

HOTPLATE/STIRRER

OPERATING MANUAL

Models 1100 & 1200 Hotplate Stirrers
Models 1101 & 1201 Hotplates
Model 1102 Stirrer

ENVIRONMENTAL PARAMETERS

The units will operate at ambient temperatures between 0°C and 40°C, and at humidity levels between 0 and 90% (non-condensing).

SPECIFICATIONS

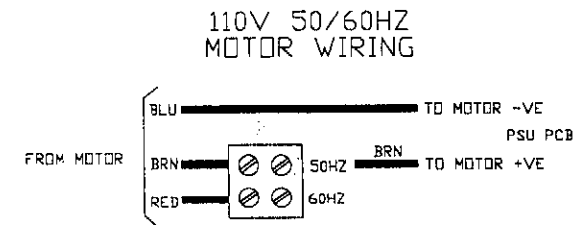
Description	Hotplate Stirrer	Hotplate	Stirrer	Hotplate Stirrer	Hotplate
Model No.	1100	1101	1102	1200	1201
Order Code: 230 Volt option* 110 Volt option**	110 001 110 051	110 101 110 151	110 201 110 251	120 001 120 051	120 101 120 151
Power (W)	500	500	50	1200	1200
Maximum Plate Temperature °C	450	450	x	450	450
Temperature Control °C	±1°C	±1°C	x	±1°C	±1°C
Stirrer Speed (rpm)	100-1200	x	100-1200	100-1200	x
Hot Warning Light	✓	✓	x	✓	✓
Plate Dimensions (mm)	210 x 210	210 x 210	210 x 210	290 x 290	290 x 290
Heated Area (mm)	150 x 150	150 x 150	x	200 x 200	200 x 200

Overall Dimensions w x d x h (mm):

Models 1100, 1101 and 1102 - 225x340x85mm / Models 1200 and 1201 - 305x410x85mm

- * 230 volt units Models 1100, 1102 and 1200 operate @ 50Hz
Models 1101 and 1201 operate @ 50/60Hz
- ** 110 volt units Models 1100, 1102 and 1200 operate @ 60Hz, with the option of 50Hz internally selectable (refer Figure 1)
Models 1101 and 1201 operate @ 50/60Hz

Figure 1 - 50/60 Hz Internal Selection



POWER SUPPLY

These instruments are designed to operate on one of a number of international voltage and frequency options. Prior to installing the unit check that the voltage and frequency information given on the rear panel matches the supply that you have available.

Models 1100, 1101, 1102, 1200 and 1201

All 230 volt units are supplied with a 2 metre mains cable which can be plugged directly into the IEC socket located on the rear panel.

Models 1100, 1101 and 1102

110 volt units are supplied with a 2 metre moulded U.S. mains cable which can be plugged directly into the IEC socket located on the rear panel.

Models 1200 and 1201

110 volt units are supplied with a 2 metre moulded U.S. mains cable which is permanently connected.

MAINS CONNECTIONS

230 volt instruments - Models 1100, 1101, 1102, 1200 and 1201

A suitable plug should be connected to the three wires on the mains cable supplied with 230 volt units. The wires are colour coded to conform to the internationally recognised standard such that:

BROWN	LIVE
BLUE	NEUTRAL
GREEN/YELLOW	EARTH

IMPORTANT: ALL UNITS MUST BE EARTHED.

The Green/Yellow wire in the a.c. supply cable must be connected to a properly grounded terminal.

For the correct fuse value refer to the rear panel of the unit. Ensure the correct fuse is fitted for the supply being used.

INSTALLATION

The units are supplied with the following accessories:

Models 1100, 1102 and 1200 - 230 volt

- 1) Mains cable (013 046)
- 2) Stirrer bar (Qty 1 x 25mm PTFE coated) (060 138)

Models 1101 and 1201 - 230 volt

- 1) Mains cable (013 046)

Models 1100 and 1102 - 110 volt

- 1) Moulded U.S. mains cable (013 083)
- 2) Stirrer bar (Qty 1 x 25mm PTFE coated) (060 138)

Model 1101 - 110 volt

- 1) Moulded U.S. mains cable (013 083)

Models 1200 - 110 volt

- 1) Stirrer bar (Qty 1 x 25mm PTFE coated) (060 138)

Model 1201 - 110 volt

No standard accessories supplied

For units supplied with the optional retort and associated components the following assembly operations should be carried out:

- a) Screw the retort rod into one of the tapped lugs on the rear of the unit. Select the left or right lug, whichever is most convenient for use. Ensure the rod is fully tightened into the lug.
- b) Fit components to the retort rod in the normal manner, remembering that the zone immediately above the heated areas of the ceramic plate (not the Model 1102) can reach high temperatures.

OPERATION

FRONT PANEL CONTROLS (as applicable for product type)

1. Green LED - will illuminate when mains power is connected to the unit.
2. Orange LED - will illuminate when the heater is in operation.
3. Orange LED - will illuminate when the stirrer is activated.
4. Red LED - will flash to warn that the tile temperature is in excess of 55°C.
5. Heater Control - single turn potentiometer.
6. Stirrer Control - single turn potentiometer.

HEATING - Models 1100, 1101, 1200 and 1201

Heat setting is achieved using the front panel control knob. The ceramic surface will achieve a temperature that approximates to the value indicated by the knob calibration. When fully anti-clockwise the heat control is "off" and the amber indicator adjacent to the control will extinguish. The red indicator adjacent to the control will flash whilst the ceramic is at a temperature dangerous to touch (above 55°C). This indicator will continue to operate as long as power is connected to the unit, even after the heater is switched off.

The pattern on the ceramic tile defines the area of full heat. The outer areas will remain cooler for safety reasons.

WARNING

1. **The hotplate must not be used to heat materials or containers which have high reflective or insulating properties. Sandbaths and silver foil must not be used. If heat is not allowed to escape from the heated surface over heating will cause failure.**
2. **Never use the hotplate to heat inflammable liquids.**
3. **Never attempt to handle the hotplate until the warning indicator stops flashing.**

STIRRING

Models 1100, 1102 and 1200

Stirring speed is controlled via a front panel knob. When the stirring mode is activated an amber indicator adjacent to the control is illuminated. The stirring mode can be switched off by turning the control fully anti-clockwise.

For your guidance the approximate relationship between stirrer speed and control settings is given below.

Setting	Speed	Setting	Speed
1	100	6	650
2	200	7	800
3	300	8	1000
4	450	9	1100
5	550	10	1200

CARE OF GLASS CERAMIC PLATE

The glass-ceramic plate has been designed for easy cleaning. Spillages, especially those of alkalis, hydrofluoric and phosphoric acid must be dealt with immediately by wiping the surface with a damp cloth to avoid damage to the glass-ceramic. This will normally remove most types of contamination, but for more stubborn deposits the use of a proprietary ceramic hob cleaner is recommended.

IMPORTANT

Care should be taken during general operation and cleaning to ensure that the surface of the glass-ceramic plate does not become scratched, chipped, chemically etched or damaged as this may result in thermal breakage.

If damage occurs the unit must be disconnected from the mains supply and the appropriate servicing authority contacted for repair/replacement. Under no circumstances should the unit continue to be used.

OPTIONAL ACCESSORIES - all models

Retort Rod	100 122
Model 2152 Temperature Meter	988 501
Temperature Probe for use with 2152	027 226
Probe Holder	100 123
Temperature Meter Holster	100 125

SPARES

Fuse 315mA (F)	016 018
Fuse 1A (F)	016 025
Fuse 3.15A (F)	016 014
Fuse 6.3A (F)	016 015
Fuse 15A (F)	016 027
Models 1100 & 1200 Control PCB	110 004
Models 1101 & 1201 Control PCB	110 104
Model 1102 Control PCB	110 204
Models 1100 & 1200 (230V) Power PCB	110 017
Model 1100 (110V) Power PCB	110 057
Model 1200 (110V) Power PCB	120 057
Models 1101 & 1201 (230V) Power PCB	110 108
Model 1101 (110V) Power PCB	110 154
Model 1201 (110V) Power PCB	120 154
Model 1102 (230V) Power PCB	110 210
Model 1102 (110V) Power PCB	110 255
Models 1100 & 1101 (230V) Top Plate Assembly	110 009
Models 1100 & 1101 (110V) Top Plate Assembly	110 054
Model 1102 Top Plate Assembly	110 208
Models 1200 & 1201 (230V) Top Plate Assembly	120 004
Models 1200 & 1201 (110V) Top Plate Assembly	120 054
Models 1100, 1102 & 1200 (230V) Motor Assembly	110 011
Models 1100, 1102 & 1200 (110V) Motor Assembly	110 055

All units comply fully with EEC and US directives relating to ESD/EMC emission and susceptibility.