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> [Nordyne ZHONGSHAN BROAD-OCEAN 921652/ZWK702E0750601 1HP ECM Direct Drive Blower Motor User Manual](#)

Nordyne ZWK702E0750601

User Manual

NORDYNE ZHONGSHAN BROAD-OCEAN 1HP ECM DIRECT DRIVE BLOWER MOTOR

Model: ZWK702E0750601 / Part No: 921652

1. INTRODUCTION

This manual provides comprehensive instructions for the safe installation, efficient operation, and proper maintenance of the Nordyne ZHONGSHAN BROAD-OCEAN 921652/ZWK702E0750601 1HP ECM Direct Drive Blower Motor. This variable speed motor is designed for use in HVAC systems, operating at 115-120V and 1050 RPM to ensure optimal air movement and energy efficiency. Please read this manual thoroughly before installation or operation to ensure proper function and longevity of the unit.

2. IMPORTANT SAFETY INFORMATION

WARNING: Risk of Electric Shock, Fire, or Injury.

- Installation and servicing must be performed by a qualified HVAC technician or licensed electrician.
- Always disconnect power to the unit before installing, servicing, or cleaning the motor. Failure to do so can result in severe personal injury or death.
- Ensure all wiring connections comply with local and national electrical codes.
- Do not operate the motor if it is damaged or if any components are missing.
- Keep hands, hair, and clothing away from moving parts.
- This motor is designed for specific applications. Do not use it for purposes other than its intended use.

3. PRODUCT OVERVIEW

The Nordyne ZHONGSHAN BROAD-OCEAN 1HP ECM Direct Drive Blower Motor is a high-efficiency component for residential and commercial HVAC systems. Its Electronically Commutated Motor (ECM) design allows for variable speed operation, providing precise airflow control and significant energy savings compared to traditional PSC motors. The motor is built with durable materials, including a copper winding, ensuring reliable performance.



Figure 3.1: Front view of the Nordyne 1HP ECM Direct Drive Blower Motor, showing the shaft and main body. This image provides a general perspective of the motor's physical dimensions and design.



Figure 3.2: Bottom view of the motor, highlighting the warning label and electrical connections. This view is crucial for identifying safety warnings and wiring points.



Figure 3.3: Detailed view of the motor's specification label. This label contains critical information such as model number (ZWK702E0750601), voltage (115-120V), RPM (1050), and wiring diagrams.



Figure 3.4: Image of the product packaging label, confirming the part number 921652 and indicating it is a replacement high-efficiency 1HP motor from Nordyne.

4. TECHNICAL SPECIFICATIONS

Specification	Value
Brand	Nordyne
Model Number	ZWK702E0750601
Part Number	921652
Horsepower (HP)	1 hp
Voltage	115-120 Volts
Frequency	50-60 Hz
RPM (Revolutions Per Minute)	1050 RPM
Speed Type	Variable Speed
Motor Type	ECM (Electronically Commutated Motor) Direct Drive
Material	Copper (winding)

5. INSTALLATION AND SETUP

Installation of this ECM blower motor requires specialized knowledge and tools. It is highly recommended that installation be performed by a certified HVAC technician or licensed electrician to ensure safety and proper functionality.

5.1 Pre-Installation Checks

- Verify that the new motor specifications (voltage, HP, RPM) match the requirements of your HVAC system.
- Inspect the motor for any visible damage that may have occurred during shipping.
- Ensure all necessary tools and safety equipment are available.

5.2 Installation Steps

1. **Disconnect Power:** Locate the main power supply to the HVAC unit and turn it off at the circuit breaker. Verify power is off using a voltage tester.
2. **Access Blower Compartment:** Open the access panel to the blower compartment of your HVAC unit.
3. **Remove Old Motor:** Carefully disconnect all wiring from the old motor, noting their positions and connections (taking photos can be helpful). Remove any mounting bolts or clamps securing the old motor and slide it out.
4. **Install New Motor:** Position the new Nordyne ECM motor in the blower housing. Secure it using the appropriate mounting hardware. Ensure the motor shaft is properly aligned with the blower wheel.
5. **Wire Connections:** Connect the electrical wiring to the new motor according to the wiring diagram provided on the motor's label (refer to Figure 3.3) or the HVAC unit's schematic. Pay close attention to line voltage, control voltage, and ground connections.
6. **Secure and Close:** Double-check all connections for tightness and proper insulation. Close the blower compartment access panel securely.
7. **Restore Power:** Turn the main power supply back on at the circuit breaker.
8. **Test Operation:** Initiate a test cycle for the HVAC system to ensure the new motor operates correctly, quietly, and without unusual vibrations. Monitor for proper airflow.

For detailed wiring diagrams and specific installation procedures, consult the HVAC unit's service manual or contact a qualified technician.

6. OPERATING INSTRUCTIONS

The Nordyne 1HP ECM Direct Drive Blower Motor is designed for automatic operation within your HVAC system. Once properly installed and wired, its variable speed capabilities allow it to adjust airflow based on system demands, optimizing comfort and energy efficiency.

6.1 Normal Operation

- The motor will start and stop automatically in response to calls for heating, cooling, or continuous fan operation from the thermostat.
- Due to its variable speed nature, the motor may operate at different speeds depending on the system's requirements, such as humidity control, static pressure, or specific fan modes.
- Expect quiet operation. Any unusual noises should be investigated (refer to Troubleshooting section).

6.2 Energy Efficiency

ECM motors are inherently more efficient than traditional motors. To maximize energy savings, ensure your HVAC system's filters are clean and ducts are free of obstructions, allowing the motor to operate at lower, more efficient speeds.

7. MAINTENANCE

Regular maintenance is crucial for the longevity and efficient operation of your Nordyne ECM blower motor. Always disconnect power before performing any maintenance.

7.1 Routine Checks (Annual)

- **Power Disconnection:** Ensure power to the HVAC unit is completely off.
- **Visual Inspection:** Inspect the motor for any signs of wear, corrosion, or damage. Check wiring for frayed insulation or loose connections.
- **Cleanliness:** Gently clean any dust or debris from the motor's exterior and cooling fins using a soft brush or vacuum cleaner. Do not use liquids directly on the motor.

- **Blower Wheel:** Inspect the blower wheel for dirt buildup. A dirty blower wheel can reduce airflow and put strain on the motor. Clean if necessary (this may require professional assistance).
- **Lubrication:** This ECM motor is typically designed with sealed bearings that do not require lubrication. Do not attempt to lubricate unless specifically instructed by the manufacturer's documentation for your specific HVAC unit.

7.2 Professional Servicing

It is recommended to have your HVAC system, including the blower motor, professionally inspected and serviced annually by a qualified technician. They can perform advanced diagnostics, check motor performance, and address any potential issues before they lead to major failures.

8. TROUBLESHOOTING

This section provides guidance for common issues. For complex problems, always consult a qualified HVAC technician.

Problem	Possible Cause	Solution
Motor does not start or run.	No power to the unit; tripped circuit breaker; faulty thermostat; wiring error; motor control module failure.	Check circuit breaker and reset if tripped. Verify thermostat settings. Inspect wiring connections. If issues persist, contact a technician.
Motor runs but no airflow or weak airflow.	Dirty air filter; obstructed ducts; loose blower wheel; incorrect motor speed setting (if applicable).	Replace or clean air filter. Check for duct obstructions. Ensure blower wheel is securely attached to the shaft. Consult technician for speed settings.
Unusual noises (e.g., grinding, squealing).	Worn bearings; debris in blower wheel; loose mounting; motor imbalance.	Disconnect power and inspect blower wheel for debris. Check motor mounting. If noise persists, motor may require replacement or professional service.
Motor overheats and shuts off.	Restricted airflow (dirty filter/coils); motor overloaded; internal motor fault.	Ensure proper airflow by cleaning filters and coils. Verify motor is not undersized for the application. Contact a technician for internal fault diagnosis.

9. WARRANTY AND SUPPORT

The Nordyne ZHONGSHAN BROAD-OCEAN 1HP ECM Direct Drive Blower Motor is manufactured to high-quality standards. Specific warranty terms and conditions are typically provided by the original equipment manufacturer (Nordyne) or the authorized distributor at the time of purchase.

Please retain your proof of purchase for warranty claims. For detailed warranty information, technical support, or to locate an authorized service provider, please contact Nordyne customer service or the vendor from whom you purchased the motor. You can often find contact information on the official Nordyne website or through your HVAC system's documentation.

Note: Unauthorized repairs or modifications may void the product warranty.

For the latest information and support, please visit the official Nordyne website.