

Corning PC-620D

Corning PC-620D Digital Stirring Hot Plate Kit

USER MANUAL

1. Introduction

The Corning 6795-620KIT PC-620D Digital Stirring Hot Plate Kit is designed for precise heating and stirring of liquid solutions in laboratory environments. Featuring a durable 10 x 10 inch Pyroceram top plate, this unit offers fast heating, chemical resistance, and scratch resistance. Dual LED readouts provide clear display of temperature and speed settings, ensuring accurate control for various scientific applications.

This manual provides essential information for the safe and effective operation, setup, and maintenance of your Corning PC-620D Digital Stirring Hot Plate Kit.

2. Safety Information

Always observe the following safety precautions to prevent injury or damage to the equipment:

- **Electrical Safety:** Ensure the unit is connected to a properly grounded electrical outlet. Do not operate with damaged cords or plugs. Disconnect power before cleaning or servicing.
- **Burn Hazard:** The hot plate surface can reach temperatures up to 550°C. Always assume the surface is hot, even if the hot top indicator light is off. Use appropriate personal protective equipment (PPE), such as heat-resistant gloves.
- **Chemical Safety:** Exercise caution when heating or stirring flammable, corrosive, or hazardous chemicals. Ensure proper ventilation and containment.
- **Stability:** Place the hot plate on a stable, level, and heat-resistant surface. Ensure glassware and support rods are securely positioned.
- **Overheating:** Do not operate the unit unattended, especially when heating volatile substances. Monitor temperature settings carefully.
- **Ventilation:** Ensure adequate ventilation to dissipate heat and any fumes generated during operation.

3. What's in the Box

Upon unpacking, verify that all components are present:

- Corning PC-620D Digital Stirring Hot Plate
- External Temperature Controller

- (2) 9-inch Support Rods
- Stir Bar Retriever
- Instruction Manual (this document)

4. Setup

Follow these steps for initial setup of your hot plate:

1. **Placement:** Select a stable, level, and heat-resistant workbench or surface away from flammable materials and direct sunlight. Ensure adequate clearance around the unit for ventilation.
2. **Support Rods:** Insert the two 9-inch support rods into the designated threaded holes at the rear of the hot plate. These can be used to hold the external temperature controller or other accessories.
3. **External Temperature Controller:** Connect the external temperature controller probe to the appropriate port on the hot plate. Secure the controller using one of the support rods if desired.
4. **Power Connection:** Ensure the hot plate's power switch is in the 'OFF' position. Plug the power cord into a grounded 120V/60Hz electrical outlet.



Figure 1: Corning PC-620D Digital Stirring Hot Plate Kit. This image shows the main unit with its control knobs and digital displays, and the Pyroceram top plate.

5. Operating Instructions

The PC-620D features intuitive controls for both heating and stirring functions.

5.1. Heating Function

1. **Power On:** Turn the temperature control knob from 'OFF' to the desired temperature setting. The unit will power on, and the temperature LED readout will illuminate.
2. **Set Temperature:** Adjust the temperature control knob to set the desired temperature. The temperature can be set from ambient +5°C up to 550°C in 5-degree increments. The dual LED display will show the set temperature.
3. **Temperature Monitoring:** The hot plate will begin heating. The external temperature controller, if connected, helps ensure regulation to $\pm 2^{\circ}\text{C}$.
4. **Hot Top Indicator:** A 'HOT TOP' light will illuminate when the surface temperature is above 60°C, even if the power is off. This is a safety feature.

5.2. Stirring Function

1. **Place Stir Bar:** Carefully place a stir bar (sold separately) into the vessel containing the liquid to be stirred.
2. **Power On:** Turn the stirring speed control knob from 'OFF' to the desired speed setting. The unit will power on, and the speed LED readout will illuminate.
3. **Set Speed:** Adjust the stirring speed control knob to set the desired RPM. The speed range is 60 to 1,150 rpm. Speed settability varies: 5 rpm at 60-100 rpm; 10 rpm at 100-200 rpm; 20 rpm at 200-400 rpm; 50 rpm at 400-1,150 rpm.
4. **Slow Start:** The stirring control slowly increases speed for improved safety and enhanced coupling with the stir bar, especially for viscous solutions.

6. Maintenance

Proper maintenance ensures the longevity and optimal performance of your hot plate.

- **Cleaning:** Always disconnect the unit from power and allow it to cool completely before cleaning. Wipe the Pyroceram top plate with a damp cloth and mild detergent. For stubborn stains, a non-abrasive cleaner suitable for glass-ceramic surfaces can be used. Avoid abrasive pads or harsh chemicals.
- **Spills:** Immediately clean any spills on the hot plate surface to prevent residue buildup or damage.
- **General Care:** Keep the unit free from dust and debris. Do not immerse the unit in water. Inspect the power cord for any signs of damage regularly.

7. Troubleshooting

If you encounter issues with your hot plate, refer to the following common troubleshooting steps:

- **Unit Does Not Power On:**
 - Check if the power cord is securely plugged into a live electrical outlet.
 - Ensure the temperature or stirring speed knob is turned from the 'OFF' position.
 - Verify the circuit breaker or fuse for the outlet has not tripped.
- **Hot Plate Not Heating:**
 - Confirm the temperature setting is above ambient temperature.

- Ensure the external temperature controller is properly connected and functioning if in use.

- **Stirring Not Functioning:**

- Ensure the stirring speed knob is turned from the 'OFF' position and set to a desired RPM.
- Verify that a suitable stir bar is placed correctly in the vessel and is not stuck.
- Check if the liquid viscosity is too high for the selected speed or stir bar.

- **Inaccurate Temperature Reading:**

- Ensure the external temperature controller probe is correctly positioned within the solution.
- Verify the probe is clean and undamaged.

If problems persist after attempting these steps, contact Corning customer support for further assistance.


8. Specifications

Feature	Specification
Model Number	PC-620D (Kit: 6795-620KIT, Item Model: S5660-7K)
Top Plate Material	Glass-ceramic (Pyroceram)
Top Plate Dimensions (W x D)	10 x 10 inches (25.4cm x 25.4cm)
Temperature Range	Ambient +5°C to 550°C
Temperature Accuracy	±2°C (with external temperature controller)
Speed Range	60 to 1,150 rpm
Speed Settability	5 rpm (60-100 rpm); 10 rpm (100-200 rpm); 20 rpm (200-400 rpm); 50 rpm (400-1,150 rpm)
Power	120V/60Hz
Weight	5.2 kg (11.46 lbs)
Overall Dimensions (H x W x D)	4.625 x 11 x 15.375 inches (11.75cm x 28cm x 39.05cm)

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For technical support or service, please visit the official Corning website or contact your local distributor.

Related Documents - PC-620D

	Corning Hot Plates, Stirrers, and Stirrer/Hot Plates Instruction Manual Instruction manual for Corning hot plates, stirrers, and stirrer/hot plates with digital displays, and the 6795PR Temperature Controller. Includes operating instructions, safety information, technical specifications, and warranty details.
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