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Corning PC-420D

Corning PC-420D Stirring Hot Plate User Manual

Model: PC-420D (6797-420D)

1. INTRODUCTION

This manual provides essential information for the safe and effective operation, maintenance, and troubleshooting of the Corning PC-420D Stirring Hot Plate. Please read this manual thoroughly before operating the device to ensure proper usage and to prevent injury or damage.

1.1 Safety Precautions

- Always operate the hot plate on a stable, level, and heat-resistant surface.
- Ensure proper ventilation to dissipate heat and fumes.
- Do not touch the hot plate surface when the hot top indicator is illuminated or immediately after use, as it can remain hot for an extended period.
- Use appropriate personal protective equipment (PPE) such as heat-resistant gloves and eye protection.
- Do not immerse the unit in water or other liquids.
- Disconnect the power cord before cleaning or servicing the unit.
- Avoid spilling liquids onto the control panel or into the internal components. The two-piece casting design helps deflect spills, but caution is still advised.
- Ensure the power supply matches the unit's requirements (100V, 60Hz).

2. PRODUCT COMPONENTS AND FEATURES



Figure 2.1: Front view of the Corning PC-420D Stirring Hot Plate, showing the white Pyroceram top, gray base, two digital displays for RPM and temperature, and two control knobs.

The Corning PC-420D Stirring Hot Plate is designed for precise temperature control and stirring of various solutions. Key components and features include:

- **Pyroceram Glass-Ceramic Top:** A durable 5 x 7 inch (12.7 x 17.8cm) surface for heating samples.
- **Digital LED Temperature Display:** Shows the current and set temperature in 5°C increments.
- **Digital LED Stirring Speed Display:** Shows the current and set stirring speed in RPM.
- **Temperature Control Knob:** Used to set the desired heating temperature.
- **Stirring Speed Control Knob:** Used to set the desired stirring speed.
- **Hot Top Indicator:** A bright LED icon that illuminates when the top plate temperature exceeds 60°C, even when the unit is turned off.
- **Built-in Support Rod Mount:** Allows for the attachment of an optional 18-inch (45.7cm) support rod.
- **Spill Deflection Design:** A two-piece casting design that helps direct spills away from internal electronics.
- **Overheat Protection:** A separate temperature sensor provides power cutoff if the unit overheats.

3. SETUP AND INSTALLATION

1. **Unpacking:** Carefully remove the hot plate from its packaging. Inspect the unit for any signs of damage incurred during shipping. Retain packaging materials for future transport or storage.
2. **Placement:** Place the hot plate on a stable, level, and non-flammable surface. Ensure there is adequate clearance around the unit for ventilation. Avoid placing it near flammable materials or in areas with excessive moisture.
3. **Power Connection:** Connect the standard US three-prong plug to a grounded 100V, 60Hz electrical outlet. Verify that the power supply matches the unit's requirements to prevent damage.
4. **Optional Support Rod Installation:** If using a support rod (available separately), insert it into the built-in mount located at the rear of the unit and secure it.

4. OPERATING INSTRUCTIONS

4.1 Powering On/Off

Once connected to power, the unit is ready for operation. The hot top indicator will illuminate if the surface temperature is above 60°C, even when the unit is off.

4.2 Temperature Control

1. Turn the temperature control knob clockwise to increase the desired temperature. The digital LED display will show the set temperature.
2. The temperature can be set from 5°C (if ambient temperature is 0°C or lower) up to 550°C, in 5°C increments.
3. The digital LED temperature display will blink until the set temperature is reached, indicating that the heating element is actively working to achieve the target temperature.
4. For precise temperature control within the vessel, an optional external temperature controller can be connected (sold separately). This bypasses the need for constant monitoring of liquid temperature.
5. Always observe the hot top indicator. It remains lit as long as the plate temperature is above 60°C, serving as a safety warning.

4.3 Stirring Control

1. Place a suitable stir bar into the vessel containing the solution to be stirred.
2. Place the vessel centrally on the Pyroceram top.
3. Turn the stirring speed control knob clockwise to increase the stirring speed. The digital LED display will show the set RPM.
4. The stirring speed can be adjusted from 60 RPM to 1150 RPM.
5. The exclusive closed-loop stirring control monitors and regulates the stirring speed, ensuring consistent and repeatable performance for aqueous, viscous, or semi-solid solutions.
6. The unit features a stronger, larger magnet and automatic ramp-up speed adjustment to minimize stir bar decoupling, especially when starting or changing speeds.

5. MAINTENANCE AND CARE

- **Cleaning:** Always disconnect the unit from the power supply before cleaning. Allow the hot plate to cool completely. Wipe the Pyroceram top and the exterior surfaces with a damp cloth and mild detergent. Do not use abrasive cleaners or solvents that could damage the surface.

- **Spills:** The two-piece casting design is intended to deflect spills away from the electronics. In case of a spill, immediately disconnect power, allow the unit to cool, and clean thoroughly.
- **Storage:** Store the hot plate in a clean, dry environment when not in use.
- **Inspection:** Periodically inspect the power cord for any signs of damage. If the cord is damaged, it must be replaced by qualified personnel.

6. TROUBLESHOOTING

Problem	Possible Cause	Solution
Unit does not power on.	No power supply; faulty power cord; internal fuse.	Check power outlet and cord connection. Ensure power switch is on. If problem persists, contact qualified service personnel.
Temperature not reaching set point or fluctuating.	Improper vessel placement; external factors (drafts); sensor issue.	Ensure vessel is centered. Minimize drafts. Consider using an external temperature controller for precise liquid temperature.
Stir bar decouples or does not spin.	Incorrect stir bar size; too viscous solution; vessel not centered; excessive speed change.	Use appropriate stir bar size. Reduce viscosity if possible. Center the vessel. Increase speed gradually.
Hot top indicator remains off despite high temperature.	Indicator light malfunction.	Assume surface is hot regardless of indicator. Contact service for repair.
Unit shuts off unexpectedly.	Overheat protection activated.	Allow unit to cool down. Ensure proper ventilation. If frequent, contact service.

If you encounter problems not listed here or if the suggested solutions do not resolve the issue, please contact Corning customer support.

7. SPECIFICATIONS

Model Number	6797-420D (PC-420D)
Top Plate Material	Pyroceram Glass-Ceramic
Top Plate Size	4.25 x 7.55 x 11 Inches (10.8 x 19.7 x 28cm)
Temperature Range	5°C (if ambient is 0°C or lower) to 550°C
Temperature Increments	5°C
Stirring Speed Range	60 to 1150 RPM
Power Requirements	100V, 60Hz
Amperage	6.3 A
Watts	623 W

Product Dimensions (L x W x H)	4.25 x 7.55 x 11 Inches (10.8 x 19.7 x 28cm)
Weight	3.2 kg (7.05 Pounds)

8. WARRANTY INFORMATION

For detailed warranty information regarding your Corning PC-420D Stirring Hot Plate, please refer to the warranty card included with your product packaging or visit the official Corning website. Keep your proof of purchase for warranty claims.

9. CUSTOMER SUPPORT

If you have any questions, require technical assistance, or need to order replacement parts, please contact Corning customer support. Contact details can typically be found on the official Corning website or on your product packaging.

Manufacturer: Corning

Website: www.corning.com

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