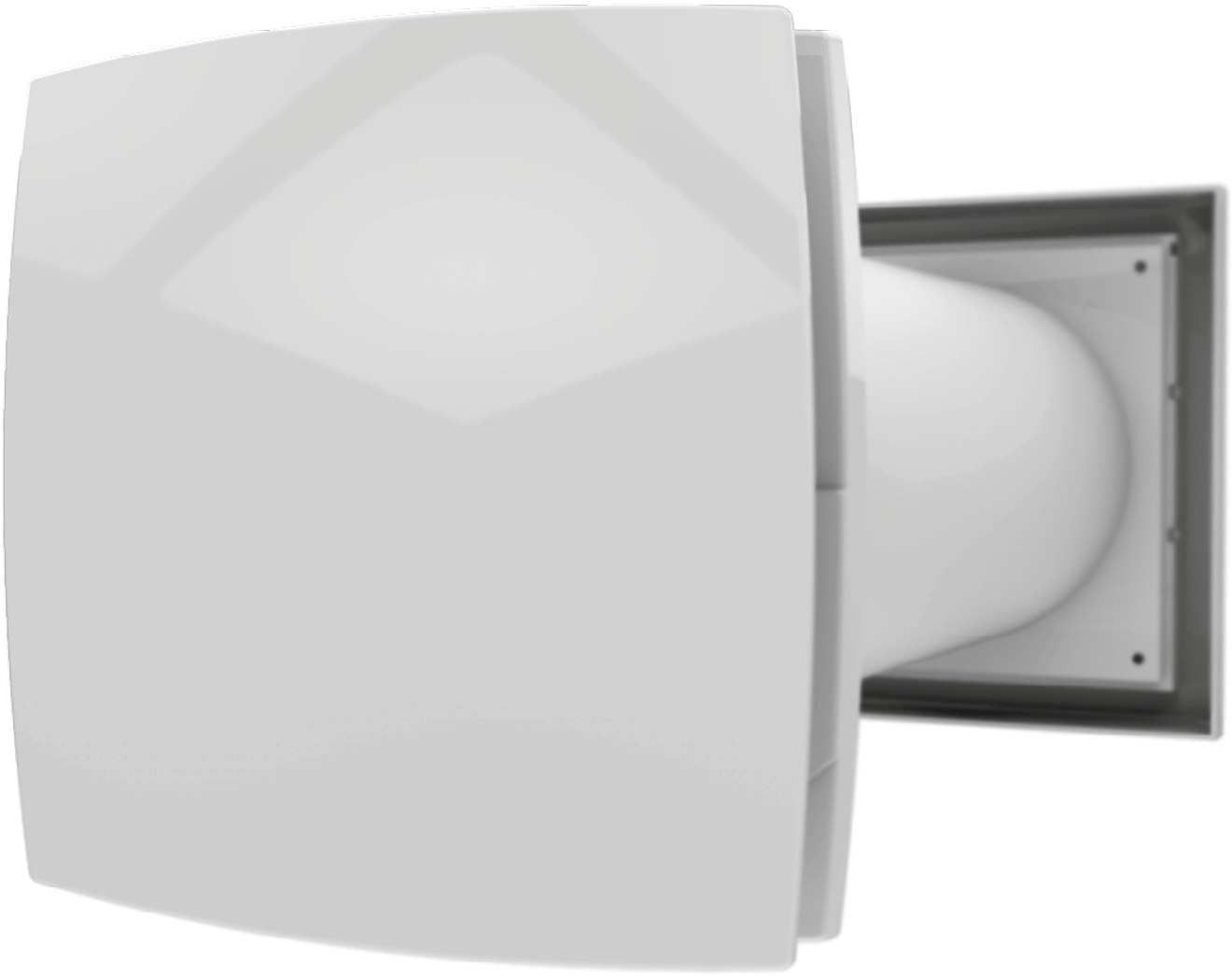
USER'S MANUAL

Solo RA1-35-9 R V.2 - 1728
Solo RA1-50-9 R V.2 - 1729
Solo RA1-60-9 R V.2 - 1730



Single-room reversible energy recovery ventilator

CONTENTS

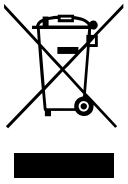
Safety requirements 2
Purpose 4
Delivery set 4
Designation key 4
Technical data 5
Design and functioning 6
Mounting and set-up 7
Connection to power mains 9
Technical maintenance 11
Storage and transportation regulations 13
Manufacturer's warranty 14

This user's manual is a main operating document intended for technical, maintenance, and operating staff.
The manual contains information about purpose, technical details, operating principle, design, and installation of the Solo RA1-35/50/60-9R (V.2) unit and all its modifications.
Technical and maintenance staff must have theoretical and practical training in the field of ventilation systems and should be able to work in accordance with workplace safety rules as well as construction norms and standards applicable in the territory of the country.

SAFETY REQUIREMENTS

All user's manual requirements as well as the provisions of all the applicable local and national construction, electrical, and technical norms and standards must be observed when installing and operating the unit.
Disconnect the unit from the power supply prior to any connection, servicing, maintenance, and repair operations.
Only qualified electricians with a work permit for electrical units up to 1000 V are allowed for installation. The present user's manual should be carefully read before beginning works.
Check the unit for any visible damage of the impeller, the casing, and the grille before starting installation. The casing internals must be free of any foreign objects that can damage the impeller blades.
While mounting the unit, avoid compression of the casing! Deformation of the casing may result in motor jam and excessive noise.
Misuse of the unit and any unauthorised modifications are not allowed.
Do not expose the device to adverse atmospheric agents (rain, sun, etc.).
Transported air must not contain any dust or other solid impurities, sticky substances, or fibrous materials.
Do not use the unit in a hazardous or explosive environment containing spirits, gasoline, insecticides, etc.

Do not close or block the intake or extract vents in order to ensure the efficient air flow.
Do not sit on the unit and do not put objects on it.
The information in this user's manual was correct at the time of the document's preparation.
The Company reserves the right to modify the technical characteristics, design, or configuration of its products at any time in order to incorporate the latest technological developments.
Never touch the unit with wet or damp hands.
Never touch the unit when barefoot.
This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.
Children should be supervised to ensure that they do not play with the appliance.
The connection to the supply mains must be made through a means of disconnection, which is incorporated in the fixed wiring in accordance with the wiring rules, and has a contact separation in all poles that allows for full disconnection under overvoltage category III conditions.
If the supply cord is damaged, it must be replaced by the manufacturer, its service agent, or similarly qualified persons in order to avoid a safety hazard.
Ensure that the appliance is switched off from the supply mains before removing the guard.
Precautions must be taken to avoid the back-flow of gases into the room from the open flue of gas or other fuel-burning appliances.



THE PRODUCT MUST BE DISPOSED SEPARATELY AT THE END OF ITS SERVICE LIFE.
DO NOT DISPOSE THE UNIT AS UNSORTED DOMESTIC WASTE.

PURPOSE

The ventilator is designed to ensure continuous mechanical air exchange in flats, cottages, hotels, cafés and other domestic and public premises. It is equipped with a regenerator that enables supply of fresh filtered air heated by means of extract air heat energy recovery. The ventilator is designed for installation on external walls and is rated for continuous operation

DELIVERY SET

NAME	NUMBER	
		Solo RA1-35-9 R V.2; Solo RA1-50-9 R V.2; Solo RA1-60-9 R V.2
Ventilator		1 pc.
Remote control		1 pc.
Plastic screwdriver		1 pc.
Mounting plate		1 pc.
Foam wedges		1 set
Spare polyurethane foam		1 pc.
User's manual		1 pc.
Packing box		1 pc.

DESIGNATION KEY

Solo R A 1 35 L07 -9 R V.2

Control method
_ – pull-cord switch
V.2 – remote control

Additional options
R – power cord

Ventilation hood type
7 – MVMO 100 bV1sAn round metal grille
9 – MV102 V plastic ventilation hood

Duct length [mm]
_ – 380
L05 – 500
L07 – 700

Rated air flow [m³/h]

Front panel type
1 – with a decorative plastic cover plate

Built-in control system
A – equipped with a control system

Air duct cross-section form
R – round

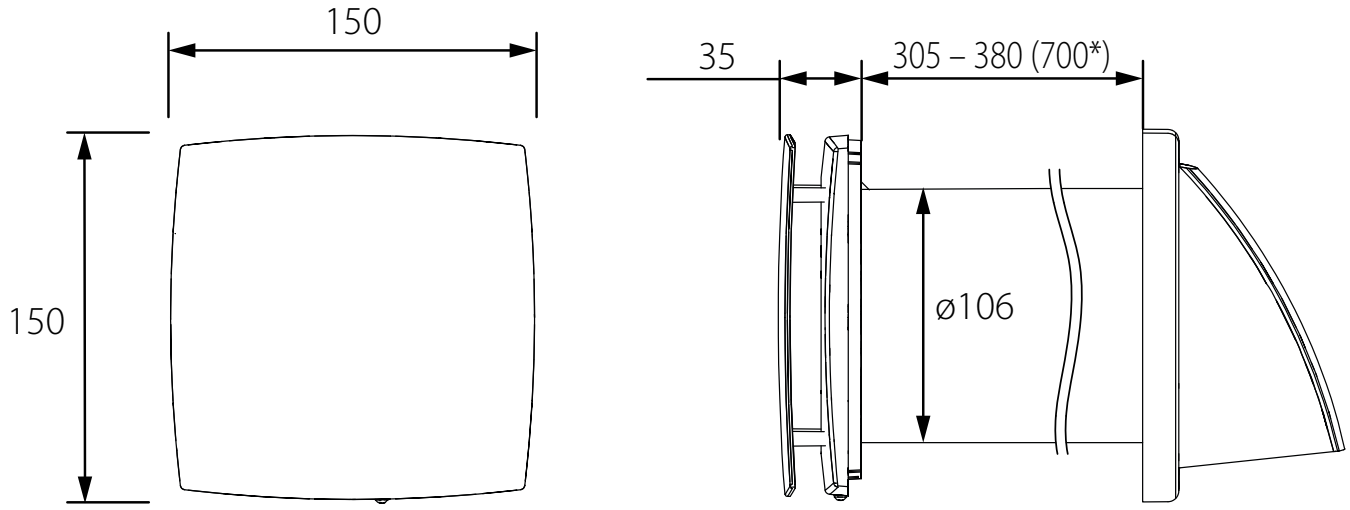
Solo Series

TECHNICAL DATA

The temperature in the room where the indoor unit of the ventilator is installed must be in the range from +1 ˚C to +40 ˚C with relative humidity up to 65 % (no condensation build-up). If the conditions for using the ventilator are beyond the specified limits, turn off the ventilator. Provide fresh air supply through windows.
The transported air temperature must be in the range from -15 ˚C to +40 ˚C.
The ventilator is rated as a class II electric appliance.
Ingress protection rating against access to hazardous parts and water ingress is IP24.
The unit design is constantly being improved, thus some models may be different from those described in this manual.

The technical data of the specific model are indicated on the label on the ventilator casing.

The figure below shows the overall dimensions of the indoor unit of the ventilator and the minimum wall thickness sufficient for mounting the internal components of the ventilator inside the air duct.



Ventilator model	Dimensions [mm]			
	Overall dimension **A**	Air duct diameter **D**	Diameter of the hole in the wall for mounting the ventilator **D1**	Minimum possible wall thickness **L**
Solo RA1-35-9 R V.2	150	106	120 – 125	305
Solo RA1-50-9 R V.2	175	131	145 – 150	325
Solo RA1-60-9 R V.2	205	156	170 – 175	355

DESIGN AND OPERATING PRINCIPLE

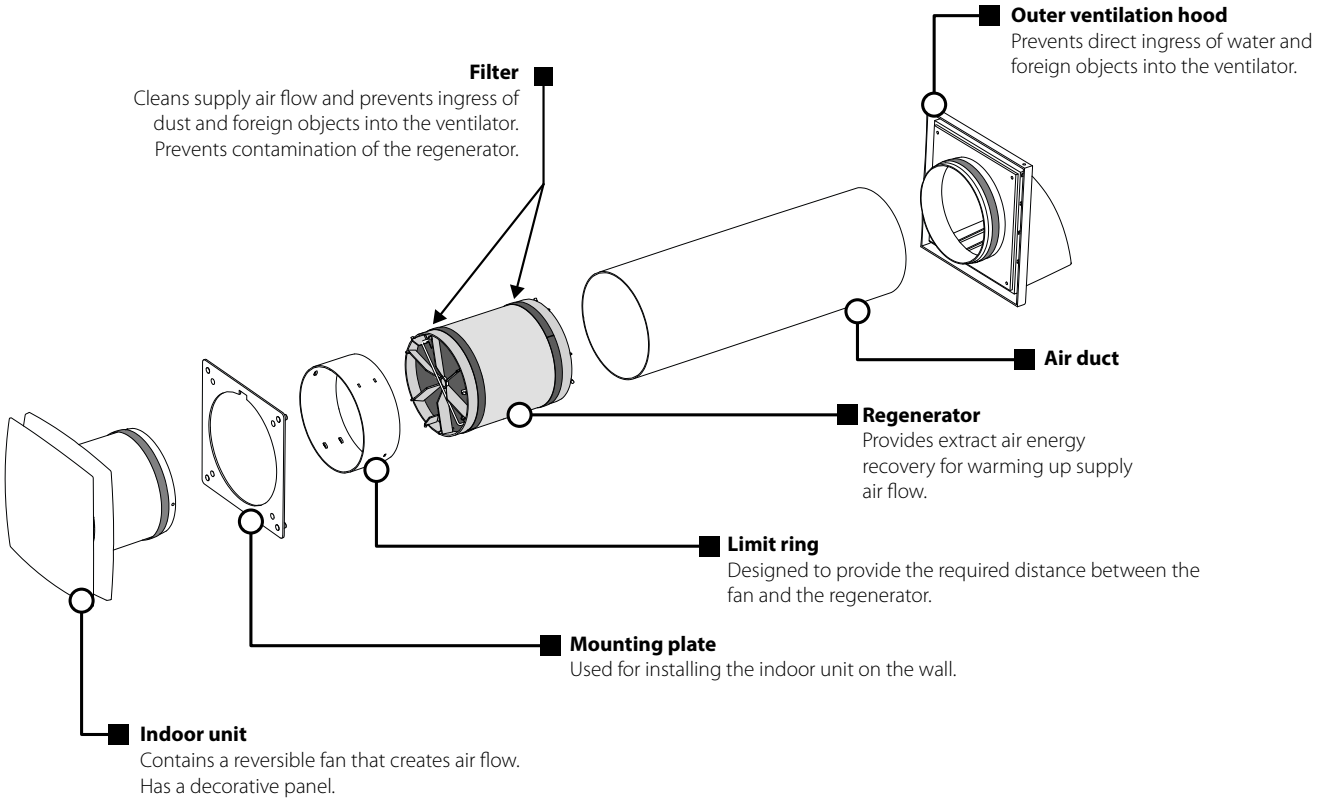
The ventilator consists of an air duct, a ventilation unit and an outer ventilation hood. Two filters, a regenerator, a distance ring and two air flow rectifiers are installed in the air duct.

The air filters are designed to purify supply air and prevent foreign object ingress into the regenerator and the fan.

The regenerator utilises extract air heat energy to warm up supply air flow. The regenerator is heat insulated with a specially designed insulating material.

The indoor unit with the fan is installed on the inner side of the wall.

The ventilation hood must be installed on the outer side of the wall. It is used for directed air discharge and prevention of ingress of water and other objects to the ventilator.



The ventilator operates in two cycles, 60 seconds each.

CYCLE I. As warm stale extract air flows through the regenerator, which gradually absorbs heat and humidity. In 60 seconds as the regenerator gets warmed up the ventilator is switched to the supply mode.

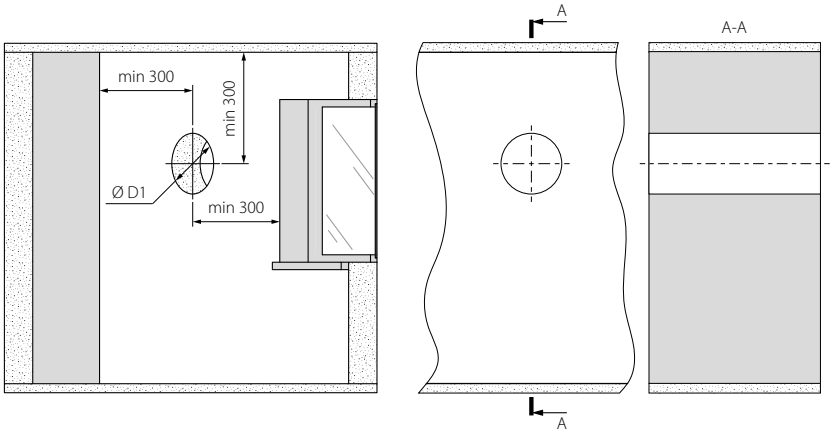
CYCLE II. Fresh intake air from outside flows through the regenerator, absorbs accumulated moisture and is heated to a room temperature due to the heat accumulated in the regenerator. In 60 seconds as the ceramic regenerator gets cooled down, the ventilator is switched to the air exhaust mode and the cycle is renewed.

MOUNTING AND SET-UP

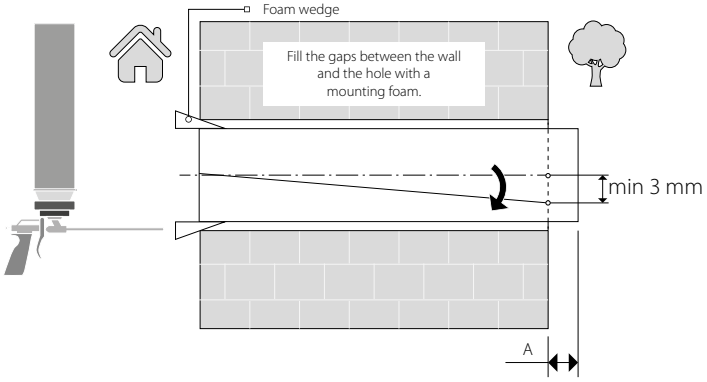
READ THE USER'S MANUAL BEFORE INSTALLING THE UNIT.

DO NOT BLOCK THE AIR DUCT OF THE INSTALLED VENTILATOR WITH DUST ACCUMULATING MATERIALS, SUCH AS CURTAINS, CLOTH SHUTTERS, ETC. AS IT PREVENTS AIR CIRCULATION IN THE ROOM.

To install an external ventilation hood or grille, it is necessary to have access to the outer wall surface at the installation site.
1. Prepare a round core hole in the outer wall. The hole diameter depends on the specific model of the ventilator and is indicated in the table of overall dimensions in the "Technical data" section.



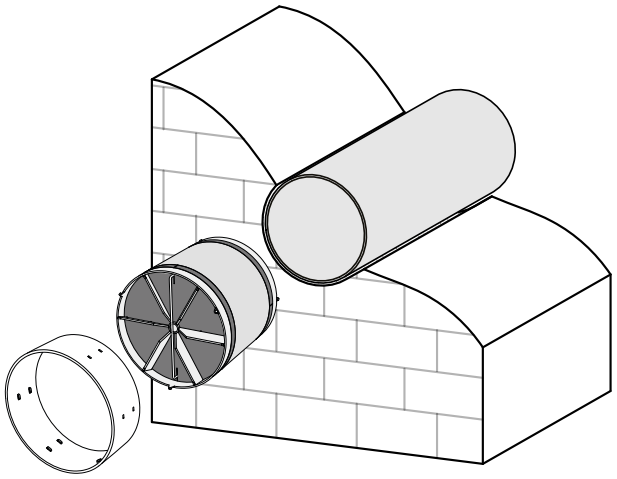
2. Install the air duct into the hole so that its cuts are aligned with the outside and inside surface of the wall.
For ease of installation use the foam wedges included in the delivery.



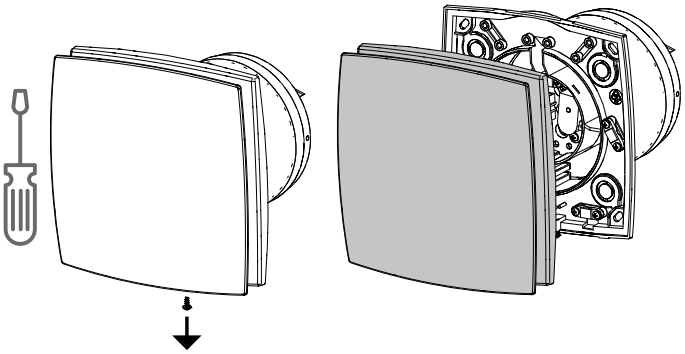
While mounting the air duct be sure to provide the minimum slope of 3 mm downwards from outside.

The air duct can be cut by calculating preliminary the required length or after fixing the air duct on the wall (in this case, it is necessary to have access to the outside part of the wall).

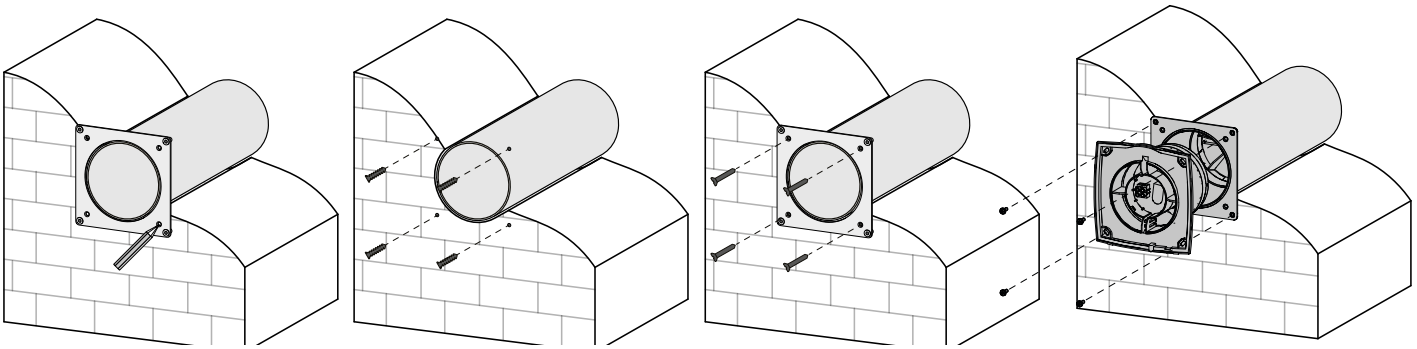
3. Install the assembled regenerator and the limit ring into the air duct.
In Solo RA1-35-9 R and Solo RA1-35-9 R V.2 models, the limit ring is connected to the regenerator.
In Solo RA1-50-9 R V.2 and Solo RA1-60-9 R V.2 models the limit ring is inserted separately.



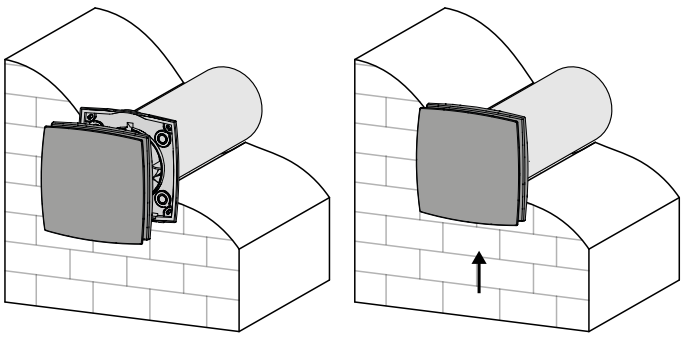
4. Use a screwdriver to unscrew the self-tapping screw from the casing and remove the front part of the indoor unit.



5. Attach the mounting plate and mark holes for the dowels with a pencil or marker. Drill the holes and insert the dowels.
Then install the mounting plate on the wall and the rear part of the indoor unit in the duct.
Fasten the rear part of the indoor unit with the screws on the mounting plate.



6. Install the front part of the indoor unit to its original position and fix it with a screw using a screwdriver.



7. Install the outer ventilation hood or the grille.

CONNECTION TO POWER MAINS

POWER OFF THE POWER SUPPLY PRIOR TO ANY OPERATIONS WITH THE UNIT.
THE UNIT MUST BE CONNECTED TO POWER SUPPLY BY A QUALIFIED ELECTRICIAN.
THE RATED ELECTRICAL PARAMETERS OF THE UNIT ARE GIVEN ON THE MANUFACTURER'S LABEL.

The ventilator is rated for connection to single-phase AC 230 V, 50 Hz power mains using a power cable with a plug installed at the factory.

WARNING! The unit must not be connected through any type of speed regulators – thyristor, autotransformer, frequency, etc.

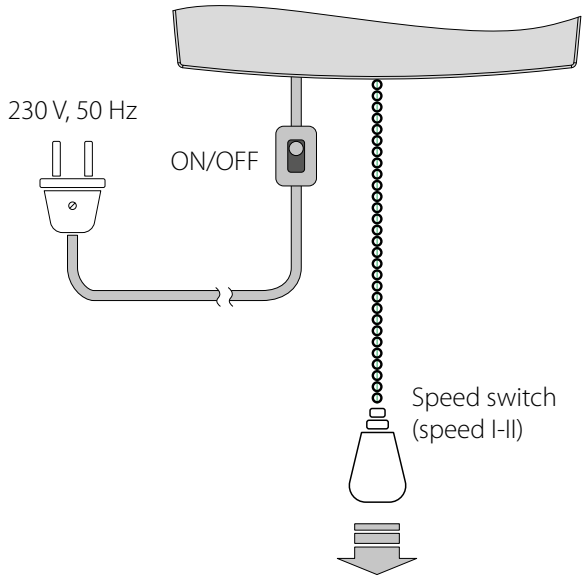
The ventilator must be connected to the stationary power supply via an integrated switch with a gap between the contacts at all poles of at least 3 mm.

The unit is equipped with an electric motor, which has two fixed speeds.

Controlling the Solo RA1-35-9 R ventilator using a pull cord switch

The ventilator is connected to power mains using a cord with a plug with a switch on the wire.

Switching from the first speed to the second is carried out only by a standard pull cord switch.



ALL THE COMPONENTS OF THE UNIT ARE ITS INTEGRAL PARTS.
MAINTAINING THE FACTORY CONFIGURATION AND FORM FACTOR IS ABSOLUTELY ESSENTIAL FOR THE PROPER AND CONSISTENT FUNCTIONING OF THE UNIT.
ANY UNAUTHORISED ALTERATIONS TO THE UNIT FORM FACTOR OR FAILURE TO ADHERE TO THE ELECTRICAL CONNECTIONS DIAGRAM SHALL RELIEVE THE MANUFACTURER FROM LIABILITY FOR ANY RESULTING MALFUNCTIONS AND VOID THE UNIT WARRANTY.

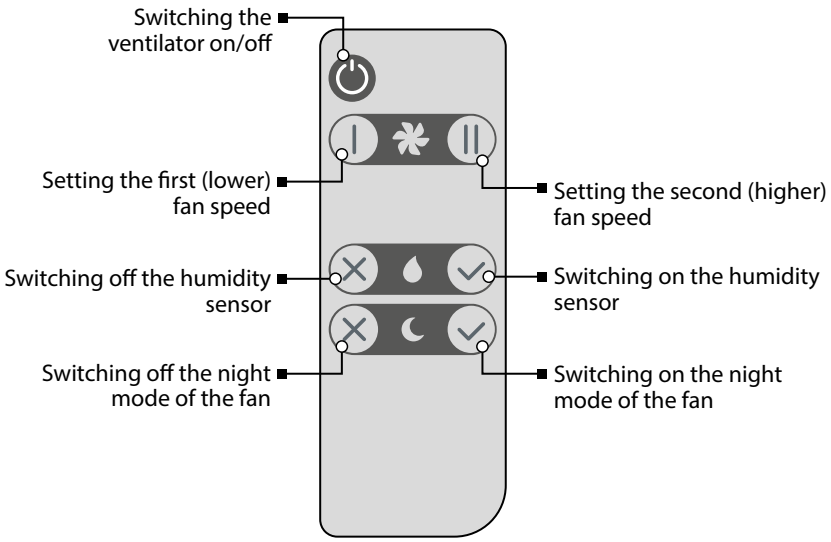
Controlling the Solo RA1-35-9 R V.2, Solo RA1-50-9 R V.2, Solo RA1-60-9 R V.2 ventilator using the remote control

The ventilator is connected to power mains using a cord with a plug.

The functions of the remote control buttons are shown in the figure below.

The speed at which the ventilator is currently operating is indicated by a coloured LED on the front panel of the indoor unit. The first (lower) speed corresponds to the green colour, the second (higher) speed corresponds to the blue colour of the LED.

The passage of remote control commands is confirmed by a short-term decrease in the brightness of the LED on the front panel of the indoor unit.

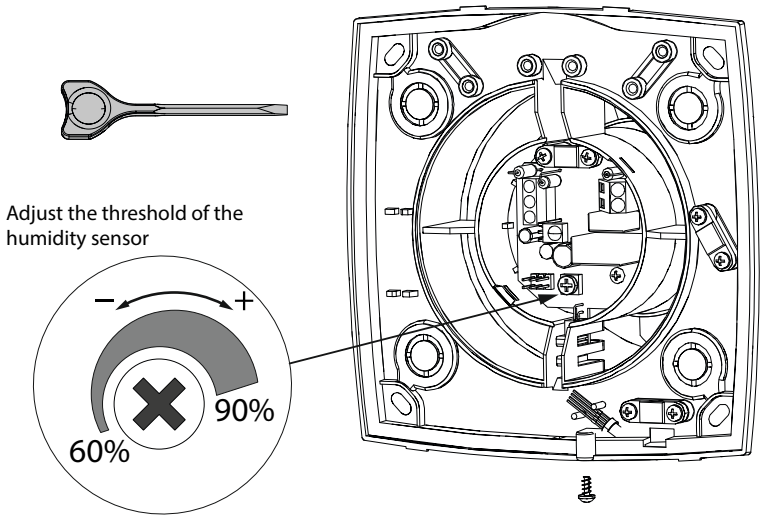


When switched on using the **On/Off** button on the remote control, the ventilator starts to operate at the speed at which it was switched off.

When switched on using buttons **I** or **II**, the ventilator starts to operate at the corresponding speed.

If the humidity sensor is switched on, then when the humidity exceeds the preset level, the ventilator switches to the second (higher) speed.
At high outdoor air humidity, the ventilator can switch to the second (higher) speed as a result of the humidity sensor triggering.
If such switching is undesirable, then temporarily turn off the humidity sensor using the remote control.
You can adjust the operating threshold of the humidity sensor by turning the potentiometer regulator using a special plastic screwdriver.

DO NOT USE A METAL SCREWDRIVER, KNIFE, ETC. FOR ADJUSTMENT OPERATIONS NOT TO DAMAGE THE CIRCUIT BOARD.

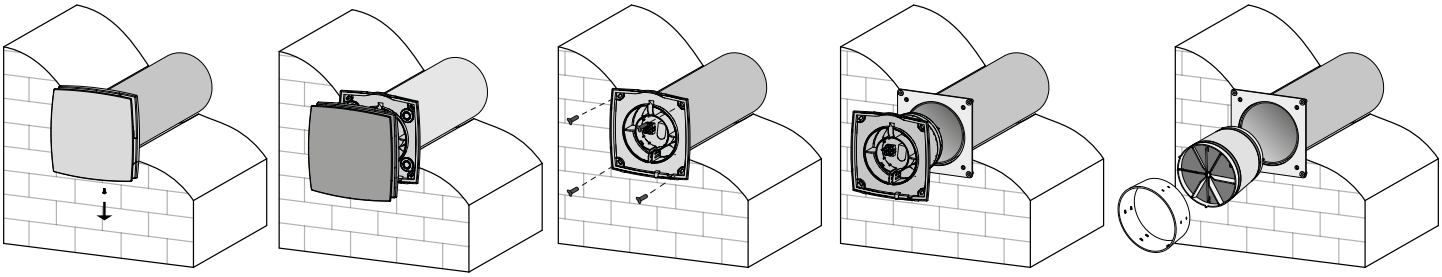


When turning on the night mode, the ventilator will operate at the first (lower) speed for 8 hours. At this time, the brightness of the LED decreases and the ventilator does not respond to speed switching and triggering of the humidity sensor. After the end of this time period, the ventilator will return to the previous operating mode. The night mode can be turned off at any time using the corresponding button on the remote control.

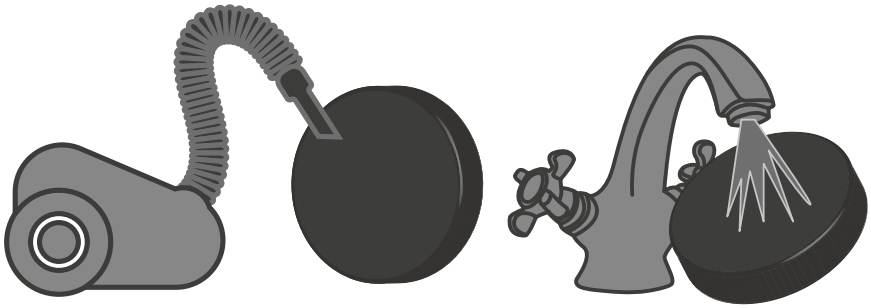
TECHNICAL MAINTENANCE

DISCONNECT THE UNIT FROM POWER SUPPLY BEFORE ANY MAINTENANCE OPERATIONS!

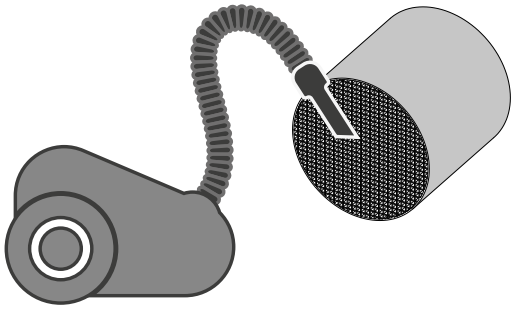
Maintenance of the ventilator means regular cleaning of the ventilator surfaces of dust and cleaning and replacement of the filters.
Accessing the main units for servicing and maintenance is as follows.
Remove the front part of the indoor unit by unscrewing the self-tapping screw.
Remove the four screws retaining the indoor unit, then pull it out of the air duct.
Consequently remove all elements of the ventilator.



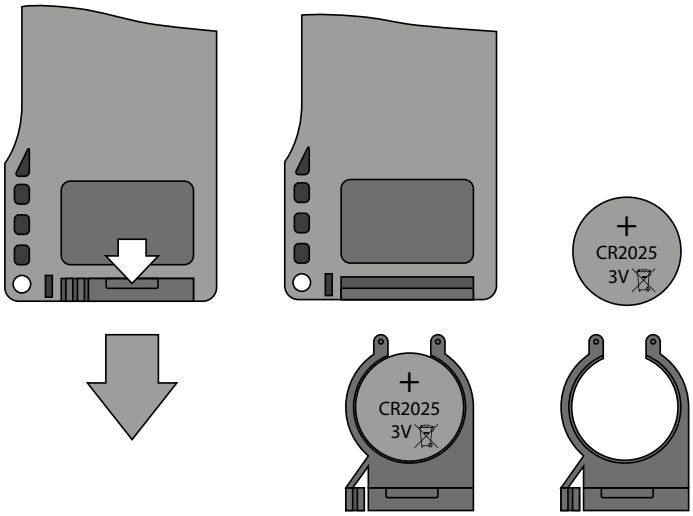
1. Clean the filters as they get clogged, but not less than once in three months.
- Wash the filters and let them get dry. Install dry filters in the air duct.
- Vacuum cleaning is allowed.
- The filter rated service life is 3 years.
- For new filters contact the Seller.



2. Some dust may accumulate on the regenerator block even in case of regular maintenance of the filters.
- Clean the regenerator regularly to ensure its high heat recovery efficiency.
- Vacuum clean the regenerator not less than once a year.



3. Replacing the battery in the remote control (when needed).
No response of the ventilator for pressing the remote control buttons indicates the need to replace the battery.
The battery type is CR2025.
To replace the battery of the remote control, remove the battery holder with a battery.
Replace the battery and install the holder with a new battery back to the remote control.



POSSIBLE FAULTS AND TROUBLESHOOTING

Problem	Possible reasons	Troubleshooting
When switching on the ventilator the fan does not start.	No power supply.	Make sure the power supply line is connected correctly, otherwise troubleshoot the connection error.
	The motor is jammed, the impeller blades are soiled.	Turn the ventilator off. Troubleshoot the motor jam and the impeller clogging. Clean the blades. Turn the ventilator on.
Circuit breaker tripping during the ventilator start-up.	Overcurrent as a result of short circuit in the electric circuit.	Turn the ventilator off. Contact the Seller for further information.
Low air flow.	Low set fan speed.	Set higher speed.
	The filters, the fan or the regenerator are clogged.	Clean or replace the filter. Clean the fan and the regenerator.
Noise, vibration.	The impeller is clogged.	Clean the impeller.
	Loose screw connection of the ventilator casing or the outer ventilation hood.	Tighten the screws of the ventilator or the outer ventilation hood.

STORAGE AND TRANSPORTATION REGULATIONS

- Store the unit in the manufacturer's original packaging box in a dry closed ventilated premise with temperature range from +5 °C to + 40 °C and relative humidity up to 70 %.
- Storage environment must not contain aggressive vapors and chemical mixtures provoking corrosion, insulation, and sealing deformation.
- Use suitable hoist machinery for handling and storage operations to prevent possible damage to the unit.
- Follow the handling requirements applicable for the particular type of cargo.
- The unit can be carried in the original packaging by any mode of transport provided proper protection against precipitation and mechanical damage. The unit must be transported only in the working position.
- Avoid sharp blows, scratches, or rough handling during loading and unloading.
- Prior to the initial power-up after transportation at low temperatures, allow the unit to warm up at operating temperature for at least 3-4 hours.

MANUFACTURER'S WARRANTY

The product is in compliance with EU norms and standards on low voltage guidelines and electromagnetic compatibility. We hereby declare that the product complies with the provisions of Electromagnetic Compatibility (EMC) Directive 2014/30/EU of the European Parliament and of the Council, Low Voltage Directive (LVD) 2014/35/EU of the European Parliament and of the Council and CE-marking Council Directive 93/68/EEC. This certificate is issued following test carried out on samples of the product referred to above.
The manufacturer hereby warrants normal operation of the unit for 24 months after the retail sale date provided the user's observance of the transportation, storage, installation, and operation regulations. Should any malfunctions occur in the course of the unit operation through the Manufacturer's fault during the guaranteed period of operation, the user is entitled to get all the faults eliminated by the manufacturer by means of warranty repair at the factory free of charge. The warranty repair includes work specific to elimination of faults in the unit operation to ensure its intended use by the user within the guaranteed period of operation. The faults are eliminated by means of replacement or repair of the unit components or a specific part of such unit component.

The warranty repair does not include:
- routine technical maintenance
- unit installation/dismantling
- unit setup

To benefit from warranty repair, the user must provide the unit, the user's manual with the purchase date stamp, and the payment paperwork certifying the purchase. The unit model must comply with the one stated in the user's manual. Contact the Seller for warranty service.

The manufacturer's warranty does not apply to the following cases:
- User's failure to submit the unit with the entire delivery package as stated in the user's manual including submission with missing component parts previously dismounted by the user.
- Mismatch of the unit model and the brand name with the information stated on the unit packaging and in the user's manual.
- User's failure to ensure timely technical maintenance of the unit.
- External damage to the unit casing (excluding external modifications as required for installation) and internal components caused by the user.
- Redesign or engineering changes to the unit.
- Replacement and use of any assemblies, parts and components not approved by the manufacturer.
- Unit misuse.
- Violation of the unit installation regulations by the user.
- Violation of the unit control regulations by the user.
- Unit connection to power mains with a voltage different from the one stated in the user's manual.
- Unit breakdown due to voltage surges in power mains.
- Discretionary repair of the unit by the user.
- Unit repair by any persons without the manufacturer's authorization.
- Expiration of the unit warranty period.
- Violation of the unit transportation regulations by the user.
- Violation of the unit storage regulations by the user.
- Wrongful actions against the unit committed by third parties.
- Unit breakdown due to circumstances of insuperable force (fire, flood, earthquake, war, hostilities of any kind, blockades).
- Missing seals if provided by the user's manual.
- Failure to submit the user's manual with the unit purchase date stamp.
- Missing payment paperwork certifying the unit purchase.

FOLLOWING THE REGULATIONS STIPULATED HEREIN WILL ENSURE A LONG AND TROUBLE-FREE OPERATION OF THE UNIT.

USER'S WARRANTY CLAIMS SHALL BE SUBJECT TO REVIEW ONLY UPON PRESENTATION OF THE UNIT, THE PAYMENT DOCUMENT AND THE USER'S MANUAL WITH THE PURCHASE DATE STAMP.