



User Instructions

COMBINATION HEATING MANTLES

The Glas-Col combination heating mantles consist of three (3) separate replaceable heating modules for sizes 250mL or 500ml depending on model ordered. All modules are situated within a clear anodized aluminum housing which have a hinged top to allow access to the modules. All combo units have a black PTFE coated top, which provides excellent chemical and abrasion resistance.

100D MX50212 • 120VAC, • 10Amps, • 60 Hz, • 500ml
100D MX25212 • 120VAC, • 10 Amps, • 60 Hz, • 250ml



NOTE: Glassware shown is not included



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ASSEMBLY

Each unit is furnished with (2) ½" diameter x 24" long rods which are the vertical support rods and are attached into the aluminum clamps on the back of the combination mantle using thumb screws provided. There is also (1) ½" x 26" rod that is the horizontal support rod to attach glassware to. Slide the lattice clamps onto the horizontal rod for the 3-finger clamps before securing to the vertical support rods. The rods are held in place using aluminum lattice clamp and the supplied thumb screws. The 3 finger clamps are supplied with the unit and also attached to the ½" aluminum rod using the thumb screws.

INSTALLATION

Place the mantle on a sturdy bench and allow at least 6" of room behind the mantle as there is a cooling fan in the back of the mantle. Plug the supplied 3-wire power cord into the IEC style fused connector on the back of the control and then plug the other end of the cord into a 3-wire ground outlet rated at 120Volts, 10 Amps.

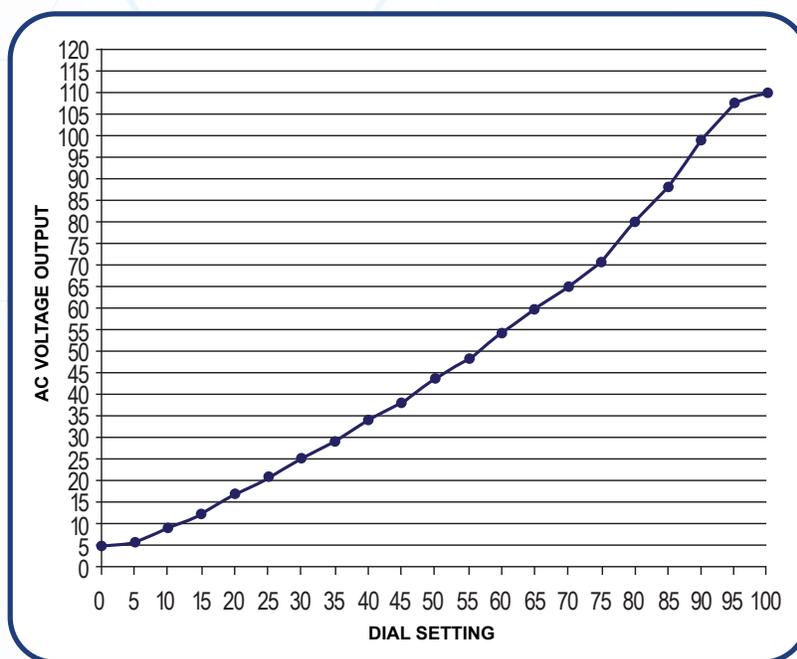
OPERATION

Fill each flask with the amount of material specified in the laboratory procedure being performed. Place the flasks into the unit and connect all auxiliary glassware. (NOTE: Do not heat glassware that does not contain material and do not heat a flask to dryness.) Flip the main power switch located on the IEC fused power inlet, on back of housing, and then toggle the lighted power switch to the "ON" position to apply power to the controller. Turn the control knob to the desired setting. As the knob setting is increased, voltage to the load increases. Full line voltage is applied at a dial setting of 100 percent. Settings below 100 percent are not linear. As shown in the charts below, some voltage is output with the dial setting of zero. Shutting the control off using the toggle switch on the front panel sets the voltage output to zero. Verify input line voltage prior to operation. Manual power controls require experimentation to achieve the desired control setting for a particular application.



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REPLACING HEATING MODULES

Procedure:

1. Disconnect all power to the unit.
2. Allow unit to cool. Use caution! External housing may be cool to the touch, although internally the modules can still be very hot.
3. Remove all flasks and glassware and support rods and then remove the screws under the top flange of the housing. The top is hinged and will lift up after removing the screws. Remove the (4) screws around the outside edges of the top ring and then remove the 2 smaller screws in the center of the ring. The heating elements can then be removed by unscrewing the 2 lead wires from the terminal strip inside the mantle housing.
4. Reverse all steps after replacing the heating element.



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MAINTENANCE

Maintenance on a regular schedule is not required. Of course, any damage, which occurs to the mantle, should be repaired immediately. Glas-Col mantles should be protected from corrosive atmospheres so far as possible.

Limited Warranty

Please refer to the current Glas-Col warranty policy located under the General Sales Policy on the Glas-Col website at www.glascol.com. Glas-Col products are intended only for legal and legitimate purposes in commercial, laboratory and industrial settings.

Returns:

For returns, please refer to our sales policy on www.glascol.com.

REPLACEMENT PARTS LIST

250mL Heating element: 100C M102E

500ml Heating element: 100C M106E

Main Power Cord: R08-287

½" x 24" support rod (2) needed: R34-337

½" x 26" support rod (1) needed: R34-1668

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SAFETY AND CAUTION MESSAGES:

- Always follow your company safety procedures when using laboratory equipment such as heating mantles. In addition, there are numerous safety references such as The National Fire Protection Council, American Chemical Society, National Fire Protection Association, etc. Such references often apply to your specific discipline and procedure.
- Heaters and the vessels they heat get very hot. Allow both to cool before handling. If it is necessary to handle equipment while hot, use protective gloves and other appropriate heat shielding.
- Never charge or pour material into a hot vessel. Fill or charge your vessel away from the mantle and clean off the outside. Then place the vessel in the cool mantle.
- Do not spill any kind of material in a heating mantle.
- Keep power cords, condenser tubes and any combustible or hazardous material away from heating mantles. Always ensure all safety equipment is in proper use i.e. hoods, apparel, shields, etc.
- Do not heat vessels that show signs of wear or damage such as cracks, scratches, or chips.
- Do not alter the cords or plugs of mantles or any kind of temperature regulating devices.
- Always operate mantles from properly grounded receptacles and on clean, dry, noncombustible work surfaces.
- Mantles should be inspected regularly. Do not use if fabric, power cords or other parts are worn, frayed, or damaged in any way.
- Mantles have heating capacity for a wide variety of applications. Refer to appropriate laboratory procedures for the specific material being heated.
- Do not operate any mantle beyond its rated voltage.
- It is good laboratory practice to monitor any heater. Heaters that must be left unattended should be operated through automatic temperature-limiting controls.