

# Martin Lishman

Unit 2B Roman Bank, Bourne, Lincs., PE10 9LQ  
Tel: +44 (0) 1778 426600 Fax: +44 (0) 1778 426555  
E-mail: sales@martinlishman.com www.martinlishman.com

## Operating Instructions for Martin Lishman Potato Hot Box



### Installation

1. Remove any packaging from the Hot Box on arrival. Place the Hot Box on a flat solid surface. Ensure that the Hot Box is not subject to extremes of temperature during use.
2. Ensure the electrical plug is correctly fitted and connected. It MUST be fitted with a 5 amp fuse. It is important to comply with all relevant electrical safety regulations.
3. The Hot Box requires a 230 volt power supply.
4. This unit is of class 1 specification and its supply must be earthed.

### Using the Hot Box

1. Place a washed sample of potatoes in each wire tray with approximately 25 potatoes in each one. Make careful note of where in the processing or grading line each sample was taken from, its variety and the tray number.
2. Set the thermostat control at 30°C and the humidity to 95%. Set the timer control at 12 hours.
3. Make sure the Hot Box door is closed.
4. The Hot Box will hold the internal temperature at 30°C and the humidity at the set point. It will switch off automatically after 12 hours. After the 12 hours has elapsed, switch off the Hot Box at the socket.
5. The fan has a 3 minute run on timer to prevent overheating of the heating element.

### Setting the Temperature and Humidity

#### **Setting the Temperature**

Press **TEMP** key (key lamp flashes):

This message will be displayed instead of the °C Set Temperature Value

Press [ + ] or [ - ] to modify

Press **TEMP** to confirm

#### **Setting the Humidity**

Press **HUM** key (key lamp flashes):

This message will be displayed instead of the % RH Humidity Value

Press [ + ] or [ - ] to modify

Press **HUM** to confirm

## Setting the Run Timer

### **Key Functions**

[ **PROG** ] Selects between hours, minutes and seconds

[ **+** ] Increments the selected time range

[ **-** ] Decrements the selected time range

[ **RESET** ] Resets to start time

[ **START/STOP** ] Starts and stops the countdown

### **Setting the time**

Press the [ **PROG** ] button once

This will cause the hour digit to flash

Using the [ **+** ] [ **-** ] keys to set the desired amount of hours required

Repeat the process to set minutes and seconds

When keeping keys [ **+** ] or [ **-** ] depressed, the flashing digit will change upwards or downwards

**Please note:** After starting the countdown, the key [ **PROG** ] is without function until counting is finished

### Operating the timer

Pressing the [ **START/STOP** ] button activates the relay and the set time begins to count down in one second steps.

If the [ **START/STOP** ] button is pressed during the countdown period, the relay will de-energise and time remaining is shown on the display.

When the set time reaches zero the unit emits an audible signal, the relay de-energises and the set time is indicated on the display.

**Please note:** If the [ **START/STOP** ] button is pressed and the time is zero, a bell symbol is shown on the display and the relay will energise. Pressing the button again will de-energise the relay.

## Hot Box Care and Maintenance

### **The Hot Box**

- The Hot Box is warm and damp by design and will harbour potentially dangerous microbes if not kept clean. It is recommended the inside is cleaned regularly with an antibacterial cleaner and that the water tray is refreshed at least once a week.
- At the time of cleaning, check the seals inside the base are OK. If any breaks have occurred, re-seal them with a mould resistant silicone seal.
- It is advisable to leave the front door(s) open when not in use or especially just after use for best results to allow the unit to air out.

### **Humidifying Ultrasonic Atomising Transducer**



- The transducer humidifier may require cleaning to remove mineral deposits dependant on hard water areas to maintain performance. The recommended method is to soak the unit in vinegar for 30 minutes and clean with a small brush.
- The humidifier has a water level sensor to avoid running dry. This sensor is also susceptible to interference from mineral deposits and may require cleaning.
- The humidifier ceramic membrane will eventually wear out (also dependant on the hardness of the water). The membrane disc can be replaced with a kit available from Martin Lishman Ltd.
- The humidifier works best in water depths of 45mm to 70mm.
- The 5 litre water tray requires at least 4 litres in it in total to run a full 12hr cycle (10mm from top).

## **Fault Finding**

### ***WARNING – Risk of Electrocution***

Electrical fault findings can sometimes requires coming into contact with potentially exposed electrical conductors. This must be carried out by a competent electrician.

### ***The Hot Box will not switch on***

- Check the plug is fully inserted in the socket and that it is switched on.
- Check the socket has power.
- Check the main 5A Fuse in the plug.

### ***The POLA HP57 Controller has no power***

Isolate the Hot Box from the power supply and remove the controller enclosure front panel. Check the orange 12 way PCB terminal plug is pushed in and secure along with all of its wire terminations.

### ***The Muller run timer has no power***

Isolate the Hot Box from the power supply and remove the controller enclosure front panel. Check the 5-way terminal plug is pushed in and secure along with all of its wire terminations.

### ***The Hot Box is not warming up***

Check if any heat is coming from the heater brass heat sink after a few minutes of running. **DO NOT TOUCH THE HEATER DIRECTLY IT COULD BE VERY HOT.**

Isolate the Hot Box from the power supply and remove the controller enclosure front panel. Check the 2A fuses on the back of the POLA HP57 controller, located next to the relays.

### ***The humidifier is not working (no red LED light on the humidifier)***

- Check the water level covers the top of the humidifier.
- Check the water level sensor underneath the black square is not clogged with mineral deposits. Clean with vinegar and a brush.
- Isolate the Hot Box from the power supply and remove the controller enclosure front panel. Check the 2A fuses on the back of the POLA HP57 controller, located next to the relays.

### ***The humidifier is not working (Red LED on but little or no mist)***

Clean the humidifier with vinegar soak and a brush to remove mineral deposits.

Replace the humidifier ceramic membrane. A kit can be obtained from Martin Lishman Ltd.

### ***Replacing the humidifier's ceramic membrane***

Lifespan depends on a number of factors including operating time, water hardness, water purity etc.

- Disconnect the power pack from the power supply and remove the fogger from the water.
- Remove any residue on the fogger using water and vinegar, ideally by soaking the device for about 30 minutes.
- Make sure the fogger is completely dry before unscrewing the ring with the key.
- Using the membrane key, insert the key into the ring nut and turn counter-clockwise.
- Remove the brass washer and the membrane. The rubber washer is best left in place. Clean chemical or mineral deposits on the ring nut and the brass washer with a soft cloth and install the new membrane, the black ringside facing down, in the reverse order of the above.
- The inside area of the unit cavity must be completely dry before the parts are installed.
- **IMPORTANT!** There is a front and back of the membrane.

### ***The fan is not working***

- Check Fuse F1 – 400mA located inside the POLA HP57 enclosure.
- Make sure the power is isolated and check that the fan blades rotate freely.

### ***WARNING – Risk of Electrocution***

Make sure the mains power is isolated before removing the front control cover. Electrical maintenance only to be undertaken by qualified persons.

The fan and heater are fused separately inside the front control panel. All fuses must be replaced with the same type of rating.

**The thermostat also contains a safety thermal trip which resets automatically.**

## **Technical Help**

For additional help or information please contact Martin Lishman Ltd.

Tel: 01778 426600

Fax: 01778 426555

E-mail: [sales@martinlishman.com](mailto:sales@martinlishman.com)

## **Warranty**

The Martin Lishman Potato Hot Box is guaranteed for 12 months from the date of purchase against any defect or malfunction caused by faulty parts or workmanship. To claim under warranty, the complete item or faulty part (as appropriate) should be returned, at the claimant's expense, to Martin Lishman Ltd with a written explanation of the problem. Should there prove to be a defect or malfunction caused by faulty parts or workmanship, it will be repaired or replaced and returned to the claimant without charge. If a warranty claim is rejected, the cost of replacement or repair will be notified to the claimant before any work is carried out.

Any warranty claim will automatically be invalidated if the Hot Box has been modified or internally tampered with in any way. The manufacturers deem damage or faults occurring to the equipment which have been caused by inappropriate use of the equipment or by use not in accordance with the instruction manual will not be covered under warranty.

It is the responsibility of the user to ensure that all electrical equipment has been installed in accordance with the relevant installation regulations, that all appropriate safety checks have been carried out before use and that regular on-going maintenance and safety checks are undertaken.

Under no circumstances will Martin Lishman Ltd re-imburse any costs associated with a warranty claim if these costs have been incurred without agreement in advance.

Under the terms of warranty for the Hot Box under no circumstances will liability exceed the cost of replacement or repair. The manufacturers and Martin Lishman Ltd will not be liable for any consequential or indirect loss suffered by purchasers or users of the equipment, whether this loss arises from correct or incorrect use of the equipment, defect or malfunction caused by faulty parts or workmanship or in any other way. Non-exhaustive illustrations of consequential or indirect loss are loss of profits, loss of contracts and damage to property.

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