

VKM 100 E
VKM 100
VKM 125 E
VKM 125
VKM 150 E
VKM 150

VKM 200 E
VKM 200
VKMS 200
VKM 250 E
VKM 250
VKM 305 E

VKM 305
VKMS 305
VKM 355 Q
VKM 400
VKM 450



Centrifugal inline fans

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This user's manual is the primary operating document intended for technical, maintenance and operations staff.

The user's manual contains information regarding the field of application, delivery package, operating principle, and design of the VKM fan and all its modifications.

Technical and maintenance staff must have proper theoretical knowledge and practical training specific to ventilation systems as well as the necessary skills to carry out the work in accordance with labour safety and construction regulations and standards applicable in the respective territory.

The information provided in the present document is true as at the document preparation.

Due to the continuous product development the company reserves the right to update the technical specifications, design or delivery package of its products.

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SAFETY REQUIREMENTS

- Please read the user's manual carefully prior to installing and operating 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.
- The warnings contained in the user's manual must be considered most seriously since they contain vital personal safety information.
- Failure to follow the rules and safety precautions noted in this user's manual may result in an injury or unit damage.
- After a careful reading of the manual, keep it for the entire service life of the unit.
- While transferring the unit control, the user's manual must be turned over to the receiving operator.

UNIT INSTALLATION AND OPERATION SAFETY PRECAUTIONS



- Disconnect the unit from power mains prior to any installation operations.



- Unpack the unit with care.



- The unit must be grounded!



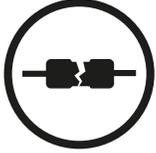
- While installing the unit, follow the safety regulations specific to the use of electric tools.



- Do not change the power cable length at your own discretion. Do not bend the power cable. Avoid damaging the power cable. Do not put any foreign objects on the power cable.



- Do not lay the power cable of the unit in close proximity to heating equipment.



- Do not use damaged equipment or cables when connecting the unit to power mains.



- Do not operate the unit outside the temperature range stated in the user's manual. Do not operate the unit in aggressive or explosive environments.



- Do not touch the unit controls with wet hands. Do not carry out the installation and maintenance operations with wet hands.



- Do not wash the unit with water. Protect the electric parts of the unit against ingress of water.



- Do not allow children to operate the unit.



- Disconnect the unit from power mains prior to any technical maintenance.



- Do not store any explosive or highly flammable substances in close proximity to the unit.



- When the unit generates unusual sounds, odour, or emits smoke, disconnect it from power supply and contact the Seller.



- Do not open the unit during operation.



- Do not direct the air flow produced by the unit towards open flame or ignition sources.



- Do not block the air duct when the unit is switched on.



- In case of continuous operation of the unit, periodically check the security of mounting.



- Do not sit on the unit and avoid placing foreign objects on it.



- Use the unit only for its intended purpose.



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

PURPOSE

The VENTS VKM 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 UNIT SHOULD NOT BE OPERATED BY CHILDREN OR PERSONS WITH REDUCED PHYSICAL, MENTAL, OR SENSORY CAPACITIES, OR THOSE WITHOUT THE APPROPRIATE TRAINING.

THE UNIT MUST BE INSTALLED AND CONNECTED ONLY BY PROPERLY QUALIFIED PERSONNEL AFTER THE APPROPRIATE BRIEFING.

THE CHOICE OF UNIT INSTALLATION LOCATION MUST PREVENT UNAUTHORIZED ACCESS BY UNATTENDED CHILDREN.



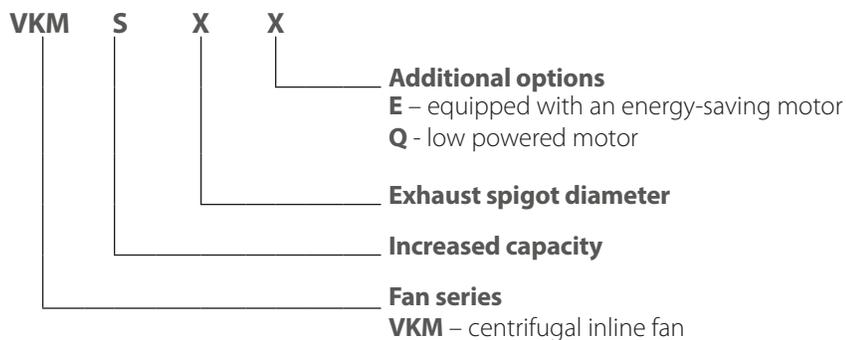
THE UNIT MUST NOT BE OPERATED IN KITCHEN PREMISES.

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).

DELIVERY SET

NAME	NUMBER
Fan	1 pc.
Outer mounting bracket for VKM fans	2 pcs.
Outer mounting bracket for VKM E fans	1 pc.
User's manual	1 pc.
Packing box	1 pc.

DESIGNATION KEY



TECHNICAL DATA

Permitted deviation of mains voltage: $\pm 10\%$ of the rated voltage. The fan must be grounded.
 Ingress protection rating against access to hazardous parts and water ingress is IPX4.

Model	[Volts/Hz]	Current* [Amp]	Power* [W]	RPM*	Energy Star compliant
VKM 100 E	120/60	0.22	25	3084	Yes
VKM 100		0.90	108	3000	No
VKM 125 E		0.22	26	3084	Yes
VKM 125		0.97	112	2950	No
VKM 150 E		0.44	51	3036	Yes
VKM 150		0.90	110	2400	No
VKM 200 E		0.75	89	3288	Yes
VKM 200		1.63	195	2520	No
VKMS 200		2.14	240	2745	No
VKM 250 E		1.20	144	2832	Yes
VKM 250		1.95	232	2516	No
VKM 305 E		1.22	146	2772	Yes
VKM 305		2.10	244	2981	No
VKMS 305		2.42	272	2320	No
VKM 355 Q	230/60	1.3	297	1620	No
VKM 400		3.05	673	1585	No
VKM 450		5.4	1250	1560	No

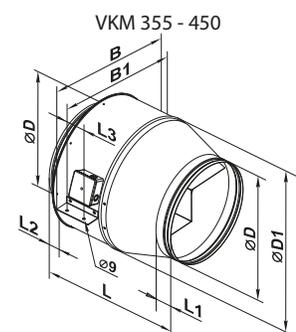
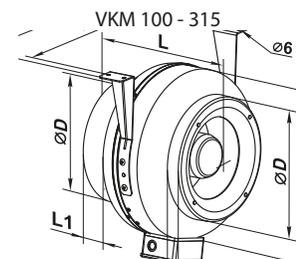
* The parameters Volts, Watts, Amps are indicated at 0.2 in WG static pressure

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	CFM vs Static Pressure (Ps) in WG											
	0	0.125	0.2	0.25	0.375	0.5	0.75	1.0	1.25	1.5	2.5	Max Ps
VKM 100 E	135	114	105	99	83	68	36	-	-	-	-	0.98
VKM 100	174	167	162	159	151	142	124	106	84	60	-	2.13
VKM 125 E	162	142	131	123	105	87	46	1	-	-	-	1.01
VKM 125	239	228	222	217	205	192	165	130	102	72	-	1.94
VKM 150 E	254	235	225	216	196	175	137	93	34	-	-	1.475
VKM 150	325	292	275	265	241	214	172	139	107	67	-	1.88
VKM 200 E	445	421	405	396	374	350	301	252	225	143	-	1.925
VKM 200	541	502	480	464	428	391	320	265	222	183	36	2.76
VKMS 200	657	640	632	625	608	590	550	498	434	370	112	2.80
VKM 250 E	680	655	631	610	587	535	426	323	284	194	-	2.375
VKM 250	678	638	613	599	550	479	408	340	292	248	90	3.00
VKM 305 E	695	650	625	610	575	520	405	315	248	180	-	2.30
VKM 305	784	756	738	727	698	669	611	542	480	428	168	3.25
VKMS 305	985	920	890	869	818	773	680	594	512	441	210	3.65
VKM 355 Q	1324	1283	1248	1224	1177	1118	1001	765	530	333	-	2.05
VKM 400	2060	2030	1989	1972	1913	1854	1707	1589	1413	1236	294	2.81
VKM 450	3696	3590	3531	3502	3414	3296	3060	2825	2578	2295	706	2.9

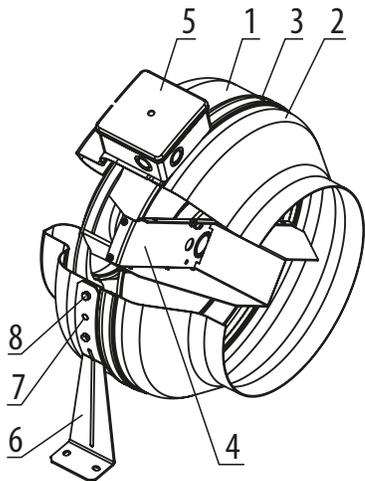
OVERALL AND CONNECTING DIMENSIONS

Model	Dimensions [mm]								Duct dia
	ØD	ØD1	B	B1	L	L1	L2	L3	
VKM 100 E	3 15/16	8	-	-	7 11/16	13/16	13/16	10 5/16	4
VKM 100	3 15/16	10	11 3/4	10 3/16	8 1/16	13/16	1	1 3/16	4
VKM 125 E	4 15/16	8	-	-	7 11/16	13/16	13/16	10 5/16	5
VKM 125	4 15/16	10	11 3/4	10 3/16	8 1/16	13/16	1	1 3/16	5
VKM 150 E	5 7/8	11 15/16	13 3/4	12 3/16	8 11/16	1	1	1 3/16	6
VKM 150	5 7/8	11 15/16	13 3/4	12 3/16	8 11/16	1	1	1 3/16	6
VKM 200 E	7 7/8	13 9/16	15 3/8	13 3/4	9 7/8	1	1 1/8	1 9/16	8
VKM 200	7 7/8	13 9/16	15 3/8	13 3/4	9 7/8	1	1 1/8	1 9/16	8
VKMS 200	7 7/8	13 9/16	15 3/8	13 3/4	9 7/8	1	1 1/8	1 9/16	8
VKM 250 E	9 13/16	13 9/16	15 3/8	13 3/4	9 3/16	1	1 1/4	1 9/16	10
VKM 250	9 13/16	13 9/16	15 3/8	13 3/4	9 3/16	1	1 1/4	1 9/16	10
VKM 305 E	12	15 7/8	17 3/4	16 5/16	10 1/4	15/16	1 3/16	1 9/16	12
VKM 305	12	15 7/8	17 3/4	16 5/16	10 1/4	15/16	1 3/16	1 9/16	12
VKMS 305	12	15 7/8	17 3/4	16 5/16	10 1/4	15/16	1 3/16	1 9/16	12
VKM 355 Q	13 57/64	18 7/64	20 35/64	20 35/64	19 59/64	23 5/8	2 23/64	2 2/4	14
VKM 400	15 43/64	22 7/16	26 7/64	24 61/64	22 7/16	2 23/64	2 23/64	2 2/4	16
VKM 450	17 41/64	23 15/16	27 9/16	26 3/8	25 23/64	2 23/64	2 23/64	3 5/32	18



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.



6 – outer fixing bracket
7 – screws
8 – bolt

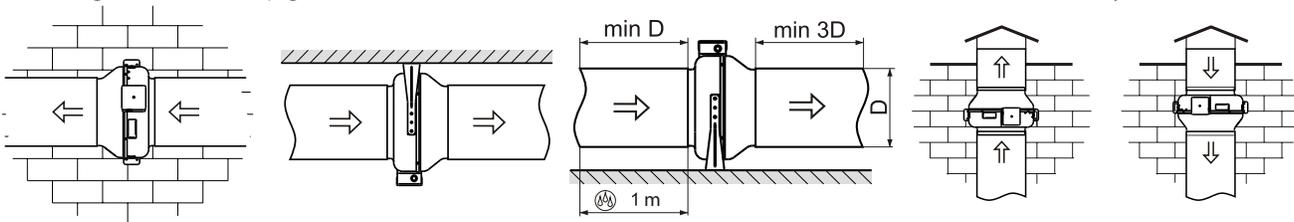
Fig. 1

INSTALLATION AND SET-UP



READ THE USER'S MANUAL BEFORE INSTALLING THE UNIT

The fans are designed for vertical or horizontal mounting. 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:

- Remove the bolt from the casing 1 and install the fixing brackets in such a way so that the holes on the fixing brackets are aligned with the heads of the screws 3.
- Fix the fixing brackets on the casing with bolts.
- Drill the holes in the mounting surface to match the fitment holes of the fixing brackets.
- Fix the fan with the screws.

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



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

The fan is designed for 120 V / 60 Hz (for the VKM 100...305 fans) or 230 V / 60 Hz (for the VKM 355Q, VKM 400, VKM 450 fans)single-phase alternating current mains.

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.

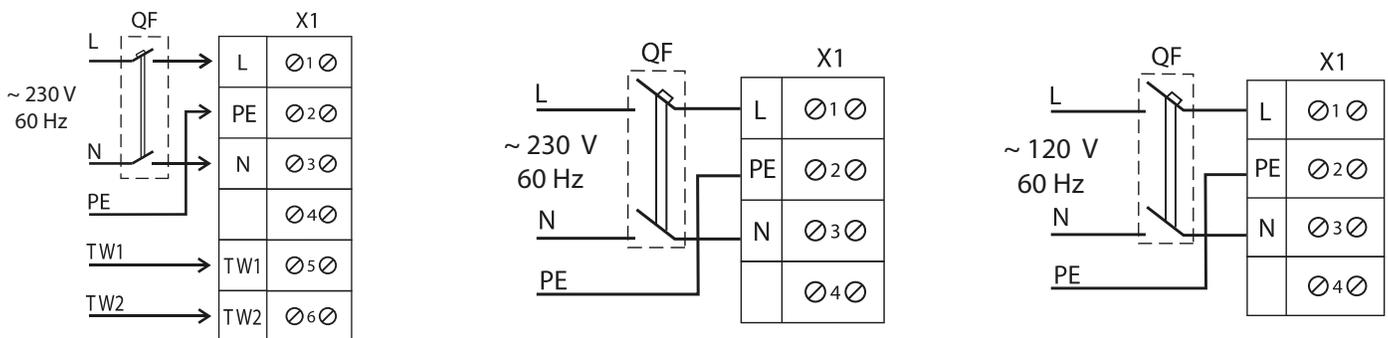
The recommended rated current of the circuit breaker:

- 2 A for the VKM 355 Q fans
- 3.15 A for the VKM 400, VKM 450 fans
- 1 A for all other fans

The recommended wire cross section is minimum AWG 19.

The actual conductor cross-section selection must be based on its type, 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.

The wiring diagram:



For the VKM 400, VKM 450 fans

For the VKM 355 Q

For the other fans

The TW1, TW2 terminals are the electrical leads of the normally closed contact of the motor overheating protection. The QF circuit breaker is not included in the delivery and must be installed by the user.

TECHNICAL MAINTENANCE



DISCONNECT THE UNIT FROM POWER SUPPLY BEFORE ANY MAINTENANCE OPERATIONS!

The technical maintenance includes periodic cleaning of the surfaces from accumulated dust and dirt. Use a soft dry brush or a vacuum cleaner to remove dust.

The impeller blades require thorough cleaning once in 6 months.

To do this, unscrew the self-tapping screws 3 and remove the cover 2 (Fig. 1).

Clean the impeller blades with a soft cloth wetted in mild water detergent solution. Avoid liquid dripping on the motor.

POSSIBLE MALFUNCTIONS AND 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 + 41...+104 °F and relative humidity up to 70 %.
- Storage environment must not contain aggressive vapours 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 room temperature for at least 3-4 hours.

MANUFACTURER'S WARRANTY

Production meets standard operating requirements in the USA and Canada.

VENTS warrants to the original purchaser of the unit that it will be free from defects in materials or workmanship for a period of 60 months from the date of original purchase. The VENTS warrants to the original purchaser of the unit that the integrated control unit will be free from defects in materials and workmanship for a period of 60 months from the date of original purchase.

THERE ARE NO OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

During the stated warranty period, VENTS will, at its option, repair or replace, without charge, any product or part which is found to be defective under normal use and service. This warranty does not cover (a) normal maintenance and normal service or (b) any products or parts which have been subject to misuse, negligence, accident, improper maintenance or repair (other than by VENTS), faulty installation or negligence, accident, improper maintenance or repair (other than by VENTS), faulty installation or installation contrary to recommended installation instructions. Labor to remove and replace products is not covered. The duration of any implied warranty is limited to the time period specified for the express warranty. Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you.

VENTS US OBLIGATION TO REPAIR OR REPLACE, AT VENTS US OPTION, SHALL BE THE PURCHASER'S SOLE AND EXCLUSIVE REMEDY UNDER THIS WARRANTY. VENTS US SHALL NOT BE LIABLE FOR INCIDENTAL, CONSEQUENTIAL OR SPECIAL DAMAGES ARISING OUT OF OR IN CONNECTION WITH PRODUCT USE OR PERFORMANCE.

Some states do not allow the exclusion or limitations of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state. This warranty supersedes all prior warranties. If proof of sales date is absent, warranty period is calculated from the production date. The unit can be exchanged at the following address:

Bodor Vents, LLC DBA: VENTS
11013 Kenwood Road Cincinnati, Ohio 45242
Phone: (513)348-3853
e-mail: sales@ventsus.com

Please follow guidelines in this manual for product problem-free operation.



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



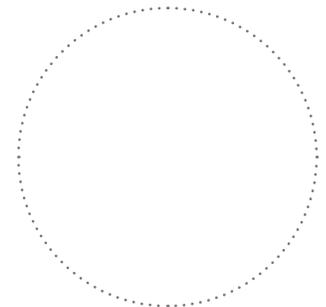
USER'S WARRANTY CLAIMS SHALL BE SUBJECT TO REVIEW ONLY UPON PRESENTATION OF THE UNIT, THE PAYMENT DOCUMENT AND THE USER'S MANUAL WITH THE PURCHASE DATE STAMP.

Certificate of acceptance

Unit Type	Centrifugal inline fan
Model	VKM_____
Serial Number	
Manufacture Date	
Quality Inspector's Stamp	

Seller information

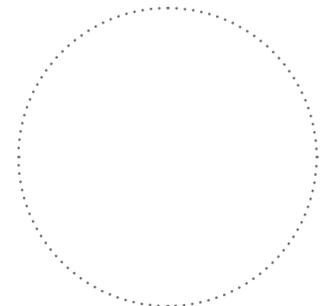
Seller	
Address	
Phone Number	
E-mail	
Purchase Date	
This is to certify acceptance of the complete unit delivery with the user's manual. The warranty terms are acknowledged and accepted.	
Customer's Signature	



Seller's Stamp

Installation certificate

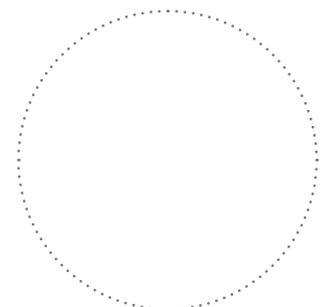
The VKM_____ unit has been connected to power mains pursuant to the requirements stated in the present user's manual.	
Seller	
Address	
Phone Number	
Installation Technician's Full Name	
Installation Date:	Signature:
The unit has been installed in accordance with the provisions of all the applicable 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	VKM_____
Serial Number	
Manufacture Date	
Purchase Date	
Warranty Period	
Seller	



Seller's Stamp

