MONO DX Deck Oven

EN ## Installation and Operation Manual

Product Version

- UK specification
- Eco-touch control
- Fixed standard-depth decks

Enter Serial Numbers here

Deck 1
Deck 2
Deck 3
Deck 4
Deck 5
Fan (If fitted)

In the event of an enquiry please quote these serial numbers.

DECLARATION OF CONFORMITY

We hereby declare that this machine complies with the essential health and safety requirements of :-

- The Machinery Directive 2006 / 42 / EC
- The Low voltage Directive 2006 / 95 / EC
- The requirements of the Electromagnetic Compatibility Directive 2004 / 108EC, 91 / 263 / EEC, 92 / 31 / EEC
- The General Safety of Machinery and food processing Standards applicable
- Materials and Articles intended to come into contact with food - Regulation (EC) No. 1935 / 2004
- Good manufacturing practice for Materials intended to come into contact with food - Regulation (EC) No. 2023 / 2006

Signed	
	D. Osmundsen – Quality and Conformance Manager

Date	

Machine FG Code.		Machine Serial No.	

A technical construction file for this machine is retained at the following address:

MONO EQUIPMENT
Queensway,
Swansea West Industrial Park,
Swansea
SA5 4EB
UK

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

Safety symbols

The following safety symbols are used throughout this document and manual (available at www.monoequip.com). Before using your new equipment, read the instruction manual carefully and pay special attention to information marked with the following symbols

WARNING   Indicates a hazardous situation that, if not avoided, could result in death or severe injury.

WARNING   Indicates a hazardous situation that, if not avoided, could result in death or severe injury.

CAUTION   Indicates a hazardous situation that, if not avoided, could result in minor or moderate injury.

⚠ Electrical safety and advice regarding supplementary electrical protection

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

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

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

We Recommend:

−   Supplementary electrical protection with the use of a residual current device (RCD)

−   Fixed wiring appliances incorporate a locally situated switch disconnector to connect to, which is easily accessible for switching off and safe isolation purposes. The switch disconnector must meet the specification requirements of IEC 60947.

Your attention is drawn to:
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 includes:

▪   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.

⚠   The supply to this machine must be protected by a **30mA Type A RCD**

⚠ Important safety matters: fix a water leak immediately to help prevent 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:

- Isolate the oven from the electrical supply (see **Chapter 5**).
- Place an out-of-service notice on the oven.
- Contact MONO Equipment for assistance (see **Back Page**).

Ovens need to be maintained and serviced at appropriate intervals to help prevent water leaks from the internal plumbing and external hose connections. See **Chapter 15** for maintenance information.

Important notes

	WARNING	▪ An electrical socket must be protected by a 30mA Type A Residual Current Device (RCD) before installation and commissioning of the oven.
		▪ To reduce the risk of fire or electric shock, do not remove covers (or back sheeting). There are no user-serviceable parts inside. Repairs should be done by authorised personnel only.
		▪ Never use the USB port to power or recharge electronic devices e.g., mobile phones. Incorrect usage causes damage to the oven and could result in a fire.

	WARNING	▪ Be aware of hot surfaces.
		– Do not touch the front with bare skin.
		▪ Failure to adhere to the cleaning and maintenance instructions detailed in this manual could affect the warranty of this machine.
		▪ The oven should only be used for baking bread, pastries, and cakes.
		▪ Some sections of this manual are for engineers only and the customer should not attempt to make any alterations.

Contents

1. Introduction

The electric DX Deck Oven is an easy-to-use practical, good-looking oven, giving an excellent heat recovery rate and an even bake across a wide range of bread and confectionery products.

Good looking and completely reliable

Conceived with the no-nonsense requirements of both the independent and in-store baker in mind, designed to be visually pleasing and give reliable service for many years visually. This oven will more than satisfy the most discerning customer.

Top-quality specification

External and internal contact surfaces are stainless steel, so there's no fear of deterioration even after many years of hard use; plus, each deck is fitted with baking sheets manufactured from natural materials as a standard fitting.

The oven comes with an integral steaming system, which reduces energy consumption and the overall size of the oven. The system produces natural steam with all the advantages of spray steam.

No drainage is required.

Eco-touch ovens are supplied with **TOUCH** displays for user-friendly control. This display can show pictures of product types or program numbers that have been set by the user. When not being used, the screen can show your company logo. A voice-prompt facility is also available for basic instructions like "Bake over".

ECOTOUCH SCREEN CONTROLS

The lights are low voltage, sealed from the chamber and easily accessed from outside the oven.

Fitted with a choice of hinged easy to clean glazed doors (using low energy-loss reflective glass for high visibility) or metal doors, means low energy consumption and the high kW rating gives good recovery.
(0-100% heating available both top and bottom).

The flue system is integral to the unit and is designed to reduce the build-up of combustible deposits in the flue.
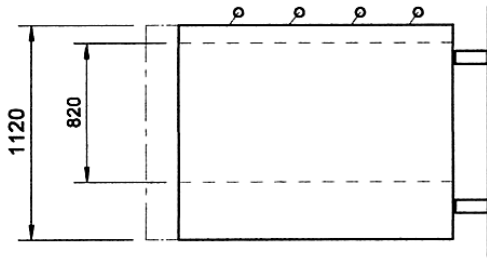
As it is our policy to improve our machines continuously, we reserve the right to change specifications without prior notice.
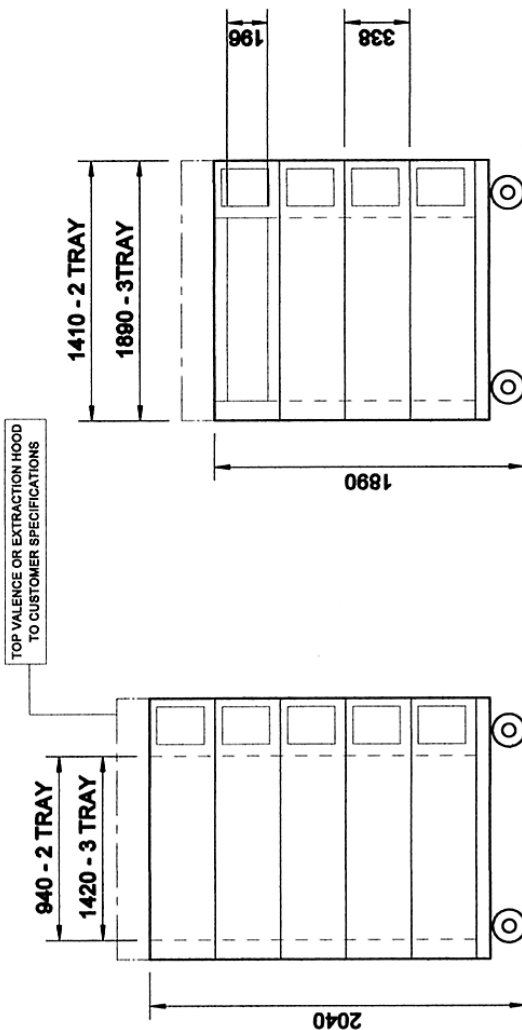
2. Specifications

Specifications sheet

⚠️	**WARNING**	▪	An electrical socket must be protected by a 30mA Type A Residual Current Device (RCD) before installation and commissioning of the oven.

SIDE VIEW

1120 / 820

4 DECK / 5 DECK

1410 - 2 TRAY / 1890 - 3TRAY / 1890

196 / 338

940 - 2 TRAY / 1420 - 3 TRAY / 2040

TOP VALENCE OR EXTRACTION HOOD TO CUSTOMER SPECIFICATIONS

MONO DX11 OVEN RANGE

NOMINAL TRAY WIDTH	EXTERNAL AREA	POWER Kw (PER DECK)		VOLTAGE	INTERNAL SURFACE AREA	No. OF TRAYS (per deck)			
		5 DECK	4 DECK			600 X 800	600 X 400	18" X 30" (457 X 760)	18" X 26" (457 X 660)
3 tray	2.12Mtr^2	8.24	8.24	AS REQUIRED IN THE COUNTRY OF USE	1.1Mtr^2	2	3	3	3
2 tray	1.58Mtr^2	NOT AVAILABLE	NOT AVAILABLE		0.7Mtr^2	1	2	2	2

Environmental specifications

The noise level is less than 80 dB.

Overall dimensions
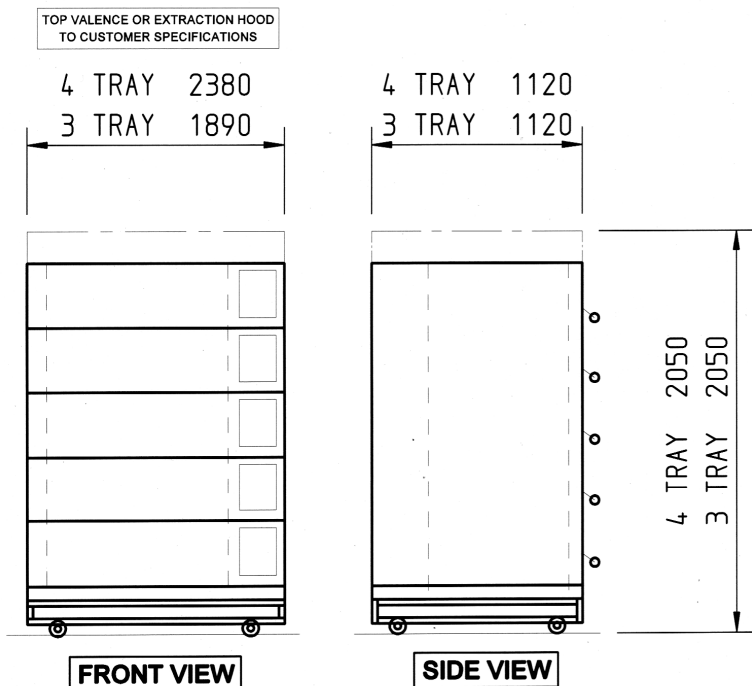
NOTE

All dimensions are in mm and are approximated.

5 DECK   3 TRAY

HEIGHT   2040 mm
WIDTH   1890 mm
DEPTH   1120 mm

5 DECK   2 TRAY

HEIGHT   2040 mm
WIDTH   1410 mm
DEPTH   1120 mm

4 DECK   3 TRAY

HEIGHT   1890 mm
WIDTH   1890 mm
DEPTH   1120 mm

4 DECK   2 TRAY

HEIGHT   1890 mm
WIDTH   1410 mm
DEPTH   1120 mm

3. Safety

The Bakery Manager or Supervisor must carry out daily safety checks. Bakery staff **must not**, under any circumstances, remove panels to access any part of the oven.

Only fully-trained and authorised persons are permitted to do any work on the oven. Authorised electricians must carry out all repairs and maintenance of electrical units. Always disconnect or isolate the power supply before starting any maintenance (i.e. opening panels) or cleaning work on the oven.

Warning!
- Before using the oven, check that:
  - All cover panels and pipe fittings are secure.
  - The door handles are not damaged.
- If the oven is damaged or malfunctioning, stop using it.
  - Do not attempt any repairs.
  - Contact the Mono Service Department for advice.
  - Fit only **MONO** spare parts to this oven.
- All connections to the oven must comply with the statuary requirements of the country of installation.
- Never use the USB port to power or recharge electronic devices e.g., mobile phones. Incorrect usage causes damage to the oven and could result in a fire.
- Operate the oven only as described in this manual.

Warning!
- Separate electrical supplies to each deck and the prover base must have their own 30mA Type A Residual Current Device (RCD).
- Always fit a wall isolator to isolate the oven completely. The isolator must be visible, labelled, and easily accessible by an operator.
- Always check the electrical ratings on the nameplate before connecting power.

Caution!
- Be aware of hot surfaces:
  - Always use oven gloves when loading or unloading the oven.
  - Allow time for the oven to cool down before cleaning it. To prevent door glass from shattering, do not clean the oven glass when hot.
  - While the oven is in operation (and for some time after use), it is inadvisable to touch the oven window or the surrounds because of conducted heat.
- The oven owner is legally obliged to instruct staff on these safety points and the safe operation of the oven. Therefore, these instructions should not be removed from the working area.
- Do not store items on top of or behind the oven.
- Only use the oven for baking bread, pastries, and cakes.
  Contact Mono Equipment for other product-making machines.
- No unauthorised modifications to the oven are permitted.

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4.   Installation

General

- A hard smooth level floor is recommended on which to position the oven and access for maintenance should be considered.

  The oven is not designed to be "built in" so sufficient clearance <u>must</u> be left in front of the access panels (right hand side) to allow for servicing.

- If not chosen as an oven option, it is recommended that an extraction hood be placed above the oven to disperse excess steam and heat, which could have an adverse effect on the bakery ceiling and ambient temperature.

- A chain retainer should be fitted, that is shorter than the power cables, to protect them from strain if the oven is moved. (Fit to the wall or floor and the base, using hole provided in castor fixing corner plates).

- Installation must be made by a trained authorised engineer and all utilities must conform to all local regulations.

Electrical connections

- The main connection point for all deck supplies is at the top of the oven.

- Read the **Safety** section on **page 10**.

- Electrical loadings are in the **Specifications** section.

Water supply requirements

- All ovens with a steam function require a ¾" BSP hot or cold water supply at a pressure of 2 - 3 bar (29 – 44 psi). The water supply should comply with local water regulations.

- A manifold supplies all decks from one connection point.

- For proper operation of the steam system, it is recommended that the water supply also has the following specifications:

Hardness	0 – 4 grains per gallon
PH range	7.0 to 8.5
Chloride concentration	0 – 20 ppm

  Consult MONO for proper water filtration system information.

- No drain is required for this oven.

- A non-return check-valve is supplied fitted to the water inlet manifold.

NOTE
The set-up procedure below must be followed to allow the steaming system to function correctly.


Oven water system setup procedure

⚠️ **It is imperative that the water delivery to the deck oven is checked for the steam system to operate correctly.**

Note that dynamic pressure, not static pressure, is being measured.

Procedure

1. Flush out the main feed pipe to be used until water runs clear and free from debris.

2. Connect the main feed to the oven.

3. Place a container under the test valve.

4. Slowly open drain valve and set the regulator to 0.5 bar using the screw underneath.

   – Never use the oven above this setting.

5. When the pressure has stabilised, shut the test valve.

6. Repeat steps 3 to 6 at the end of the installation.

Figure 1: Water regulator setup (located on rear of oven)
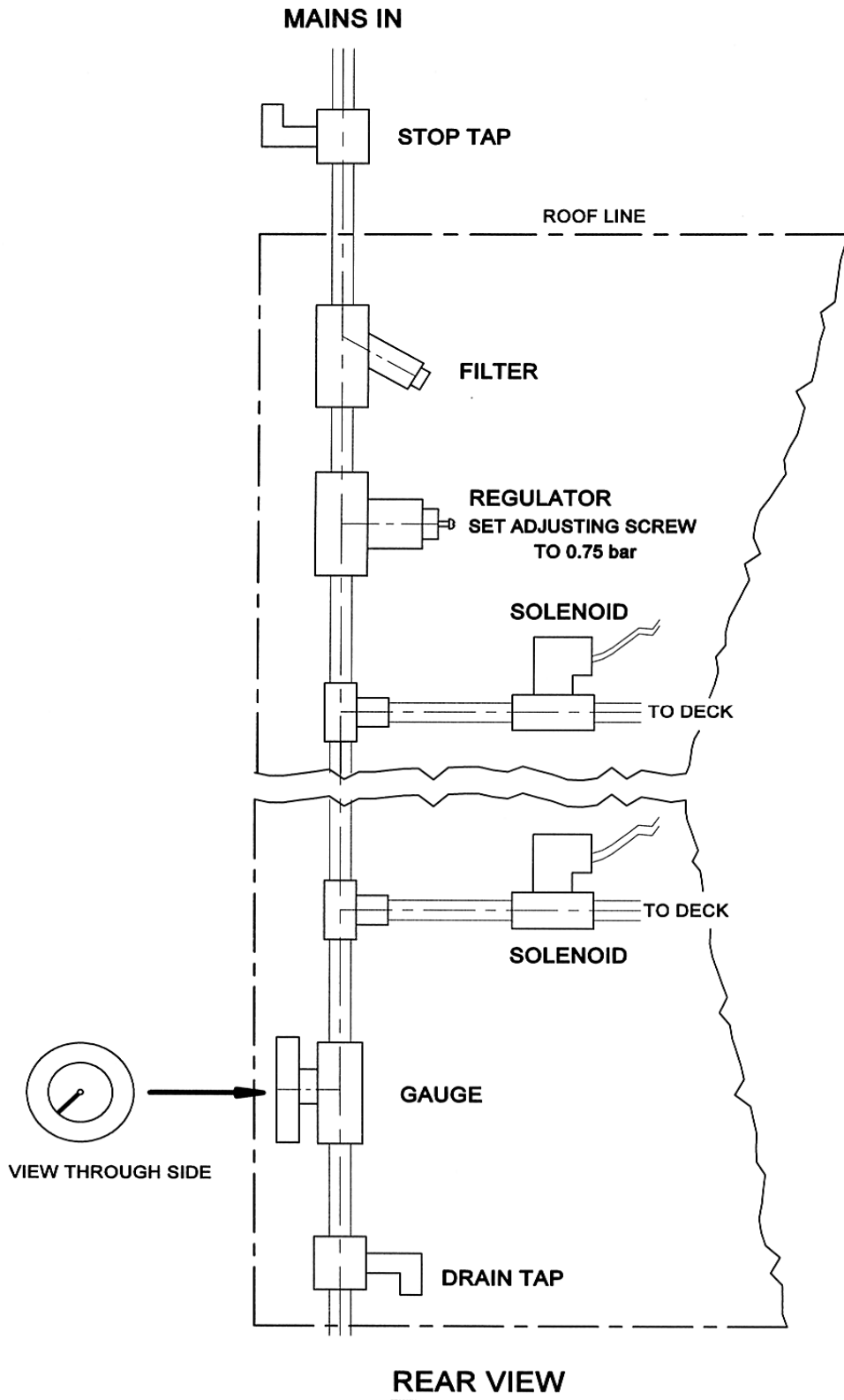
# Exhaust Connections (if canopy fitted)

- Ideally, an exhaust duct should rise 2 metres above the bakery roof and be protected from wind and birds by a duct protector.

- It should be of a suitable material to take the high temperatures and humidity expected.

- It should be flexible and easily removable at the oven connection point.
  This allows the oven to be moved for cleaning when required.

Figure 2: Canopy (without fan) dimensions
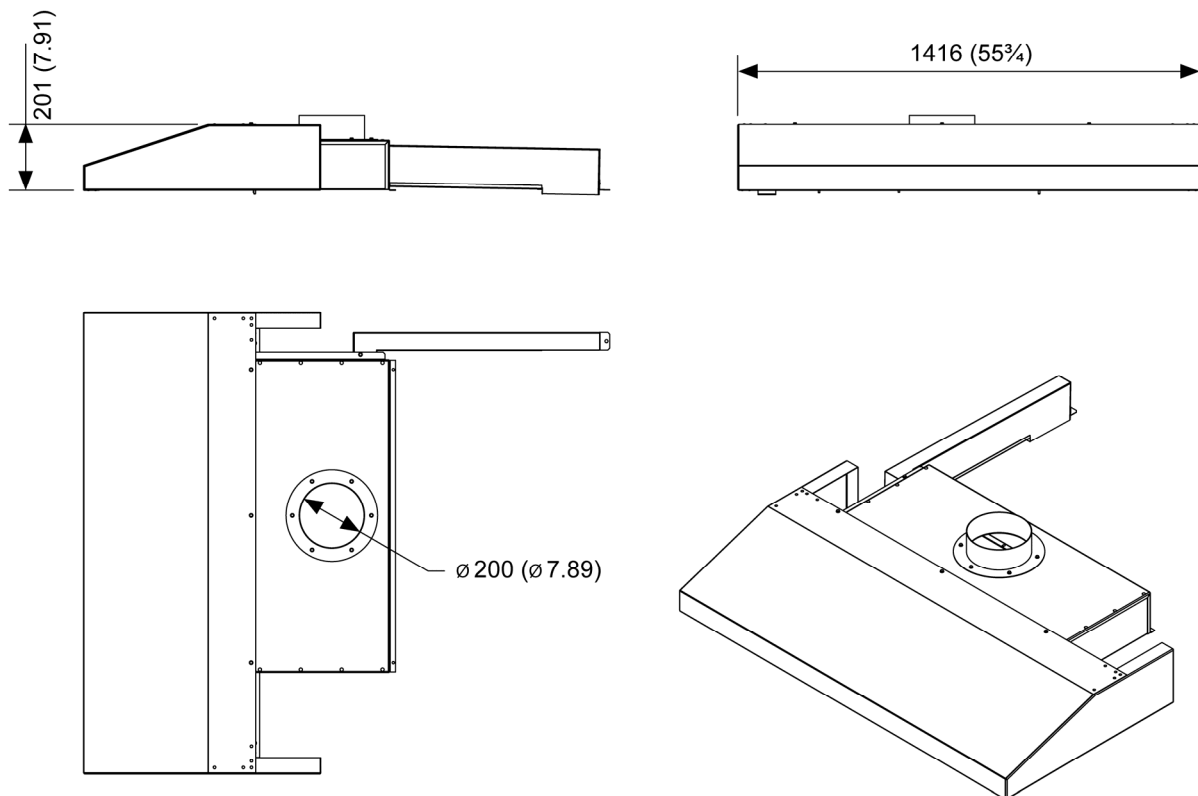
Dimensions are in mm (inches)

Figure 3: Canopy (with fan) dimensions
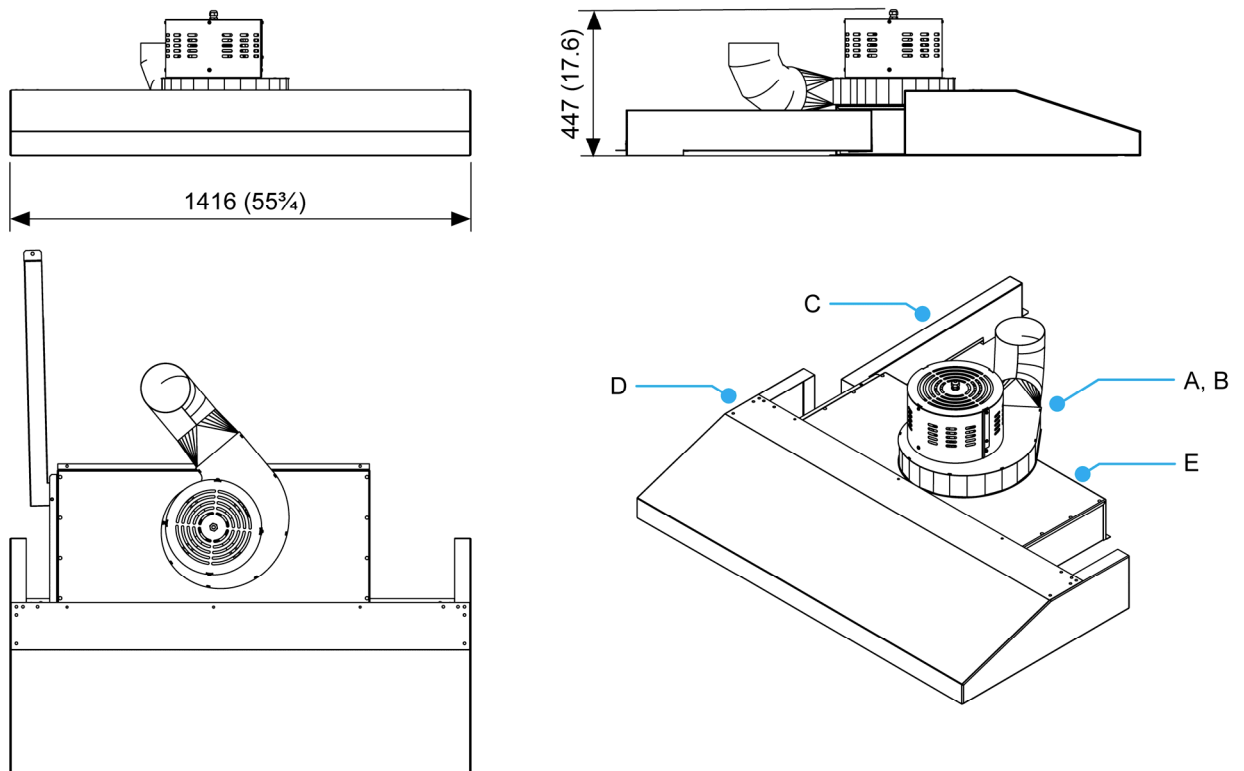
Dimensions are in mm (inches)

Table 1: Canopy parts

Item		Part number
A	Extraction fan assembly	247-08-04900
B	Inlet ring	247-08-05100
C	Flue assembly	257-10-00010
D	Canopy assembly	257-10-00016
E[1]	Extraction duct assembly for 2-tray oven width	257-10-00022

[1] Contact MONO Equipment for the availability of other extraction duct assemblies.

5. Isolation

To stop the oven in an emergency, switch off at the main isolator.

A wall-mounted isolator switch, rated for the specific model of oven installed, must also be available to isolate the oven completely in an emergency. The isolator must be clearly accessible and known to the oven operator.

Main isolator

Main isolator switch = I (on)
(not isolated)

Main isolator switch = 0 (off)
(isolated)
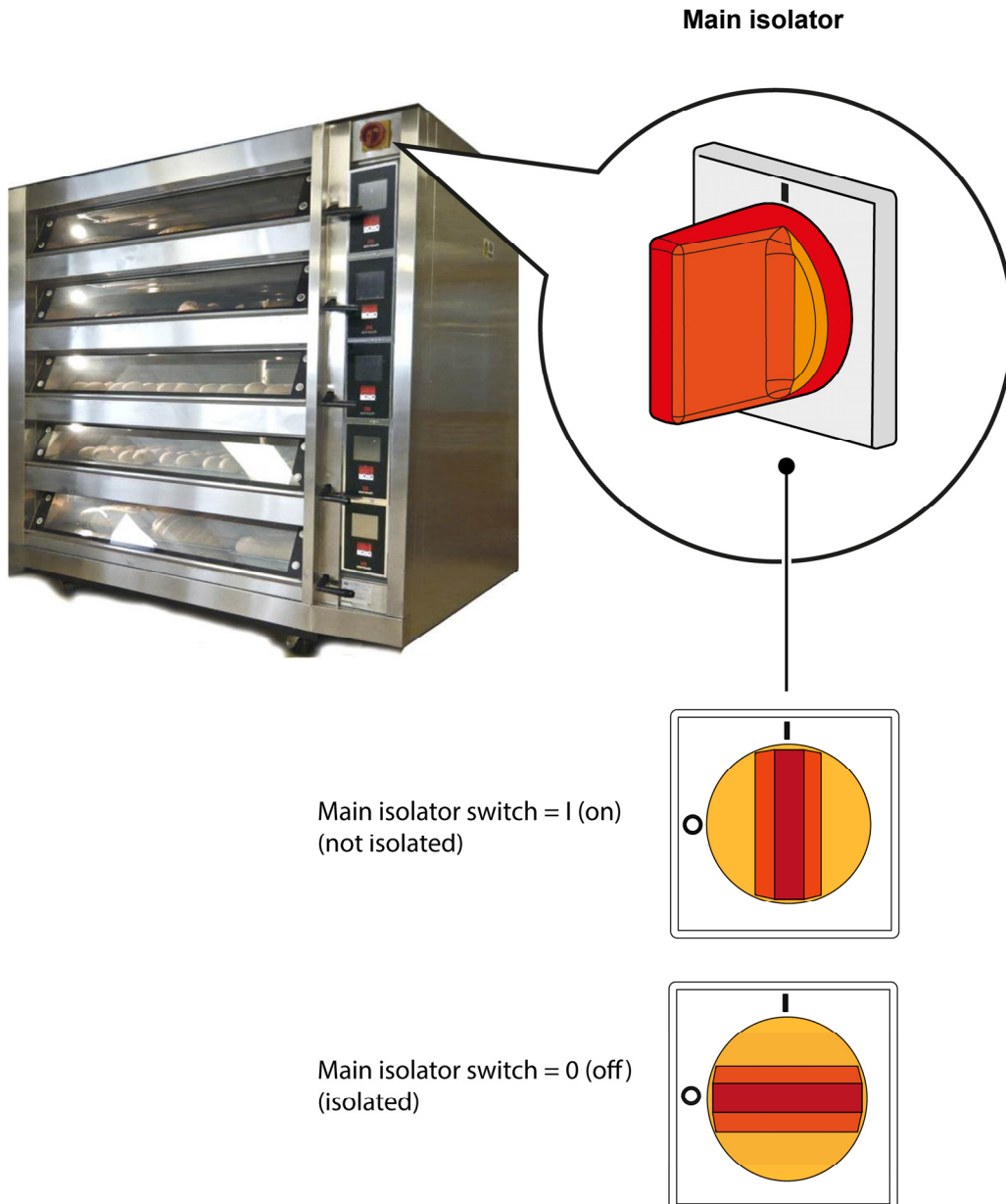
6. Cleaning

Daily cleaning instructions

⚠️ **Isolate the oven from the mains supply before cleaning.**

⚠️ **Take care water does not enter the control-panel mounting or roof-mounting fan.**

Procedure

1. Sweep any debris out of the oven and prover **after** they have been allowed to cool.

   Note: Use a vacuum cleaner with metal attachments (i.e., able to take the heat), if available.

2. Brush and scrape off any flour and dough adhering to the prover cabinet inner surfaces. Use only a stiff brush or plastic scraper.

3. Brush down and wipe oven front, back and sides with a damp cloth.

4. Spot clean outside with a damp cloth, which has been soaked in a solution of mild detergent, and hot water, paying particular attention **to ensure excess water is not applied around the area of the electrical panels and switches.**

Weekly cleaning instructions

⚠️ **Isolate the oven from the mains supply before cleaning.**

⚠️ **Take care water does not enter the control-panel mounting or roof-mounting fan.**

⚠️ **Do not stand on the roof.**

Procedure

1. Complete the daily cleaning procedure, as above.

2. Use a nylon brush to scrub the wheels with a mild detergent and hot water.
   Note: Using too much water eventually rusts the metalwork.

3. Ensure the oven roof area is clear of debris and dust build-up.

7. Operating Conditions

- Leave a clear space of at least 2 metres (6 ft.) in front of the oven for ease of operation and safety reasons.
- Do not use bakery utensils to operate the control panel buttons.

8. Principal of Oven Operation

Note
Operators should refer to their own company's recipe manual for the oven temperature settings.

Baking heat

Products bake in an insulated, heated chamber with the temperature regulated by a thermocouple. A digital temperature read-out is visible on the control panel screen. Baking heat is radiant, with top and bottom heat adjustable by separate controls. This technology enables heat to be "balanced" according to product requirements.

Steaming function

Steam is provided from an integral steam unit and injected into the chamber on demand. Programmed parameters automatically control this function.

After being steamed, the oven does not allow more steaming until the steam unit has recovered heat, typically for 3 to 10 minutes, depending on the selected program.

All deck ovens have a steam damper that evacuates steam humidity into a vent at the rear of the oven.

Baking advice

Advice for getting the best results from deck ovens:

Loading

1. **Do not place the products too close together**. *If the loaves are close to each other after the oven spring (expansion), it results in soft sides and may collapse on cooling.*

2. **Place the product evenly within the oven**. *Products bunched together are paler than those widely spaced.*

3. **Products should not be too close to the edge of the tile**. *As it expands towards the front, one side of the loaf may enter the cooler air by the door.*

4. **Door-opening should be kept to a minimum** *because cold air enters the oven. Cooling of the sidewalls and roof causes the finished product to be lighter locally at the front and wastes heat. If loading times are consistently long, alter the front-top heat to put more heat at the front.*

5. **The product can form a skin if the loading takes a long time**, *which causes an imbalance and a less attractive finish. By using the pre-steam function before loading, this can be minimised. The steam function turns the elements off and injects steam to increase the humidity.*

Bake settings

1. A good starting point for baking bread in Mono deck ovens is **225 °C** (437 °F).

   Top heat: 60 to 65   **Bottom heat:**   40

2. For cookies (and similar products), the oven's heat can be turned almost off. However, it may still be necessary to place the trays with, e.g. cookies, onto upturned trays on the oven sole.

3. **Steam** should be kept to a minimum for energy efficiency, depending on the product and finish. **Times of between 9 and 12 seconds should be adequate**. It is a good idea not to focus on the temperature recovery – this can vary from oven to oven.

Is the product baked in the time and to the quality you require?

Below are some tips for modifying the bake to get the product that you require.

- If your product is **light on top**, decrease the bottom heat and extend bake time or increase the top heat.

- If the product **sides are pale** and the **top dark**, space the products well apart, drop the top heat, and extend the bake time.

- **If the bake time is too long,** first increase the top heat to speed recovery. If this does not give sufficient savings, increase the baking temperature.

- **To thicken the crust**, set the damper to be open for longer. Different ovens require different lengths of time.

9.   Touchscreen Operation

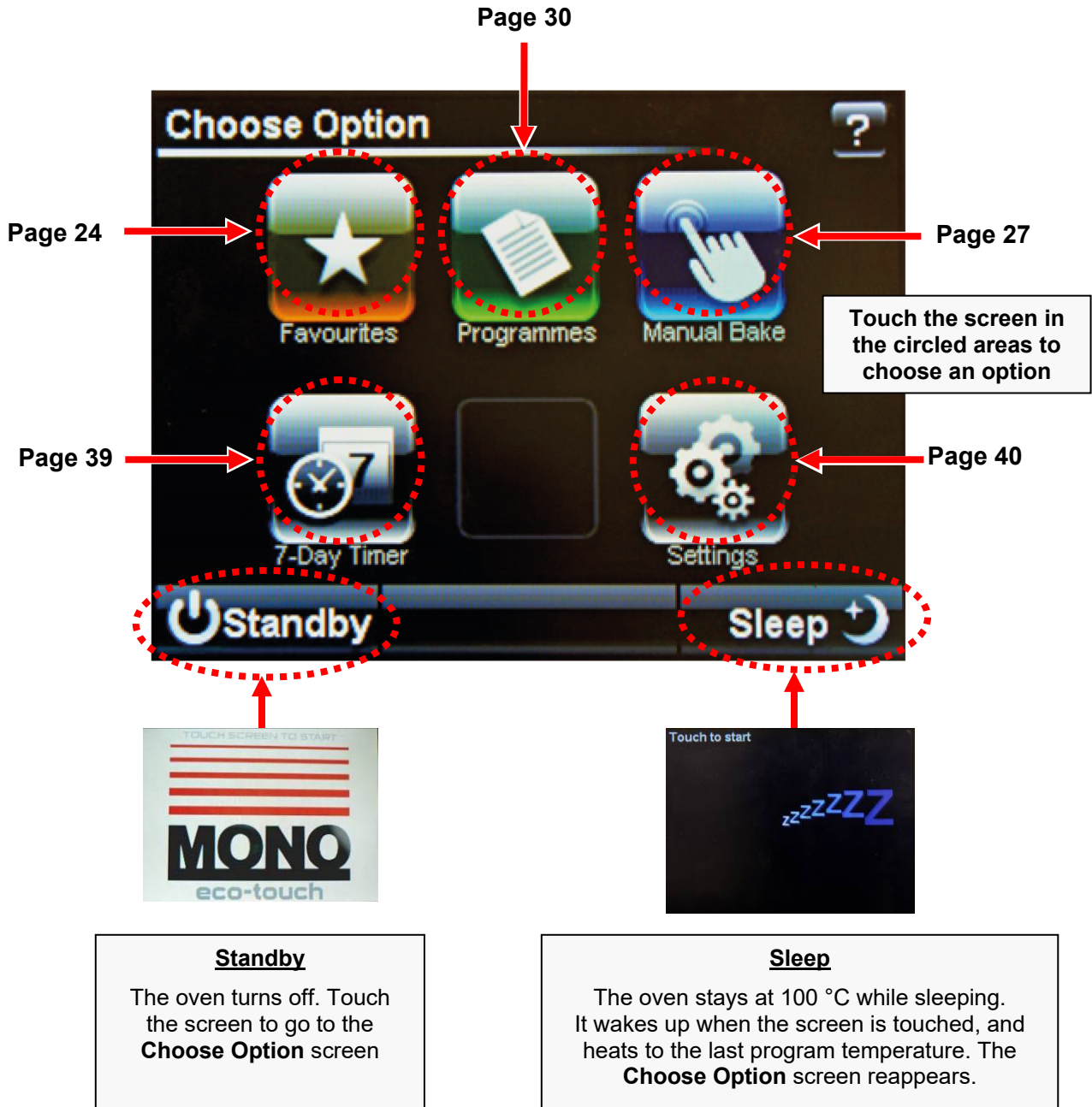Each deck has an independent, colour touchscreen for operating the oven.
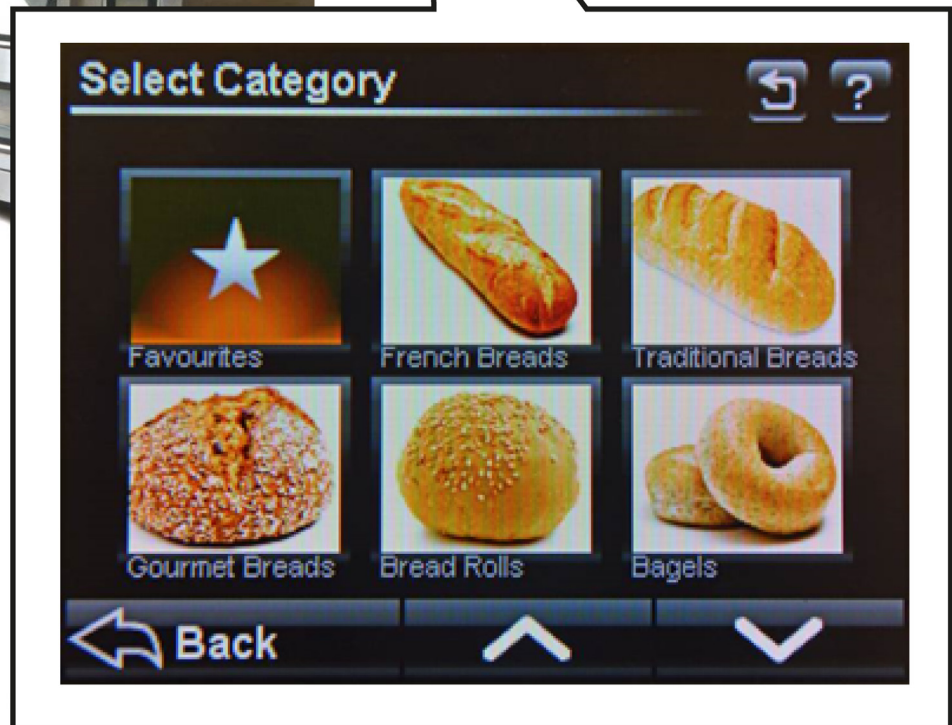
Basic operation

Operations are performed by touching an area of the screen, bringing up the next information panel or activating a function.

⚠️ **Do not use excessive force.**
The pressure required to operate the panel is adjustable in the **Settings**.

Page 30

Page 24 ➡️

Page 27

Touch the screen in the circled areas to choose an option

Page 39 ➡️

Page 40

Standby

The oven turns off. Touch the screen to go to the **Choose Option** screen

Sleep

The oven stays at 100 °C while sleeping. It wakes up when the screen is touched, and heats to the last program temperature. The **Choose Option** screen reappears.

Baking using the "Favourites" menu

Touch to open the **Favourites** selection screen	**1**

OPTION SCREEN

Touch the name of the product required	**2**

Up to 5 products are listed on a page. Touch the **UP-ARROW** or **DOWN-ARROW** to see other pages of products

SELECTION SCREEN

Touch **Full Load** or **Half Load** to select a quantity (This screen only appears if a half load is saved in the program)	**3**
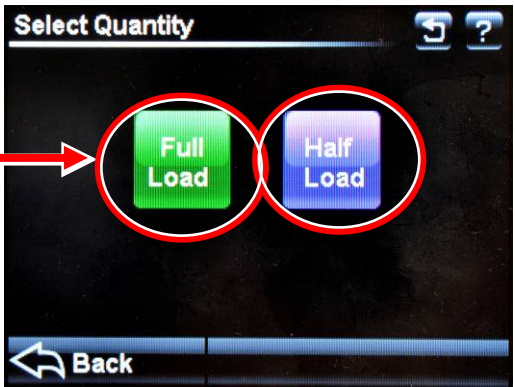
Touch the **Back** button to return to a previous screen

LOAD SCREEN

MONO

Wait for the oven to reach the required temperature (200 °C in this example) (The **Heating** message remains on the screen while the oven is heating up)	**4**

If the oven is too hot for the temperature chosen, the screen tells you to open the door for cooling. **Take care to avoid burns.**
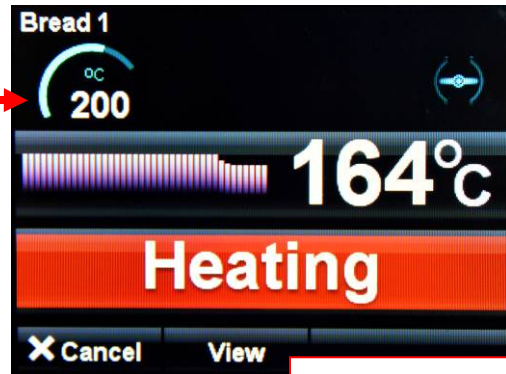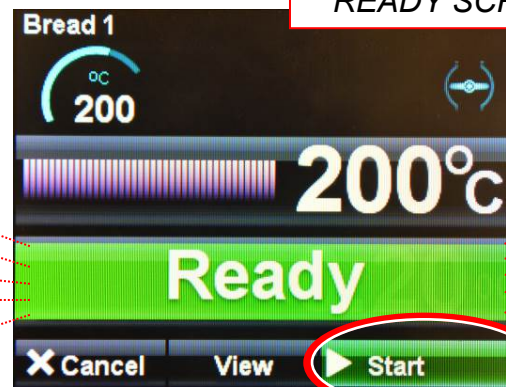
HEATING SCREEN

READY SCREEN

When the oven is at the correct temperature, the message changes to **Ready.** Now: **5.1.** Open the door and carefully load the oven with the prepared trays of product. **5.2.** Fully close the door. **5.3.** Touch the **Start** button.	**5**

Tip! To help keep the oven hot, avoid opening the door more than needed.

The **Bake In Progress** screen shows the baking time remaining	**6**

Actual oven temperature
(This will rise and fall near to the required temperature)

Required temperature

Temperature profile bar

Bake time progress bar

Baking time remaining

Note: The actual temperature shown will rise and fall above and below the required temperature as the oven cools and reheats. **This is not a fault.**

BAKE OVER SCREEN

At the end of the bake time, a sounder will be heard and **Bake Over** will flash. Now:

7.1. Touch the **Stop** button.

7.2. Open the door.

7.3. Carefully remove the trays of product.

7

Note! To keep the oven baking for extra minutes, touch the **+ 2 mins** button. This time can be adjusted in the set up.
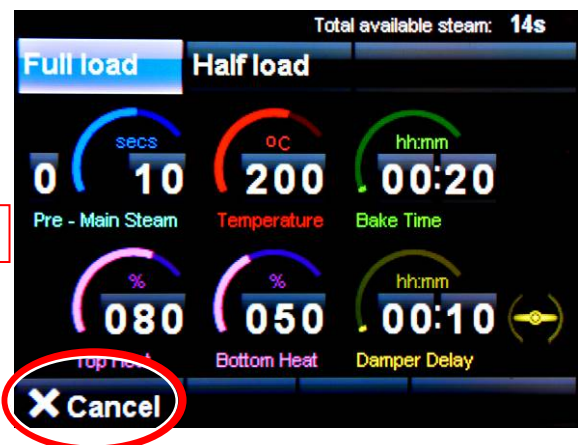
Touching the View button during a bake (optional)

Touch the **View** button during a bake to show the settings for that particular bake.

Touch the **Cancel** button to go back to the previous screen. (It does not cancel the bake).

VIEW SCREEN

Baking using the "Manual Bake" menu

	1
Touch to open the **Manual Bake** screen	

OPTION SCREEN

MANUAL BAKE SCREEN

|	2
Set the top and bottom heat **2.1.** Touch a **%** button on the screen to activate the keyboard screen. **2.2.** Key in the required percentage of heat. **2.3.** Touch **OK**.	

	3
Set the bake temperature **3.1.** Touch the temperature to activate the keyboard screen. **3.2.** Key in the required temperature. **3.4.** Touch OK.	

	4
Set the bake time (optional) **4.1.** Touch the time to activate the keyboard screen. **4.2.** Key in the required time. **4.3.** Touch **OK**.	
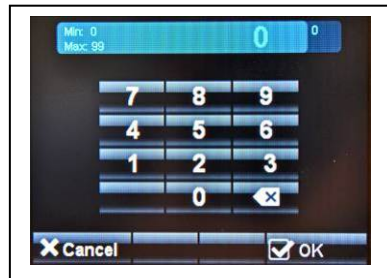
Note: The bake time does not have to be set in manual mode. When **Start** is pressed, the timer increases instead of counting down. Touch **Stop** to finish the bake.

Set the Steam Time and Damper (if required)   (Manual Bake)

Steam **5**

Touch and hold for the time (seconds) steam is required.

(This can be used before or during the bake)

Damper **6**

Touch to set the Damper to open during the bake. (Icon changes colour to green)

Touch again to close the Damper. (Icon changes colour to red)

MANUAL BAKE SCREEN 2

Cancel

Touch at any time to return to the **Options** screen.

Touch **Start** to begin the bake. **7**

Touch **Stop** when the end-of-bake buzzer sounds or when required time was entered. **8**

Save (keep) the Manual Bake Program   (Manual Bake)

MANUAL BAKE SCREEN 3

Save settings

Touch **Save** to show an option screen.

(If no time was entered at the start of the bake, when **Stop** is touched at the start of the bake **Save** appears at the bottom of the screen)

9

10 | Touch **Add to favourites** or **Save As…**

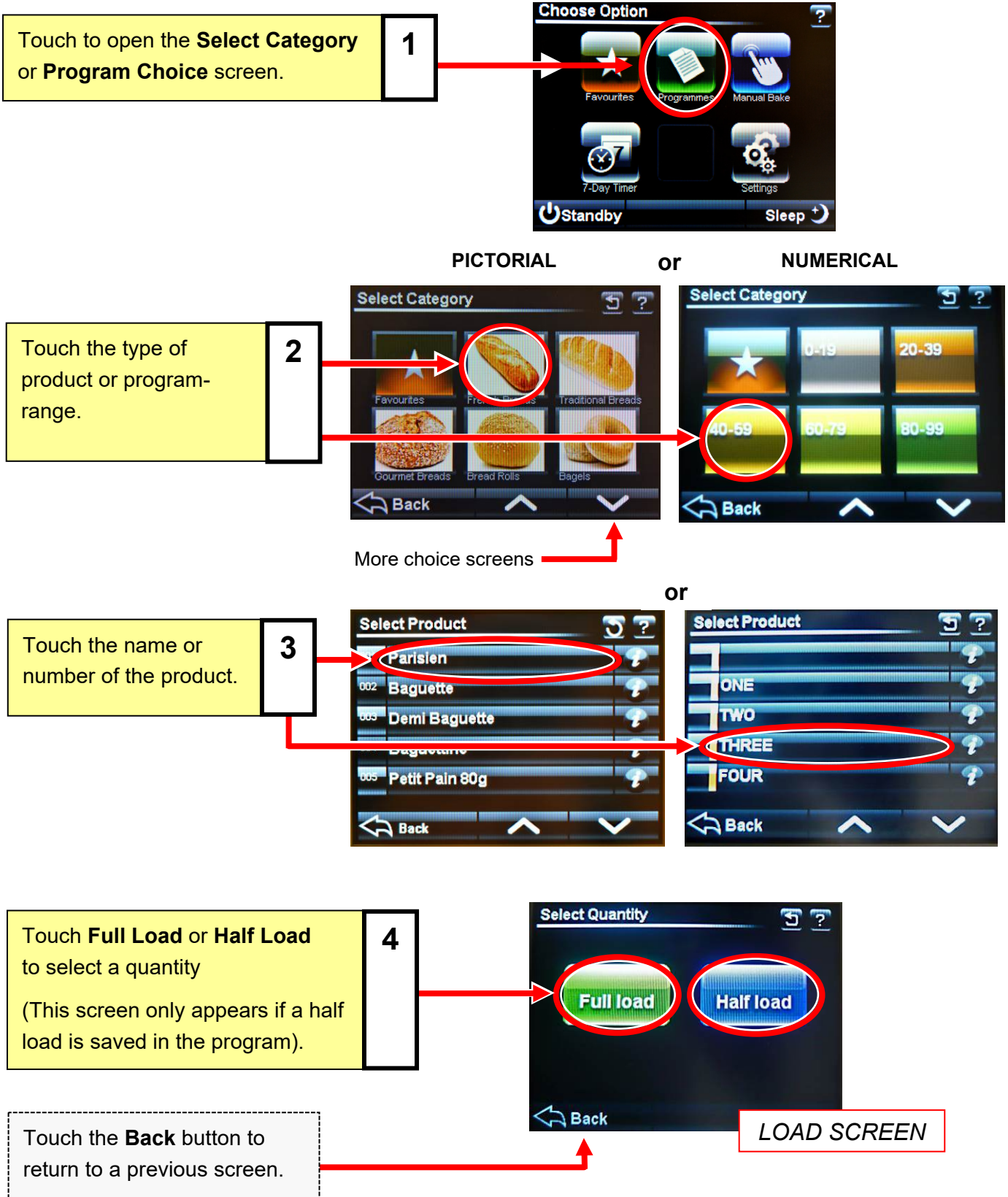**11** | Use the keyboard to type the required name and touch **Save**.

Note: In manual mode, only one operation of the steam or damper is saved.

Baking using the "Programmes" menu

Note: This manual covers two versions of the firmware. (The oven is pre-set to show one only).

- **PICTORIAL** version shows choices of product categories
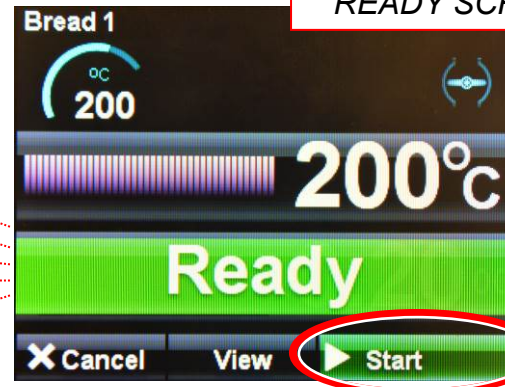- **NUMERICAL** version shows ranges of program numbers

Touch to open the **Select Category** or **Program Choice** screen.	**1**

PICTORIAL   or   **NUMERICAL**

Touch the type of product or program-range.	**2**

More choice screens

or

Touch the name or number of the product.	**3**

Touch **Full Load** or **Half Load** to select a quantity (This screen only appears if a half load is saved in the program).	**4**

LOAD SCREEN

Touch the **Back** button to return to a previous screen.

	5
Wait for the oven to reach the required temperature (200 °C in this example). (The **Heating** message remains on the screen while the oven is heating up).	

If the oven is too hot for the temperature chosen, the screen tells you to open the door for cooling. **Take care to avoid burns.**
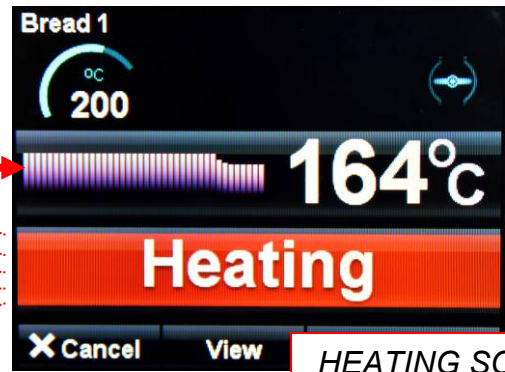
HEATING SCREEN

READY SCREEN

	6
When the oven is at the correct temperature, the message changes to **Ready.** Now: 6.1. Open the door and carefully load the oven with the prepared trays of product. 6.2. Fully close the door. 6.3. Touch the **Start** button.	

	7
The **Bake In Progress** screen shows the baking time remaining.	

Actual oven temperature (This will rise and fall near to the required temperature)

Required temperature

Temperature profile bar

Bake time progress bar
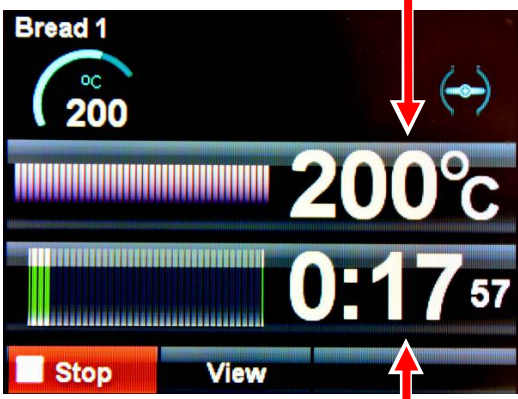
Baking time remaining

Note: The actual temperature shown will rise and fall above and below the required temperature as the oven cools and reheats. **This is not a fault.**

At the end of the bake time, a sounder will be heard and **Bake Over** will flash. Now:

8.1. Touch the **Stop** button.

8.2. Open the door.

8.3. Carefully remove the trays of product.

8

Note: To keep the oven baking for extra minutes, touch the **+ 2 mins** button. This time can be adjusted in the set up.

Touching the View button during a bake (optional)

Touch the **View** button during a bake to show the settings for that particular bake.

Touch the **Cancel** button to go back to the previous screen. (It does not cancel the bake).

VIEW SCREEN

Creating a bake program

Touch **Programmes** to open the **Select Category** screen.	**1**
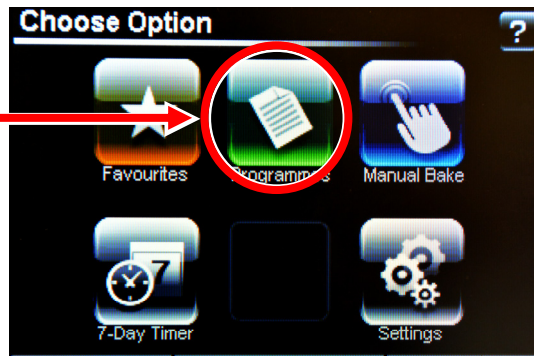
OPTION SCREEN

Touch the type of product wanted.	**2**

CATEGORY SCREEN

Touch the "*i*" button next to the blank program to open the **Product Information** screen.	**3**

SELECT SCREEN

Enter the Supervisor passcode   **(Creating a Bake Program)**
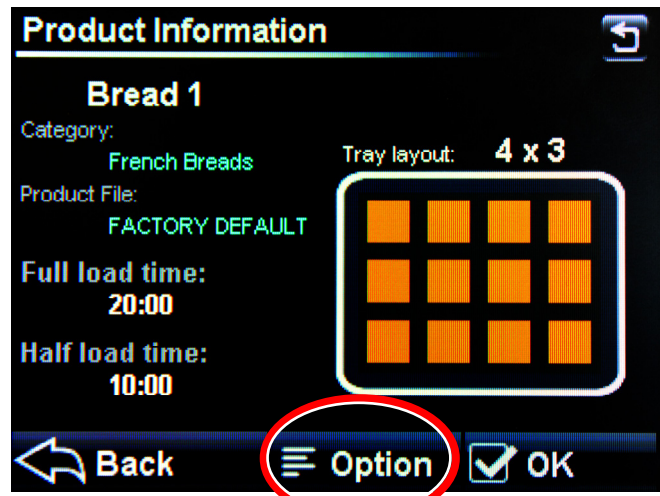
Touch **Option** to open the Pass Code screen.	**4**

PASS CODE SCREEN

Enter the Supervisor pass code and then touch **OK**.	**5**

Note: Default code = 123456. This can be changed in the Settings menu).

Enter the product bake details   (Creating a Bake Program)

Touch **Change product**. | **6**

Choose Option
- > Add to favourites
- > Change product title
- > **Change product**
- > Change tray layout
- > Save As...

Back
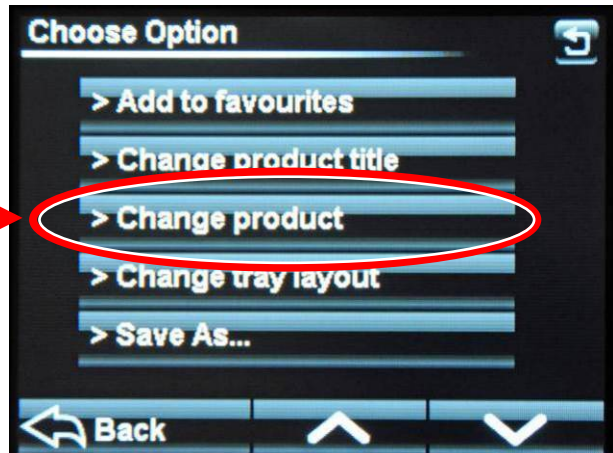
Load type

VALUE CHANGE SCREEN

Enter amount required
and touch Done

Total available steam: **14s**

Full load   **Half load**

secs   °C   hh:mm
0   10   200   00:20
Pre - Main Steam   Temperature   Bake Time

Increase

Or use keypad

Decrease

%   %   hh:mm
080   050   00:10
Top Heat   Bottom Heat   Damper Delay

Cancel   Save

Min: 50   Max: 250   201   0
7   8   9
4   5   6
1   2   3
0
Cancel   Done

7

Touch an item and then change the value by using the **UP-ARROW** and **DOWN-ARROW** keys, or the **keypad**.

Touch **Half load** to changeover to the half-load settings, if required.
To change back to the full-load settings, touch **Full load**.

Touch **Save** when satisfied with the settings.

Changing the tray layout   (Creating a Bake Program)

Touch **Change tray layout** | 8

OPTION SCREEN

Touch here to adjust the number of products **across** the tray | 9

Touch here to adjust the number of products **down** the tray | 10

Increase value

Decrease value

When satisfied with the tray layout, touch **Save** to return to the options screen | 11
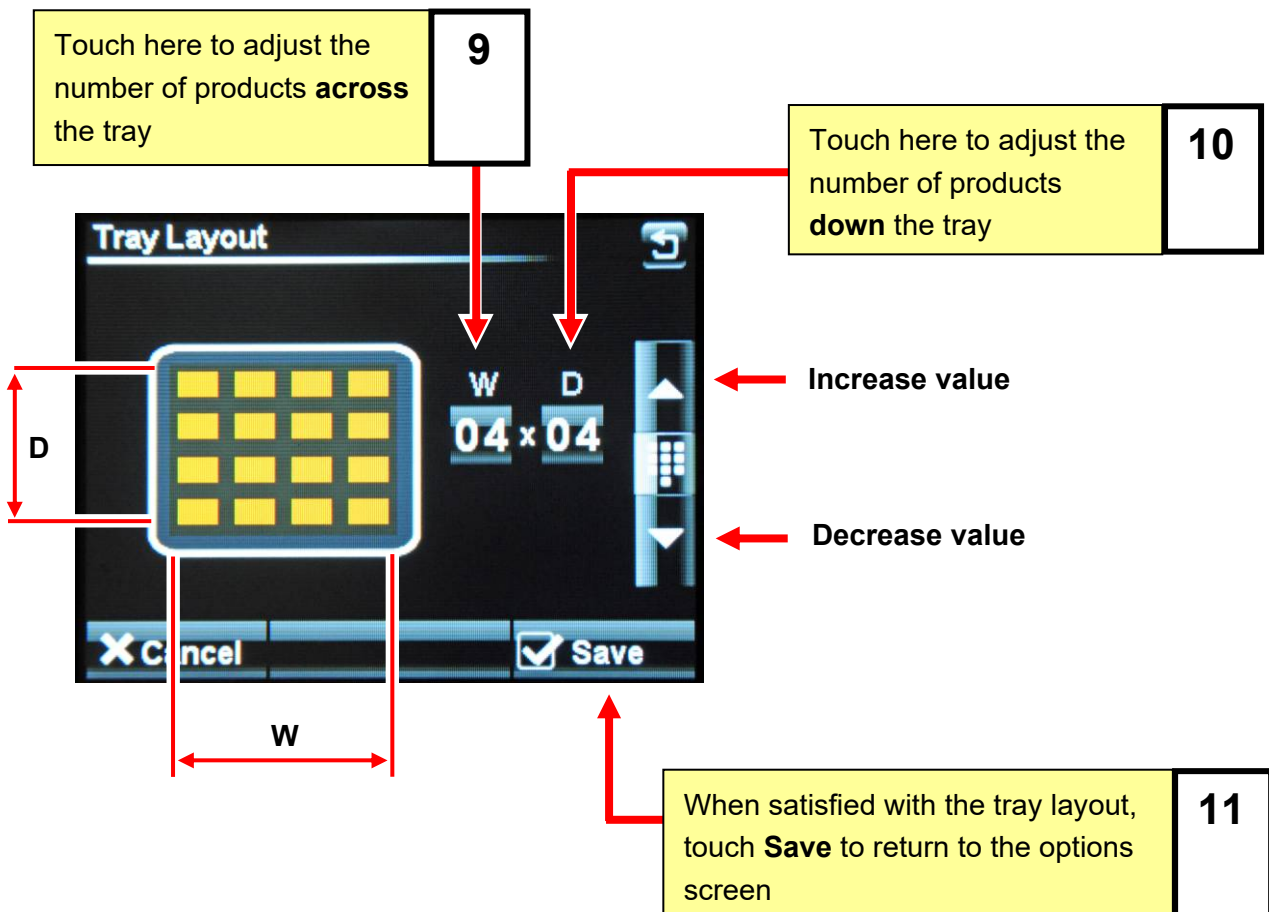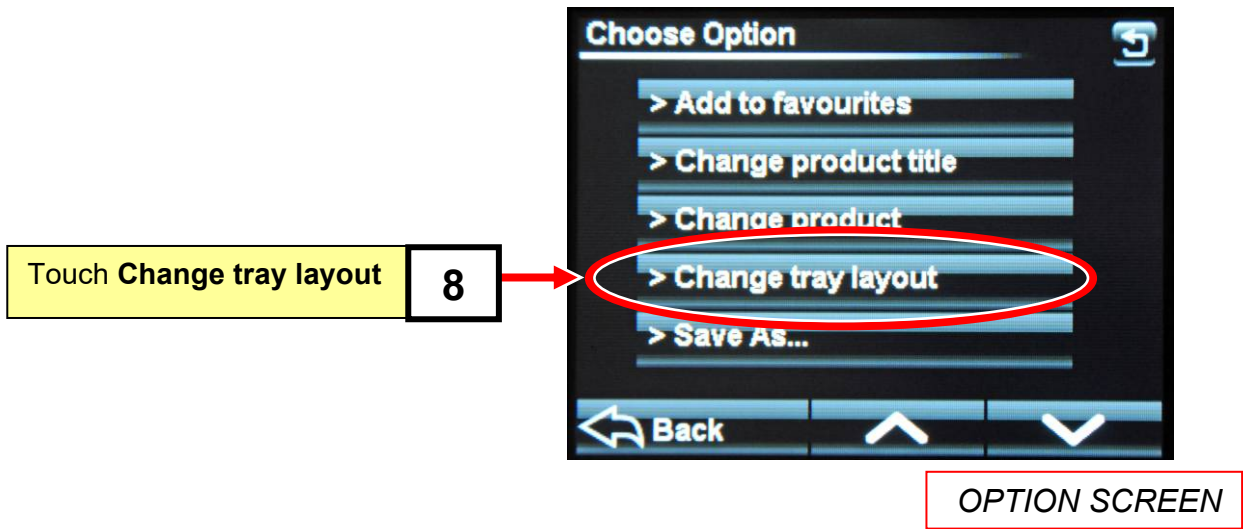
Save the product   (Creating a Bake Program)

OPTION SCREEN

| Touch **Save As…** | **12** |
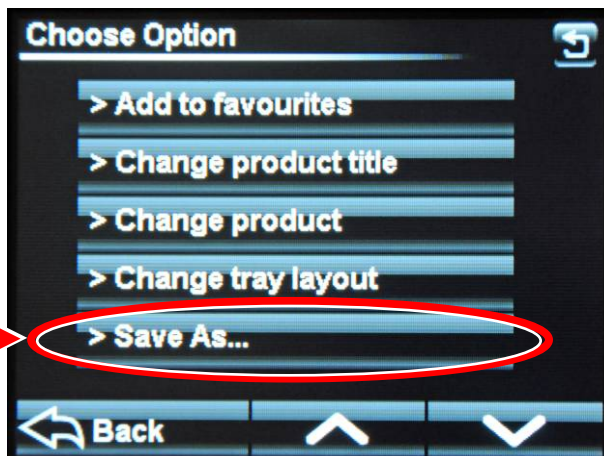
KEYBOARD SCREEN

| Type in the new name and touch **Save**. | **13** |
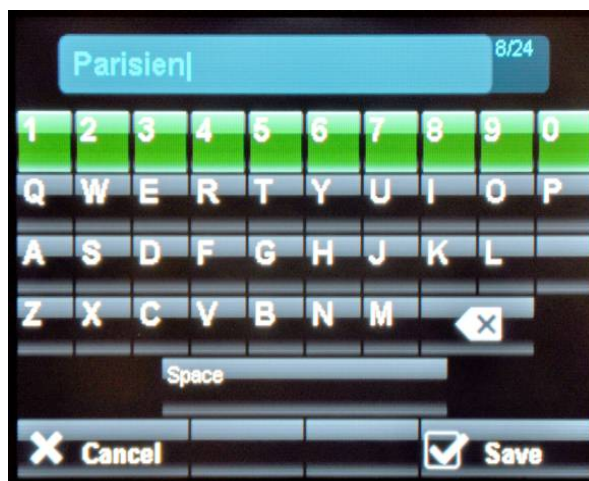
Add a product to the favourites list (optional)

Touch the type of product wanted to open the **Select Product** screen.	**1**

CATEGORY SCREEN

Touch the "*i*" (information) button next to the product you want as a favourite. (This opens the **Choose Option** screen)	**2**

SELECT SCREEN

Touch **Add to favourites**. (The product now appears on the favourites list).	**3**
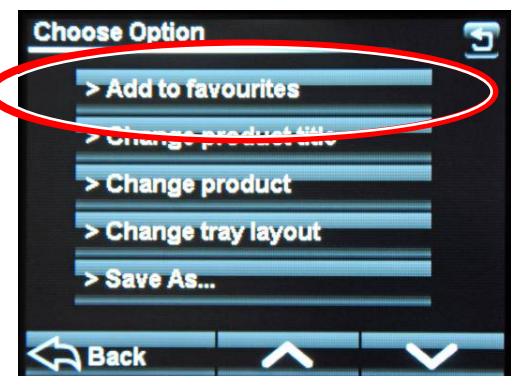
OPTION SCREEN

7-day timer

Touch **7-Day Timer** to open the setup screen.	**1**

OPTION SCREEN

Touch a day. (Sunday is highlighted in this example).	**2**

TIMER SETUP SCREEN

Set the **On** times. Touch the hours, and then use the arrow buttons. Repeat for the minutes.	**3**

Increase the time

Decrease the time

Set the **Off** times. Touch the hours, and then use the arrow buttons. Repeat for the minutes.	**4**

Repeat steps **2** to **4** for each required day. Touch **Save** to activate the 7-day timer.	**5**

Note:

Up to four on/off times can be set for each day.

Touch "**clear**" to clear the settings on the day shown.

Settings

OPTION SCREEN

| **1** | Touch **Settings** to open the settings menu screen. |

PASS CODE SCREEN

| **2** | Enter the Supervisor pass code and then touch **OK**. |

Note: Default code = 123456. This can be changed in the Settings menu).

| **3** | Choose the settings to alter. |
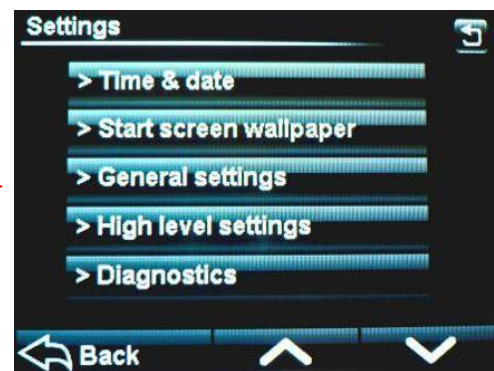
SETTINGS SCREEN

Set time and date   (Settings)

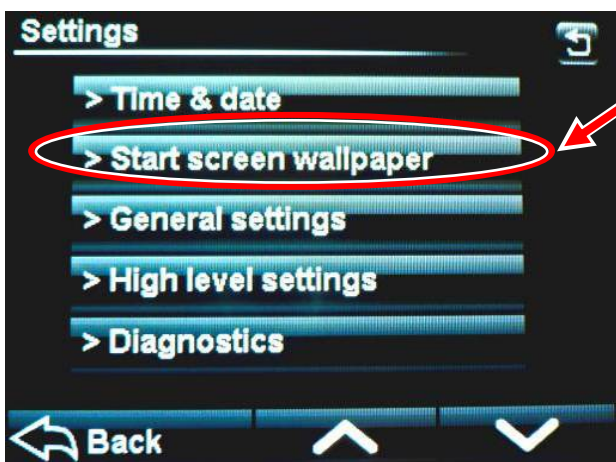Touch the screen to highlight the item to be changed (e.g. "12" hours).

1

TIME AND DATE SCREEN

Time & Date

Time (hh:mm:ss)	12 06 : 32
Day	Wednesday
Date	01
Month	May
Year	2013

✕ Cancel   ☑ Save
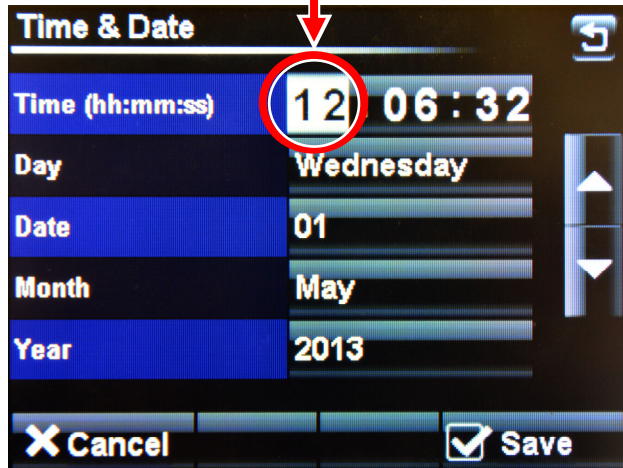
2

Use the **UP-ARROW** and **DOWN-ARRROW** buttons to change the value of the item.

Touch **Save** when the date and time are correct. The Settings menu will then open again.

3

Select a wallpaper for the start screen   (Settings)

Settings

> Time & date
> Start screen wallpaper
> General settings
> High level settings
> Diagnostics

⇐ Back

Touch **Start screen wallpaper**.

1

Touch a wallpaper to select it. Touch **Back** to confirm.

2

Select Screen

MONO Eco Default | MONO Eco Colour1 | MONO Eco Colour2
Abstract | Wheat field | Sunflowers

⇐ Back
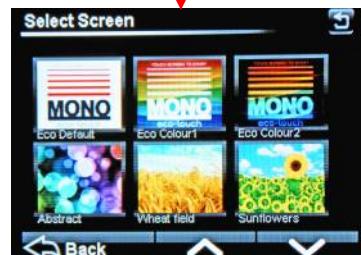
Use the arrow keys to see more wallpapers.

General oven settings   (Settings)

See **Table 2** for a guide to each oven setting.

SETTINGS SCREEN

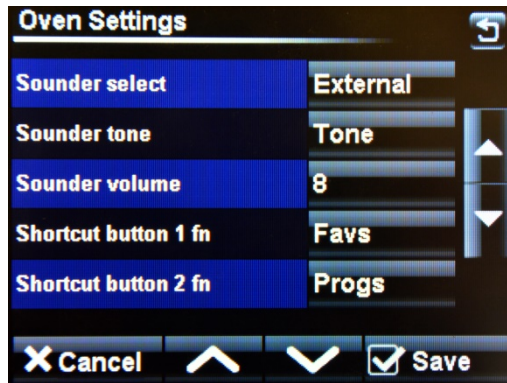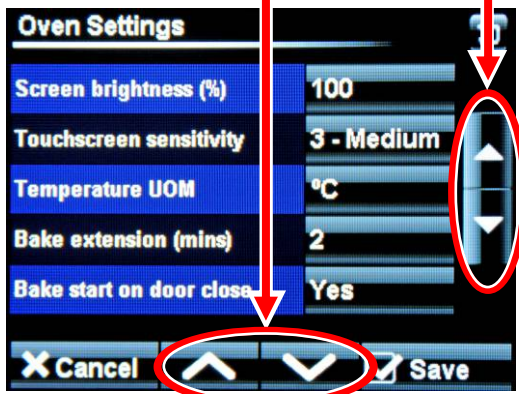Touch **General settings** to open the **Oven Settings** screen.

1

Use the arrow buttons to scroll through all the options. Change each one as required.

2
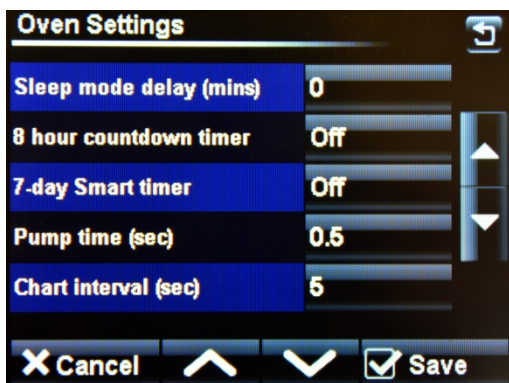
Table 2: Oven settings explained (general level)

Oven setting	Explanation of the settings	Default
Screen brightness	Adjusts the brightness level of the viewing screen. Settings are 5 to 100.	100
Touchscreen sensitivity	Adjusts the pressure required to operate the touch screen. (5 levels of sensitivity)	3 - Medium
Temperature unit of measure	Centigrade (Celsius) or Fahrenheit. Settings are **°C** and **°F**.	°C
Bake extension (minutes)	Adjusts the extra time at the end of a bake for each "extra time" button touch. Settings are **0** to **10** minutes.	2
Reselect product after bake	Resumes with the same product program without having to reselect it. Settings are **Yes** and **No**.	Yes
Sleep mode delay	The oven goes into sleep mode after the set minutes, providing it is up to temperature and has been through at least one bake cycle. Settings are **0** to **60**.	0
8-hour countdown timer	After 8 hours, the oven gives a warning and then turns off. Touch any button for an extra hour, if required. **Off** / **On**.	Off
7-day Smart timer	On = 7 -day timer fuction. Off = Controls set start time depending on oven temperature.	Off
Pump time (sec)	Increase pipe pressure before steaming. Settings **0.0** to **3.0**.	0.5
Chart interval (sec)	Time interval in seconds that the bars show on the heat and bake time progress charts. Settings are **1** to **60**.	5
Sounder select	Set as **External** or **Onboard** sounder.	External
Sounder tone	Select a tone – **Voice**, **Tone**, or **Off**.	Tone
Sounder volume	Adjust to suit the volume required for the onboard sounder. Settings are **0** to **15**.	8
Shortcut buttons 1 fn to 5 fn	It gives the choice of what buttons are active and in which order they appear on the options screen. Settings are **Fav** (Favourites), **Progs** (Programs), **Manual** bake, **Multi** bake, **7-Day** timer, and **[Blank]** (not used). (Settings for **6 fn** cannot be changed)	1 fn = Fav 2 fn = Progs 3 fn = Manual 4 fn = 7-Day 5 fn = [Blank]
Door open alarm	Turns the alarm on or off for when the door is opened during baking. Settings are **On** and **Off**.	On

High-level settings   (Settings)

See **Table 3** for a guide to the high-level settings.

SETTINGS SCREEN

	1
Touch **High level settings** to open the settings screen.	

	2
Enter the High Level passcode and then touch **OK**.	

PASSCODE SCREEN

	3
The **High Level Settings** menu screen then appears. Use the arrow buttons to scroll through all the options. Change each one as required.	

Change the Supervisor passcode

Change the High Level passcode
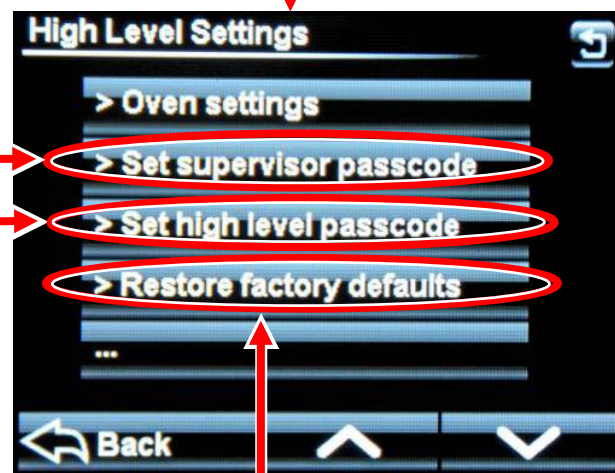
Touching **Oven settings** takes you to the settings menu. See **page 45** for guidance.

Restores all screens to original (factory default) settings

Table 3: Oven settings explained (high level)

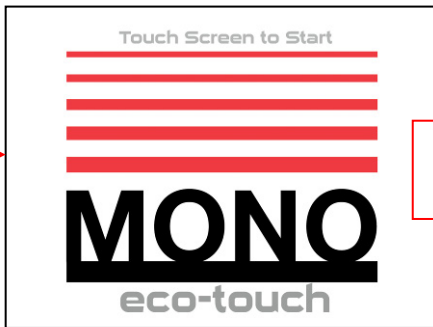| Oven setting	Explanation of the settings	Default
Oven type	Always fixed to **DX** for this oven.	DX
Maximum bake temperature	It can be set **from 250 °C (480 °F)** up to **300 °C (572 °F)**.	250 (°C) or 480 (°F)
Temperature offset	Adjusts the display of the actual temperature in the oven. Usually, this is kept set to **0**.	0
Bake hysteresis	Sets bake temperature cycling around a set point. (Above and below. Settings for above/below thresholds are **1** to **20**.	2
Bake cycle setpoint only	No = Shows the set temperature point and actual temperatures on screen Yes = Shows the set temperature point only	No
Manual default temperature	Set for manual program default temperature.	150 (°C) or 302 (°F)
Sleep fallback	Set the temperature required to be maintained by the oven while sleeping. Setting are **100** to **200 (°C)** / **212** to **392 (°F)**.	170 (°C) or 338 (°F)
Sleep hysteresis	Keeps "sleep mode" temperature cycling around a set point. Settings for above/below thresholds are **1** to **20** (°C).	2 (°C)
Ready accept high	The highest temperature for the oven to display "Ready".	15
Ready accept low	The lowest temperature for the oven to display "Ready".	-10
Steam type	**Plate** or **Spray** – but keep this set to **Plate**.	Plate
Top gain	Top and bottom heat gains. Settings are **0** to **255** °C (**32** to **491** °F)	50 (°C) or 122 (°F)
Bottom gain		
Mono constant	Factory set. Do not change unless instructed to do so.	(Factory)
Steam trough temp.	*Not applicable to this oven.*	
Steam hysteresis	*Not applicable to this oven.*	
Steam trough accept	*Not applicable to this oven.*	
Light output soft start	Some lights need this for a cold start-up to stop them blowing.	Off
Heater control	Always fixed to the Contactor setting for this oven.	Contactor
I/P diagnostic	Displays inputs and outputs at the top of the screen to aid fault-finding.	Off

10.   Using the USB port

> ⚠️ **Never use this USB port to power or recharge electronic devices e.g., mobile phones. Incorrect usage causes damage to the oven and could result in a fire.**

Ensure the start screen is showing.	**1**

START SCREEN

Insert the USB memory stick into the socket on the oven panel. (A rubber plug may have to be removed first). **Note:** The USB stick only fits in one way. <u>Do not force it into the socket</u>.	**2**

Wait for the USB symbol to finish moving.	**3**

If old firmware is found, the firmware version screen will appear. **4.1.** Touch **OK** to update firmware. **4.2.** Wait until the eco-touch controller has restarted after the update is complete. **4.3.** Remove the USB stick **or** touch **Cancel** to choose other items to update or change. (See next page)	**4**

USB Drive

Firmware Version: 00.02 found

A newer version of the controller firmware has been found. Press OK to update the firmware or Cancel to quit without updating.

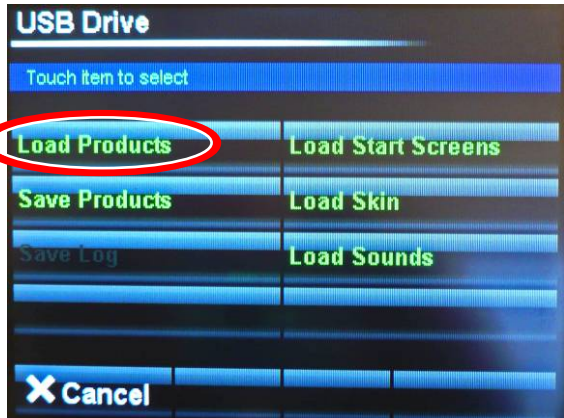The controller will restart once the update has been applied.

✗ Cancel   ☑ OK

Other items to update   (Using the USB port)

<table>
<tr><td>Choose action you would like to do (e.g. **Load Products**).</td><td>**5**</td><td></td></tr>
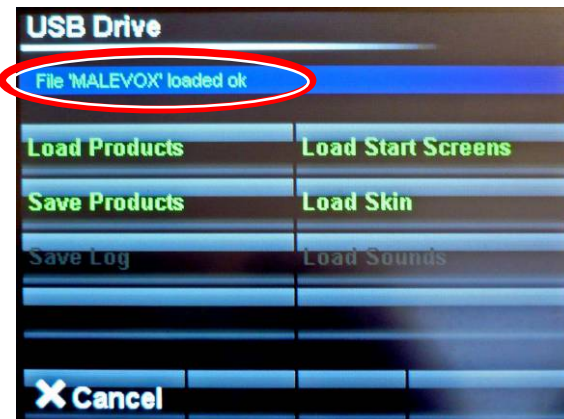</table>

<table>
<tr><td>Select the file required (e.g. **MALEVOX**).</td><td>**6**</td><td></td></tr>
</table>

<table>
<tr><td>Remove the USB stick when confirmation of "file loaded ok" is seen.</td><td>**7**</td><td></td></tr>
</table>

Notes on using USB sticks   (Using the USB port)

For a USB stick (pen drive) to function correctly on a Mono oven with a port, it must have the following folder structure as a root folder.

Mono

(Create 5 sub-folders within the **Mono** folder)

Firmware

Products

Skins

Sounds

Startup

The oven automatically finds the **Mono** folder after plugging the USB stick into the port.
Use any USB stick (as it does not need to be blank), but the Mono folder must be in the root.

Place your recipe and product files in the "**Products**" sub-folder. The most used sub-folders are **Product Files, Skins**, and **Startup Screens**.

SKINS

These files control the way the screen looks in different modes.

- **Pictorial** type skins are for when the screen displays categories using pictures.

- **Numerical** type skins are for when the screen displays categories using numbers.

PRODUCTS (PROGRAM FILES)

These files contain the information for baking each product, e.g. bread, buns, and cakes.

STARTUP SCREENS

These files show a picture or logo when the oven starts or wakes up.

(Intentional Blank Page)

11. Diagnostics
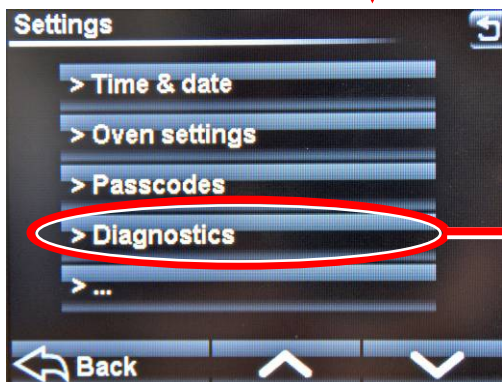
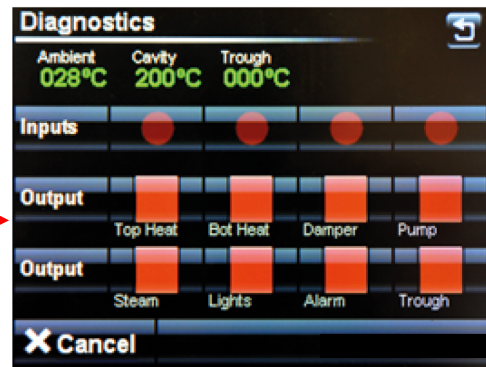Touch **Settings** to open the settings menu screen. **1**

OPTION SCREEN

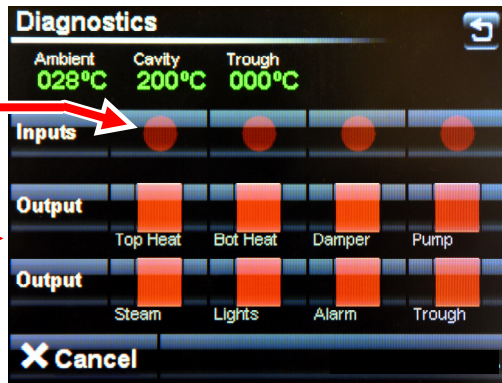Touch **Diagnostics** to open the diagnostics display. **2**

SETTINGS SCREEN

DIAGNOSTICS SCREEN

Inputs are highlighted when a signal is received, e.g. a door is open.

Touch the required output and a signal is sent to that item. The output being checked is highlighted when active. To stop the output, touch it again. **3**

(Intentional Blank Page)

12. Passcodes

Default passcodes

Table 4: Security level and passcodes

Security level	Passcode
Supervisor (low level)	123456 (default)
High-level	654321 (default)
Master	314159 (fixed)

> To stop unauthorised changes to the oven setup, it is suggested that this section is removed from this manual and kept in a safe place for future reference.
>
> If tampering could be a problem, it is a good idea to change the passcodes at regular intervals.

How to change the passcodes

Note: Passcodes are required to navigate through these screens and make changes.

Change the **Supervisor** passcode here

Change the **High-level** passcode here

13. Troubleshooting

None of the decks switched on

- Is the oven's main isolator set to the on (I) position?

- Check if a time clock of the bakery's mains power supply is working (if fitted).

- Is the clock set correctly to power the oven at the required day and time?

One deck has not switched on

- Check if the individual deck timer is to come on at a specific time.

Uneven or patchy bake

- The deck door is open too often or too long whilst loading (front pale, back burnt).
- Uneven loading.
- Faulty element.
- Top or bottom deck elements are not functioning.
- No supply voltage across a phase.

Actual temperature is far exceeding the set temperature

When empty, the temperature of a deck oven can exceed the set baking temperature. This overheat is marginal when the deck is full of product. If the elements are continuing to work after the set temperature has been reached, call MONO service.
(Please allow up to 15 °C (59 °F) difference before diagnosing a fault condition).

Poor recovery of actual temperature after loading

- Doors may have been left open too long during loading, allowing heat to escape.
- Damper may have been left open during loading/baking, allowing heat to escape.
- Top or bottom heat may not be working.
- No supply voltage across a phase.

Steam system not operating correctly

- Is water connected correctly?
- Is the tap to each deck in the on position?
- Has enough time elapsed since the last steaming?

Once steamed, the oven does not steam until the steam unit has recovered heat, typically 3 to 10 minutes depending on the program selected.

14. Service and Spares

Service information

If a fault arises, please do not hesitate to contact the MONO Customer Service Department. Quote the machine serial number on the silver information plate of the machine and on the front cover of this manual.

MONO Equipment

Queensway, Swansea West Industrial Park, Swansea, SA5 4EB UK

Tel. 01792 561234
Spares +44(0)1792 564039
Email: mono@monoequip.com

www.monoequip.com

Disposal

When the oven comes to the end of its working life, dispose of parts in the appropriate place by recycling or other means as the law permits at that time.

15. Maintenance

General maintenance

⚠️	WARNING	▪ **This appliance 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, trained, and competent engineers.**
		▪ **You must immediately report any damage or defect arising with the appliance.**
		▪ **Unsafe equipment is dangerous. Do not use the appliance. Isolate the power supply and contact MONO or your appointed service agent.**

▪ Check for frayed or bare cables.

– **Do not** use the machine if frayed or bare cables are visible.

▪ Follow cleaning instructions (see **Cleaning** on page 19).

16. Electrics

Table 5: Parts list for the MONO DX2 LED Deck Oven

Reference in drawing	Description	Part number
F1	Heater MCB	B872-22-008
F2	Heaters MCB	B872-22-008
F3	Heaters MCB	B872-22-008
F4	Control power supply MCB	B872-22-063
F5	Overheat thermostat	B888-30-014
F6	Cooling fan MCB	B872-22-061
T1	Control circuit power supply	B801-93-004
K1	Top heat contactor	B801-08-021
K2	Bottom heat contactor	B801-08-021
Y1	Water solenoid (8 mm pipe)	B867-83-007
Y2	Damper solenoid	B749-83-004
Q1	Mains isolator	B851-07-002
R1	Top heat element, 1.0 kW	B854-04-003
	Top heat element, 1.0 kW (220 Vac)	B854-04-012
R2	Top heat element, 0.6 kW	B854-04-004
	Top heat element, 0.6 kW (220 Vac)	B854-04-013
R3	Top heat element, 0.6 kW	B854-04-004
R4	Top heat element, 0.6 kW	B854-04-004
R5	Top heat element, 0.6 kW	B854-04-004
R6	Top heat element, 0.6 kW	B854-04-004
R7	Top heat element, 0.44 kW	B854-04-036
	Top heat element, 0.44 kW (220 Vac)	B854-04-045
R8	Bottom heat element, 1,0 kW	B854-04-003
	Bottom heat element, 1,0 kW (220 Vac)	B854-04-012
R9	Bottom heat element, 0.6 kW	B854-04-004
	Bottom heat element, 0.6 kW (220 Vac)	B854-04-013
R10	Bottom heat element, 0.6 kW	B854-04-004
R11	Bottom heat element, 0.6 kW	B854-04-004
R12	Bottom heat element, 0.6 kW	B854-04-004
R13	Bottom heat element, 0.6 kW	B854-04-004
R14	Bottom heat element, 0.6 kW	B854-04-004

25 X 40 TRUNKING

TB1

F5

F1 F3
F2

K1 K2

TB2

REV	SIG	DATE		REVISION	RIGID DX OVEN LCD	ECN NO.

TITLE:

RIGID DX OVEN LCD

CONTROL PANEL LAYOUT

MONO EQUIPMENT
QUEENSWAY
SWANSEA WEST IND PARK
SWANSEA.
SA5 4EB.

TEL: (01792) 561234
FAX: (01792) 561016

ELECTRICAL SPECIFICATIONS:-

415V 3 PHASE + N

DRAWN:
RAC

DATE:
30/11/05

ELECTRICALLY APPROVED BY:-
AT

DRAWING NO.
M245E25-50314

REV:
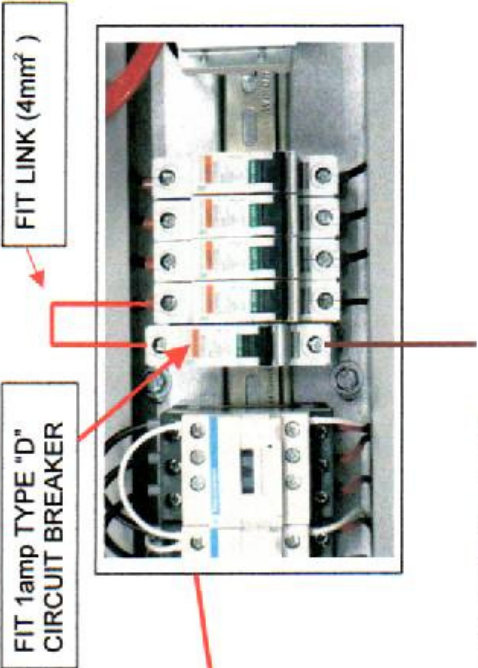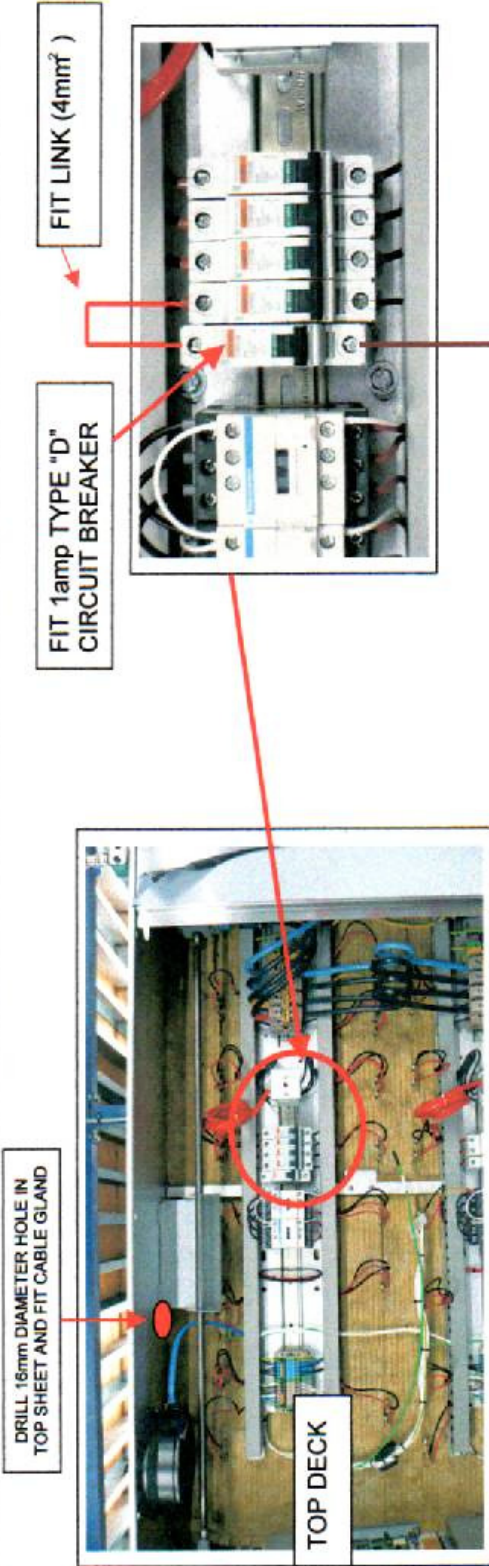–

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NOR ITS CONTENTS DIVULGED WITHOUT PRIOR WRITTEN PERMISSION.

IF IN ANY DOUBT - ASK

Figure 4: Controller layout
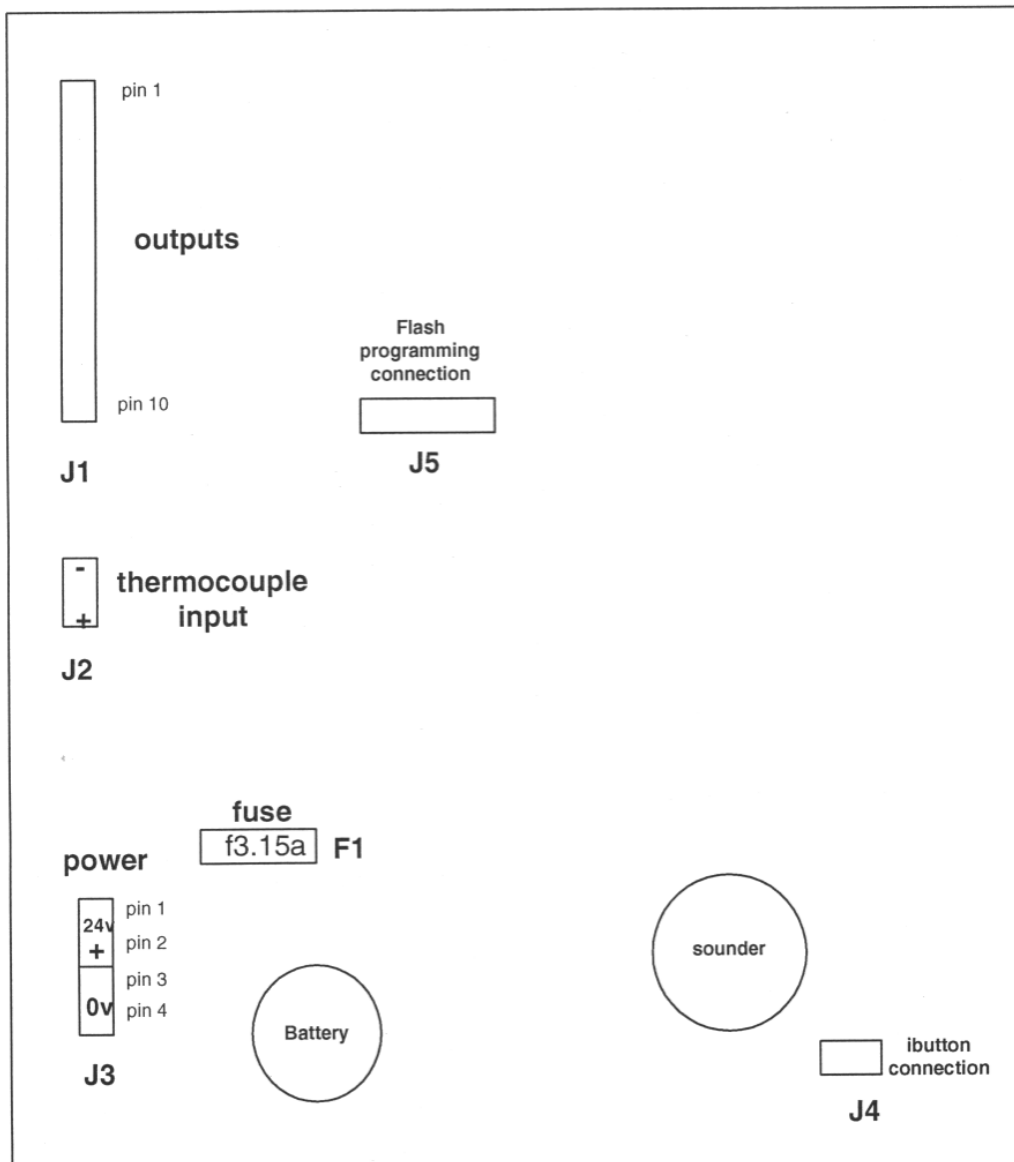
OUTPUTS
PIN 1   – 24v
PIN 2   – TOP HEAT OUTPUT
PIN 3   – TOP FRONT HEAT OUTPUT
PIN 4   – BOTTOM HEAT OUTPUT
PIN 5   – STEAM OUTPUT
PIN 6   – DAMPER OUTPUT
PIN 7   – LIGHT OUTPUT
PIN 8   – CANOPY FAN RELAY OUTPUT
PIN 9   – 24v
PIN 10   – 24v

245 DECK OVEN WITH TOUCAN
CLASSIC CONTROLLERS
24 V POWER SUPPLY
WIRING

DRAWING NO. 245E25-51002

IF IN ANY DOUBT - ASK

TB3

T1

F4
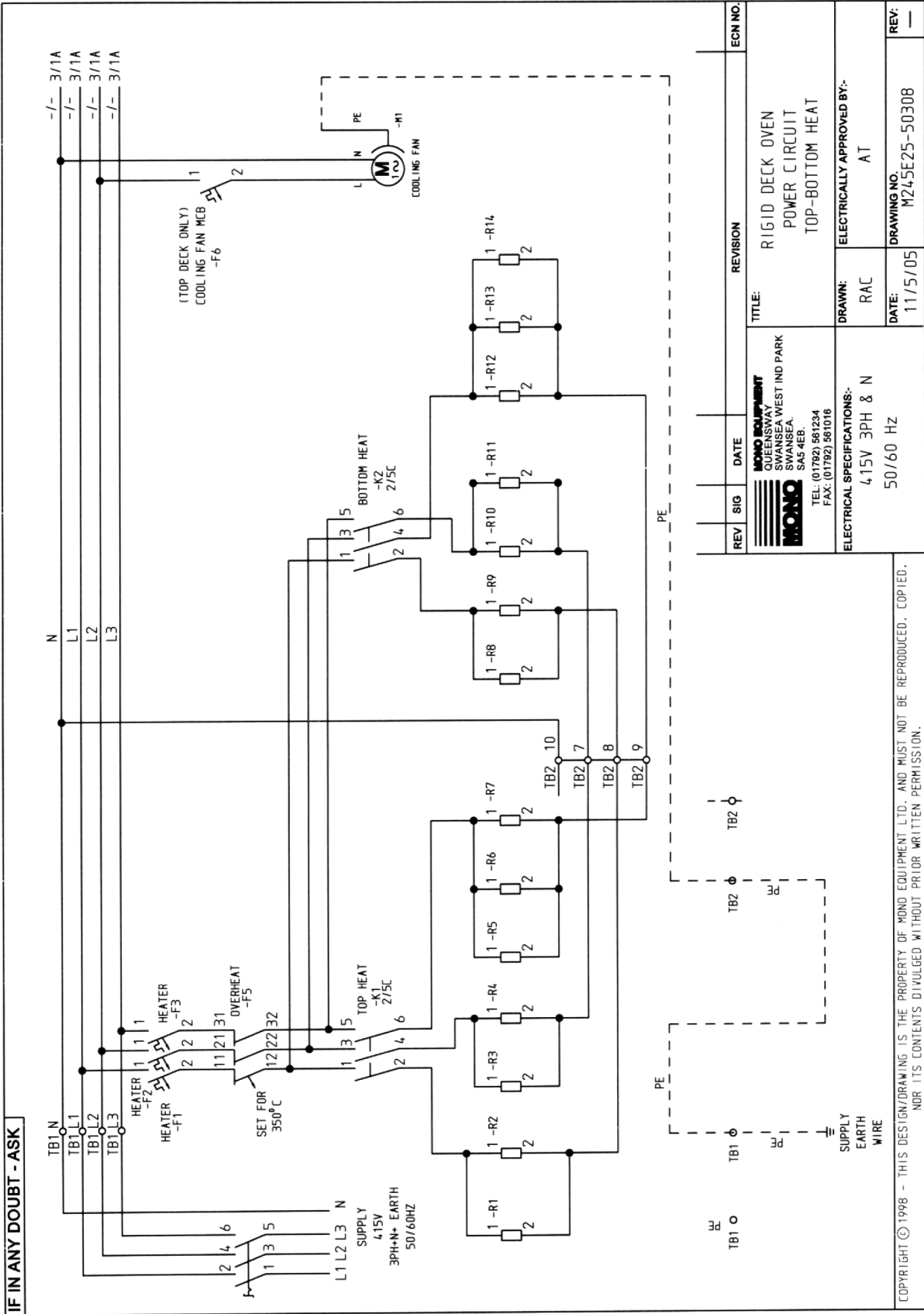
REV | SIG | DATE | | REVISION | ECN NO.

MONO EQUIPMENT
QUEENSWAY
SWANSEA WEST IND PARK
SWANSEA.
SA5 4EB.
TEL: (01792) 561234
FAX: (01792) 561016

TITLE: RIGID DECK OVEN

POWER SUPPLY UNIT LAYOUT

ELECTRICAL SPECIFICATIONS:-

415v 3 PHASE + N

DRAWN: RAC

ELECTRICALLY APPROVED BY:- AT

DATE: 6/12/05

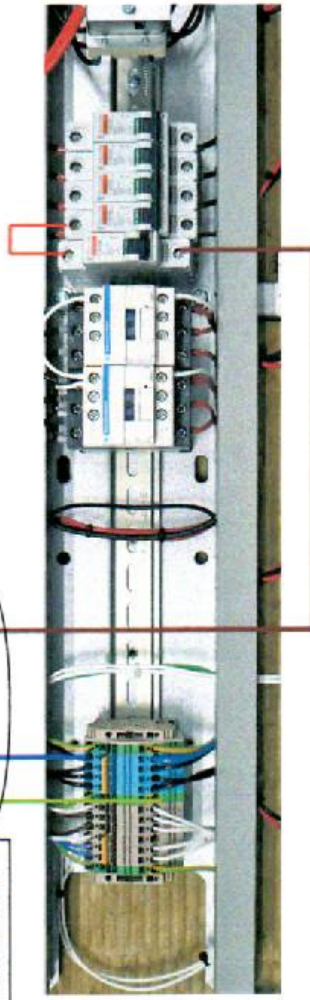DRAWING NO. M245E25-50313

REV: --

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ELECTRICAL CONNECTIONS FOR ADDING CANOPY TO FG245 DECK OVEN

FIT LINK (4mm^2)

FIT 1amp TYPE "D" CIRCUIT BREAKER

DRILL 16mm DIAMETER HOLE IN TOP SHEET AND FIT CABLE GLAND

TOP DECK

CANOPY IF FITTED
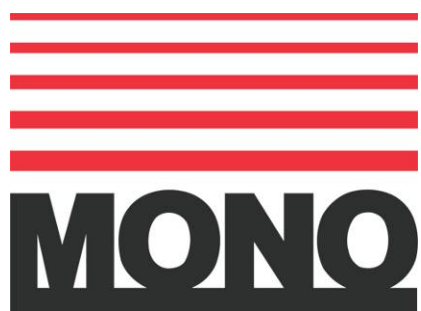
TO FAN SWITCH

E — GREEN / YELLOW
N — BLUE
L — BROWN

3 CORE 1.5mm^2
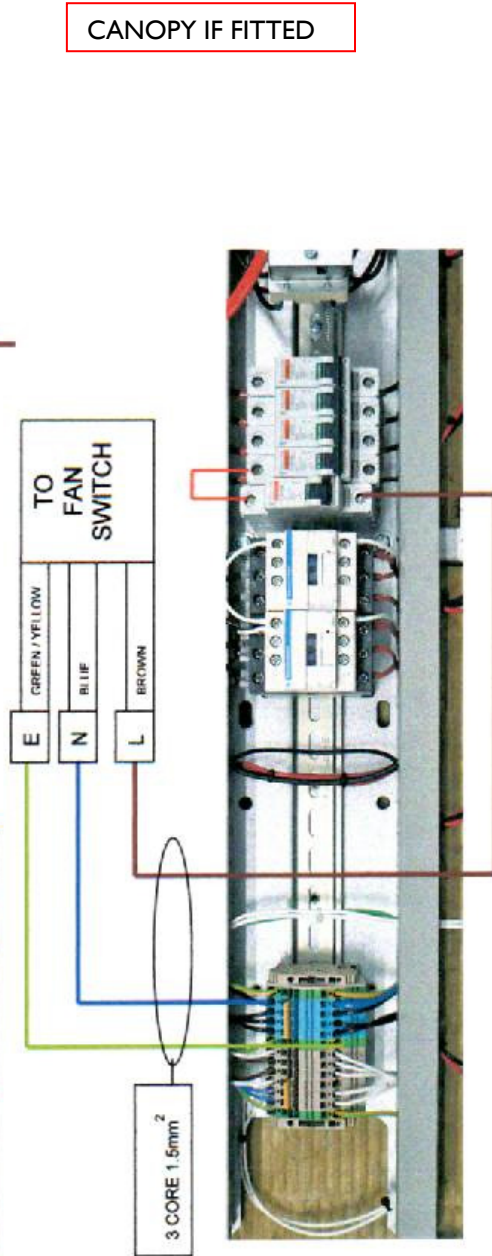
WARNING ISOLATE OVEN FROM POWER SUPPLY BEFORE REMOVING SIDE PANEL AND WORKING ON ELECTRICS

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As it is our policy to improve our machines continuously, we reserve the right to
change specifications without prior notice.