



SINGLE-ROOM REVERSIBLE UNIT WITH HEAT AND HUMIDITY RECOVERY

VENTO V50-1

EN OPERATION MANUAL

BLAUBERG Ventilatoren

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BLAUBERG Ventilatoren GmbH is happy to offer your attention the new reversible ventilation heat recovery single-room unit **VENTO V50-1**.

INTRODUCTION

The present operation manual contains a technical description, technical data sheets, operation and mounting guidelines, safety precautions and warnings for safe and correct operation of the unit.

GENERAL

The single-room ventilation unit is designed for efficient energy saving supply and exhaust ventilation of flats, houses, cottages and other small premises.

The heat recovery technology is used to minimize ventilation heat losses.

The ventilation unit is equipped with a high-tech ceramic energy regenerator that provides extract air heat recovery for warming up of filtered supply air. The heat recovery efficiency of the energy regenerator is up to 90%.

The ventilation unit is designed for indoor application with the ambient temperature ranging from -20 °C up to +50 °C and relative humidity up to 80%.

The unit is designed for external through-the-wall installation. The unit is designed for continuous operation always connected to power mains.

The unit is allowed for operation only after its final mounting that includes installation of protecting devices in compliance with DIN EN ISO 13875 (DIN EN ISO 12100) as well as other construction safety equipment.

The unit design is regularly improved, so some models may slightly differ from those ones described in this operation manual.

SAFETY RULES

The appliance complies with the requirements according to the EU norms and directives, to the relevant EU-Low Voltage Equipment Directives, EU-Directives on Electromagnetic Compatibility.

Disconnect the appliance from power mains before any operations related to the electrical connections, servicing and repair operations.

All mounting and servicing operations are allowed for duly qualified electricians with valid electrical work permit for electric operations at the units up to 1000 V after careful study of the present operation manual.

The appliance requires grounding!

Please follow the safety regulations and working instructions (DIN EN 50 110, IEC 364).

Make sure the impeller and the casing are not damaged before connecting the appliance to power mains. The casing internals must be free of any foreign objects which can damage the impeller blades.

Disconnect the appliance from power mains prior to any operations related to the appliance servicing and repair works. Make sure the rotating parts have come to a full stop.

Misuse of the appliance or any unauthorized modification are not allowed.

The appliance is designed for connection to AC single-phase power mains, see «Technical Data». The appliance is rated for permanent operation during non-stop power supply.

Take steps to prevent ingress of smoke, carbon monoxide and other combustion products into the room through open chimney flues or other fire-protection devices. Sufficient air supply must be provided for proper combustion and exhaust of gases through the chimney of fuel burning equipment to prevent back drafting. The maximum permitted pressure difference per living units is 4 Pa.

The transported air must not contain any dust or other solid impurities, sticky substances or fibrous materials.

The appliance is not designed for use in an inflammable and explosive medium.

Do not close or block the intake or exhaust vent of the appliance not to disturb the normal air passage.

Do not sit on the appliance and do not put objects on the appliance.

In case of unusual sounds, smoke disconnect the appliance from power supply and contact the service centre.

Follow the operation manual guidelines to ensure trouble-free operation and long service life of the appliance.

Hazardous parts access and water ingress protection standard IP24.

TRANSPORTATION AND STORAGE RULES

Transportation of the appliance is allowed by any vehicle provided the appliance is transported in the original package and is protected against weather and mechanical damages.

Use hoist machinery for handling and transportation to prevent possible mechanical damages of the appliance. Fulfil the requirements for transportation of the specified cargo type during cargo-handling operations.

Store the appliance in a dry and cool place in the original packing.

The storage environment must not be subjected to any aggressive and/or chemical evaporations, admixtures, foreign objects that may provoke corrosion and damage connection tightness.

Store the appliance in an environment with minimized risk of mechanical damages, temperature and humidity fluctuations.

Do not expose the appliance to the temperatures below +5 °C and above +40 °C .

Connection to power mains is allowed after the appliance has been kept indoor for minimum two hours.

MANUFACTURER'S WARRANTY

The appliance complies with the requirements according to the EU norms and directives, to the relevant EU-Low Voltage Equipment Directives, EU-Directives on Electromagnetic Compatibility.

We hereby declare that the following product complies with the essential protection requirements of Electromagnetic Council Directive 2004/108/EC, 89/336/EEC and Low Voltage Directive 2006/95/EC, 73/23/EEC and CE-marking Directive 93/68/EEC on the approximation of the laws of the Member States relating to electromagnetic compatibility.

The manufacturer hereby warrants normal operation of the appliance over the period of 2 years from the retail sale date provided observance of the installation and operation regulations.

In case of failure due to manufacturing fault during the warranty period the consumer has the right for a replacement appliance.

If case of no confirmation of the sale date, the warranty period shall be calculated from the manufacturing date.

The replacement is offered by the Seller.

The manufacturer shall not be liable for any damage resulting from any misuse of or gross mechanical interference with the appliance.

Fulfil the operation manual requirements to ensure a trouble-free and long service life of the appliance.



ATTENTION

The product is not allowed for use by children and persons with reduced physical, mental or sensory capacities, without proper practical experience or expertise, unless they are controlled or instructed on the product operation by the person(s) responsible for their safety. Supervise the children and do not let them play with the product.



WARNING

Do not dispose in domestic waste. The appliance contains in part material that can be recycled and in part substances that should not end up as domestic waste.

Dispose of the appliance once it has reached the end of its working life according to the regulations applicable for your country.

DESIGN AND OPERATING LOGIC

The unit consists of a telescopic duct with adjustable length, a ventilation unit and an outer ventilation hood.

The telescopic air duct includes a filter and a ceramic heat accumulator (regenerator) inside. The square heat-insulated metal air duct has an adjustable length.

- - 250 up to 470 mm for the models VENTO V50-1;
- - 120 up to 430 mm for the models VENTO V50-1 S.

The unit is equipped with a high-tech ceramic energy regenerator with heat recovery efficiency up to 88%. Due to its cellular structure the energy regenerator has a large heat exchange surface and a high efficiency. The energy regenerator is featured with high heat insulating and accumulating properties. The regenerator recovers extract air heat energy for warming up of supply air flow. A pull cord inside of the energy regenerator facilitates its withdrawal. The energy regenerator rests on an insulating material used as sealer as well.

Install the ventilation unit must on inner side of the wall. It is equipped with automatic shutters that close the air duct when the unit is off. Air is supplied and extracted with an axial reversible EC-fan with low energy demand. The motor has overheating protection and ball bearings for longer service life.

The built-in filter with filter class G3 are used for supply and extract air filtration and the regenerator anti-soiling protection.

The outer hood must be installed at outside to prevent ingress of large objects and water into the unit.

The integrated automation enables two-speed operation of the unit (minimum or maximum speed):

ventilation mode (air supply or air extract);

reversible operation mode with heat regeneration.

The external control and power unit SEA-T12 or the control panel SEA is used for operation mode control.

The delivery set of the units VENTO V50-1 Pro / V50-1 S Pro includes the control and power unit SEA-T12 consisting of the control panel SEA and the 12W transformer AT-12.

The single control and power unit SEA-T12 enables connection up to 4 units and their integration into a central controlled ventilation system.

The following components are required to arrange a central controlled ventilation system consisting of from 4 up to 12 ventilation units:

- required number of VENTO V50-1 units (no control unit is included);
- control panel SEA;
- 40W power transformer AT-40.

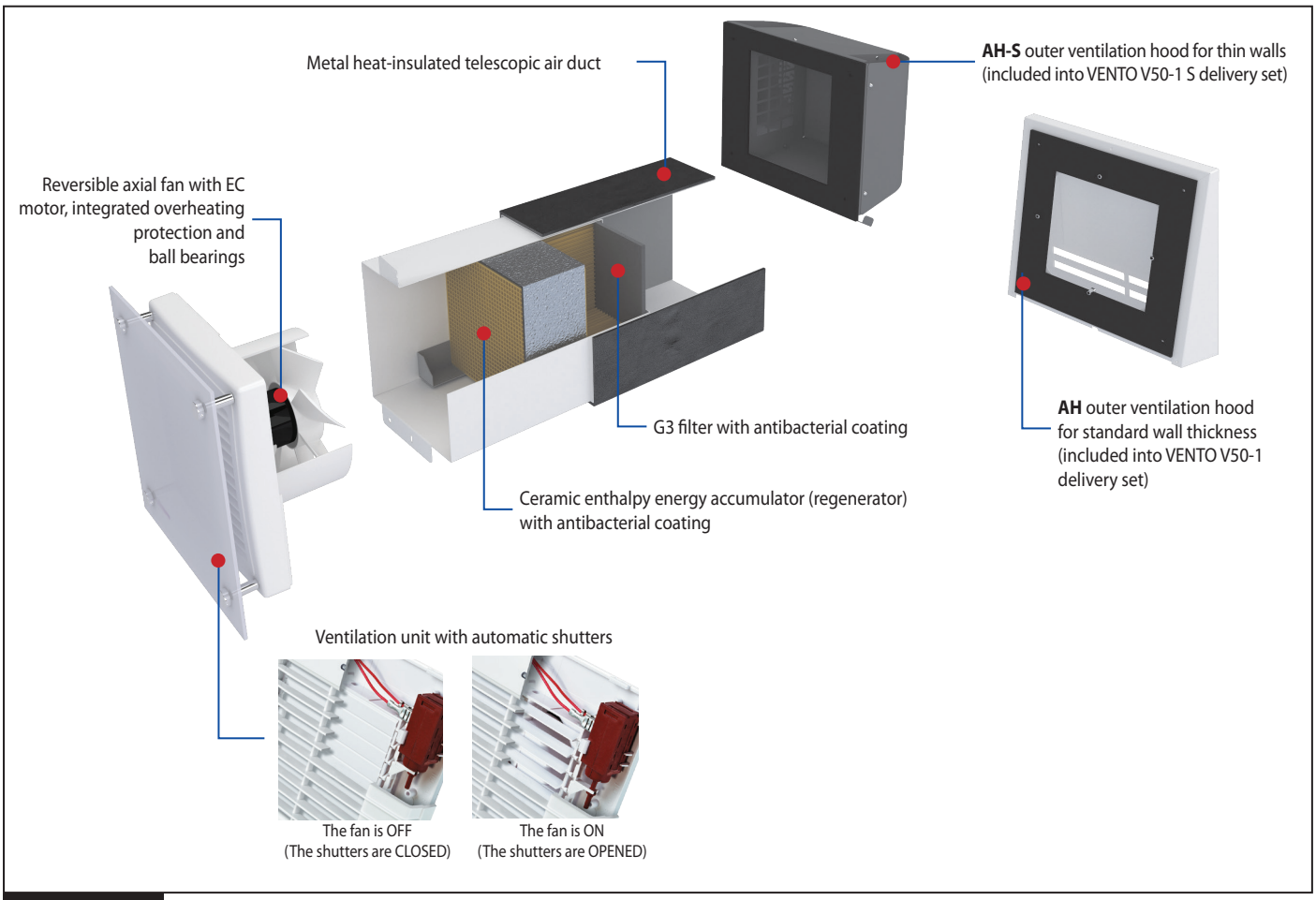


Fig. 1. Unit design

The unit has four ventilation modes:

- **1.** Ventilation mode (air supply or air extract) at first speed.
- **2.** Ventilation mode (air supply or air extract) at second speed.
- **3.** Reversible mode (regeneration) at first speed.
- **4.** Reversible mode (regeneration) at second speed.

In regeneration mode the unit operates in 2 cycles, 70 seconds each.
Cycle I. Warm stale air is extracted from the premise, flows through the ceramic regenerator and transfers its heat energy. In 70 seconds the ceramic regenerator gets warmed up and the unit is switched to the supply mode.
Cycle II. Clean cold intake air flows through the regenerator, absorbs humidity and is warmed up with the accumulated heat. In 70 seconds the ceramic regenerator is cooled down and the unit is switched to the extract air mode. The cycle begins anew.

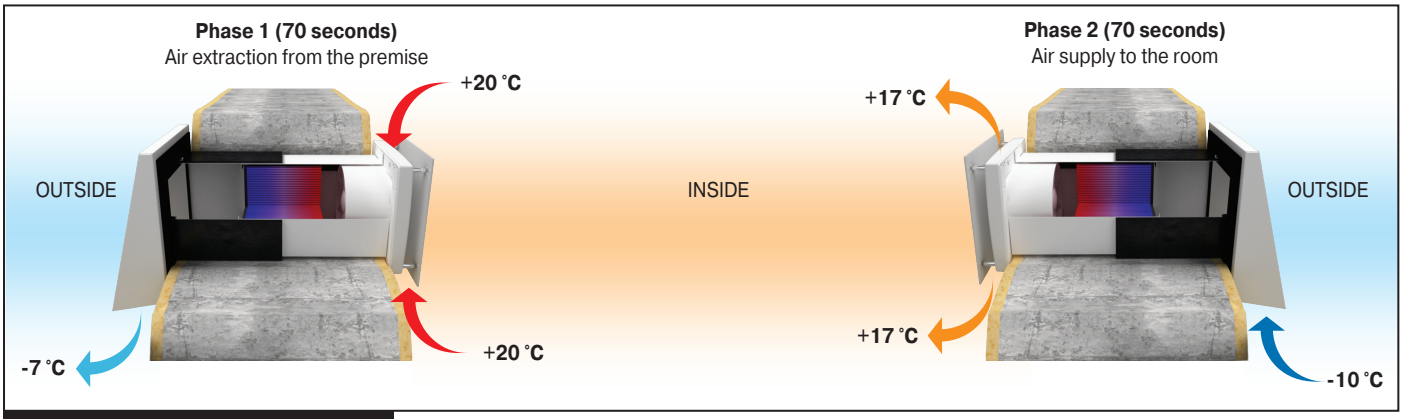


Fig. 2. Unit operating logic in winter period

MODIFICATIONS AND OPTIONS

VENTO V50-1

The unit for the wall thickness from 250 up to 470 mm. The control panel and the power unit are available on separate order.

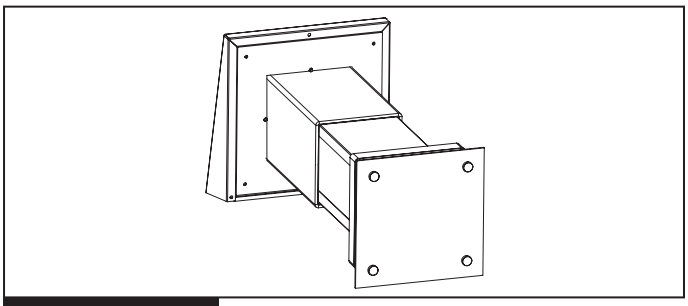


Fig. 3. VENTO V50 -1

VENTO V50-1 Pro

The unit for the wall thickness from 250 up to 470 mm. Equipped with the control panel and the control unit SEA-T12.

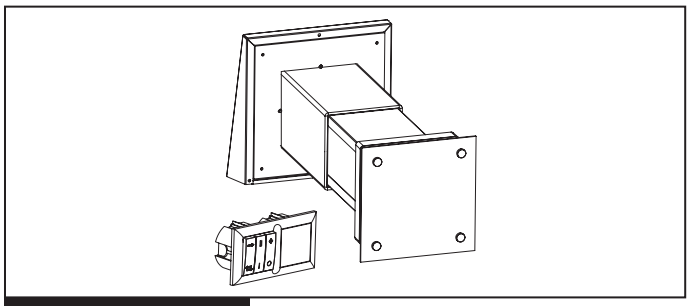


Fig. 4. VENTO V50-1 Pro

VENTO V50-1 S

The unit for the wall thickness from 120 up to 430 mm. The control panel and the control unit are available as special accessories.

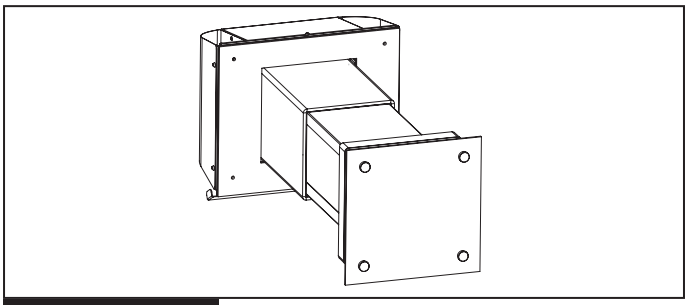


Fig. 5. VENTO V50-1 S

VENTO V50-1 S Pro

The unit for the wall thickness from 120 up to 430 mm. Equipped with the control panel and the control unit SEA-T12.

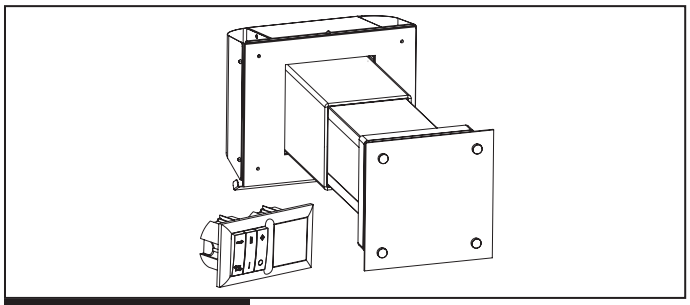


Fig. 6. VENTO V50-1 S Pro

DELIVERY SET

- ✓ Unit - 1 item;
- ✓ Fixing set - 1 item;
- ✓ SEA-T12 - control and power unit for Pro models - 1 item;
- ✓ Cable Unitronic LIYY UL CSA 5xAWG/7 (5x0.25), 3 m long - 1 item;
- ✓ Operation manual - 1 item;
- ✓ Packing box - 1 item.

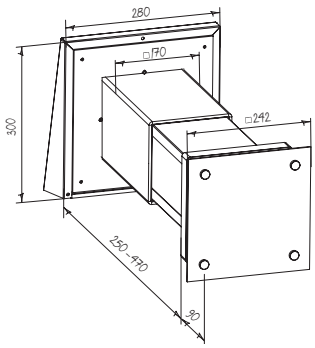
ATTENTION

Make sure the unit has no visible transport damages while accepting the goods. Check the ordered and the delivered goods for compliance.

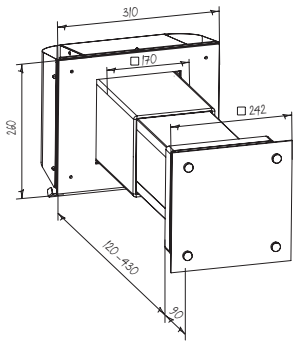
TECHNICAL DATA

Table 1. Technical data of the unit

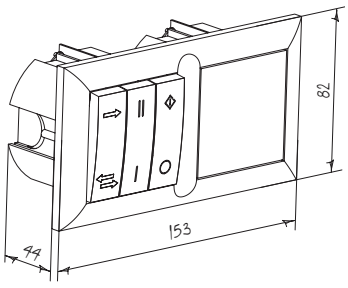
Parameters	Vento V50-1 / VENTO V50-1 Pro / VENTO V50-1 S / VENTO V50-1 S Pro	
Supply Voltage / 50 Hz [V]	220-240	
Speed	1	2
Total unit power [W]	3,68	4,83
Total unit current [A]	0,021	0,026
Max. air flow [m³/h]	26	53
Sound pressure level at 1 m distance [dB(A)]	24	34
Sound pressure level at 3 m distance [dB(A)]	14	24
Outdoor sound pressure attenuation [dB(A)]	19	
Transported air temperature [°C]	from -20 up to +50	
Air filter class	G3	
Heat regeneration efficiency [%]	up to 90	
Regenerator type	Ceramic energy accumulator	
Ingress Protection Rating	IP24	



VENTO V50-1



VENTO V50-1 S



SEA-T12

Fig. 7. Overall dimensions [mm]

MOUNTING

WARNING

The air duct of the ventilation unit must not be closed with curtains, drapes and other clothes to avoid dust accumulation on the materials.

The curtains may impair air circulation in the room and efficiency of the ventilation unit.

The unit is designed for external through-the-wall installation inside a prepared square hole in the outer wall of the building.
The best ventilation solution is pairwise installation of reverse phase connected units. Some units ensure supply of fresh air to the room and the other units provide air extract from the premise. This allows to arrange the most efficient balanced ventilation.

In case of brand new construction the units are mounted in two stages:

- pre-installation at the stage of the indoor finishing and outer decorative wall finishing. It includes installation of the telescopic air ducts, outer ventilation hood and laying out of electric cables.
- final mounting before commissioning of a house. It includes installation of the regenerator, the filter, connection of the ventilation unit and automation.

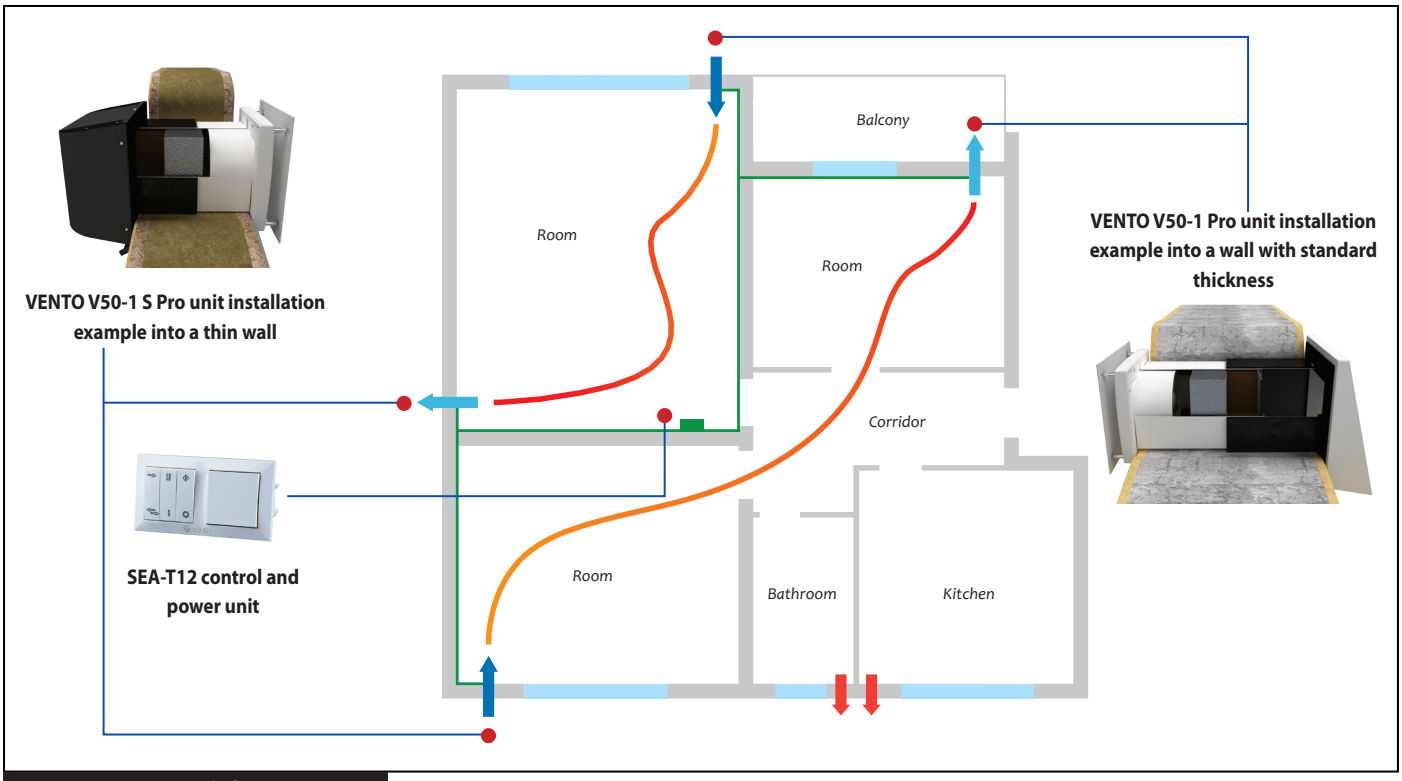


Fig. 8. Mounting example for VENTO V50-1

Mounting sequence:
1. Prepare a square core hole through the outer wall. The size is shown in Fig. 9. Prepare two holes for the dowels 5x25 and insert dowels in the wall.
While mounting several connected in series units provide a recess for the cable layout during the hole preparation to enable series connection of several units.

2. Install the telescopic air duct in the wall. The protruding telescopic air duct segment on outer wall side must be equal to the distance A, Fig. 10:

- A = 10 mm (for VENTO V50-1);
- A = 10-110 mm (for VENTO V50-1S).

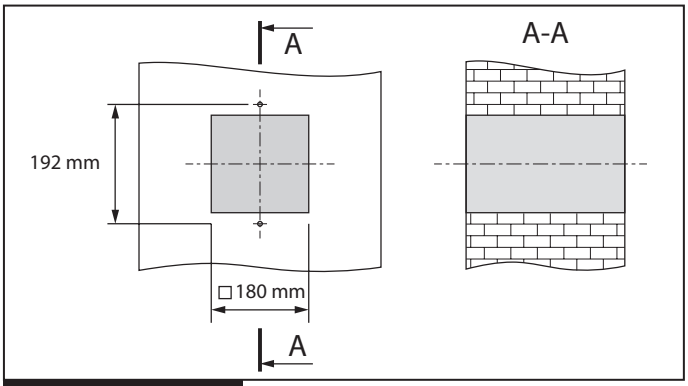


Fig. 9. Size of the core hole

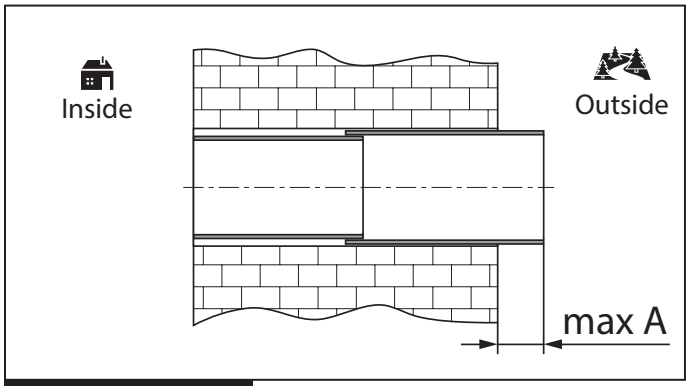


Fig. 10. Size of the core hole

3. Fix the inner part of the telescopic air duct on inner wall side using the screws 3x25 from the delivery set, Fig. 11.

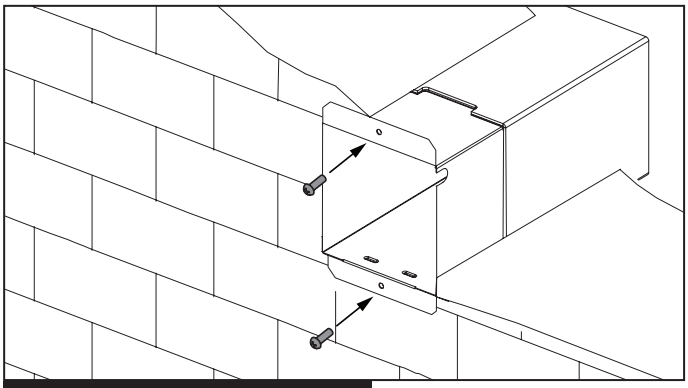


Fig. 11. Fixation of the telescopic air duct.

4. Fill the gaps between the wall and the telescopic air duct with a mounting foam, Fig. 12.

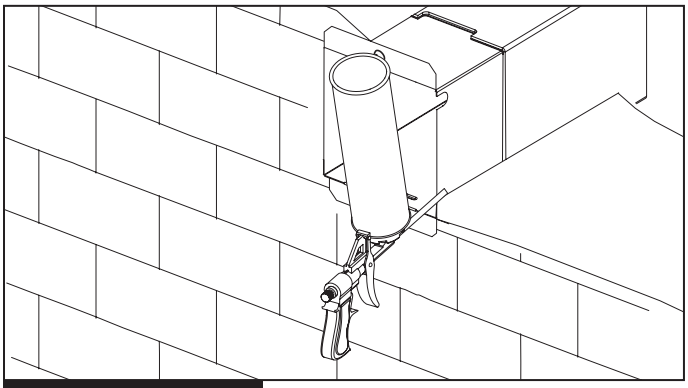


Fig. 12. Size of the core hole

5. Install the filter and the ceramic regenerator in the air duct, Fig. 13.

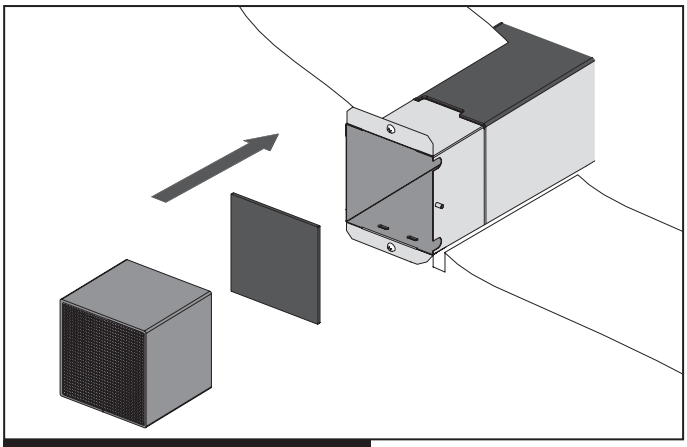


Fig. 13. Mounting of the unit components

6. Mark and drill the fastening holes for the back part of the ventilation unit, Fig. 14.

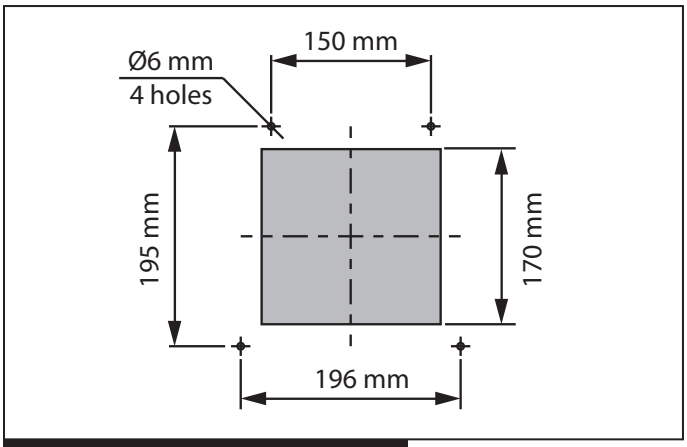


Fig. 14. Hole marking for the ventilation unit

7. Remove a screw from the bottom part of the ventilation unit and take off the front grille.
8. Insert the dowels 5x25 in the wall and fix the ventilation unit to the wall with the screws 3x25 from the delivery set.

9. Mark the fastening holes for the outer ventilation hood:
- Abb. 15a – for VENTO V50-1.
- Abb. 15b – for VENTO V50-1 S.

Drill 40 mm holes for the dowels 6x40.

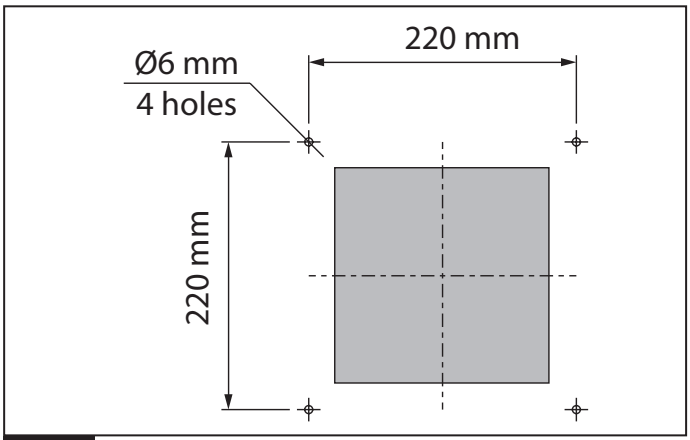


Fig. 15a.

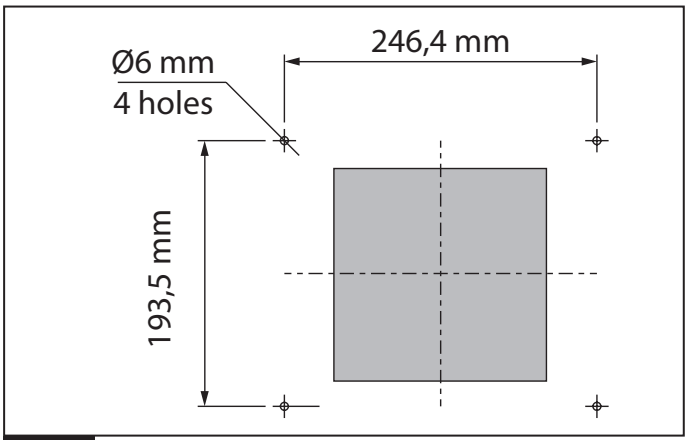


Fig. 15b.

10. Insert the dowels 6x40 from the delivery set into the holes.

11. Disassemble the outer ventilation hood to enable access to the fastening holes:

- Fig. 16a. For the models VENTO V50-1. Remove the front part of the outer ventilation hood.
- Fig. 16b - for VENTO V50-1 S. Loosen these 5 screws and take off the front part of the outer ventilation hood.

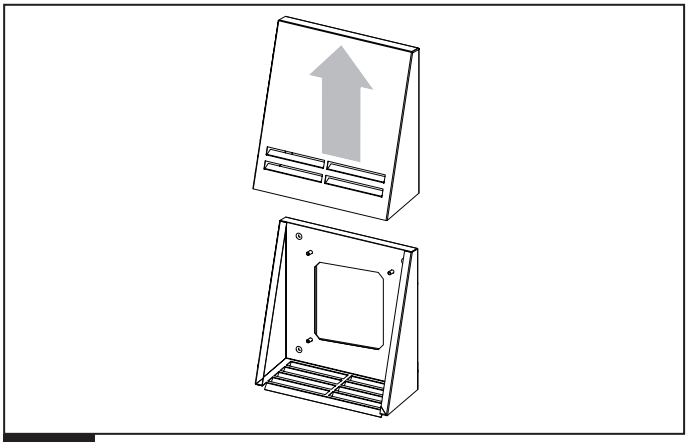


Fig. 16a.

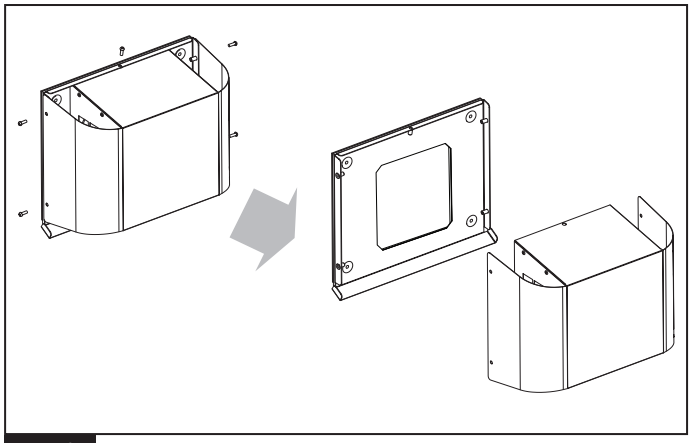


Fig. 16b.

12. Fix the back part of the outer hood on the wall using the screws 4x40 from the delivery set.
13. Install the front part of the outer ventilation hood:
14. Install the control panel SEA-T12 with a power unit inside a prepared hole in the wall, see Fig. 17. During selection of the control panel mounting place consider the supplied cable length. A longer cable may be used if required, of Unitronic LIYY UL CSA 5xAWG/7 (5x0.25) type.

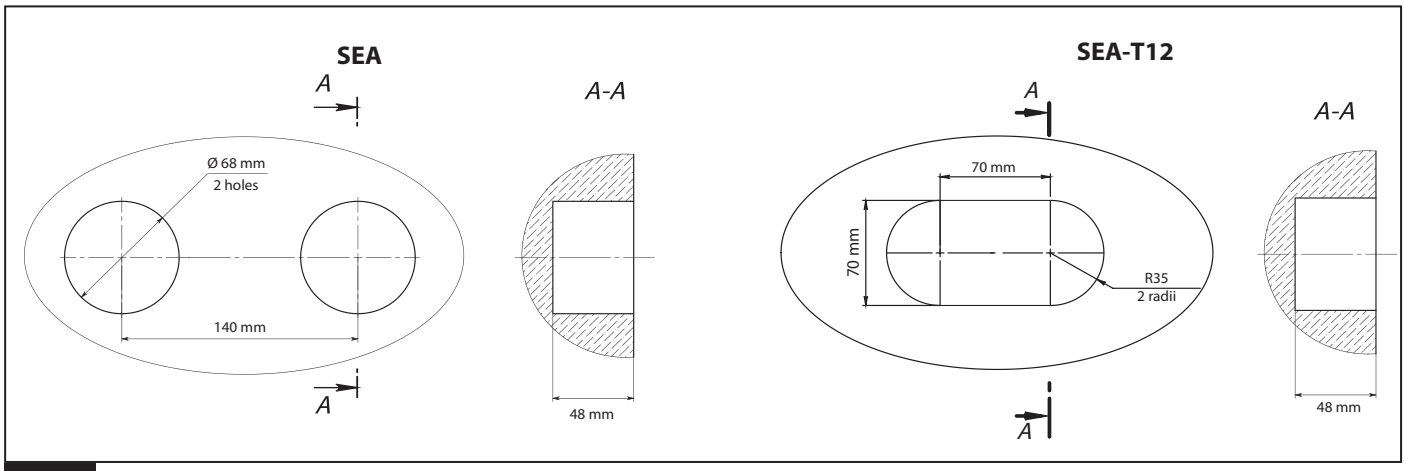


Fig. 17.

15. Uplift gently the buttons and take the buttons and the plug from the control panel SEA-T12 off, Fig. 18.

16. Unlatch and remove the frame of the control and power unit, Fig. 19.

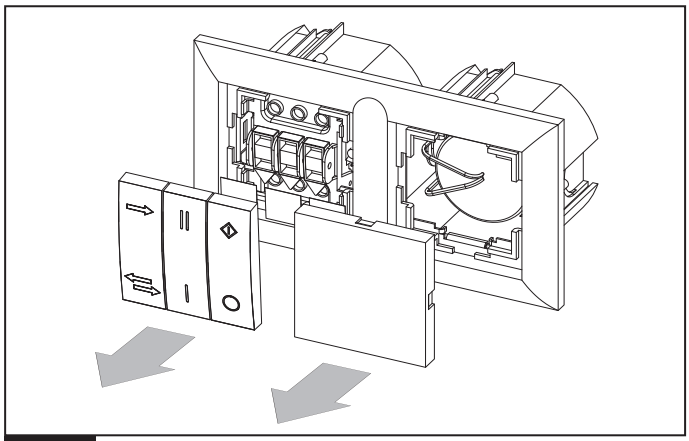


Fig. 18.

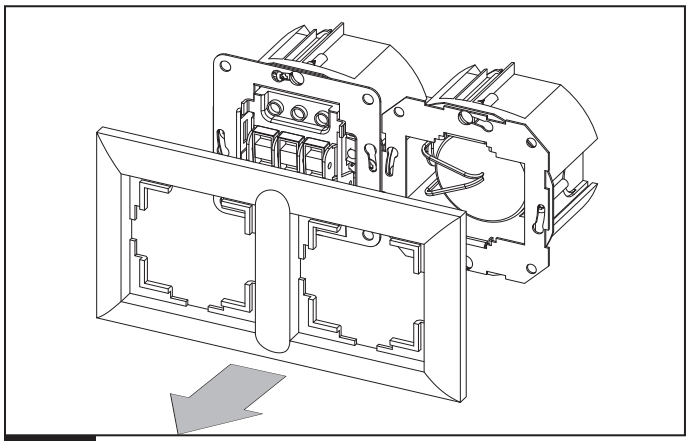


Fig. 19.

17. Install the power and control unit in the wall recess, Fig. 20.

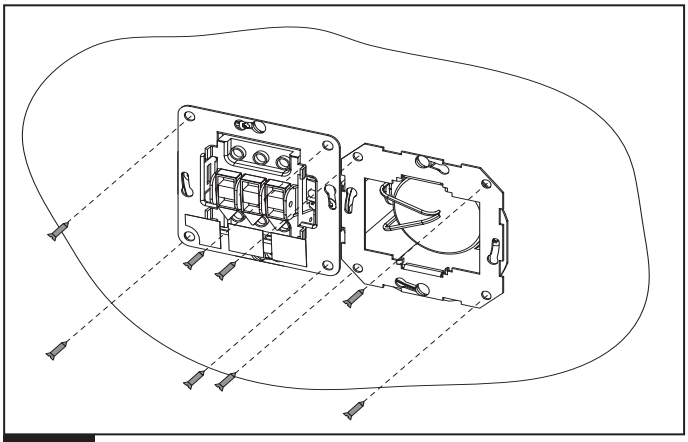


Fig. 20.

18. Install the frame, the buttons and the plug in the reverse order, Fig. 21.

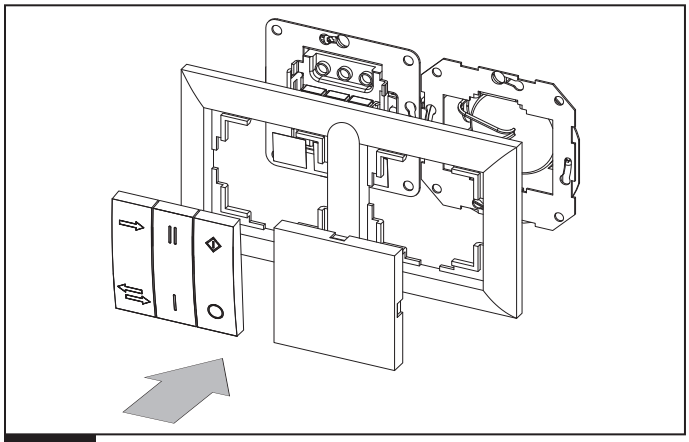


Fig. 21.

CONNECTION AND CONTROL

WARNING

Read the operation manual prior to any electric installations. Connection of the unit to power mains is allowed by a qualified electrician only.

The rated electrical parameter are stated on the rating plate. No modifications of internal connections are allowed and will result in void warranty.

Connect the unit only to power mains with valid electric norms and standards. The unit must be connected to a correct mounted socket with a grounded terminal or connected to a fixed installed cable.

Follow the respective electric standards, safety rules (DIN VDE 0100), TAB der EVUs. The house cabling system must be equipped with an automatic switch at the external input. Connect the unit to power mains through the automatic switch. The contact gap on all poles at least 3 mm (VDE 0700 T1 7.12.2 / EN 60335-1).

Install the automatic switch to ensure prompt access.

The unit is controlled with the external control panel SEA or the control and power unit SEA-T12. The control devices are available on separate order if not included into the delivery set of the unit model.

The control and power unit SEA-T12 consists of a control panel and a 12 W power transformer, Fig. 22. In case of the control panel SEA either power transformer AT-12 or AT-40 are used and are available upon separate order.

The unit is rated for connection to single-phase alternating current power mains 230 V / 50 Hz or 120 V / 60 Hz, depending on the used transformer type.

Separate power supply must be provided both to the control panel and to the ventilation unit to control the automatic shutters. The control and power unit modifications are customer selected depending on power mains voltage and transformer power in compliance with the table 2.

Table 2. Control panel technical data

Control and power unit name	Transformer parameters			Note
	Power [W]	Voltage [V]		
		Input	Output	
Control and power unit SEA-T12	12	230 / 50 Hz	12 / 50 Hz	Rated for connection up to 4 units
Control and power unit SEA-T12 (120 V / 60 Hz)		120 / 60 Hz	12 / 60 Hz	Rated for connection up to 2 units
Control panel SEA + transformer AT-40	40	230 / 50 Hz	12 / 50 Hz	Rated for connection up to 12 units
Control panel SEA + transformer AT-40 (120 V / 60 Hz)		120 / 60 Hz	12 / 60 Hz	Rated for connection up to 6 units
Control panel SEA + transformer AT-12	12	230 / 50 Hz	12 / 50 Hz	Rated for connection up to 4 units
Control panel SEA + transformer AT-12 (120 V / 60 Hz)		120 / 60 Hz	12 / 60 Hz	Rated for connection up to 2 units

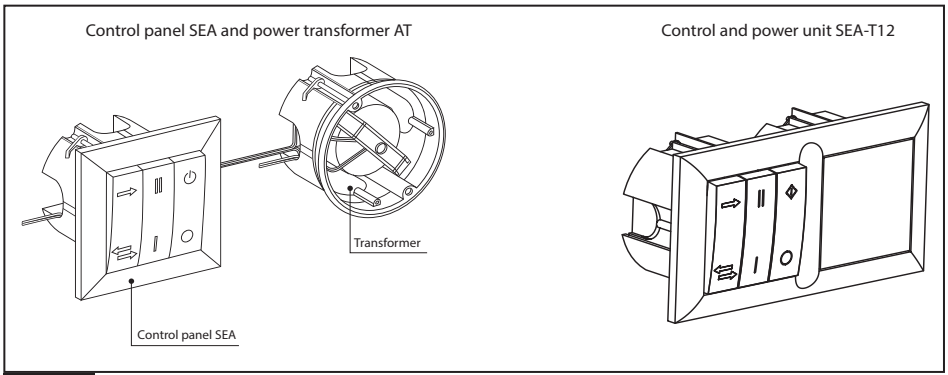


Fig. 22.

All electric connection to the control unit and the ventilator are performed with the socket connectors (detachable terminal blocks) for mounting and servicing facilitation. Each mating part of the socket connector has colour marking in compliance with marking on the circuit board to ensure correct and quick electric installation.

The control panel SEA is used to set one of four operation mode of the unit, Fig. 23:

1. Ventilation mode (air extract / air supply)* at the first speed with air flow 26 m^3/h.

2. Ventilation mode (air extract / air supply)* at the second speed with air capacity 53 m^3/h.

3. Reversible (regeneration) operation at the first speed with air flow 26 m^3/h. The unit changes air flow direction every 70 seconds.

* - air flow direction depends on position of the jumper JMP1 on the circuit board. The jumper is set to supply mode by default, Fig. 24.

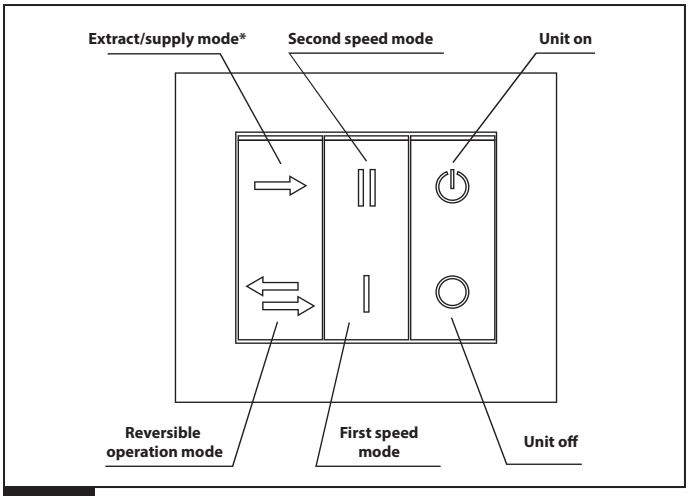


Fig. 23

The total wiring diagram for connection to the control panel SEA is shown in Fig. 24.

Two control channels are used to connect V50-1 to the control panel SEA. Such design solution provides flexible connection of several units.

The impeller rotation direction at start of the regeneration mode or in ventilation mode is determined by positioning the jumper JMP1 on the ventilation unit circuit board. The jumper positioned in «Flow In» position sets the unit to supply mode and the jumper positioned in «Flow Out» position sets the unit to extract mode.

The VENTO V50-1 is connected to the control panel SEA with a five-wire cable. The wire colour marking corresponds to the supplied cable. The minimum conductor cross section is 0.25 mm^2 (23 AWG).

Type and power of the step-down transformer T1 must be in compliance with the parameters in the table 2. Separate power supply (230 V / 50 Hz or 120 V / 60 Hz) must be connected both to the control unit SEA (SEA-T) and to the ventilation unit to enable actuation of the automatic shutters (socket connectors 31-32 in each case).

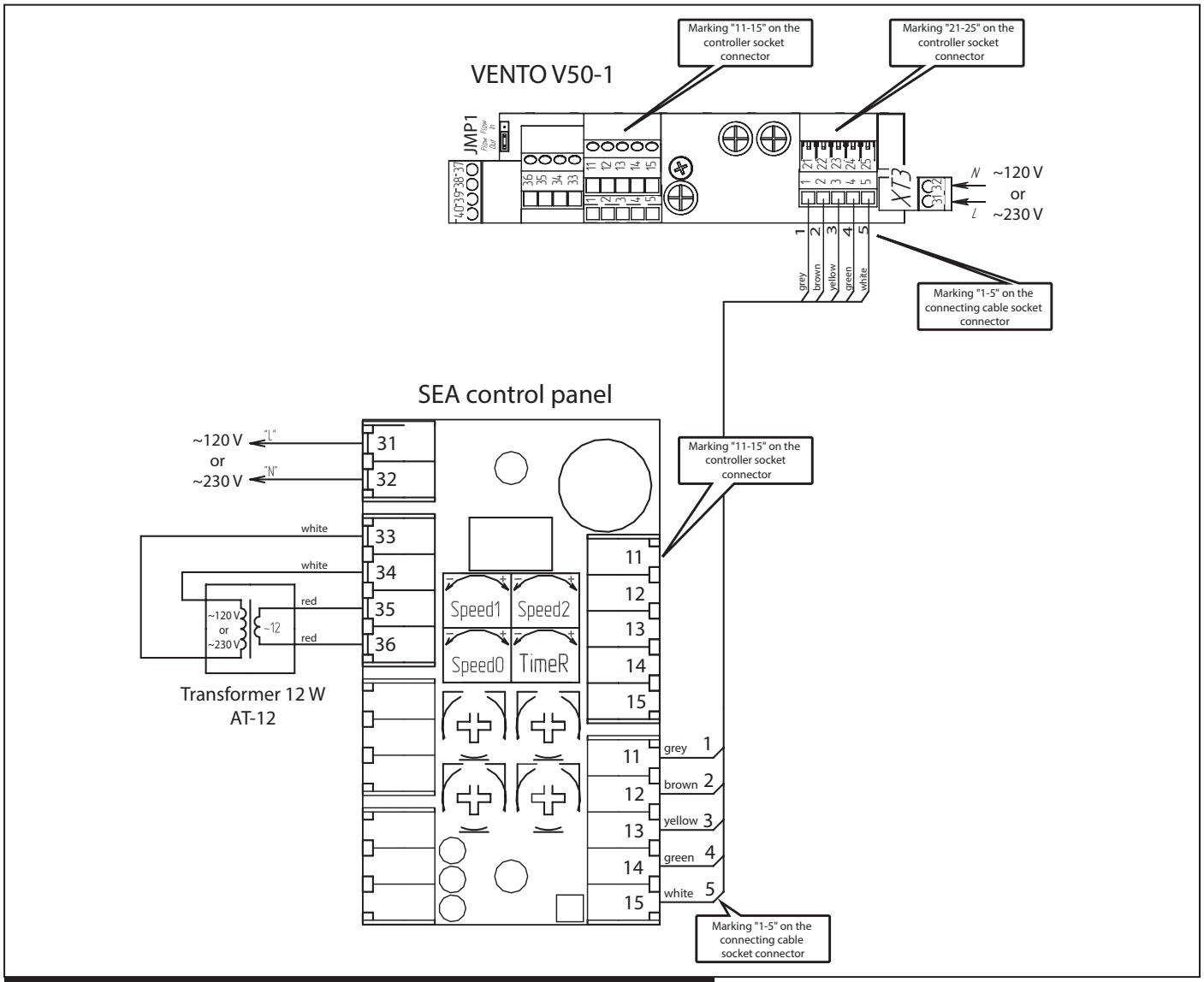


Fig. 24. General wiring diagram for connection of Vento V50-1 unit to a single SEA control panel

Connection of the unit in compliance with the wiring diagram in Fig. 25 enables synchronous connection of 2 up to 4 units. In this very case the 12W AT-12 power transformer is used.
Power supply 230 V / 50 Hz (or 120 V / 60 Hz) must be connected both to the control panel SEA (SEA-T) and to each ventilation unit to enable actuation of the automatic shutters (socket connectors 31-32 in each case).

The inputs on the controller socket connectors are marked 21 to 25. The outputs on the controller socket connectors are marked 11 to 15.
The socket connectors of the connecting cable supplied with the unit are marked 1 to 5 and must be connected to the controller socket connectors marked 11-15 for outputs or 21-25 for inputs.

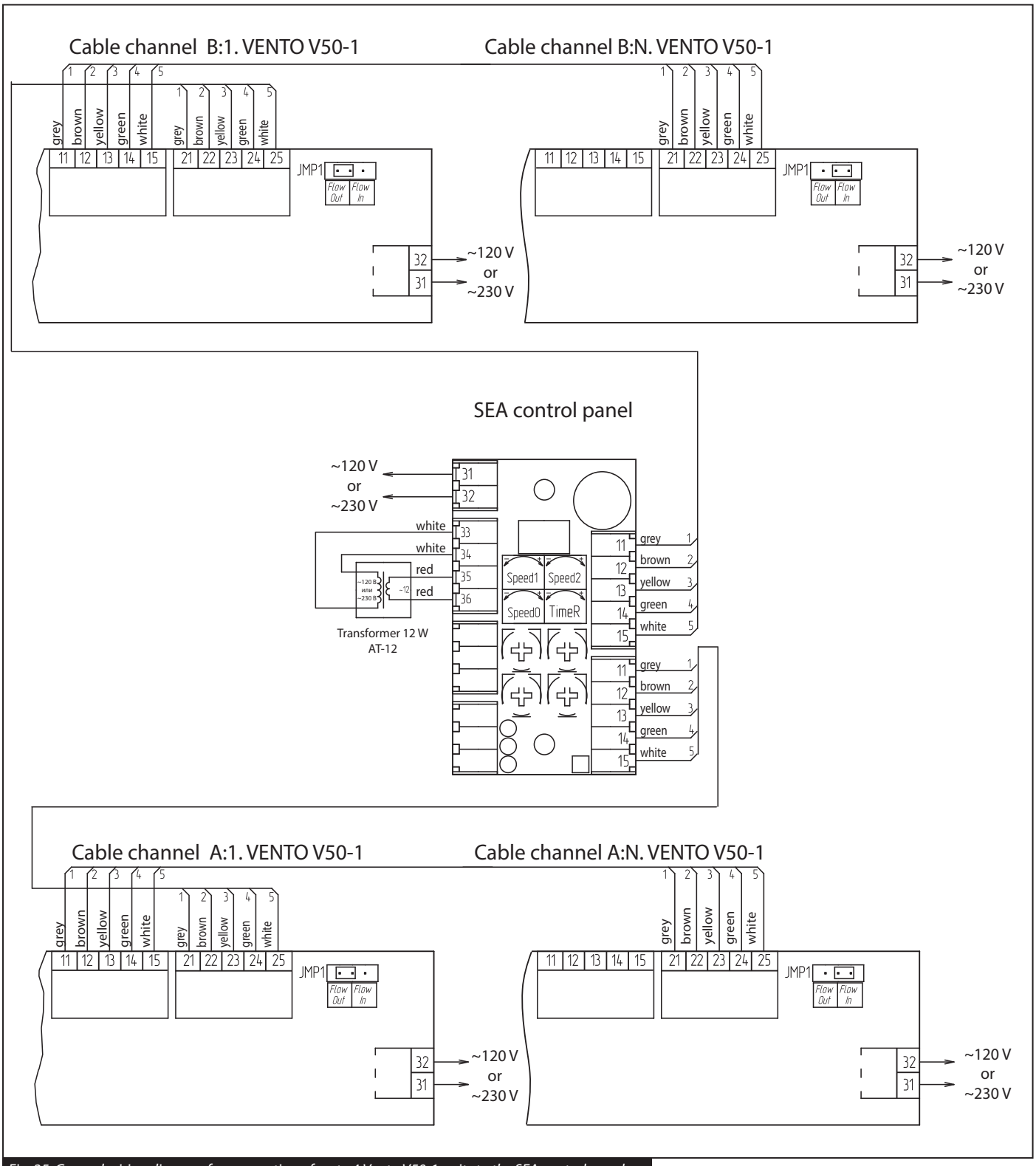


Fig. 25. General wiring diagram for connection of up to 4 Vento V50-1 units to the SEA control panel

Up to 12 VENTO V50-1 units may be connected to a single SEA control panel powered by the 40W power transformer AT-40, Fig. 26.
First connect the 12W transformer wire leads to the contacts A1:35, 36 of the controller A1 (SEA) using the socket connector at the cable K2. The cable is included into delivery set of the 40W transformer model.
Then connect the first unit A3-No.1 to the contacts A1:11-15 of the controller A1 (SEA) using the connecting cable supplied with the first unit. Connect the second unit A3-No.2 (contacts A2: 21-25) to the first unit (contacts A2: 11-15) using the connecting cable supplied with the second unit.
Connect all the other units, up to 12 items, in the same way.
Connect power supply (230 V / 50 Hz or 120 V / 60 Hz, depending on the unit model) to the contacts A2: 31,32 of each unit.
The fan impeller rotation direction is determined by position of the jumper JMP1 on the PCB of A2 unit: the leftmost position sets the unit to extract mode (Flow Out) and the rightmost position sets the unit to supply mode (Flow In).
The jumper is used to set direction for each fan in the group. The transformer unit is connected to power mains through the power cable with a plug, which is prewired to the transformer unit terminal block by the manufacturer.

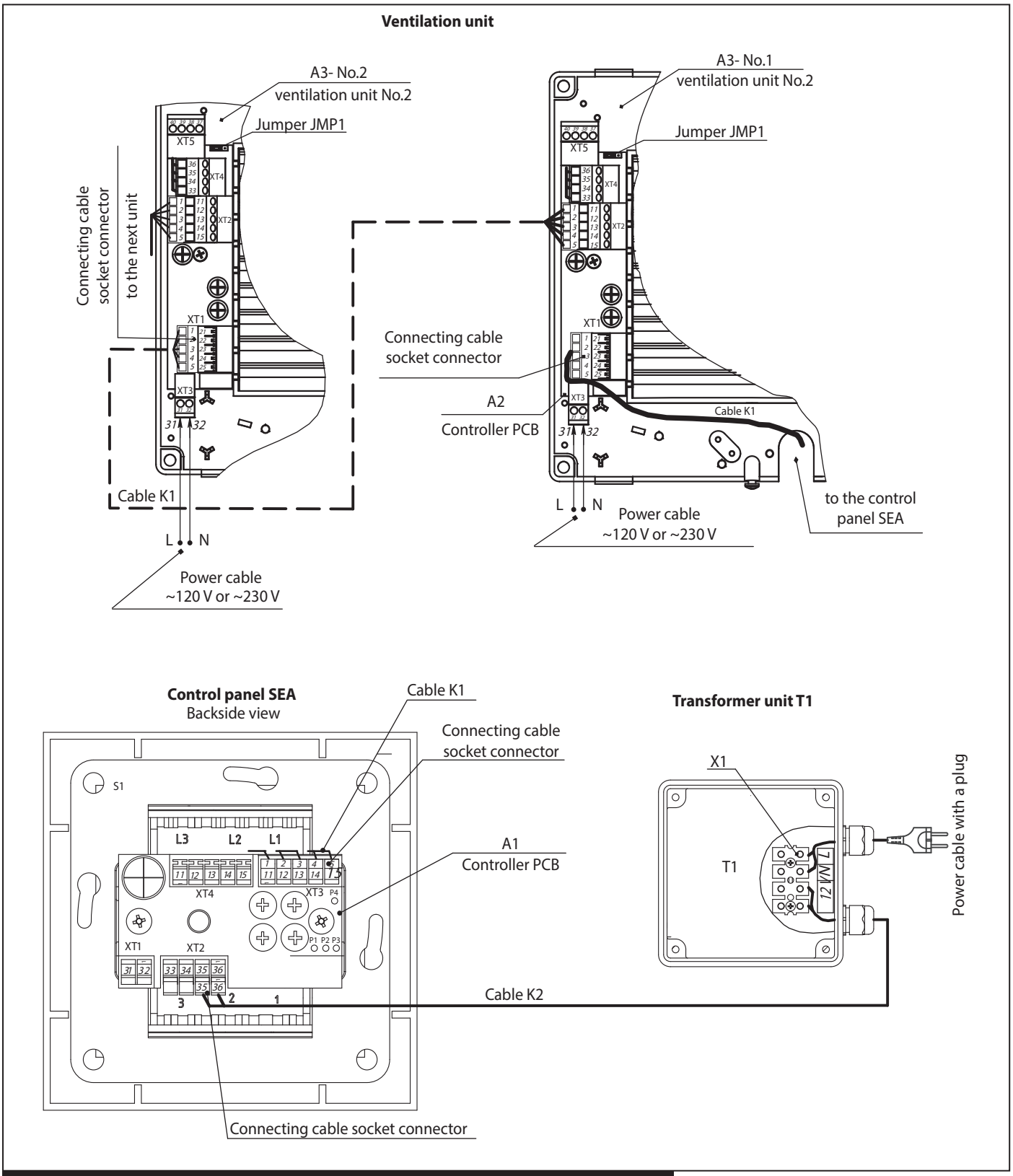


Fig. 26. Wiring diagram for connection up to 12 VENTO V50-1 units to SEA controller with AT-40 transformer

The control panel SEA is capable of controlling many connected units.
In this case a required number of the transformers AT-12 or AT-40 must be used for power supply.

Connection example with several transformers is shown in Fig. 27.

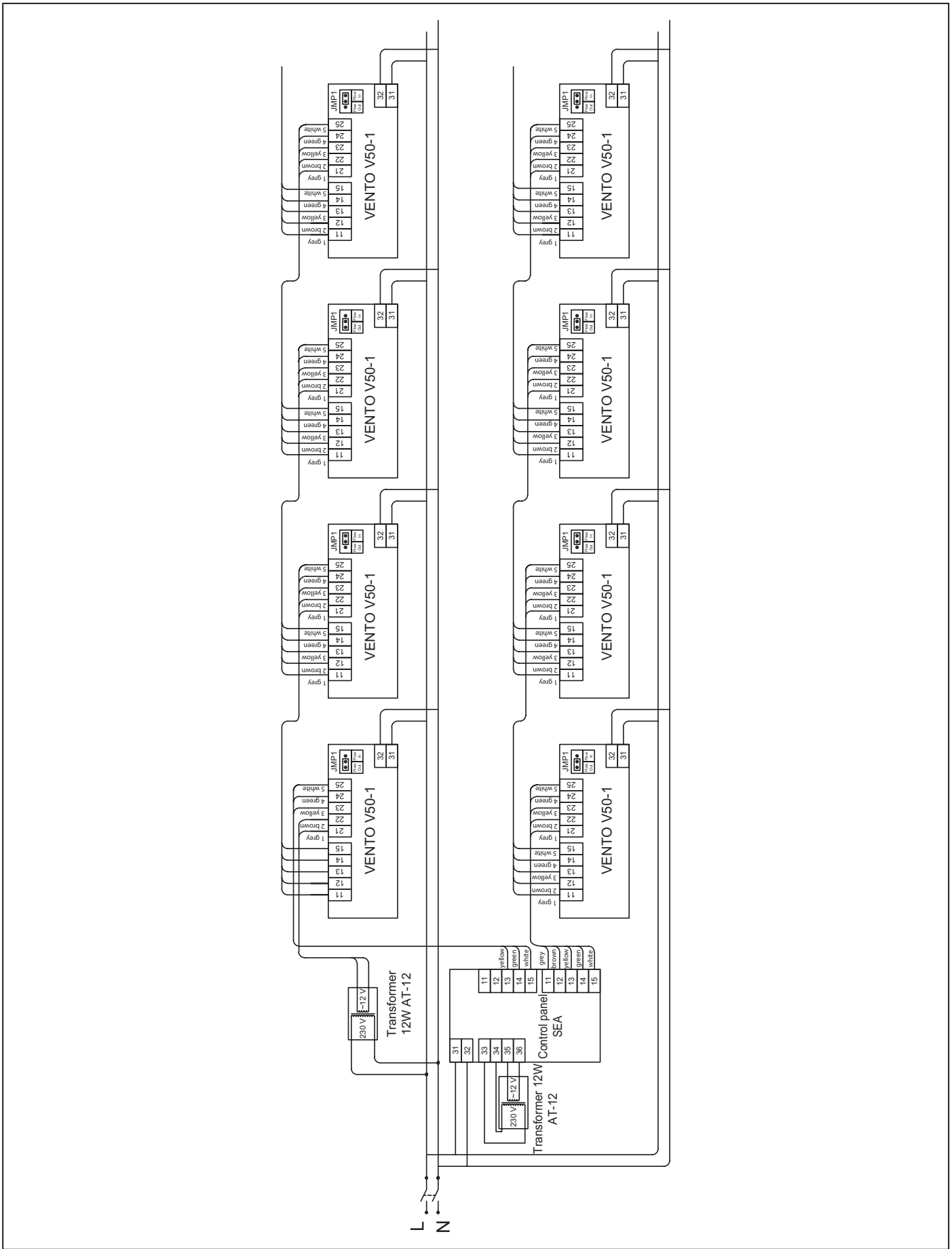


Fig. 27. Wiring diagram for connection of unlimited number of VENTO V50-1 units to the controller SEA

MAINTENANCE

WARNING!

Disconnect the unit from power mains prior to maintenance operations!

The unit technical maintenance consists in the periodic cleaning of the unit surfaces and cleaning or replacement of the filters. Remove dust with a soft brush, cloth or compressed air. Do not use water, abrasive detergents, solvents, sharp objects.

1. Fan maintenance (once a year).

- Remove the screw in the bottom part of the fan grille, remove and clean the grille.
- Disconnect the wires from the ventilation unit by using the connectors.
- Remove the four screws and take off the ventilation unit.
- Clean the impeller blade.

2. Regenerator and filter maintenance (4 times a year).

- Take off the ventilation unit. Pull the cord to remove the regenerator and the filter from the air duct. Do not let the regenerator fall down.
- Clean the filter as often as required, but at least once in three months. To clean the filter flush it under running water or use a vacuum cleaner. Let the filter dry and install the dry filter inside the air duct. Contact a local distributor for the filters stated above in the section «Technical data».
- Even regular filter maintenance may not completely prevent the dust ingress into the regenerating unit. Clean the regenerator with a vacuum cleaner at least once a year.

3. Outer ventilation hood maintenance (once a year).

The outer ventilation hood may get clogged with leaves and other objects that reduce the unit air capacity.

Check the outer ventilation hood twice a year and clean it as often as required.

Cleaning of the outer ventilation hood:

- remove the front part of the outer ventilation hood:
- clean the outer ventilation hood and the air duct.

TROUBLESHOOTING

Fault	Possible reasons	Fault handling
The fan does not start when the unit is on.	No power supply.	• Make sure of correct power supply, otherwise troubleshoot the connection error.
	Jammed motor, soiled impeller blades.	• Turn the unit off. • Troubleshoot the motor jam and the impeller clogging. Clean the blades. • Restart the unit.
Automatic switch tripping during the unit start.	Short circuit in power grid as a result of short circuit.	• Turn the unit off. • Contact the seller.
Low air flow.	Low set fan speed.	• Set higher speed.
	The filter, the fan or the regenerator are soiled.	• Clean or replace the filter. • Clean the fan and the regenerator.
Noise, vibration.	The impeller is soiled.	• Clean the impeller.
	Loose screw connection of the unit casing or the outer ventilation hood.	• Tighten the screws of the unit or the outer ventilation hood.

ACCEPTANCE CERTIFICATE

Single-room reversible unit with heat and humidity recovery

VENTO V50-1 Pro		VENTO V50-1	
VENTO V50 -1 S Pro		VENTO V50 -1 S	

is recognizes as serviceable.

The unit complies with the requirements according to the EU norms and directives, to the relevant EU-Low Voltage Equipment Directives, EU-Directives on Electromagnetic Compatibility. We hereby declare that the following product complies with the essential protection requirements of Electromagnetic Council Directive 2004/108/EC, 89/336/EEC and Low Voltage Directive 2006/95/EC, 73/23/EEC and CE-marking Directive 93/68/EEC on the approximation of the laws of the Member States relating to electromagnetic compatibility.

This certificate is issued following test carried out on samples of the product referred to above.

Approval mark Manufacturing date _____

CONNECTION CERTIFICATE

The single-room reversible unit with heat and humidity recovery

VENTO V50-1 Pro		VENTO V50-1	
VENTO V50 -1 S Pro		VENTO V50 -1 S	

is connected to power mains in compliance with this operation manual requirements by the professional:

Company: _____

Name: _____

Date _____ **Signature** _____

WARRANTY CARD

VENTO V50-1 Pro		VENTO V50-1	
VENTO V50 -1 S Pro		VENTO V50 -1 S	

SELLER

SALES DATE

REPRESENTATIVE IN EU

BLAUBERG Ventilatoren GmbH
Aidenbachstr. 52a,
D-81379 Munich,
Germany

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