



Laboratory Ovens

Operating Instructions



1. Unpacking

1.1 Remove all packing material from between the shelves and inner walls of the oven.

2. Mains Supply

2.1 240-volt units. Each unit comes supplied with a mains connection lead already fitted with a correctly rated fuse. The fuse rating and other details for each unit is shown on the voltage plate riveted to the back of the unit. It is important that, if the fuse needs to be replaced, it must only be replaced with one of the correct rating.

2.2 110-volt units are supplied with a cable but without a plug or fuse. These units should be wired in by a suitably qualified electrician to the following:-

BROWN 'L' Live pin Refer to voltage plate

BLUE 'N' Neutral pin for fuse requirement

GREEN/YELLOW 'E' Earth pin

WARNING : DO NOT CONNECT THE OVEN TO A D.C. MAINS SUPPLY OR SERIOUS DAMAGE WILL OCCUR

3. Operation - Digital Control P116

3.1 Position the shelves within the work chamber.

3.1 Switch 'ON' the mains switch, indicated by the green lamp.

3.2 Turn the overheat thermostat to approximately 10°C above the desired working temperature and lock this in position with the black grab screw

3.3 Set the main temperature controller to the desired temperature by pressing 'Up' or 'Down' arrow keys. The operational parameters of the controller have been factory set to cover a wide range of temperature and load conditions.

Note: Top display shows actual temperature and bottom display shows set temperature.

3.4 If the chamber temperature rises above the overheat set temperature, the red lamp will be illuminated and the heat control circuit will be disabled. Control will switch back the main temperature control once the chamber temperature falls below the overheat set temperature. If the red lamp will not go out or keeps coming on there may be a problem with the unit. In this case please consult your supplier.

3.1.1 The PID temperature controller has been factory set to suit optimum conditions for the oven, and has been calibrated to the centre point of the oven. Should the load change within the oven or if you want to perform your own calibration routine to the oven, please follow the following steps.

3.1.2 – To Autotune, Press and hold then Menu button. Level 1 will be displayed, press the Up button to Level 2 and Enter. Enter the pass code '2' and then Enter. Press Enter until you see the command 'A Tun' and then Up and the green display will say 'on'. Hold the Menu button, down to Level 1 and then return. During tuning mode the display will flash 'tune'. Typically this should take up to 30 minutes and the controller will go to normal operation automatically.

3.1.3 – To apply an offset, Press and hold then Menu button. Level 1 will be displayed, press the Up button to Level 2 and Enter. Enter the pass code '2' and then Enter. Press Enter until you see the command 'oFS'. By pressing the Up or Down Key, an offset is added to the Temperature. Once the desired value is entered, hold the Menu button followed by the down button, to Level 1 and the return. As an example, if the oven displayed 100 deg and you had a calibrated sensor displaying 98 deg C, the value you enter in the 'oFS' section would be -2

4. Maintenance - Routine Checks On Each Occasion Of Use:

- 4.1** Check the condition of supply lead and plug top. These should be sound and undamaged.
- 4.2** Connect to mains supply and check:-
- Supply switch operation
 - Green Supply indicator is working
 - Check at working temperature, that the heat indicator (amber lamp) cycle's on and off without the overheat (red lamp) illuminating.
 - A temperature check can be done by using a suitable temperature probe, inserted 100mm into the oven chamber via the top vent.

5. Preventative Maintenance

Ensure that the unit is maintained in a clean, dry condition and when not in use, stored in a normal warm atmosphere.

Minimum recommendation every six months:-

- 5.1** Check the plug top connections are tight and the fuse rating is correct.
- 5.2** Check the operation of the overheat protection system by raising the desired temperature above the overheat temperature.
- 5.3** Carry out an electrical safety check (Portable Appliances) using an appropriate appliance tester operated by a competent person.
- 5.4** Check that the control temperature is maintained within limits. The manufacturer can offer the above service on request.

6. Safety

When the unit is to be used for the incubation of microbiological specimens, please consider carefully the siting and use of the unit to ensure safe operating conditions for all users.

Appropriate safety precautions are essential for any microbiological work and any guidelines issued (for example, The Department of Education and Science guidelines) on this subject must be followed exactly. They are necessary to protect both people and animals from infection and to protect cultures of micro-organisms from infection by unwanted contaminants.

If liquids contained in partially sealed vessels are to be heated in the unit, then at all times the temperature setting must be such that no appreciable pressure build-up is allowed to occur within the vessel. The risk of explosion becomes high if the temperature setting is higher than that of the boiling point of the liquid. Therefore, any vessels that require heating **SHOULD NOT** be completely sealed. These units are not suitable for use where inflammable solvents are being used where the solvent concentration can reach inflammable or explosive levels.

When the unit is in use, the thermostat / heating control should be locked where a dial lock is fitted and / or a notice warning against unauthorised tampering with either the temperature setting or the work in progress should be prominently displayed.