Installation, Operation & Maintenance Instructions

Safe-Air

An electrical alternative to the Bunsen burner

Developed in conjunction with the University of Sheffield School of Dentistry

This manual is for the guidance of operators of the above Carbolite product and should be read before the unit is connected to the electricity supply.

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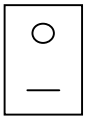
1.0 INTRODUCTION

1.1 The Safe-Air

The Safe-Air is designed for use as a safe heat source for a variety of medical and industrial applications where it can often replace a Bunsen burner, thereby minimising the risk of igniting inflammable items such as latex gloves. It produces of stream of air, electrically heated to approximately 400°C. It operates from a standard UK 13 Amps socket.

The current version was introduced in late 2003, and is painted white. Earlier versions were painted light grey. Any differences relevant to the operator are mentioned in this manual.

1.2 Switches & Lights



ON/OFF Switch. The rocker switch lights up in green when the unit is switched on.

1.3 Warning Symbols

WARNING The exit nozzle at the top of the unit gets hot.
Do not touch the exit nozzle.

2.0 INSTALLATION

2.1 Unpacking & Handling the Safe-Air

Remove the unit from the box, and check that no packing remains inside the nozzle.

Do not connect the unit to the electrical supply while it is in its box or while it is inside any other container. Do not place it in its box or another container while hot.

Always lift or move the unit by the black grip around the centre of the body. Do not lift it by the supply cable or by the nozzle.

2.2 Siting & Setting Up the Safe-Air

Place the unit in a well ventilated area.

Be aware that the process the unit is used for could trigger nearby smoke alarms.

Keep the unit away from water or other liquids.

Avoid placing the unit unnecessarily on or near inflammable materials.

Position the unit at a safe distance from other objects. At least 150mm distance is recommended.

When in use, the nozzle should face away from the operator and from other people in the vicinity.

2.3 Electrical Connections

The unit is designed for a 240V AC 1-phase live and neutral supply and is fitted with a lead terminating in a moulded standard domestic 3-pin plug, fused at 3 Amps. Replacement of the plug or fuse should not be necessary, but if required should only be undertaken by an electrician or suitably qualified person. The live and neutral must be wired with correct polarity; the colour codes of the supply lead are:

brown=live blue=neutral green/yellow=earth (ground)

It is advisable to connect the unit to the electrical supply through an RCD safety device.

Ensure that the power supply to which the unit is to be connected is not overloaded by other equipment.

3.0 OPERATION

3.1 Operating Cycle

Make sure the on/off switch is OFF (O), and the unit is positioned safely (see 2.2), before connecting to the electrical supply.

Switch the on/off switch to ON (–). The switch will glow green and the unit will operate immediately.

Allow the unit to run for 5-10 minutes before using.

This paragraph applies only to the current (white) model.
If the unit is used for long periods it will occasionally enter a cooling cycle in which the air flow increases for around 15 minutes, after which it will resume normal operation. During this period the temperature of the hot air will be reduced.

Switch the unit off after use.

3.2 General Operating Notes

Excessive continuous use can shorten the life of the unit.

The ambient temperature can affect the frequency with which the cooling cycle operates.

3.3 Operator Safety

The operator should read this manual and observe all the recommendations in it.

Do not open the unit, insert anything into it, or allow fluids to enter it. Do not operate the unit with wet hands.

Avoid burns caused by touching the nozzle or holding a hand in the hot air stream. Be careful even when wearing gloves, as burns can be caused by delayed heat transfer through a glove.

Do not use the unit in the presence of potentially explosive vapour: use of the safe-air near volatile materials can be dangerous.

The Safe-Air is internally fused, and the current (white) models also feature a thermal trip and thermal fuse to protect the operator from electrical shock and the unit from excessive heat build up. The supply lead is fused at the plug.

4.0 MAINTENANCE

4.1 General Maintenance

Do not open the unit or attempt repair. See section 4.3 before replacing the plug fuse.

If repair is required please contact Thermal Engineering Services: contact details are at the end of this manual. Please quote the serial number from the base of the unit.

4.2 Cleaning

Switch off and disconnect the unit before cleaning.

Clean by wiping with a damp cloth. Do not use organic solvents.

Do not allow water to enter the unit. Allow it to dry before reconnecting it.

4.3 Fuses

The line plug contains a 3 Amp 25x5mm BS standard fuse; this protects the supply lead. Do not replace this fuse with one of a higher rating.

The Safe-Air contains a 2 Amp fuse on the live side; this protects internal wiring.

Failure of a fuse indicates a fault. Please contact Thermal Engineering Services if the unit does not work when switched on.

5.0 ENVIRONMENT

The Safe-Air contains electrical parts and should be stored and used in indoor conditions as follows:

Temperature – 5°C to 40°C

Relative Humidity – Maximum 80% up to 31°C, decreasing linearly to 50% at 40°C