

AMD 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 AMD 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



RANGE

Model	Code
AMD 100 PB	20158936
AMD 125 PB	20158937
AMD 140 PB	20158938
AMD 125 PC	20159407
AMD 140 PC	20159408

ACCESSORIES

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

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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.


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. 10*.
-  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 AMD P is a duct installation indoor unit, suitable for business premises in combination with the outdoor unit AARIA PRO P with R32 e AARIA PRO with R410A.

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 wired remote control, whose functions and use are detailed in the user manual.

- Available version

PB: low available static pressure

PC: high available static pressure

1.4 Safety and adjustment devices

The device safety and setting are achieved thanks to:

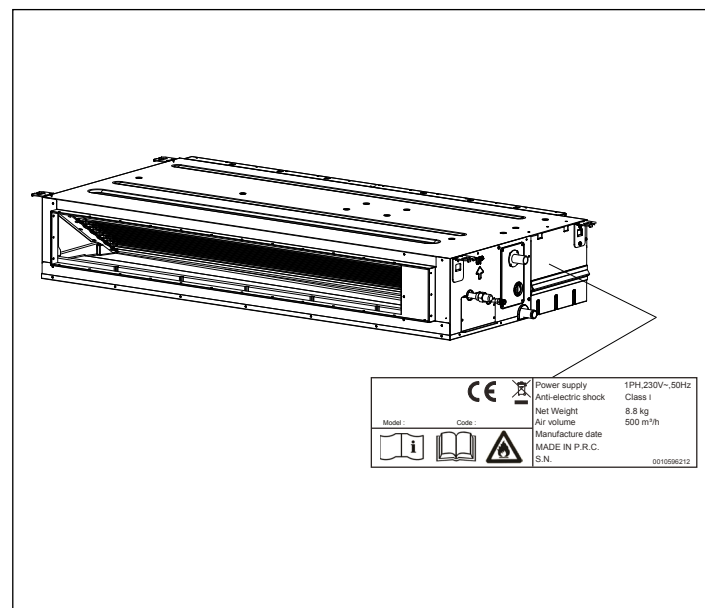
- heat exchanger temperature sensor transmitting the detected value to the control panel, which is triggered in case of abnormal temperature with regard to the operating mode
- room air temperature sensor transmitting the detected value to the control panel in order to control the operation of the outdoor 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:

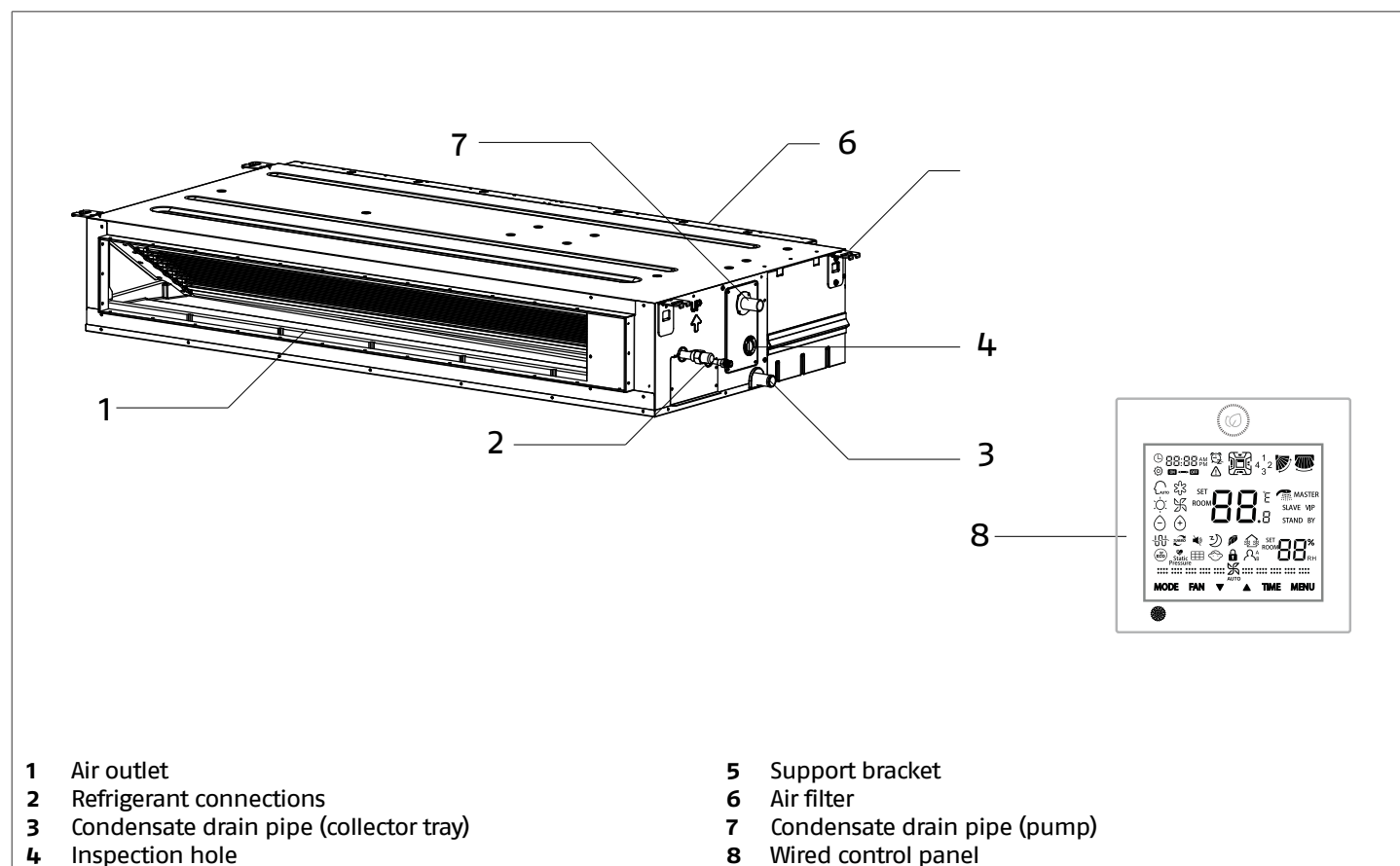


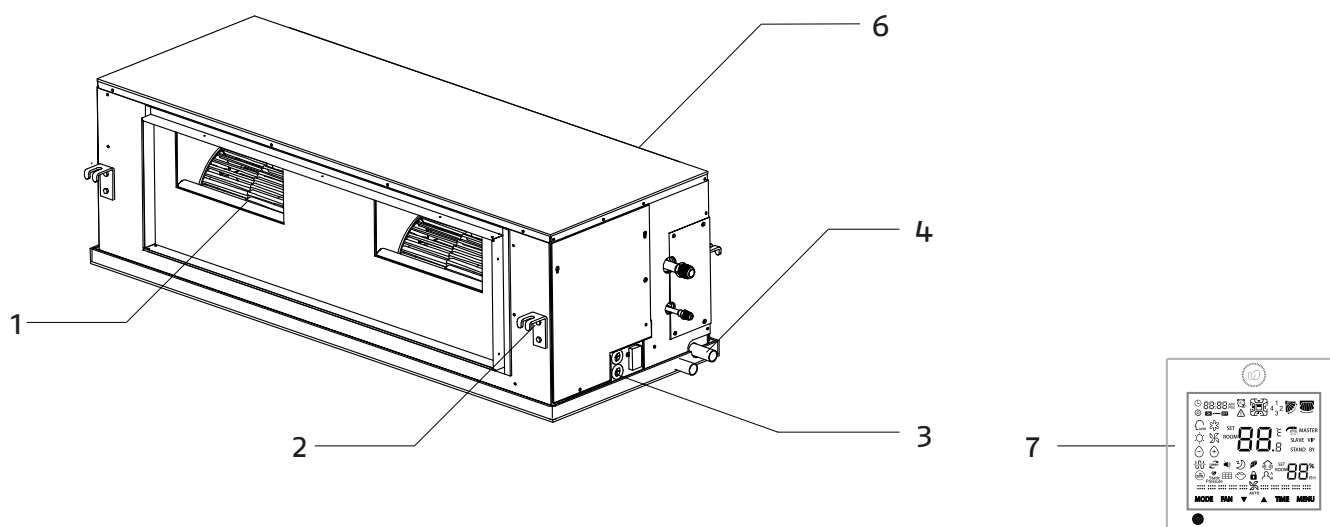
Technical data plate

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 | Air outlet | 5 | Refrigerant connections |
| 2 | Support bracket | 6 | Air filter |
| 3 | Electric connection | 7 | Wired control panel |
| 4 | Condensate drain pipe (collector tray) | | |

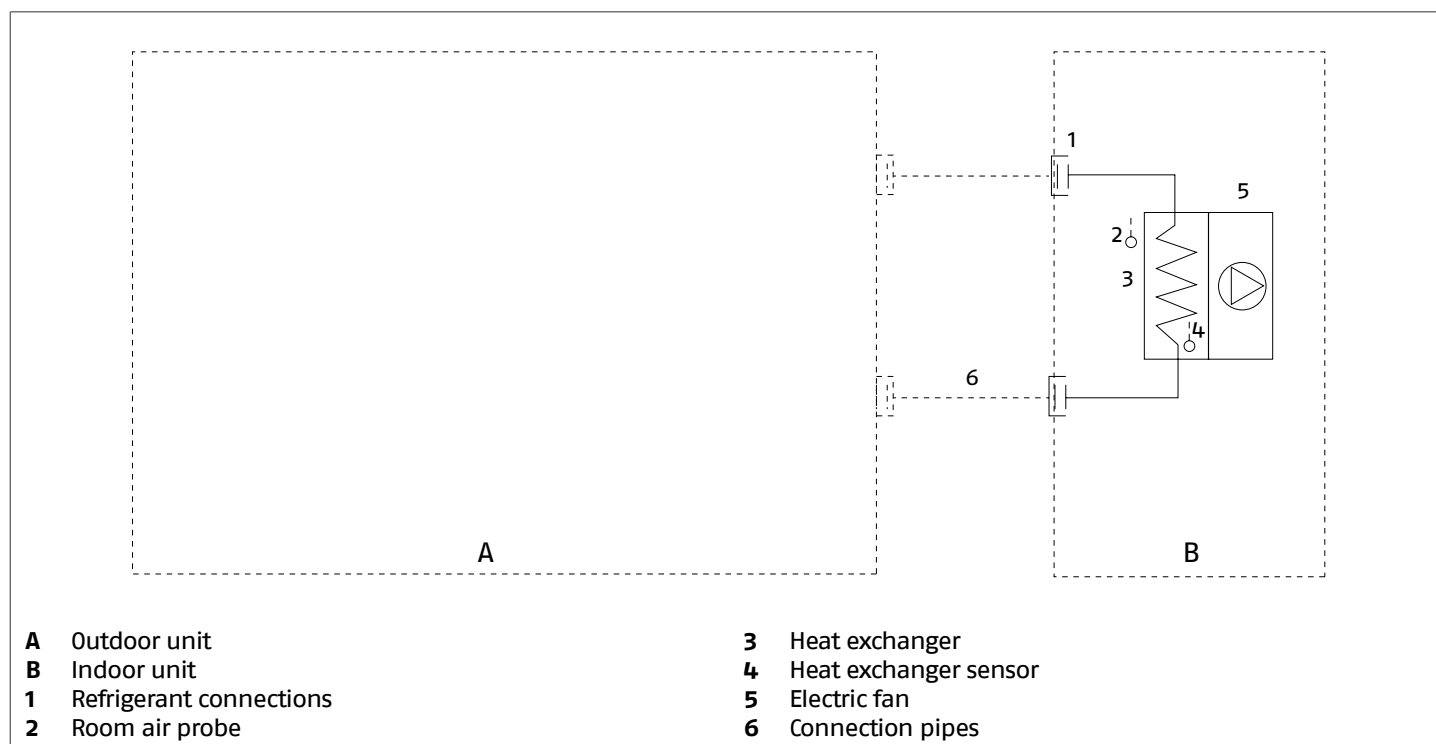
1.7 Technical specifications

Model		100 PB	125 PB	140 PB	125 PC	140 PC
Electrical characteristics						
Power supply	V/Ph/Hz	230/1/50				
Fan						
Quantity	no.	3	3	3	2	2
Nominal power input	kW	0,26	0,27	0,28	0,30	0,30
Nominal current consumption	A	1,10	1,20	1,20	1,50	1,50
Maximum air flow	m³/h	1600	2250	2500	2580	2580
Medium air flow	m³/h	1480	1960	2160	2070	2070
Minimum air flow	m³/h	1360	1680	1780	1560	1560
Superminimum air flow	m³/h	1240	1500	1500	1500	1500
Maximum speed	rpm	900	1070	1180	1140	1140
Medium speed	rpm	840	960	1080	1060	1060
Minimum speed	rpm	780	880	990	980	980
Super minimum speed	rpm	750	850	930	900	900
Cooling sound levels						
Superminimum sound pressure ⁽¹⁾	dB(A)	31	37	38	37	37
Minimum sound pressure ⁽¹⁾	dB(A)	33	42	43	42	42
Medium sound pressure ⁽¹⁾	dB(A)	36	45	46	44	44
Maximum sound pressure ⁽¹⁾	dB(A)	39	49	50	48	48
Maximum sound power	dB(A)	62	65	66	64	64
Heating sound levels						
Superminimum sound pressure ⁽¹⁾	dB(A)	31	37	38	38	38
Minimum sound pressure ⁽¹⁾	dB(A)	33	42	44	42	42
Medium sound pressure ⁽¹⁾	dB(A)	36	45	46	45	45
Maximum sound pressure ⁽¹⁾	dB(A)	39	49	50	49	49
Maximum sound power	dB(A)	62	65	66	65	65

(1) Free field value at 1 meter unit face, in compliance with GB / T7725-2004

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

1.8 Cooling circuit



2 INSTALLATION

- A** 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.
- A** Avoid proximity to sources of ignition in continuous operation (open flames, gas household appliances, electric stoves, lit cigarettes, etc).
- A** Use equipment suitable for the system refrigerant.
- A** 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 AMD 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:

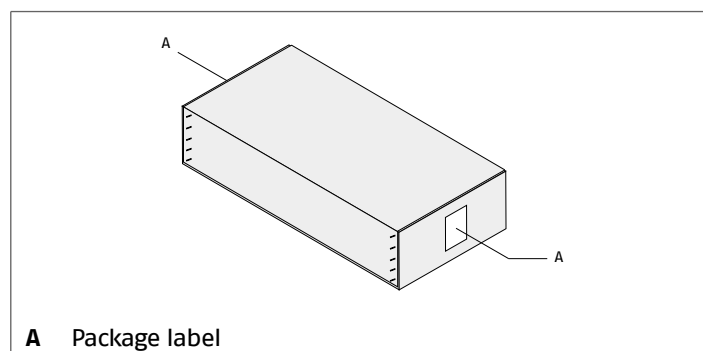
- Instruction's book for the installer and for the Technical Service in Italian
- Instruction's book for the installer and for the Technical Service in English
- user instruction booklet in Italian
- user instruction booklet in English
- Warranty/Spare parts labels.
- contact sheets

It is also supplied as kit:

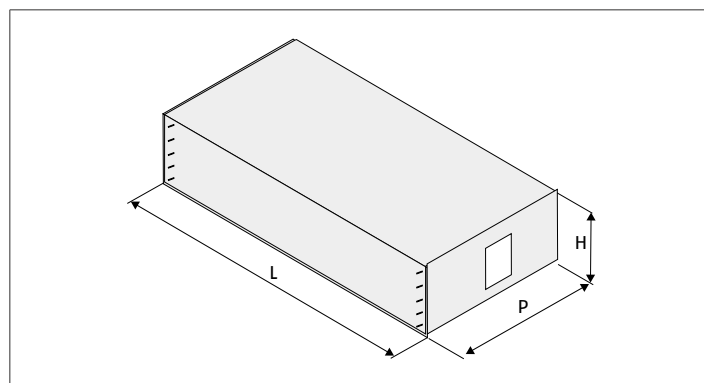
- wired control panel
- Control panel cable
- no. 2 screws for control panel support fastening
- flare nut for liquid pipe
- flare nut for gas pipe
- insulating material for liquid piping
- insulating material for gas pipe
- condensate discharge pipe
- hose clamp

- A** The Instruction book comes with the equipment and it should be taken, read and kept carefully.
- A** 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.
- A** Remove the supplied material and the control panel from the fan housing before installing the unit.

2.2 Labels positioning

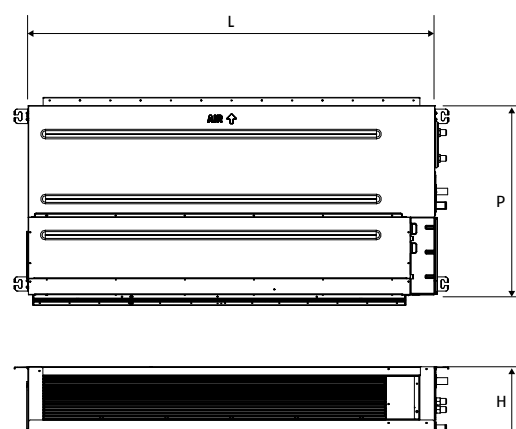


2.3 Dimensions and weight



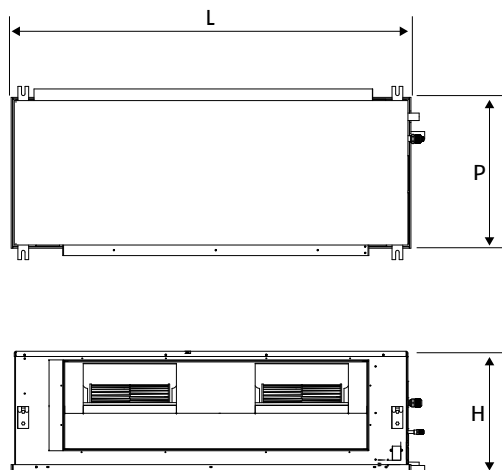
Model		100 PB	125 PB	140 PB	125 PC	140 PC
Packaging dimensions						
H	mm	320	330	330	510	510
L	mm	1710	1710	1710	1565	1565
P	mm	865	870	870	724	724
Weight	kg	40,0	63,0	63,0	72,0	72,0

MODEL 100 - 125 - 140 PB



Model		100 PB	125 PB	140 PB
Product dimensions				
H	mm	248	248	248
L	mm	1500	1500	1500
P	mm	700	700	700
Weight	kg	35,0	52,0	52,0

MODEL 125 - 140 PC



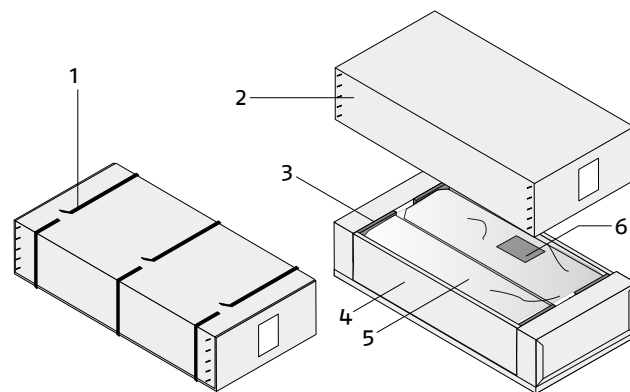
Model		125 PC	140 PC
Product dimensions			
H	mm	425	425
L	mm	1350	1350
P	mm	490	490
Weight	kg	61,0	61,0

2.4 Storage

- ⚠** The product must be stored 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.



- 1 Strapping bands
- 2 Cover
- 3 Packaging polystyrene protection
- 4 Packaging paper protection
- 5 Polyethylene bag
- 6 Document envelope

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 AMD 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 applicable, the additional charge).

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

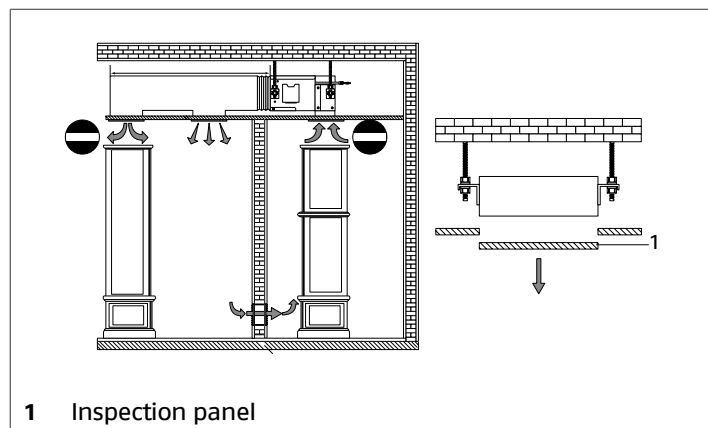
Minimum floor area for ceiling installation

mc kg	A min m ²	mc kg	A min m ²
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		2,8	5,00
1,3	0,96	3,0	5,74
1,4	1,08	3,4	7,38
1,5	1,25	3,8	9,22
1,6	1,44	4,2	11,26
1,7	1,63	4,6	13,50
1,8	1,84	5,0	15,96
1,9	2,07	5,4	18,61
2,0	2,30	5,8	21,47

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

RIELLO AMD P is designed for horizontally indoor on false-ceiling installation:

- air intake and outflow must be channelled so as to allow the processed air to circulate throughout the room
- in order to guarantee the correct operation of the equipment, the units must be installed so that the air outlet and inlet shall remain unobstructed
- if the air outlets and inlets are located in different rooms, some communication conduits with grids should be present
- a detachable section cut into the suspended ceiling is required in order to access the unit



Check that:

- the support wall is able to support the device weight
- the wall section does not feature building supporting elements, pipes or power lines

Avoid:

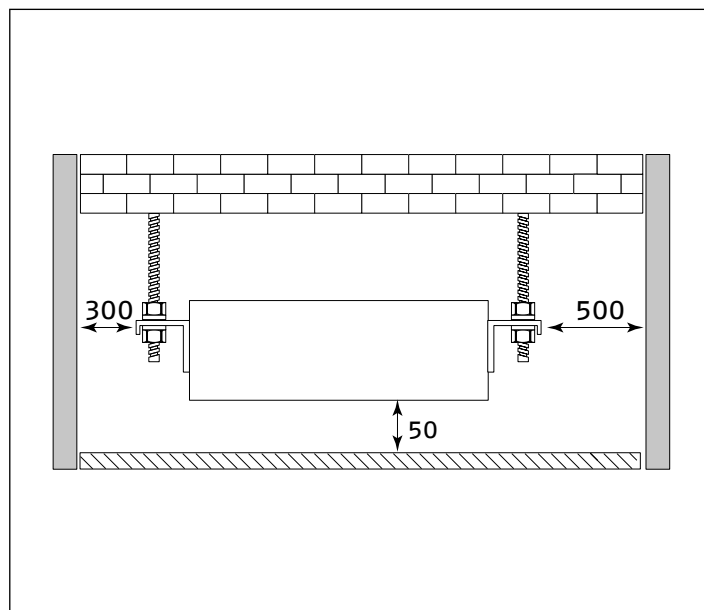
- any obstacles or barriers that will cause the expelled air to recirculate
- locations with aggressive or explosive atmospheres or with inflammable fluids
- direct exposure to sunlight and proximity to heat sources
- humid locations or positions where the unit could come into contact with water
- environment 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.



2.8 Installation on old systems or systems in need of upgrading

When **RIELLO AMD 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

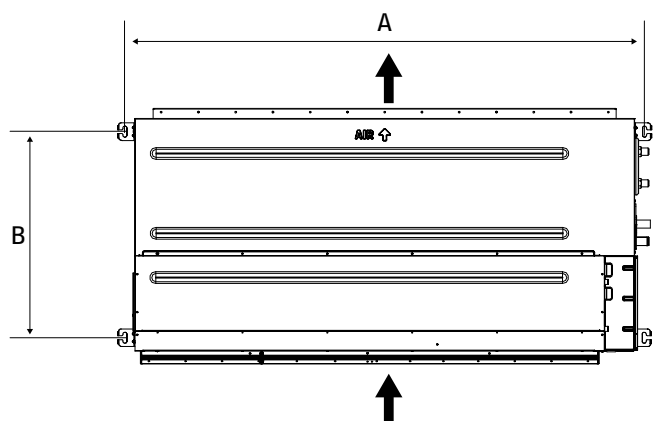
! In the event of a replacement, the system must be inspected by the designer or by another competent person, and must be compliant with the technical requirements, as well as the current legislations and regulations.

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

2.9 Positioning

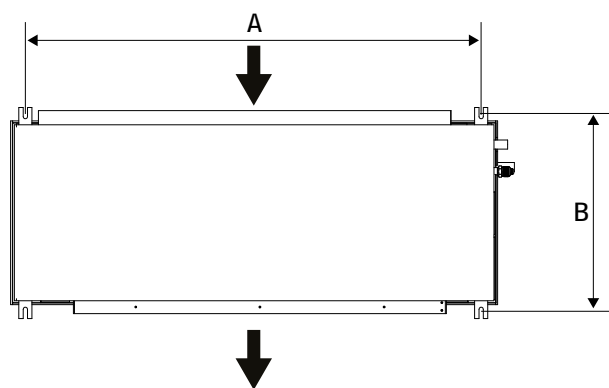
RIELLO AMD P devices must be fixed on ceiling:

MODEL 100 - 125 - 140 PB



Model		100 PB	125 PB	140 PB
Template dimensions				
A	mm		1562	
B	mm		619	

MODEL 125 - 140 PC



Model		125 PC	140 PC
Template dimensions			
A	mm	1285	
B	mm	543	

Hole in false ceiling:

- make an opening in the false ceiling that allows insertion and links

⚠ The opening must be made near suitable structures to support the overall weight of the appliance and accessories.

Leak test:

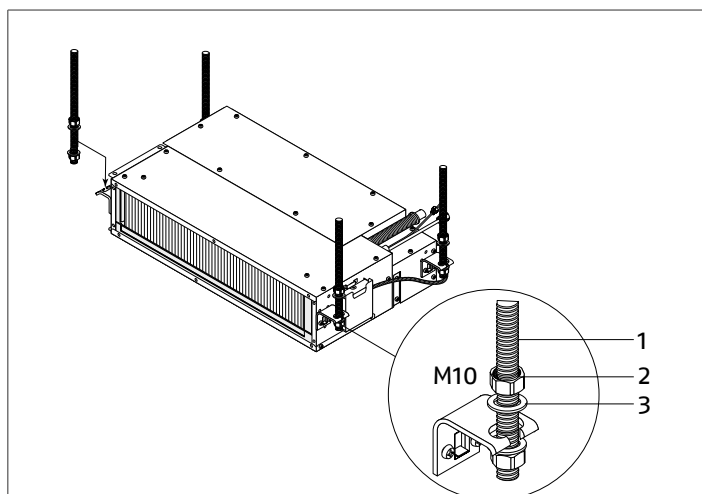
The unit is supplied as pre-charged with nitrogen.

- 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.

Ceiling mounting:



- 1 Threaded rods
- 2 Fastening nut
- 3 Washer

- position the support rods and fix them properly to the bearing structures
- place the nuts on the threaded bars
- hook the unit to the threaded bars
- regulate the height of installation of the unit
- center the unit over the opening
- regulate the unit's position horizontally
- tighten the fastening nut

⚠ Seal the nuts with some liquid thread lock.

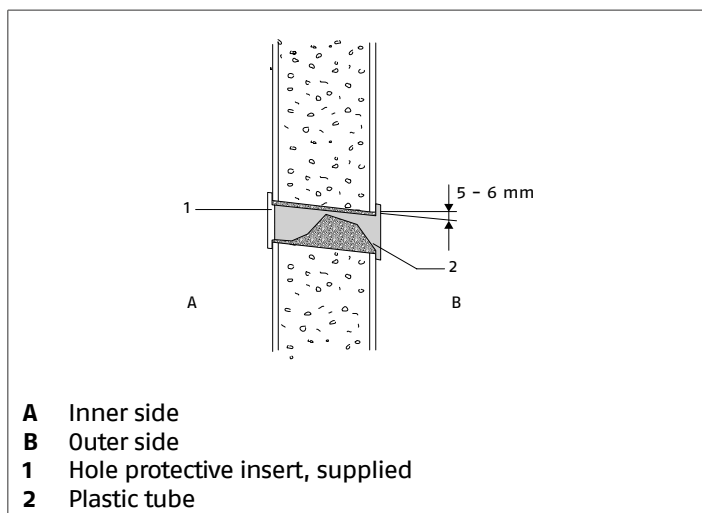
⚠ The support rods must be attached to structures able to support the weight of the unit.

⚠ Ensure that the ceiling section does not include pipes or electric lines.

⚠ Check that the installation is horizontal using a water level.

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

Drilling into the wall:



- A Inner side
 - B Outer side
- 1 Hole protective insert, supplied
 - 2 Plastic tube

- drill the through hole into the wall

INSTALLATION

- keep a downward inclination toward the external side
- insert a plastic tube in the hole in order to protect the connections
- seal with stucco

⚠ Make sure the wall section does not feature pipes or power lines.

Aeraulic connection

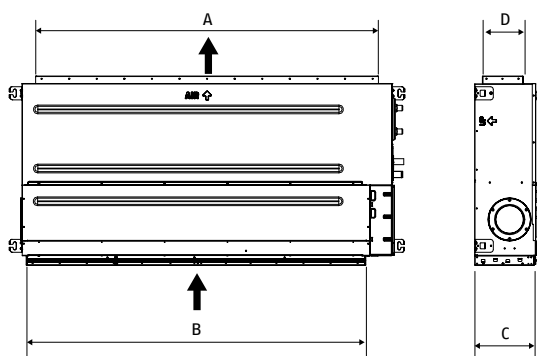
The dimensions of the channels and the inlet and outlet grids must be determined by a professional, skilled operator.

To avoid the transfer of the machine's vibrations to the environment, it is suggested that an antivibrating joint be positioned between the ventilating outlets and the channels.

The connection tubes must have the appropriate diameter and must be supported, so as not to rest their weight on the unit.

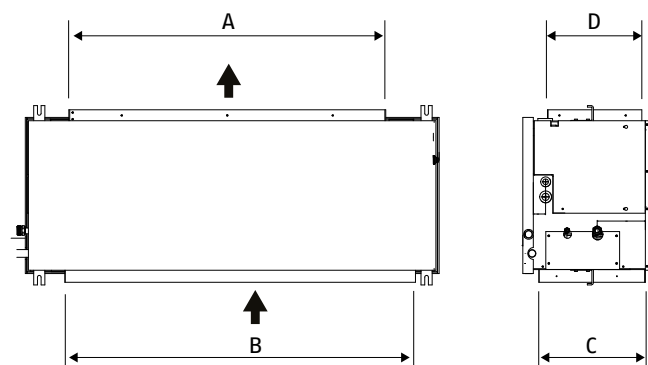
Connections

MODEL 100 - 125 - 140 PB



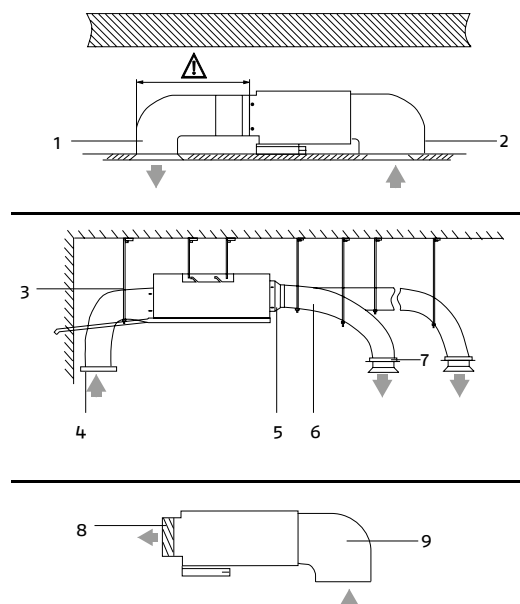
Model		100 PB	125 PB	140 PB
Air duct dimensions				
A	mm		1392	
B	mm		1378	
C	mm		238	
D	mm		165	

MODEL 125 - 140 PC



Model		125 PC	140 PC
Air duct dimensions			
A	mm	1052	
B	mm	1163	
C	mm	353	
D	mm	312	

- position the channels in conjunction with the connectors on the unit
- fasten to the prepared holes
- use suitable screws
- apply thermal insulating material on the joints
- Connect the fan motor according to the length of the delivery duct:
 - <0.5 m use the white connector (default)
 - 0, 5 m < length delivery <2 m use the red connector



- | | |
|-----------------------------|-------------------|
| 1 Delivery duct | plenum |
| 2 Recovery duct | 6 Delivery duct |
| 3 Pipe support | 7 Outlet vent |
| 4 Inlet vent | 8 Air outlet grid |
| 5 Circular attacks delivery | 9 Recovery duct |

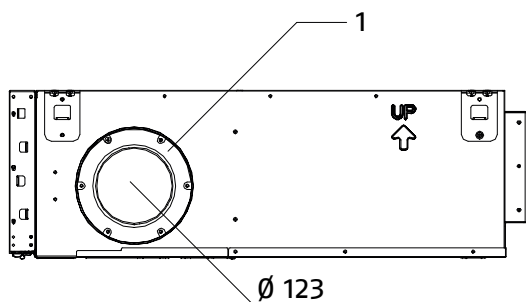
⚠ Use a channel sheathed with an appropriate thickness of anti-condensation material.

⚠ Practice an opening in the channels, to enable filter removal.

Fresh air intake (model 100 - 125 - 140 PB only)

If required it is possible to introduce external fresh air through the connection provided on the unit and the installation of a motorized damper or an auxiliary fan to regulate the flow (not supplied).

MODEL 100 - 125 - 140 PB

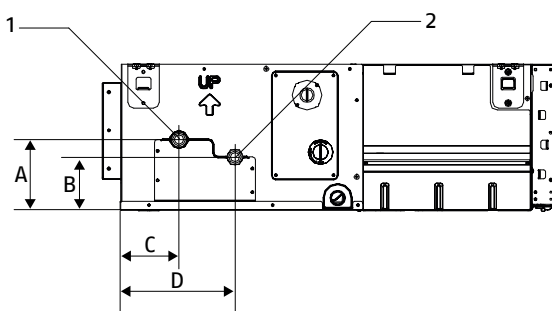


1 Fresh air connection

- connect a circular duct to the prepared connection
- connect the damper motor to the connector provided on the electronic board
- check chapter "Model 125 PB - 140 PB" p. 19
- set microswitch SW01-6 = OFF
- check chapter "Microswitch setting" p. 25

2.10 Refrigerating connection

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

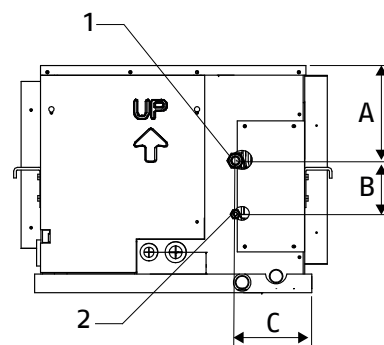


1 Gas line connection
2 Liquid line connection

Model		100 PB	125 PB	140 PB	125 PC	140 PC
Refrigerant connections						
Liquid line connection	Inches			3/8		
Gas line connection	Inches			5/8		
Liquid line connection	mm			9,52		
Gas line connection	mm			15,88		

Model		100 PB	125 PB	140 PB
Refrigeration characteristics				
A	mm		120	
B	mm		90	
C	mm		99	
D	mm		194	

MODEL 125 - 140 PC



1 Gas line connection
2 Liquid line connection

Model		125 PC	140 PC
Refrigeration characteristics			
A	mm		160
B	mm		100
C	mm		130
D	mm		194

⚠ 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.

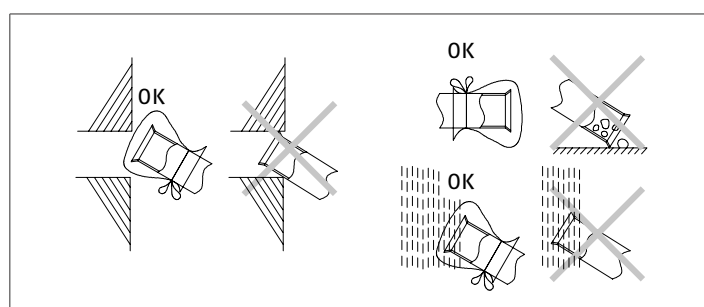
⊖ It is forbidden to use second-hand cooling lines since their flare connection seal is not guaranteed.

⊖ 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.

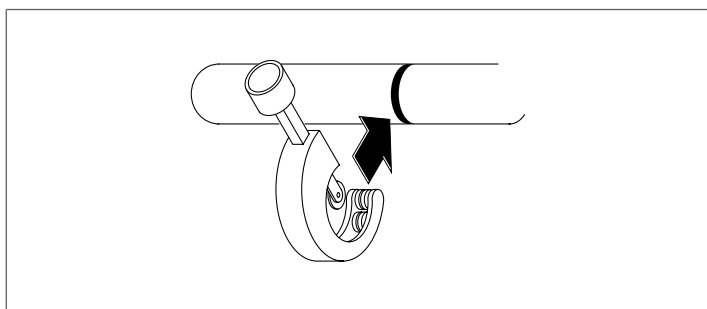
Connections

- position the connecting pipes

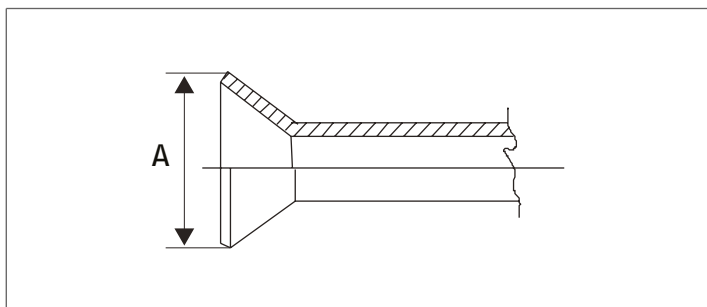


INSTALLATION

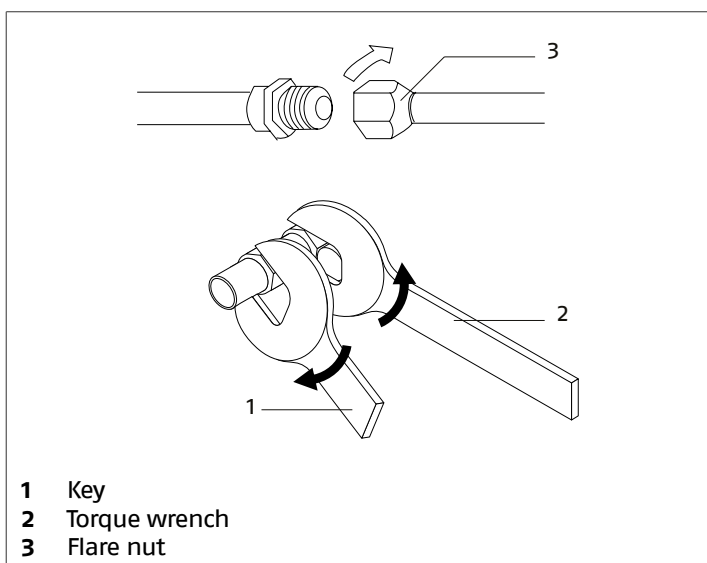
- ⚠** Before threading the lines through the hole in the wall, close the lines ends.



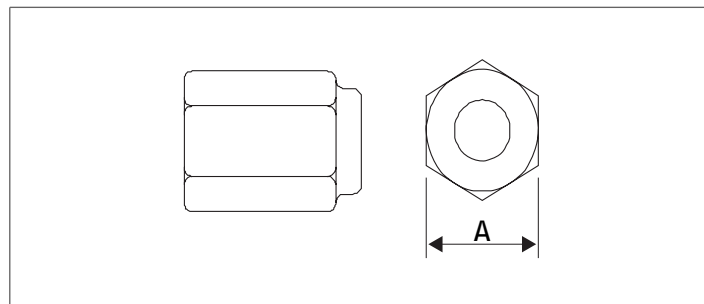
- cut the pipe end square using a pipe cutter
- remove burrs keeping the cut edge facing down
- remove the flare nut on the unit connection
- insert it into the connection pipe
- flare the tube



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



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



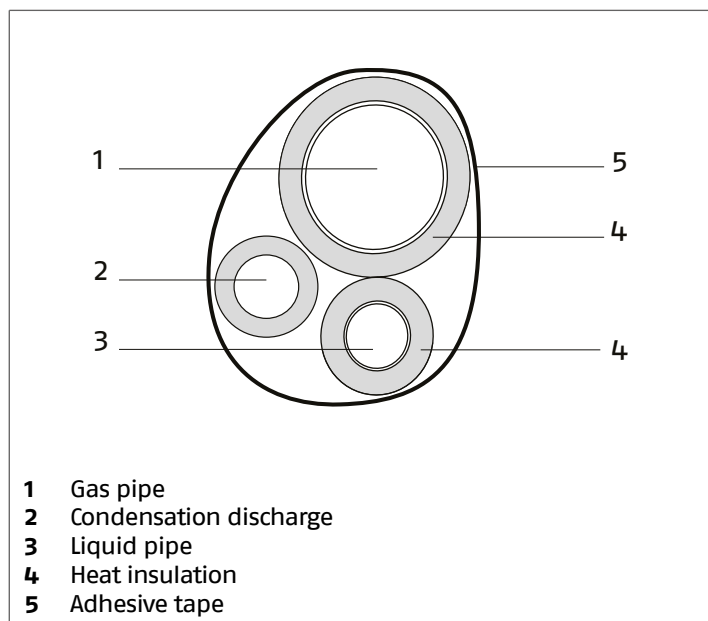
Pipe Ø		A
mm	inches	mm
6,35	1/4	17
9,52	3/8	22
12,70	1/2	26
15,88	5/8	29

- 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.



- 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

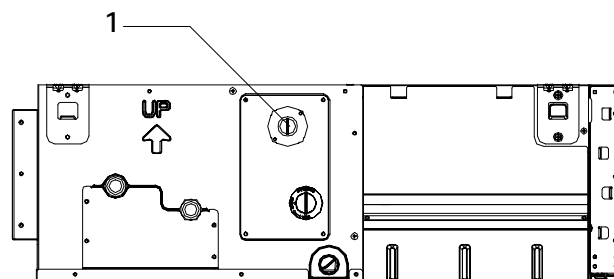
RIELLO AMD P is equipped with condensate drain pan which is produced during cooling operation and which must be conveyed to a place suitable for drain

Models 100-125-140 PB are provided with a condensate drain pump but it is possible to use an dropping discharge drain connection.

Models 125 - 140 PC are provided with dropping discharge connection only.

Drain with pump (models 100 - 125 - 140 PB only)

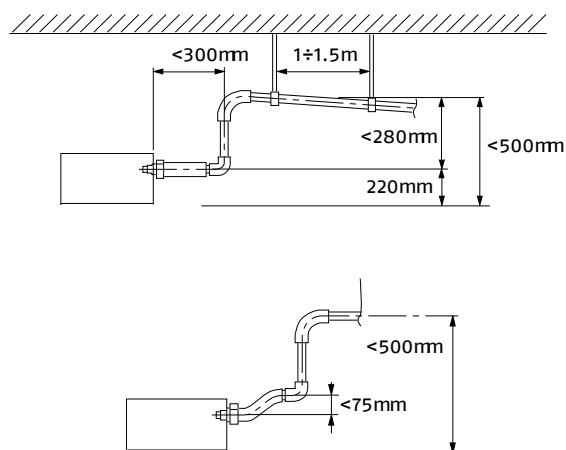
MODEL 100 - 125 - 140 PB



1 Condensation drain connection (pump)

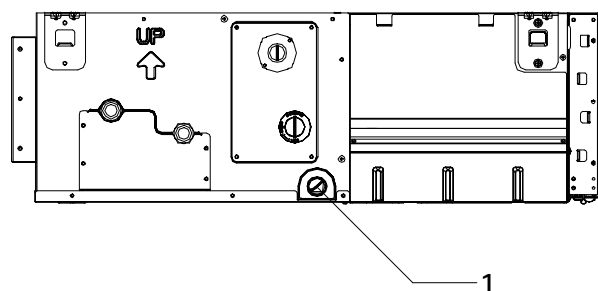
Model		100 PB	125 PB	140 PB
Refrigeration characteristics				
Condensate discharge attachment Ø	mm	21/25	25	34

PUMP ONLY



Drop down discharging

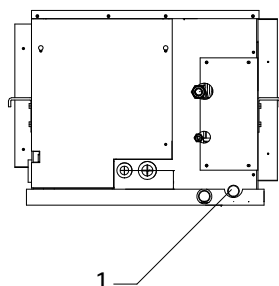
MODEL 100 - 125 -140 PB



1 Condensation drain connection (drop down)

Model		100 PB	125 PB	140 PB
Refrigeration characteristics				
Condensate discharge attachment Ø	mm	21/25	25	34

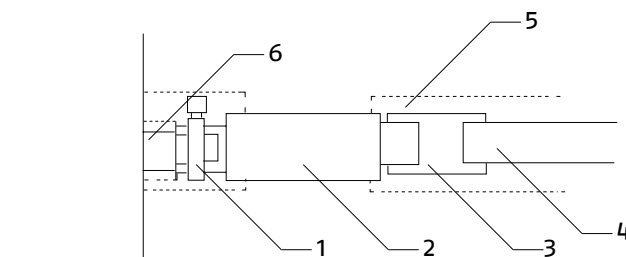
MODEL 125 - 140 PC



1 Condensate discharge attachment

Model		125 PC	140 PC
Refrigeration characteristics			
Condensate discharge attachment Ø	mm	25	

Connections

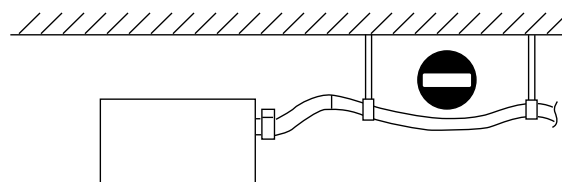
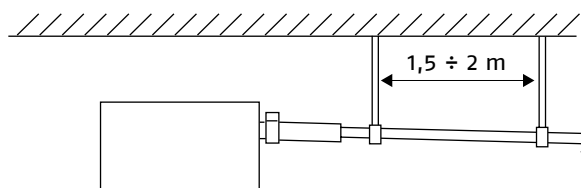


- 1 Hose clamp
- 2 Condensate discharge pipe (supplied)
- 3 Adapter
- 4 Drainage pipe
- 5 Insulating material
- 6 Condensate discharge attachment

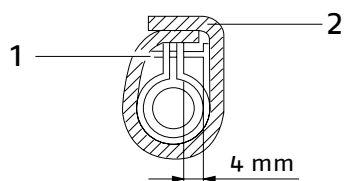
- connect the condensate drain pipe
- connect a rubber drainage pipe
- direct it toward a suitable place for discharge



- keep a slope of 3%

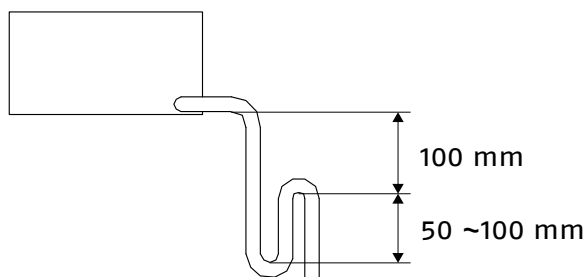


- support the drain pipe properly



- 1 Hose clamp
- 2 Insulating material

— insulate the joints



⚠ The discharge system must feature a suitable syphon in order to prevent air from entering the vacuum system. The syphon also prevents odours and insects from entering the system.

⚠ The syphon must feature a plug in its lower part or must otherwise allow for a quick disassembly for cleaning purposes.

⚠ Ensure that all joints are properly sealed so as to prevent water leaks.

⚠ The drainage pipe must be insulated for sections running inside houses in order to prevent condensate formation on its surface.

After performing the connection:

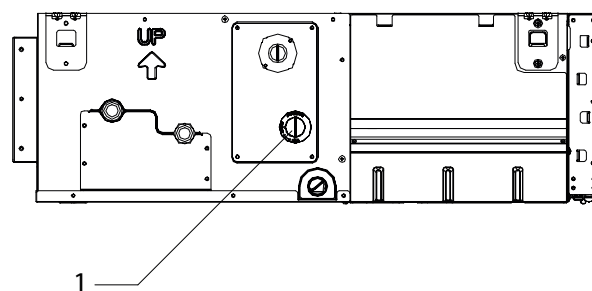
- disconnect CN4 connector
- jumper the CN13 connector

⚠ For more information refer to the paragraph "Wiring diagram" *p. 18*.

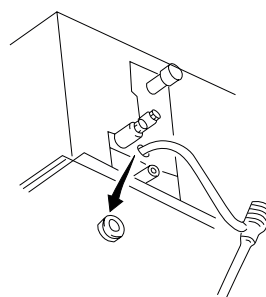
Drainage check

After electrical connection:

MODEL 100 - 125 - 140 PB



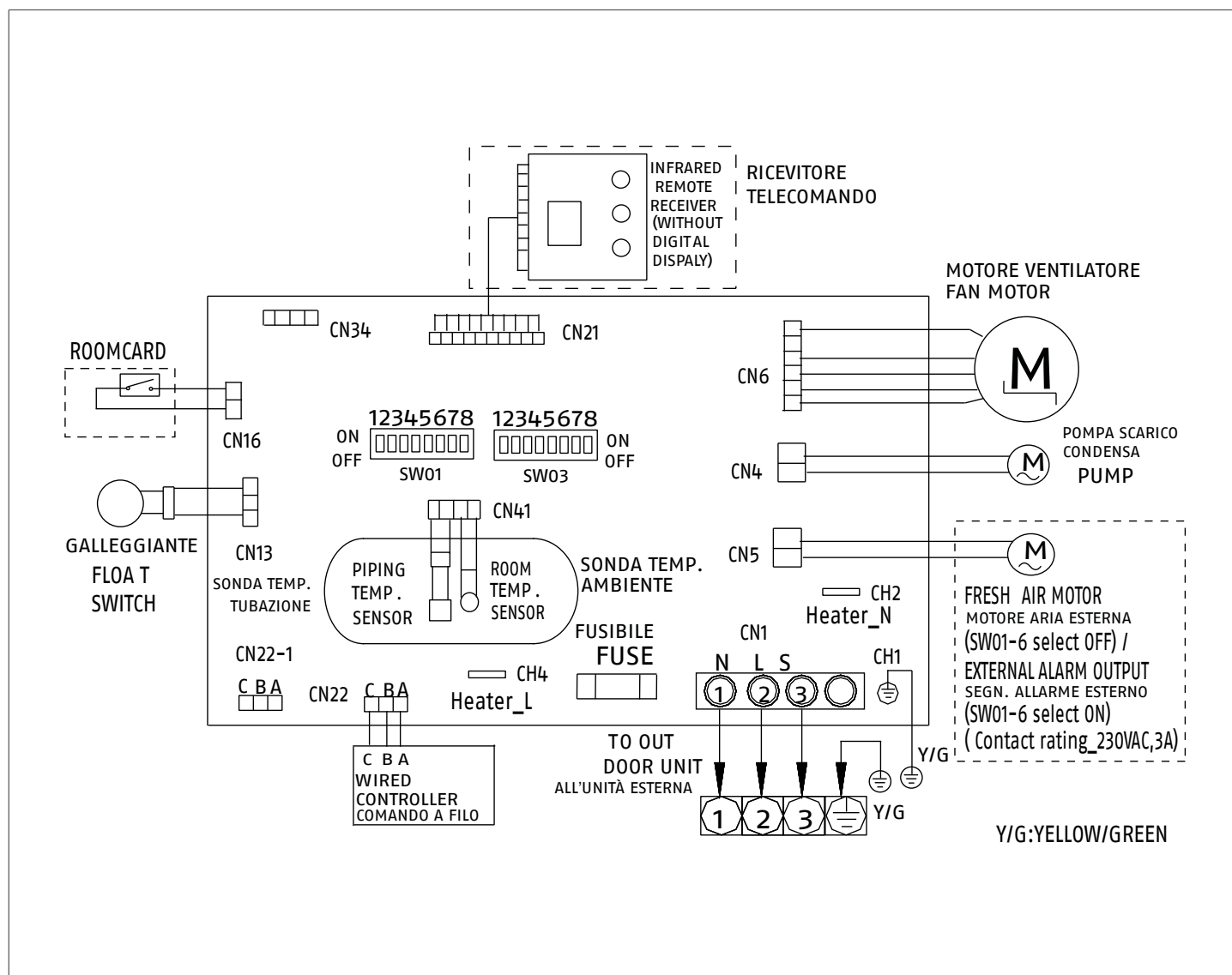
- 1 Inspection hole



- charge 1,2 liters of water trough the inspection hole
- turn on the unit in cooling mode
- check that it flows out correctly through the drainage pipe

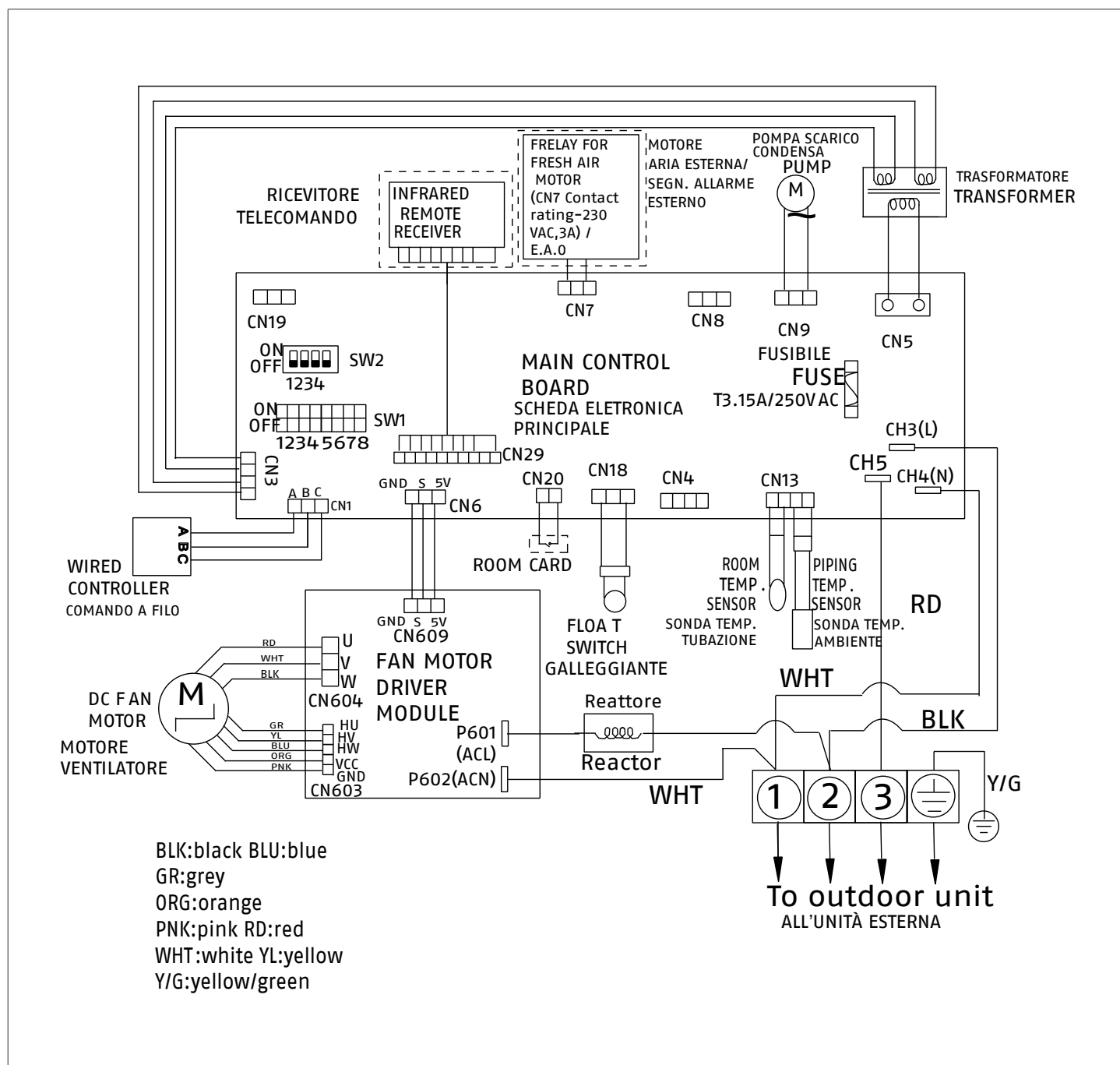
2.12 Wiring diagram

Model 100 PB



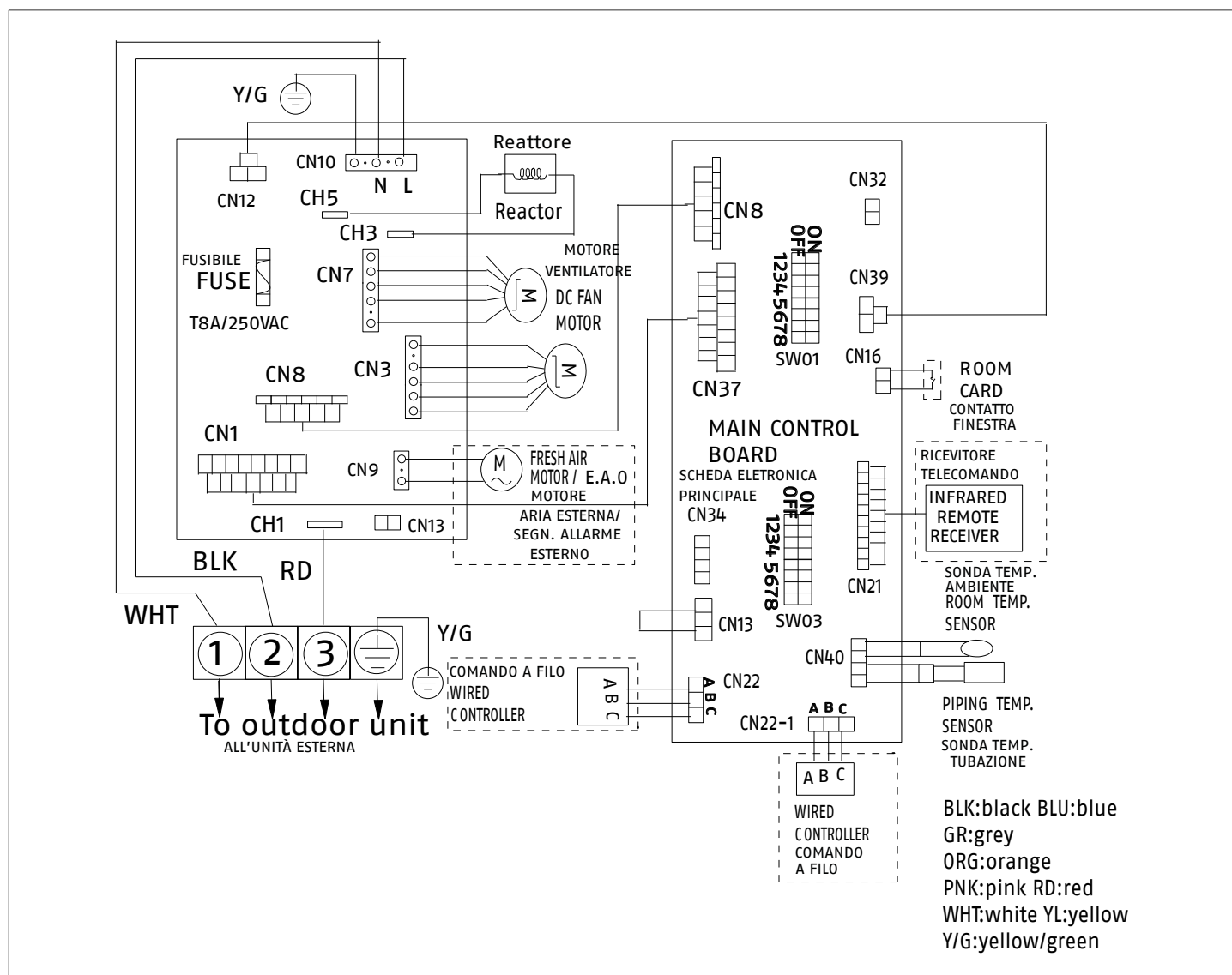
- A** The dotted parts are optional.
- A** Do not change SW01 and SW03 Dip Switch position without reading the instruction inside the paragraph "Microswitch setting" p. 25.
- A** E.A.O. = external alarm output select SW01-6 = ON to engage. When SW01-6 select OFF means FRESH AIR function engaged (230VAC,3A wet contact output).
- A** SW03-5 ->SW03-8 are used to address more indoor units to one wired control panel. For information read the paragraph "Microswitch setting" p. 25.

Model 125 PB – 140 PB



- A** The dotted parts are optional.
- A** Do not change SW01 and SW03 Dip Switch position without reading the instruction inside the paragraph "Microswitch setting" p. 25.
- A** E.A.O. = external alarm output select SW01-6 = ON to engage. When SW01-6 select OFF means FRESH AIR function engaged (230VAC, 3A wet contact output).
- A** SW03-5 -> SW03-8 are used to address more indoor units to one wired control panel. For information read the paragraph "Microswitch setting" p. 25.

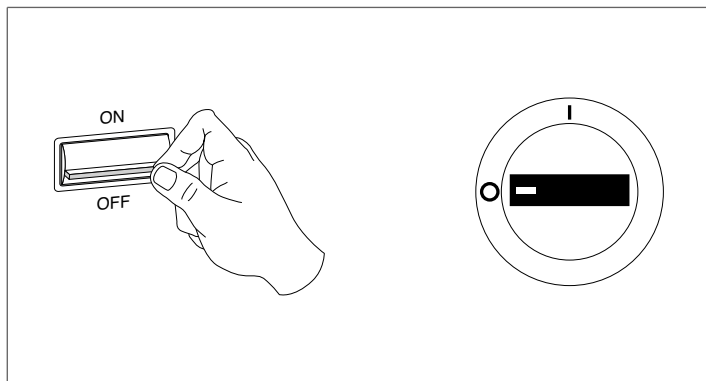
Model 125 PC – 140 PC



- ⚠** The dotted parts are optional.
- ⚠** Do not change SW01 and SW03 Dip Switch position without reading the instruction inside the paragraph "Microswitch setting" p. 25.
- ⚠** E.A.O. = external alarm output select SW01-6 = ON to engage. When SW01-6 select OFF means FRESH AIR function engaged (230VAC,3A wet contact output).
- ⚠** SW03-5 ->SW03-8 are used to address more indoor units to one wired control panel. For information read the paragraph "Microswitch setting" p. 25.
- ⚠** Contact CN13, is bridged by factory default.

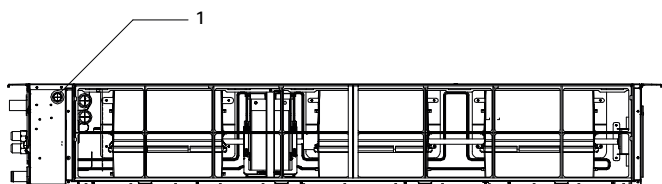
2.13 Electrical connection

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



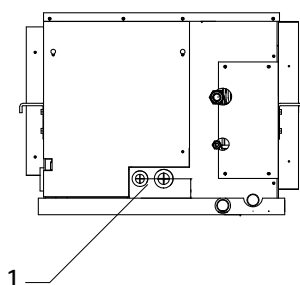
— position the system's main switch in the "OFF" position.

AIR INTAKE SIDE (MODEL 100 - 125 - 140 PB)



1 Power cable in

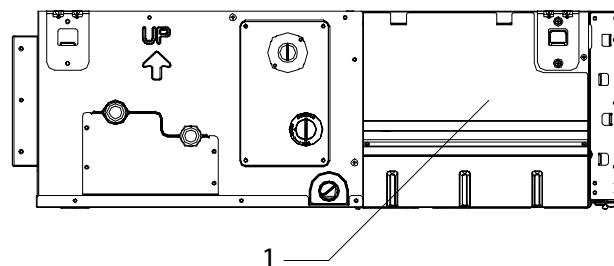
MODEL 125 - 140 PC



1 Power cable in

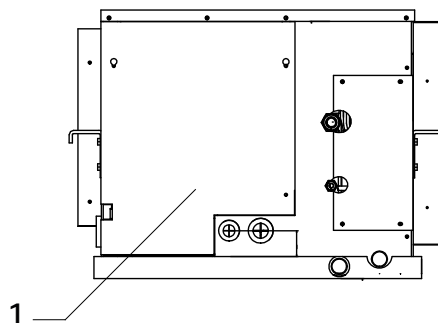
To access the terminal board:

MODEL 100 - 125 - 140 PB



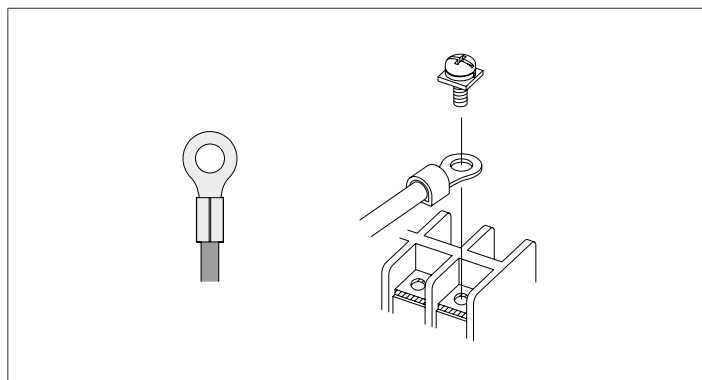
1 Electric panel access panel

MODEL 125 - 140 PC



1 Electric panel access panel

- unscrew the fastening screws
- remove the electric panel access panel
- unscrew the fastening screw
- remove the terminal board cover panel
- make the electric connections according to the diagrams on the installation booklet of the matching outdoor unit
- connect the wire remote control panel when indicated in the following chapter "Control panel" p. 22



! 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 PB	125 PB	140 PB	125 PC	140 PC
Electrical characteristics						
Power supply	V/Ph/Hz	230/1/50				
Protection factor	IP	24				
Power cable	n. x mm ²	3 x 4	5 x 4			
Signal cable	n. x mm ²	4 x 2,5				

A 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%

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

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

A 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 Control panel

Control, setting and programming operations are carried out with the control panel.

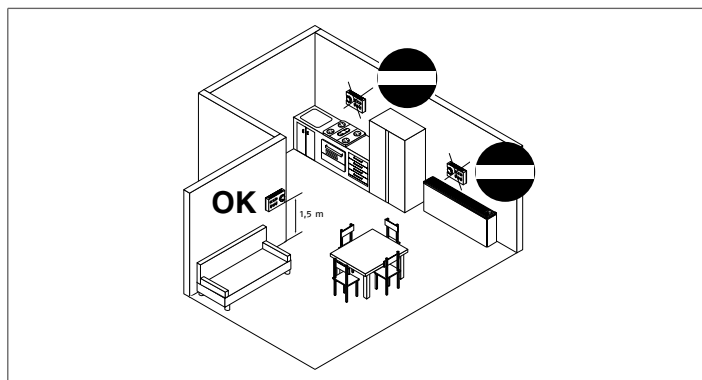
The electronics modulates the device operation according to the temperatures detected by the probes inside the indoor and outdoor units.

2.14.1 Installation

2.14.1.1 Place of installation

The location of the device 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 control panel is designed for indoor wall installation.



Check that:

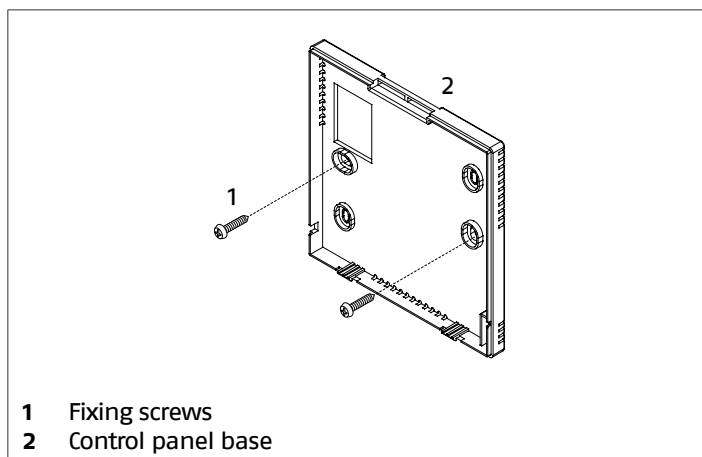
- the position is about 1.5 m off the ground
- installed taking into consideration the maximum length of the connecting cable, see the chapter "Electrical connection" p. 23

Avoid:

- installation on a perimeter wall
- walls crossed by cold or hot piping
- installation near doors or windows, cooking equipment, radiators, fan coils or generally in conditions that might alter the measured temperatures
- placing the unit less than 1 metre away from radio and video systems

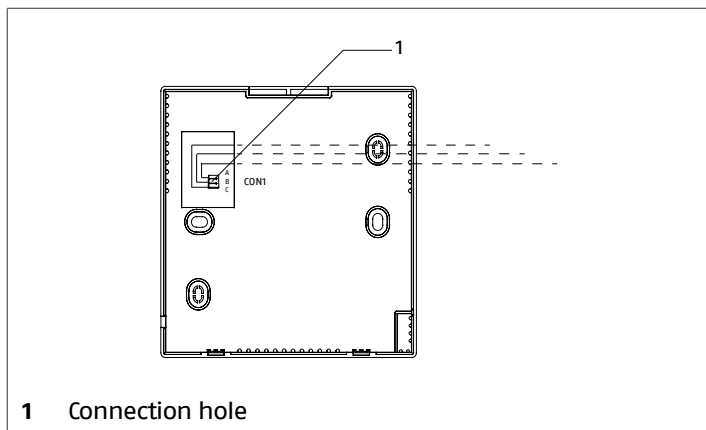
2.14.1.2 Positioning

The installation requires the positioning of the control panel on the wall.



- 1 Fixing screws
- 2 Control panel base

- separate the device from base
- use the base as template
- mark fixing holes
- use a drill
- drill the wall
- use anchor bolts



- insert the connector through the connection hole
- fix the base on the wall
- link the connector to the device
- hook the device to the base

2.14.1.3 Electrical connection

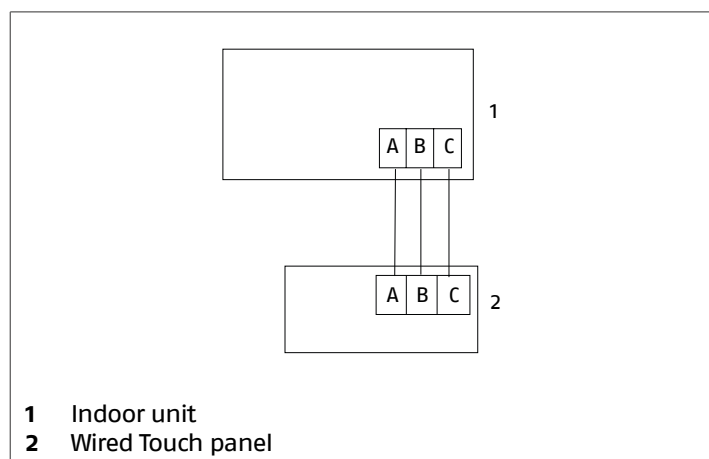
The appliance only needs to be connected to the air conditioning system devices that are being used.

Connection to system appliances

For sizing the signal cable, use the table below:

Minimum length	Maximum length	Cable diameter
m	m	mm ² x n
0	100	0,3 x 3
100	200	0,5 x 3
200	300	0,75 x 3

- ⚠ The connection is polarised, respect the correct sequence.
- ⚠ Use a shielded double pole cable.
- ⚠ The connecting cable must be connected to ground.
- ⚠ The connection cable must not have joints; if these are required, they should be tinned and suitably protected.
- ⚠ Any ducting of the connection cable must be separated from voltage cables.
 - make electrical connections according to the diagrams below



- ⚠ The connection is polarised, respect the correct sequence.

Mandatory items:

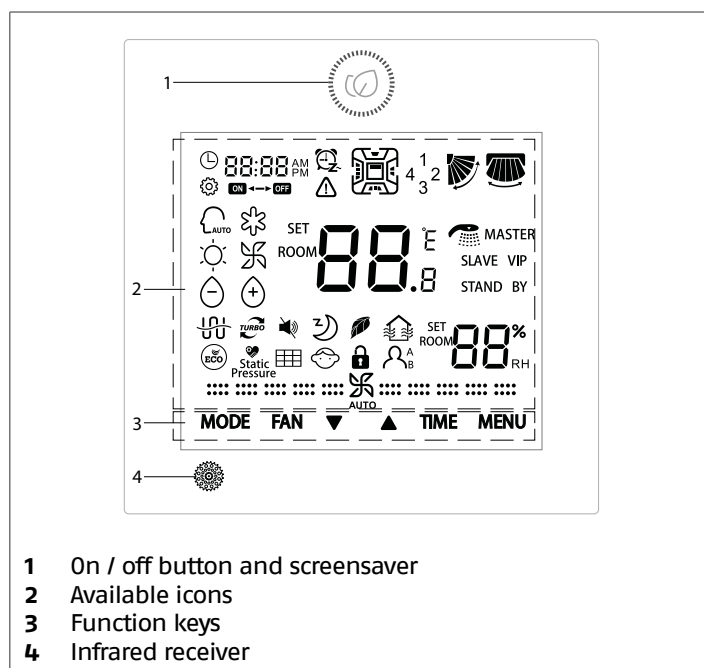
- make sure that the electrical power supply system is compliant with the current national safety standards
- for any electrical intervention, always refer to the wiring diagrams contained within this booklet
- take anti-static precautions in case of weather conditions where humidity is less than 40%

- ⚠ 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.

Control panel display

The control panel display shows the settings as changed by the user and the detected weather conditions.

The backlit display is divided in areas.



Operating mode

	Smart mode enabled
	Cooling mode enabled
	Heating mode enabled
	Ventilation mode enabled
	Dehumidification mode enabled

Functions

Access to the following functions is performed sequentially by pressing the Set key and work on ▼▲.

	Detected ambient humidity Value of the desired humidity when pressing the increase and decrease keys
	Vertical air deflector activated (available for some models only)
	Horizontal air deflector activated (available for some models only)
	Not available
	Not available
	Sleep function enabled
	Not available
	Not available
	Energy Saving function on
	Available static pressure setting activated (available for some models only)
	Filter cleaning function enabled (visible in the cycle only when filter cleaning is required)
	Follow me function activated (available only for some models)
	Anti-freeze function activated (available only for some models)
	Air flow upwards function (available only for some models)
	Air flow downwards function (available only for some models)

Other icons

	Display current time Alarm display
	Timer setting value Switch on timer enabled Switch off timer enabled
	Cassette deflectors function enabled
	Parental lock function activated
	Lock function activated
	Centralized control enabled
	Fan speed set
	Automatic speed enabled
	Setting mode enabled
	Alarm mode enabled

Function keys

The control panel is equipped with touch function keys which can activate functions such as choosing the operating mode, setting the desired temperature, timer and the motorized deflector.

	Allows you to switch the display off and on
Mode	Allow to select the operating mode
	Decreases the value of the selected parameter
	Increases the value of the selected parameter
Fan	Select required ventilation speed: superminimum (if available), minimum, medium, maximum, maximum power (if available) or automatic
Time	Allows access to the timer settings and current time changing
MENU	Allows access to the functions

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
- all connections have been properly completed
- power supply values are correct.
- the earthing has been carried out correctly
- all the connections have been properly tightened

Microswitch setting

Model 125 PB – 140 PB

Microswitch SW1 (BM1)

Description	SW1 (BM1)							
	1	2	3	4	5	6	7	8
Model 125 PB	OFF	ON	ON	-	-	-	-	-
Model 140 PB	ON	ON	ON	-	-	-	-	-
Room Card function deactivated (Default)	-	-	-	OFF	-	-	-	-
Room Card function activated	-	-	-	ON	-	-	-	-
Heat pump (Default)	-	-	-	-	OFF	-	-	-
Cooling only	-	-	-	-	ON	-	-	-
Medium pressure models (default)	-	-	-	-	-	OFF	ON	OFF
Low pressure models	-	-	-	-	-	ON	ON	OFF

SW1 (BM1)-1, SW1 (BM1)-2, SW1 (BM1)-3

Model setting; do not change.

SW1 (BM1)-4

It enables and disables the "Roomcard" function:

OFF = disabled (factory setting)

- the unit turns off automatically, if the contact is clean "Roomcard" opens, but can be controlled by a remote control
- the unit turns on automatically, if the contact is clean "Roomcard" it closes, but can be controlled by a remote control

ON = enabled

- the unit turns off automatically, if the contact is clean "Roomcard" opens and can not be controlled by a remote control

- when the contact is clean "Roomcard" closes, the unit is ready to be restarted by a remote control



Contact "Roomcard" is bridged by factory default.



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

SW1 (BM1)-5

Heat pump operation (OFF) or only cooling operation (ON).



Factory set is heat pump (OFF).

SW1 (BM1)-6, SW1 (BM1)-7, SW1 (BM1)-8

Model setting; do not change.



Cut off the power supply before adjusting.

Model 100 PB – 125 PC – 140 PC

Microswitch SW1 (BM1)

Description	SW1 (BM1)							
	1	2	3	4	5	6	7	8
Model 100 PB	ON	OFF	ON	-	-	-	-	-
Model 125 PC	OFF	ON	ON	-	-	-	-	-
Model 140 PC	ON	ON	ON	-	-	-	-	-
Room Card function deactivated (Default)	-	-	-	OFF	-	-	-	-
Room Card function activated	-	-	-	ON	-	-	-	-
Heat pump (Default)	-	-	-	-	OFF	-	-	-
Cooling only	-	-	-	-	ON	-	-	-
Outdoor air (Default)	-	-	-	-	-	OFF	-	-
External alarm	-	-	-	-	-	ON	-	-
Dirt filter warning deactivated (Default)	-	-	-	-	-	-	OFF	-
Dirt filter warning activated	-	-	-	-	-	-	ON	-
For USA	-	-	-	-	-	-	-	OFF
For Europe and Australia	-	-	-	-	-	-	-	ON

SW1 (BM1)-1, SW1 (BM1)-2, SW1 (BM1)-3

Model setting; do not change.

SW1 (BM1)-4

It enables and disables the "Roomcard" function:

OFF = disabled (factory setting)

- the unit turns off automatically, if the contact is clean "Roomcard" opens, but can be controlled by a remote control
- the unit turns on automatically, if the contact is clean "Roomcard" it closes, but can be controlled by a remote control

ON = enabled

- the unit turns off automatically, if the contact is clean "Roomcard" opens and can not be controlled by a remote control
- when the contact is clean "Roomcard" closes, the unit is ready to be restarted by a remote control

! Contact "Roomcard" is bridged by factory default.

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

SW1 (BM1)–5

Heat pump operation (OFF) or only cooling operation (ON).

! Factory set is heat pump (OFF).

SW1 (BM1)–6

It allows to use the contact available on the electronic board as an external alarm signal or to connect an external air intake device.

ON = external alarm signal (E.A.O.) activated

OFF = fresh air function activated

! Contact rating of 230VAC, 3A.

! For the contact code, refer to the wiring diagram of the appliance being installed.

SW1 (BM1)–7, SW1 (BM1)–8

Model setting; do not change.

! Cut off the power supply before adjusting.

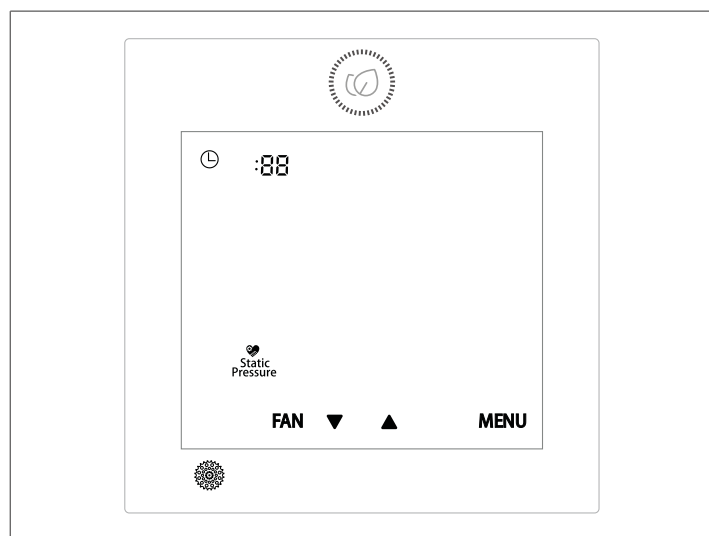
Selection of available static pressure

It can be selected the static pressure values through the control panel.

! Function available for some models only.



Available static pressure (Pa)

Mod.	Available static pressure level setting									
	1	2	3	4	5	6	7	8	9	10
100 PB	25	37	50	70	90	100	110	120	130	150
125 PB	25	37	50	70	90	100	110	120	130	150
140 PB	25	37	50	70	90	100	110	120	130	150
125 PC	40	50	60	80	100	120	150	180	200	250
140 PC	40	50	60	80	100	120	150	180	200	250




- switch on the control panel or exit from screen saver mode
- hold down the keys simultaneously **Fan** and **MENU** for 5 seconds.

On the display the icon  will start to flash and the static pressure previously set or factory setting will be displayed.

- To change:
 - press the keys   to decrease or increase the value
- To confirm:
 - press **MENU** again

! The unit number is displayed with **88** in the minute field of the clock, in the top left corner.

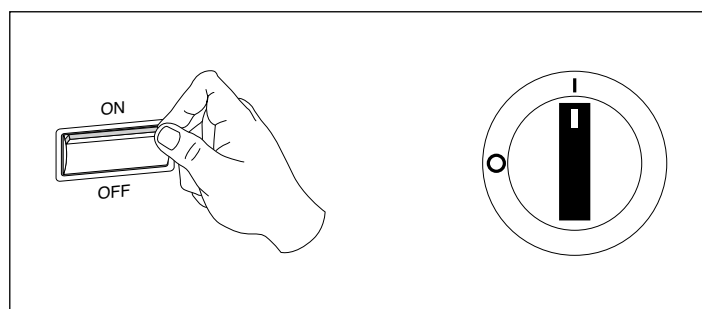
! The static pressure value is displayed in decimal value between 01 and 10.

! When editing, press the button  to exit the function and switch the unit on / off, without confirming the changes.

! This function can also be accessed via the function cycle.

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

- A** The compressor activates 3 minutes after unit activation.
- A** Refer to the user booklet as for the use of the remote control.

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

- A** Should any of the above-listed controls have problems: turn the device off and call the Technical Service immediately.
- A** Do not touch the device pipes to prevent potential burns.
- A** Take anti-static precautions in case of weather conditions where humidity is less than 40%.
- A** Avoid using mobile phones.

3.3 Temporary shutdown

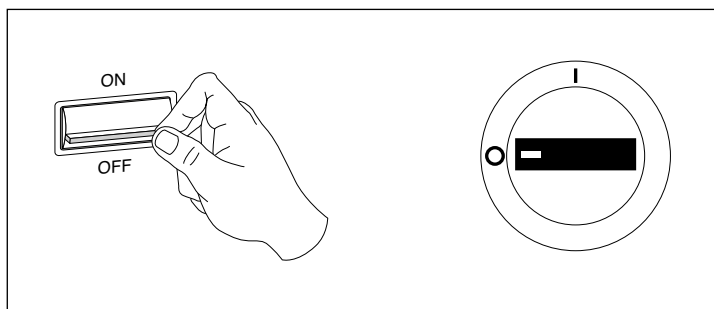
In order to shut down the unit for periods of brief absences:

- 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.

- A** Original conditions must be restored after performing the required maintenance operations.
- A** All described operations **MUST** be carried out under the following conditions:
 - cold device
 - device NOT supplied with electric power
 - suitable personal protection equipment

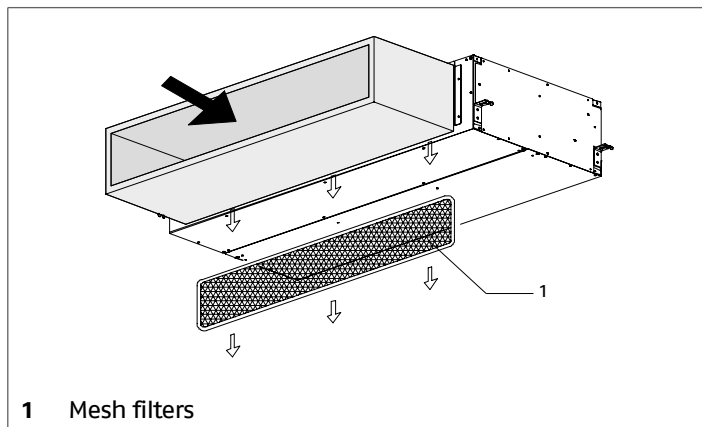
- E** Do not open the access covers and carry out technical or cleaning activities before disconnecting the unit from the power grid by positioning the system's main switch in the "OFF" position

Yearly operations

The annual maintenance plan includes the following checks:

- mesh filter cleaning
- power supply voltage
- electric connection tightening
- status of cooling and hydraulic joint
- condensate tray cleaning
- electric absorption

Mesh filter cleaning





- extract the mesh filter
- remove dust with an vacuum cleaner


- A** 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.
- A** 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.
- E** It is forbidden to use the device without mesh filter.


3.6 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.

On the control panel display, faults are indicated by the appearance of the  symbol and identified by a code.

- To display the code:
— press for 5 seconds **Time**
- The code is displayed in the top left corner:
 - the first two digits indicate the currently active alarm
 - the second two digits indicate the history
- To view the history:
— press **Time**
- Alarm reset:
— press for 5 seconds **Time**

Alarms tables

AMD 100 PB

LED3	Display	Description	Remarks
1	01	Room probe fault	The unit resets after problem resolution
2	02	Exchanger probe fault	
4	04	Microprocessor malfunction	
7	07	Communication error between indoor unit and outdoor unit	
8	07*	Communication error between unit and control panel	
12	0C	Malfunction condensation drain system	
13	0D	Zero cross signal detected wrong	
14	0E	Fan motor malfunction	
* Blinking			

AMD 125 PB – AMD 140 PB

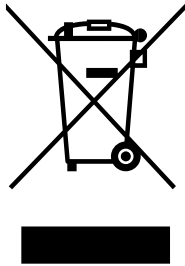
LED3	Display	Description	Remarks
1	01	Room probe fault	Sensor disconnected Broken sensor Incorrect position Probe short circuit
2	02	Exchanger probe fault	Sensor disconnected Sensor damaged Incorrect position Probe short circuit
4	04	Microprocessor malfunction	Microprocessor disconnected Microprocessor fault Programming error Main electronic board damaged
7	07	Communication error between indoor unit and outdoor unit	Wrong connection Disconnected or interrupted connection cables Incorrect setting of the unit address Main electronic board damaged
8	07*	Communication error between unit and control panel	Wrong connection Disconnected or interrupted connection cables Main electronic board damaged
12	0C	Malfunction condensation drain system	Pump disconnected Incorrect pump position Disconnected flow switch Incorrect position of the flow switch
13	0D	Zero cross signal detected wrong	Incorrect signal reception
14	0E	Fan motor malfunction	Motor disconnected Motor damaged Electrical circuit damaged
15	0F	Fan motor over current	Damaged winding
17	11	Wrong supply voltage to the fan motor	Motor supply voltage too high or too low
18	12	Fan motor over temperature	Motor temperature above 95 °C
19	13	Fan motor malfunction	Wrong rotor position
* Blinking			

AMD 125 PC – AMD 140 PC

LED1	Display	Description	Remarks
1	01	Room probe fault	Sensor disconnected Broken sensor Incorrect position Probe short circuit
2	02	Exchanger probe fault	Sensor disconnected Sensor damaged Incorrect position Probe short circuit
4	04	Microprocessor malfunction	Microprocessor disconnected Microprocessor fault Programming error Main electronic board damaged
7	07	Communication error between indoor unit and outdoor unit	Wrong connection Disconnected or interrupted connection cables Incorrect setting of the unit address Main electronic board damaged
8	07*	Communication error between unit and control panel	Wrong connection Disconnected or interrupted connection cables Main electronic board damaged
12	0C	Malfunction condensation drain system	Pump disconnected Incorrect pump position Disconnected flow switch Incorrect position of the flow switch
13	0D	Zero cross signal detected wrong	Incorrect signal reception
14	0E	Fan motor malfunction	Motor disconnected Motor damaged Electrical circuit damaged
* blinking			

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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As the manufacturer is constantly improving its products, the aesthetic or dimensional features, the technical data, the equipment and accessories indicated could be subject to variations.