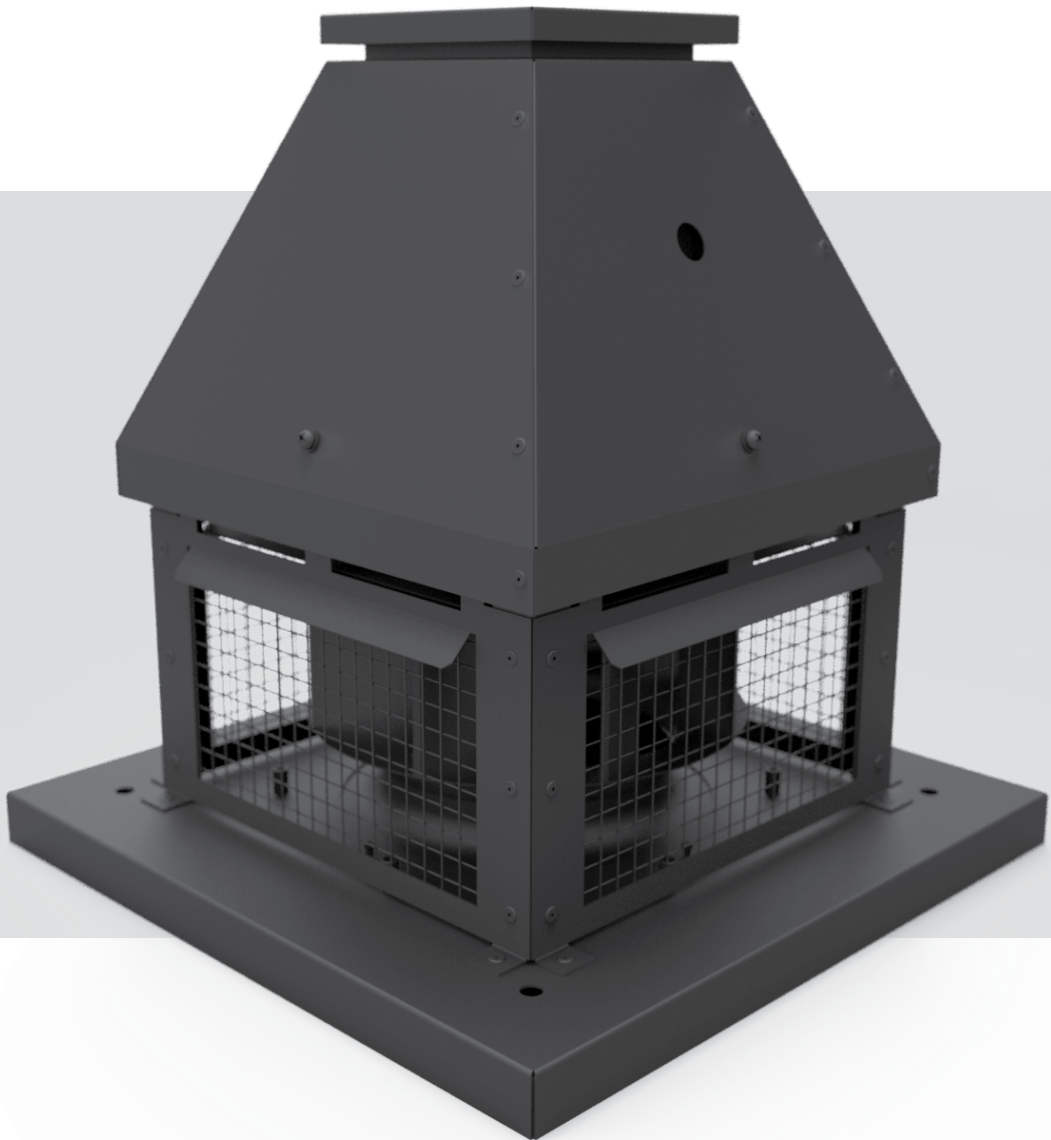


USER'S MANUAL

VKT Series



Roof-mounted
exhaust fan for fireplaces

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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 VKT 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 operations described in this manual must be performed by qualified personnel only, properly trained and qualified to install, make electrical connections and maintain ventilation units.

Do not attempt to install the product, connect it to the mains, or perform maintenance yourself. This is unsafe and impossible without special knowledge.

Disconnect the power supply prior to any operations with the unit.

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.

Connection of the unit to power mains is allowed by a qualified electrician with a work permit for the electric units up to 1000 V after careful reading of the present user's manual.

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 unit 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.

BEFORE INSTALLING ADDITIONAL EXTERNAL DEVICES, READ THE RELEVANT USER MANUALS.



THE PRODUCT MUST BE DISPOSED SEPARATELY AT THE END OF ITS SERVICE LIFE.

DO NOT DISPOSE THE UNIT AS UNSORTED DOMESTIC WASTE

PURPOSE

The roof-mounted centrifugal fan with horizontal air discharge is designed for both general ventilation and smoke extraction systems. The fan can withstand up to 5 hours of operation at smoke temperatures up to +200 °C.

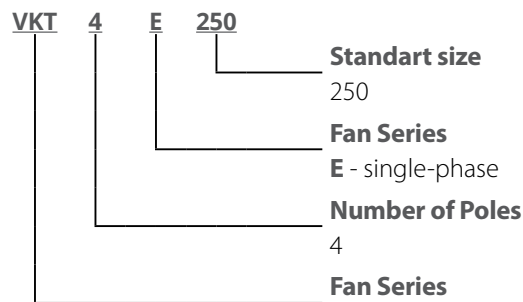


ATTENTION! THE FAN MUST ALWAYS BE SWITCHED ON DURING THE CHIMNEY OPERATION!

DELIVERY SET

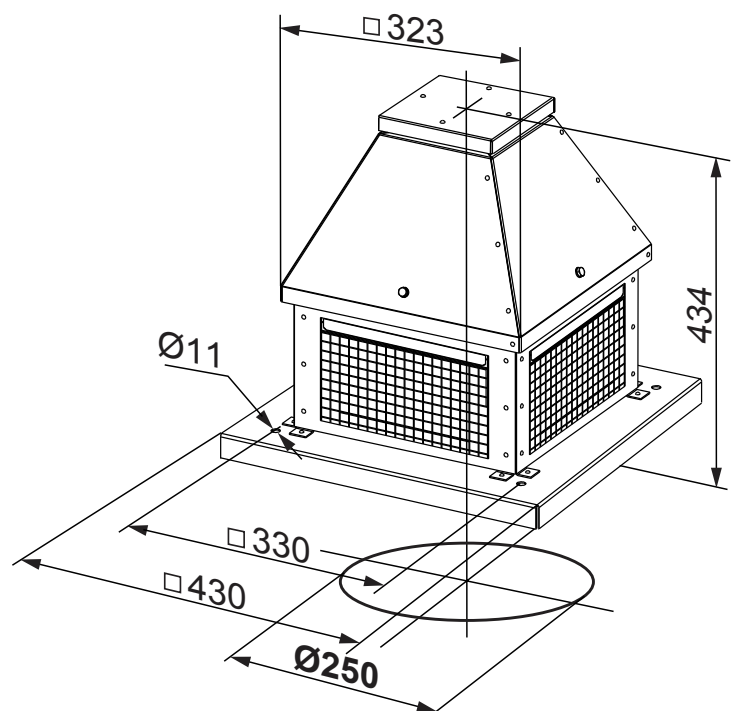
NAME	QUANTITY
Fan	1 piece
User's Manual	1 piece
Package box	1 piece

DESIGNATION KEY



TECHNICAL DATA

VENTS	VKT 4E 250
Voltage [V]*	1~ 230
Frequency [Hz]	50 Hz
Power [W]	171
Current [A]	0,84
Max. airflow [m ³ /h]	1022
Max. airflow [l/s]	284
RPM [min-1]	1489
Sound pressure level @3m [dB(A)]	52
Transported air temperature [°C]	-25... +200
Protection rating	IPX4
Motor protection rating	IP54



DESIGN AND OPERATING LOGIC

The fan casing is made of galvanized polymer coated and weather resistant steel. The fan has a protective grille to prevent accidental touching and penetration of foreign objects.

The metal frame is treated with a heat-resistant polymer coating for an extended service life and weather protection.

The fan is equipped with a 96 W single-phase asynchronous electric motor designed for 230 V / 50 Hz supply mains voltage. The fan has thermal insulation for high-temperature environments while the roller bearings ensure a long and trouble-free operation.

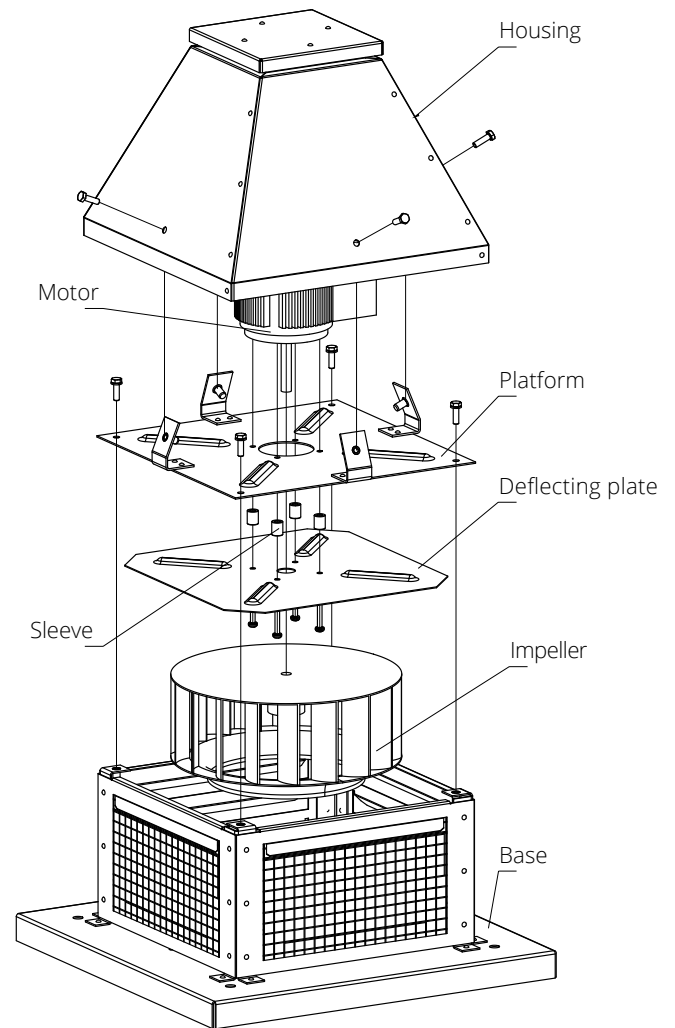
A specially designed impeller minimizes soot and carbon deposits for smooth operation.

The electric motor drives an impeller with backward-curved blades. The motor is offset from the handled air stream. The motor compartment is isolated from the air stream with an air cushion created between the deflecting plate and the deck. Any precipitation or dust which may penetrate from the top of the motor is blocked off by the protective housing with a sealed electric lead-in. The electric lead-in is not included in the delivery set and must be purchased separately. The electric lead-in must withstand the temperature up to +200 °C.

The housing ventilation openings ensure proper air circulation and removal of heat generated by the motor. The ventilation openings are arranged in such a way so as to prevent penetration of rainwater inside. The air is discharged horizontally through the service openings in the air grilles attached to the base. The air grille bars provide extra protection against precipitation.

WARNING!

The fan must be operated with the maximum speed at the transported air temperature exceeding +200 °C. At this temperature conditions the use of a speed controller is forbidden for fire safety reasons and for overheating prevention.

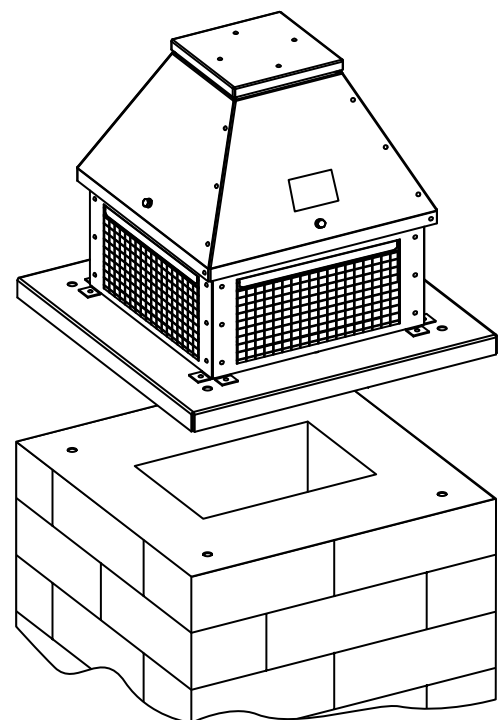


MOUNTING AND SET-UP

- Unpack the fan and check for any cuts in the electric wires and cracks in the insulation. Inspect the fan casing to make sure it is free from any cracks and deformations. Set the impeller in motion and check that it rotates freely without catching against the inlet flange and the casing.
- Prior to power mains connection make sure that the power mains parameters comply with the technical data on the fan sticker attached to the protective housing.

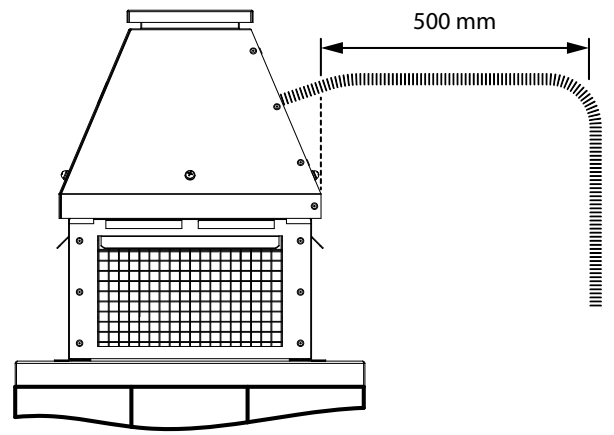
Fan installation on the chimney brick masonry:

Install the fan onto the chimney brick masonry and fix it through the holes in the fan base.

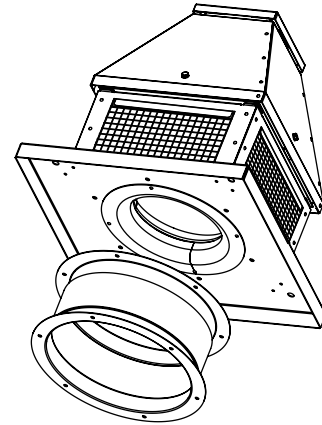
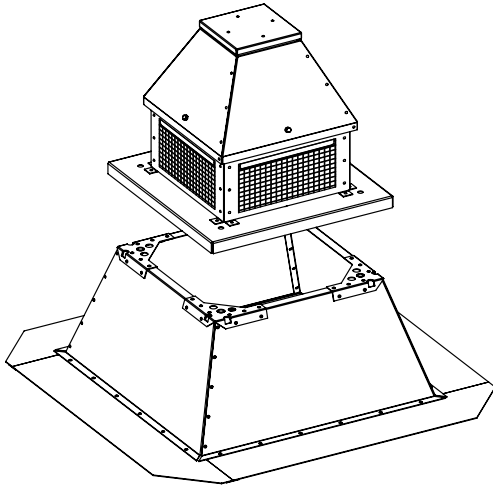


WARNING!

Pull the cable through the metal sleeve, which should be located at a distance of at least 500 mm from the air outlet of the fan.


Fan installation options in general ventilation systems:

- Roof-mounted fan attachment to frame (RKV 250-310 model, ordered separately).
- Round duct attachment to the fan via a flexible connector (GKV 250-315 model, ordered separately).



For general ventilation only!
Do not use for smoke extraction!

Note:

The upper part of the chimney may differ in size from the fan base. However, if the chimney cross-section is below 15x15 cm or the equivalent diameter is below 17 cm the chimney may not function properly resulting in an insufficient draught.

CONNECTION TO POWER MAINS

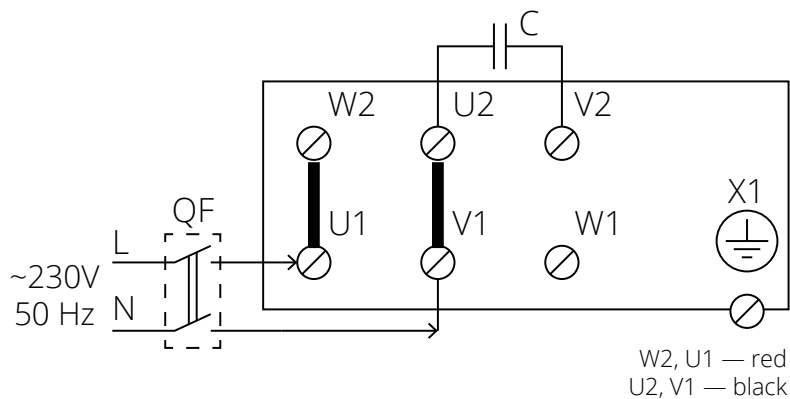


DISCONNECT THE POWER SUPPLY PRIOR TO ANY OPERATIONS WITH THE UNIT.

CONNECTION OF THE UNIT TO POWER MAINS IS ALLOWED BY A QUALIFIED ELECTRICIAN WITH A WORK PERMIT FOR THE ELECTRIC UNITS UP TO 1000 V AFTER CAREFUL READING OF THE PRESENT USER'S MANUAL.

THE RATED ELECTRICAL PARAMETERS OF THE UNIT ARE GIVEN ON THE MANUFACTURER'S LABEL.

The fan is rated for connection to 230 V/ 50 Hz single-phase alternating current mains. The fan connections (cables and wires) must be durable, insulated and heat-resistant. The location of the QF external circuit breaker must ensure free access for quick shutdown of the fan. The recommended rated trip current of the circuit breaker is 1 A, the recommended minimum conductor cross-section is 0.75 mm². The conductor section selection shall be based on the maximum permissible wire heating which depends on the wire type, its insulation, length and installation method. The power lead quality and installation must ensure failsafe durable fan operation. The electrical connections must be terminated on the terminal block located inside the fan casing in accordance with the wiring diagram and the terminal designations.



ENSURE PROPER AND SAFE GROUNDING!

The wiring diagrams and rotation direction stickers are located inside the terminal box.

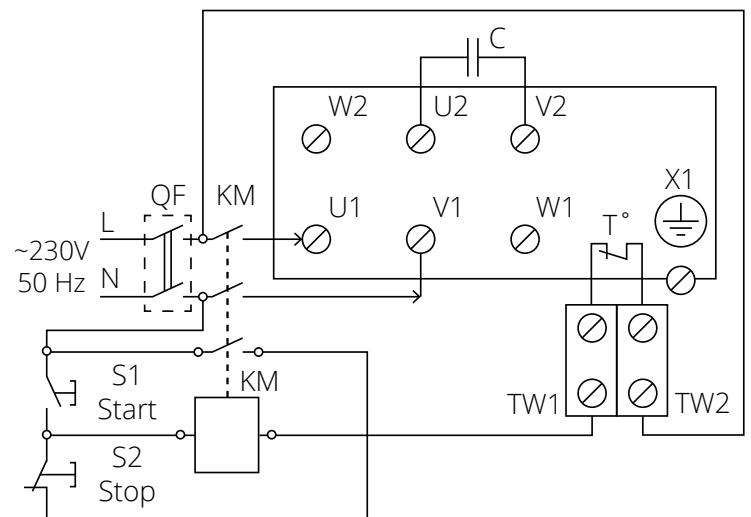
Attention! Connect the fan to power supply in compliance with the wiring diagram shown on the figure on the right.

The recommended wiring diagram example with a motor overheating protection is shown on the figure.

The terminals TW1, TW2 are leaded outside from the normally closed contact of the motor overheating protection. This contact must be connected in series to the power supply circuit of the coil of the magnetic starter KM (U_{power} = 230 V, I = 10 A) that activates the motor after pressing the S1 button.

In case of the motor overheating the contact opens and disconnects the starter coil to cut off power supply to the motor and stop it.

The automatic circuit breaker QF, the magnetic starter KM, the control buttons S1 and S2 are not included in the delivery set and must be installed by the user.



- X1: fan terminal block
- C1: capacitor
- QF: automatic circuit breaker
- KM: motor starter
- S1, S2: control buttons
- (QF, KM, S1, S2 are not included in the delivery set)

MAINTENANCE

Maintenance means regular cleaning of the unit surfaces of dust. To remove dust use a soft brush, cloth or a vacuum cleaner. Do not use water, abrasive detergents, solvents, sharp objects. Clean the impeller blades every 6 months. To clean the impeller use a warm detergent solution, but make sure to keep the water off the electric motor.

TROUBLESHOOTING

Problem	Possible reasons	Troubleshooting
The fan does not start on power-up.	No electric power.	Check the electrical connections and the power switch status.
	Motor jamming.	Turn the fan off. Troubleshoot the impeller clogging. Switch the fan back on.
The circuit breaker activates upon the unit power-up.	The automatic circuit breaker is triggered by an abnormally high current consumption due to a short circuit.	Disconnect the fan from the power mains and contact the service centre. Do not switch off the fan until the malfunction has been troubleshooted!
Low air flow.	Clogging of air ducts or other ventilation system elements due to contamination. Impeller contamination. Damaged air ducts. Closed air dampers.	Clean the air ducts and other ventilation system elements as well as the impeller. Check the air ducts for damage. Make sure that the air dampers and louvre shutters are open.
Excessive noise or vibration.	Loose threaded joints, contaminated impeller.	Clean the fans. Tighten any loose threaded joints.
	Worn out bearings, foreign objects in the impeller.	Contact the service centre.
	Unstable electric power supply or electric motor malfunction.	Contact the service centre.

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 dismantled 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.

The manufacturer shall not accept any claims with regards to the condition of the paint-and-lacquer coating (hereinafter PLC) in the following cases:

- Dents, cracks, scratches and abrasions of the PLC sustained during handling, mounting and assembly operations.
- Progress of corrosion on areas damaged with stones, sand, and roof coat tar during the performance of roofing work.
- Signs of direct exposure of the PLC to excessive temperatures, which occurred during the performance of roofing work.
- Violation of regulations on transportation, storage, installation, and operation of the unit.
- Presence of damage caused by exposure to industrial and chemical emissions, acidic or alkaline pollution, sap or other factors not related to normal operating conditions.



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



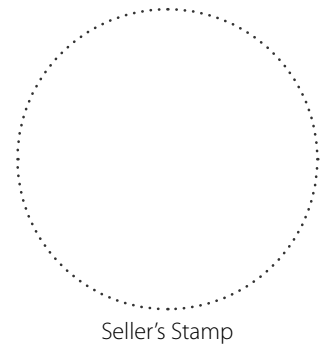
USER'S WARRANTY CLAIMS SHALL BE SUBJECT TO REVIEW ONLY UPON PRESENTATION OF THE UNIT, THE PAYMENT DOCUMENT AND THE USER'S MANUAL WITH THE PURCHASE DATE STAMP

CERTIFICATE OF ACCEPTANCE

Unit Type	Duct rectangular smoke extraction fan
Model	
Serial Number	
Manufacture Date	
Quality Inspector's Stamp	

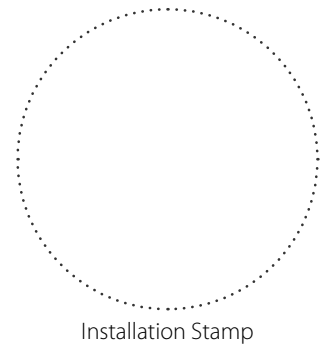
SELLER INFORMATION

Seller	
Address	
Phone Number	
E-mail	
Purchase Date	
This is to certify acceptance of the complete unit delivery with the user's manual. The warranty terms are acknowledged and accepted.	
Customer's Signature	



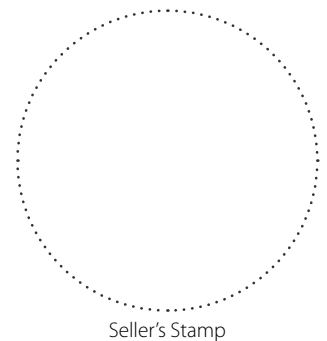
INSTALLATION CERTIFICATE

The _____ unit is installed pursuant to the requirements stated in the present user's manual.	
Company name	
Address	
Phone Number	
Installation Technician's Full Name	
Installation Date:	Signature:
The unit has been installed in accordance with the provisions of all the applicable local and national construction, electrical and technical codes and standards. The unit operates normally as intended by the manufacturer.	
Signature:	



WARRANTY CARD

Unit Type	Duct rectangular smoke extraction fan
Model	
Serial Number	
Manufacture Date	
Purchase Date	
Warranty Period	
Seller	





VENTS

