
CiboPlus Service Manual

# Contents

# 1. Important Information

## 1.1 Warnings and precautions

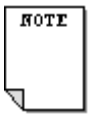
Read these instructions carefully before carrying out any work on the oven, paying particular attention to all information within this document with the following symbols.

WARNING!

This symbol is used whenever there is a risk of death or serious injury.

CAUTION!

This symbol is used whenever there is a risk of minor injury.




NOTE:

This symbol is used to provide additional information.

## 1.2 Important safety instructions

To reduce the risk of injury or exposure to microwave energy read this document before using or working on the oven.

Install the oven as per the User/Installation instructions.

Allow the oven to cool and follow all safety precautions.

Isolate from power supply before removing panels etc.

Discharge the capacitor using a suitably isolated 10MΩ resistor before working on the oven.

Before operating the magnetron check that the door interlock is operating correctly and that there is no damage to the door or door seal.

Do not operate the oven with the door open.

Do not operate microwave without a load

**Precautions to avoid possible exposure to excessive microwave energy**

If the door or door seals are damaged, the oven must not be operated until it has been repaired by a competent person.

It is hazardous for anyone other than a competent person to carry out any service or repair operation that involves the removal of any cover which gives protection against exposure to microwave energy.

Avoid possible exposure to microwave energy - never try to operate with the door open. It is important that the door seals properly when operating, therefore if the door seals or hinges are damaged, do not use the appliance until it has been repaired by a competent person. The door seal must always be kept clean and debris free so that they perform the function of sealing the cavity when the microwave is operating.

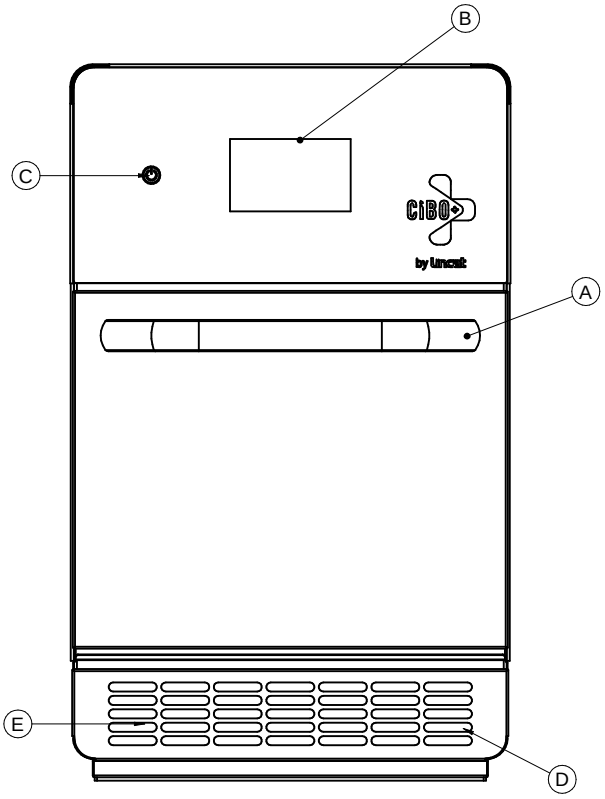
Do not unplug oven immediately after use. Internal fan must cool oven to avoid damage of electrical components.

To avoid pacemaker malfunction, consult physician or pacemaker manufacture about effects of microwave energy on pacemaker.

Do not operate the magnetron with any panels removed.

# 2. Oven operation

## 2.1 General layout




A – Door  Handle

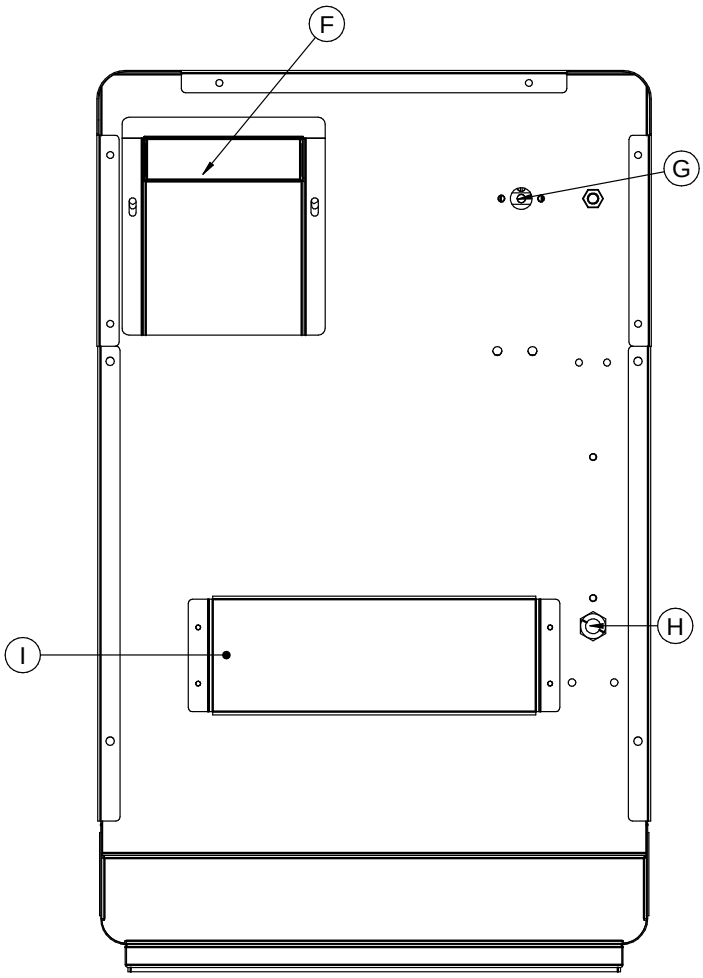
B – Touchscreen display

C – On/Off button, Press and hold for 3 seconds

D – Air filter, must always be fitted when the oven is switched on

E – USB port (behind air filter)

To access the USB port, remove the air filter. The air filter is fitted on a keyway – to detach it, push upwards and then pull forward.




F – Air Outlet, do not block

G – Limit thermostat (Located behind cover).

H – Mains supply

I – Stand-off spacer

# 3. Technical data

## 3.1 Technical information

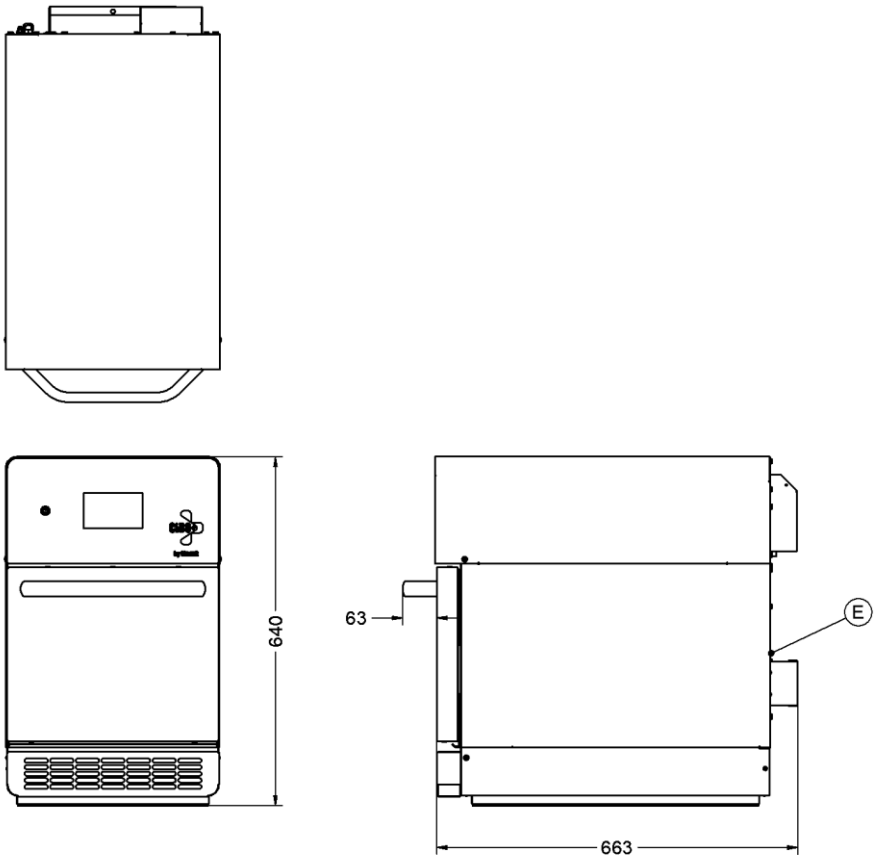
External Dimensions, Weight and Power

| | |
|---|---|
| Height (mm) | 640 |
| Width (mm) | 395 |
| Depth (mm) | 665 + 60 handle |
| Weight (kg) | 52.0 |
| Power rating | 3kW, 13A @230V |
| Base | 700watts |
| Oven | 2000watts |
| Microwave | 1800watts |

Internal oven cavity dimensions

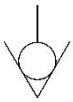
| | |
|---|---|
| Height (mm) | 160 |
| Width (mm) | 335 |
| Depth (mm) | 345 |

## 3.2 Technical pictures



## 3.3 Installation and Commissioning

This oven must be earthed.



An equipotential bonding terminal is provided to allow cross bonding with other equipment.

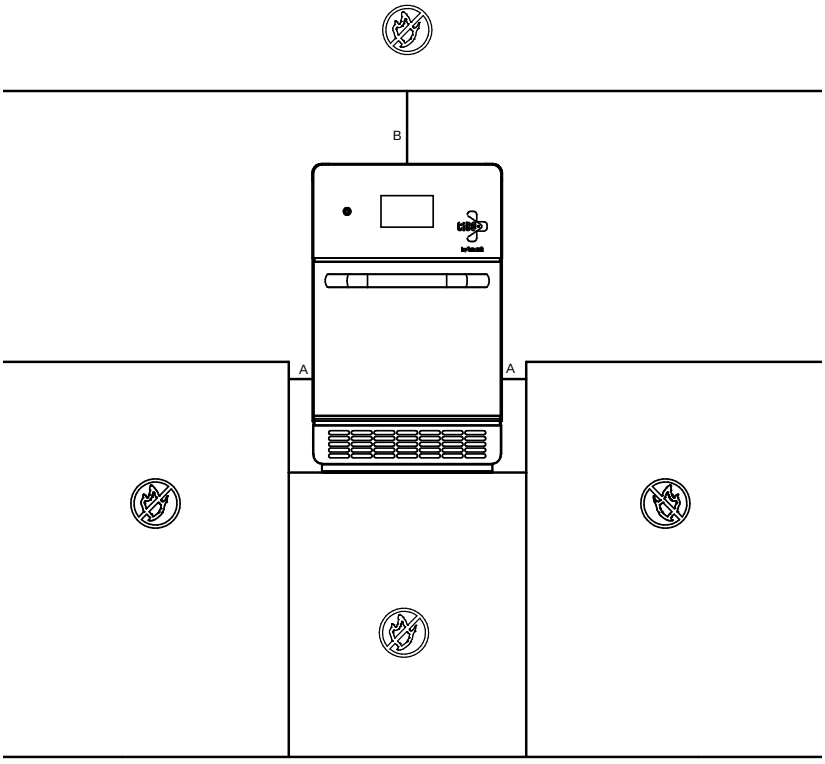
If replacing the plug connect the terminals as follows:

| | | |
|---|---|---|
| Green and Yellow wire | Earth | E |
| Blue wire | Neutral | N |
| Brown wire | Live | L |

Supply cords shall be oil resistant, sheathed flexible cable not lighter than ordinary polychloroprene or equivalent elastomer sheathed cord (code 60245 IEC 57)

Install this oven on a level surface ensuring all vents are unobstructed. Ensure that the surface is capable of safely supporting the weight of the oven. Any partitions, walls or furniture must be of non-combustible material. Minimum distances: A 50mm, B 50mm – see Fig 1. The oven is not intended for built-in installation.

Do not locate the oven directly next to dusty / flour based preparation areas.




We recommend you always cook on the Teflon sheet or tray. Never cook directly on the glass base.

# 4. Oven fault diagnostics

## Important please read.

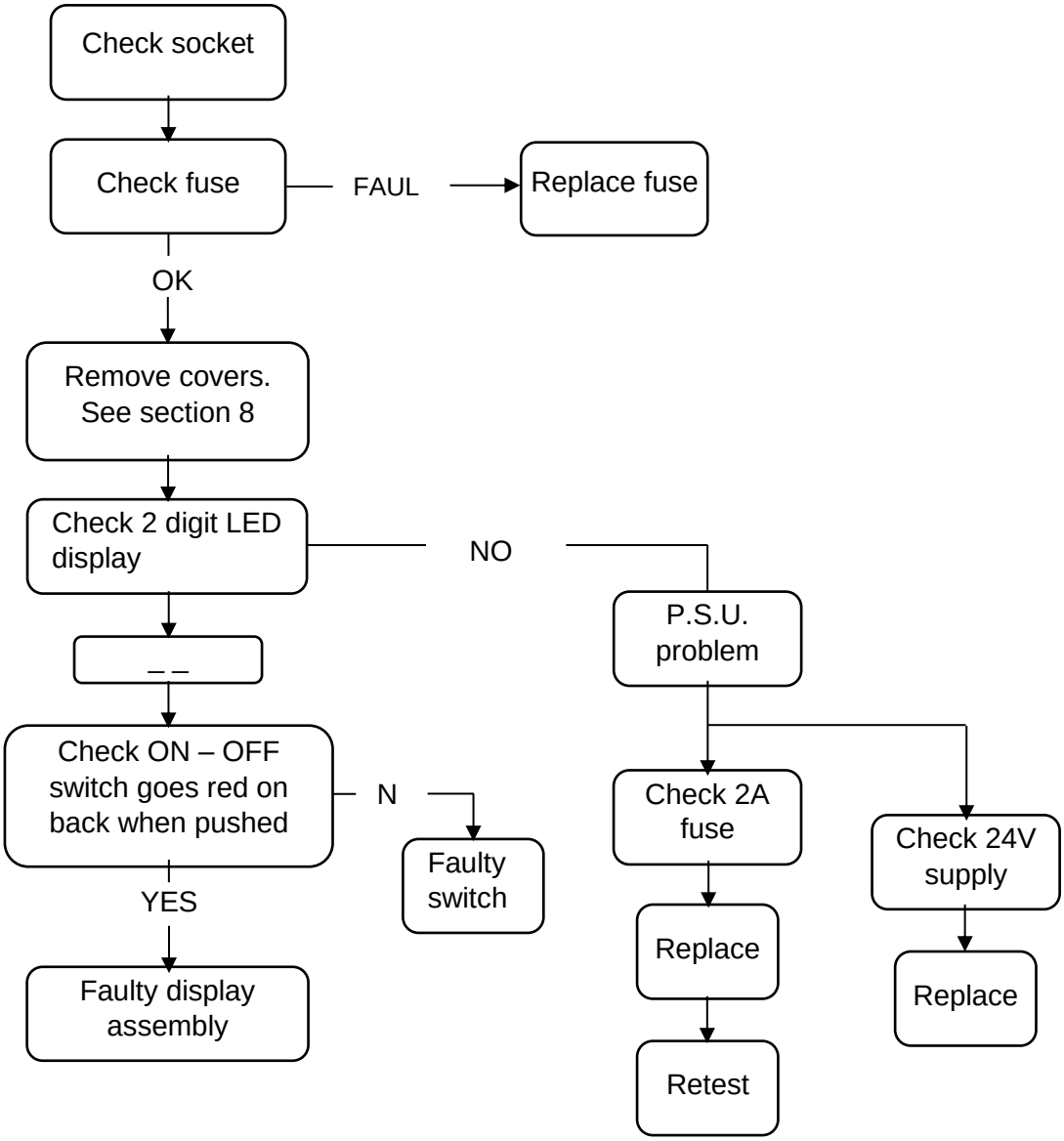
This section contains information to aid the diagnostic approach to repair a unit where necessary.

This unit benefits from on-board diagnosis support via a ‘Red Route’ of display prompts aiding the identification of components that require checking. All of the ‘Red Route’ displays are covered in detail below.

Please follow the guide in the order listed below. Use the checklist included in section 13 at the back of this manual.

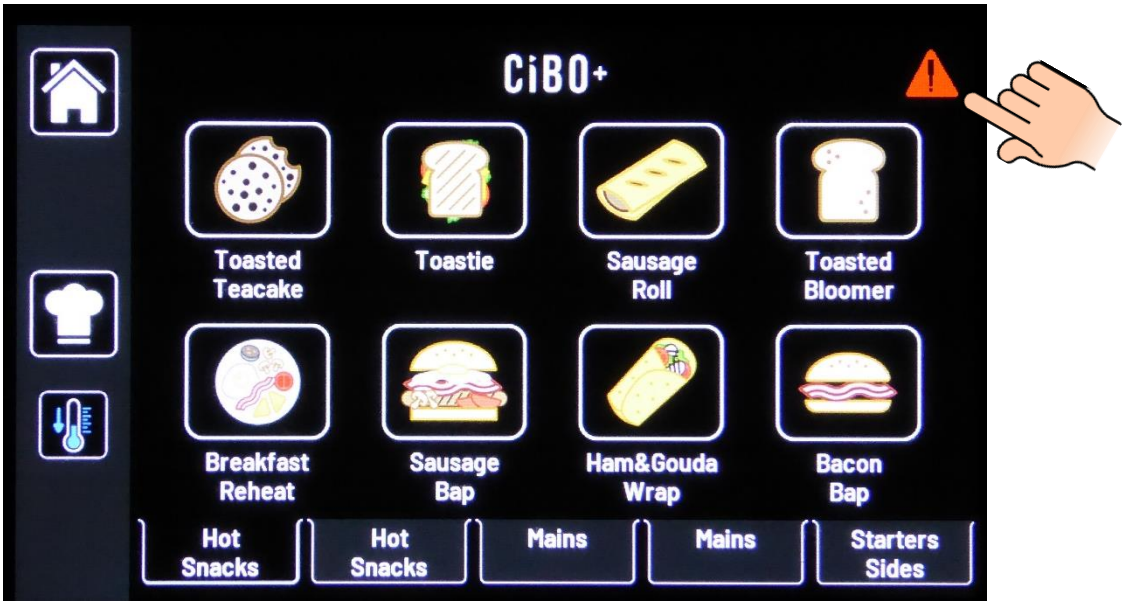
1. Check that the unit has been installed as per the manufacturer’s instructions, paying particular attention to the position of the unit, the proximity of other heat sources and that the clearances have been observed to allow for the correct ventilation of the CiboPlus.
2. Visually inspect the supply and power cable for any damage and check the 13A plug fuse
3. Check for any damage to the door seal and that the door is fitting correctly.
4. Connect the unit to the mains supply and turn the unit on and wait for the home screen to be displayed.
5. If the red triangle is displayed in the top right hand corner, follow the ‘Red Route’ by pressing the Red Triangle, refer to section 4.2.
6. In the event of no ‘Red Route’ the on-board diagnostics can be accessed via the Chef’s Hat and the Settings symbols.
7. In the event of no display, initially follow section 4.1
8. The power board contains additional information and is covered in section 5.
9. Component replacement is covered in detail in section 8.
10. Whilst the covers are removed check the operation of the door hinge micro switches which is covered in section 6.
11. On completion of any repair and with all covers in place, perform a microwave leakage test which is covered in section 7.
12. Complete an operational check to ensure the unit is working correctly.

## 4.1 No display



## 4.2 Oven on board diagnosics

### 4.2.1 Fault screen



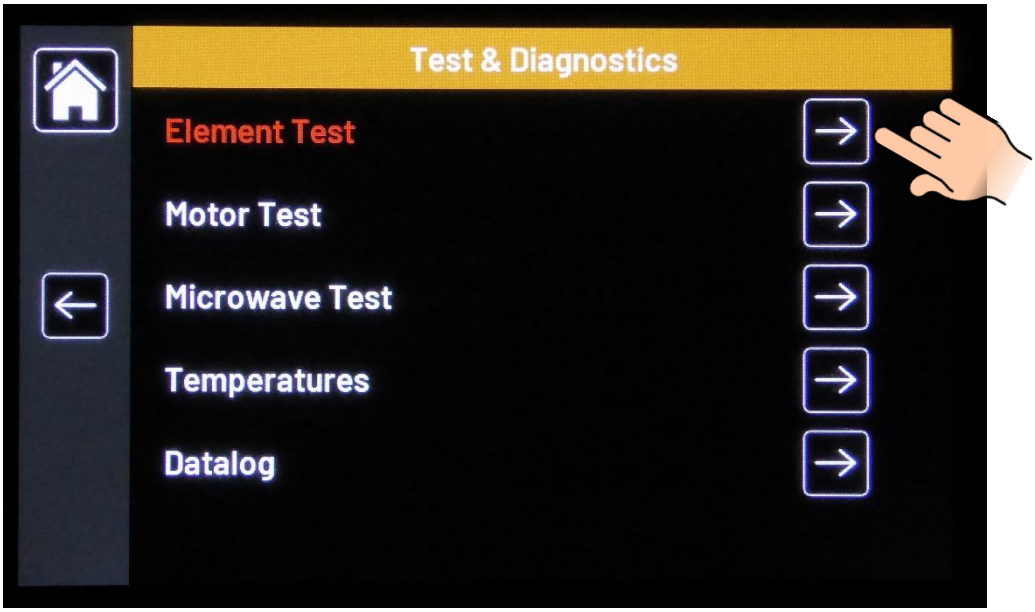

Initial Fault indication is highlighted by the RED triangle in the top right hand corner of the screen.

There is also a secondary ‘bleep’ on start up.

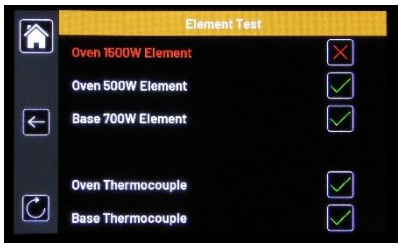
Press the RED triangle on the screen for further fault indication and follow the ‘RED ROUTE’ as shown in the following details.

## 4.2.2 Element fault diagnostics

### 4.2.2.1 Screen Images




The Element Test page will have any or all of the following areas for investigation.






1500W element is the outer leg of the overhead element.

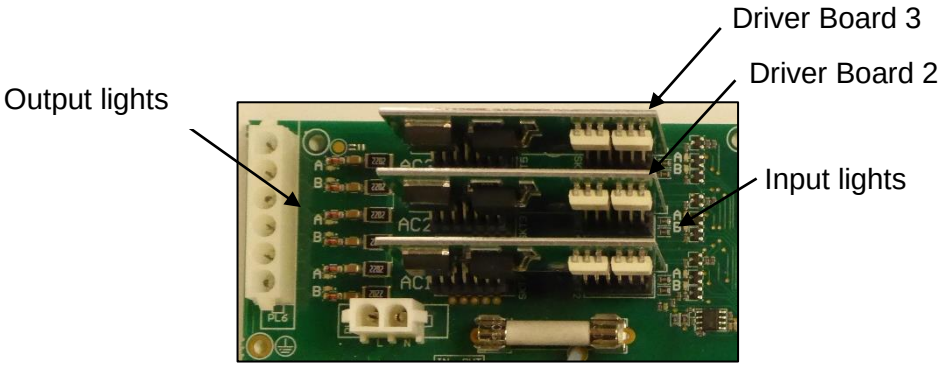
500W element is the inner leg of the overhead element.

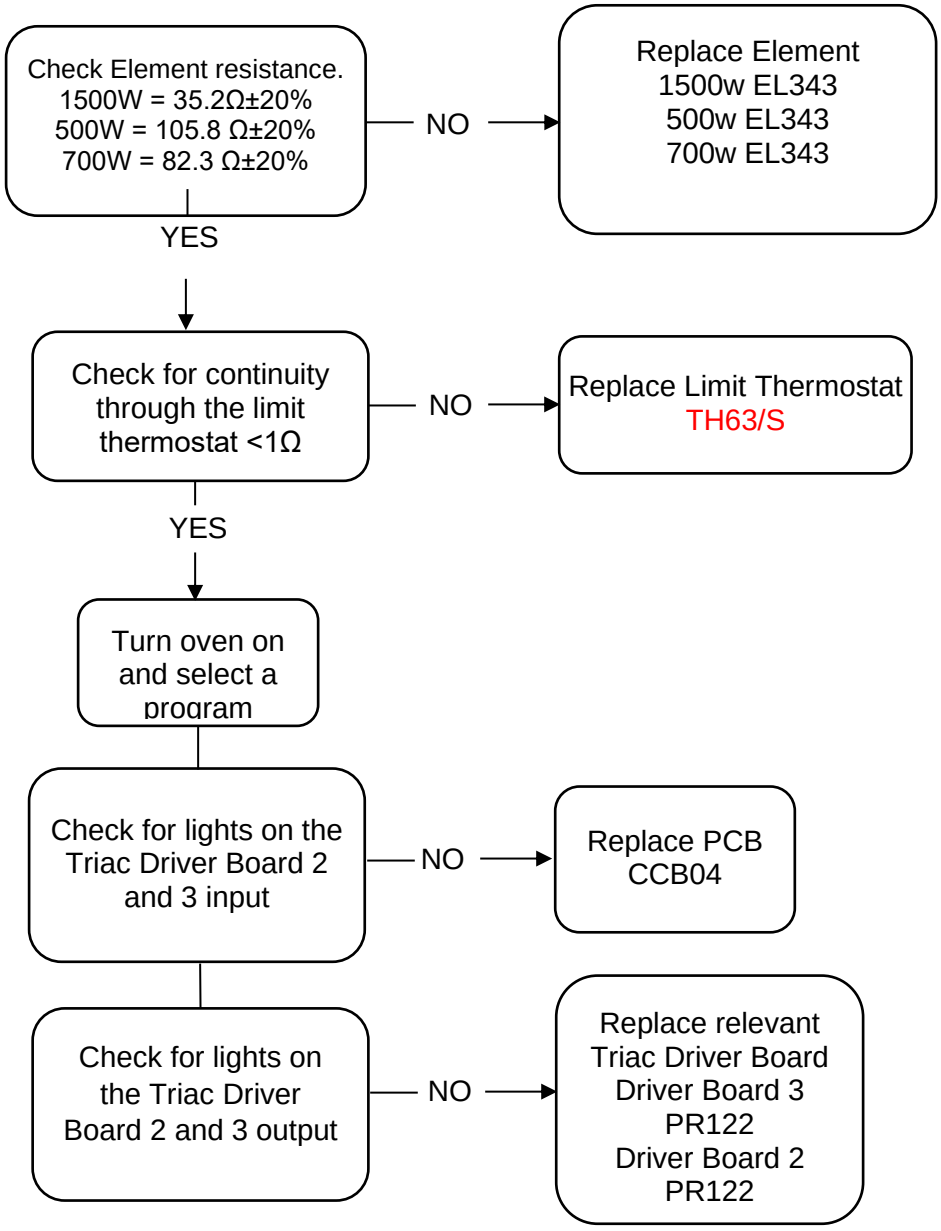
700W element is the base element under the oven cavity.

If all three elements are RED, check the safety thermostat has not tripped.

## 4.2.2.2 Element fault diagnostics

These operate when there is demand on that particular circuit.



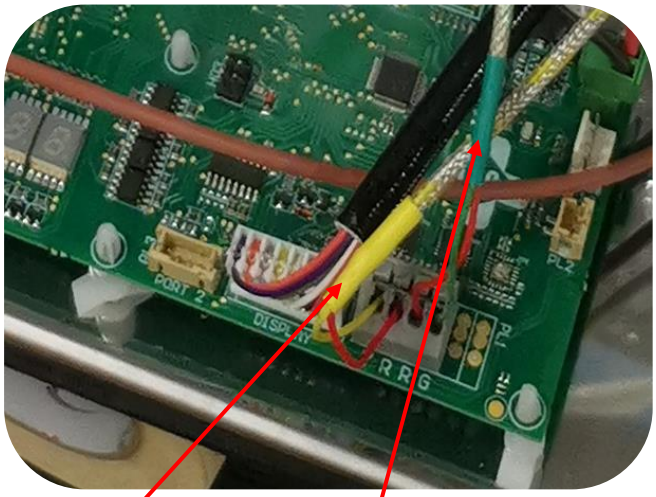




Note: If all three elements are showing a fault, check the limit thermostat.

## 4.3 Oven and Base Thermocouple fault diagnostics

Abnormally high or low reading >400°C or <10°C indicate a faulty thermocouple.

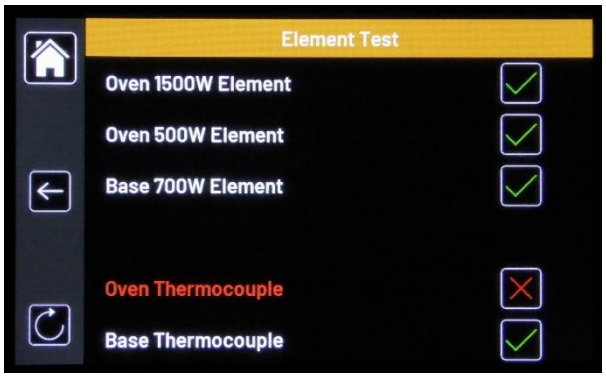
Therefore check the following.

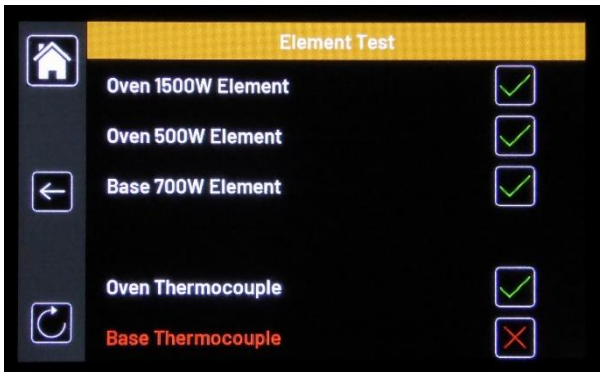


Oven Thermocouple
TC57
(Yellow & Red)

Base Thermocouple
TC58
(Red & green)

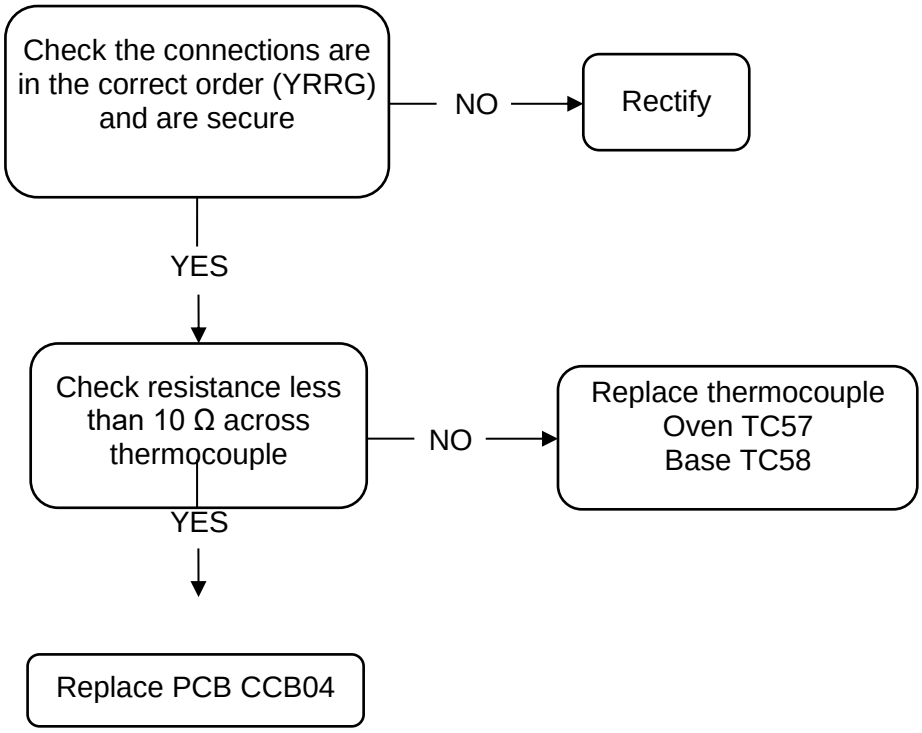
Oven thermocouple is the Yellow & Red thermocouple from the oven cavity



Base thermocouple is the Red & Green thermocouple from the base element below the oven cavity.

For both thermocouples follow the below guide.

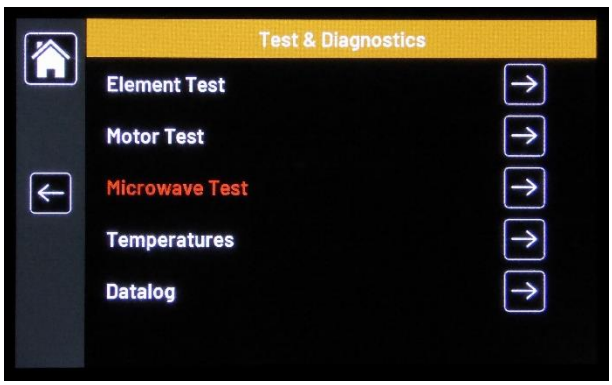


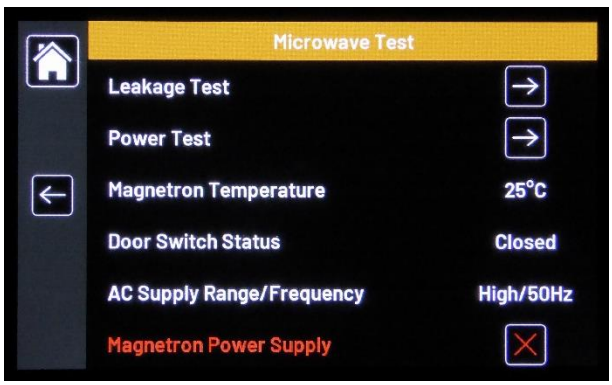

## 4.4 Microwave fault diagnostics

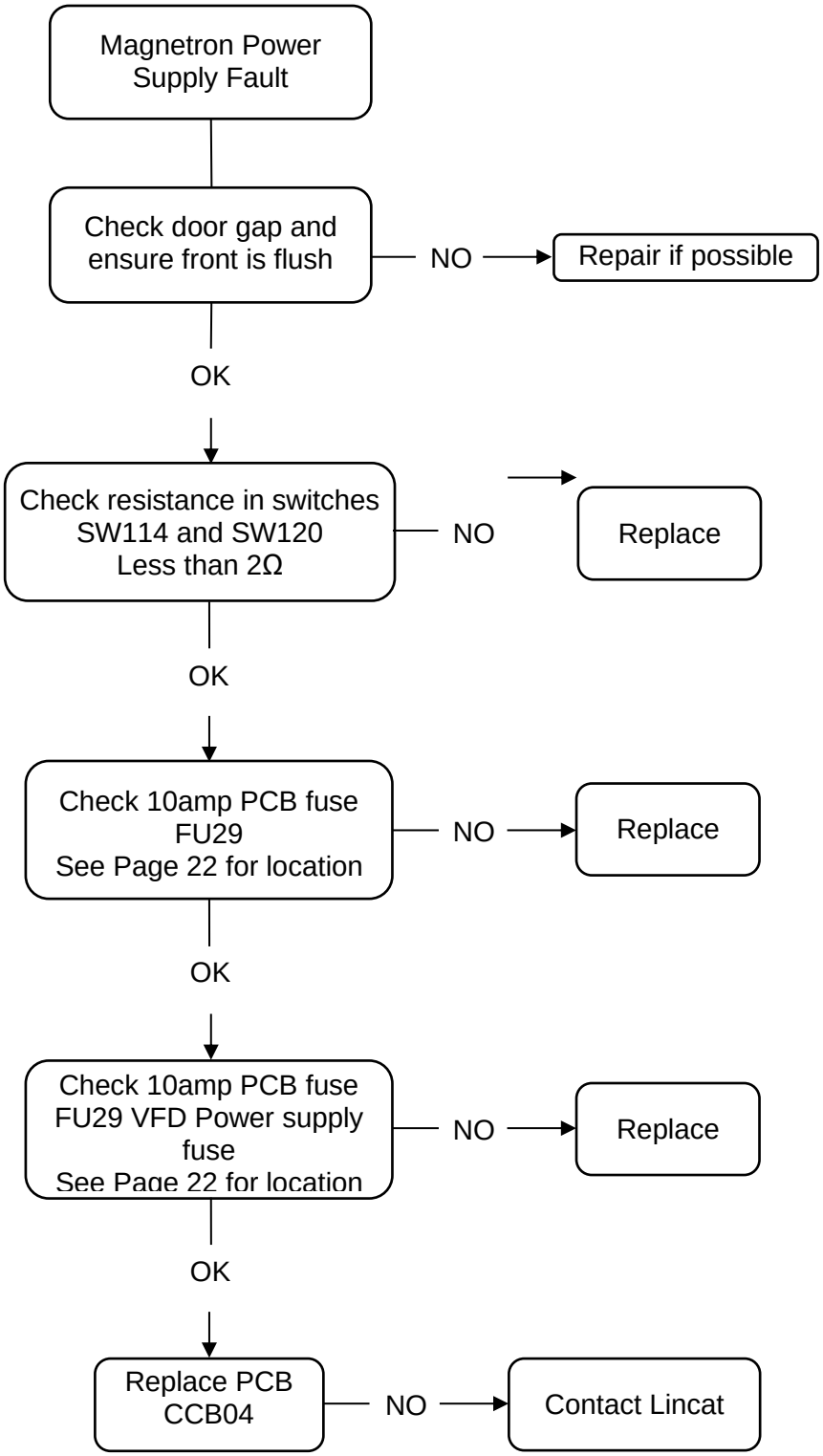
### 4.4.1 Magnetron Power Supply

The Microwave Test page will enable both the leakage and power tests, indicate the door open/closed sensor and any issue with the Magnetron power supply.

If the Magnetron power supply is highlighted in RED, the associated 10A fuse on the control board may have ruptured (possibly due to faulty door micro switch, or micro switch set up).




Magnetron Power Supply Fault
Check door gap and ensure front is flush
NO
Repair if possible
OK
Check resistance in switches SW114 and SW120 Less than 2Ω
NO
Replace
OK
Check 10amp PCB fuse FU29 See Page 22 for location
NO
Replace
OK
Check 10amp PCB fuse FU29 VFD Power supply fuse See Page 22 for location
NO
Replace
OK
Replace PCB CCB04
NO
Contact Lincat

### 4.4.2 Door Switch Status

The Door Switch Status should match the door position. If not, again either the 10A fuse may have ruptured or a door micro switch may have failed/be incorrectly set. See section 6.1.

The door status always showing closed would also show up a magnetron power supply fault.

### 4.4.3 AC Supply Range/Frequency

AC supply range / Frequency explanation.

Ciboplus ovens are available in 50 and 60 Hz variants, they are not dual frequency rated. The magnetron power supply components and cooling fan are different for 50Hz and 60Hz units.

50Hz ovens have a single tap magnetron power transformer. When the control board detects the incoming supply is 50Hz it supplies voltage to the transformer primary winding.

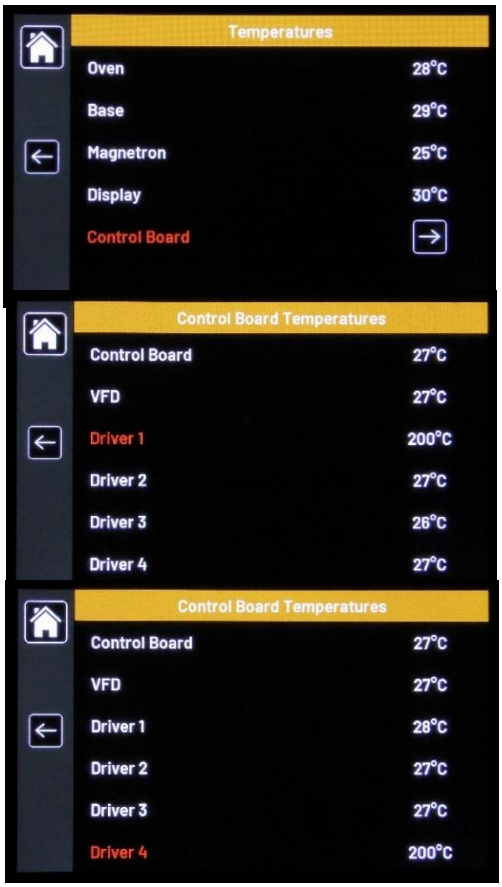
60Hz ovens have a dual tap primary transformer. When the control board detects 60Hz, it also measures the supply voltage. A supply voltage of less than 225V uses the 208V tap and a supply voltage of 225V or above uses the 240V tap.

These parameters are displayed as follows

Low / 50Hz, High / 50Hz both combinations use the same primary winding so microwave power will be reduced with a lower supply voltage.

Low / 60Hz, High / 60Hz these combinations use different primary windings to keep the microwave power similar.

## 4.5 Temperatures fault diagnostics




Warning temps on display / Shutdown (elements) on control board

Pcb's 70°C / 75°C so these are Display, Control board and VFD.

Ally clad 90°C / 95°C so these are Drivers 1 to 4.

Magnetron 100°C / 105°C so this is Magnetron

The Control board information tab will highlight in RED any issues. Once the Right arrow is pressed, the sub screen will indicate areas for investigation.

If any of the control board temperatures are showing 200°C that component will require replacing.

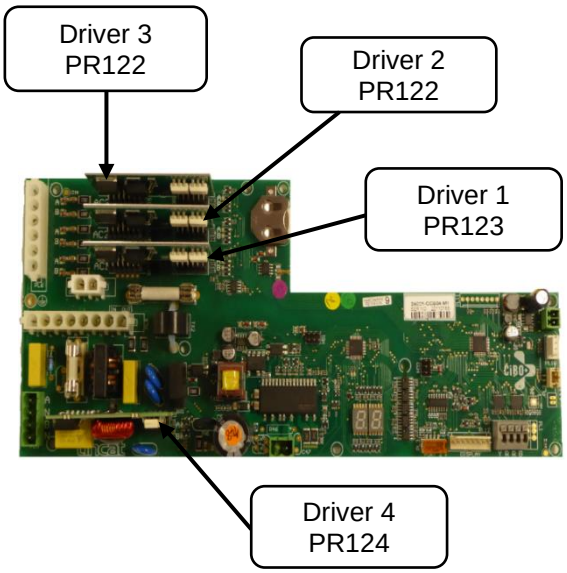
Temperature above the values listed above will be an indication of insufficient cooling so check the inlet filter for blockages and that the base fan is operating. See Section 4.6 for details of checking the fan speeds.

Driver 1 is the inner TRIAC board of the 3, indicating issues within the MAGNETRON circuit.

Driver 2 is the middle TRIAC board of the 3, indicating issues within the 500W (centre coil oven element) and 700W base element circuits.

Driver 3 is the outer TRIAC board of the 3, indicating issues within the 1500W (outer coil oven element).

Driver 4 is the Fan control board, there will also be no Fan operation.

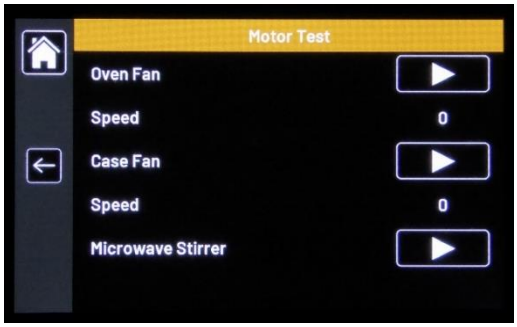


## 4.6 Motor fault diagnostics

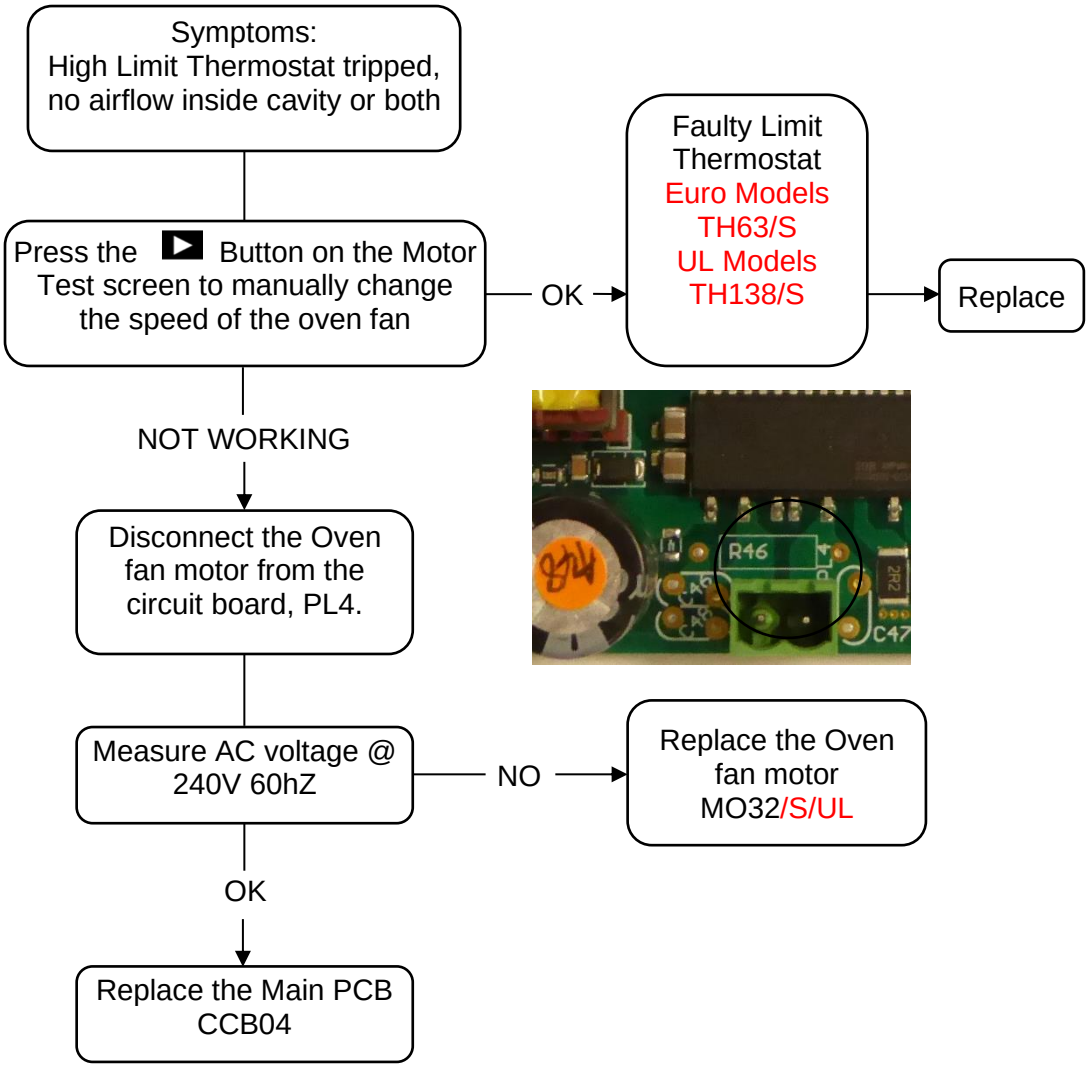
The Motor test page is used to operate the fans and vary their speeds. This is to aid fault investigation and initial set-up

Pressing the ▶ turns the symbol into a ■ and will allow you to step up through the different levels of speed for either the Oven or Case fan by pressing the number.

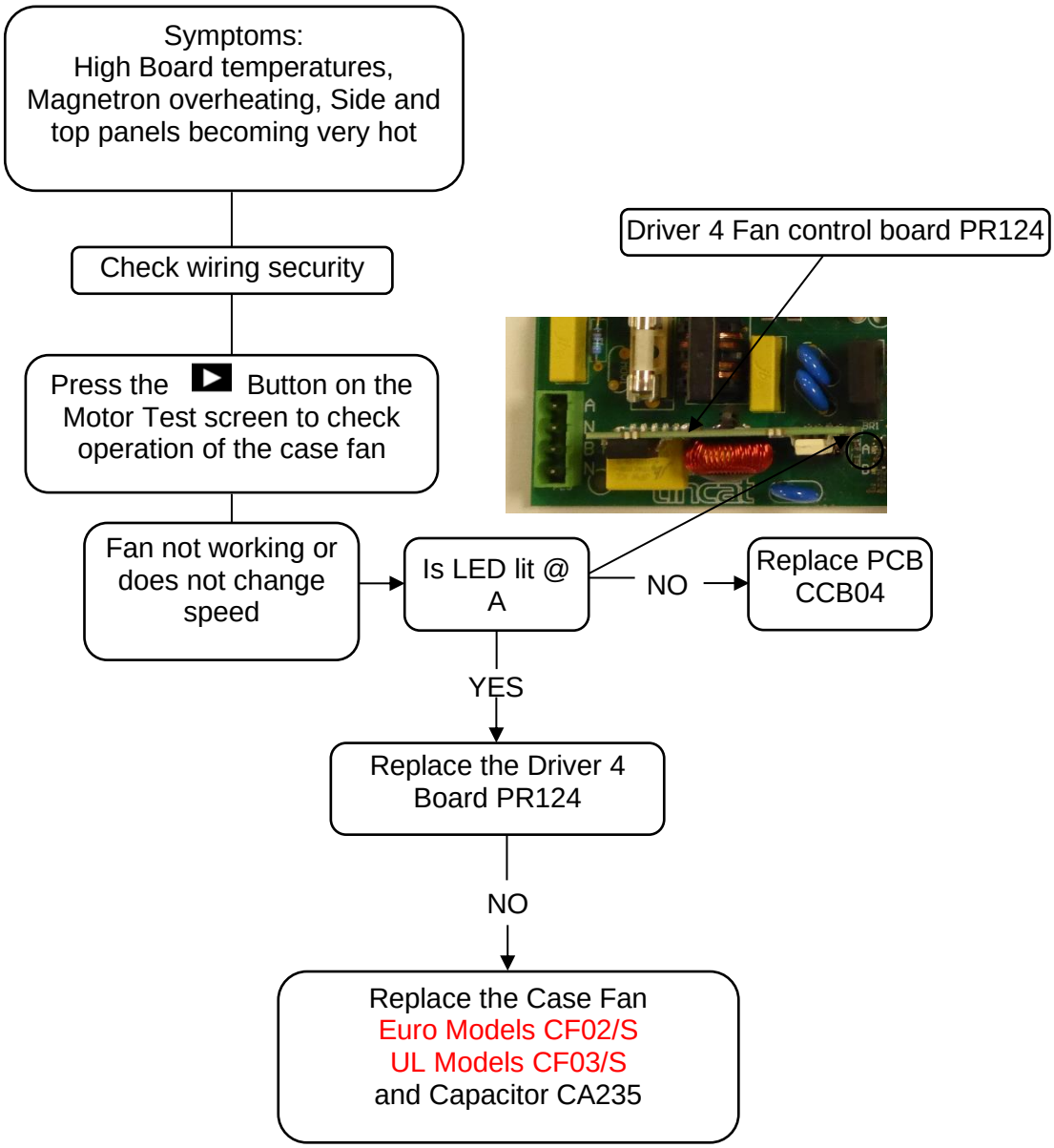
The Stirrer is either On or Off.



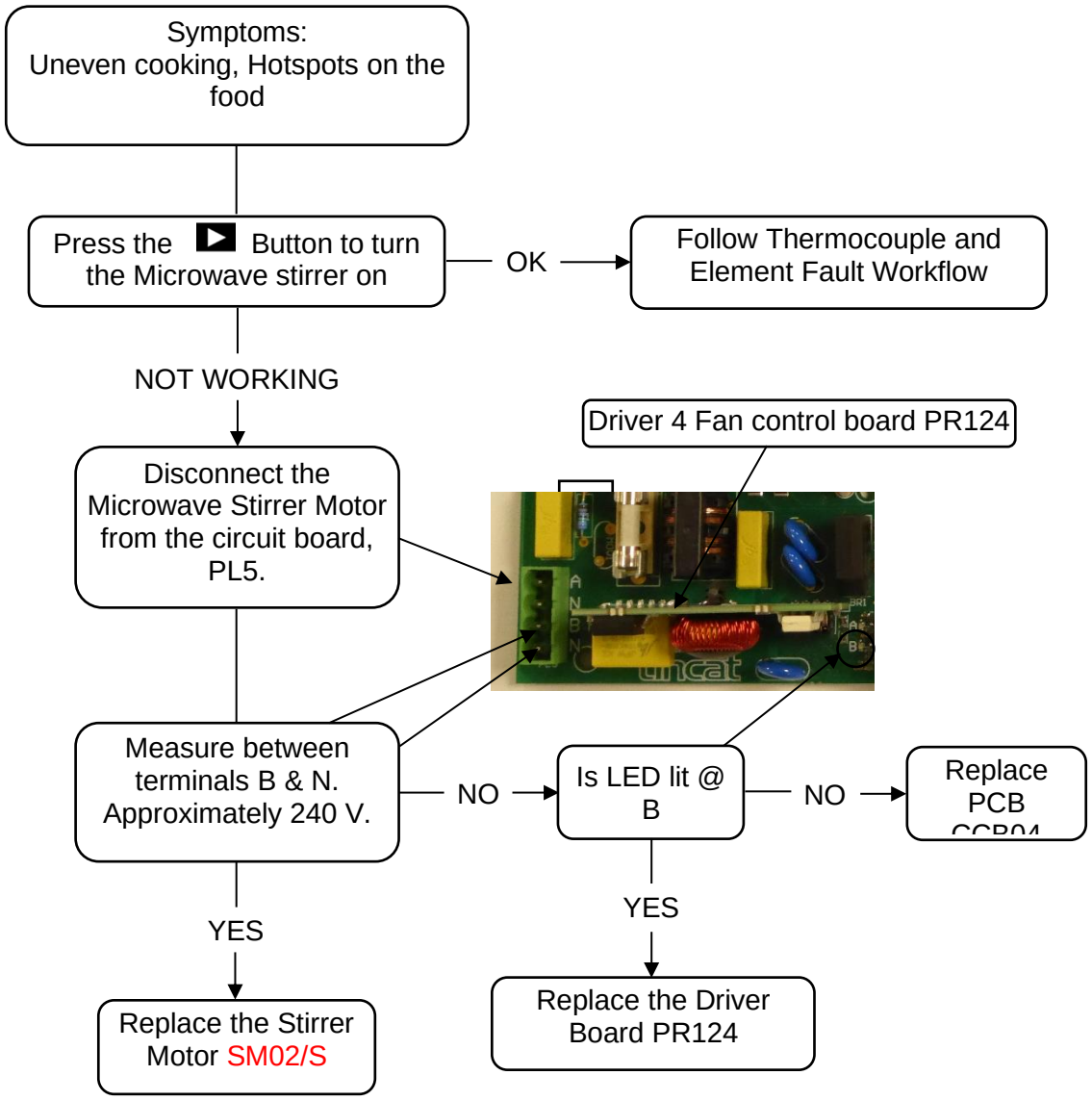

### 4.6.1 Oven Fan fault diagnostics



## 4.6.2 Case Fan fault diagnostics

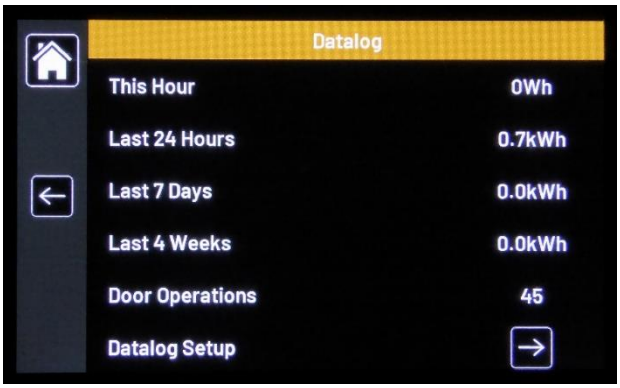


## 4.6.3 Microwave Stirrer fault diagnostics



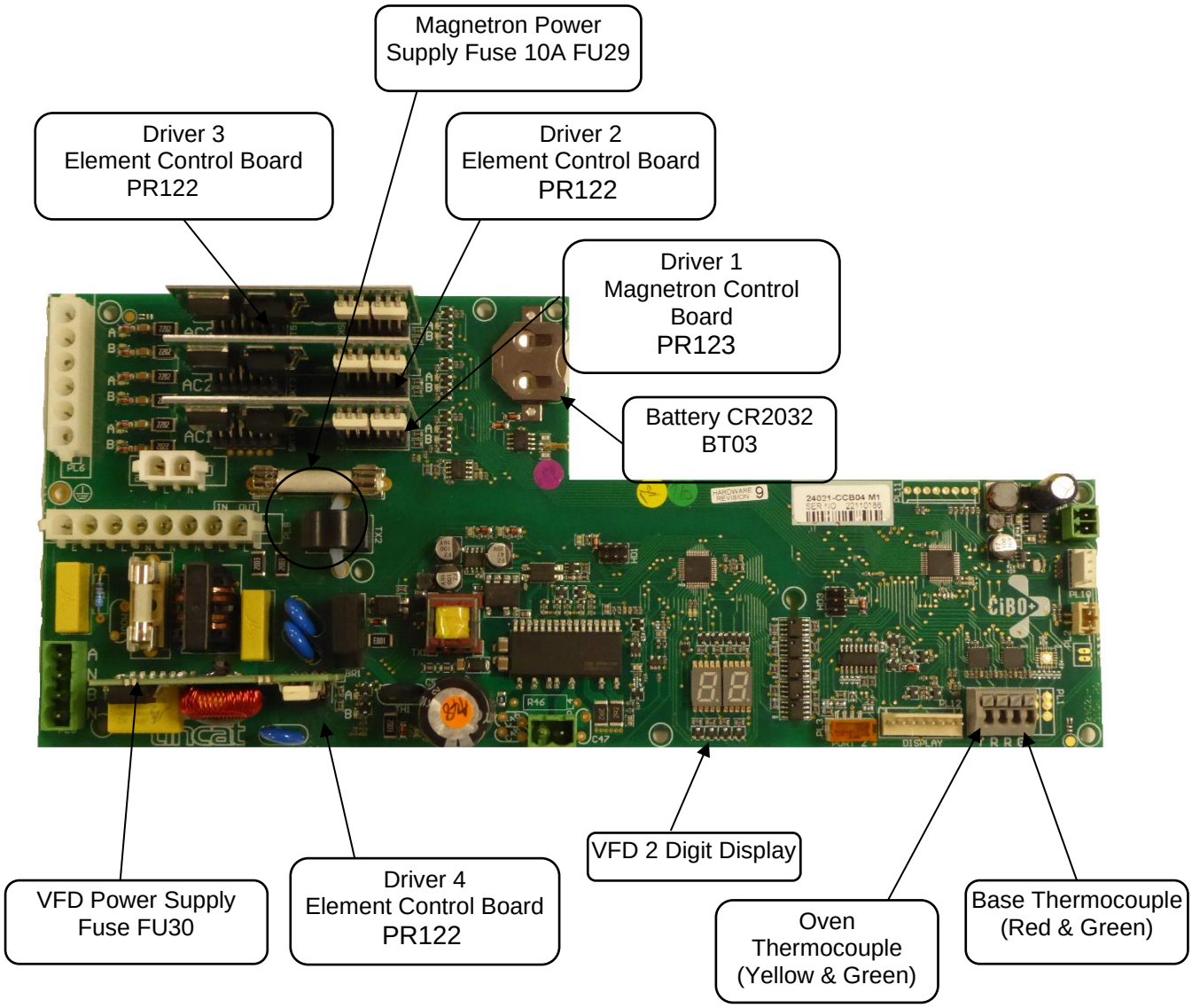
## 4.7 Datalog

The Datalog screen provides a life time usage tracking of the oven. Tracking will commence when the date/time has been set via the Datalog Setup screen.




# 5. Control Board

## 5.1 Control Board Layout



## 5.2 VFD 2 Digit Display

Whilst in standby the two digit display will show the following code _ _

If there is a PCB communication fault the two digit display will show CF indicating a Com failure where the 12V supply is not connected or the PCB has a fault.

During operation the two digit display will cycle the following codes in 1S intervals:

If there is no display check the output from the 12v supply and fuse FU30.

| | Display Codes | Status | Comments |
|---|---|---|---|
| Cavity Fan Frequency | 5 0 | 50 Hz Fan Speed | Range 20 - 60 |
| Case Fan Speed | 2 | Speed 2 | Range 1 - 3 |
| Door Status | d o | Door Open | |
| | d c | Door Closed | |
| Input Voltage Range Detected | H r | High Range | 230 / 240V |
| | L r | Low Range | 208 – 60Hz applications only |

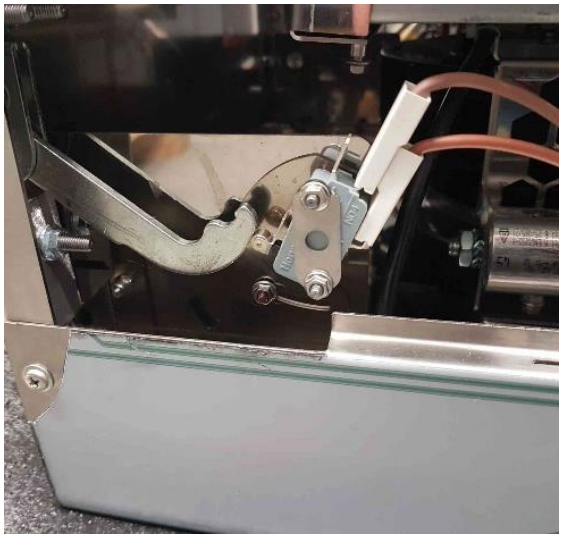
# 6. Door micro switches

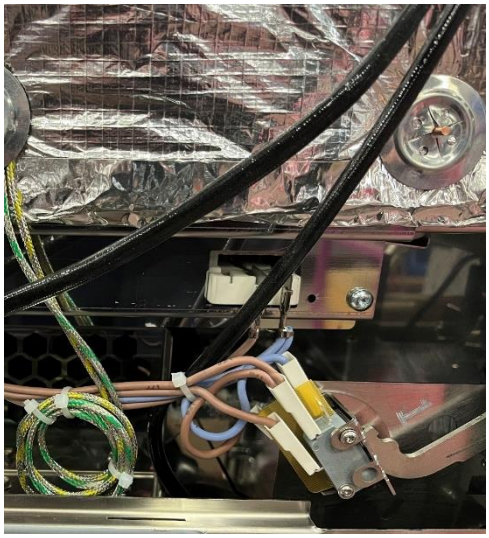
## 6.1 Micro switch explanation

On the left hand side of the oven two micro switches are mounted together on the same plane.

The door mechanism pushes onto a pivoting plate which operates the micro switches. There is a slight delay between the operations of the two micro switches.

On the right hand side of the oven there is a single micro switch, which is operated by the door mechanism and is open circuit when the door is open and closed circuit when the door is closed.





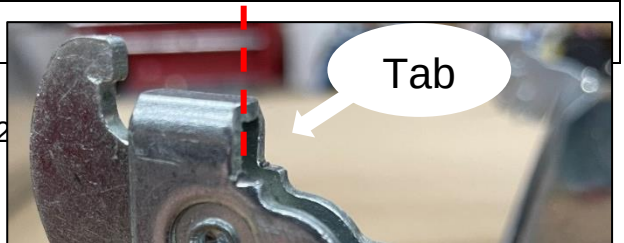
## 6.2 Fitting a door assembly

**Remove existing door.**

To remove an existing door, open fully and fit pins in both sides as shown. Gently close the door against the pins then lift the door out of the slots in the body and pull outwards to remove.

**Note: When fitting a 'new' door the micro switches must be checked so the outer top and side panels must be removed.**

**Fit a new door.**



| | |
|---|---|
| Ensure the unit is disconnected from the mains supply.<br>Start with the outer top and both side panels removed.<br>Fit the door. Hook the lower notch in the hinge mechanism into position within the door slots in the front panel. | |
| With the lower notch located, manoeuvre the door downwards as if opening the door on a unit.<br><br>Ensure the inner panel edge sits in the slot on the bottom of the hinge. |  <br>  |
| Apply a little bit of force downwards on the door handle check that the hinge is flush with the inner face of the front panel.<br><br>Pull the door handle down and remove rivets.<br><br>Exercise the door a few times to settle the hinges into the fascia. |  |

## 6.3 Micro-switch adjustment

There are three micro-switches, 1 and 3 are in series in the live line (normally open) and 2 is between the switches (normally closed and connected between live and neutral).

Switch 2 has to operate first and then 1 and 3 (order of 1 and 3 is not important.)

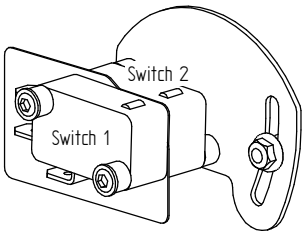
**Micro-switch adjustment - Switch 1 and 2**

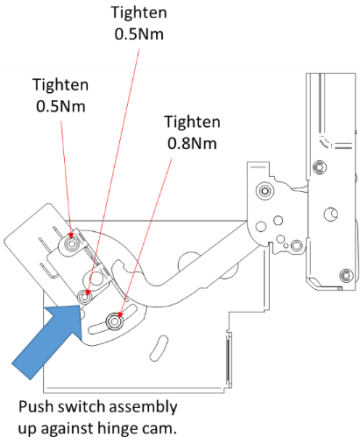
Fully open the door, loosen the nuts and rotate the positions of micro-switches 1, 2 and 3 away from the door.

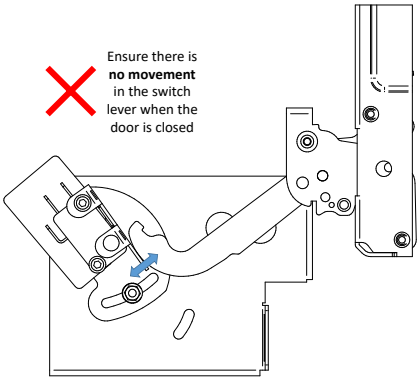
Close the door and check it is seated correctly.

Push the switches to the right to close the gap so that the metal plate is in contact with the door hinge cam. Tighten the two screws on the switches then the locking plate nut to the indicated torque. (Use appropriate Torque Wrench).

LHS



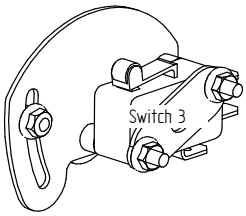



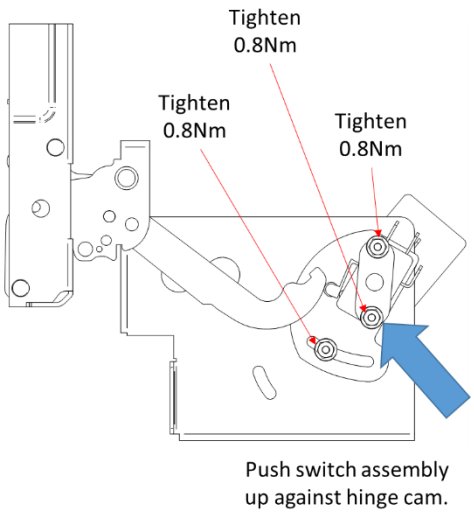

**Micro-switch adjustment - Switch 3**

With the door still closed, pull micro switch 3 up as far as it will go to close the gap. Tighten the two screws on the switch then the locking plate nut to the indicated torque. (Use appropriate Torque Wrench).

Cycle the door and check the switches are secure and engagement order correct.

RHS




Operate the door several times to check the sequence. Listen carefully for the “Clicks” of the switches.

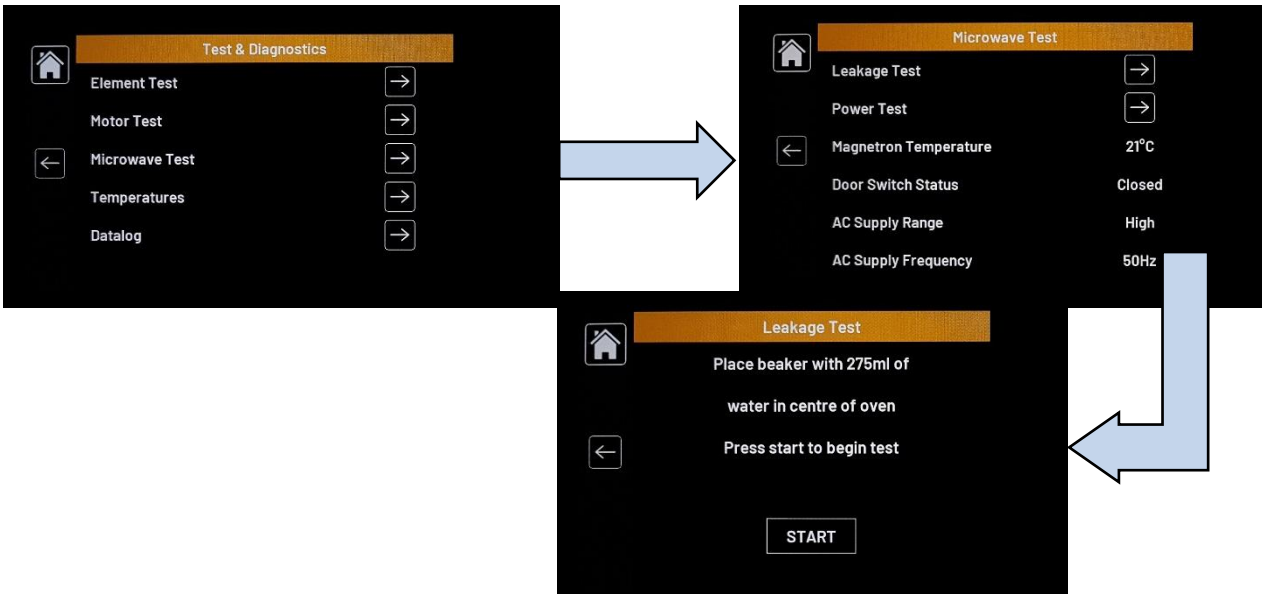
Care Points:

1) Ensure the correct order of the switches “making contact”. Switch 2 MUST always contact first, followed by switch 1 and 3.
2) Check the door is aligned vertically and horizontally to the body of the unit.
3) Check for any gaps in the door seal.
4) Check the door opens freely, and does not catch or “snag”.
5) Check the door has no excess play or wobble.

# 7. Testing

## 7.1 Microwave Test

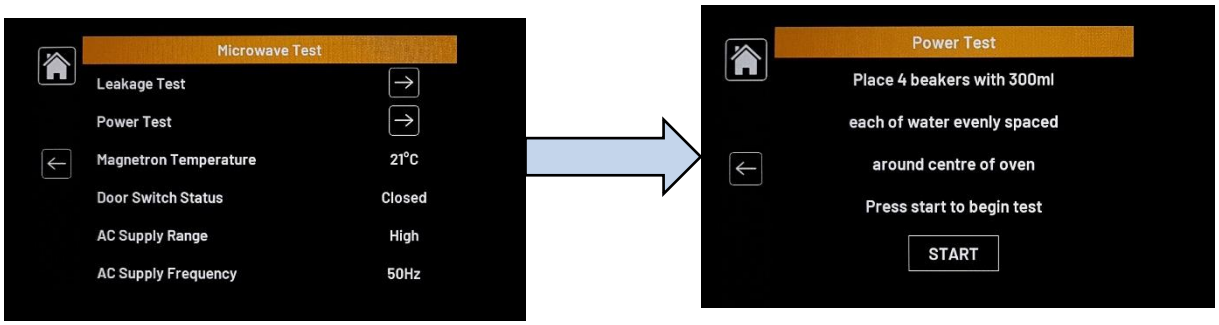
### 7.1.1 Leakage Test




From the Testing Diagnostics screen select Microwave Test then Leakage Test. Follow the on screen instructions then perform the leakage test using the appropriate measuring instrument around the door edge. Pause over any high spots and note the maximum reading.

The readings should not exceed 2.0 mw/cm$^2$

### 7.1.2 Power Test




From the Microwave Test screen select Power Test and follow the on screen instructions.

Record the temperature of the water before and after the test.

The water temperature should rise by approximately 10°C.

# 8. Component Replacement

## 8.1 Safety First!!

**Danger: Before carrying out any work follow all safety precautions.**

Only suitably qualified engineers should work on this oven

Disconnect/isolate the oven from the electrical supply before carrying out any work.

Allow the unit to cool down.

Do not expose yourself to emissions from the microwave generator or parts conducting microwave energy.

Check that the oven has been correctly installed.

Visually check for any damage to the power supply cable, oven panels.

Visually check the door alignment and the condition and operation of the door and door seal.

If working with external panels removed, ensure that the capacitors have been discharged using the correct procedure and a suitably insulated 10MΩ resistor.

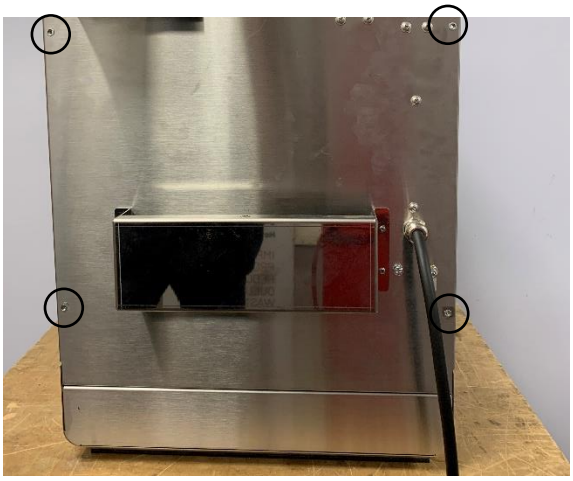
Do not operate the oven if it has failed the Microwave Leakage Test.

## 8.2 Removing / fitting the outer covers

Top Panel

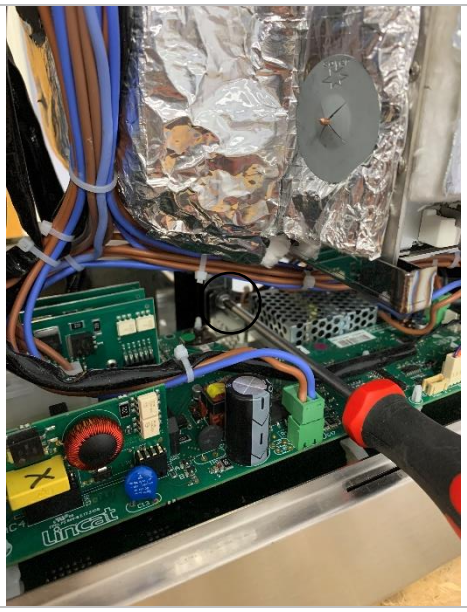
Unscrew the two side and six rear fasteners and side the outer top to the rear to remove.

Side Panels
Unscrew the four fasteners at the rear then slide the panel to the rear and lift to remove.



## 8.3 Transformer

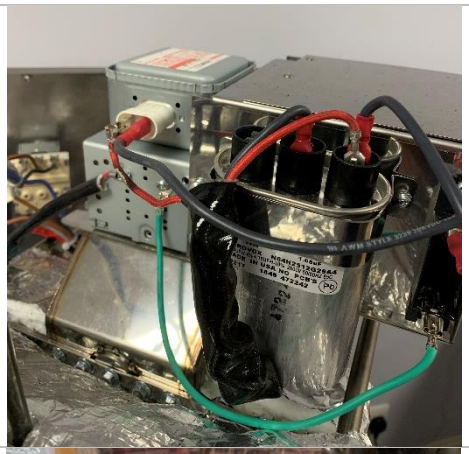
Undo PCB fastener and move the PCB to expose the three rear screws.



| | |
|---|---|
| Undo the three rear screws along the rear edge but do not remove completely. |  |
| Undo the two fasteners attached to the rear support. |  |
| Undo the two screws holding the rear cover.<br><br>The rear panel can now be placed to one side to expose the transformer. |  |

Ensure that the capacitor is discharged before proceeding to working on it.

The connections can now be removed from the capacitor and magnetron.



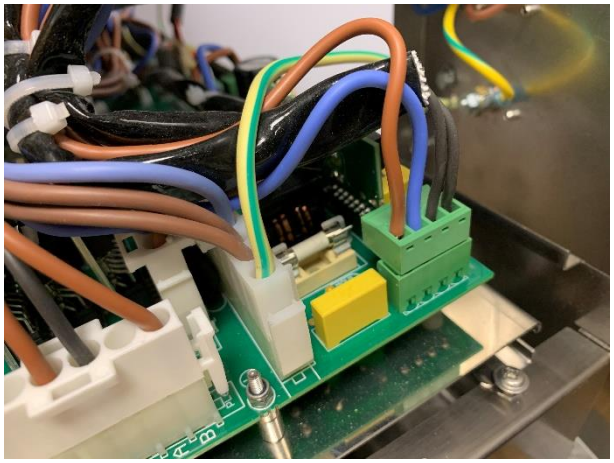
Disconnect the brown and blue wires to the side of the transformer then undo the four fasteners to remove the transformer from its mounting point.

Recycle the black sleeving on to the replacement transformer wiring then the fitting of the new transformer is a reversal of the above instructions

## 8.4 Stirrer Motor

To replace the Stirrer motor the rear panel should be undone as per the instructions for the transformer.

Disconnect the two wires from the edge connector PL5 and pull through the insulation sleeving, keep to sleeving to reuse.

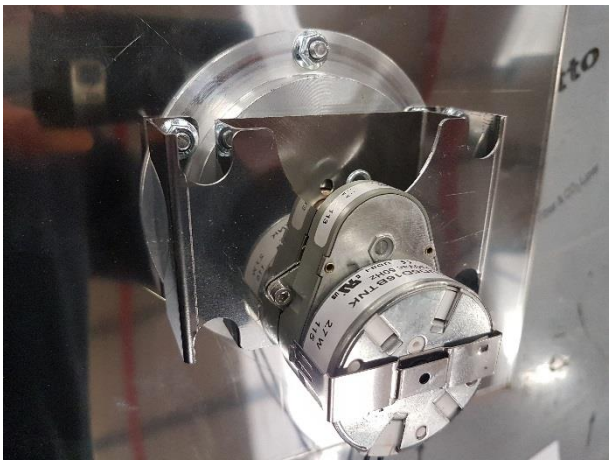


Remove the pin clip and the two socket head screws and withdraw the motor shaft from the collar.

To refit align the pin holes and slide the motor shaft into the collar maintaining hole alignment. Screw using the screws then refit the pin.

A small amount of pressure on the end of the shaft may be necessary.

Sleeve the wiring fasten the wiring to the connector then attach on the PCB.



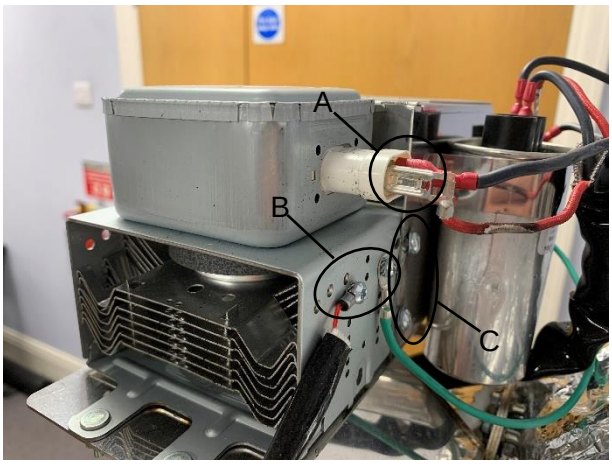
## 8.5 Magnetron

To replace the magnetron the rear panel should be undone and moved to enable access.

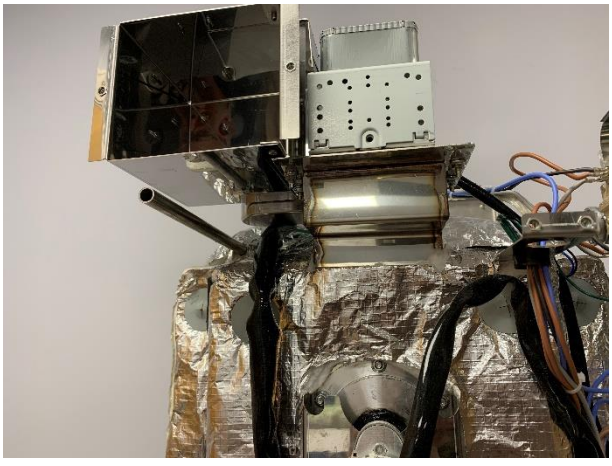
Follow the instructions under the transformer section.

Unplug the two push on connections at A and the two wires at B.

Undo the self-tappers at C.




Undo the four M5 nuts, the magnetron can now be removed.



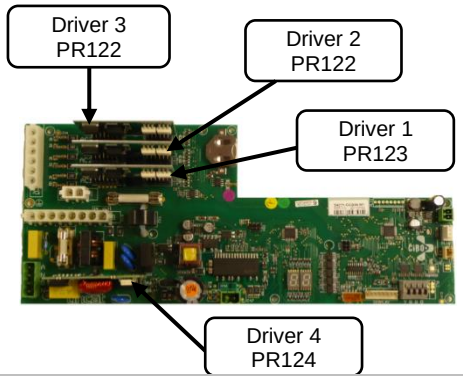
## 8.6 Triacs and PCB

Driver 1 is the inner TRIAC board of the 3, will indicate issues within the MAGNETRON circuit.

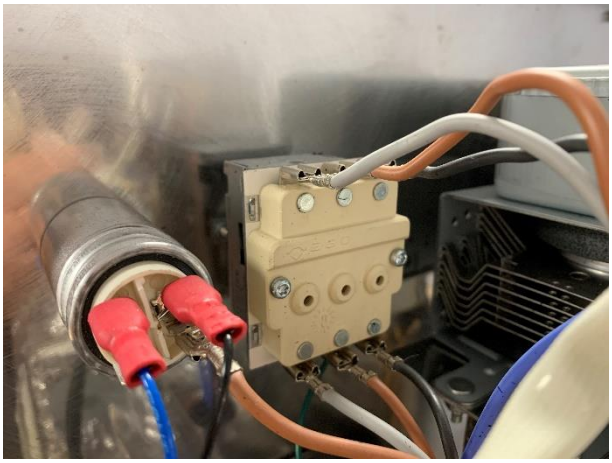
Driver 2 is the middle TRIAC board of the 3, will indicate issues within the 500W and 700W element circuits.

Driver 3 is the outer TRIAC board of the 3, will indicate issues within the 1500W element circuit.

Driver 4 is the Fan control board, there will also be no Fan operation.

| | |
|---|---|
| With the top and right hand side panel removed, the PCB can be accessed.<br><br>The triacs are a push fit to the PCB. Carefully pull to remove and push to refit taking care to align the pins correctly.<br><br>To remove the PCB remove the single screw then disconnect all the wired connections. Unclip from the PCB mounting clips. |  |

## 8.7 Capacitor (Oven Fan)

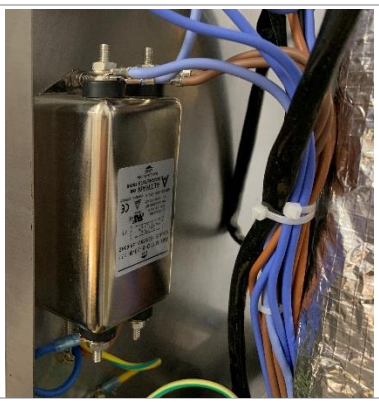
| | |
|---|---|
| Ensure that the capacitor is discharged before working on it.<br><br>With the top and left side panel removed the Capacitor can be accessed. |  |

## 8.8 Electrical Filter

Undo the four fasteners holding the wire connections, take a note of the position if necessary.

Remove the two fasteners through the rear panel and remove the filter.

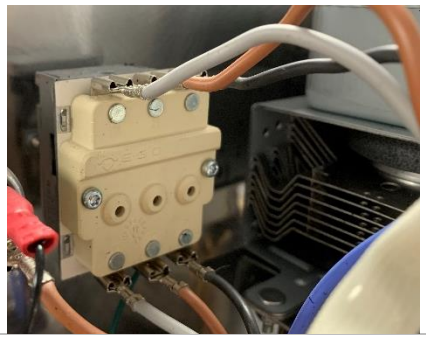
Reversal of above to refit.



## 8.9 Limit Thermostat

Disconnect the six wires making a note of the positions if required. Trace the capillary to the bulkhead nut. Make a note of the bulb position within the locking nut then carefully undo the locking nut. Withdraw the bulb. Undo the two screws through the rear panel and remove the component.

Reversal of above to refit.

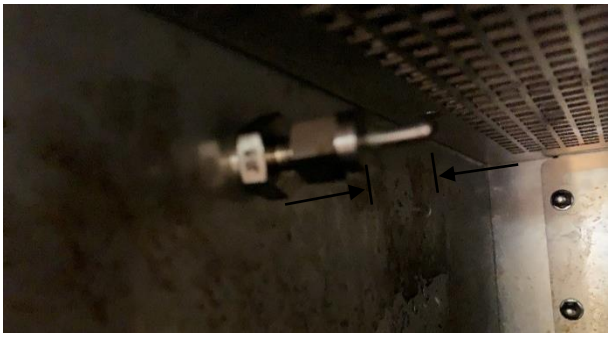


## 8.10 Oven Cavity Thermocouple

To replace the oven cavity thermocouple it will be necessary to cut through the metal sheath close to the bulkhead. Undo the nut inside the cavity supporting the bulkhead fitting attached to the metalwork.

When replacing the thermocouple it is acceptable to just use the locking nut and olive and leave the original bulkhead section in place.

Lock the thermocouple sheath in place with 12mm protruding from the face of the nut as shown in the image.



## 8.11 Lower Element

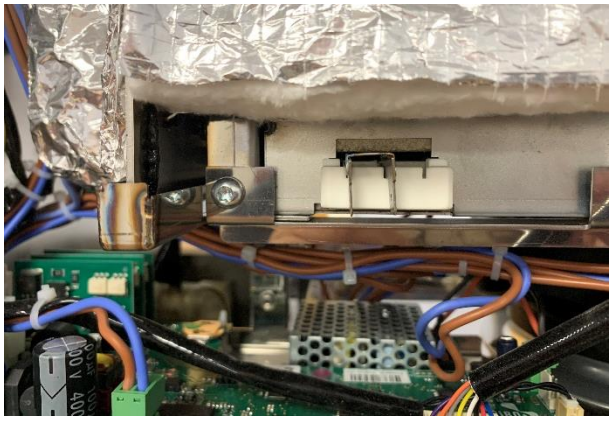
Disconnect the live and neutral connection from the element.

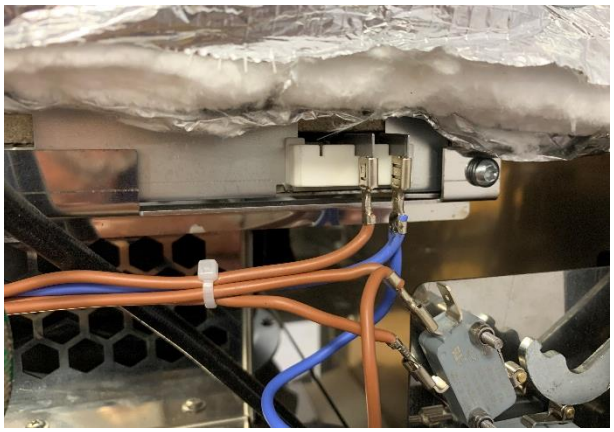
Disconnect the display connector from the PCB.

Unscrew the two self-tappers and remove the retaining bracket.

Withdraw the thermocouple from its pocket then slide the element out.

Reversal of above to refit.





## 8.12 Cooling Fan / Capacitor

Ensure that the capacitor is discharged before working on it.

With the lower element removed as detailed above and the left hand side panel removed.

Disconnect the brown and blue wires to the capacitor and snip the two cable ties. Undo the M8 nut?? From the capacitor and move the capacitor and wires to allow the withdrawal of the fan and bracket. Undo the four retaining screws, two each side. Lift and withdraw the motor assembly through the right hand side. Undo the four retaining screws holding the fan to the metal bracket.

Reversal of above to refit.

## 8.13 Magnetron Capacitor / Diode

Before working on the high voltage magnetron supply ensure the capacitor is fully discharged and that the oven is unplugged from the mains supply.

The Ciboplus magnetron power supply uses a three terminal high voltage capacitor. There are two capacitors in the same can a 1.05µF capacitor and a 0.15µF capacitor. Ciboplus uses only the 1.05µF capacitor.

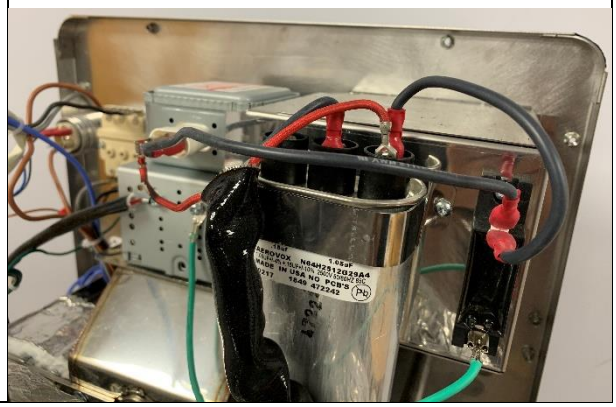
Two different manufacturers of capacitor are used Aerovox and Anhui Jaun Kuang. Pictures of the two capacitors are shown here.



The Aerovox capacitor was used up to serial number 30412198 and after this number both were used. The capacitors are fitted with their labels facing towards the front of the unit.

The C terminal is common of both capacitors and is used for the high voltage connection to the transformer (black wire terminal 2).
The other connection is where the capacitors differ:
On the Aerovox capacitor the right hand terminal (A) is used to connect to the transformer magnetron heater (red cable) and the diode.
On the Anhui Jaun Kuang it is the left hand terminal (Fan) that is used.
This different wiring is because the capacitor connections inside the capacitor can are reversed.
The correct terminals (1.05µF) can be confirmed using a multimeter with a capacitance measuring function.

Accessed through the right hand side, the magnetron capacitor can be removed by disconnecting the wires from the push on terminals and releasing the two screws holding the metal bracket. Slide upwards out of the bracket.
To remove the diode, see picture above, disconnect the two push on connections and undo the two self-tapping screws.
Reversal of above to refit.



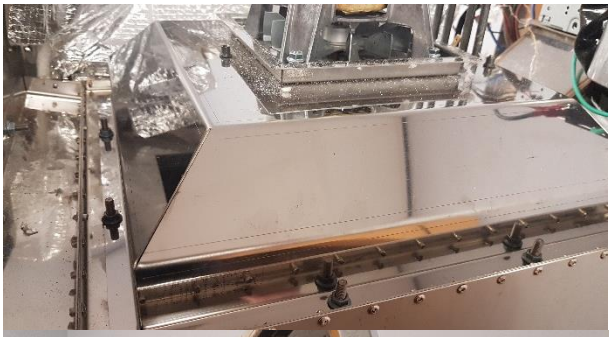
## 8.14 Oven Fan / Element / Catalytic Converter

Remove the two insulation fixing discs from the right-hand side. Disconnect the wires from the element and the fan motor and the fan motor capacitor. It will also be necessary to cut cable ties where required.

Fold the insulation over to the left to allow access to the fan housing fasteners.

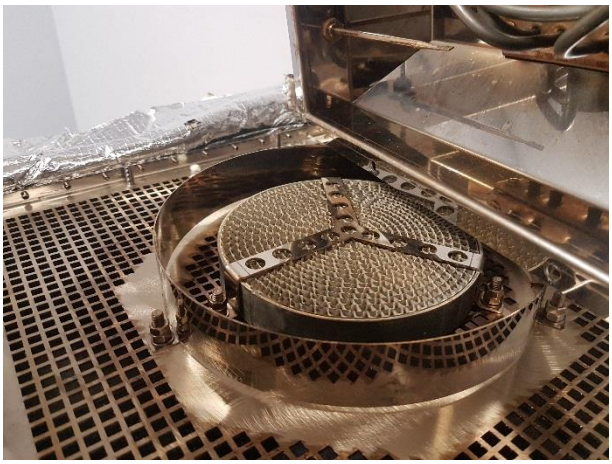
Undo the eight nuts holding the cowling to the oven top, two along each edge.

Lift the cowling upwards off of the studs and forwards so that the vent pipe is released from the rear panel. Carefully turn and support the cowling to allow access to the inside.



Oven Fan Removal and Replacement

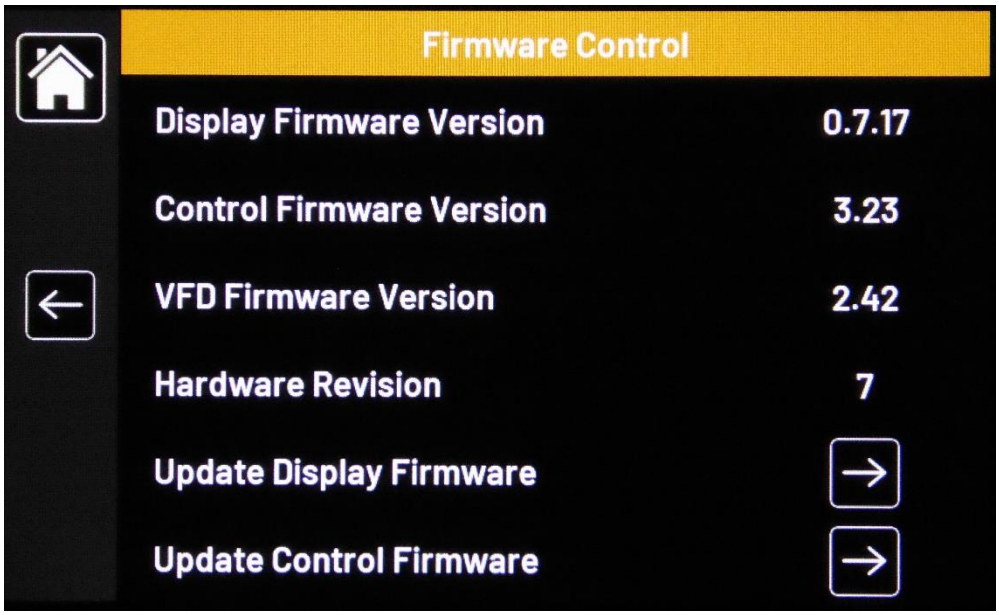
It is necessary to allow the correct clearance behind the fan blade. This is set during assembly. To ensure that the clearance is maintained mark the shaft with a felt marker pen. Undo the grub screw to release the fan blade and remove. Undo the eight nuts holding the fan motor to the cowling. The fan can now be replaced taking care to refit the fan blade to the previously marked position.

| | |
|---|---|
| Catalytic Converter Removal and Replacement<br><br>With the cowling disconnected and supported as described above. Undo the six nuts and remove the bracket which will now allow the removal and replacement of the catalytic converter.<br><br>Reversal of above to refit the listed components in this section. |  |
| Element Removal and Replacement<br><br>With the cowling disconnected and supported as described above. Undo the two screws attaching the element mounting plate to the cowling. The element can now be withdrawn from the cowling and replaced. |  |

## 8.15 Display board change

See separate instruction IS810 for detailed instruction on fitting.

# 9. Firmware Update




Display Firmware Version – shows the current version of the Display Firmware

Control Firmware Version – shows the current version of the Control Firmware

Hardware Revision – shows the installed hardware Revision

VFD Firmware Version – Shows the current VFD Version.

Updates will be issued by Lincat when there is an enhancement to be made to the oven.

The general sequence is to always update the display hardware first.

Update Display Firmware – Ensure the USB stick is inserted into the port behind the lower air grill. Touch the arrow. This takes you to a confirmation screen, touch to confirm and select the version of the software. This will then install and restart the oven. Remove the USB stick, fit the dust cap and replace the grill

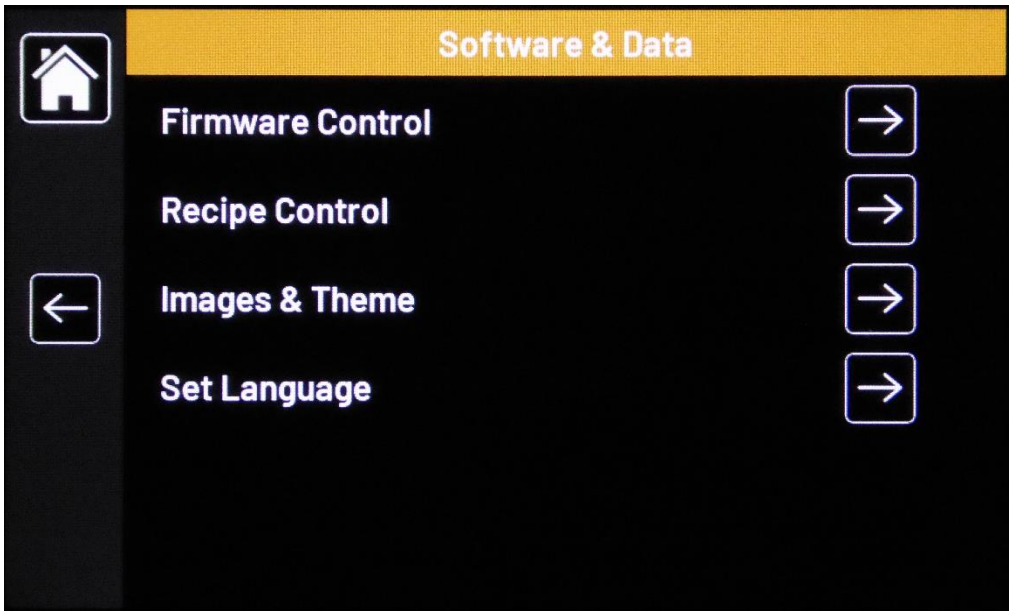
Update Control Firmware - Ensure the USB stick is inserted into the port behind the lower air grill. Touch the Arrow. This takes you to a confirmation screen, touch to confirm and select the version of the software. This will then install and restart the oven. Remove the USB stick, fit the dust cap and replace the grill.

When updating software avoid opening closing the door as this may create interference that slows the update process.

# 10. Software and Data

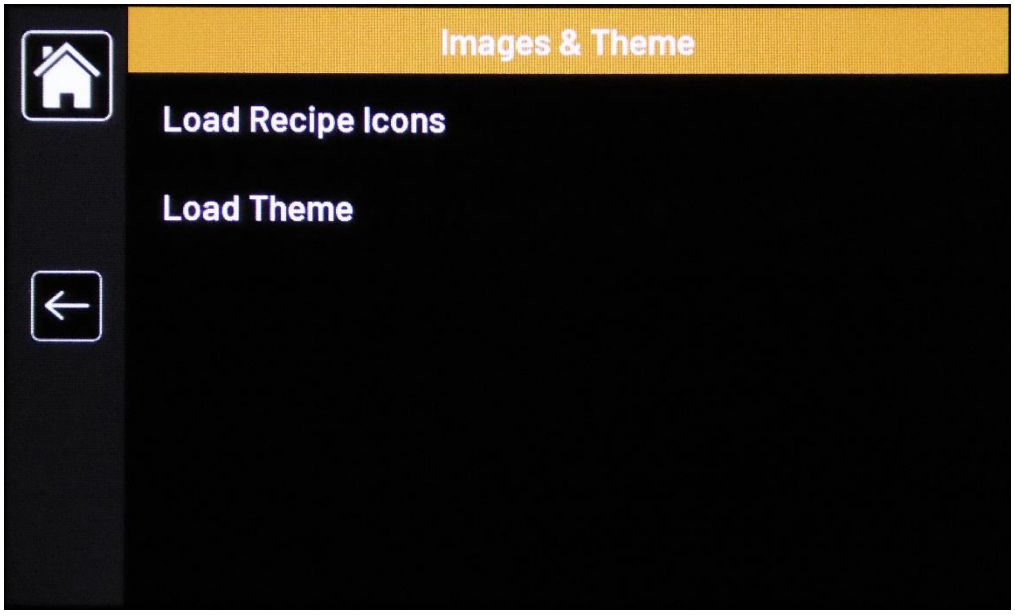
## 10.1 Software and Data Screen

From the Software and Data screens you can access and update the versions of software and hardware you are using, upload and download recipes including those from another CiBO+, set your preferred screen appearance and set the appropriate language.




## 10.2 Images and Themes

This is where you can load updated recipe icons and set your preferred screen appearance.



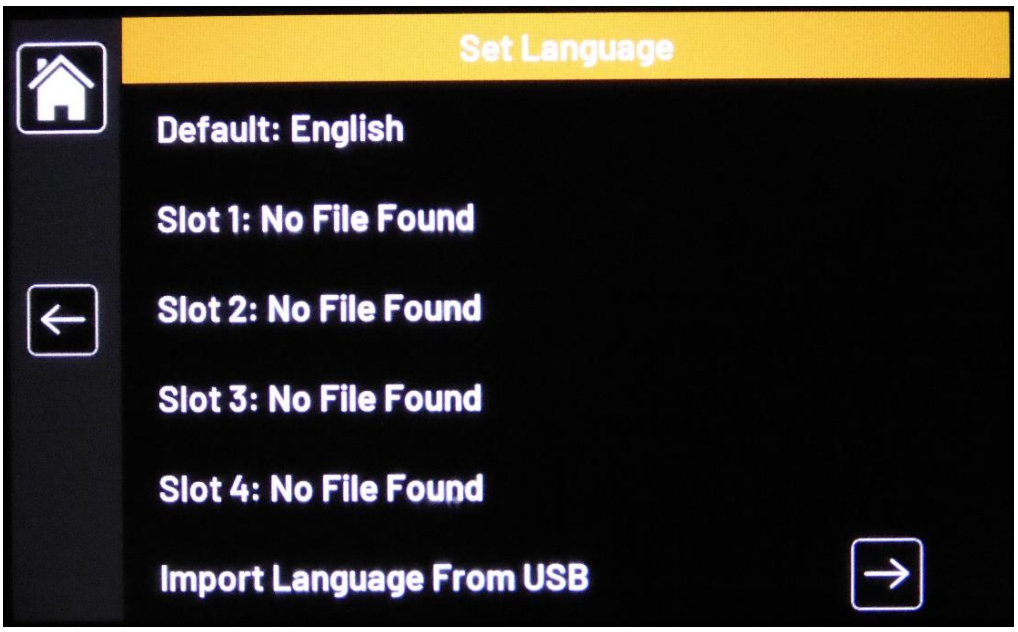
Load Recipe Icons – Ensure the USB connection is made. Touch the Right arrow to import recipe icon set. Remove the USB stick, fit the dust cap and replace the grill.

Load Theme – Ensure the USB connection is made. Touch the Right arrow to load the latest theme. Remove the USB stick, fit the dust cap and replace the grill.

### 10.3 Set Languages

This screen enables you to set the language that the screen text will appear in.

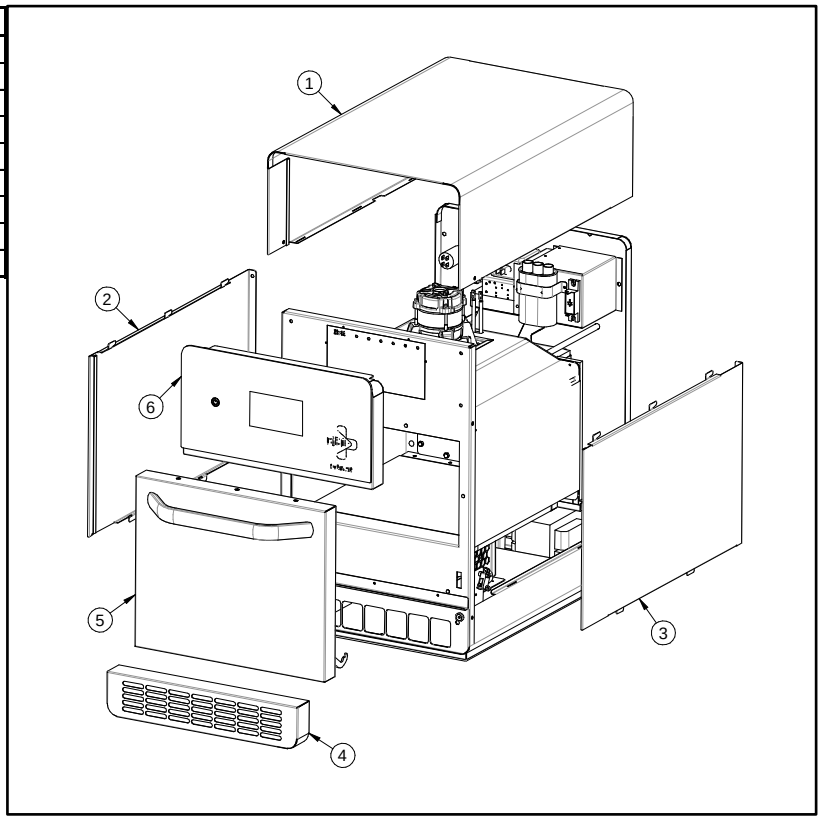
Touch the Right arrow on the language you wish to use and accept by touching the tick.




# 11. Spares Lists

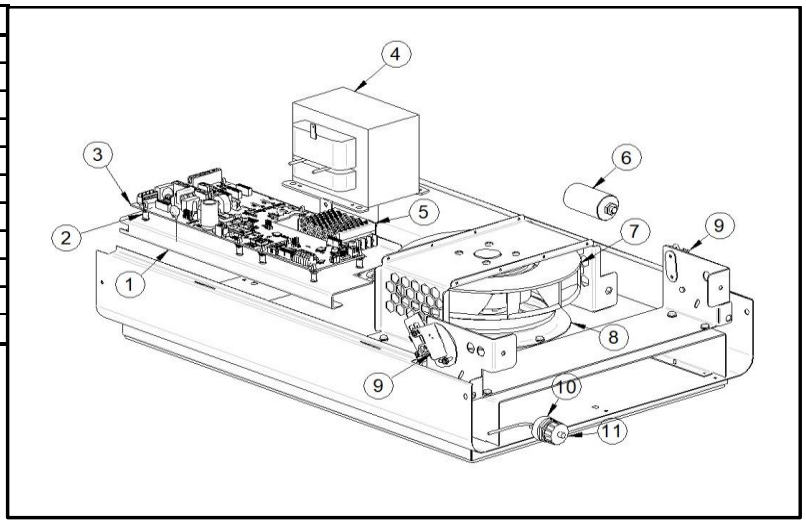
## 11.1 Body

| NO | DESCRIPTION | PART NO |
|---|---|---|
| 1 | OUTER TOP ASSEMBLY | LI73 |
| 2 | LH SIDE PANEL | 39147 |
| 3 | RH SIDE PANEL | 39146 |
| 4 | INLET GRILL ASSEMBLY | GR68 |
| 5 | DOOR ASSEMBLY COMPLETE | DO263 |
| 6 | DISPLAY ASSEMBLY BLACK | CP-CIBOPLUS/B |
| 6 | DISPLAY ASSEMBLY GREEN | CP-CIBOPLUS/G |
| 6 | DISPLAY ASSEMBLY PURPLE | CP-CIBOPLUS/P |
| 6 | DISPLAY ASSEMBLY RED | CP-CIBOPLUS/R |



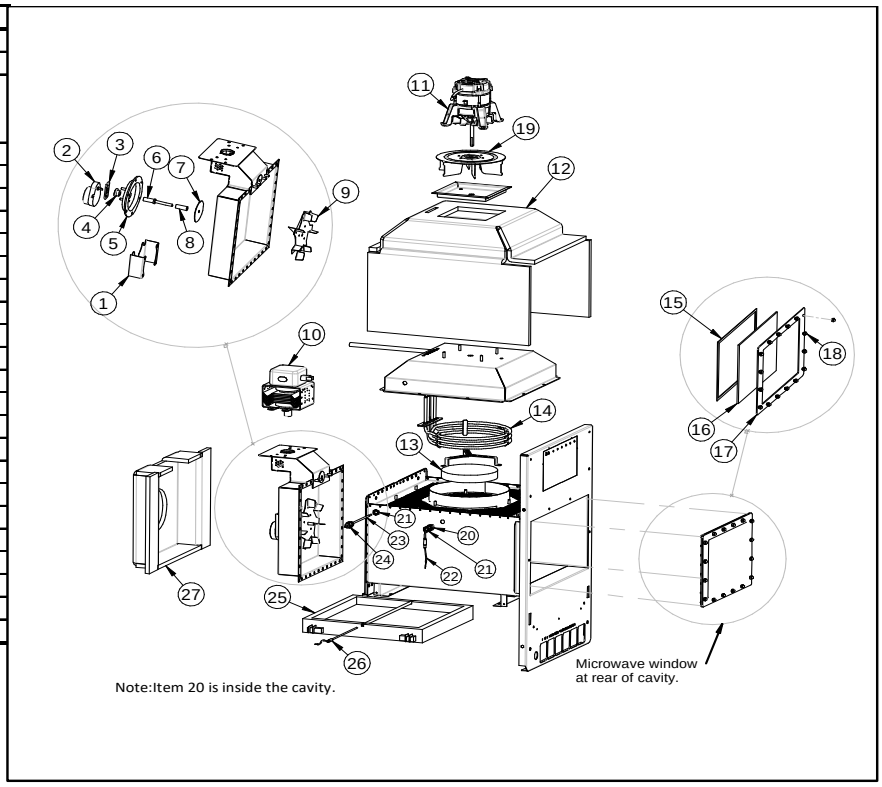

## 11.2 Base

| NO | DESCRIPTION | PART NO |
|---|---|---|
| 1 | PCB MOUNTING PLATE | 39157 |
| 2 | PCB SPACER | SP107 |
| 3 | PCB | CCB04 |
| 4 | TRANSFORMER | TX02 |
| 5 | POWER SUPPLY | PS02 |
| 6 | CAPACITOR | CA235 |
| 7 | COOLING FAN | CF02 |
| 8 | FAN RING | FR61 |
| 9 | MICRO SWITCH KIT | DS37 |
| 10 | USB CONNECTOR | USB01 |
| 11 | USB SEALING CAP | USB02 |



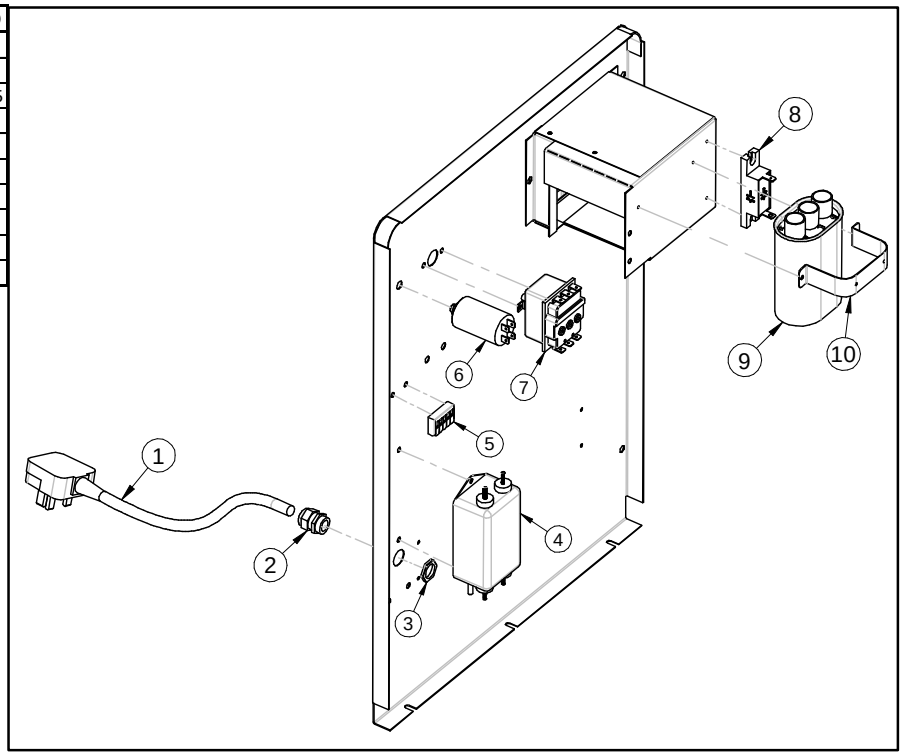

## 11.3 Cavity

| NO | DESCRIPTION | PART NO |
|---|---|---|
| 1 | STIRRER BRACKET | 36923 |
| 2 | STIRRER MOTOR | SM02/S |
| 3 | BEARING PLATE | MC10/S |
| 4 | BEARING | |
| 5 | MAGNETIC CHOKE | |
| 6 | STIRRER SHAFT | RO351 |
| 7 | DISC | 36916 |
| 8 | SPACER | SP115 |
| 9 | STIRRER IMPELLOR | FA244 |
| 10 | MAGNETRON | MG01 |
| 11 | BI-DIRECTIONAL MOTOR | MO32 |
| 12 | TOP INSULATION | IN167 |
| 13 | CATALYTIC | CC01 |
| 14 | ELEMENT | EL343 |
| 15 | GASKET | GA93 |
| 16 | FIBREGLASS WINDOW | FGW01 |
| 17 | FRAME | 39136 |
| 18 | ACORN NUT | D20_035 |
| 19 | IMPELLOR | FA241 |
| 20 | 3mm FEED THROUGH | FT03 |
| 21 | 1/8 LOCKNUT | CO35 |
| 22 | CURVED THERMOCOUPLE | TC57 |
| 23 | LIMIT THERMOSTAT | TH63 |
| 24 | 4mm FEED THROUGH | FT05 |
| 25 | RADIANT ELEMENT | EL346 |
| 26 | STRAIGHT THERMOCOUPLE | TC58 |
| 27 | BACK INSULATION | IN168 |




## 11.4 Back

| NO | DESCRIPTION | PART NO |
|---|---|---|
| 1 | MAIN CABLE | PL352 |
| 2 | CABLE GLAND | GL85 |
| 3 | GLAND NUT | FZ214105 |
| 4 | FILTER | FI60 |
| 5 | 5 WAY WAGO | TE115 |
| 6 | CAPACITOR | CA257 |
| 7 | LIMIT THERMOSTAT | TH63 |
| 8 | HV DIODE | DI53 |
| 9 | DUAL SECTION CAPACITOR | CP42 |
| 10 | BRACKET | 36971 |

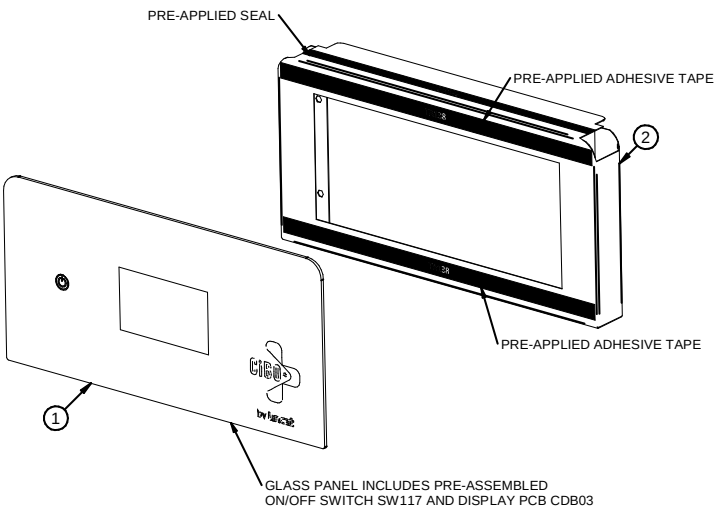


## 11.5 Display

| NO | DESCRIPTION | PART NO |
|---|---|---|
| 1 | GLASS ASSEMBLY | |
| 2 | METAL PANEL ASSEMBLY | |

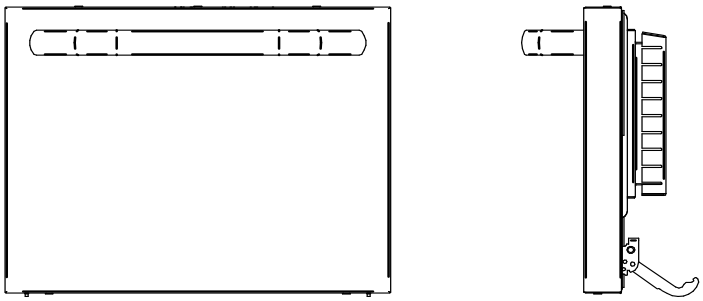
| | |
|---|---|
| DISPLAY ASSEMBLY BLACK | CP-CIBOPLUS/B |
| DIPLAY ASSEMBLY GREEN | CP-CIBOPLUS/G |
| DIPLAY ASSEMBLY PURPLE | CP-CIBOPLUS/P |
| DIPLAY ASSEMBLY RED | CP-CIBOPLUS/R |

BOTH PARTS SHOWN ARE INCLUDED IN THE DISPLAY ASSEMBLY KIT




## 11.6 Door

| NO | DESCRIPTION | PART NO |
|---|---|---|
| * | COMPLETE DOOR ASSEMBLY | DO263 |



# 12. Cleaning Information

Wear protective clothing.

Do not use a water jet or steam cleaner, and do not immerse this appliance.

The oven should be cleaned regularly with **Lincat Sparkle (OC01)** oven cleaner and all food deposits removed. When cool clean with warm water and mild detergent, do not use tools or abrasive materials. Dry with a soft cloth and apply **Oven Shield (OS01)**.

Do not spray the catalytic converter with detergent or caustic oven cleaner.

Ensure all door seals are kept clean and inspected regularly to avoid microwave leakage.

Failure to maintain the oven in a clean condition could lead to deterioration of the surface that could adversely affect the life of the appliance and possibly result in a hazardous situation.

Regularly check the air filter on the front of the oven. It may be cleaned in a dishwasher. Do not use the oven without the filter.

1. Open the door and press the Cooldown+ icon. Once Cooldown is complete turn off oven.

2. Wear PPE. Place tea towel over open oven door, it could still be hot.

3. Apply CiBO+ Sparkle Oven Cleaner to base, top and sides of the oven cavity.


4. Spray onto a cloth and wipe inside door, door sides and seal.

5. Leave for 3 minutes


6. Wipe out oven cavity to remove dirt. Apply further spray if necessary.

7. Wipe out with a cloth and warm water.

8. Dry with paper towel and leave door open.

9. Spray with CiBO+ Protect Oven Shield.


10. Remove filter below door and rinse alternatively put through dishwasher.

# 13. Service Engineers Checklist

| | Test /Check |
|---|---|
| 1 | Check supply socket condition. |
| 2 | Is the Mains cable in good condition free from nicks/cuts/abrasions, and the cable gland is secure. |
| 3 | Door Seal condition acceptable, clean and effective. |
| 4 | External panels secure. |
| 5 | Is the front grill present and fitted correctly, is the mesh clean. If required clean with a damp cloth. |
| 6 | Check USB is secure and cap fitted. |
| 7 | Check the integrity of the glass base panel. |
| 8 | Check that the oven cavity is clean and clear of debris. |
| 9 | With the covers removed, check for the correct operation of the door hinge micro switches. See Section 6. |
| 10 | After performing the repair perform a micro wave leakage check. See Section 7. |
| 11 | Check the functionality of the unit to ensure that it is operating correctly. |
| 12 | Check that the customer has the appropriate cleaning products and information on how to use them. |
| 13 | Advise the customer on the use of the Teflon accessories to be used on the base. |

# 14. Appendix

## Microwave Component Testing

Warnings

- Never work on the microwave system unless the unit is unplugged.
- Wait a minimum of 2 minutes after un-plugging the unit before removing any covers.
- Always discharge the high voltage capacitor before working on any of the microwave components.
- Never try to measure any microwave voltages with the unit live.
- Never run the microwave system with the outer covers removed as the magnetron will rapidly overheat and be damaged.

**High voltage transformer test**


Procedure

- Remove all the wires from the transformer
- Visually examine for broken wires, signs of arcing or overheating.
- Using a Digital Multi-Meter (DMM) check the winding resistances
    - Primary mains input winding approximately 1.2Ω.
    - High voltage winding measured from the single terminal to earth 75Ω.
    - Filament winding between red wires, less than 1Ω.

**High voltage capacitor**

The capacitor is the most dangerous of all the microwave component as it can store a considerable amount of electrical energy. Before disconnecting it ensure it is fully discharged using a discharge lead set fitted with a 10MΩ resistor. There is a resistor built into the can but it shouldn't be relied upon to discharge the capacitor. The capacitors used are centre tap capacitors with 0.15µF and a 1.05µF values. Ciboplus only uses the 1.05µF capacitor. READ the label carefully as the connections are not always on the same side and vary between manufacturers

Procedure

- After discharging remove all the wires from the capacitor
- Visually check for damaged connections, bulging of the can and any oil leakage.
- Using a Digital Multi-Meter (DMM) check the resistance between the terminals and each terminal and the casing
    - Between terminals should be 10MΩ
    - Between each terminal and case should be open circuit.
- If your DMM has a capacitance measuring option measure the capacitance.
    - Between terminals is 1.05µF and 0.15µF.

**Magnetron**

The magnetron works at a voltage of 4,100 V dc. The only safe way to test it is by resistance measurement. Never attempt to measure the magnetron when it is turned on.

Procedure

- Disconnect the power and discharge the high voltage capacitor.
- Remove the wires from the F and FA terminals.
- Using a Digital Multi-Meter (DMM) set to ohms check the following
    - Resistance of the filament between the F and FA terminals < 1Ω.
    - Resistance between both filament terminal and the case should be infinite (open-circuit.
- After replacing the magnetron always perform a microwave leakage test to confirm the integrity of the system.

**High voltage diode**

Procedure

- Disconnect the power and discharge the high voltage capacitor.
- Remove the wires from the connections.
- Use a megger, to check continuity in both directions.
    - If it conducts one way only then its good.
    - If open circuit both ways – diode faulty.
    - If short circuit both ways – diode faulty.
    - If conducts one way and is leaky the other way – diode faulty.

When replacing the diode the orientation is critical. The arrow in the side of the diode must point downwards.

# 15. The CIBO+ and plug-in power meter

There is a lot of information can be gleaned from using an in-expensive plug-in power meter about the health of a Cibo+

They are readily available from suppliers like RS and Farnell. Below is a quick guide to the diagnostic capabilities of the power meter.

*1. Plug-in power meter*

Getting started.

- Unplug the Cibo+ from the wall socket, plug in the power meter and measure the supply voltage and frequency, by cycling through on the function button. These should be in the range 216V to 253V and 48 to 52Hz.Typical values in the UK are 240V and 50Hz. Change the meter setting to read power.

- Plug the Cibo+ into the power meter and turn on via the front switch. Immediately, Turn off the auto-pre-heat. To do this press “Chefs hat” >> “Gear cog” >> “Temperature and Control” >> “Auto Preheat “. Ensure there is a cross in the box next to the label. If not press “Autopre-heat” to turn it off. Press the “Home (House)” button to return to the home screen.

- The unit now should only be powering the cooling fan and electrics. Use the power meter function button to check the power being consumed in watts. This should be 30 to 50W.
    - If power drawn is 500W then suspect the 500W oven element circuit.
    - If power drawn is 1500W then suspect the 1500W oven element circuit.
    - If power drawn is 700W then suspect the 700W oven element circuit.

- Open and close the door slowly.
    - If the power changes to 1,800W then there is a problem with the magnetron power control circuit.

- Next item to test is the magnetron power circuit. So press “Chefs hat” >> “Gear cog” >> “Test and Diagnostics” >> “Microwave test” >> “Leakage test”. Read the instruction on screen and place a beaker with 275mL of water in the centre of the oven. Press start and observe the power meter. The power reading should be around 1,800W. This is a good time to use your microwave leakage tester to check the door leakage power (should be less than 2mW / cm2). Listen to the unit, there should be a quiet hum from the transformer. A very loud hum indicates a problem

either with the magnetron or the transformer. After the test, remove the water and return to the home screen.

- Test the motors / fans are working. Press press “Chefs hat” >> “Gear cog” >> “Test and Diagnostics” >> “Motor test”. Turn each one on in turn observe the increase in airflow and check the power draw. 90W for the oven fan, 60W for the case fan and just a few watts for the stirrer. If you press your hand against the rear launch window in the cavity and turn the stirrer fan on and off you should be feel the motor turning.

- Select a program from the “Home” screen. Observe the power meter. Power draw should be around 2,700 to 3100W depending on the supply voltage. This is a good time to check the supply voltage using the function key to ensure it is not being dragged down too much by the oven, upto 10V is OK, more than that indicates a weak supply. This nominal power level of 2,900W is made up of
    - 1500W for the large circular element in the top of the oven
    - 500W for the smaller circular element in the top of the oven
    - 700W for the base element
    - 200W for the cooling fan and oven fan

- So you can use these values to determine the health of the elements. If the power draw is only 2,400W then suspect the 500 oven element, 2200W suspect the base, 1500W suspect the large oven element.

- After you finish testing remember to turn the auto-preheat back on.

In summary, the power meter gives a good insight into the health and integrity of the internal components / circuitry.

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