

ECO Connect Plus Static Rack Oven

EN Installation and Operation



Product Version

- FG165 (Electric)
- ECO Connect+ touchscreen
- Variable fan speed
- Standard racks only
- UK specifications



Product Serial Number

Thank you

Thank you for purchasing MONO's ECO Connect Plus Static Rack Oven.

Before using your new oven for the very first time, please read and familiarise yourself with the contents of this User Manual and keep it handy for future reference.

If you have any queries regarding your oven, please contact MONO Equipment directly:

- +44 (0)1792 561234
- sales@monoequip.com
- spares@monoequip.com
- techsupport@monoequip.com

We wish you the very best of success with your new professional ECO Connect Plus Static Rack Oven.

Happy baking!

The MONO Team



Safety Symbols

The following safety symbols are used throughout this user manual (available electronically at [MonoEquip.com](https://www.monequip.com)). Before using your new equipment, read the user manual carefully and pay special attention to information marked with the following symbols.

**DANGER**

- Indicates an immediate hazard with a high risk which, if not avoided, will result in death or serious physical injury.
-

**WARNING**

- Indicates a potential hazard with a medium risk which, if not avoided, could result in death or serious physical injury.
-

**CAUTION**

- Indicates a hazard with a low risk which, if not avoided, could result in minor or moderate physical injury.
-

Electrical Safety Notice

Advice regarding supplementary electrical protection

Commercial kitchens and food service areas are environments where electrical appliances may be located close to liquids, operate in and around damp conditions or where restricted movement for installation and service is evident.

The appliance installation and periodic inspection should only be undertaken by a qualified, skilled, and competent electrician and connected to the correct power supply suitable for the load as stipulated by the appliance data label.

The electrical installation and connections should meet the mandatory requirements of the local electrical wiring regulations and any safety guidelines.

We recommend:

- Supplementary electrical protection with the use of a residual current device (RCD)
- Fixed wiring appliances incorporate a locally situated switch disconnecter to connect to, which is easily accessible for switching off and safe isolation purposes. The switch disconnecter must meet the specification requirements of IEC 60947.

Your attention is drawn to the following: BS 7671:2018 – Guidance Note 8 – 8.13: Other locations of increased risk

It is recognised that there may be locations of increased risk of electrical shock other than those specifically addressed in Part 7 of BS 7671. Examples of such locations could include laundries where there are washing and drying machines in close proximity, and water is present, and commercial kitchens with stainless steel units, where once again, water is present. Where, because of the perception of additional risks being likely, the installation designer decides that an installation or location warrants further protective measures, the options available include:

- Automatic Disconnection of Supply (ADS) by means of a residual current device having a residual operating current not exceeding 30 mA;
- Supplementary protective equipotential bonding; and
- Reduction of maximum fault clearance time.

The provision of RCDs and supplementary bonding must be specified by the host organisation's appointed installation designer or electrical contractor and installed by a suitably qualified and competent electrician so as to comply with Regulations 419.2 and 544.2.



WARNING

- The supply to this machine must be protected by a 30mA-rated Type A Residual Current Device (RCD).
- Always fit a wall-mountable isolator switch to isolate the oven from the electrical supply completely. The isolator must be visible, labeled as an emergency shutdown device, and easily accessible.

Water Leak Safety Notice

**WARNING**

Take action immediately to get a water leak fixed and prevent death or serious injury from electrocution.





It is essential to regularly check for any signs of a water leak from an oven installation. If there is evidence of a water leak, do not ignore it. Immediately report it to a manager or as applicable to your organisation.

Furthermore:

- Disconnect or completely isolate the oven from the electrical supply.
- Place an out-of-service notice on the oven.
- Contact your oven supplier or MONO Equipment for technical assistance.

Ovens must be maintained and serviced at appropriate intervals to ensure the oven operates at optimum levels.

EU Declaration of Conformity Certificate

| | | | | | |
|---|--|--|----------|----------|------------|
|  | <h2>Declaration of Conformity</h2> |  | | | |
| <p>We the manufacturer:</p> | <p>MONO EQUIPMENT Queensway, Swansea West Industrial Park, Swansea SA5 4EB UK</p> | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 2px;">Machine:</td> </tr> <tr> <td style="padding: 2px;">FG Code:</td> </tr> <tr> <td style="padding: 2px;">Serial No:</td> </tr> </table> | Machine: | FG Code: | Serial No: |
| Machine: | | | | | |
| FG Code: | | | | | |
| Serial No: | | | | | |
| <p>Hereby declare that this machine conforms with and complies with the following directives:</p> <ul style="list-style-type: none"> → The Machine Directive 2006/42/EC → The Low Voltage Directive 2014/35/EC → The Electromagnetic Compatibility Directive 2014/30/EU Incorporating Standards EN 55014-1:2017/A11:2022 & EN 55014-2:1997+A1:2001+A2:2008 → The General Safety of Machinery and Food Processing Standards → Materials and Articles Intended to Come into Contact with Food – Regulation (EC) No. 1935/2004 → Good Manufacturing Practices (GMP) for Materials Intended to Come into Contact with Food - Regulation (EC) No. 2023/2006 | | | | | |
| <p>A technical construction file for this machine is retained at MONO Equipment</p> | | | | | |
| <p>MONO Equipment is a business name of AFE Group Ltd Registered in England No. 3872673 VAT Registration No. 923428136 Registered office: Unit 35, Bryggen Road, North Lynn Industrial Estate, Kings Lynn Norfolk, PE30 2HZ</p> | | | | | |
|  _____ Mr Craig Petherbridge Quality & Compliance Manager |  _____ Mr Alex Davies Engineering Manager | | | | |
| QD 001 | | Dated 01/11/2022 | | | |

General Notices

LEFT-HAND (LH) and RIGHT-HAND (RH) ovens

- Depending on the model code, static racks come in two orientations:
 - Right-Hand (RH) ovens have the main door hinged on the right-side and the touchscreen control panel is located on the left-side.
 - Left-Hand (LH) ovens have the main door is hinged on the left-side and the touchscreen control panel is on the right-side.
- See Dimensional Drawings for further information.

Contents

| | | |
|-------------------|--|-----|
| | Thank you..... | i |
| | Safety Symbols | ii |
| | Electrical Safety Notice..... | iii |
| | Water Leak Safety Notice | iv |
| | EU Declaration of Conformity Certificate..... | v |
| | General Notices | vi |
| Chapter: 1 | Introduction | |
| | 1.1 The MONO ECO Connect Plus Static Rack Oven | 1 |
| | 1.2 More about the ECO Connect Plus Static Rack Oven | 3 |
| Chapter: 2 | Safety | |
| | 2.1 Oven safety | 4 |
| Chapter: 3 | Installation | |
| | 3.1 Positioning the oven..... | 6 |
| | 3.2 Water supply..... | 6 |
| | 3.3 Ventilation | 7 |
| Chapter: 4 | Touchscreen Operations | |
| | 4.1 Basic operation..... | 8 |
| | 4.2 Starting and operating using ready-made programs | 9 |
| | 4.3 Manual bake (no program mode) | 13 |
| | 4.4 Creating a new program | 15 |
| | 4.5 Multi Bake operation..... | 19 |
| | 4.6 7-Day Timer operation..... | 21 |
| | 4.7 Putting the oven into Standby mode..... | 23 |
| | 4.8 Putting the oven into Sleep mode..... | 23 |

| | | |
|--------------------|---|-----------|
| 4.9 | Setting the time and date | 24 |
| 4.10 | User settings (oven setup) | 26 |
| 4.11 | Factory settings (oven setup) | 28 |
| 4.12 | Changing the passwords | 30 |
| 4.13 | Diagnostics | 32 |
| | Diagnostics procedure | 32 |
| | Using the diagnostics screen | 34 |
| | Using the Inverter Diagnostic screen | 35 |
| Chapter: 5 | Isolation | |
| 5.1 | Isolating the oven from the electrical supply | 36 |
| Chapter: 6 | Cleaning | |
| 6.1 | Safety messages | 37 |
| 6.2 | Daily cleaning | 37 |
| | Daily cleaning tasks | 37 |
| 6.3 | Weekly cleaning | 38 |
| | Weekly cleaning tasks | 38 |
| Chapter: 7 | Maintenance | |
| 7.1 | Safety messages | 39 |
| 7.2 | General maintenance | 39 |
| Chapter: 8 | Service | |
| 8.1 | Contact information for customer services | 40 |
| 8.2 | Further information | 40 |
| 8.3 | Environmental disposal | 40 |
| Appendix: A | Dimensional Drawings | 41 |
| Appendix: B | Specifications | 42 |
| Appendix: C | Passcodes | 44 |
| Appendix: D | Electrical Drawings | 46 |

1. Introduction

1.1. The MONO ECO Connect Plus Static Rack Oven

MONO Equipment's space-saving Static Rack oven is the perfect solution when a traditional 10-tray convection oven doesn't have the required baking capacity to meet production demands. By eliminating the need for the rotary function, valuable space has been saved, meaning up to 18 trays of products can still be baked to perfection but in a much smaller footprint. The Static rack oven uses a similar amount of floor space as many 10-tray convection ovens on the market.

The Static Rack oven is ideal for baking large volumes of part-baked and lighter scratch products. Combining the specially designed heating elements and triple fans ensures an even heat distribution throughout the baking chamber, resulting in a consistent bake every time. Also, the integrated steam generating system produces copious amounts of high-quality steam to create that perfect shiny crust on bread and rolls.

The oven features MONO's ECO Connect+ control panel, which delivers full-colour, highly intuitive touchscreen operations. The controller offers many energy-saving benefits like Auto Shutdown, 7-Day timer, Sleep Mode and Variable Fan Speed. In total, the controller can store up to 240 individual bake programs, each of which can be split in to 6 bake phases for complete control of the baking process.

This compact Static Rack oven is a highly versatile and valuable addition to any bakery.

Key features

- Variable Fan Speed for more delicate products
- Compact size for smaller bakeries
- Intuitive, touch-screen ECO Connect controller
- Integrated steam system
- 6-Phase baking options
- Automatic damper facility
- LED door-mounted lighting
- Available in right-hand or left-hand configuration
- Front access ramp

Key benefits

- Provides fantastic baking capacity in a footprint not much bigger than a 10-tray convection oven
- Accommodates any 30-in. x 18-in. or 60cm x 40cm heat proof rack
- Rapid heat recovery rate for continuous baking
- Includes many energy-saving features like Auto Shutdown and Sleep Mode
- Full-Load or Half-Load options
- No drainage required
- Stores up to 240 programmes for instant recall

**NOTE**

- Visit the [ECO Connect Plus Static Rack Oven web page](#) for the latest information about the ECO Connect Plus Static Rack Oven. Here you will find PDF downloads of the latest product literature and up-to-date product information.

Figure 1.1: ECO Connect Plus Static Rack Oven Features

- A. Glass-fronted door in left-hand configuration (see [General Notices on page vi](#))
- B. Access ramp
- C. Touchscreen control panel (see [Chapter 4](#))
- D. Main isolator switch (see [Chapter 2](#))

1.2. More about the ECO Connect Plus Static Rack Oven

The ECO Connect Plus Static Rack Oven is an electrically heated oven that accommodates a single standard rack. A user-friendly eco touchscreen allows quick-and-easy selection of automated baking programs, either by touching a product image or a numbered program. Creating new automated baking programs, using the manual bake program or 7-day timer, and adjusting settings is equally simple. When not being used, the touchscreen can show your company logo.

Constructed from high-grade stainless steel and glass, the oven's interior and exterior surfaces are easily cleaned and afford a bright appearance. The large glass panel provides an excellent view of the baking progress. Furthermore, to optimise a bakery layout, the main oven door can be hinged on either side even if the oven is relocated after initial installation.

The high-speed fan, heating, and steam systems give efficient air circulation to produce a professional bake across a range of products via a diagonal cross-flow system with efficient air circulation. The steam system is connected to a standard water supply. (Pumps are available for very low-pressure areas).

Steam is generated within the oven chamber by means of a multi-point, water injection cascade. The amount of steam to be generated is controlled by means of a programmable time period on the control panel. No drain is required for the baking and steaming process of this oven.

Programmed damper control is provided as part of the programming controls.

2. Safety

2.1. Oven safety

Only fully trained and authorised persons are permitted to do any work on the oven. Qualified electricians must carry out all electrical repairs and maintenance. Always disconnect or completely isolate the power supply before starting any maintenance or cleaning work on the oven.

A responsible Bakery Manager or Supervisor must carry out daily safety checks. Bakery staff must not, under any circumstances, remove covers or panels to access any internal parts of the oven.

**WARNING**

- Before using the oven:
 - Check that all covers, panels, and cabling are secure.
 - Visually examine the oven for obvious damage/signs of tampering.
 - If the oven is damaged, malfunctioning, or missing parts:
 - Stop using it.
 - Do not attempt any repairs to the oven.
 - Contact MONO Equipment for technical assistance.
 - Never operate the oven with any covers or panels removed.
 - All utility connections to the oven must comply with the statutory requirements of the country.
 - Ensure this User Manual is read thoroughly before operating the oven. Operate and maintain the oven only as described in this user manual.
-

**WARNING**

- An electrical socket must be protected by a 30mA-rated Type 'A' Residual Current Device (RCD) before installation and commissioning of the oven.
 - There should always be a local disconnection switch for any person to isolate the electrical power in an emergency. The disconnection switch must be visible, labeled as an emergency shutdown device, and easily accessible.
 - Check the electrical requirements on the oven's information plate before plugging in the power cable and turning the power on for the first time. Contact MONO Equipment if the electrical ratings are incorrect for your site.
 - Before installation, it is recommended that a qualified and competent electrician first tests the electrical outlet (power socket) for electrical safety.
 - Always ensure your hands are dry before touching any electrical components, including cables, switches, and plugs.
-

**CAUTION**

- Be aware of hot surfaces:
 - Do not touch the oven door with bare skin.
 - Always use oven gloves when loading or unloading the oven.
 - Allow time for the oven to cool completely before cleaning it.
 - While baking (and for some time after use), touching the oven door or the surrounding panels is not advisable because of conducted heat.
 - When removing products from the oven, ensure the following:
 - Tins are knocked out and stored directly onto a tin storage trolley or rack. Do not leave hot tins on the floor or tables.
 - Trays are put into a rack and then wheeled to a safe cooling area.
 - Fully train operatives before they use the machine. Anyone undergoing training must be under direct supervision of someone experienced.
 - Ensure there are no trip hazards around the oven, e.g. trailing cables.
 - Check that the floor around the oven is not slippery, e.g. no liquid spills.
 - Do not store items on top of or behind the oven.
 - Never climb onto the roof of the oven.
 - Only use the oven for baking bread, pastries, and cakes. Contact MONO Equipment for other product-baking machines.
 - No unauthorised modifications to the oven are permitted.
-

3. Installation

3.1. Positioning the oven

- The ECO Connect Plus Static Rack Oven is designed to operate as a freestanding unit and must not be bolted down or fixed to the floor in any way.
- The floor beneath the oven must be:
 - hard, smooth, and level (ideally, concrete)
 - clear of any obstructions, and
 - a minimum thickness of 150 mm (6 inches)
- Allow room for servicing and general maintenance such as cleaning.
- The foundation must be flush with the overall bakery floor because racks are wheeled up a ramp into the baking chamber. The ramp is supplied with the oven.
- A minimum headroom clearance of 3 metres (180 inches) between the floor and the bakery ceiling is required at all times.
- If not selected when ordering the oven, an extraction hood should be placed above the oven to disperse excess steam and heat that could adversely affect the bakery ceiling and ambient temperature.

3.2. Water supply

- Connect the ECO Connect Plus Static Rack Oven to a suitable water supply **after** checking pipes are flushed out to remove all foreign bodies, i.e. flux or solder. Each oven is supplied with a 1 metre, flexible hose with 3/4-inch BSP connections at both ends.
- It is the responsibility of the customer to install and maintain:
 - an adequate supply to the oven which complies with local and national water regulations.
 - an efficient water-softening device to protect the supply to the oven in a hard-water area.
 - protection against back-flow in the supply.
- No drain is required unless fitting a condenser.
- A water conditioning unit is recommended.
- See [Appendix B](#) for minimum water supply requirements.



NOTE

- Customers are responsible for installing and maintaining an adequate water supply to the oven, which should comply with local water regulations. Check with your local water authority.

3.3. Ventilation

It is the customers' sole responsibility to arrange for adequate ventilation. Ventilation should be sufficient to ensure water does not condense on or around the oven.

- Allow a 50 mm (2-inch) gap at the sides and rear of this oven for air flow.
- Chimneys and evacuation ducts fitted above MONO ovens should be insulated.

It is recommended that evacuation of the oven baking chamber products is achieved with a hood covering the entire oven top and projecting beyond the front of the oven by 600 mm (23½ inches). The extraction rate from the hood should be approximately 1700 m³/h. The customer is responsible for providing adequate levels of make-up air if an extraction hood is fitted.

4. Touchscreen Operations

4.1. Basic operation

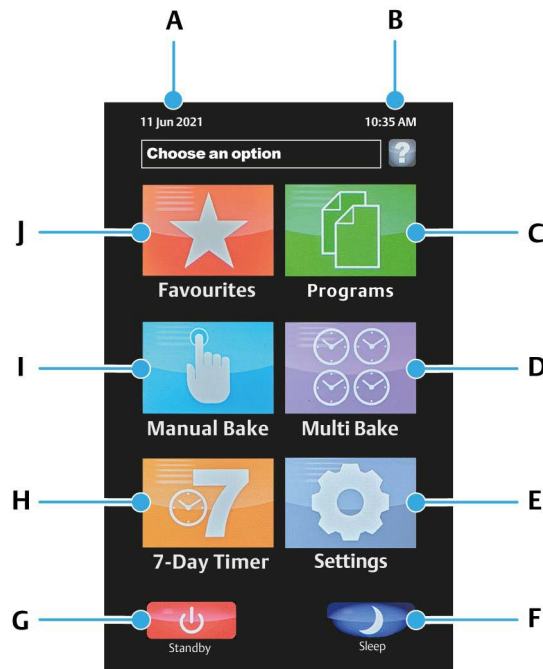
Operations are performed by touching an area of the screen to bring up another window or activate a function.



NOTICE

■ Do not use excessive force to operate the touchscreen panel.

Figure 4.1: Main ECO Connect Plus screen



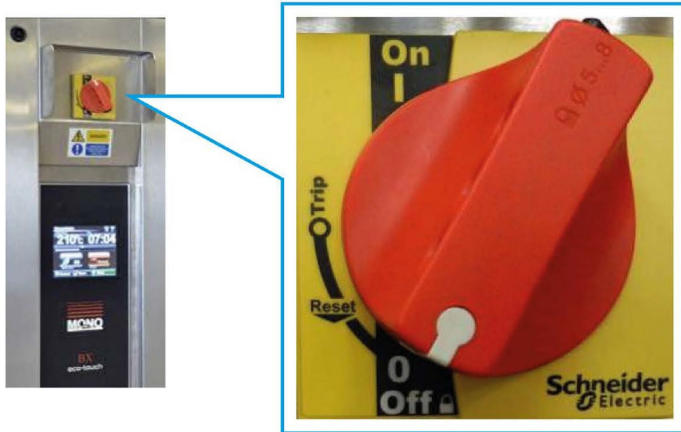
A. Date
B. Time
C. Programs

D. Multi Bake ([Section 4.5](#))
E. Settings ([Sections 4.9 to 4.11](#))
F. Sleep mode

G. Standby mode
H. 7-Day timer ([Section 4.6](#))
I. Manual bake ([Section 4.3](#))

4.2. Starting and operating using ready-made programs

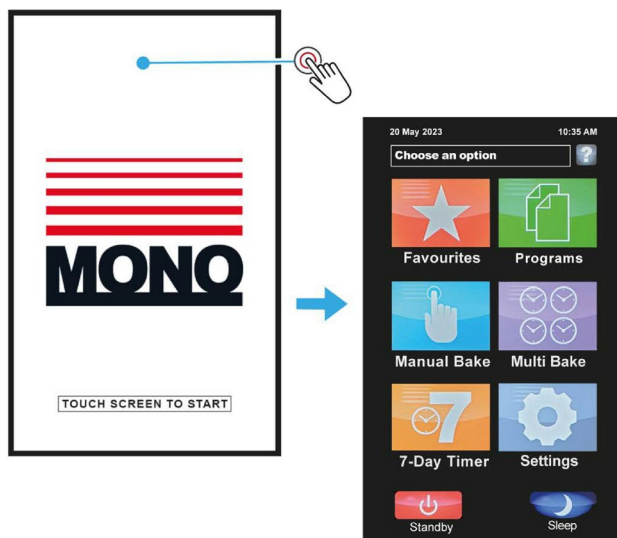
1. Ensure the power and water supplies are safely connected to the oven.
2. If the display is off, turn the main isolator switch on the oven to the "1" (ON) position.
 - Wait while the oven goes through the start-up sequence.



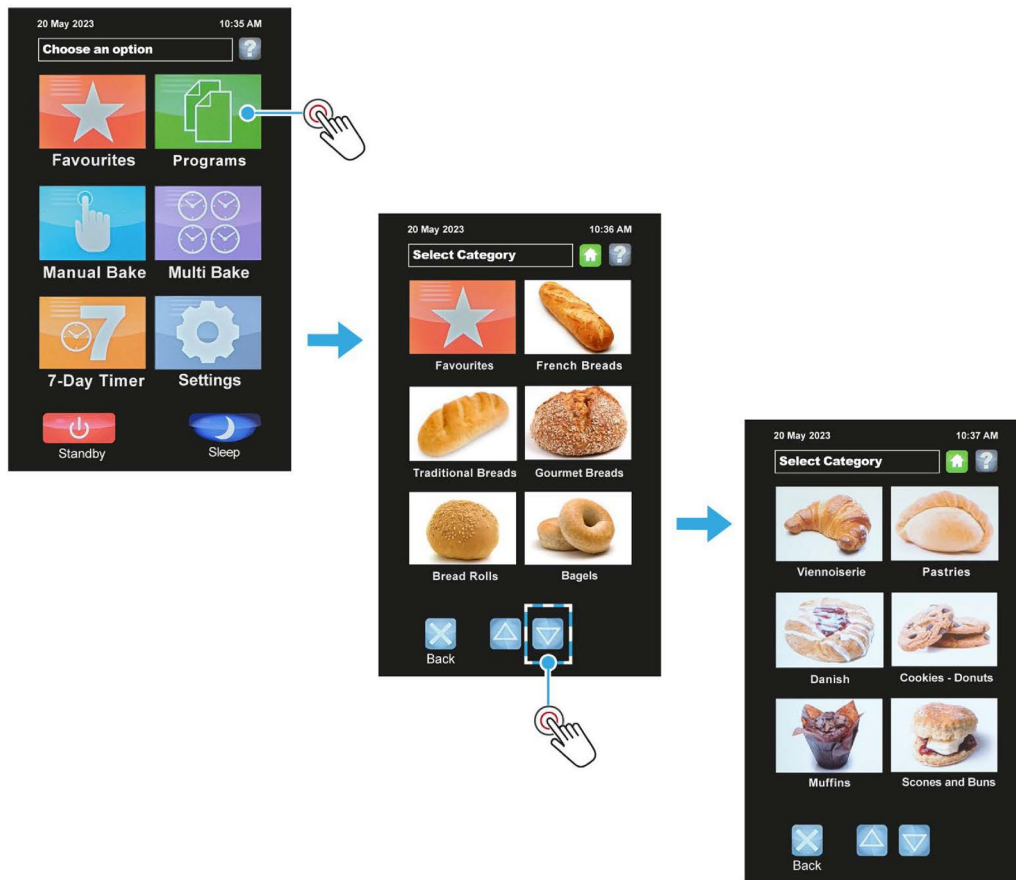
NOTE

- The images are for illustration purposes and may differ from your oven.

3. When the start-screen (wallpaper) appears, touch the screen anywhere to start operating the oven



4. Touch the **Programs** tile on the **Choose an option** screen.

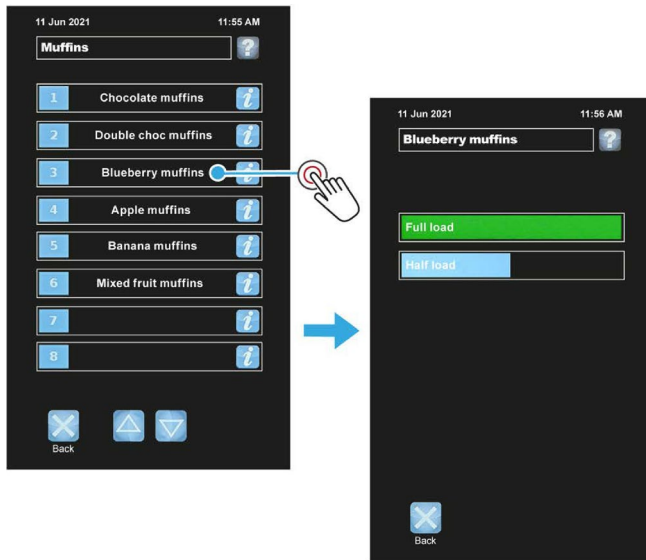


5. Select a product category.
- a. Touch the scroll up and down buttons to change category pages.
 - The **Back** button returns the display to show the **Choose an option** screen.
 - b. Touch the tile of a product type you require (e.g., muffins).
 - A list of recipes then displays for that product type.

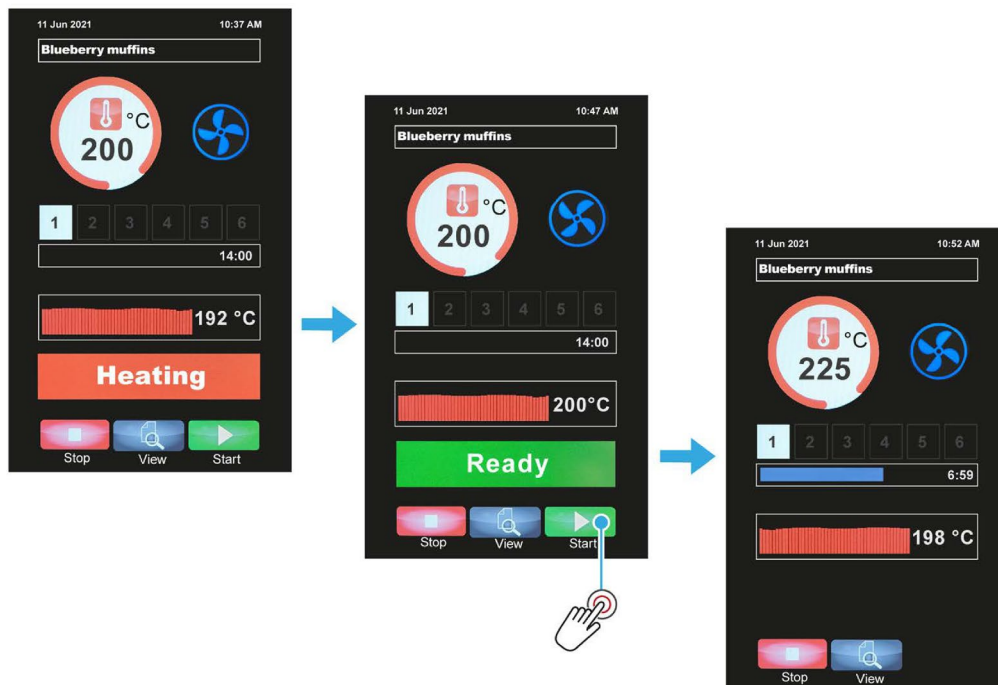
NOTE

- Tiles show a product group image or a program number group, depending on how the oven was factory configured.

6. Select a baking recipe.
 - a. Touch the baking recipe required (e.g., blueberry muffins).
 - b. If prompted, select **Full Load** or **Half Load** depending on the oven loading.
 - The half-load program reduces energy usage when the oven is not a fully loaded with product. Some experimentation is needed to establish the optimal settings for a half-load program.

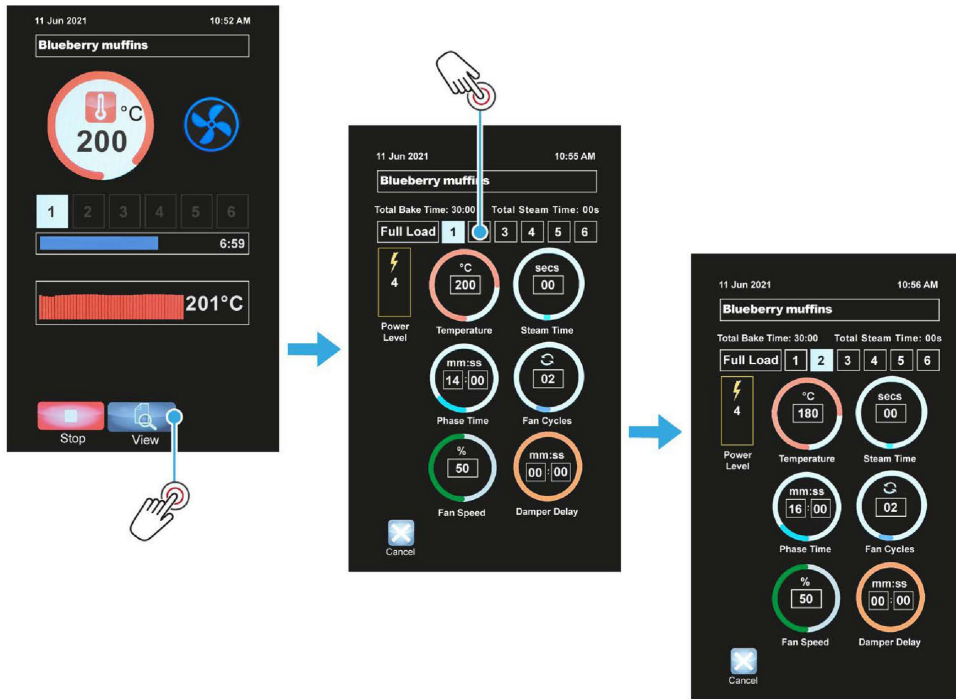


7. Wait while the oven heats-up to the temperature pre-set in the recipe program.
 - A **HEATING** message flashes on the screen.



8. Load the oven with products when **READY** flashes on the screen.
9. Touch **Start** to begin baking.

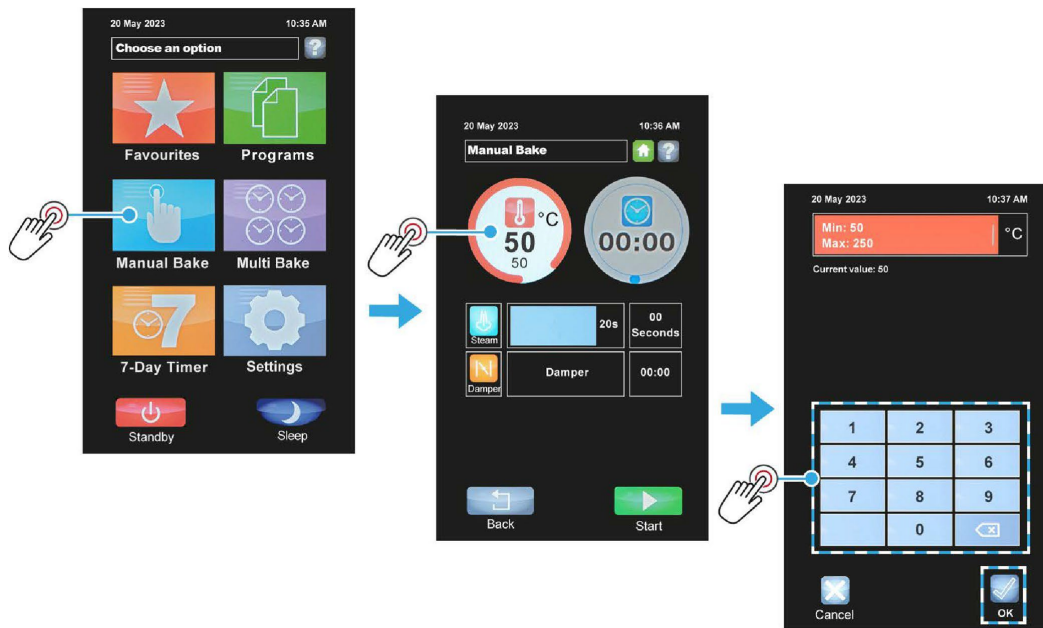
10. During a bake, two actions can be performed:
- Touch the **View** button to view settings during a bake.
 - Touch the numbered square (e.g., **2**) to view the settings for different baking phases. The **Cancel** button displays the baking screen again for the present baking phase.

**NOTE**

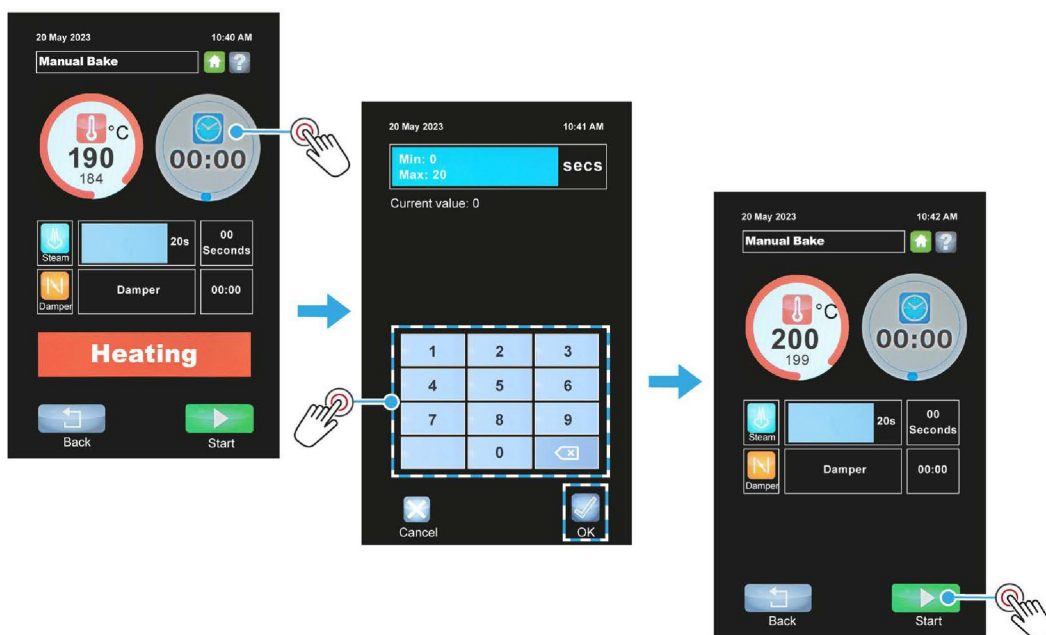
- The actual oven temperature fluctuates. It may briefly drop below, or rise above, the required temperature by a few degrees during baking. This is normal and not a malfunction of the oven.
- To minimise heat loss from the oven, do not leave the oven door open for longer than needed. The oven will automatically recover from the heat lost when the door is closed.

4.3. Manual bake (no program mode)

1. Touch the **Manual Bake** tile.
2. Set the baking temperature:
 - a. Touch the **Temperature** circle.
 - b. Key in the baking temperature, and then touch the **OK** button.





3. Set the baking time (if required):
 - a. Touch the **Timer** circle.
 - b. Key in the baking time required, and then touch the **OK** button.



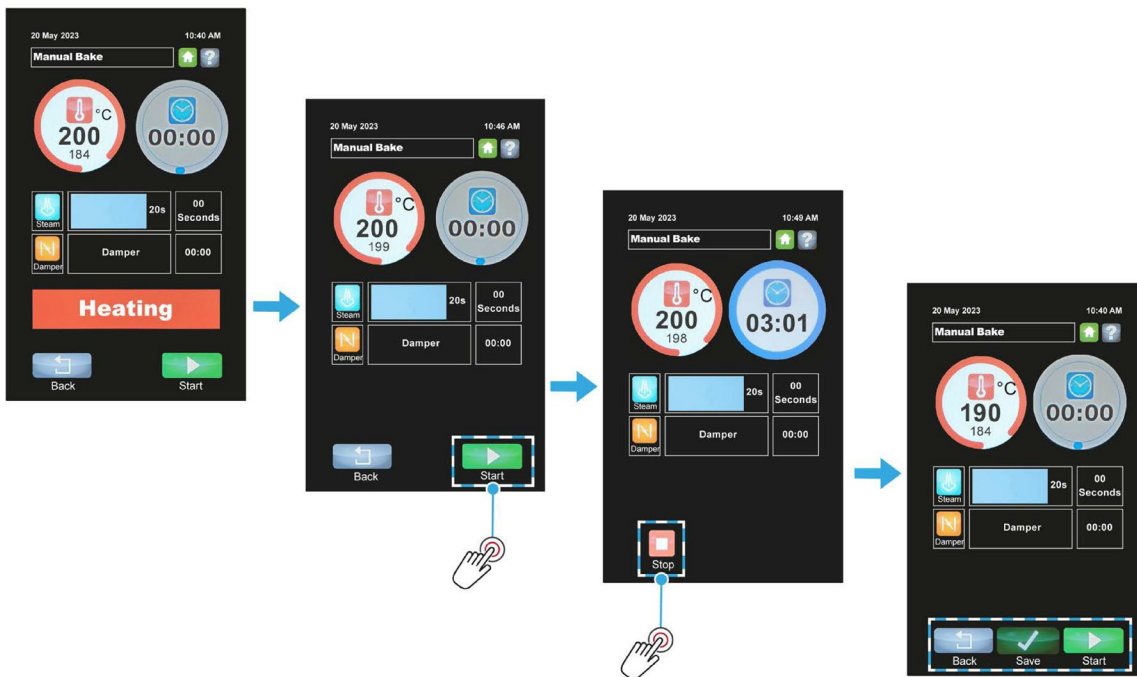
4. Load the oven with products and touch **Start**.
5. During the bake, use the **Steam** and **Damper** functions if needed (see [Table 4.1](#)).
6. When the timer is counting down and reaches **00:00**, a sounder is heard and a **BAKE OVER** message flashes on the screen. Touch **Stop** to silence the sounder.
7. Manual baking can be stopped at any time by touching **Stop**.

Table 4.1: Steam and Damper button functions

| Button | Function | Purpose of the function |
|---|----------|---|
|  | Steam | After touching Start , touch the Steam button for the number of seconds wanted and release. |
|  | Damper | Touch the Damper button to open the damper, and touch again to close. (The button changes colour when the damper is open). |

NOTE

- If no baking time is set and the **Start** button is touched, the timer counts upwards until the bake is stopped by pressing the **Stop** button. (While the screen shows a **HEATING** message, wait until the oven reaches temperature before touching **Start**).

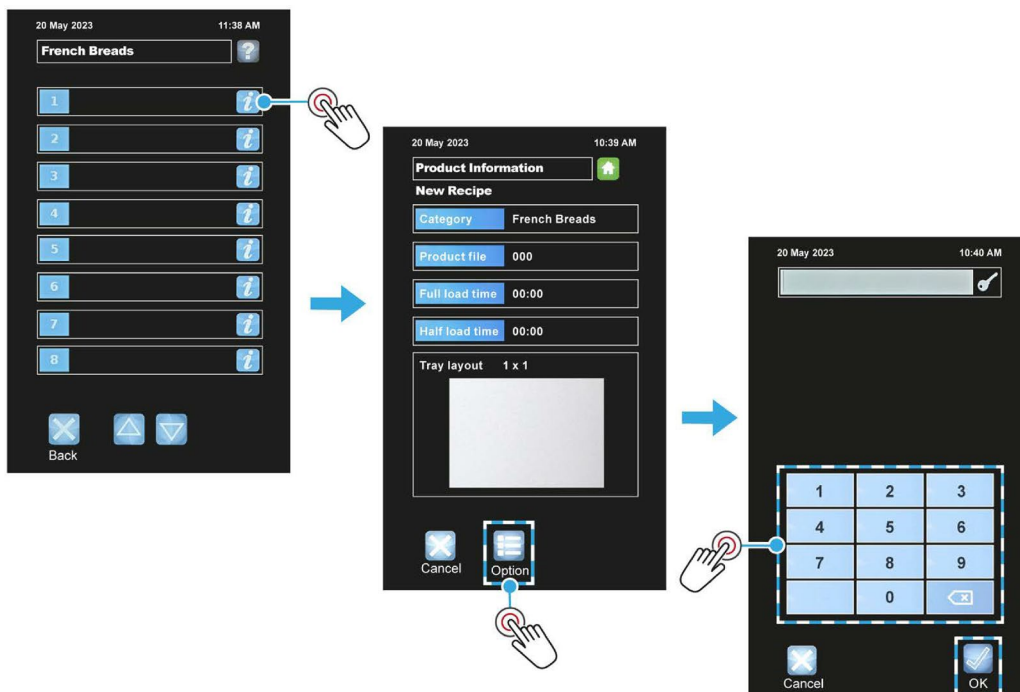


4.4. Creating a new program

1. Touch the **Programs** tile.
2. Choose a category or number group.

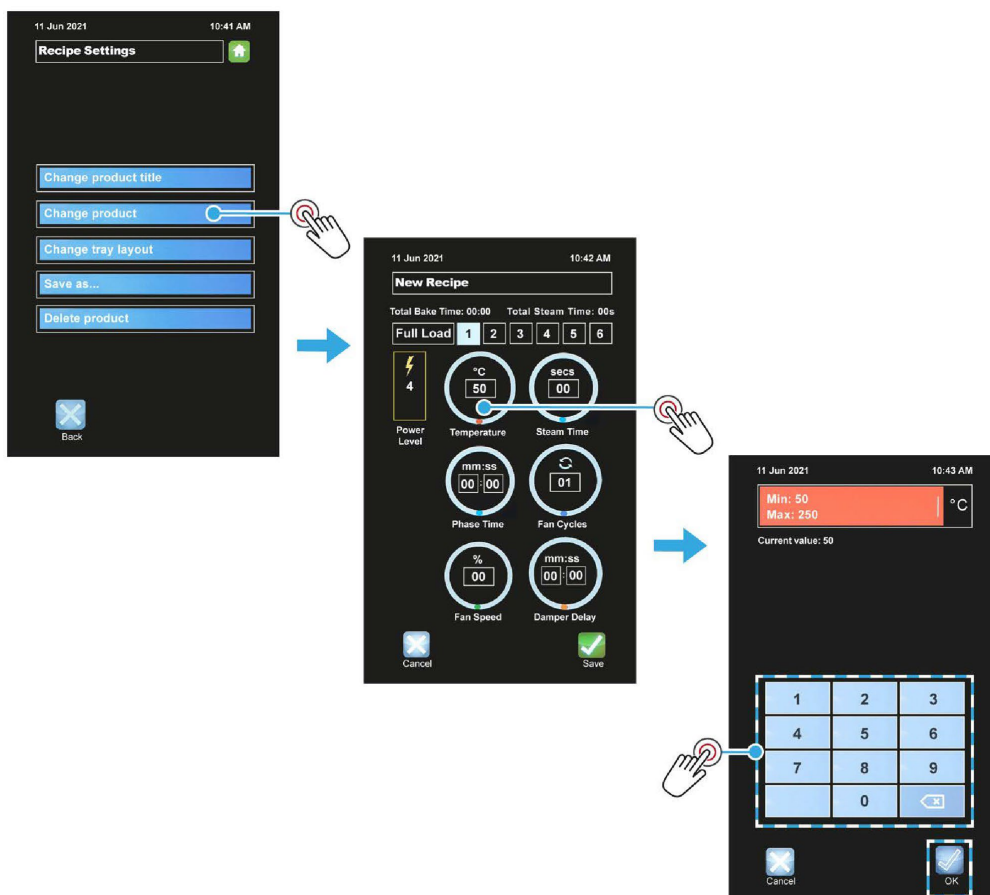


3. Touch the **Info (i)** button of the next free recipe slot.
4. Touch the **Options** button.

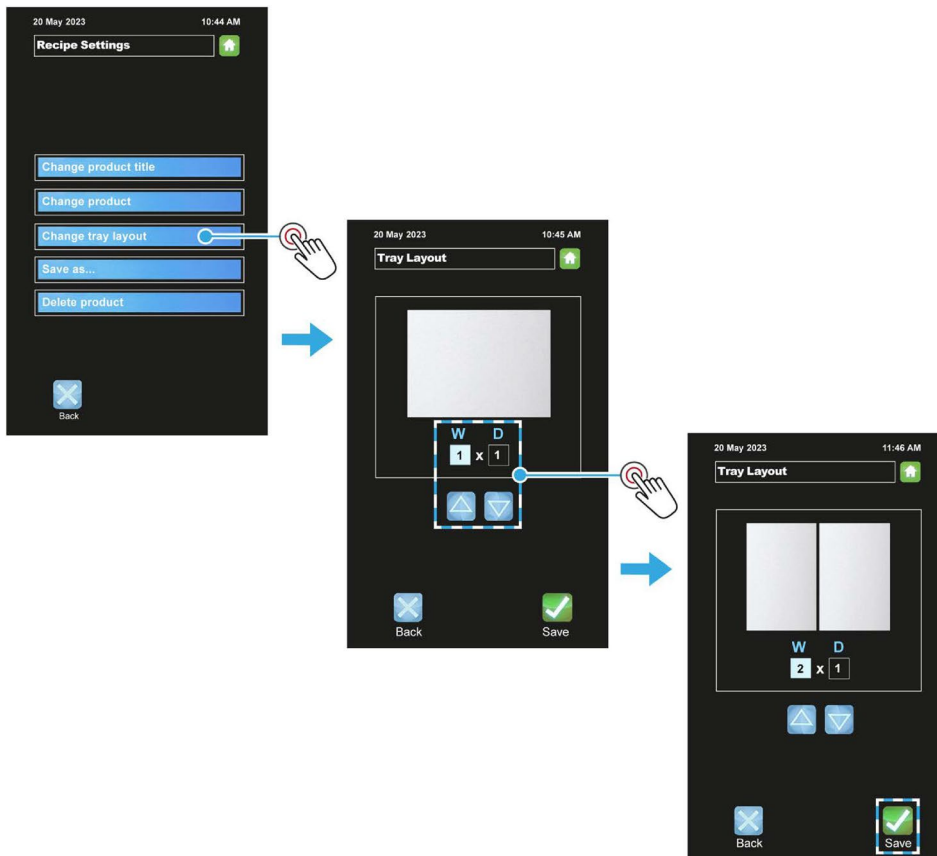


5. Enter the **Operator** password and touch **OK**.

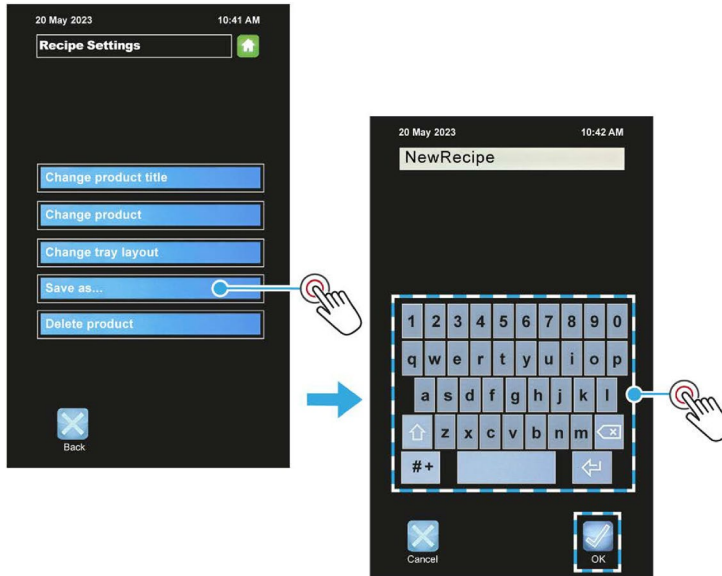
6. Edit a product recipe:
 - a. Choose the **Change product** menu option.
 - b. Choose the **Full-load** or **Half-load** option.
 - c. Select a baking phase number e.g. **1**).
 - d. Touch an item:
 - Temperature, Steam time, Phase time, Fan cycles, Fan speed, Damper delay, or Power level.
 - e. Adjust the setting by typing the amount or, if they appear, using the up and down keys.
 - f. Touch **OK** to confirm the setting value.
 - g. Repeat steps (d) to (f) for each item needed in that baking phase.
 - h. If required, select the next baking phase (i.e. touch **2**) and adjust the items in the same way.
 - i. Touch **Save** to confirm the completed recipe settings.



7. Edit a tray layout for the new product recipe:
 - a. Touch the **Change tray layout** box.
 - b. Touch the **W** (width) box to highlight it.
 - c. Use the up or down arrow key to change quantity across the tray.
 - d. Touch the **D** (depth) box to highlight it.
 - e. Use the up or down arrow key to change quantity down the tray.
 - f. Touch **Save** to confirm the tray layout.



8. Add the new product recipe to the list.
 - a. Touch the **Save as...** box.
 - b. Input a name for the product recipe, and then touch **OK**.



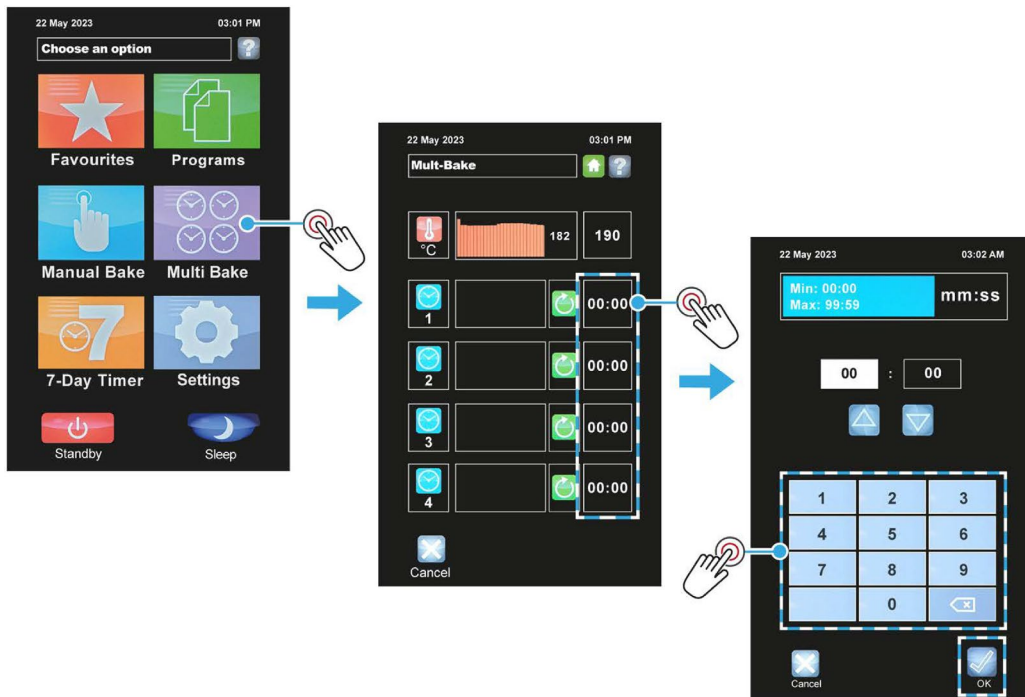
9. Touch the **Home** button to finish.

NOTE

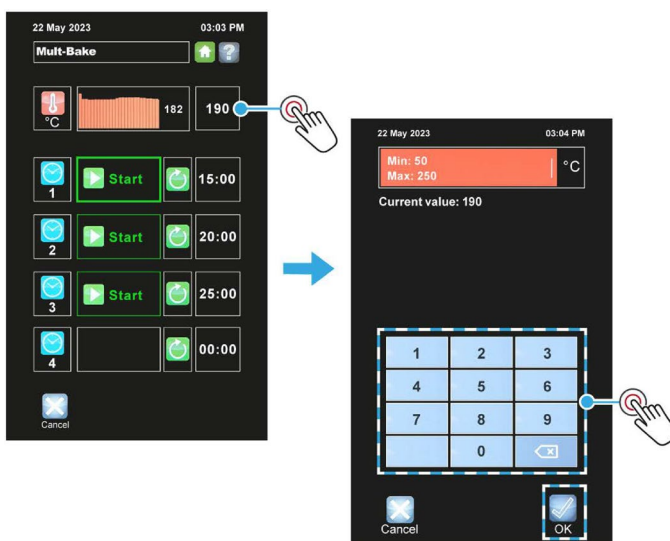
- Default passwords for the various access levels are in [Appendix C](#). However, for security reasons, the passwords section may have been removed.
-

4.5. Multi Bake operation

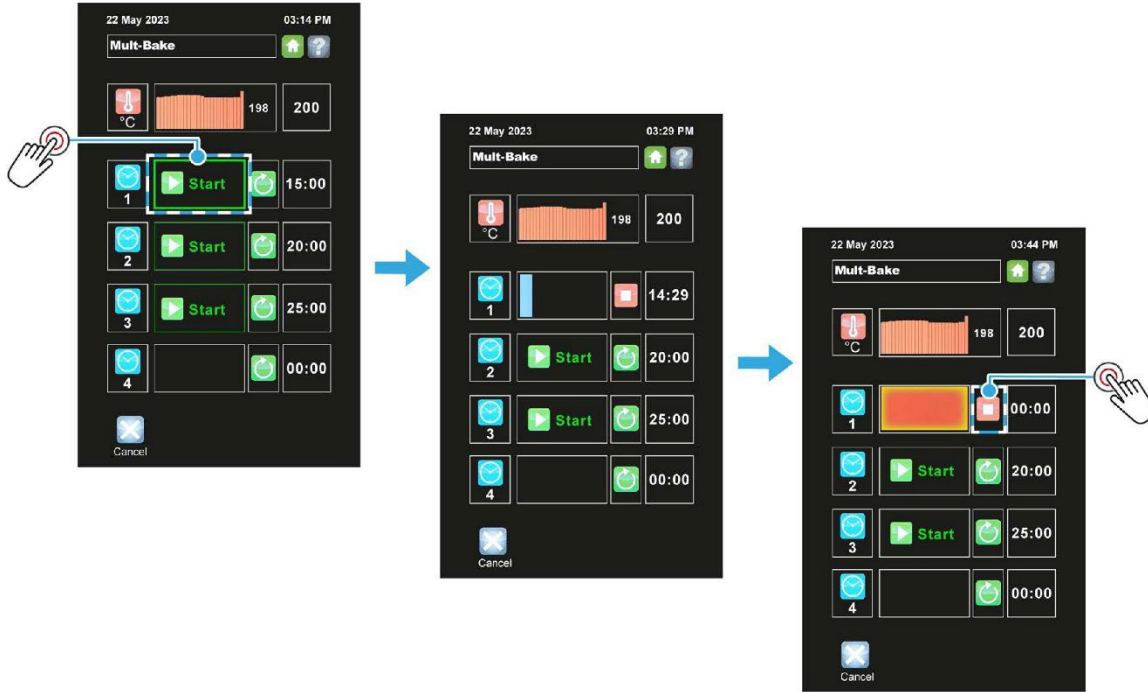
1. Touch the **Multi Bake** tile.
2. Set a timer:
 - a. Touch a time-setting box.
 - b. Adjust the bake time required using up and down keys, and then touch the **OK** button.
 - c. Repeat steps (a) and (b) to set up to four different bake time sequences, if required.



3. Set the temperature for the bakes:
 - a. Touch the heat-setting box, and then type in the temperature required.
 - b. Touch **OK** to confirm the temperature.



4. Load the oven and then when ready to start a bake:
 - a. Touch the **Start** button (next to the bake time required).
 - b. Wait for the bake to finish.
 - c. Touch the **Stop** button next to the **00:00** time.
 - d. The same multi-bake settings can now be used again by pressing the same **Start** button.



NOTE

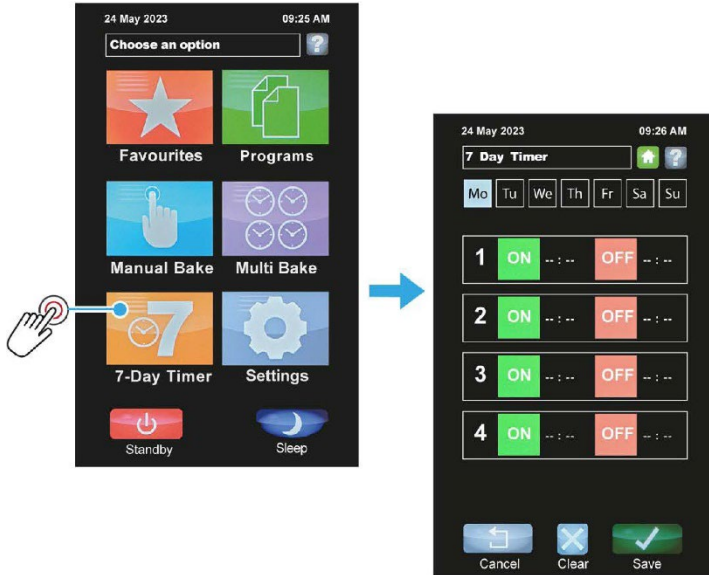
- Touch the **Stop** button at any time to end a bake. The same multi-bake settings can be used again.



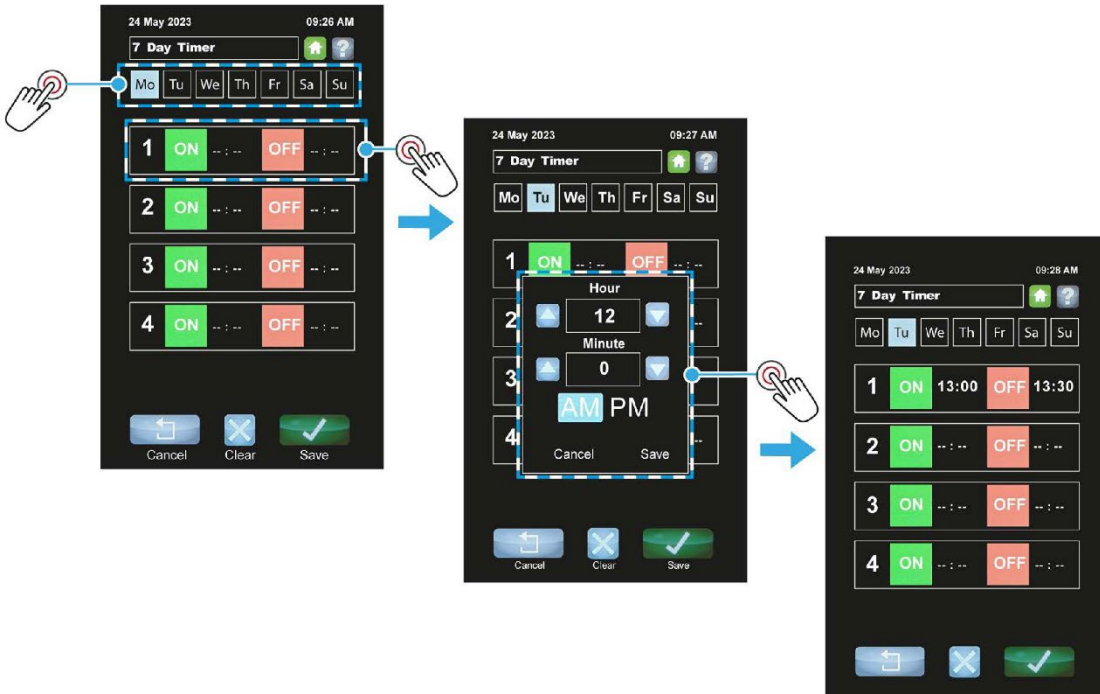
4.6. 7-Day Timer operation

While the oven is in **standby** mode, the baking chamber can be heated-up to a pre-set temperature at any time on any day. Up to four on/off heating times for each day of the week can be entered into the 7-day timer.

1. Touch the **7 Day Timer** tile.

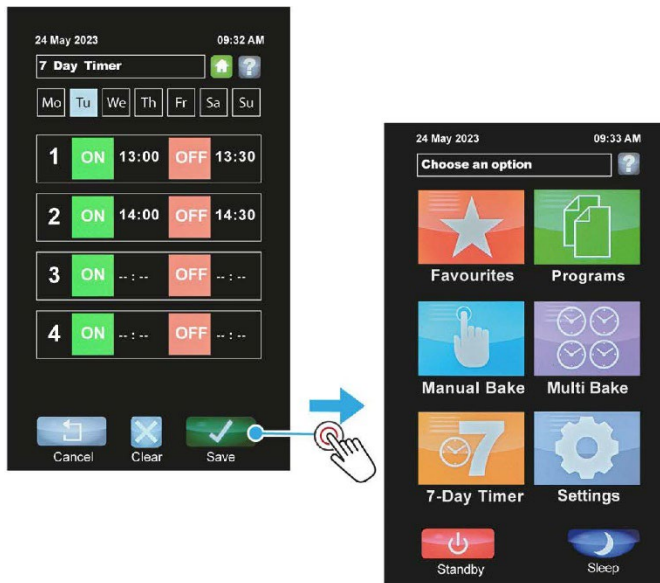


2. Touch a day of the week, e.g. "Tu" (Tuesday).



3. Set an **ON** time for that day:
 - a. Touch the **ON** tile of a time panel.
 - b. Set the time using the keys in the pop-up box that appears, and then touch **Save**.

4. Set an **OFF** time for that day:
 - a. Touch the **OFF** tile of the same time panel.
 - b. Set the time using the keys in the pop-up box that appears, and then touch **Save (A)**.
5. If required, set up to three more on/off times for that day.
6. Repeat steps (2) and (5) to set up on/off times for other days.
7. When finished, touch **Save** to confirm all the 7-day settings.

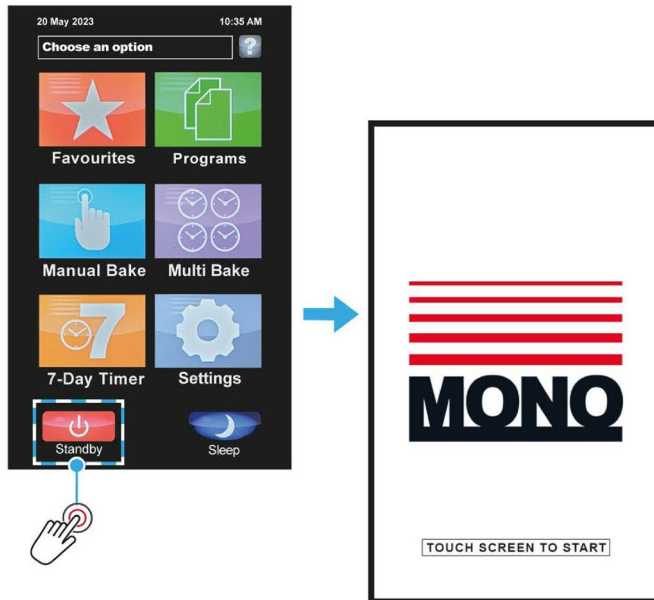


NOTE

Remember to leave the oven in **Standby** mode for this 7-day timer function to operate.

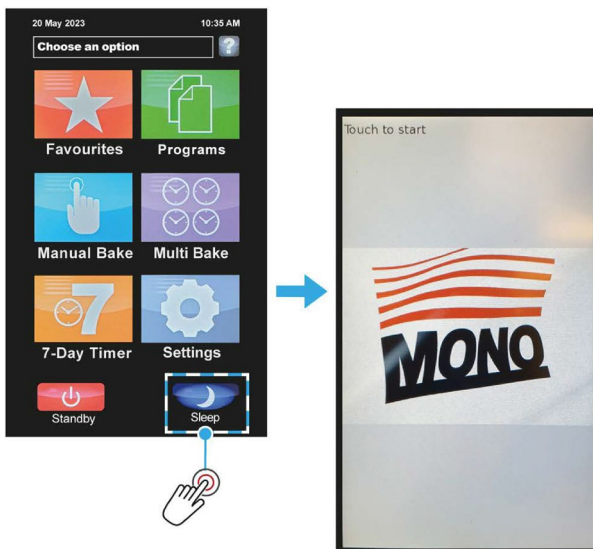
4.7. Putting the oven into Standby mode

The **Standby** button turns the oven off until the screen is touched again.



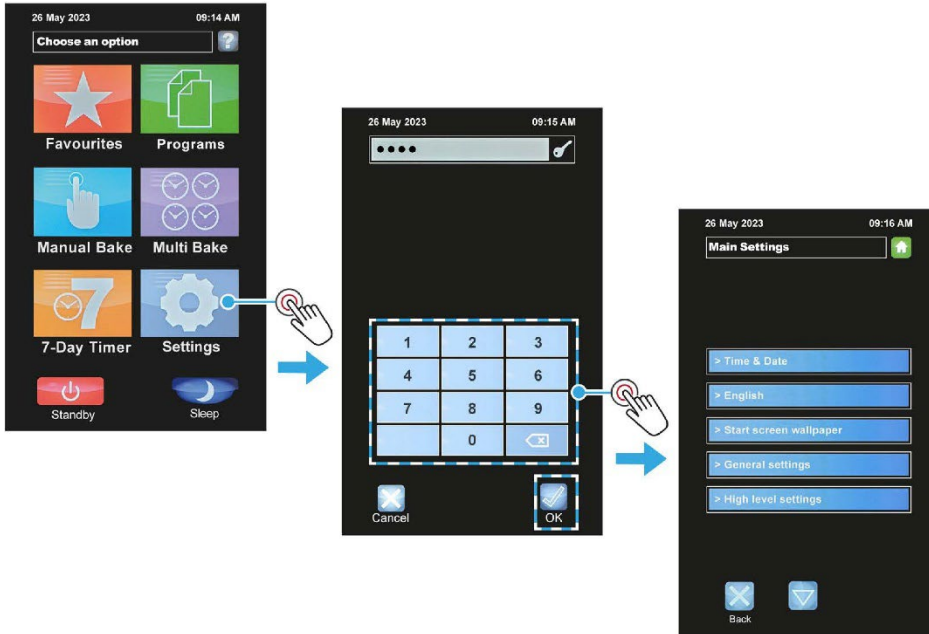
4.8. Putting the oven into Sleep mode

If enabled in the oven settings, the **Sleep** button instructs the oven to maintain temperature to a pre-set value.



4.9. Setting the time and date

1. Touch the **Settings** tile.
2. Enter the **Oven Settings** password, and then touch the **OK** button.



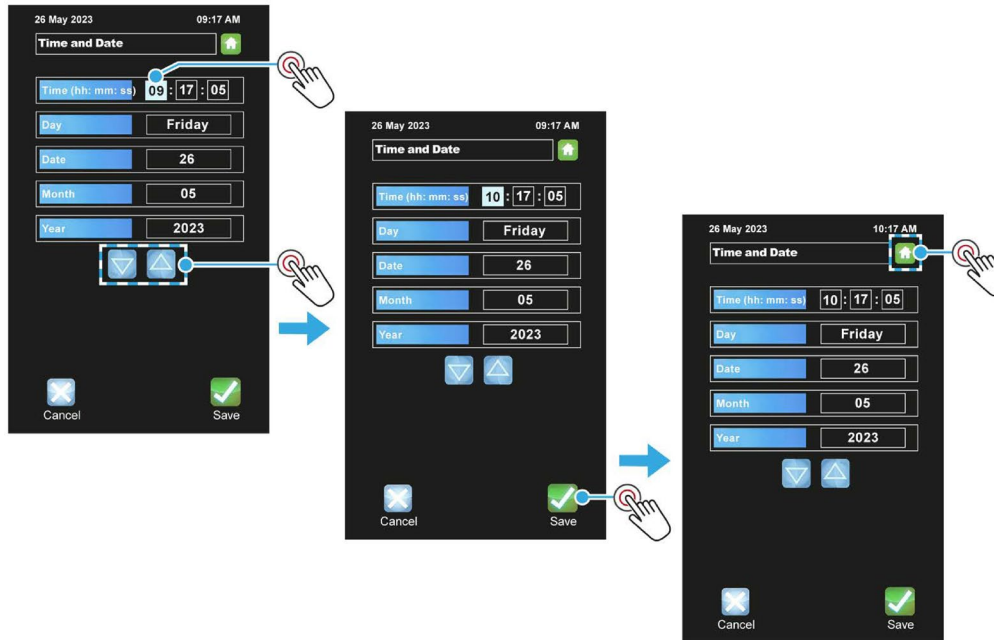
NOTE

- Default passwords for the various access levels are in [Appendix C](#). However, for security reasons, the passwords section may have been removed.

3. Touch the **Time and Date** box.



4. Touch the item that needs adjusting, and then use the up or down arrows as required.
 - The time, date, month, and year can be adjusted.
 - The day is not adjustable – it automatically updates using the date, month, and year.



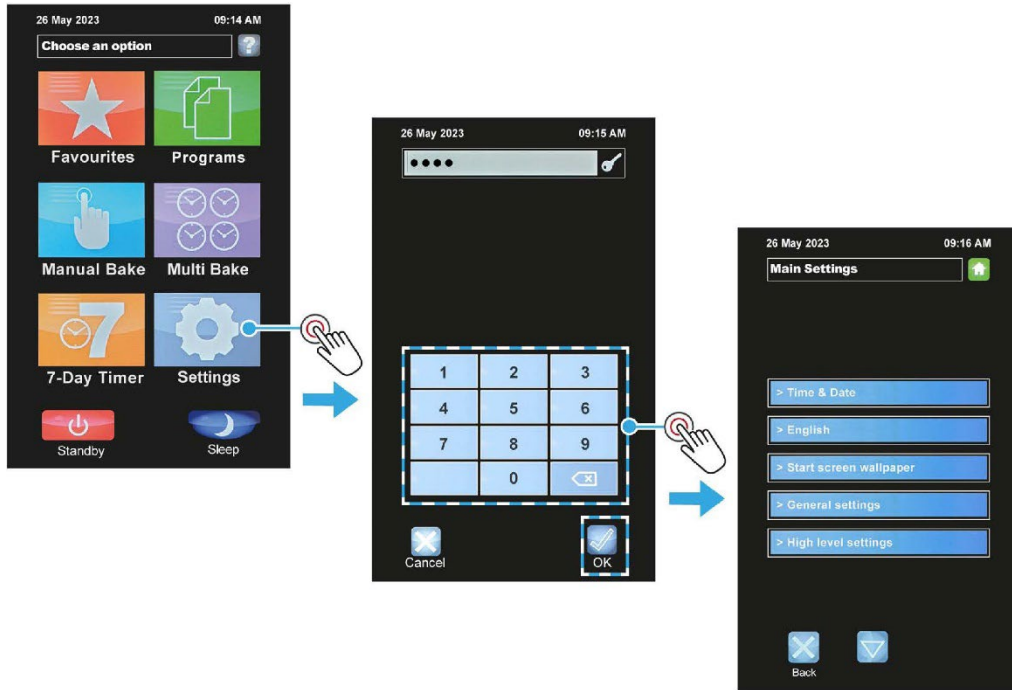
5. Touch **Save** to confirm new settings.
6. Touch the **Home** button to return to the main screen.

NOTE

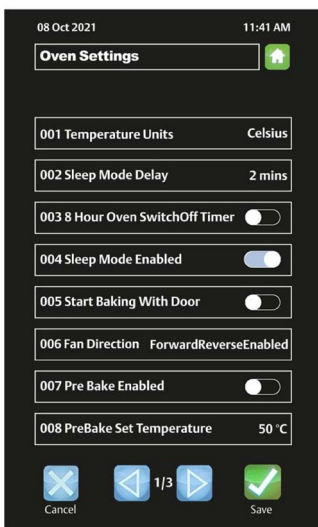
- See [Section 4.10](#) for more information about the user settings for the oven.
-

4.10. User settings (oven setup)

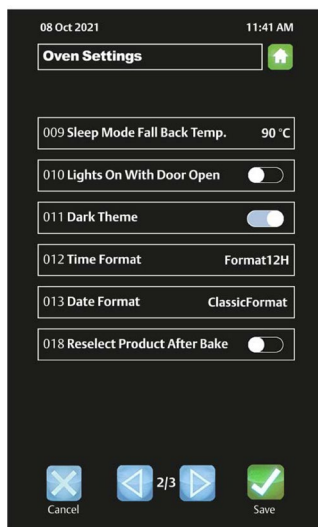
1. Touch the **Settings** tile.
2. Enter the **Oven Settings** password, and then touch **OK**.
3. Touch the **General settings** box.



4. Touch the **Left Arrow** and **Right Arrow** buttons to access the pages of oven settings.
5. To make an adjustment, touch the item and change the setting.



Page 1



Page 2



Page 3

6. Touch the **Save** button when all the oven settings are as required.

NOTE

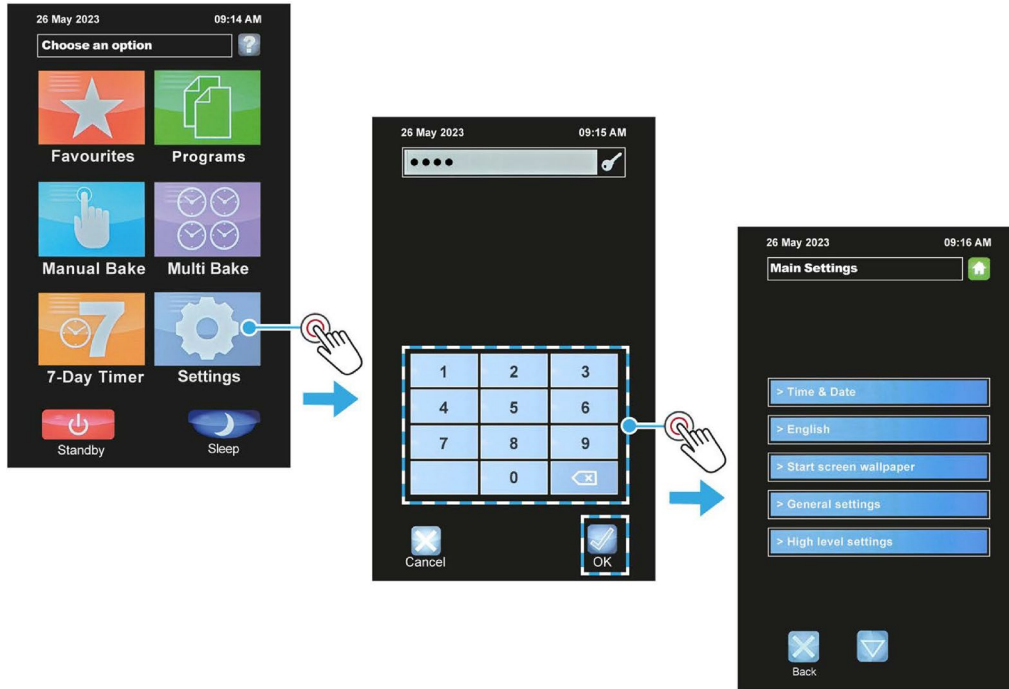
- Default passwords for the various access levels are in [Appendix C](#). However, for security reasons, the passwords section may have been removed.
-

Table 4.2: Oven settings explained (general level)

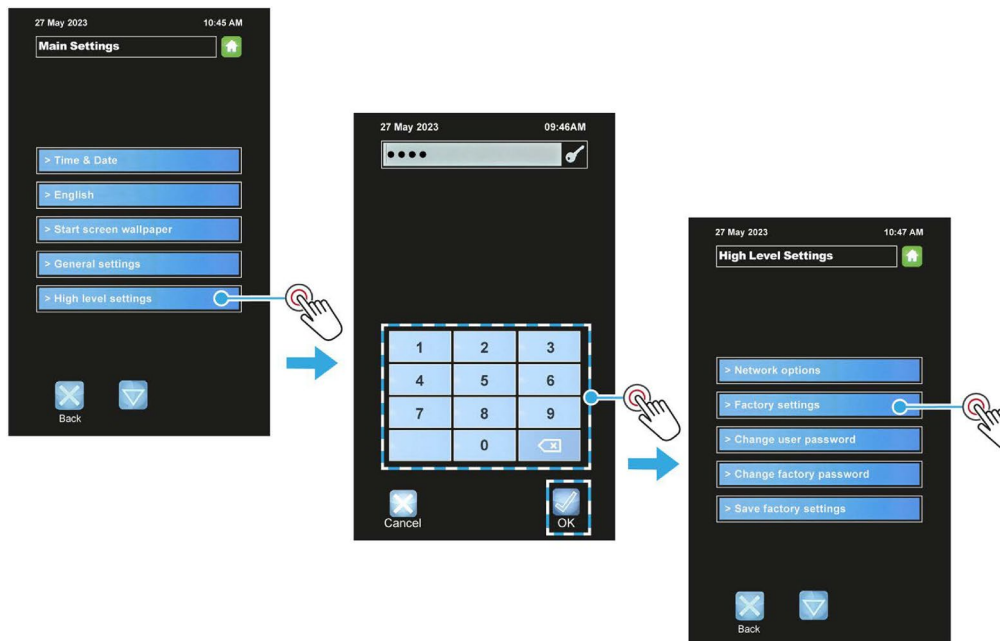
| Oven setting | Description |
|----------------------------|---|
| Temperature Units | Centigrade (Celsius) or Fahrenheit. |
| Sleep Mode Delay | Oven will go into sleep mode after the set minutes, providing it is up to temperature and has been through at least one bake cycle. |
| 8 Hour Switch Off Timer | After 8 hours the oven gives a warning and then turns off. Press any button for an extra hour if required. |
| Sleep Mode Enabled | Enable or disables the sleep mode button. |
| Start Baking With Door | This will start the set bake program as soon as the door closes. |
| Fan Direction | Fan operating modes. |
| Pre Bake Enabled | Enable or disables heating-up the oven to a preset temperature. |
| Pre Bake Set Temperature | Preset temperature setting for the pre-bake function. |
| Sleep Mode Fall Back Temp. | Preset temperature for the oven to maintain whilst in Sleep Mode. |
| Lights On With Door Open | Option to switch on the oven light whenever the door is opened. |
| Extra Time Minutes | Adjusts the extra time at the end of a bake for each “extra time” button press. Maximum setting is 10 minutes. |
| Dark Theme | Colour scheme selection. |
| Time Format | Preferred format for displaying the time of day. |
| Date Format | Preferred format for displaying the date, month, and year. |
| Displayed Temperature | Options to display different temperatures. |
| Power Level 1 to 4 | Set these as required for each level to be used. |
| Chart Interval | Time interval in seconds that the bars show on the heat and bake time progress charts. |
| Screen Brightness | Adjusts the brightness of the viewing screen for user comfort. |

4.11. Factory settings (oven setup)

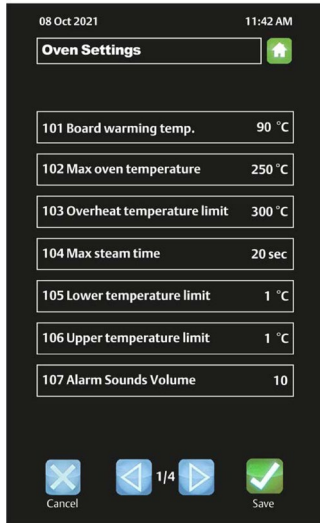
1. Touch the **Settings** tile.
2. Enter the **Oven Settings** password, and then touch **OK**.
3. Touch the **High level settings** box.



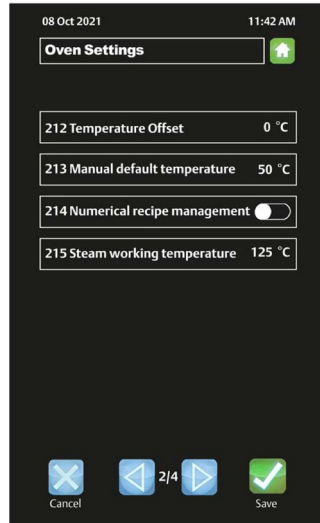
4. Enter the **High level settings** password, and then touch **OK**.
5. Touch the **Factory settings** box.



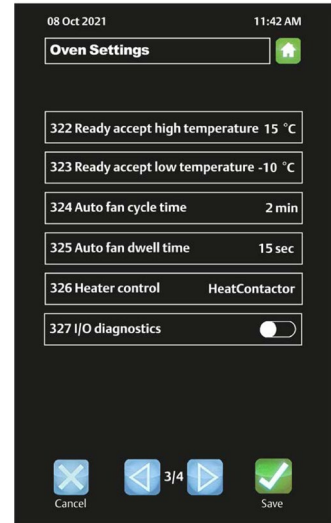
- Touch the **Left Arrow** and **Right Arrow** buttons to access the pages of oven settings.



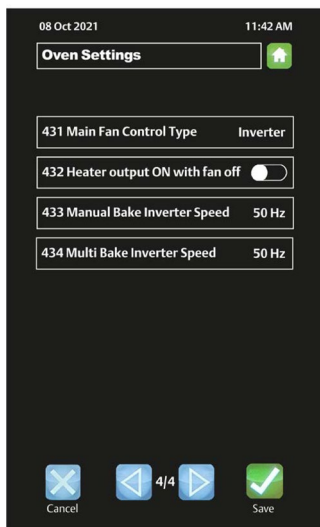
Page 1



Page 2



Page 3



Page 4

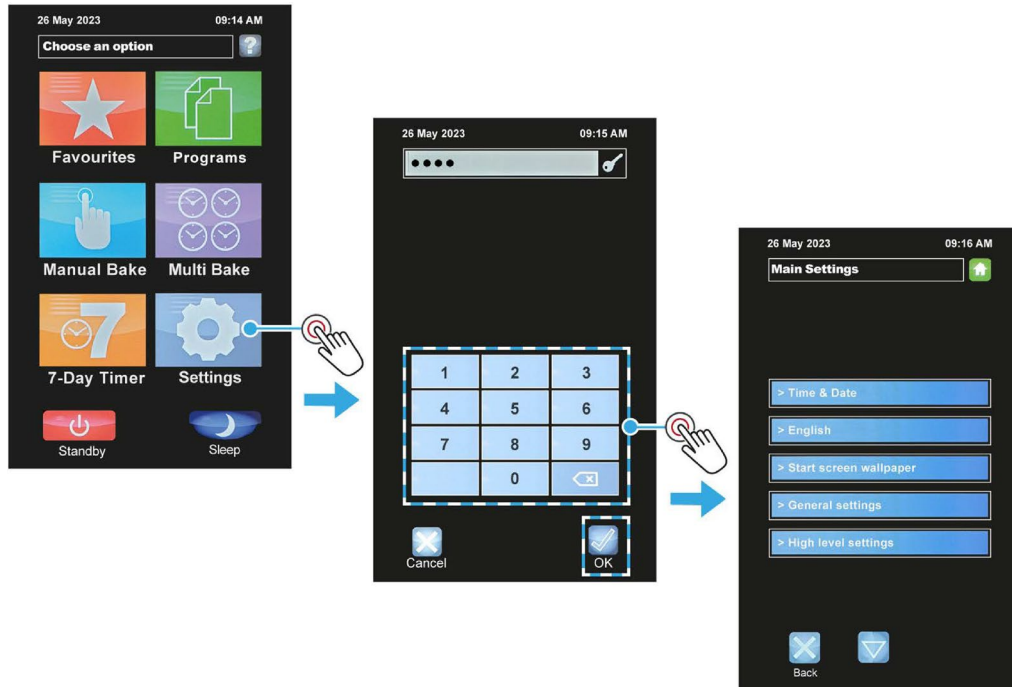
- To make an adjustment, touch the item and change the setting.
- Touch the **Save** button when all the oven settings are as required.

NOTE

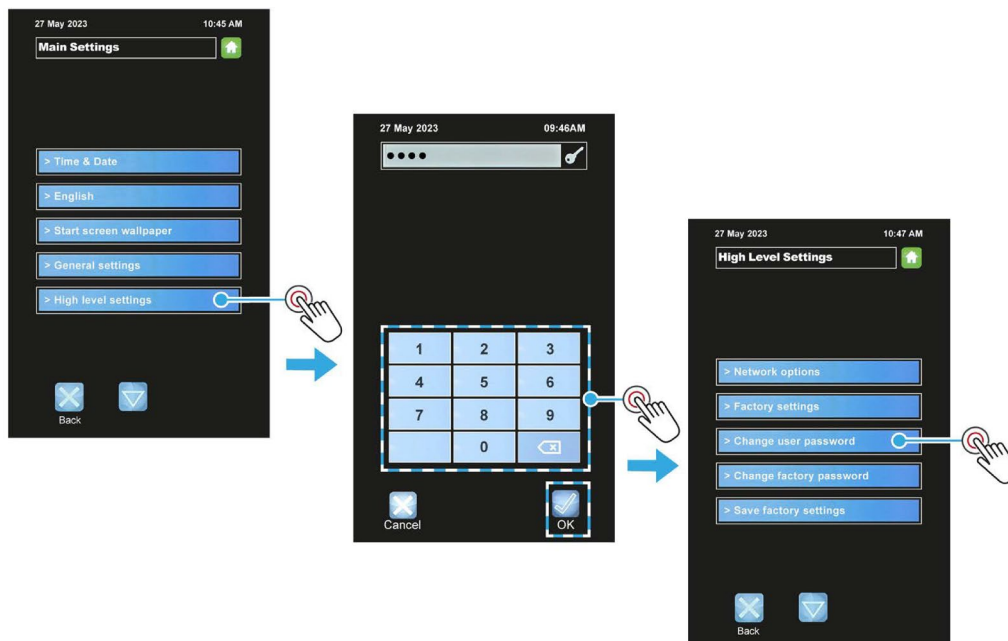
- Default passwords for the various access levels are in [Appendix C](#). However, for security reasons, the passwords section may have been removed.

4.12. Changing the passwords

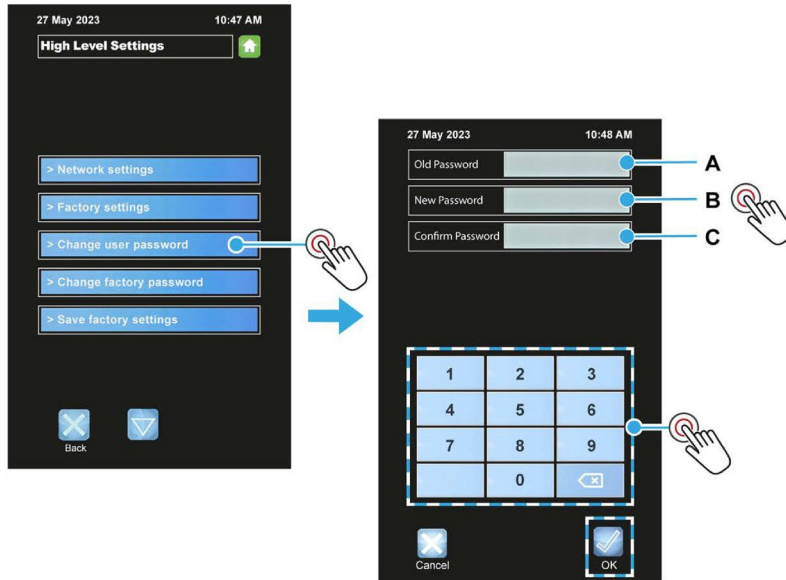
1. Touch the **Settings** tile.
2. Enter the **Oven Settings** password, and then touch **OK**.



3. Touch the **High level settings** box.
4. Enter the **High level settings** password, and then touch **OK**.



5. To change the user settings password:
 - a. Touch **Change user password**.
 - b. Touch the **Old Password** box (A) and enter the current password.
 - c. Touch the first **New Password** box (B) and enter the new password.
 - d. Touch the **second New Password** box (C) and enter the new password again.
 - e. Touch the **OK** button.



6. To change the factory settings (high level) password:
 - a. Touch **Change factory password**.
 - b. Touch the **Old Password** box (A) and enter the current password.
 - c. Touch the first **New Password** box (B) and enter the new password.
 - d. Touch the **second New Password** box (C) and enter the new password again.
 - e. Touch the **OK** button.

NOTE

- Default passwords for the various access levels are in [Appendix C](#). However, for security reasons, the passwords section may have been removed.
-

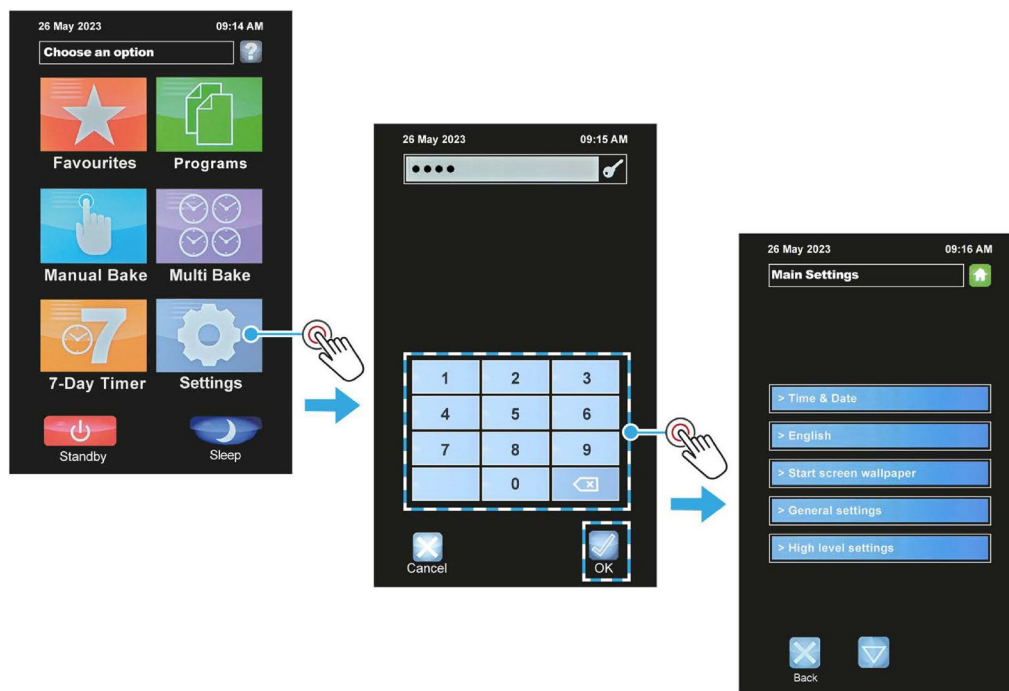
4.13. Diagnostics

The operation of the following items can be checked from the diagnostics screen:

| | | |
|-------------------------|-------------------|------------------------|
| ■ Door switch operation | ■ Fan forward | ■ Lights on/off |
| ■ Fan overload | ■ Fan reverse | ■ Canopy |
| ■ Overheat | ■ Steam solenoid | ■ Audio test |
| ■ Heater | ■ Damper solenoid | ■ Inverter (fan speed) |

Diagnostics procedure

1. Touch the **Settings** button.
2. Enter the **Oven Settings** password, and then touch **OK**.



3. Open the Diagnostic screen:
 - a. Touch the **Settings/Service** panel.
 - b. Touch the **Down Arrow** button until the **Diagnostic** box appears.
 - c. Touch the **Diagnostics** box.
 - d. Touch **OK** to clear the **Attention** window.

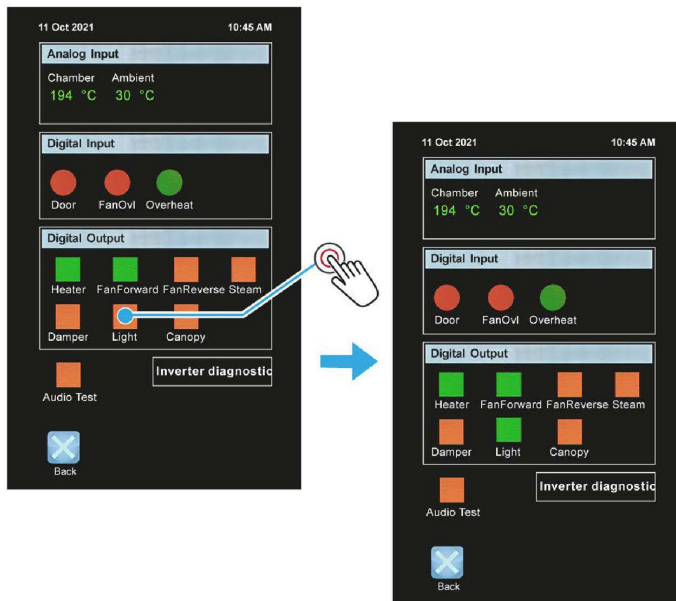


NOTE

- Default passwords for the various access levels are in [Appendix C](#). However, for security reasons, the passwords section may have been removed.
-

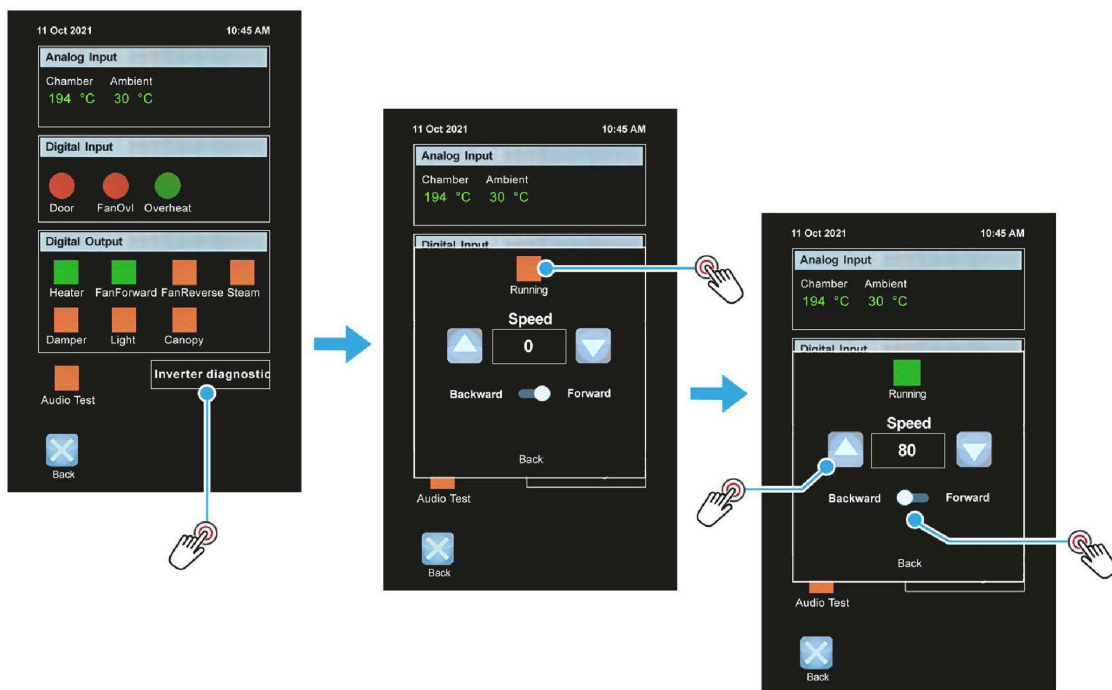
Using the diagnostics screen

1. Touch the item to be tested (e.g., **Light**).
 - The red square changes to a green square to indicate the testing is active.
2. Touch the same item again to end the test.
 - The green square changes back to a red square to indicate the test is not active.
3. Touch the **Back** button to exit diagnostics mode.



Using the Inverter Diagnostic screen

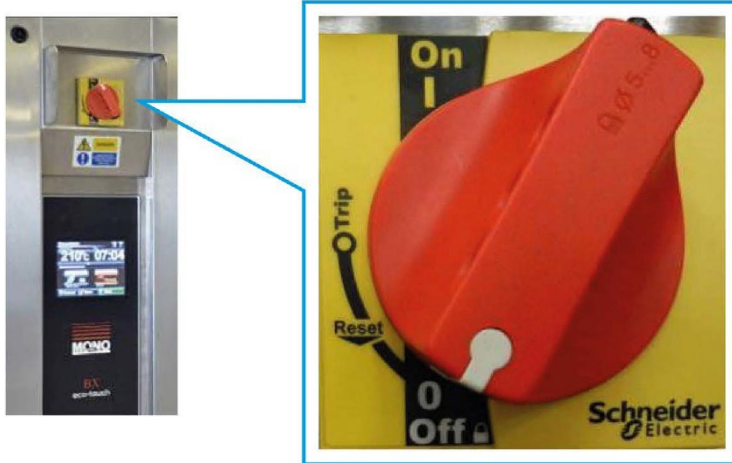
1. Touch the Inverter Diagnostic box.
2. Touch the red square (labelled as “running”) to start the testing.
 - The red square changes to a green square
3. Use the arrows to increase and decrease the fan speed.
4. Slide the direction option to the opposite position.
5. Touch the green square (labelled as “running”) to stop the testing.
 - The green square changes back to a red square
6. Touch Back to exit the screen.



5. Isolation

5.1. Isolating the oven from the electrical supply

To stop the oven in an emergency, switch off the electricity at the mains electrical isolator switch.



WARNING

- Always disconnect the oven from the consumer power supply if working on the electrical box and panel. Some components stay electrically energised even after the main isolator is in the 0 (OFF) position.

6. Cleaning

6.1. Safety messages

**WARNING**

- Always disconnect or isolate the electrical supply and allow the oven to cool before cleaning.
 - Be aware that the surfaces of the oven can remain hot for several hours. Wear protective gloves and appropriate clothing when cleaning.
 - Do not remove any covers, panels, or pipe fittings for cleaning.
 - Do not clean the oven while it is powered or operating.
-

**CAUTION**

- Clean the oven by following the daily and weekly tasks in this user manual.
 - Use only a mild, chloride-free cleaning product on outside surfaces.
 - Never use aggressive chemicals, i.e. solvents, thinners, etc.
 - Take care that liquid does not enter the control panel or any of the other access covers/panels.
 - Never spray the oven with water (or any kind of liquid) using a hose or pressure washer. Never use compressed-air jets on the oven.
 - Care must be taken to not damage parts inside the oven.
-

6.2. Daily cleaning

Before undertaking this task, ensure the oven is disconnected or isolated from the electrical supply and that the oven and heating elements are completely cold.

Daily cleaning tasks

1. Sweep any debris out of the oven after it has been allowed to cool.
 - Cooling down could take several hours.
 - Use a vacuum cleaner if necessary, **but only when the oven is completely cold.**
2. Wipe the oven front, back and sides with a damp cloth.
3. Spot clean outside with a damp cloth, soaked in a solution of mild detergent and hot water.
 - Pay particular attention to ensure excess water is not applied near electrical panels.

6.3. Weekly cleaning

Before undertaking this task, ensure the oven is disconnected or isolated from the electrical supply and that the oven and heating elements are completely cold.

Weekly cleaning tasks

1. Complete the daily cleaning procedure.
2. Clean any burnt-on debris by scrubbing it with a stiff brush and, if necessary, a damp cloth.
3. Use a nylon brush to scrub the cabinet wheels (if fitted) with a mild detergent and hot water.
 - Using too much water eventually rusts the metalwork.

7. Maintenance

7.1. Safety messages

**WARNING**

- Always disconnect or isolate the electrical supply before starting any maintenance work on the oven.
 - Some components stay electrically energised even after the main isolator is in the 0 (OFF) position.
-

**WARNING**

- The ECO Connect Plus Static Rack Oven must be maintained at regular intervals. The frequency of maintenance will depend upon your specific use and location. The maximum service interval should be 12 months.
 - Service and maintenance should only be undertaken by suitably qualified and experienced persons (SQEP).
 - You must immediately report any damage or defect arising with the appliance.
 - Unsafe equipment is dangerous. Do not use the appliance. Isolate the electrical supply and contact MONO Equipment or your appointed service agent.
-

7.2. General maintenance

The following general maintenance is recommended:

- Check for any visible damage or signs of tampering.
 - Do not use the machine if it is clearly damaged, i.e. frayed or bare wires are visible.
 - Report the damage but do not attempt to make any repairs yourself.
- Follow the cleaning instructions in [Chapter 6](#).

8. Service

If a fault arises, please do not hesitate to contact MONO Equipment's Service and Spares department. Be prepared to provide the Serial Number from the machine's information plate or the front page of this User Manual in all communications.

8.1. Contact information for customer services

MONO Equipment Limited

Queensway
Swansea West Industrial Park
Swansea
SA5 4EB
United Kingdom
www.monoequip.com

Contacts

spares@monoequip.com
+44 (0)1792 564039

techsupport@monoequip.com
+44 (0)1792 564041

service@monoequip.com
+44 (0)1792 564048

Switchboard
+44 (0)1792 564039

8.2. Further information

Visit MonoEquip.com for the latest versions of this user manual. Also find up-to-date information about all MONO's products.

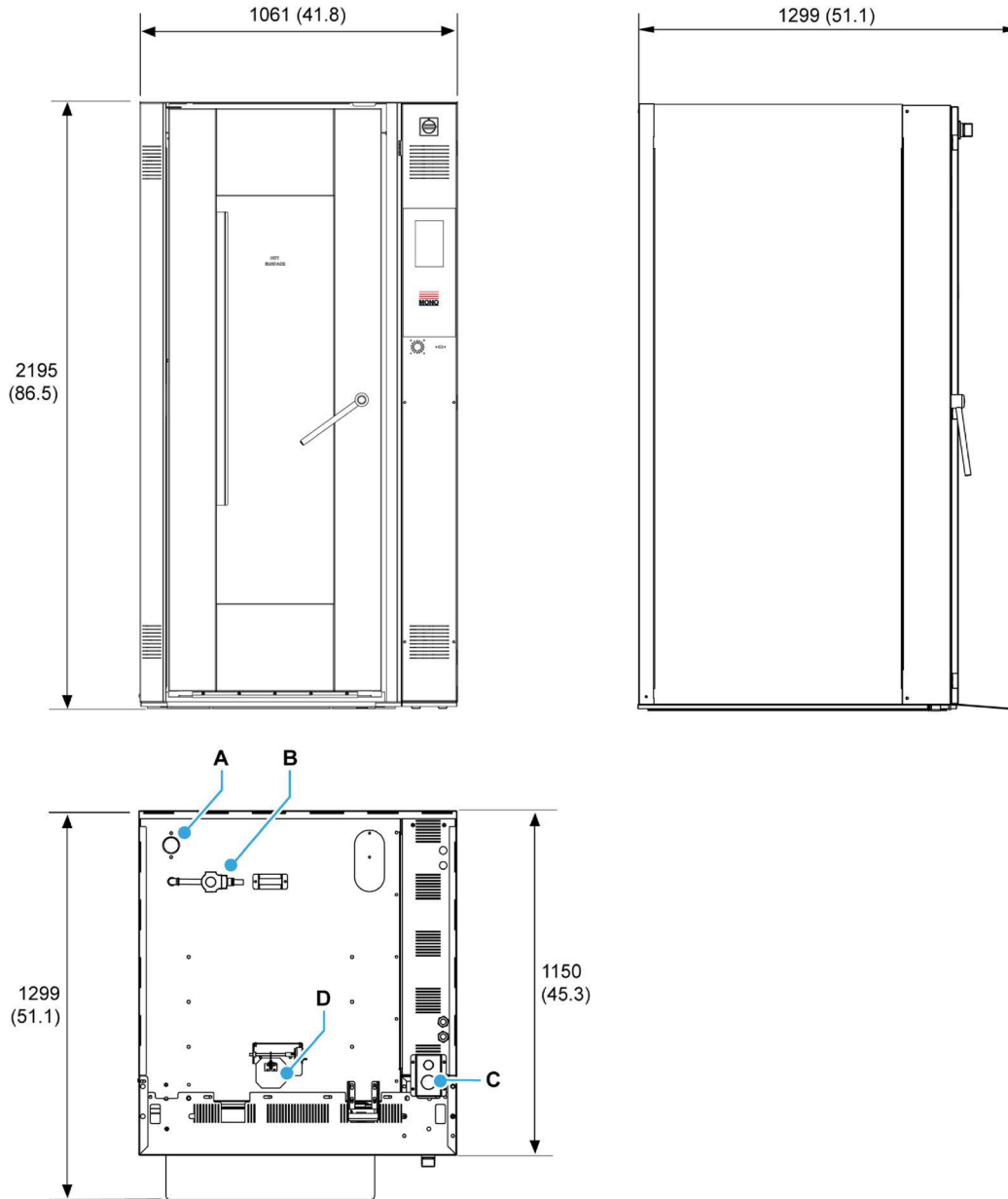
8.3. Environmental disposal

Dispose of the machinery with care when it comes to the end of its working life. Use the most environmentally-friendly manner possible by recycling or other means of disposal which complies with local regulations. Only dispose of the machine safely and legally. The Environmental Protection Act 1990 applies in the United Kingdom.

A. Dimensional Drawings

A.1 ECO Connect Plus Static Rack Oven dimensions

Figure A.1: Left-Hand (LH) ECO Connect Plus Static Rack Oven dimensions



- | | | | |
|---------------------|-----------------------|----------------|----------------|
| A. Electrical inlet | B. Oven pressure vent | C. Water inlet | D. Oven damper |
|---------------------|-----------------------|----------------|----------------|

Dimensions are in mm (inches) unless otherwise stated. All references to "LH" ovens mean that the main door is hinged on the left and the touchscreen control panel is on the right. Conversely, for "RH" ovens, the main door is hinged on the right and the touchscreen is on the left.

B. Specifications

B.1 Electrical specifications



WARNING

- Check that the electrical data on the oven's information plate. Contact MONO Equipment if there is a mismatch between the nameplate information and the mains supply at the site.
- The oven must be connected to the mains supply using the factory-fitted mains plug and cable and a 30mA-rated Type 'A' Residual Current Device (RCD).
- The RCD is a safety device, which automatically switches off the supply if an earth fault develops. Test the RCD upon completion of the installation and quarterly for the lifetime of the oven.
- An experienced and qualified electrician must carry out all electrical work in accordance with national and local regulations.

Power supply

See [Table B.1](#) for supply options.



The supply to this machine must be protected by a 30mA-rated Type A Residual Current Device (RCD) prior to installation and commissioning.

Power cable

Single power cable with mains plug (factory-fitted)

Electrical panel

Membrane-operated touchscreen

Connection point

See [Appendix A](#).

Table B.1: Single supply specifications

| Oven version | Voltage | Phase | Current | Total Power |
|--------------|-----------------|-----------------|-------------------|----------------------|
| Standard | 415 Vac (50 Hz) | Three-phase+N+E | 39 Amps per phase | 28 kW ⁽¹⁾ |

(1) Heating output is 27 kW

B.2 Environmental specifications

Noise level

Less than 85 dB

Ambient temperature

Up to 40 °C (115 °F)

B.3 Mechanical specifications

| | |
|------------------------------|---|
| Heights⁽¹⁾ | 2195 mm (86½ inches) – outside 1900 mm (75 inches) – inside |
| Widths⁽¹⁾ | 1061 mm (42 inches) |
| Depth⁽¹⁾ | 1150 mm (45¼ inches) - not including handle or access ramp 1299 mm (51¼ inches) - including handle or access ramp 1800 mm (71 inches) - when the door is open |
| Footprint | 1.15 m ² |
| Weight | To be advised |
| Tray size | 600mm x 400mm, 30 inches x 18 inches, and 26 inches x 18 inches |
| Steam system | Solenoid operated, high-mass water injection supply |
| Damper system | Solenoid operated (automatic), trapdoor type |
| Max trolley size | 560mm x 760mm (22 inches x 30 inches) footprint including bar |

(1) See [Appendix A](#) for all dimensions.

B.4 Water specifications

The following water specifications are recommended for correct operation of the steam system:

| | |
|-----------------------|---|
| Pressure range | 2 to 5.5 bar (29 to 80 psi) - typical for domestic water supplies |
| Hardness range | 0 to 4 grains per gallon |
| PH range | 7.0 to 8.5 |
| Chloride | 0 to 30 ppm |
| Calcium | 0 to 4 ppm |
| Magnesium | 0 to 4 ppm |
| Alkalinity | 0 to 20 ppm |



NOTE

- Customers are responsible for installing and maintaining an adequate water supply to the oven, which should comply with local water regulations. Check with your local water authority.

C. Passcodes

C.1 Default passcodes

Table C.1: Default passcodes

| Security access | Default passcode |
|------------------------|------------------|
| Supervisor (low level) | 123456 |
| High level | 654321 |
| Master | 314159 (fixed) |

Suggestion

To stop unauthorised changes to the oven setup, it is suggested that this page is redacted or removed from this manual and kept in a safe place for future reference.

If tampering could be a problem, it is also a good idea to change the passcodes at regular intervals.

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D. Electrical Drawings

D.1 Static Rack Oven electrical drawings

[165E25-00001 Heating Power Circuit Drawing](#) (page 47)

[165E25-00002 Fan Motor Connections and Heating Element Wiring](#) (page 48)

[165E25-00003 Printed Circuit Board \(PCB\) Outputs](#) (page 49)

[165E25-00004 Motor Power Circuit Diagram](#) (page 50)

[165E25-00005 Power Supply Circuit](#) (page 51)

[165E25-00006 24V Inputs and LED Light Wiring](#) (page 52)

[165E25-00007 CJB Touch Controller Layout](#) (page 53)

Figure D.1: 165E25-00001 Heating Power Circuit Drawing

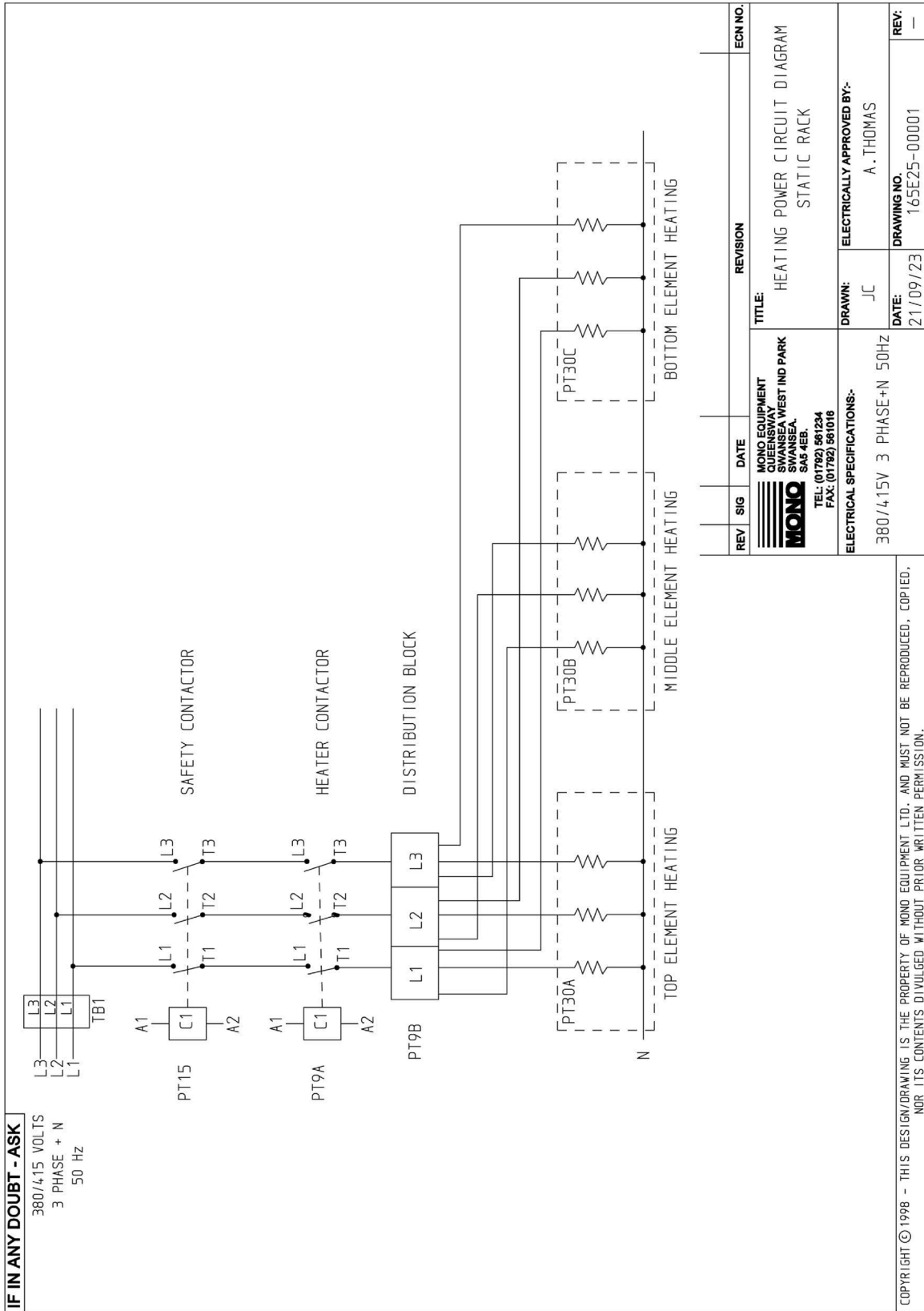
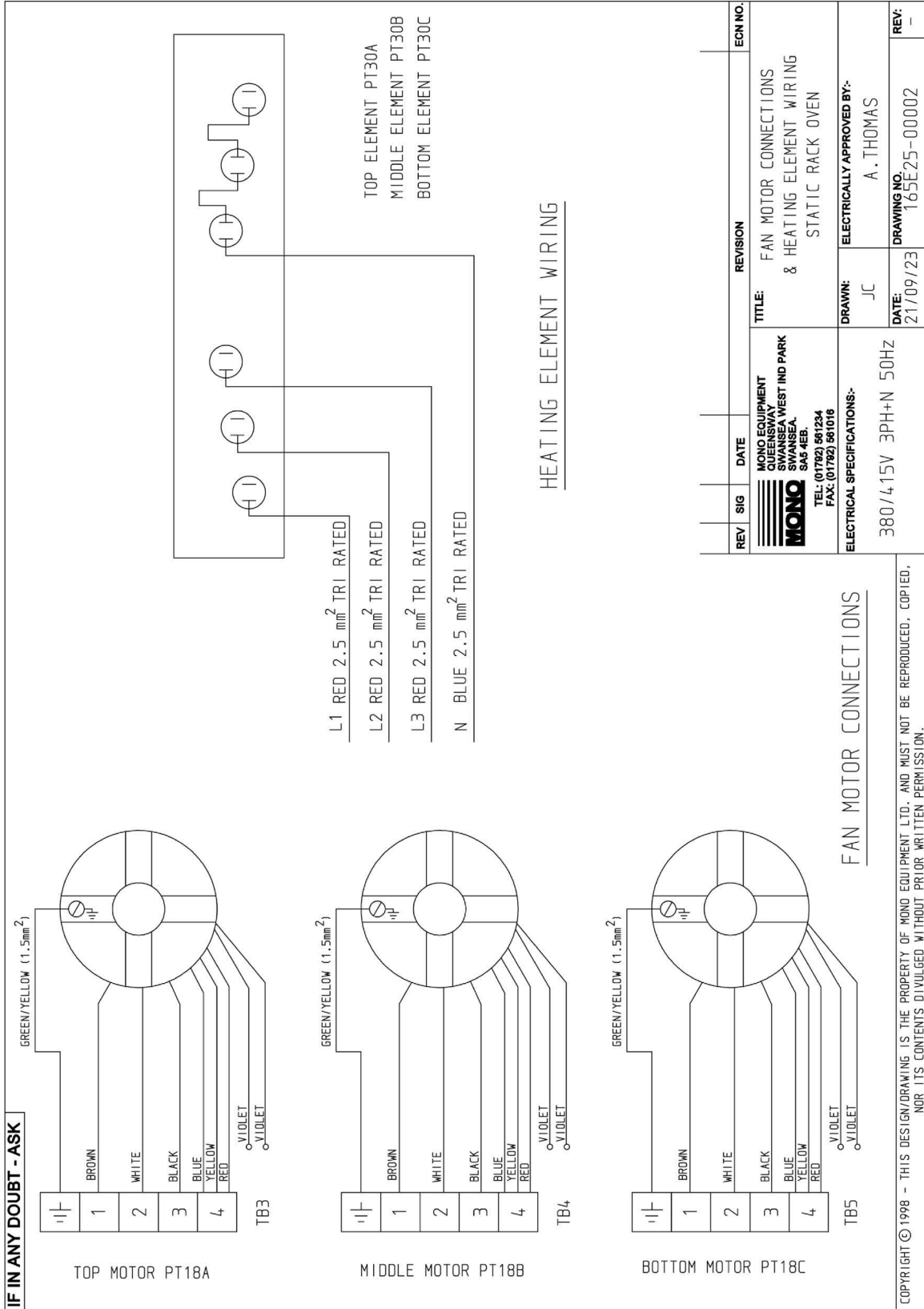


Figure D.2: 165E25-00002 Fan Motor Connections and Heating Element Wiring



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Figure D.3: 165E25-00003 Printed Circuit Board (PCB) Outputs

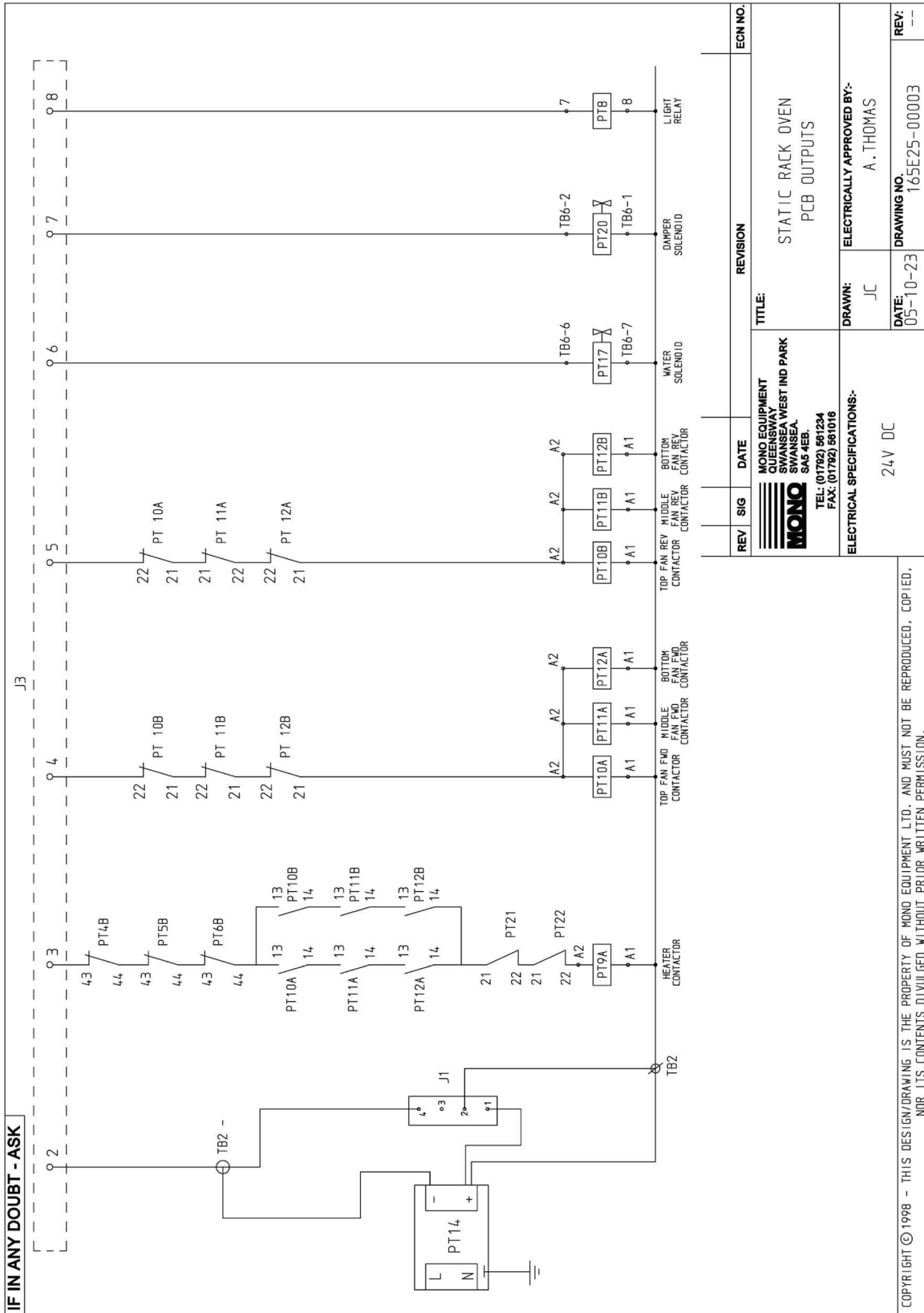


Figure D.4: 165E25-00004 Motor Power Circuit Diagram

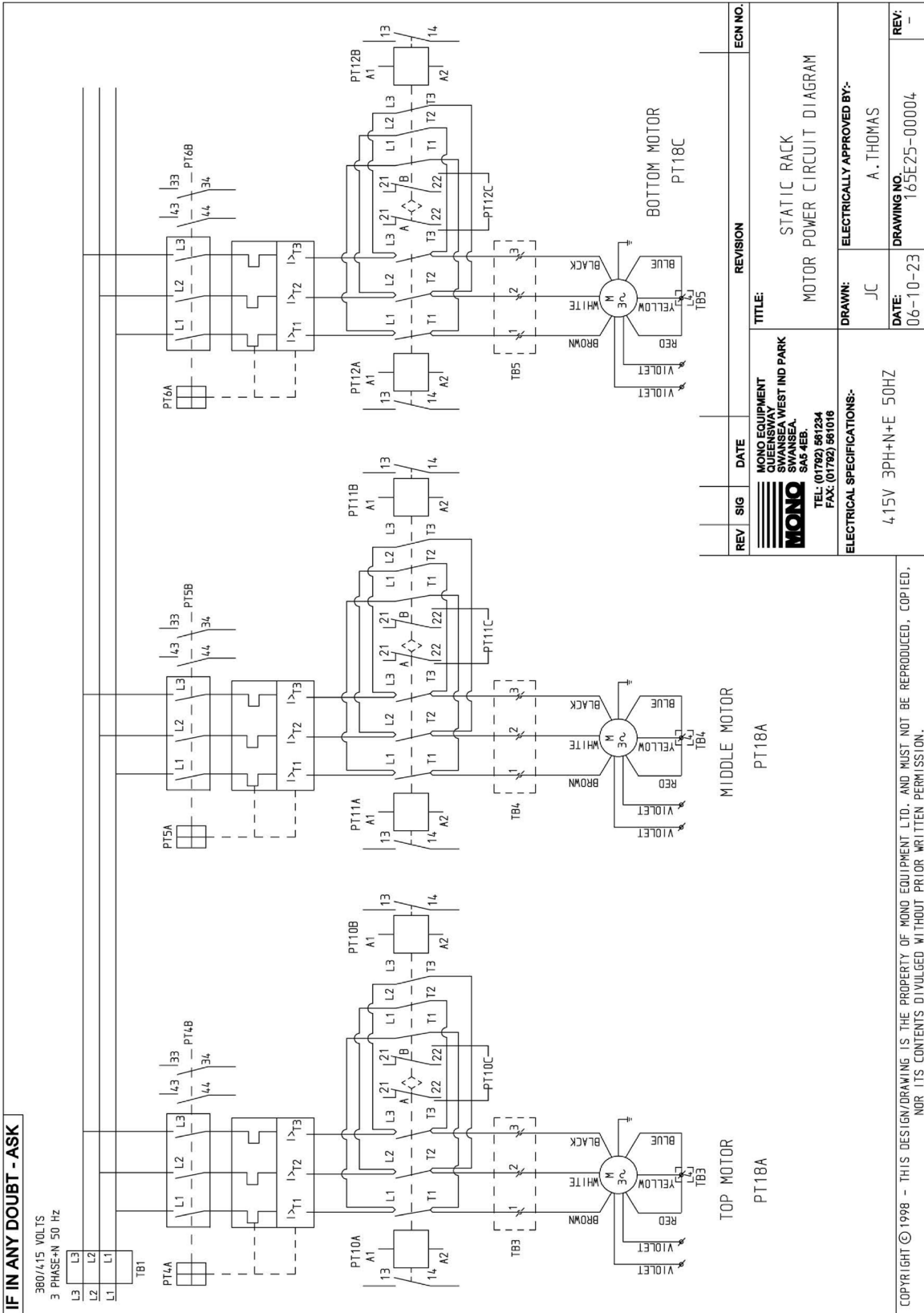


Figure D.5: 165E25-00005 Power Supply Circuit

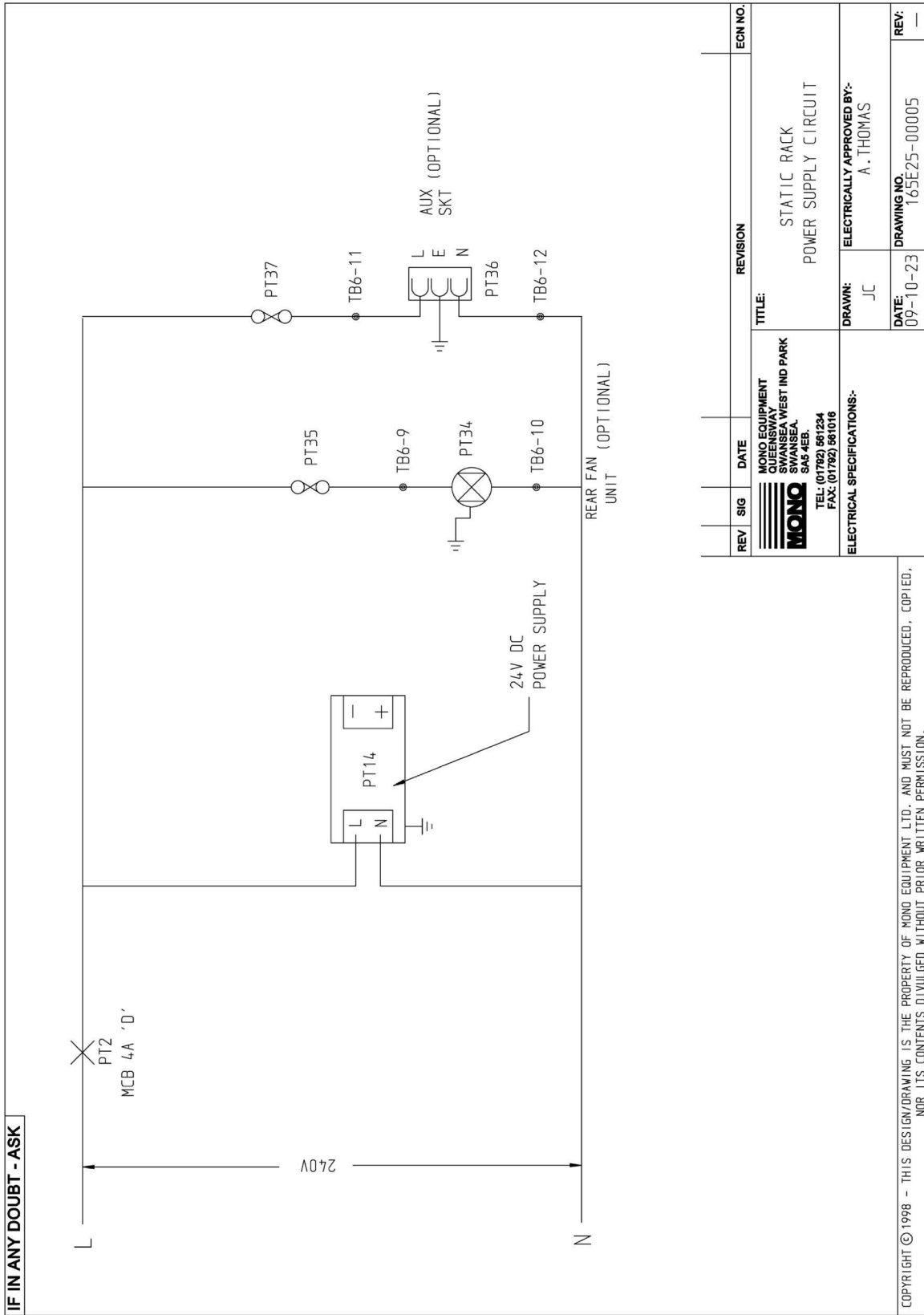
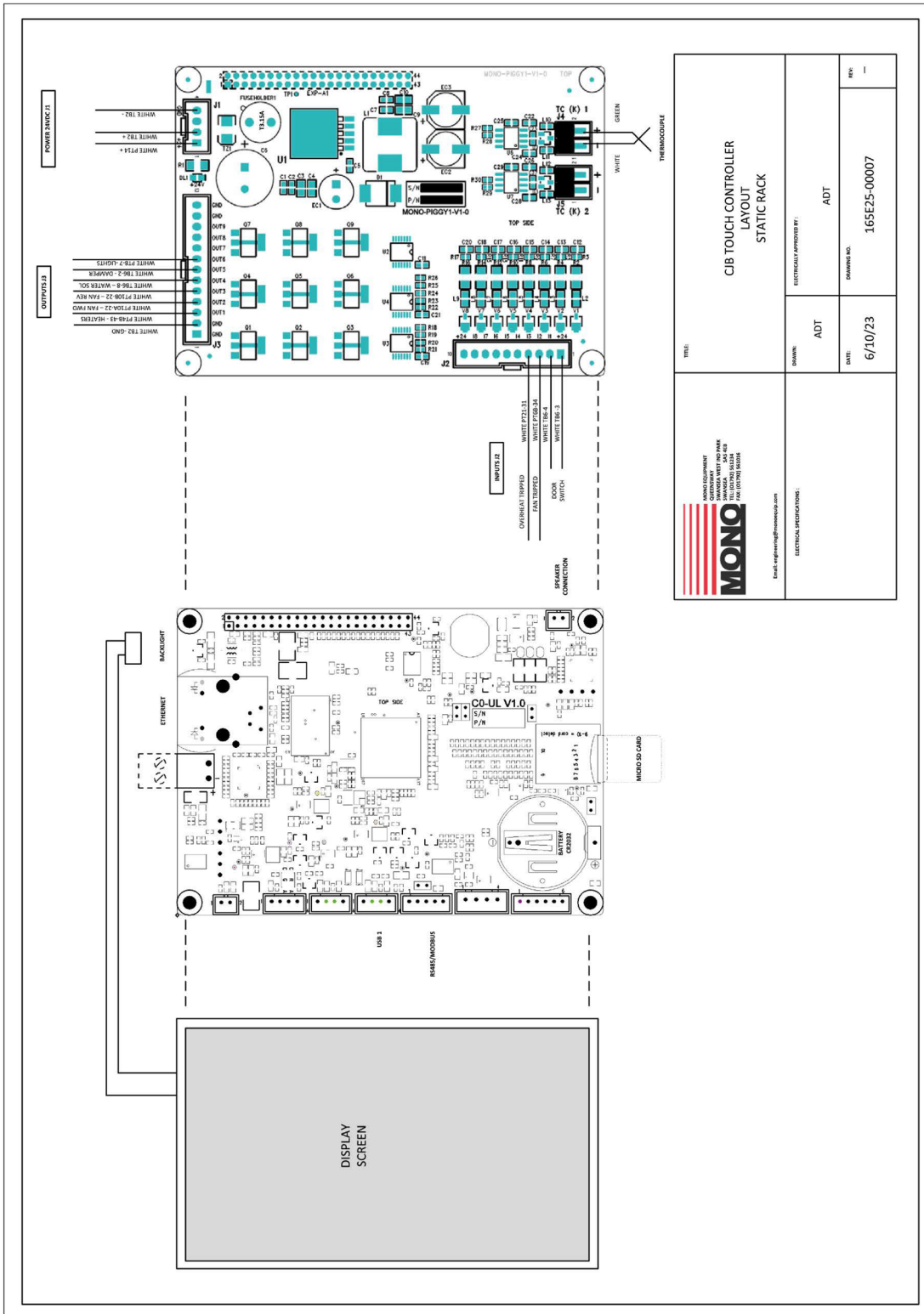


Figure D.7: 165E25-0007 CJB Touch Controller Layout



D.2 ECO Connect Plus Static Rack Oven Parts List

Table D.1: Parts list (Sheet 1 of 2)

| Description | Part number | Part ref. ⁽¹⁾ |
|--|---------------------|--------------------------|
| Interior LED light fuse | B842-85-030 | Pt 1 |
| Control circuit MCB | B872-22-062 | Pt 2 |
| Fan motor overload - (TOP) | B801-03-020 | Pt 4a |
| Fan motor overload auxiliary (TOP) | B801-14-012 | Pt 4b |
| Fan motor overload - (MIDDLE) | B801-03-020 | Pt 5a |
| Fan motor overload auxiliary (MIDDLE) | B801-14-012 | Pt 5b |
| Fan motor overload - (BOTTOM) | B801-03-020 | Pt 6a |
| Fan motor overload auxiliary (BOTTOM) | B801-14-012 | Pt 6b |
| Interior light relay | B723-37-004 | Pt 8a |
| Interior light relay base | B723-36-001 | Pt 8b |
| Heater contactor | B801-08-020 | Pt 9a |
| Heater wiring distribution block assembly | B859-50-001 (3 off) | Pt 9b |
| Fan motor contactor forward (TOP MOTOR) | B801-08-031 | Pt 10a |
| Fan motor contactor reverse (TOP MOTOR) | B801-08-031 | Pt 10b |
| Fan motor contactor forward (MIDDLE MOTOR) | B801-08-031 | Pt 11a |
| Fan motor contactor reverse (MIDDLE MOTOR) | B801-08-031 | Pt 11b |
| Fan motor contactor forward (BOTTOM MOTOR) | B801-08-031 | Pt 12a |
| Fan motor contactor reverse (BOTTOM MOTOR) | B801-08-031 | Pt 12b |
| 24V Power supply | B801-93-043 | Pt 14 |
| Heater safety contactor | B801-08-020 | Pt 15 |
| Damper solenoid | B749-83-004 | Pt 17 |
| Fan motor – (TOP) | B720-74-005 | Pt 18a |
| Fan motor – (MIDDLE) | B720-74-005 | Pt 18b |
| Fan motor – (BOTTOM) | B720-74-005 | Pt 18c |
| Water solenoid | B965-83-007 | Pt 20 |
| Overheat thermostat - (TOP) | B888-30-014 | Pt 21 |
| Overheat thermostat - (BOTTOM) | B888-30-014 | Pt 22 |
| Oven thermocouple | B873-95-006 | Pt 23 |
| PCB Assembly | B790-97-001 | Pt 24 |

Table D.1: Parts list (Continued) (Sheet 2 of 2)

| Description | Part number | Part ref. ⁽¹⁾ |
|---------------------------------|--------------|--------------------------|
| Main isolator 80 A | B801-07-002 | Pt 26 |
| Door switch | B801-11-001 | Pt 27 |
| Interior LED light unit | 166-13-00063 | Pt 28 |
| Heating element, 9Kw – (TOP) | B847-04-081 | Pt 30a |
| Heating element, 9Kw – (MIDDLE) | B847-04-081 | Pt 30b |
| Heating element, 9Kw – (BOTTOM) | B847-04-081 | Pt 30c |
| Cooling fan (OPTIONAL) | B869-75-018 | Pt 34 |
| Cooling fan fuse (OPTION) | B842-85-025 | Pt 35 |
| Aux power outlet (OPTIONAL) | B970-06-001 | Pt 36 |
| Aux power outlet fuse (OPTION) | B842-85-039 | Pt 37 |

(1) See electrical drawings in previous section.

MONO Equipment is the leading designer and manufacturer of bakery equipment in the United Kingdom. This proud heritage of British craftsmanship, combined with a reputation for creating high-quality, innovative products, can be traced back to its origins in 1947.

All our bakery equipment is manufactured to the most stringent NQA ISO9001:2015 & NQA ISO14001:2015 standards and is crafted using the very latest, cutting-edge technology combined with the time-honoured skills of the master craftsman.

MONO Equipment truly excels in providing tailor-made solutions to a diverse range of clients, from the small independent artisan baker to the large retail chains found on every high street and in every out-of-town shopping centre. We can supply everything from a simple Food-2-Go cafe oven to the entire list of bakery equipment needed to set up a full scratch bakery.



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