



ECO Drying Cabinets Operation Manual

Models:

ECO FC1 (885L)

ECO FC2 (426L)

ECO LS (227L)

ECO SS (113L)



Ver 2.0 Revised February 2025

Contents

1.0 - General Description	3
1.1 - Features	3
1.2 - Energy Saving Thermal Insulation	3
1.3 - Programmable 24/7 Scheduling Function	3
2.0 - Installation & Precautions	4
2.1 - Lockable Castors	4
2.2 - Connecting the Power	4
2.3 - Warning - Before Portable Appliance Testing	5
2.4 - Risk of Fire / Explosion	5
2.5 - Shelves	5
2.6 - Moisture Vent	6
2.7 - Controlling the Moisture Vent	6
3.0 - Touch Screen	7
3.1 - Home Screen	7
3.2 - Temperature Selection	8
3.3 - Schedule	9
3.4 - Settings	10
4.0 - Over Temperature Device	11
4.1 - Engaging	11
4.2 - Resetting the Over Temperature Device	11
4.3 - Adjusting the Over Temperature Device	11
5.0 - Maintenance, Cleaning, And Environmental	12
5.1 - Cleaning Exterior Surfaces	12
5.2 - Inner Surfaces	12
5.3 - Disposal	13
6.0 - Wiring Diagram	14
7.0 - CE Declaration of Conformity	15
8.0 - UKCA Declaration of Conformity	16

Register your product:



1.0 - General Description

LEEC ECO Drying Cabinets are designed with energy efficiency in mind, utilising thermal insulation and a manual & programmable scheduling function, for drying laboratory glassware, surgical instruments, or media.

1.1 - Features

- Digital controller, featuring a 5-inch full colour, touch screen display
- Efficient in drying laboratory glassware, surgical instruments, wigs, costumes & other media
- Energy saving thermal insulation
- Low power consumption
- 2 operating modes: manual & programmable 24 hour/7 days a week scheduling function
- Temperature range of 30°C to 80°C
- Circulating fans & easy roll mounting wheels (floor standing models only)
- Anti-microbial powder coat paint on external surfaces
- Double glazed glass door(s) (on floor standing models only)

1.2 - Energy Saving Thermal Insulation


Built with double skinned construction and thermal insulation to an R-rating of 1.43 This ensures retention of heat in the chamber for longer and helps minimize heat loss into the room, which ultimately saves energy and money.

1.3 - Programmable 24/7 Scheduling Function

The drying cabinet can dry constantly, or it can dry on a timed basis.

A digital schedule allows convenient programming of heating cycle times. It switches the heating elements off outside of the programmed drying times, which ultimately saves energy and money.

2.0 - Installation & Precautions

 LEEC ECO Drying Cabinets can become hot during use. When choosing a suitable location for installing the drying cabinet, make sure it is away from combustible materials / soft furnishings / flammable liquids, and any other item(s) that may be sensitive to heat.

2.1 - Lockable Castors

(Models Eco FC1 and Eco FC2 only)

When the drying cabinet is in its final position of use, apply the brakes on the castors by pressing the brake lever down with your foot.

2.2 - Connecting the Power

The power cable has a moulded plug at one end, and an IEC type push-fit connector at the other. Push the IEC cable connector into the IEC socket on the rear of the drying cabinet.

Always replace a blown fuse with another fuse of the same rating



Make sure it is fully inserted into the IEC socket



IEC socket

The power cable can be easily replaced if it becomes damaged.

Connect the mains plug to a 220-240V AC 50Hz 13A single-phase electrical supply.

2.3 - Warning - Before Portable Appliance Testing



The heating elements in LEEC ECO Drying Cabinets may absorb moisture from the air after leaving the factory, particularly after being stored in an un-heated warehouse, or when delivered in cold or damp conditions. Drying out requires the drying cabinet to be run at full power for a period of at least 4 hours. If the drying cabinet still gives a low P.A.T. test reading after drying out, please contact LEEC for further advice.

2.4 - Risk of Fire / Explosion



- LEEC ECO Drying Cabinets are not spark free.
- They are not ATEX-Rated.
- They are not suitable for drying items that have been washed in solvent or any other type of flammable liquid / chemical.
- Do not place combustible items, aerosols or any other items inside the chamber that could give off explosive vapours or fumes.

2.5 - Shelves



Always use the shelves provided with the LEEC ECO Drying Cabinets for drying your items on. Place your items evenly on top of the shelves and allow space around your items for airflow. This will help the drying process.

- Always use the shelves for drying items on.
- Do not place items directly on the chamber floor.
- Do not overload the shelves - The shelves are rated up to a safe working load of 10kg when distributed evenly across all shelves.

2.6 - Moisture Vent

(Models ECO FC1 and ECO FC2 only)

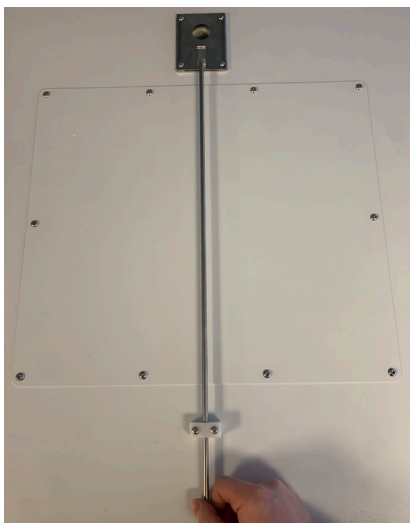
A moisture vent is provided on top of the drying cabinet to allow excess moisture to escape from the chamber. This is particularly useful if there is a lot of moisture content or condensation inside the chamber.

It allows the chamber to breathe and can help the drying process.

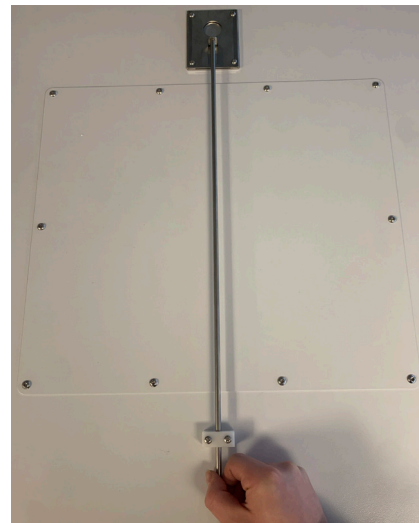
2.7 - Controlling the Moisture Vent



Moisture vent (viewed from above)



Pull to open

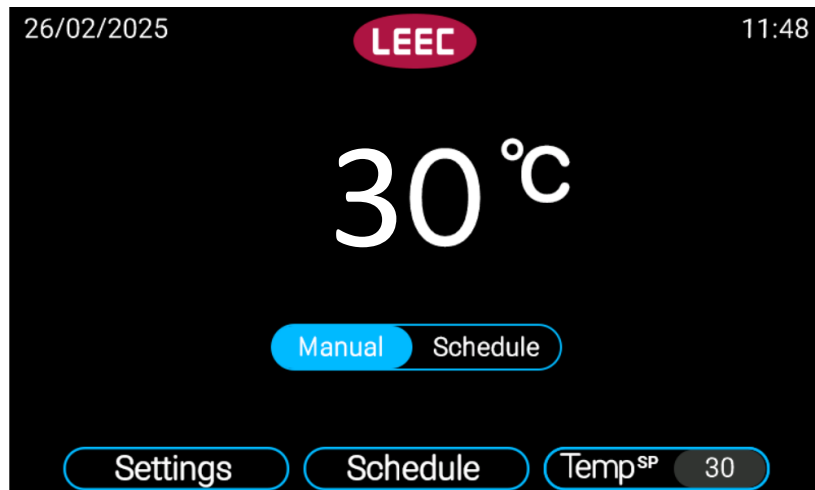


Push to close



3.0 - Touch Screen

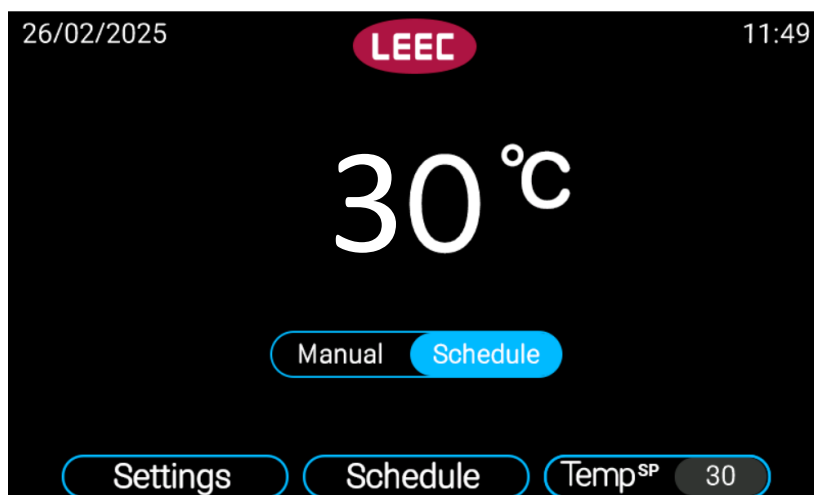
3.1 - Home Screen



LEEC ECO Drying Cabinets touch screen - Home Page

Above is a view of the home screen for the touchscreen interface. From the home screen, the user may access the settings, schedule and temperature menus by touching each of the respective buttons at the bottom of the screen. Displayed in the centre of the interface is the current temperature of the cabinet.

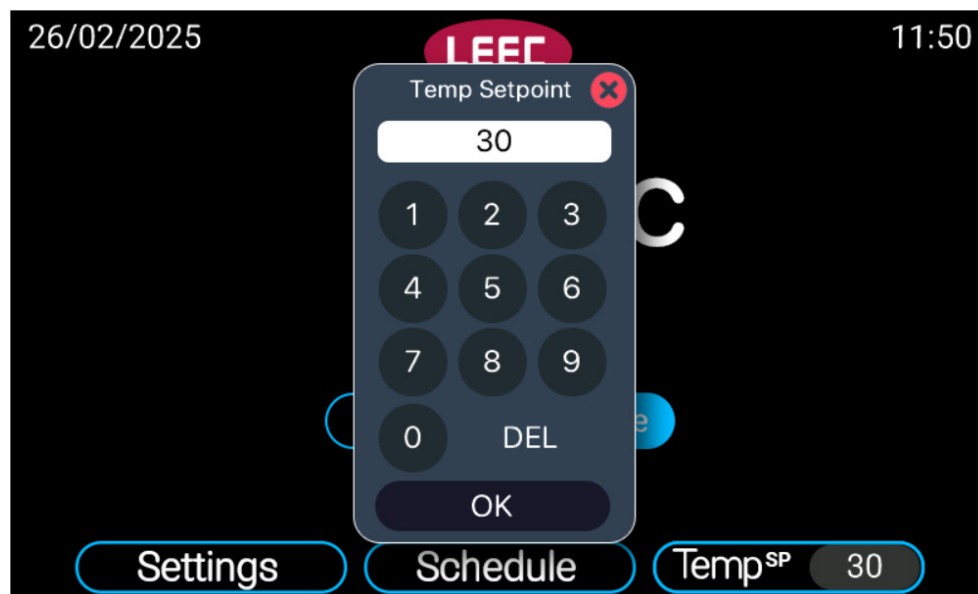
Below the temperature reading there are two options to select from: Manual or Schedule. Whilst the device is set to manual (as shown above), the heating elements will engage immediately until the desired temperature is reached. The target temperature is covered in more detail in section 3.2. Once reached, this temperature will be maintained until the user either selects a new temperature or alters the mode.



LEEC ECO Drying Cabinets touch screen - Home Page

Alternatively, the cabinet can be set to schedule mode (as shown above). While in schedule mode, the heating element will engage to reach the same target temperature, but will only do so for times specified under the scheduling menu. For more details on this menu please see section 3.3.

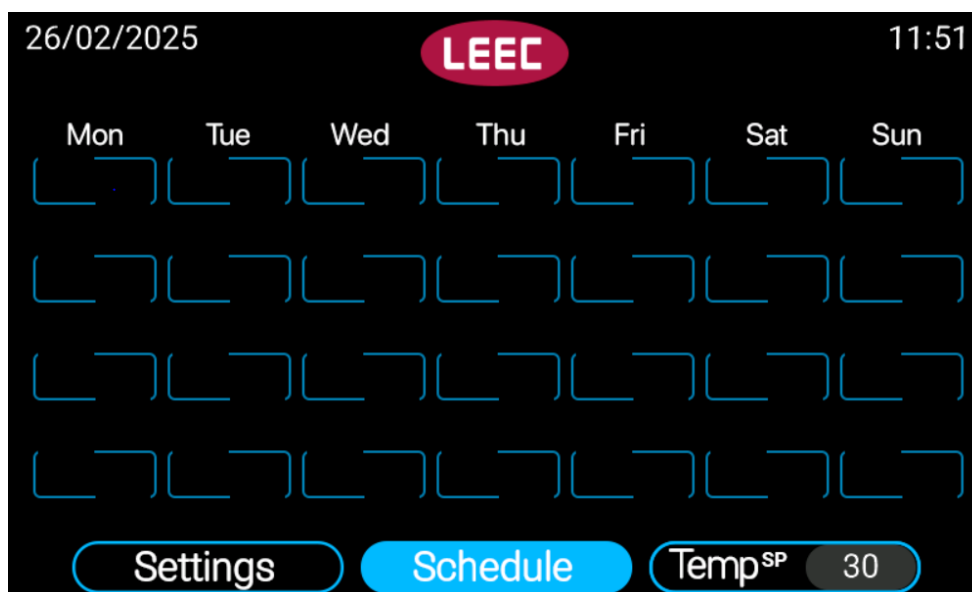
3.2 - Temperature Selection



LEEC ECO Drying Cabinets touch screen - Temperature Menu

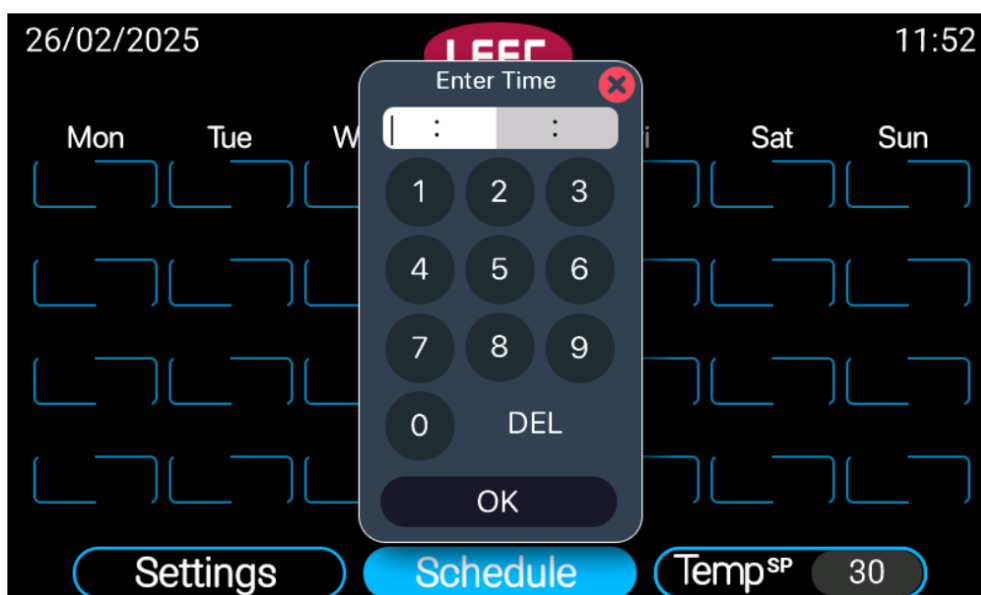
Once the user has selected the “Temp” Menu option from the home screen, the input selection will appear as shown above. From this screen the user may use the number pad displayed on the touchscreen to input the desired target temperature. Once the target temperature has been typed, selecting “OK” at the bottom of this menu will input the temperature and the unit may begin adjusting to the new target temperature. Users can confirm the target temperature is set correctly at any time by inspecting the number displayed to the right hand side of the temperature menu button on the home page. Here this will always display the currently programmed target temperature.

3.3 - Schedule



LEEC ECO Drying Cabinets touch screen - Schedule Menu

Within the “Schedule” menu, the above display will present itself to the user. This screen allows a user to set up to 4 time periods each day where the unit will reach and maintain the target temperature. By touching any of the displayed empty schedule slots on this screen, the user will be prompted to set the desired time period for the temperature to be maintained.



LEEC ECO Drying Cabinets touch screen - Schedule Time Menu

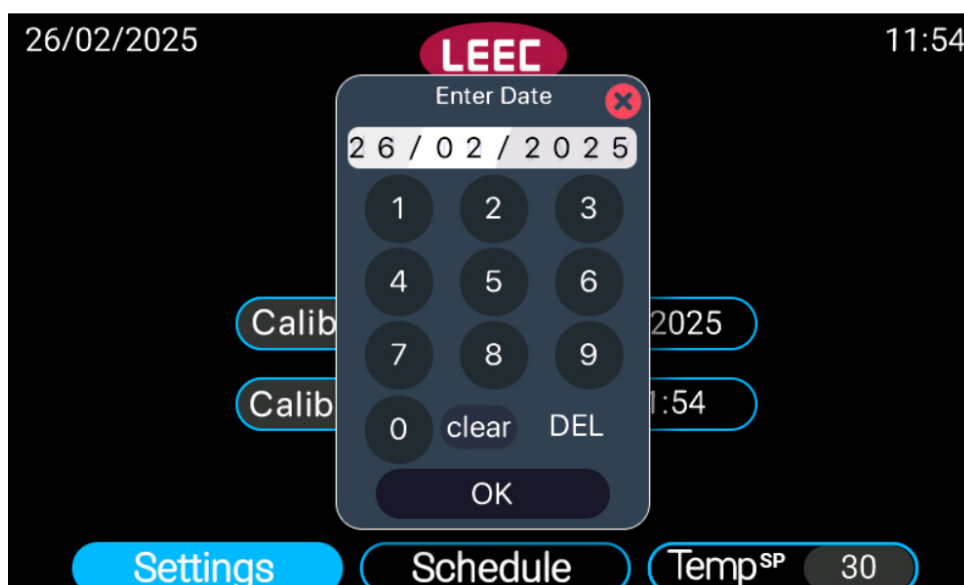
From here, the user can use the on-screen number pad to set the desired start and end times for the selected schedule slot. Once the desired time has been set, select “OK” to confirm the selection, the user may then add additional times to other schedule slots until satisfied. Once the schedule has been set fully, the user can select the “LEEC” logo at the top of the screen to return to the homepage.

3.4 - Settings



LEEC ECO Drying Cabinets touch screen - Settings Page

Within the settings panel, the date and time can be calibrated. It is important that these remain correctly set to ensure the proper functionality of the schedule.



LEEC ECO Drying Cabinets touch screen - Settings Page - Date

Selecting either calibration option from the previous page will display a number pad on the interface as shown above; on this menu the user may use the on-screen number pad to enter the correct current time or date respectively. Once the information is correct, the "OK" button at the bottom will confirm the settings and return to the settings page. Once complete, touching the large "LEEC" logo at the top of the screen will return the user to the main menu.

4.0 - Over Temperature Device

An independent over temperature safety cut out is fitted at the rear of the drying cabinet to protect the drying cabinet from overheating.

It does not protect your products inside the chamber.

4.1 - Engaging

The over temperature device is factory set to 100°C. In the unlikely event of the temperature controller failing on full power, the over temperature device will disconnect the heaters.

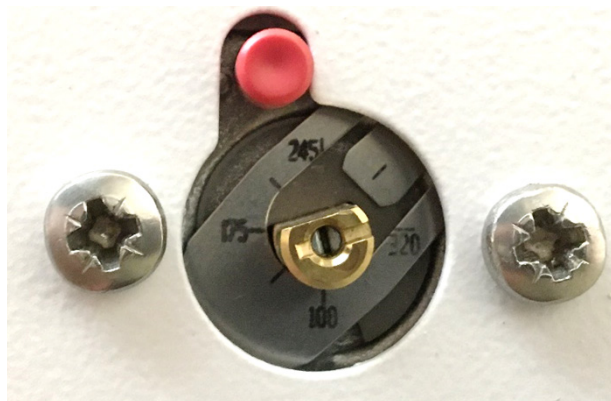
Once triggered, the over temperature device must be manually reset after the drying cabinet has cooled down.

Heating will not be possible until a reset procedure has been performed.

4.2 - Resetting the Over Temperature Device

Reset the over temperature device by pressing the red button next to the cut out (at the rear of the drying cabinet).

Push the red button to RESET



Over Temperature Device (viewed from the rear)

4.3 - Adjusting the Over Temperature Device

This has been factory set at 100°C. We do not recommend adjusting the over temperature device, but should you need to, use a small flat blade screwdriver in the slot of the gold spindle.

- Turning clockwise increases the cut-out temperature.
- Turning anti-clockwise decreases the cut-out temperature.
- The cut-out temperatures are marked around the spindle.

5.0 - Maintenance, Cleaning, And Environmental

LEEC ECO Drying Cabinets are made from steel and are painted in textured polyester powder-coat paint, for a durable easy-to-clean finish. The paint also has anti-microbial properties to help with contamination control.



Electrical hazard. Do not spill water or cleaning fluids over the inner or outer surfaces.

Disconnect from the electrical supply before cleaning / maintenance.



Keep all ventilation grilles clear and unobstructed.

5.1 - Cleaning Exterior Surfaces

Disconnect from the electrical supply before cleaning / maintenance.

It is recommended that the exterior of the drying cabinet is regularly wiped clean. Use a soft non-abrasive cloth dampened with a warm soapy water solution.

Make sure the exterior is thoroughly dry after cleaning.

5.2 - Inner Surfaces

It is advisable to clean the chamber regularly. Never use any of the following:

- Chlorine based detergents or bleaches
- Acidic cleaning agents
- Sodium azide
- Iodine
- Ferric chloride
- Alcohol or solvent based cleaners

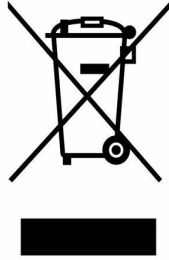
Clean all inner surfaces of the chamber and the wire shelves.

Clean the inner surfaces of the glass door(s).

In the event of spillage of hazardous materials or chemicals, please refer to the product safety data sheet.

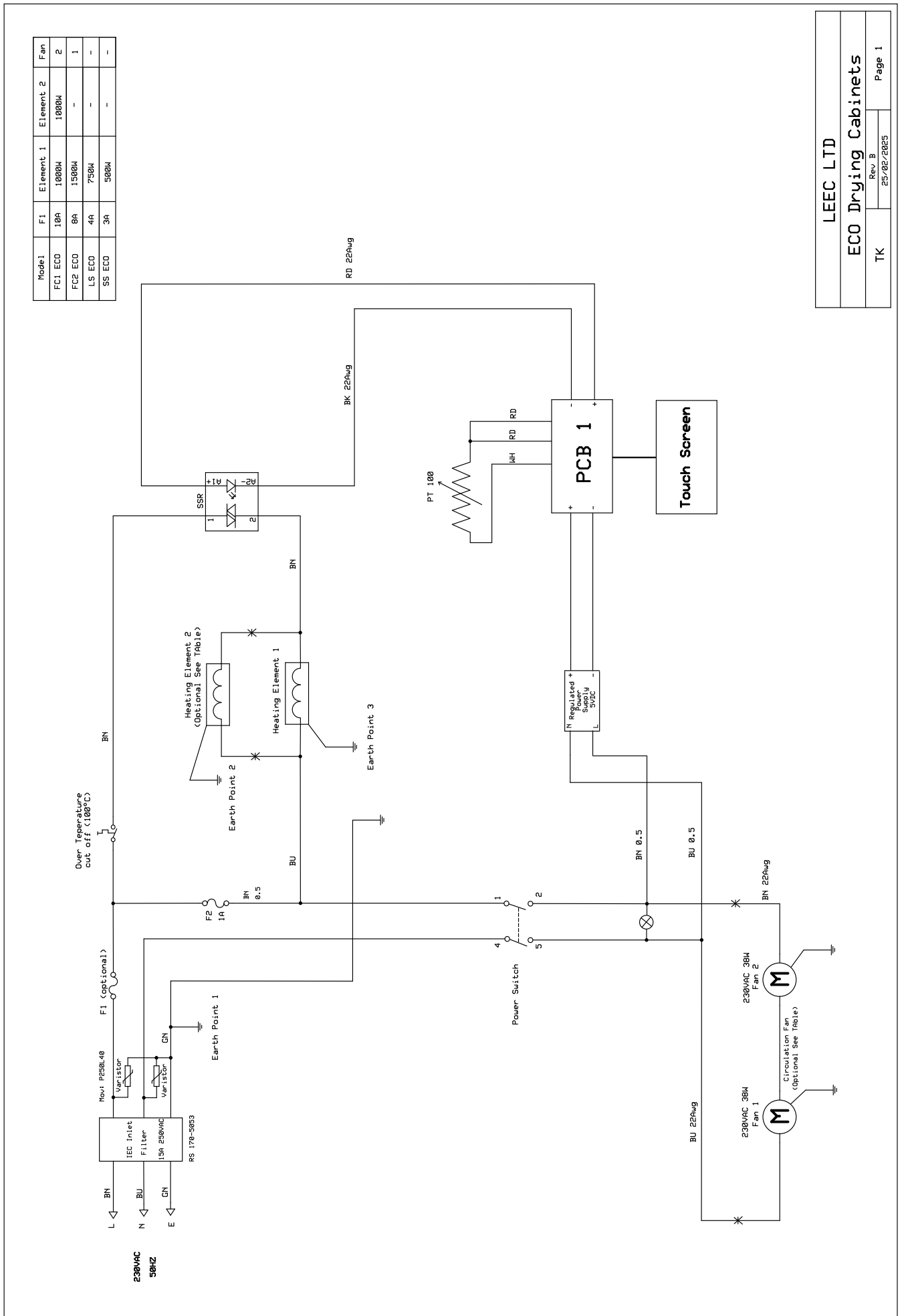
5.3 - Disposal

LEEC ECO Drying Cabinets must not be disposed of as general household waste in Europe. They must only be disposed of by licensed waste recycling companies.



Where you see this symbol on any of our electrical products or packaging, it indicates that the relevant electrical product should not be disposed of as general household waste in Europe. To ensure the correct waste treatment of the product, please dispose of them in accordance with any applicable local laws or requirements for disposal of electrical equipment/ batteries. In so doing, you will help to conserve natural resources and improve standards of environmental protection in treatment and disposal of electrical waste.

LEEC Ltd



Declaration of Conformity



Low Voltage Directive 2014/35/EU

Restriction of Hazardous Substances 2011/65/EU

Manufacturer

Leec Ltd
Private Road No.7,
Colwick Industrial Estate,
NG4 2AJ
United Kingdom of Great Britain and Northern Ireland

Project Name: ECO FC1

Model Number(s): ECO FC1, ECO FC2, ECO LS, ECO SS

This declaration of conformity is issued under the sole responsibility of the manufacturer (or installer) that the product named above meets the essential health and safety requirements of the above-mentioned directives.

Standards Applied

EN 61010-1 :2010 +A1: 2019

EN 61010-2-010 :2020

EN 63000 :2018

Technical File Reference: Lab Drying equipment

Name: Kevin King

Title: Engineering Compliance Manager

Signature:

A handwritten signature in black ink, appearing to read 'Kevin King', written over a light blue horizontal line.

Date: July 2024

Name: Richard Venners

Title: Managing Director

Signature:

A handwritten signature in black ink, appearing to read 'Richard Venners', written over a light blue horizontal line.

DECLARATION OF CONFORMITY



UKCA - Declaration of Conformity according to:

Electrical Equipment (Safety) Regulations No 1101

Restriction of the use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations No 3032

Low Voltage Directive 2014/35/EU

Restriction of Hazardous Substances 2011/65/EU

Manufacturer

Leec Ltd
Private Road No.7,
Colwick Industrial Estate,
Nottingham,
NG4 2AJ
United Kingdom of Great Britain and Northern Ireland

This declaration of conformity is issued under the sole responsibility of the manufacturer (or installer) stating that the **ECO FC1, ECO FC2, ECO LS ECO SS** meet(s) the essential health and safety requirements of the above mentioned statutory instrument(s).

To ensure presumption of conformity, the product(s) have been assessed for compliance with the following standards either in part or in full: -

Standard	Standard Name
BS EN 61010-1: 2010 +A1: 2019	Safety requirements for electrical equipment for measurement, control and laboratory use. General Requirements.
BS EN 61010-2-010: 2020	Safety requirements for electrical equipment for measurement, control and laboratory use. Particular requirements for laboratory equipment for heating materials
BS EN 63000: 2018	Technical documentation for the assessment of electrical and electronic products with respect to the restriction of hazardous substances

Technical File Reference: Lab Drying equipment

Name: Kevin King

Name: Richard Venners

Title: Engineering Compliance Manager

Title: Managing Director

Signature

Date: Jul 2024

Signature:

