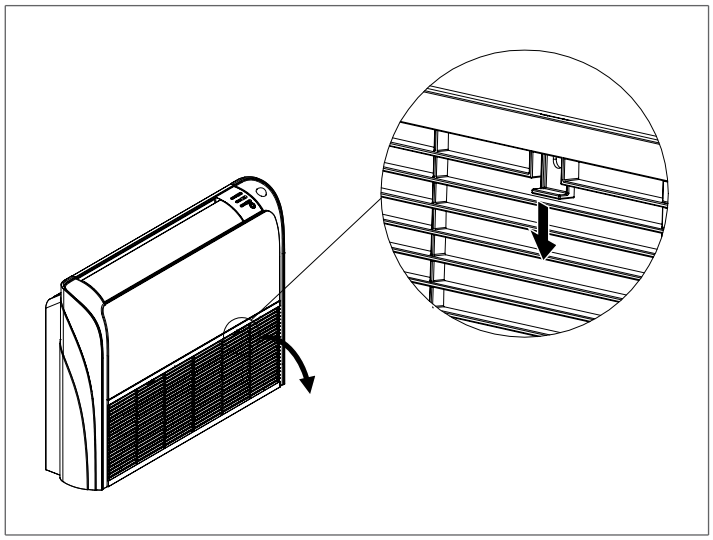
Monthly operations

The following checks are part of the monthly maintenance plan:
— Cleaning the cabinet
— mesh filter cleaning

Cleaning the cabinet
— wet a sponge or soft cloth with water and soap to wash
— once cleaning is over dry surfaces with care

⚠ Do not use water at a temperature that is higher than 40°C, powder or abrasive detergents, solvents and brushes.

Mesh filter cleaning



— open the fixing pin
— open the air intake grill
— take out the mesh filter by grabbing the relevant fins
— remove dust with an vacuum cleaner
— repeat for all elements

⚠ Stubborn dirt can be removed by washing the filter in a luke warm (max. 40 °C) solution of water and neutral detergent. After washing, rinse the filters well and leave to dry in the shade.

⚠ Exposing the filters to the sun or washing them with water at a temperature that is higher than 40 °C can cause the filters to shrink.

⛔ It is forbidden to use the device without mesh filter.

Yearly operations

The annual maintenance plan includes the following checks:
— power supply voltage
— electric connection tightening
— status of cooling and hydraulic joint
— condensate tray cleaning
— electric absorption

3.6 Extraordinary maintenance

Removal

In case of replacement or extraordinary reparations, you may need to remove the unit.

Proceed as follows to remove the capacitors:
— carry out the evaporator emptying operation

⚠ The operation is detailed in the Installer booklet of the matching outdoor unit.
— deactivate the unit with the remote control
— position the system's main switch in the "OFF" position.
— disconnect the cooling pipes
— disconnect the condensate discharge
— disconnect the electric connections
— loosen the fastening nuts
— unfasten the unit from the threaded bars
— remove the unit

3.7 Alarms

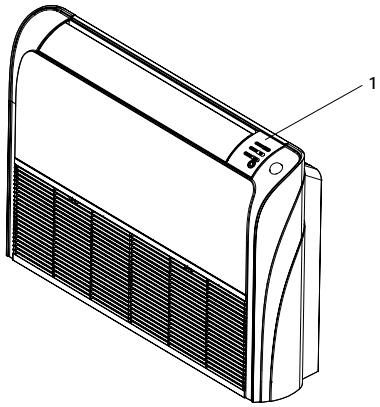
In the presence of operating abnormalities, the unit is secured and blocked.

⚠ Safety block can occur randomly.

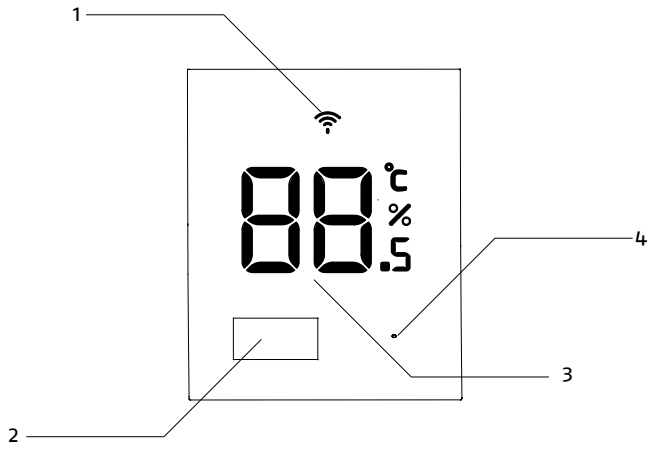
⚠ Wait for at least 10 minutes before restarting the unit.

⚠ If the fault occurs again, an accurate check of the device components is required. Contact **RIELLO** Technical Support Service.

Faults are identified by a code on the control display and by LED 1 blinking on main board.



1 Display



1 Wi-Fi on
2 Remote control receiver
3 Temperature indication, alarm code
4 Emergency switch

Indoor unit faults

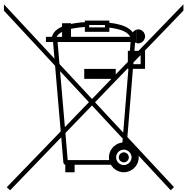
LED1	Display	Description	Remarks
1	E1	Room probe fault	The unit resets after problem resolution
2	E2	Exchanger probe fault	
4	E4	Microprocessor malfunction	
7	E7	Communication error between indoor unit and outdoor unit	
8	E8	Communication error between unit and control panel	
12	E10	Malfunction condensation drain system	
13	C1	Zero cross signal detected wrong	
14	E14	Fan motor malfunction	

Outdoor unit faults

⚠ Refer to the matching outdoor unit instruction booklet for the installer.

4 DISPOSAL

Packaging materials shall be disposed of separately so as to recover and recycle them. At the end of its service life, the device shall be disposed of according to the existing legislation.



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