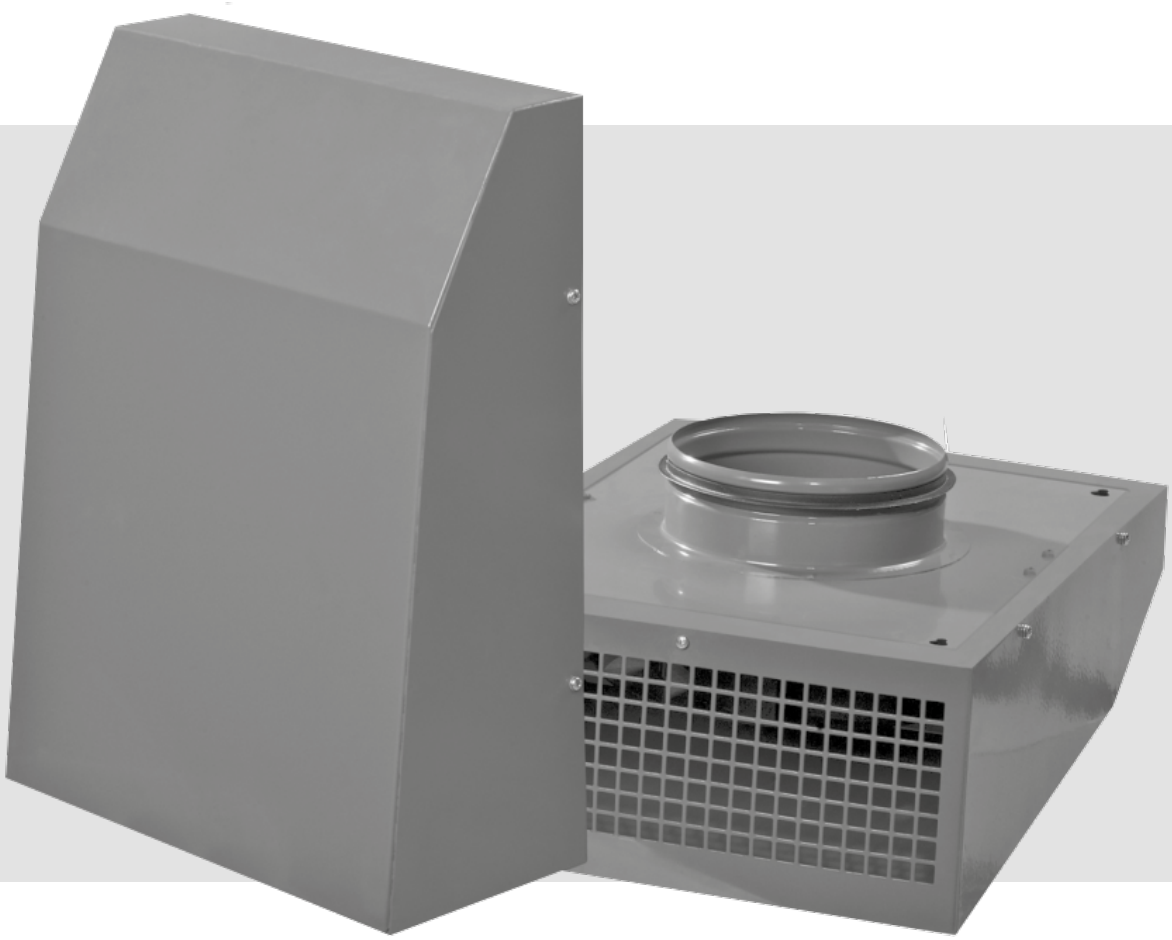
USER'S MANUAL

VCN 100	**VCN 125**	**VCN 150**	**VCN 160**	**VCN 200**
VCN 100 K	**VCN 125 K**	**VCN 150 K**	**VCN 160 K**	**VCN 200 K**
VCN 100 EC	**VCN 125 EC**	**VCN 150 EC**	**VCN 160 EC**	**VCN 200 EC**
				VCN 200 EC C



Centrifugal fan

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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 VCN/VCN EC 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

This unit 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 unit by a person responsible for their safety.
Children should be supervised to ensure that they do not play with the unit.
This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved.
Cleaning and user maintenance shall not be done by children without supervision.
Children shall not play with the appliance.

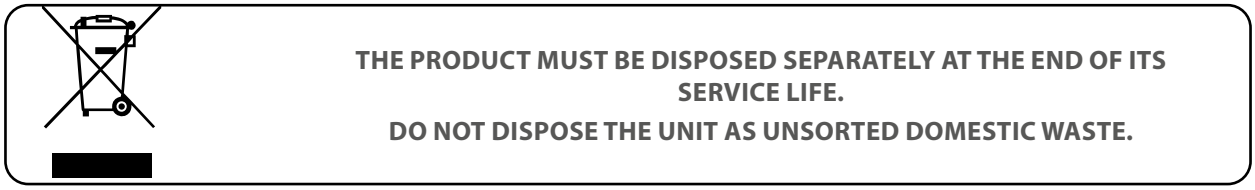
Connection to the mains must be made through a disconnecting device, which is integrated into the fixed wiring system in accordance with the wiring rules for design of electrical units, and has a contact separation in all poles that allows for full disconnection under overvoltage category III conditions.

Ensure that the unit 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 appliance may adversely affect the safe operation of appliances burning gas or other fuels (including those in other rooms) due to back flow of combustion gases. These gases can potentially result in carbon monoxide poisoning. After installation of the unit the operation of flued gas appliances should be tested by a competent person to ensure that back flow of combustion gases does not occur.

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.
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.
Do not install or use the product until all construction and finishing work has been completed in the room where it is to be installed.
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

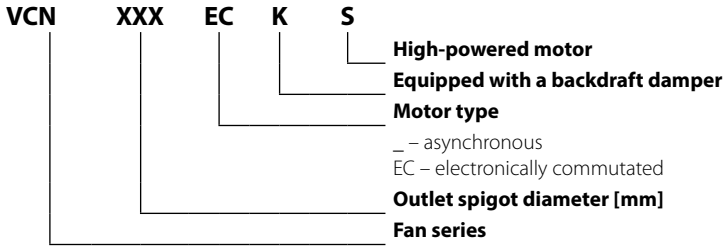
THE UNIT CAN BE USED IN KITCHEN SPACES ONLY IF THERE IS A GREASE FILTER. INSTALL A KITCHEN HOOD WITH A GREASE FILTER IF AIR IS EXTRACTED FROM THE COOKING SURFACE.

The VCN/VCN EC centrifugal fans are designed for exhaust ventilation of living spaces, offices, shops, garages, kitchens, bathrooms and other residential and public premises.
The unit is not intended for organizing ventilation in swimming pools, saunas, greenhouses, summer gardens, and other spaces with high humidity.
The fans are designed for vertical mounting at ventilation shaft outlets and are rated for continuous operation.
The unit is rated as a class I electric appliance.
Ingress protection rating against access to hazardous parts and water ingress – IPX4.
The minimum operating temperature of the transported air is -25 ° C, for a short time - up to -30 ° C, the maximum permissible temperature is up to +50 ° C.
Transported air must not contain dust and other solid impurities, sticky substances and fibrous materials.
The fan design is constantly being improved, thus some models may be slightly different from those described in this manual.

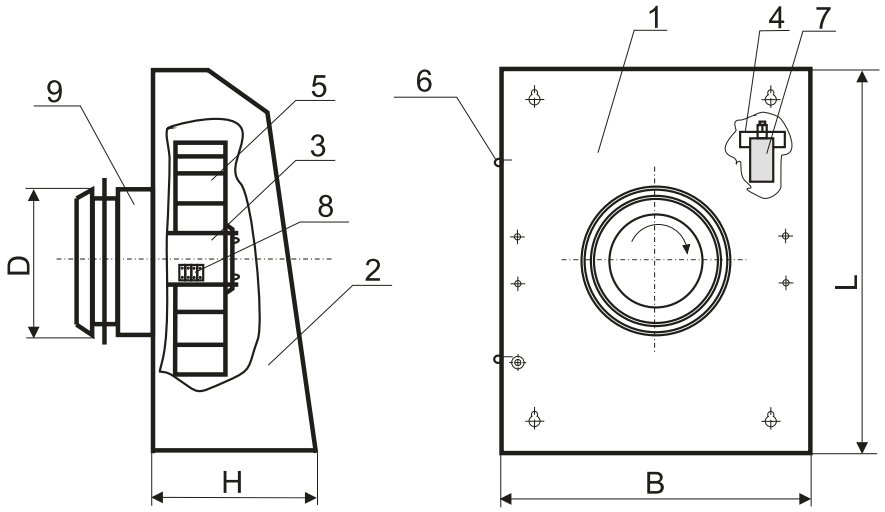
DELIVERY SET

Name	Number
Fan	1 pc.
Dowel with a screw	4 pcs.
User's manual	1 pc.
Packing box	1 pc.

DESIGNATION KEY



TECHNICAL DATA



Fan design

The fan consists of a casing 1 with a cover 2 that is attached by screws 6. The right-hand turbine 5 is installed inside the casing on brackets 3, 4 (not available in VCN EC modifications), a condenser 7 (not available in VCN EC modifications) and a terminal block 8 for connection to single-phase power mains. The casing is equipped with an intake spigot 9 (VCN K modification is equipped with a backdraft damper) for connection to an air duct.

Overall and connecting dimensions

	D	L	B	H	Weight [kg]
VCN 100/VCN 100 EC	100	355	260	140	3.60
VCN 125/VCN 125 EC	125	355	260	140	3.60
VCN 150/VCN 150 EC	150	400	300	140	4.70
VCN 160/VCN 160 EC	160	400	300	140	4.70
VCN 200/VCN 200 EC	200	400	300	140	4.70
VCN 200 EC C	200	400	326	182	5.3

Technical data

	VCN 100/VCN 100 K	VCN 125/VCN 125 K	VCN 150/VCN 150 K	VCN 160/VCN 160 K	VCN 200/VCN 200 K	VCN 100/VCN 100 K	VCN 125/VCN 125 K	VCN 150/VCN 150 K	VCN 160/VCN 160 K	VCN 200/VCN 200 K
Voltage [V]	1~230 (50 Hz)					1~230 (60 Hz)				
Power [W]	71	75	96	95	96	92	98	100	96	97
Current [A]	0.31	0.33	0.42	0.41	0.42	0.40	0.43	0.44	0.42	0.42
Air flow [m^3/h]	325 (295*)	485 (450*)	630 (565*)	650 (590*)	700 (640*)	350 (320*)	500 (465*)	650 (595*)	685 (625*)	710 (650*)
RPM [min^{-1}]	2530	2475	2400	2440	2515	2625	2570	2270	2400	2555
Sound pressure level at 3 m distance [dBA]	54	54	58	60	62	54	54	58	60	62
Transported air temperature [°C]	-25...+40									

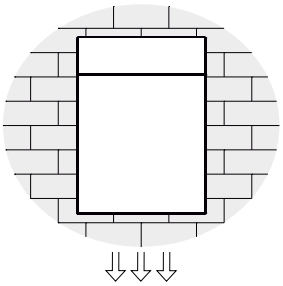
*For VCN XXX K models

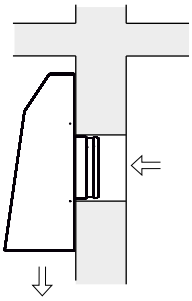
	VCN 100 EC	VCN 125 EC	VCN 150 EC	VCN 160 EC	VCN 200 EC	VCN 200 EC C
Unit voltage [V (50 (60) Hz)]	1~230					
Power [W]	89	103	92	92	79	102
Current [A]	0,53	0,83	0,75	0,75	0,67	0,86
Air flow [m^3/h]	313	480	550	585	535	755
RPM [min^{-1}]	3460	3600	2840	2840	2680	2800
Sound pressure level at 3 m distance [dBA]	55	57	56	55	55	58
Transported air temperature [°C]	-25...+40					

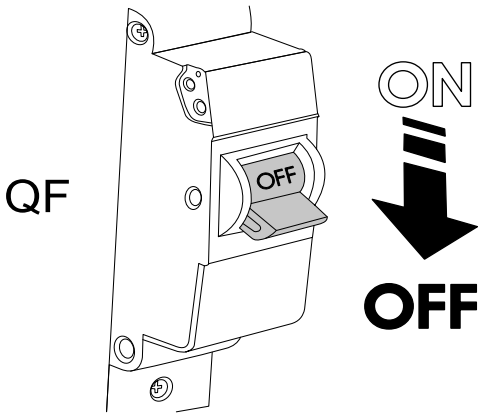
MOUNTING AND SET-UP

READ THE USER'S MANUAL BEFORE INSTALLING THE UNIT

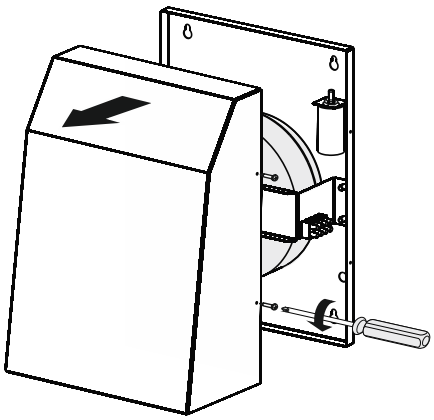
The fans must be mounted vertically. While installing the unit ensure convenient access for subsequent maintenance and repair. The fan must be mounted on a plane wall.
CAUTION! When installing outdoors, it is necessary to install a canopy above the fan to protect it against atmospheric influences.



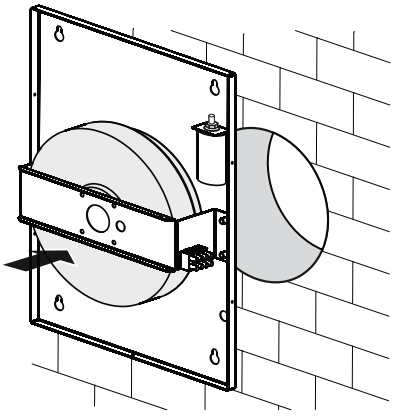




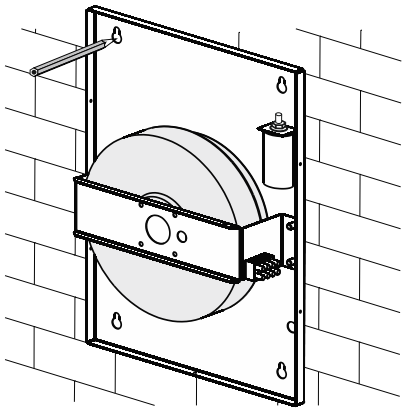
Set the circuit breaker to OFF.



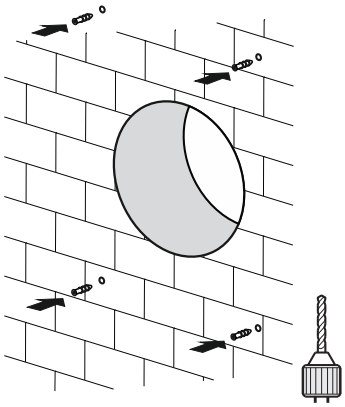
Unscrew self-tapping screws and remove the cover.



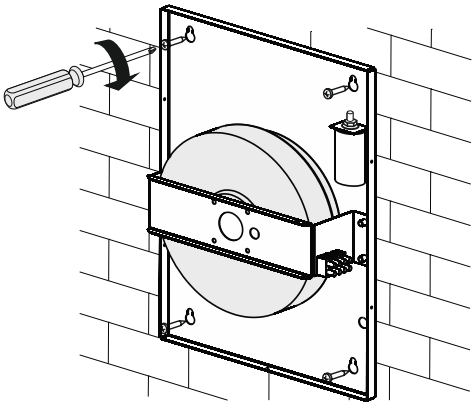
Attach the fan to the installation site.



Mark the mounting holes.



Drill the holes and insert the dowels.



Secure the fan by routing the power cable through the cable gland.

CONNECTION TO POWER MAINS

DISCONNECT THE UNIT FROM POWER MAINS PRIOR TO ANY OPERATIONS.
THE UNIT MUST BE CONNECTED TO POWER MAINS BY A QUALIFIED ELECTRICIAN.
THE RATED ELECTRICAL PARAMETERS OF THE UNIT ARE SHOWN ON THE RATING PLATE.

ANY TAMPERING WITH THE INTERNAL CONNECTIONS IS PROHIBITED AND WILL VOID THE WARRANTY.

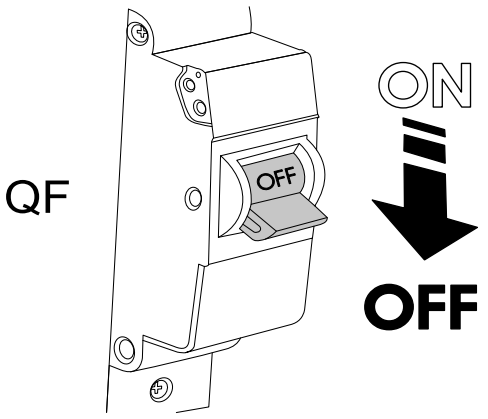
The fan is rated for connection to single-phase AC 220-230 V/50 (60) Hz power mains. For electric installations use insulated durable heat-resistant wires with the minimum wire cross section 1 mm^2.

The actual conductor cross-section selection must be based on its type, the maximum permissible heating, insulation, length and installation method. The external power input must be equipped with an automatic circuit breaker built into the stationary wiring to open the circuit in the event of overload or short-circuit.

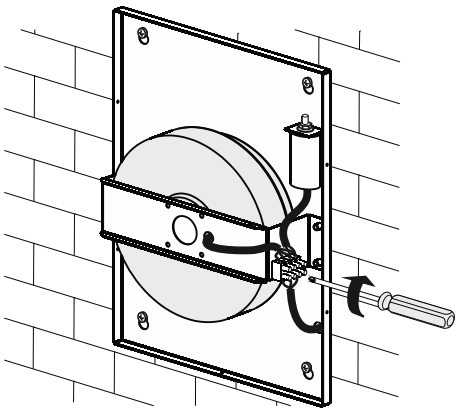
The circuit breaker location must ensure free access for quick shutdown of the fan.

Connect the fan to the terminals located inside the fan casing in compliance with the fan wiring diagram and the terminal designation.

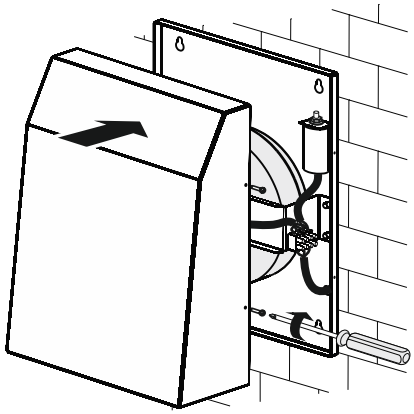
The terminal designations are shown on the sticker inside the fan casing.



Disconnect the fan from power supply.

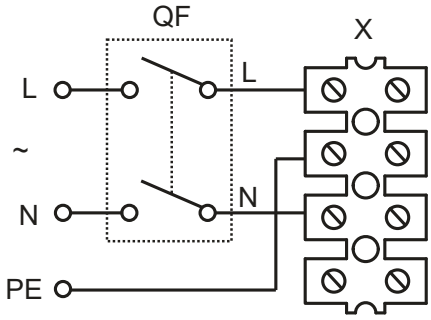


Connect the power cable to the terminal block according to the diagram.

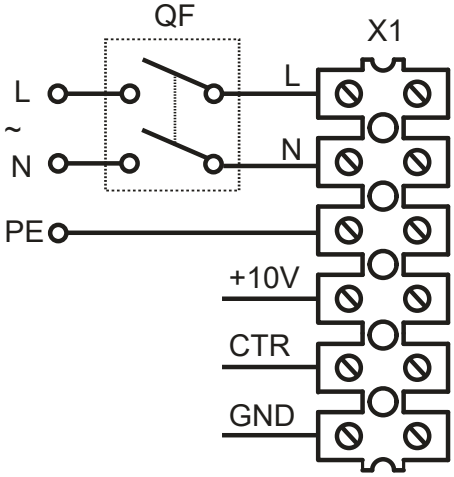


Put on the cover and tighten the screws.

Wiring diagram of the fan with an asynchronous motor



Wiring diagram of the fan with an EC motor

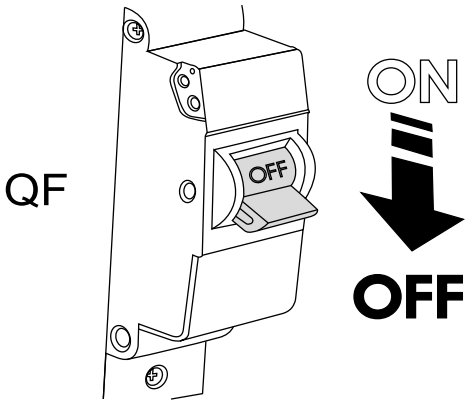


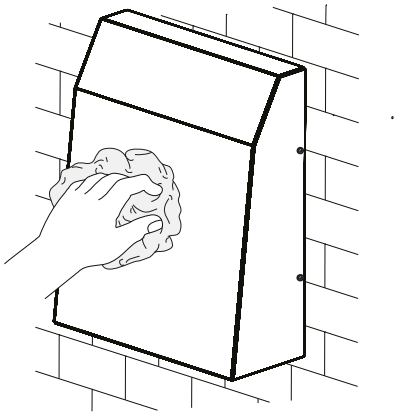
For the operation of the EC motor, it is necessary to install a speed controller (not included in the delivery set) or to short-circuit the contacts + 10V and CTR (the fan will run at maximum speed).

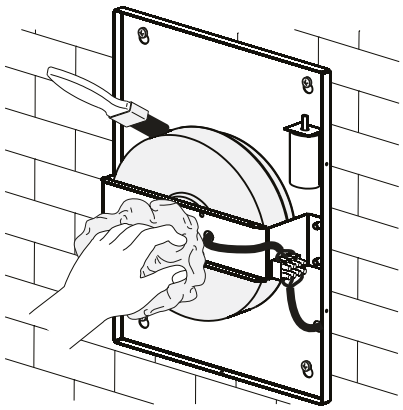
TECHNICAL MAINTENANCE

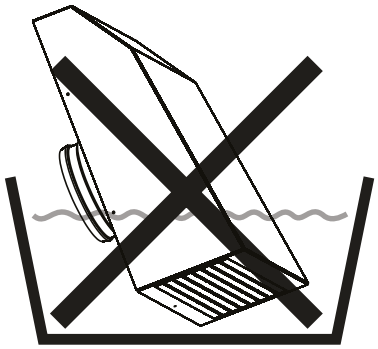
DISCONNECT THE UNIT FROM POWER SUPPLY BEFORE ANY MAINTENANCE OPERATIONS!

Maintenance means regular cleaning of the fan surfaces from dust and dirt. Use a soft dry brush or a vacuum cleaner to remove dust. The blades require thorough cleaning once in 6 months.
The filter prevents the fan soiling and reduces the cleaning periodicity. To clean the fan undo the self-tapping screws and remove the fan cover. Clean the impeller blades with a cloth wetted in water and mild detergent solution. Avoid liquid dripping on the motor! After cleaning the impeller, install the cover back and tighten the screws.









STORAGE AND TRANSPORTATION REGULATIONS

- Store the unit in the manufacturer's original packaging box in a dry closed ventilated premise with temperature range +5 ˚...+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.
- Damage to the unit casing 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

CERTIFICATE OF ACCEPTANCE

Unit Type	Centrifugal 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	

Seller's Stamp

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:		

Installation Stamp

WARRANTY CARD

Unit Type	Centrifugal fan
Model	
Serial Number	
Manufacture Date	
Purchase Date	
Warranty Period	
Seller	

Seller's Stamp

Manufacturer: Ventilation Systems LLC,
Ukraine, Kyiv, 1 M. Kotsyubynskoho Street
Address of production facilities:
Ukraine, Kyiv Region, Fastiv District,
Boyarka, 36 Sobornosti Street

V06EN-04