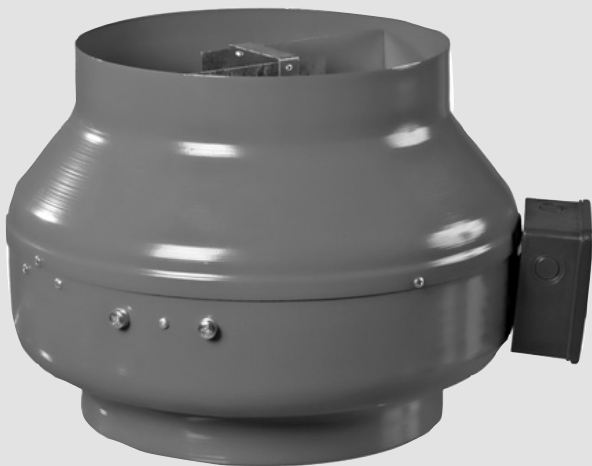


USER'S MANUAL

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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| Purpose..... | 4 |
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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 VKM 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 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 made 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.

CAUTION: In order to avoid a safety hazard due to inadvertent resetting of the thermal cut-out, this unit must not be supplied through an external switching device, such as a timer, or connected to a circuit that is regularly switched on and off by the utility.

Ensure that the unit is switched off from the supply mains before removing the guard.

WARNING: If there are any unusual oscillating movements, immediately stop using the unit and contact the manufacturer, its service agent or suitably qualified persons.

The replacement of parts of the safety suspension system device shall be performed by the manufacturer, its service agent or suitably qualified persons.

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.

Caution: mount with the lowest moving parts at least 8 ft (2.5 Meters) above floor or grade level

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.

Only qualified electricians with a work permit for electrical units up to 1000 V are allowed for installation. The present user's manual should be carefully read before beginning works.

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.





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

- 

DO NOT INSTALL IN A COOKING AREA
- 

NOT SUITABLE FOR USE WITH SOLID-STATE SPEED CONTROLS
- 

MOTOR IS THERMALLY PROTECTED
- 

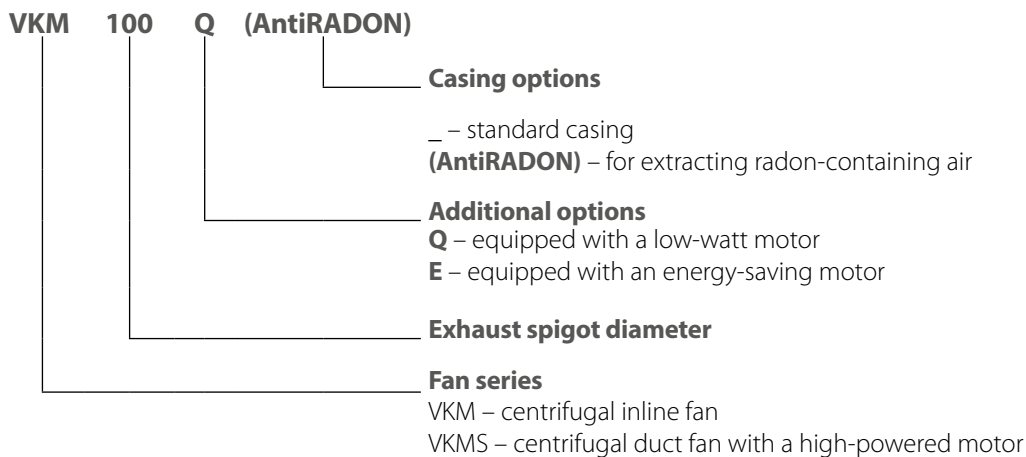
FOR INTERIOR USE ONLY
- 

MODEL ANTIRADON FOR OUTDOOR USE

DELIVERY SET

| NAME | NUMBER |
|---|--------|
| Fan | 1 pc. |
| Outer mounting bracket for VKM fans (for 100-305 dia) | 2 pcs. |
| 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.

Motor protection rating - IP44 (for VKM 355 Q/400/450 – IP54)

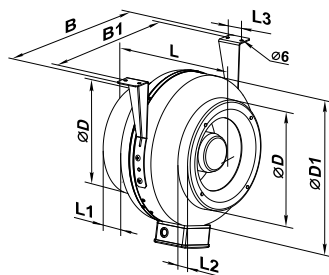
The unit design is constantly being improved, thus some models, their wiring diagrams and terminal symbols may be slightly different from those described in this manual.

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

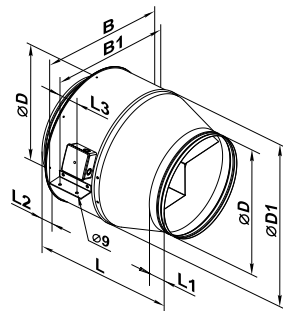


OVERALL AND CONNECTING DIMENSIONS

VKM 100 - 315



VKM 355 - 450



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

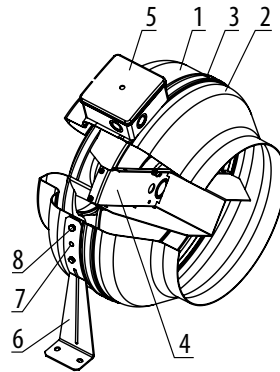


Fig. 1

- 6 – outer fixing bracket
- 7 – screws
- 8 – bolt

INSTALLATION AND SET-UP



READ THE USER'S MANUAL BEFORE INSTALLING THE UNIT.

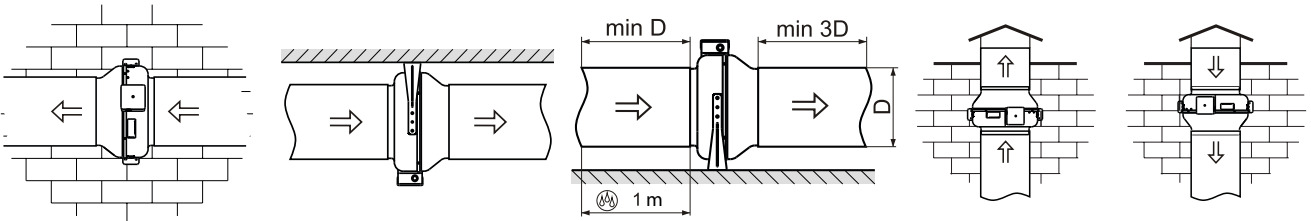


THIS DUCT FAN SHALL BE INSTALLED A MINIMUM OF ONE METRE FROM ANY ACCESSIBLE OPENING OF THE DUCT



INSTALL BEHIND SHUTTERS FOR PROTECTION FROM RAIN

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.
- Connect the air ducts of the respective size to the fan and fix them with clamps.

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.

The fan is designed for 120 V / 60 Hz (for the VKM 100...305 fans) or 220 V / 60 Hz (for the VKM 355 Q, 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.

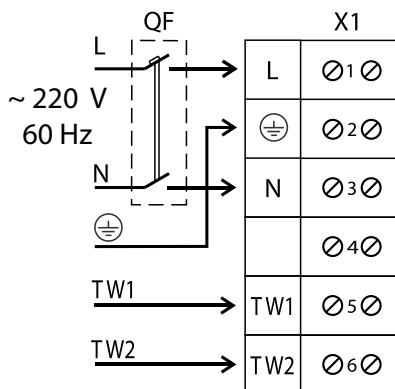
The recommended rated current of the circuit breaker:

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

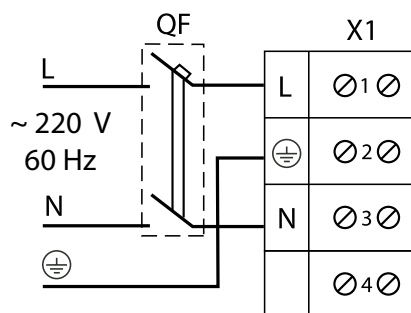
The recommended wire cross section is minimum AWG 19.

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.

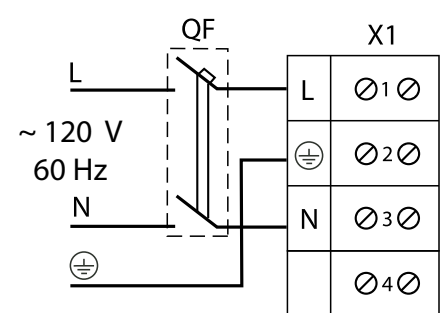
The wiring diagram:



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!
MAKE SURE THE UNIT IS DISCONNECTED FROM POWER MAINS BEFORE REMOVING THE PROTECTION

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 from +41 °F up to +104 °F 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

Production meets standard operating requirements in the USA and Canada.

Vents US warrants to the original purchaser of the unit that it will be free from defects in materials or workmanship for a period of 24 months from the date of original purchase. The Vents US 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 24 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 US 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 US), 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:

Vents-US
400 Murray Road, Cincinnati, OH 45217, USA
Tel: 1-888-640-0925, 513-583-5786, Fax: 513-268-4597
E-mail: support@ventsus.com
www.vents-us.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.



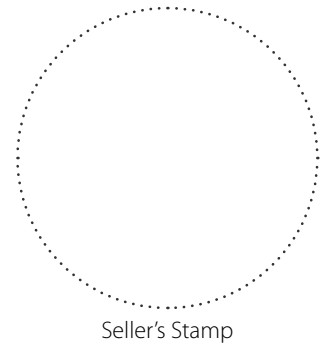
USER'S WARRANTY CLAIMS SHALL BE SUBJECT TO REVIEW ONLY UPON PRESENTATION OF THE UNIT, THE PAYMENT DOCUMENT AND THE USER'S MANUAL WITH THE PURCHASE DATE STAMP.

CERTIFICATE OF ACCEPTANCE

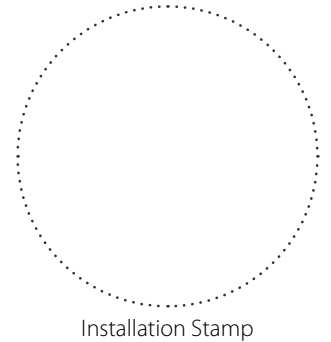
| | |
|----------------------------------|------------------------|
| Unit Type | Centrifugal inline fan |
| Model | |
| Serial Number | |
| Manufacture Date | |
| Quality Inspector's Stamp | |

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 | Centrifugal inline fan |
| Model | |
| Serial Number | |
| Manufacture Date | |
| Purchase Date | |
| Warranty Period | |
| Seller | |

