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INSTRUCTION MANUAL FOR

# Heating Mantle with Magnetic Stirrer

## KM-1/2



**KM-1 for flasks 250ml up to 1000ml, 550W**

**KM-2 for flasks 500ml up to 2000ml, 750W**

**PLEASE READ THIS MANUAL CAREFULLY BEFORE OPERATION**

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## **IMPORTANT SAFETY INSTRUCTIONS**

### **WARNING**

- 1) Do not heat any substances above temperature which will cause hazards of explosion, implosion or release of toxic or flammable gases arising from the materials being heated.
- 2) Do not use in the presence of flammable or combustible materials or explosive gases.
  - Do not use in the presence of pressurized or sealed containers.  
Fire or explosion may result, causing severe injury or death.
- 3) To avoid electrical shock, always use a properly grounded electrical outlet of correct voltage and current handling capacity.
- 4) The user has the responsibility for carrying out appropriate decontamination, if hazardous material is split on or inside the equipment.
- 5) The user shall be aware that, if the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.
- 6) The instrument should be placed so, that handy operation on the ON-OFF Switch is possible.
- 7) Always disconnect the instrument from the power supply, prior to maintenance and servicing.
- 8) All servicing must be done by a qualified service engineer.

### **Stirring mechanism :**

- \* Connect the instrument to a ground mains outlet, after ensuring that the Voltage is the same as given on the name plate. The FLASK HEATER must be connected to a earthen (grounded) supply.
- \* Assure that the Magnetic Stirrer Speed Control is in OFF position.
- \* Insert a magnetic stirring bar in the flask, containing the liquid to be stirred (the stir bar should preferably be egg-shaped).
- \* The stirring speed should be raised gradually (by turning the speed control knob slowly).

If the magnetic stirring bar is thrown to the walls of the flask, this is mainly due to one of the following reasons :

One. a too rapid rise in the Stirring Speed.

In this case, turn back to OFF and raise speed gradually.

b. the viscosity of the liquid is too high.

### **HEATING SYSTEM :**

The hotplate is actuated by the Temperature Control Knob on the front of the instrument, which regulates heat of top plate from ambient temperature up to 600<sup>0</sup>C. The pilot lamp indicates the thermostat's operation.

**WARNING :** The instrument may be hot to touch, even when the pilot lamp is off.

**ACCURACY :** To obtain maximum accuracy of the temperature, the heating capacity can be adjusted to different flask sizes, by a switch located on the rear of the instrument.

The heat controller maintains a set temperature of the heater by turning the power ON and OFF over short time intervals. The greater the percentage of time the power is on, the higher the temperature. At the FULL position, power is on continuously and maximum temperature is obtained. From the OFF position, the knob may be turned either to the right or left. For fast heat-up, turn the knob to Full position. When the desired temperature, is reached, reduce the setting to the point where the temperature will be maintained. The heater is always on when the pilot light is on.

To avoid "Hot Spots" in the liquid, the flask can be lifted by a support-rod equipped with a clamp, which can be fastened on the rear bracket of the instrument.

**CAUTION :** When turning OFF the control be sure the knob is on OFF position and the indicator light is out.