

## Walfront B07P5NCR2F

# Walfront 110V 500W Ceramic PTC Air Heater Instruction Manual

Model: B07P5NCR2F

## 1. SAFETY INFORMATION

Please read all safety instructions carefully before installing or operating this PTC ceramic air heater. Failure to follow these instructions may result in electric shock, fire, or serious injury.

- **Electrical Safety:** This device operates at 110V. Ensure all wiring is performed by a qualified professional and complies with local electrical codes. Disconnect power before installation or maintenance.
- **Overheating Protection:** The heater is designed with an over-temperature protection device (thermostat) that will shut off the unit if it exceeds a safe operating temperature. Do not bypass or modify this safety feature.
- **Airflow Requirement:** This PTC heating element requires forced airflow to operate at its rated power and prevent overheating. Ensure adequate airflow is provided by a fan or blower. Natural convection is insufficient.
- **Enclosure:** This is a heating element, not a complete heating unit. It must be installed within a suitable, non-combustible enclosure with proper ventilation to prevent fire hazards and contact with hot surfaces.
- **Flammable Materials:** Keep flammable materials, liquids, and gases away from the heating element.
- **Moisture:** Do not expose the heater to water or excessive moisture. This device is intended for indoor use in dry environments.
- **Children and Pets:** Keep the heating element out of reach of children and pets.
- **Damage Inspection:** Before each use, inspect the heater for any signs of damage. Do not use if damaged.

## 2. PRODUCT OVERVIEW

The Walfront 110V 500W Ceramic PTC Air Heater is a compact and efficient heating element designed for various applications requiring controlled heat with forced airflow. It features a PTC (Positive Temperature Coefficient) ceramic heating element and an aluminum tube for effective heat transfer.

### Key Features:

- **High Heat Transfer Efficiency:** Utilizes PTC ceramic material for low thermal resistance and efficient heat transfer, contributing to energy savings.
- **Integrated Insulation:** Designed with insulation for enhanced safety and reliability.
- **Compact Design:** Small size and light weight allow for space-saving integration into various systems.
- **Automatic Constant Temperature:** PTC technology enables automatic constant temperature operation and energy saving.
- **Easy Installation:** Features mounting holes for straightforward installation.
- **Overheat Protection:** Includes a temperature control protector for safety.



Figure 2.1: Walfront 110V 500W Ceramic PTC Air Heater. This image shows the overall view of the heating element with its finned aluminum body and electrical connections.

### 3. SPECIFICATIONS

Feature	Specification
Brand	Walfront
Model	B07P5NCR2F
Rated Voltage	110V
Rated Power	500W
Amperage	4.55 Amps
Heating Material	PTC Thermistor
Heat Output	500 Watts
Max Temperature Setting	150 Degrees Fahrenheit (65.5°C)
Product Dimensions (L x W x H)	5.5" x 2" x 1" (140mm x 50mm x 26mm)
Item Weight	5.6 ounces
Lead Length	Approx. 200mm
Mounting Hole Distance	120mm x 42mm
Mounting Hole Size	8*4mm waist hole
Special Feature	Overheat Protection
Application Scope	Air conditioners, electric heaters, automotive/instrument equipment, general electric appliances, air curtains, humidifiers, dryers, etc.

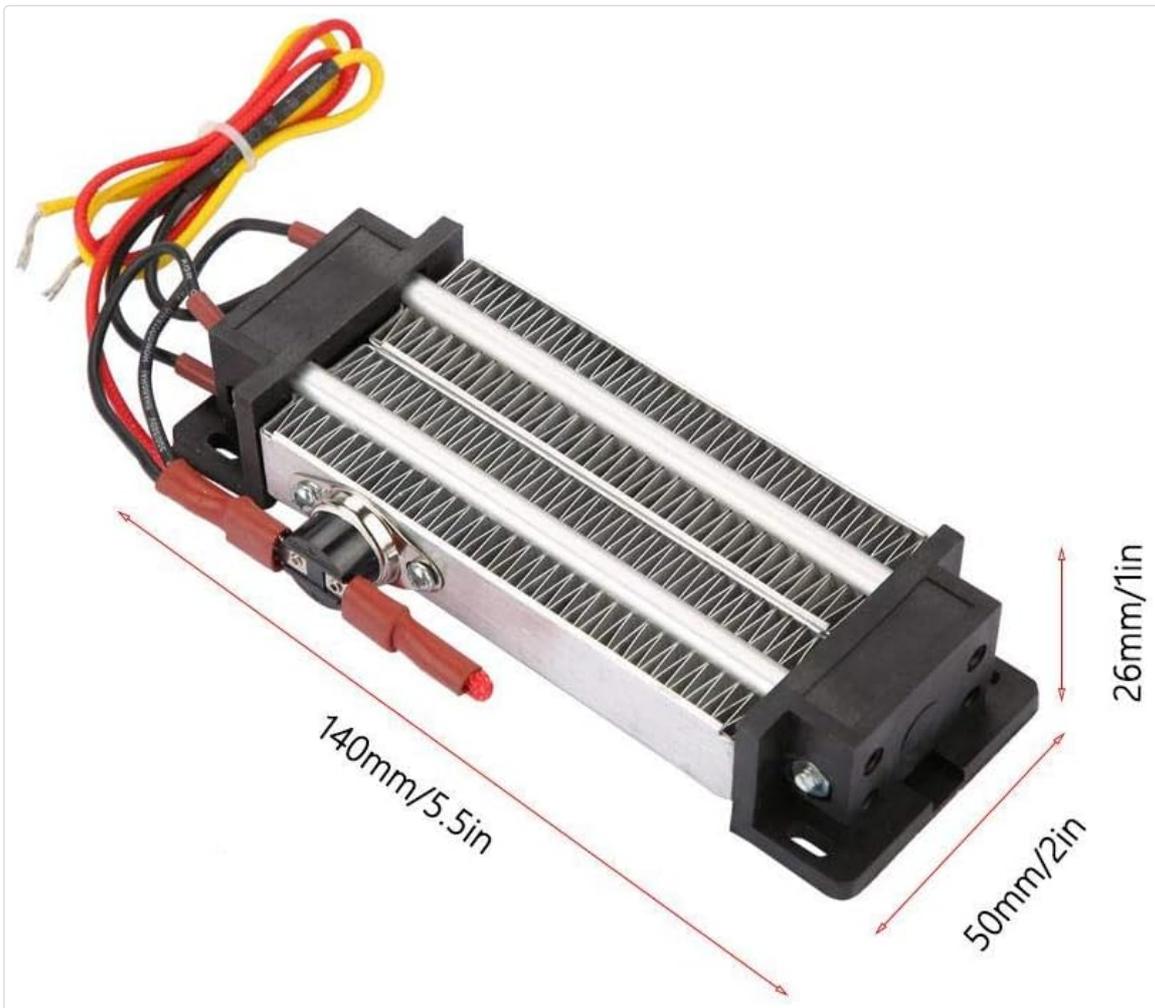


Figure 3.1: Dimensions of the Walfront PTC Air Heater. This image provides a visual representation of the heater's length, width, and height in both millimeters and inches.

## 4. INSTALLATION AND SETUP

This PTC heating element is designed for integration into custom heating systems. Proper installation is critical for safe and efficient operation.

### 4.1 Wiring

1. **Disconnect Power:** Ensure the power source is completely disconnected before beginning any wiring.
2. **Identify Wires:** The heater comes with bare wires. Connect these wires to your 110V power supply. The PTC element does not have specific positive or negative poles for AC voltage; however, ensure correct polarity if using a DC supply (though this model is specified for 110V, typically AC).
3. **Secure Connections:** Use appropriate connectors (e.g., wire nuts, terminal blocks) to ensure secure and insulated electrical connections.
4. **Current Capacity:** Ensure your wiring and power supply can handle the heater's maximum current draw (4.55 Amps at 110V, with potential higher initial peak current).



Figure 4.1: Close-up view of the electrical connections and thermostat on the Walfront PTC Air Heater. This image highlights the bare wires for connection and the integrated temperature control protector.

## 4.2 Mounting

1. **Choose Location:** Select a mounting location within your enclosure that allows for optimal airflow through the heating element.
2. **Secure Mounting:** Use the provided mounting holes to securely fasten the heater. Refer to the specifications for mounting hole dimensions and distance.
3. **Ensure Clearance:** Maintain adequate clearance around the heater to prevent obstruction of airflow and to avoid contact with other components that may be sensitive to heat.

## 4.3 Airflow Requirements

This PTC heater relies on forced airflow to dissipate heat effectively and reach its rated power. Without sufficient airflow, the element will not generate its full rated power and may trigger its over-temperature protection.

- **Fan/Blower:** Integrate a fan or blower into your system to direct air across the heating fins.
- **Air Volume:** For optimal performance, ensure a minimum airflow of approximately 30 CFM (Cubic Feet per Minute) of room temperature air.
- **Air Direction:** Position the fan to push or pull air directly through the fins of the heating element.

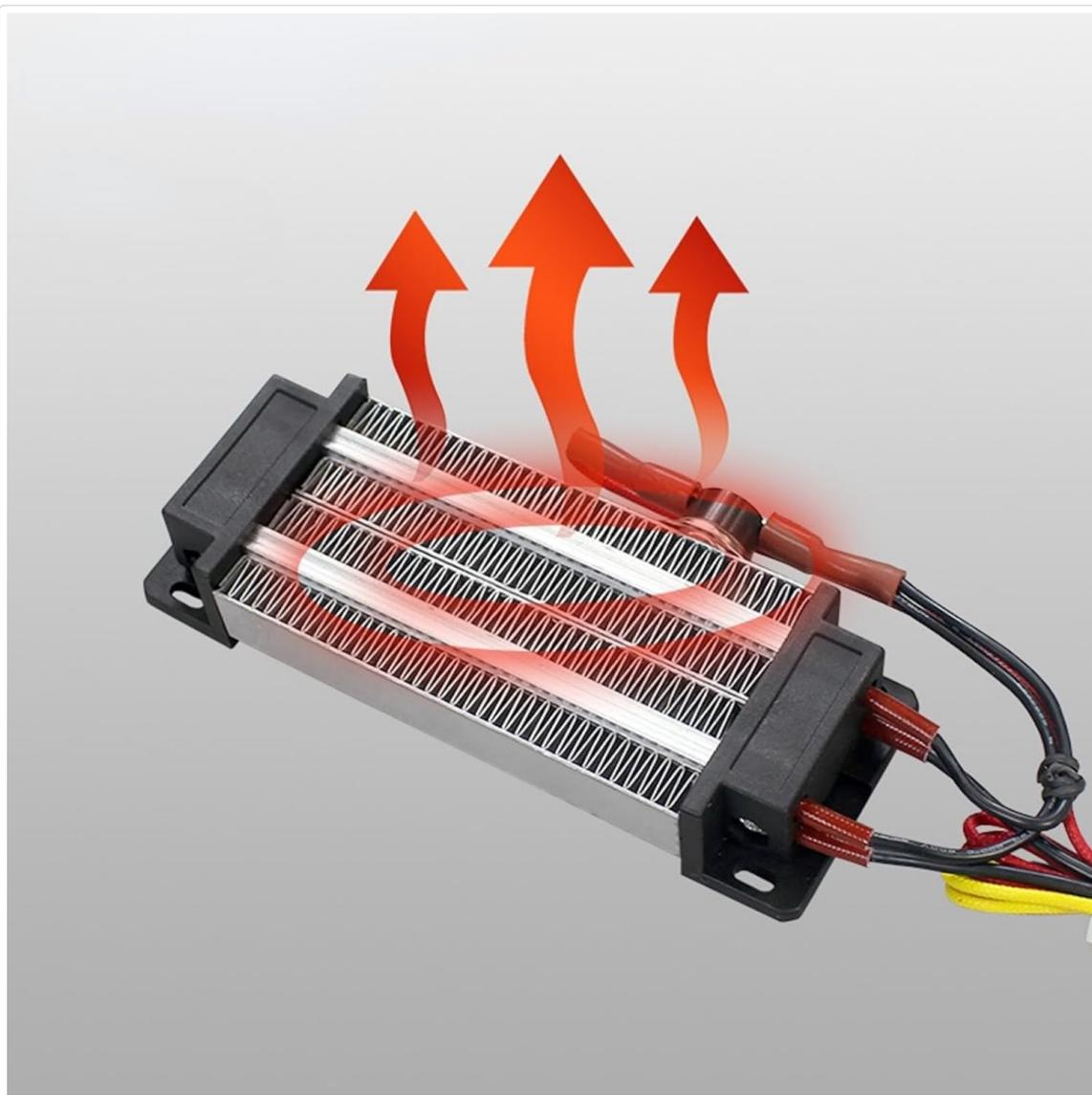


Figure 4.2: Illustration depicting heat flow from the PTC Air Heater. Red arrows indicate the direction of heat dissipation, emphasizing the need for proper airflow.

## 5. OPERATION

Once properly installed and wired, operating the Walfront PTC Air Heater is straightforward:

1. **Verify Installation:** Double-check all wiring and mounting to ensure they are secure and safe.
2. **Activate Airflow:** Ensure your fan or blower is operational and providing adequate airflow through the heater.
3. **Apply Power:** Connect the heater to the 110V power supply. The PTC element will begin to heat up.
4. **Temperature Control:** The heater will automatically maintain a constant temperature due to its PTC properties. For precise temperature control in your application, an external thermostat or temperature controller is recommended.

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Video 5.1: PTC Heating Element 110V 500W Product Showcase. This video demonstrates the physical appearance and rotation of the PTC heating element, providing a visual reference for its design and components.

## 6. MAINTENANCE

The Walfront PTC Air Heater is designed for durability and requires minimal maintenance. Regular inspection can help ensure long-term performance.

- **Power Disconnection:** Always disconnect power before performing any maintenance.
- **Clean Fins:** Periodically inspect the aluminum fins for dust or debris accumulation. Use compressed air or a soft brush to gently clean the fins, ensuring unobstructed airflow.
- **Inspect Wiring:** Check electrical connections for any signs of loosening, corrosion, or damage. Re-secure or replace as necessary.
- **Check Enclosure:** Ensure the surrounding enclosure remains free of obstructions and maintains proper ventilation.

## 7. TROUBLESHOOTING

If you encounter issues with your Walfront PTC Air Heater, refer to the following common problems and solutions:

Problem	Possible Cause	Solution
Heater not producing sufficient heat.	<ul style="list-style-type: none"><li>◦ Insufficient airflow.</li><li>◦ Over-temperature protection activated.</li><li>◦ Incorrect voltage supply.</li></ul>	<ul style="list-style-type: none"><li>◦ Ensure a fan or blower provides adequate forced airflow (min. 30 CFM).</li><li>◦ Check for obstructions around the heater. Allow the unit to cool down if it has shut off due to overheating.</li><li>◦ Verify the power supply is 110V.</li></ul>
Heater cycles on and off frequently.	<ul style="list-style-type: none"><li>◦ Over-temperature protection activating due to poor airflow or high ambient temperature.</li><li>◦ External thermostat setting too low or improperly configured.</li></ul>	<ul style="list-style-type: none"><li>◦ Improve airflow through the heating element.</li><li>◦ Review the settings of any external temperature controller.</li></ul>
No heat output.	<ul style="list-style-type: none"><li>◦ No power supply.</li><li>◦ Loose or damaged wiring.</li><li>◦ Heater element failure.</li></ul>	<ul style="list-style-type: none"><li>◦ Check power source and circuit breaker.</li><li>◦ Inspect all wiring connections for security and integrity.</li><li>◦ If all else fails, the heating element may need replacement.</li></ul>

## 8. WARRANTY AND SUPPORT

For warranty information or technical support regarding your Walfront 110V 500W Ceramic PTC Air Heater, please refer to the retailer or the official Walfront website. Keep your purchase receipt as proof of purchase.

### Online Resources:

- Walfront Store on Amazon: [Visit Walfront Store](#)

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## Related Documents - B07P5NCR2F

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