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## HEATING MANTLE MODEL : MS-CM

– with automatic Temperature controller

### A. Characteristic

MODEL MS-CM with automatic temperature controller has been designed to use handy. Heating element is made of the soft glass fiber and minimized damage of the flask in case of impacting on slightly when use. Heating efficiency is promoted greatly because of being a good contact between heating element and glass vessel.

### B. Operation

- 1) Insert the clean and dry flask as same volume as the mantle with a good contact between flask and internal surface of the mantle.
- 2) Before plug the electric source in the wall outlet make sure that the surface of flask and the heating element are in a good contact. and then plug it in the wall outlet.
- 3) Connect "Sensor" to the connector behind mantle and put it in the substance in flask. Green lamp is lit when both main switch turn on. setting starts as soon as you push the setting button and set to temperature what you want.
- 4) When first used the surface of the heating element will become slightly discoloured. This is due to the dressing in the glass fiber and will gradually disappear with use.
- 5) Turn the temperature controller on "off" before removing the flask after finished experiment.

### C. Safety Precautions

This heating mantle should only be used in accordance with these instructions.

- 1) "Do not" use the mantle with electrically conductive vessels.
- 2) "Do not" place a flask in or remove it from a mantle whist the mantle is switched on.
- 3) "Do not" touch the heating element or any glassware whist in use.
- 4) "Do not" spill any liquid on the flask and the heating element.

### D. Procedure in the Event of Spillage or Flask Breakage

- 1) Should spillage or flask breakage occur, switch off the main supply immediately. It is most likely that the heater cartridge will absorb most of the liquid and this should be dried off before further use.
- 2) Disconenct the mantle from the electrical supply.
- 3) Remove any broken glass or solids from the heater element.
- 4) Place the mantle in a low temperature oven at 60 Degree C in order to evaporate the spilled fluid.
- 5) After dried mostly, should dry it again before insert the flask into the mantle.

### E. Technical Specifications

- 1) Main Power Supply : 110V or 220V 50-60Hz
- 2) Main Lead : 3 cores 2 meter long
- 3) Power Consumption : See the label on the surface of the mantle.
- 4) Heating Element temperature : Up to 400 Degree C at maximum(Room Temperature)
- 5) Temp. Controller : Analogue Display
- 6) Case Construction : Special powder coating on the surface of the steel case.
- 7) Thermal Insulation : Moulded silica powder
- 8) Sensor : Ø4.8mm x L200mm

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