

## VENTS VKM 100

# VENTS-US VKM 100 Metal Inline Duct Fan

## User Instruction Manual

### 1. INTRODUCTION

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Thank you for choosing the VENTS-US VKM 100 Metal Inline Duct Fan. This manual provides essential information for the safe and efficient installation, operation, and maintenance of your new ventilation fan. Please read this manual thoroughly before installation and keep it for future reference.

The VKM 100 is a high-performance inline centrifugal duct fan designed for various ventilation applications, including bathroom exhaust, kitchen ventilation, living areas, and whole-house ventilation. It features a durable metal housing with polymer coating and a backward curved centrifugal impeller for efficient airflow.

### 2. SAFETY INFORMATION

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To reduce the risk of fire, electric shock, or injury to persons, observe the following:

- Read all instructions before installing or servicing this fan.
- Installation work and electrical wiring must be done by qualified person(s) in accordance with all applicable codes and standards, including fire-rated construction.
- Sufficient air is needed for proper combustion and exhausting of gases through the flue (chimney) of fuel-burning equipment to prevent back-drafting. Follow the heating equipment manufacturer's guideline and safety standards such as those published by the National Fire Protection Association (NFPA), and the American Society for Heating, Refrigeration and Air Conditioning Engineers (ASHRAE), and the local code authorities.
- When cutting or drilling into wall or ceiling, do not damage electrical wiring and other hidden utilities.
- Ducted fans must always be vented to the outdoors.
- Do not use this fan with any solid-state speed control device unless specifically designed for this fan.
- This unit has an ungrounded power cord. Ensure proper grounding according to local electrical codes.
- Always disconnect power before servicing or cleaning the unit.
- Do not use this fan in areas where flammable or explosive materials are present.
- The fan is designed for indoor use. If installed outdoors, ensure it is protected from rain and direct weather exposure.

### 3. PRODUCT OVERVIEW

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The VKM 100 is a robust inline duct fan featuring a durable blue polymer-coated metal casing and a powerful centrifugal impeller. It is designed to boost airflow through long or complex duct runs.



Figure 3.1: Front view of the VENTS-US VKM 100 Metal Inline Duct Fan, showing the blue casing, motor housing, and power cord with control box.



Figure 3.2: Angled view of the VKM 100 fan, highlighting the internal centrifugal impeller and the robust metal housing.



Figure 3.3: Top view of the VKM 100 fan, displaying the product label with model number, electrical specifications, and safety certifications.



Figure 3.4: Side view of the VKM 100 fan, showing one of the pre-attached mounting brackets for easy installation.





Figure 3.5: Opposite side view of the VKM 100 fan, illustrating the second mounting bracket for secure attachment.

### Key Features:

- **High Airflow:** 174 CFM under 0" of static pressure; 162 CFM under 0.2" of static pressure.
- **Efficient Motor:** Single-phase external rotor motor with backward curved centrifugal impellers, consuming 108 W.
- **Easy Installation:** Includes mounting brackets and a power cord for straightforward setup.
- **Durable Bearings:** Permanently lubricated ball bearing motor for maintenance-free operation.
- **Versatile Applications:** Suitable for bathroom exhaust, kitchen ventilation, living areas, whole house ventilation, duct boosting, workshops, smoking areas, offices, bars, restaurants, and warehouses.
- **Dual Usage:** Can be used as either a supply boosting or extract boosting fan.

## 4. SETUP AND INSTALLATION

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### 4.1 Pre-installation Checklist:

- Verify that the fan's voltage and frequency match your power supply.
- Ensure all components are present and undamaged.
- Confirm the ducting size (4 inches) matches the fan's diameter.
- Gather necessary tools: screwdriver, drill, measuring tape, duct clamps or aluminum tape, wire strippers (if hardwiring).

### 4.2 Installation Steps:

1. **Choose Location:** Select a suitable location within your ducting system. The fan can be mounted at any angle. Ensure there is sufficient space for maintenance and airflow.
2. **Mounting:** Use the integrated mounting brackets to secure the fan to a stable surface (e.g., ceiling joist, wall stud, or dedicated mounting frame). Mark and drill pilot holes, then fasten the fan securely using appropriate screws.

3. **Duct Connection:** Connect the fan to the existing ductwork using duct clamps or aluminum tape to ensure airtight seals. Ensure the airflow direction indicated on the fan matches your desired ventilation path.
4. **Electrical Connection:**
  - Ensure power is OFF at the circuit breaker before making any electrical connections.
  - The fan comes with a power cord. Plug the fan into a grounded electrical outlet.
  - If hardwiring, consult a qualified electrician to connect the fan to your electrical system in accordance with local codes.
5. **Final Check:** Once installed, visually inspect all connections for security and proper sealing. Ensure no obstructions are present in the ductwork or near the fan's inlet/outlet.

**Note:** For detailed diagrams and specific installation scenarios, please refer to the full Installation Manual (PDF) available on the product's Amazon page or the VENTS-US website.

## 5. OPERATING INSTRUCTIONS

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### 5.1 Basic Operation:

The VKM 100 fan is designed for continuous or intermittent operation.

- To turn the fan ON/OFF, use the wall switch or control device connected to the fan's power supply.
- The fan operates at a single speed (3000 RPM) and provides an airflow capacity of 174 Cubic Feet Per Minute (CFM).
- The VKM series can be used as either a supply boosting fan (to push fresh air into a space) or an extract boosting fan (to pull stale air out of a space).

### 5.2 Recommended Applications:

- Bathroom exhaust
- Kitchen ventilation
- Living area ventilation
- Whole house ventilation
- Duct boosting
- Workshops & smoking areas
- Offices, bars & restaurants
- Warehouses

## 6. MAINTENANCE

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Regular maintenance ensures optimal performance and longevity of your VKM 100 fan.

### 6.1 Cleaning:

1. **Disconnect Power:** Always ensure the fan is disconnected from the power supply before any cleaning or maintenance.
2. **Clean Impeller and Casing:** Periodically inspect the impeller and the interior of the fan casing for dust and debris buildup. Use a soft brush or vacuum cleaner to remove any accumulation. Do not use abrasive cleaners or solvents.

3. **Exterior Cleaning:** Wipe the exterior of the fan with a damp cloth.

6.2 Lubrication:

The VKM series features a permanently lubricated ball bearing motor, which requires no additional lubrication throughout its operational life.

6.3 Inspection:

Regularly check the duct connections for any leaks or disconnections. Ensure mounting brackets remain secure.

7. TROUBLESHOOTING

If you encounter issues with your VKM 100 fan, refer to the table below for common problems and their solutions.

Problem	Possible Cause	Solution
Fan does not turn on.	No power supply; loose wiring; faulty switch/control.	Check power outlet, circuit breaker. Ensure all electrical connections are secure. Test switch/control.
Low airflow.	Blocked ductwork; dirty impeller; incorrect duct size; air leaks in ducting.	Inspect and clear duct obstructions. Clean impeller. Ensure proper duct size (4"). Seal any duct leaks.
Excessive noise or vibration.	Loose mounting; foreign object in impeller; damaged impeller; motor issue.	Tighten mounting screws. Disconnect power and check for foreign objects. If noise persists, contact support.
Fan runs intermittently.	Overheating (thermal overload); faulty wiring/control.	Ensure adequate ventilation around the fan. Check electrical connections and control unit.

If the problem persists after attempting these solutions, please contact VENTS-US customer support.

8. TECHNICAL SPECIFICATIONS

Specification	Value
Brand	VENTS
Model Name	VKM 100
Size	4" Metal inline Centrifugal Duct Fan
Air Flow Capacity	174 Cubic Feet Per Minute (CFM)
CFM Level (0" static pressure)	174 CFM
CFM Level (0.2" static pressure)	162 CFM
Wattage	108 watts
Voltage	120 Volts
Speed	3000 RPM

Specification	Value
Noise Level	2.3 Sones
Product Dimensions (D x W x H)	8.06"D x 11.75"W x 10"H
Item Weight	9 pounds
Color	Blue
Finish Type	Polymer Coated
Blade Material	Plastic
Special Feature	Centrifugal Impeller
Efficiency	1.61 CFM/Watt
Specification Met	ETL
Indoor/Outdoor Usage	Indoor (with protection from rain if outdoors)

## 9. WARRANTY AND SUPPORT

### 9.1 Warranty Information:

VENTS-US products are manufactured to the highest quality standards. Specific warranty terms and conditions for your VKM 100 fan are typically provided with the product packaging or can be found on the official VENTS-US website. Please retain your proof of purchase for warranty claims.







### 9.2 Customer Support:

For technical assistance, troubleshooting beyond this manual, or warranty inquiries, please contact VENTS-US customer support.

**Website:** Visit the official VENTS-US website for contact information, FAQs, and additional resources.

**Online Resources:** Additional user manuals and installation guides (PDFs) may be available on the product's Amazon listing or the manufacturer's website.



	<p><a href="#">VENTS VKm EC Series Centrifugal Duct Fan User Manual</a></p> <p>User manual for the VENTS VKm EC series centrifugal duct fans, covering safety requirements, specifications, installation, maintenance, and troubleshooting. Includes product details, technical data, and warranty information.</p>
	<p><a href="#">Vents D Axial Fan User's Manual</a></p> <p>Comprehensive user's manual for the Vents D axial fan, covering delivery set, installation, operation, technical maintenance, troubleshooting, and manufacturer's warranty. Includes technical specifications and safety guidelines.</p>
	<p><a href="#">VENTS VKP/VKPI/VKPF/VKPFI Centrifugal Rectangular Duct Fan User Manual</a></p> <p>Comprehensive user manual for VENTS VKP, VKPI, VKPF, and VKPFI centrifugal rectangular duct fans. Covers safety requirements, technical data, mounting, connection, maintenance, troubleshooting, and warranty information.</p>
	<p><a href="#">VENTS TT Series Centrifugal Inline Fan User Manual   Installation &amp; Operation Guide</a></p> <p>Comprehensive user manual for VENTS TT series centrifugal inline fans. Covers installation, operation, maintenance, troubleshooting, and warranty for models including TT 100, TT 125, TT 150, TT 160, TT 250, TT 315, TT XXX T, TT XXX U/U1/U2(n), and TT XXX P. Features technical specifications and safety guidelines for optimal ventilation system performance.</p>
	<p><a href="#">VENTS VK Series In-Line Centrifugal Fans User Manual</a></p> <p>User's manual for VENTS VK Series in-line centrifugal fans, covering installation, operation, maintenance, safety instructions, and warranty information. Features include electronic speed and temperature control (TSC module).</p>
	<p><a href="#">VENTS TT Series Round Duct Fans - Technical Specifications and Applications</a></p> <p>Comprehensive technical guide for VENTS TT Series round duct fans, detailing construction, motor features, speed control options, performance curves, noise data, dimensions, and installation examples for residential, commercial, and industrial ventilation systems.</p>