iProtool 220mm 400W Vacuum Halogen Tube

iProtool 220mm 400W Vacuum Halogen Tube Infrared Heating Element Instruction Manual

Model: 220mm 400W Vacuum Halogen Tube

1. Introduction

1.1 About This Manual

This instruction manual provides essential information for the safe and effective use of your iProtool 220mm 400W Vacuum Halogen Tube Infrared Heating Element. Please read this manual thoroughly before installation, operation, or maintenance. Keep this manual for future reference.

1.2 Product Description

The iProtool 220mm 400W Vacuum Halogen Tube is a tubular quartz infrared lamp designed as a high-power light source for various heating applications. It features a tungsten-coated quartz lamp, part of the tungsten halogen lamp series, engineered to prevent bulb darkening and maintain consistent infrared output over time. This heating element offers efficient, responsive power control in a compact and lightweight design. It is suitable for industrial applications requiring quick heat-up times, clean operation, and long service life. Common uses include plastic processing, printing, copying, ovens, infrared tunnel ovens, and automotive paint drying industries.

2. Safety Information

WARNING: Failure to follow these safety instructions may result in fire, electric shock, serious injury, or property damage.

- **Electrical Hazard:** This product operates at 220V and 400W. Installation and wiring should only be performed by a qualified electrician in accordance with all local and national electrical codes.
- **High Temperature:** The heating element reaches very high temperatures during operation. Do not touch the tube when it is powered on or immediately after use. Allow sufficient time for cooling.
- **Burn Risk:** Keep flammable materials away from the heating element. Ensure adequate clearance around the tube to prevent overheating and fire hazards.
- **Fragile Component:** The quartz tube is fragile. Handle with extreme care. Avoid dropping or subjecting it to mechanical shock. Do not touch the quartz surface with bare hands, as oils can cause hot spots and reduce

lifespan. Use clean gloves during handling.

- **Ventilation:** Ensure proper ventilation in the area where the heating element is installed to dissipate heat effectively.
- **Intended Use:** Use this product only for its intended purpose as an infrared heating element in compatible industrial equipment.
- **Power Disconnection:** Always disconnect power to the equipment before installing, removing, or performing any maintenance on the heating element.

3. Product Overview

3.1 Components

The iProtool 220mm 400W Vacuum Halogen Tube is a self-contained infrared heating element. It consists of a quartz glass tube housing a tungsten filament, sealed under vacuum. Electrical connections are made at both ends of the tube.

3.2 Product Images

Figure 1: Angled view of the iProtool 220mm 400W Vacuum Halogen Tube, showing its tubular quartz construction and electrical terminals at each end.

Figure 2: Front view of the iProtool 220mm 400W Vacuum Halogen Tube, illustrating its uniform cylindrical shape.

Figure 3: Close-up view of one end of the heating tube, showing the ceramic cap and electrical contact point.

4. Specifications

Specification	Detail
Brand	iProtool
Model	220mm 400W Vacuum Halogen Tube
Light Type	Halogen
Wattage	400 watts
Voltage	220V
Length (L)	220 mm
Special Feature	Long Lasting
Bulb Shape Size	T

Specification	Detail
ASIN	B098392FV6

5. Setup and Installation

Important: Installation must be performed by a qualified professional. Ensure power is disconnected before beginning installation.

1. **Preparation:** Ensure the power supply to the equipment is completely off and locked out. Wear clean, lint-free gloves when handling the halogen tube to avoid leaving fingerprints or oils on the quartz surface.
2. **Inspection:** Carefully inspect the new halogen tube for any signs of damage (cracks, loose connections) before installation. Do not install a damaged tube.
3. **Mounting:** Insert the tube into the designated fixture or holder. Ensure it is securely seated and properly aligned. The light position can be level or any position, depending on the fixture's design.
4. **Electrical Connection:** Connect the electrical terminals of the tube to the power supply wiring within the equipment. Ensure all connections are tight and secure. Verify that the voltage and wattage of the power supply match the tube's specifications (220V, 400W).
5. **Clearance:** Confirm that there is adequate clearance around the tube and that no flammable materials are in close proximity.
6. **Final Check:** After installation, double-check all connections and ensure the tube is properly mounted before restoring power.

6. Operation

Once installed correctly and safely, the iProtool 220mm 400W Vacuum Halogen Tube operates by converting electrical energy into infrared radiation for heating. Its operation is typically controlled by the equipment it is integrated into.

- **Power On:** Restore power to the equipment. The heating element will begin to heat up rapidly upon activation.
- **Temperature Control:** The heating intensity is managed by the control system of the host equipment. Refer to the equipment's manual for specific temperature and power settings.
- **Observation:** Monitor the heating process to ensure it functions as expected. Avoid direct eye exposure to the intense infrared light.
- **Power Off:** When heating is no longer required, turn off the power to the element via the equipment's controls. The tube will remain hot for a period after power is removed.

7. Maintenance

Regular maintenance ensures optimal performance and extends the lifespan of your heating element.

- **Power Disconnection:** Always disconnect power and allow the tube to cool completely before performing any maintenance.
- **Cleaning:** Periodically inspect the quartz tube for dust, dirt, or other contaminants. If cleaning is necessary, gently wipe the surface with a clean, soft cloth moistened with isopropyl alcohol. Do not use abrasive cleaners or harsh chemicals. Ensure the tube is completely dry before restoring power.
- **Inspection:** Regularly check the electrical connections for tightness and signs of corrosion or damage. Inspect the tube for any cracks or discoloration that might indicate impending failure.
- **Replacement:** Replace the heating element if it shows signs of damage, reduced performance, or has reached

the end of its service life. Follow the installation steps in Section 5 for replacement.

8. Troubleshooting

If you encounter issues with your iProtool heating element, consider the following common troubleshooting steps. Always ensure power is disconnected before inspecting the unit.

- **No Heat Output:**
  - Check if the power supply to the equipment is active.
  - Verify that the heating element is properly connected to the power source.
  - Inspect the tube for visible damage (e.g., broken filament). A damaged tube will require replacement.
  - Consult the equipment's manual for its internal control system or fuse checks.
- **Reduced Heat Output:**
  - Ensure the tube surface is clean and free from dust or debris, which can impede infrared radiation.
  - Verify that the power settings on the host equipment are correct.
  - The tube may be nearing the end of its lifespan and require replacement.
- **Tube Discoloration:**
  - Minor discoloration over time is normal. However, significant or rapid darkening may indicate improper handling (e.g., fingerprints) or an issue with the power supply.
  - If discoloration is severe or accompanied by performance issues, consider replacement.

If problems persist after attempting these steps, contact a qualified technician or the equipment manufacturer for further assistance.

9. Warranty and Support

For warranty information and technical support regarding your iProtool 220mm 400W Vacuum Halogen Tube, please refer to the documentation provided with your purchase or contact your supplier. Specific warranty terms and conditions may vary.