USER'S MANUAL

VKMz 100 EC
VKMz 125 EC
VKMz 150 EC
VKMz 160 EC
VKMz 200 EC
VKMz 250 EC
VKMz 315 EC

Centrifugal inline 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 VKMz 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.
Fixing means for attachment to the ceiling such as hooks or other devices shall be fixed with a sufficient strength to withstand 4 times the weight of the appliance.
The mounting of the suspension system shall be performed by the manufacturer, its service agent or suitably qualified persons.
The appliance is to be installed so that the blades are more than 2.3m (2.1 m AU) above the floor.

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

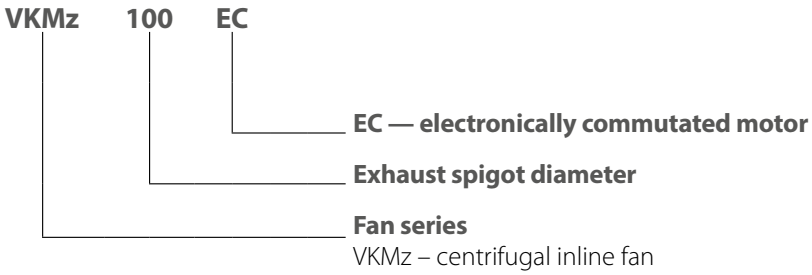
The VKMz EC centrifugal fans are designed for ventilation of domestic, public and manufacturing premises heated during winter.
The transported air temperature must be within the limits stated in the «Technical data» section.
The fan is designed for horizontal or vertical mounting in an air duct and is used both for supply and exhaust ventilation.
Transported air must not contain any flammable or explosive mixtures, evaporation of chemicals, sticky substances, fibrous materials, coarse dust, soot and oil particles or environments favourable for the formation of hazardous substances (toxic substances, dust, pathogenic germs).

THE UNIT MUST NOT BE OPERATED IN COOKING AREAS.

DELIVERY SET

NAME	NUMBER
Fan	1 pc.
User's manual	1 pc.
Packing box	1 pc.

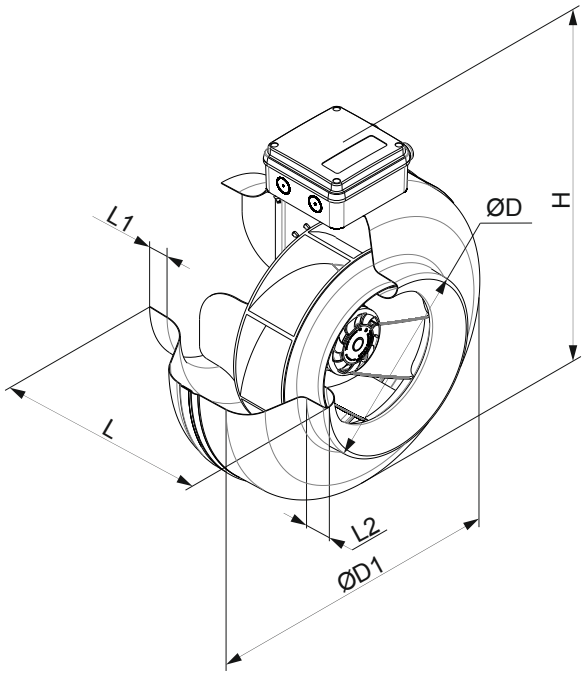
DESIGNATION KEY



To comply with the ErP 2018 regulation, a local demand controller and speed controller must be used.

TECHNICAL DATA

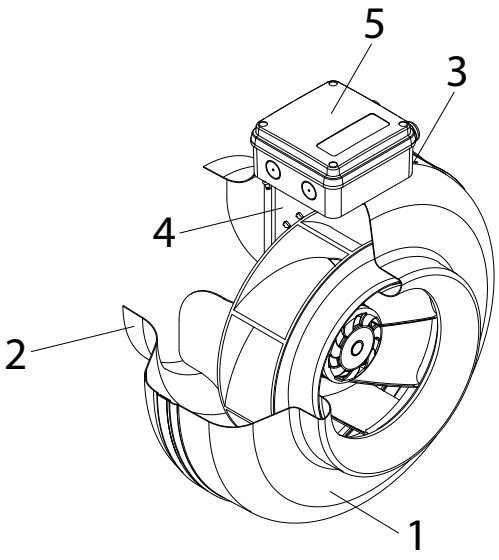
Permitted deviation of mains voltage: ±10 % of the rated voltage.
The fan must be grounded.
Ingress protection rating against access to hazardous parts and water ingress is IPX4.
The unit design is constantly being improved, thus some models, their wiring diagrams and terminal symbols may be slightly different from those described in this manual.



Model	Dimensions [mm]						Weight [kg]
	ø D	ø D1	H	L	L1	L2	
VKMz 100 EC	99	245	300	195	20	20	2.5
VKMz 125 EC	124	245	300	190	20	20	2.5
VKMz 150 EC	149	275	330	170	20	20	2.7
VKMz 160 EC	159	275	330	170	20	20	2.7
VKMz 200 EC	198	345	400	245	25	25	3.9
VKMz 250 EC	248	345	400	245	25	30	4,5
VKMz 315 EC	313	405	460	245	25	30	5,3

DESIGN AND OPERATING PRINCIPLE

The fan consists of the casing 1, the electric motor attached to the inner fixing bracket 4, the cover 2 that is fixed to the casing with screws 3 (the casing spigot diameter and the cover diameter are equal to the connected air duct diameter), the terminal box 5 that incorporates a terminal block and a capacitor and enables connection of the fan to single-phase power mains.

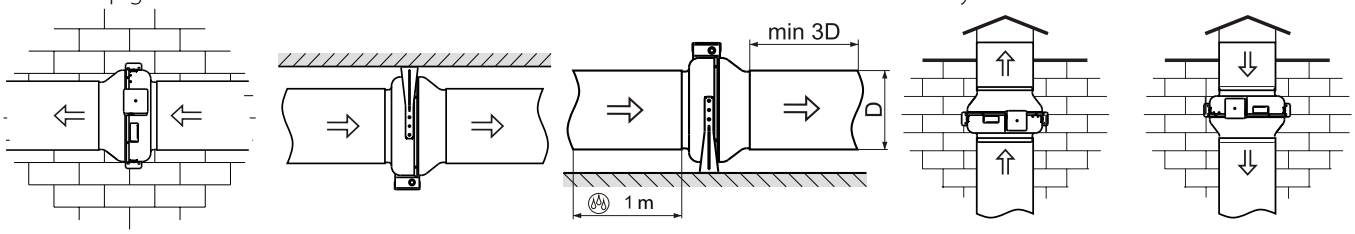


MOUNTING AND SET-UP

The fans are designed for vertical or horizontal mounting. They are fastened using either air duct holders or mountking kit MK VKMz (neither is included in the delivery set).

Air motion in the system must be in compliance with the direction of the arrow on the fan casing.

Install a hood on outlet (discharge) spigot side in case of the vertical fan installation. Provide a straight air duct section at least 1 m long on the intake spigot side in case of horizontal fan installation with maximum allowable humidity.



Mounting sequence:

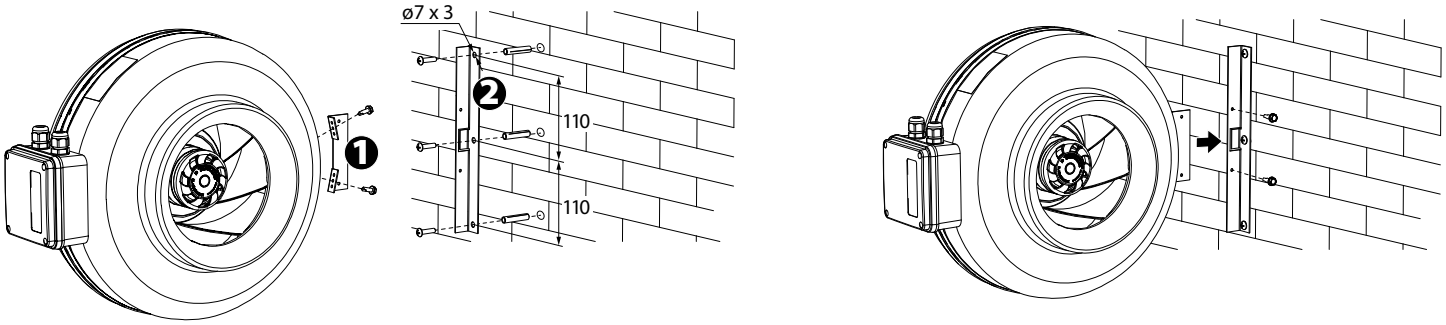
Attach bracket 1 from the mounting kit to the fan casing at the required point using screws from the kit.

Drill holes through the surface for mounting to match those of the mounting bracket 2. Attach the bracket 2 using screws 5.5 DIN7981 or other screws with dowels.

Connect the brackets 1 and 2 using screws provided in the kit.

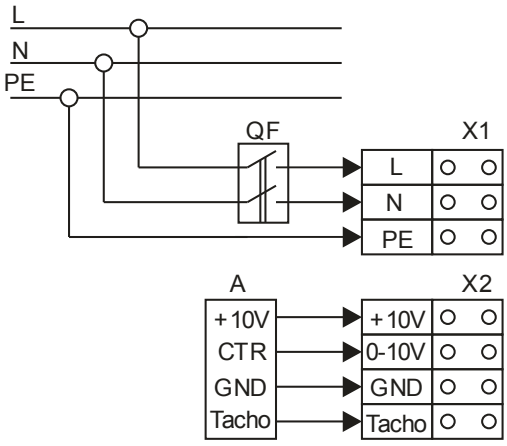
Connect the matching air ducts to the fan and secure them with clamps.

The mounting kit is not included in the delivery set.



CONNECTION TO POWER MAINS

The unit is designed for connection to power mains with the parameters specified in the technical data table.
The fan shall be connected to power supply by means of insulated, durable and thermal-resistant cords (cables, wires) through the external circuit breaker with a thermal-magnetic trip built into the stationary wiring to disconnect all the power mains phases.
The rated current must be not below the rated current consumption (refer to the «Technical data» section).
The QF external switch location must ensure free access for quick shutdown of the fan.
The recommended circuit breaker nominal current is 1 A.
The recommended wire cross section is 0.75 mm².
The actual conductor cross-section selection must be based on its type, the maximum permissible heating, insulation, length and installation method (in the air, pipes or inside walls).
Connect the cables to the terminal block incorporated inside the terminal box located on 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.



TECHNICAL MAINTENANCE

Technical maintenance means regular cleaning of the unit surfaces of dust. Use a soft brush or compressed air to remove dust.
Clean the impeller blades at least every 6 months.
Installation of an air filter prolongs the interval between the cleaning, to perform the cleaning first remove the screws and the fan cover.
Wipe the impeller blades with a cloth wetted in a mild detergent solution. Avoid water dripping on the electric motor!
After cleaning of the impeller install the cover and tighten the screws.

TROUBLESHOOTING

Problem	Possible reasons	Troubleshooting
When switching on the unit the fan does not start.	No power supply.	Check the electrical connections and the power switch status.
	Motor jamming.	Turn off the fan. Troubleshoot the impeller jamming. Restart the fan.
Circuit breaker tripping during the fan start.	The automatic circuit breaker is triggered by an abnormally high current consumption due to a short circuit.	Disconnect the fan from power mains and contact the Seller. Do not turn on the fan again!
Low air flow.	Clogging of air ducts or other ventilation system elements. Impeller clogging. Damaged air ducts. Air damper closure.	Clean the air ducts and other ventilation system elements as well as the impeller. Check the air ducts for damage. Make sure the air dampers and louvre shutters are open.

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 inline 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 inline 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

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