

MONO Harmony Deck Oven

EN

Quick Start Guide





Product Version

- UK specification
- Modular decks
- ECO Touch controller

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 product manual. Before using your new equipment, read the instructions carefully and pay special attention to the information marked with the following symbols:



DANGER Indicates an immediate hazard with a high risk of death or serious

physical injury if not avoided.



WARNING Indicates a potential hazard with a medium risk that could result in death

or serious physical injury if not avoided.



CAUTION Indicates a hazardous situation that could result in minor or moderate

injury if not avoided.

Electrical Safety Notice



Electrical safety and 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 should also 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 the following:

BS 7671:2018 - Guidance Note 8 - 8.13: Other locations of increased safety 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 washing and drying machines are nearby, 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) using 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 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).
- Before installation, it is recommended that a qualified and competent electrician first tests the electrical outlet for electrical safety.

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 (see Emergency Instructions section on page 10).
- 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. See the **Maintenance** section on page **34**.

General Notices



CAUTION

Users with Implantable Cardioverter Defibrillators and Pacemakers

- Several common types of devices and machinery may interfere with implantable cardioverter defibrillators (ICDs) and pacemakers, including mobile phones, headphones, radios, machinery, and magnets.
- The electromagnetic waves generated by these devices can keep your ICD or pacemaker from functioning correctly. Try to avoid them, or at least minimise your exposure to them.
- Your healthcare professional can advise you about specific devices and machinery to avoid.



NOTICES

Warranty information

- Ambient working temperatures for electrical components, such as solenoid switches, circuit breakers and motors, should not exceed 40 °C (115 °F). Manufacturers of these, and other electrical components, advise that any ambient temperature above this affects the functionality of the components. Any related guarantees become void.
- It is the owners' responsibility to ensure adequate ventilation is provided. Any component malfunctioning during the guarantee period found to have been subjected to excessive humidity or ambient working temperatures is not covered by the component manufacturer's or MONO Equipment's product warranty.
- Failure to adhere to the cleaning and maintenance instructions detailed in this User Manual also could affect the warranty of this machine.
- Visit the MONO Parts and Labour Warranty page for further information.

Continuous improvements

- Our policy is to improve our machines continuously, and we reserve the right to change specifications without prior notice.
- Engineers/Electricians-only sections of the User Manual
 - Technical sections of this User Manual are for suitably experienced and qualified persons (SEQP) only. Customers must never make any modifications or repairs to MONO's machines.

Contact Information

Thank you for purchasing this MONO Harmony Deck Oven.

"A combination of clean industrial design and the latest technology."

The information in this quick start guide should get your purchase up and running without any problems. If you have a problem with your purchase, please get in touch with us at:

MONO Equipment Limited

Queensway, Swansea West Industrial Park, Swansea, SA5 4EB, Uł	Queensway,	Swansea	West Ind	dustrial Pa	irk, Swansea,	SA5 4EB	, UK
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Tel. +44/0 1792 561234 Fax. +44/0 1792 561016

Email: mono@monoequip.com

Please quote the serial numbers of each deck when contacting us.
You can write the serial numbers here or in the boxes on the front page

Safety

General safety messages



CAUTION

- Magnets information:
 - Magnetic fields in magnets, used in devices and machinery, can inhibit pulse generators for Implantable Cardioverter Defibrillators (ICDs) and pacemakers.
 Magnets can activate a switch prohibiting the ICD from delivering vital signals such as lifesaving shocks.
 - If you have an ICD or pacemaker, avoiding close or prolonged contact with
 magnets or their magnetic fields is advisable. Keep magnets at least six inches
 from where your device is implanted. If you feel any interference in any way,
 immediately move away from the source.

Oven safety messages

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



DANGER

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

- Before using the oven:
 - Ensure all covers, panels, cables, and pipe fittings are secure.
 - Visually examine the oven for apparent damage or signs of tampering.
- If the oven is damaged or malfunctioning, or missing parts:
 - Stop using it.
 - Do not attempt any repairs.
 - 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 statuary requirements of the country where the oven is installed.
- Ensure this product manual is read thoroughly before operating the oven. Operate and maintain the oven only as described in this product 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.
- Always fit a wall-mountable isolator switch to isolate the oven entirely from the electrical supply in an emergency. The isolator must be visible, labelled as an emergency shutdown device, and easily accessible.
- Check that the electrical requirements on the oven's information plate match the supply before connecting the power cable and turning the power on for the first time.
- Before installation, it is recommended that a qualified and competent electrician first tests the electrical outlet for electrical safety.
- Always ensure your hands are dry before touching any electrical components, including cables, switches, and plugs.



CAUTION

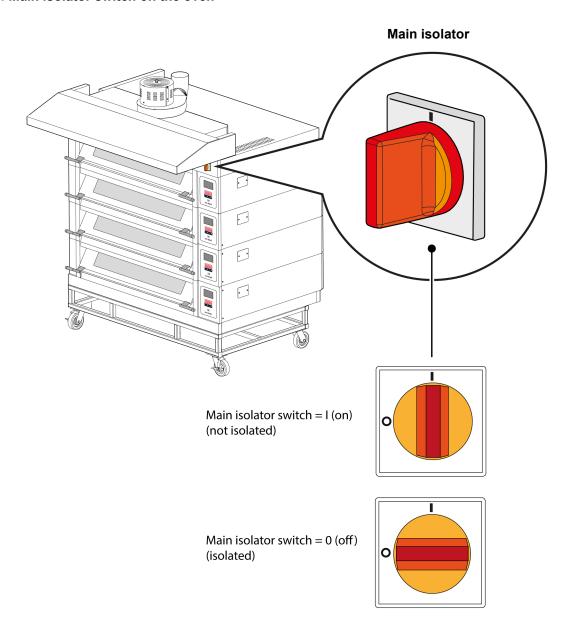
- Be aware of hot surfaces:
 - Do not touch the oven door with bare skin.
 - Always use oven gloves when loading or unloading the oven.
 - Allow time for the oven to cool down before cleaning it.
 - While the oven is in operation (and for some time after use), touching the oven door or the surrounding panels is inadvisable 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 oven. Anyone undergoing training must be under the 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.

Emergency instructions

To stop the oven in an emergency, switch it off using the main isolator on the oven.

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

Figure 1: Main isolator switch on the oven



Installation

General

- A solid, smooth, level floor is recommended on which to position the oven, and access for maintenance should be considered.
 - The oven is not a "built-in" design. Sufficient clearance must be left in front of the access panels (right-hand side) for servicing.
- If not chosen as an oven option, an extraction hood should be sited above the oven to disperse excess steam and heat, which could adversely affect the bakery ceiling and ambient temperature.
- A chain retainer, shorter than the power cables, should be fitted to protect them from strain if the oven moves. Fit it to the wall or floor and the base, using the hole in the castor fixing corner plates.
- Only trained engineers are authorised to install this oven. All water and electrical connections must comply with local and national regulations.

Electrical connections



WARNING

- An electrical socket must be protected by a 30mA-rated Type 'A' Residual Current Device (RCD) before installation and commissioning of the oven.
- Always fit a wall-mountable isolator switch to isolate the oven entirely from the electrical supply in an emergency. The isolator must be visible, labelled as an emergency shutdown device, and easily accessible.
- Check that the electrical requirements on the oven's information plate match the supply before connecting the power cable and turning the power on for the first time.
- Before installation, it is recommended that a qualified and competent electrician first tests the electrical outlet for electrical safety.

The electrical loadings in Table 1 and Table 2 are for an individual deck module, not the complete oven.

Table 1: Electrical loading per standard-sized modular deck

Supply	4-tray wide	3-tray wide	2-tray wide	1-tray wide
400 Vac (50 Hz), 3-phase + neutral + earth	12 kW, 17 Amps	9 kW, 14 Amps	6 kW, 9 Amps	3 kW, 5 Amps

Table 2: Electrical loading per compact modular deck

Supply	2-tray wide
400 Vac (50 Hz), 3-phase + neutral + earth	4.8 kW, 7.5 Amps



NOTE

Whenever connecting power to the oven, eight minutes must elapse before the oven's steam function can be used. The bottom elements require enough time to heat up for steaming. This waiting time applies even if the power is disconnected and connected again, and the oven is still hot.

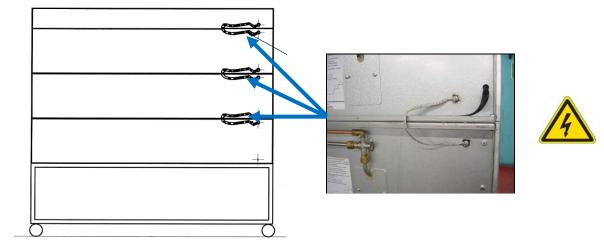
Fit earth straps (part no. 158-25-11200)



NOTE

Factory-built ovens already have them fitted, but always check that they are fitted.

Figure 2: Connect earth (ground) straps between each modular deck



Fit the tile retaining brackets (part no. 257-06-00015)



NOTE

Only deck ovens built on-site need this procedure, but always check that they are fitted.

Procedure

- 1. Find the brackets and screws loose in a supplied plastic bag.
- 2. Position the bracket to touch the tile (as shown in the photograph)
- 3. Fix the bracket using two screws.
- 4. Repeat steps 1 to 3 for both sides of each deck.

Figure 3: Installing the tile retaining brackets



Retaining brackets in two positions on each deck



Positioning of bracket

Water supply requirements



NOTE

The setup procedure on the next page must be followed to allow the steaming system to function correctly.

- All ovens with steam require a ¾" BSP hot or cold water supply at a pressure of 2 to 3 bar (29 to 44 psi).
- Only one water supply is required per oven and must comply with local water regulations.
- All decks are supplied from one connection point on the rear of the oven.
- For proper operation of the steam system, it is recommended that the water supply has the following specifications:

Hardness 0 to 4 grains per gallon

PH range 7.0 to 8.5

Chloride concentration 0 to 20 ppm

Consult Mono for proper water filtration system information.

- No drain is required for this oven.
- A non-return check valve is supplied and fitted to the water inlet manifold.

Water system setup procedure



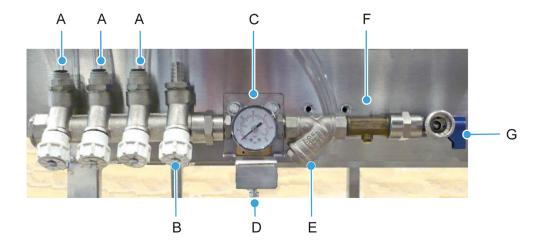
The water delivery to the deck oven must be checked for the steam system to operate correctly.

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. Connect flexible hoses to each deck.
- 4. Place a container under the test valve (B).
- 5. Slowly open test valve (B) fully and, with the water flowing, set the regulator (C) to 0.75 bar using the screw underneath (D).
 - Never use the oven above this setting.
- **6.** When the pressure has stabilised, shut the test valve **(B)**.
- 7. Repeat steps 4 to 6 at the end of the installation.

Figure 4: Water regulator setup (located on the rear of the oven)



- A. To ovens
- B. Test valve
- C. Regulator
- D. Adjusting screw to 0.75 bar
- E. Filter
- F. Dual check valve backflow prevention device
- G. Stop tap

Before first use of the deck oven

Operating conditions

- Leave a clear space of at least 2 to 3 metres (6 to 10 ft.) in front of the oven for practical and safety reasons.
- Do not use bakery utensils to operate the control panel buttons.
- Ensure that the locking casters are locked into position.
- For hygiene reasons, MONO Equipment highly recommends thoroughly wiping the inside of the oven and all accessories with a clean cloth soaked in warm soapy water before using the oven for the first time. Although the utmost care is taken during assembly and pre-delivery inspection, there is always a possibility of residue contaminating the first bake if this is not done.

Baking tile 'seasoning' instructions

THIS PROCEDURE MUST BE FOLLOWED FOR THE OVEN'S WARRANTY TO REMAIN VALID.

For the oven to give good, reliable service, the deck tiles must initially be brought up to temperature as stated below; this ensures all residual moisture in the tiles has been removed.

This procedure must be actioned **once** before the deck oven is used for the first time. After the tile seasoning procedure has been run, the oven can be used as required.

Tile seasoning procedure

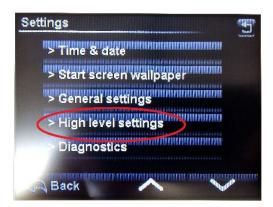
1. From the Main Menu, select the **Settings** icon.



2. Enter the default password 123456 (unless changed) and touch OK.



3. Select the High Level Settings option.



- 4. Enter the default password 561234 (unless changed) and touch OK.
- 5. Select the **Tile Seasoning** option to start running the seasoning program automatically.



6. The oven's controller shows the **Target Temperature** and the **Remaining Process Time**.



The oven now follows the **Tile Seasoning Temperature** rise over the time shown on the screen, with the damper opening and closing periodically during the process.

- 7. Wait until the oven returns to the standard wallpaper **Standby** screen at the end of the program.
- 8. The tile seasoning is complete, and the deck oven can be used for baking.



NOTE

- To stop the tile seasoning procedure, cycle the deck oven off and then on using the main isolator switch.
- The deck oven reverts to Standby mode when power is restored.

Baking principles



NOTE

 Operators should refer to their 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:

- 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. The 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.

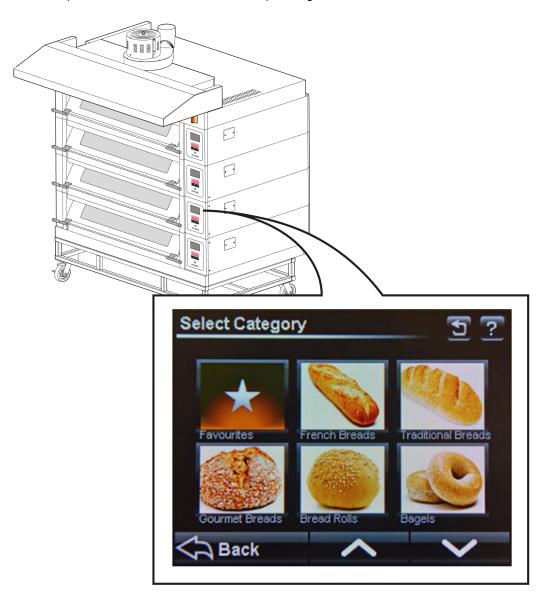
Is the product baked in the time and to the quality you require?

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.

Operating Instructions

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**.



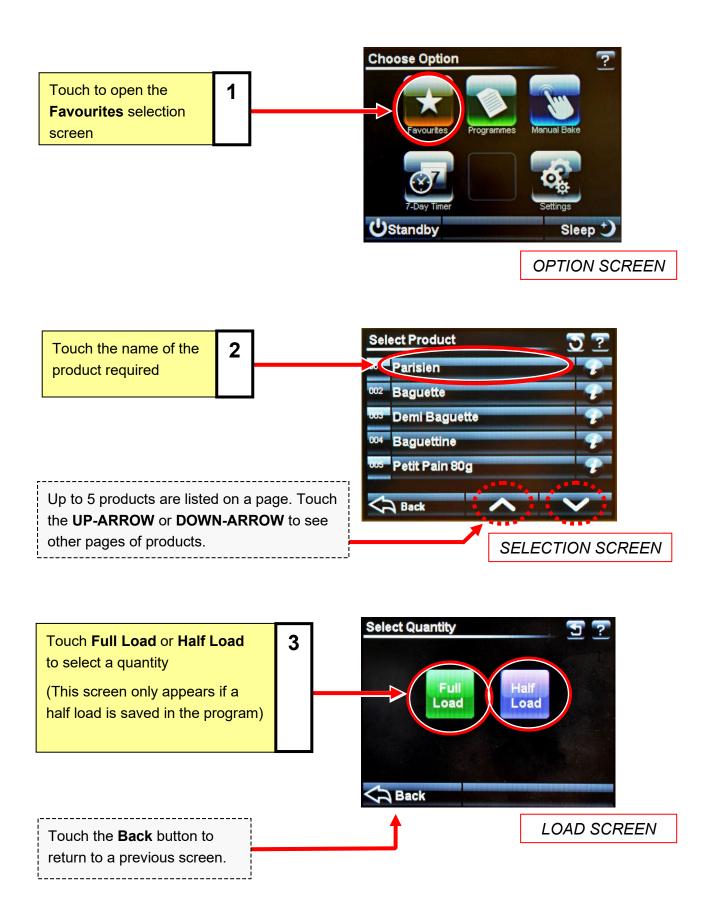
Standby

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



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.**

Bread 1

(200

164°c

Heating

**Cancel View

HEATING 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.

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

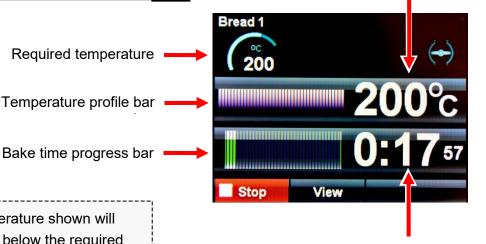


The **Bake In Progress** screen shows the baking time remaining

6

4

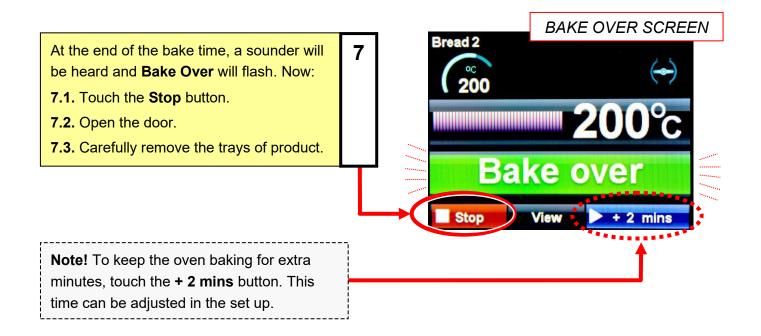
Actual oven temperature (This will rise and fall near to the required temperature)



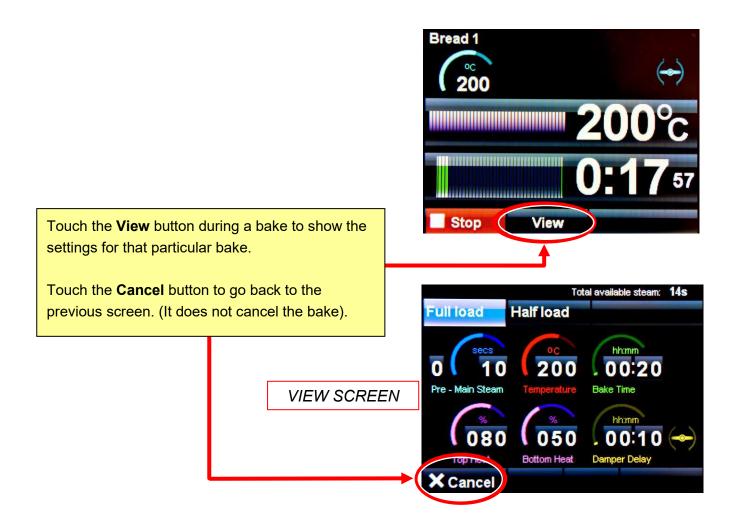
Note: The actual temperature shown will rise and fall above and below the required temperature as the oven cools and reheats.

This is not a fault.

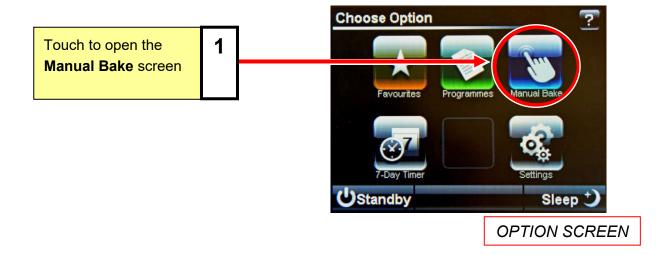
Baking time remaining

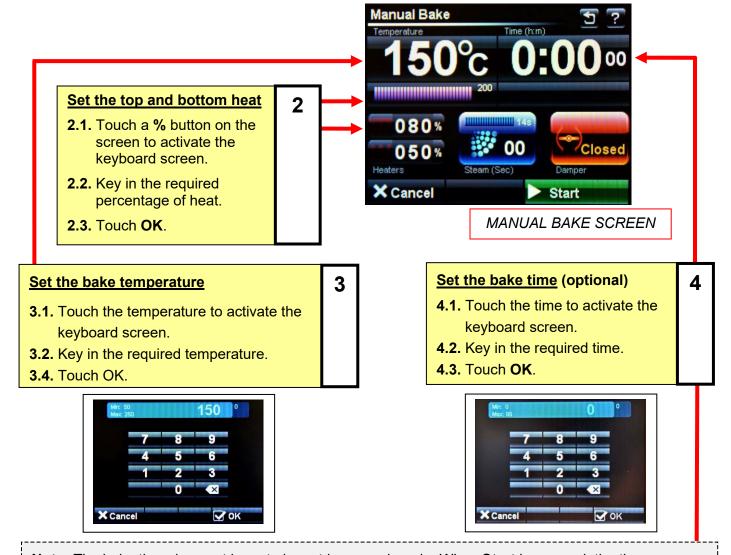


Touching the View button during a bake (optional)



Baking using the "Manual Bake" menu





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.

(Manual Bake)

6



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

(This can be used before or during the bake)

Damper

5

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)



Cancel

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

Touch Start to begin the bake.



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

8

9



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)

> Add to favourites
> Change product title
> Change tray layout
> Save As...

Use the keyboard to type the required name and touch Save.

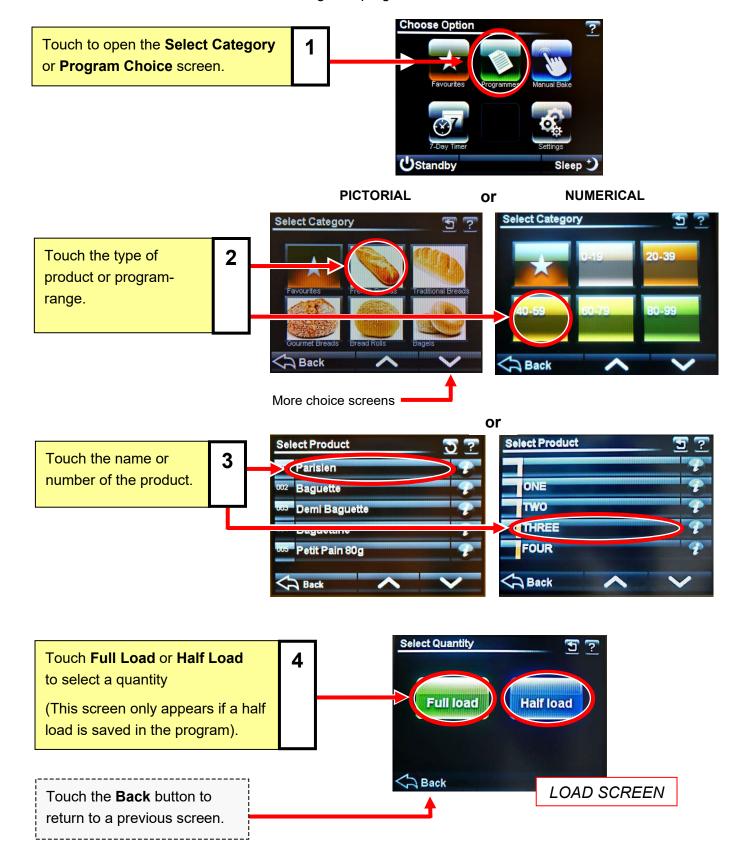
Use the keyboard to type the required name and touch Save.

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

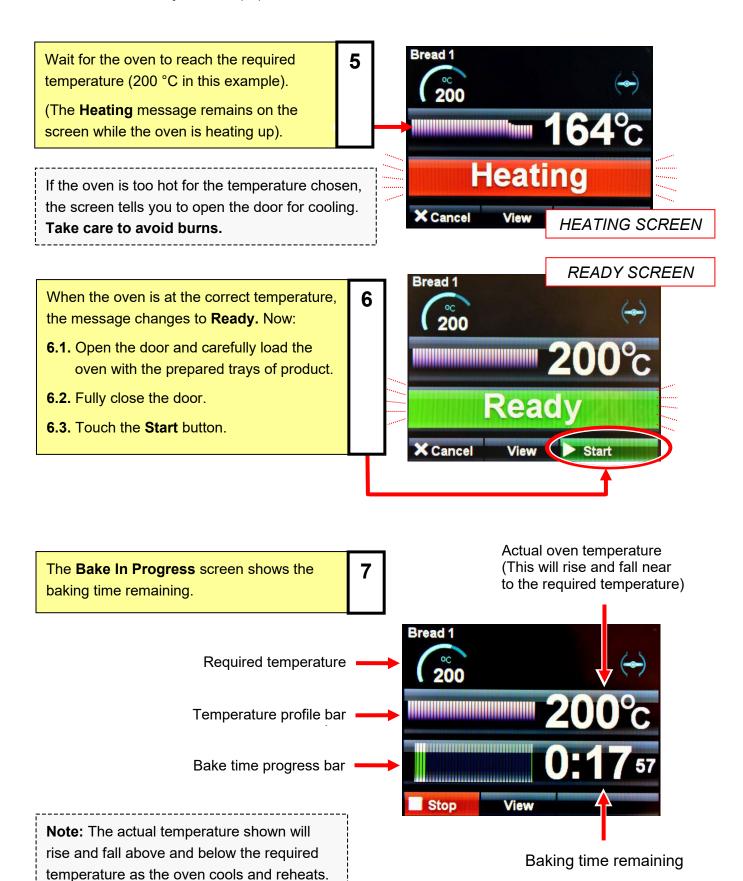
Baking using the "Programmes" menu

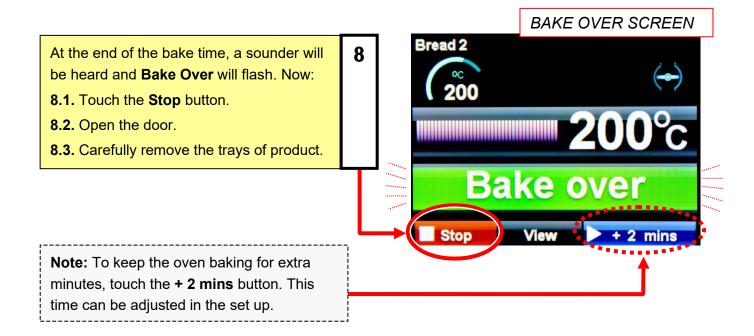
Note: This manual covers two versions of the firmware. (The oven is pre-set to show one only).

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

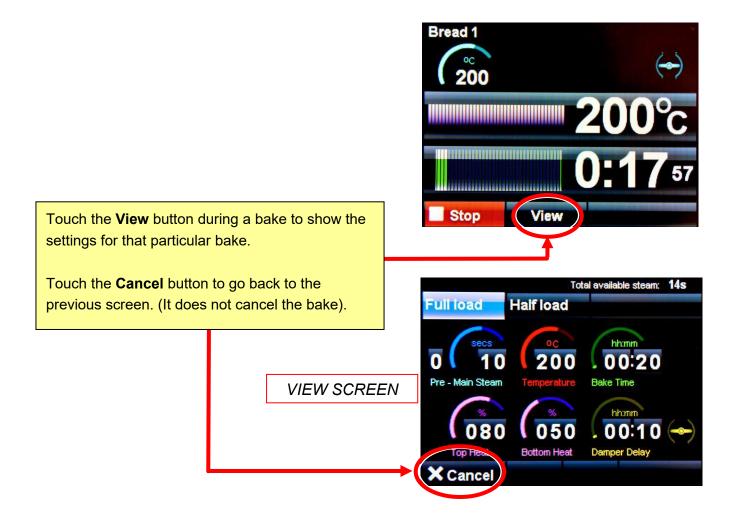


This is not a fault.

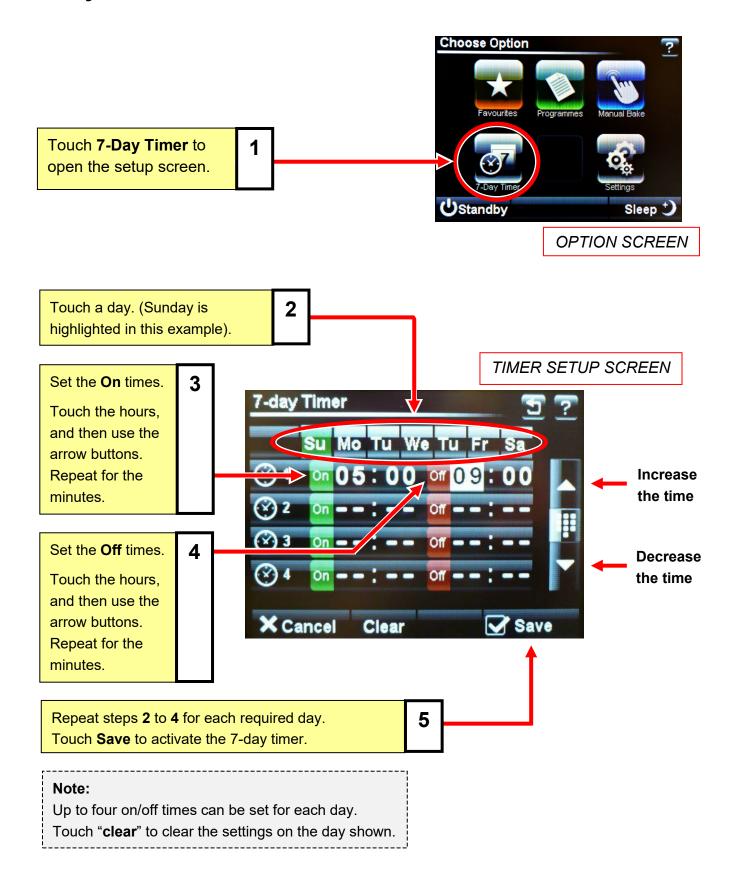




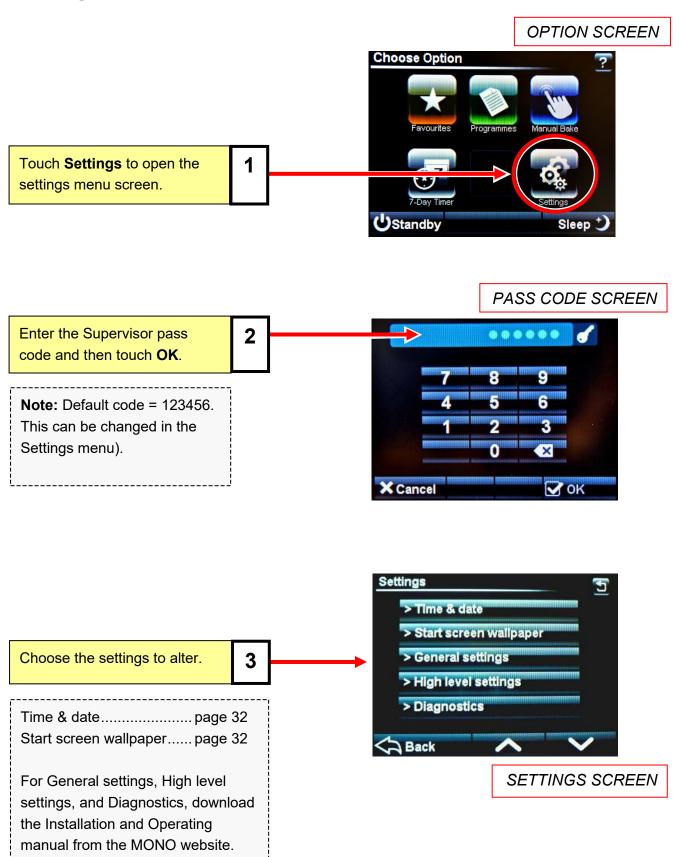
Touching the View button during a bake (optional)



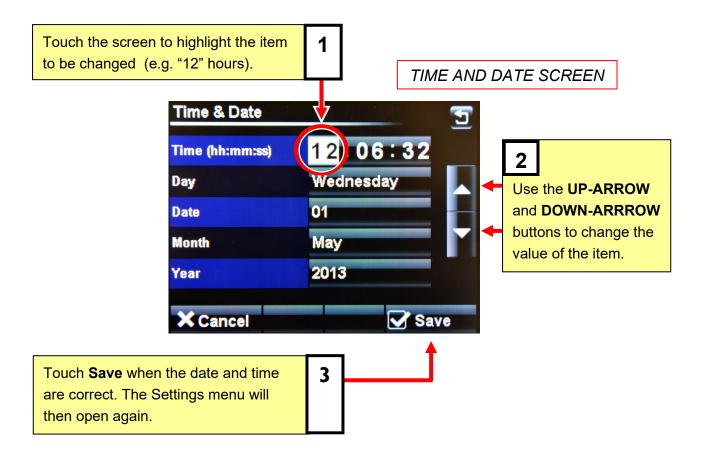
7-day timer



Settings

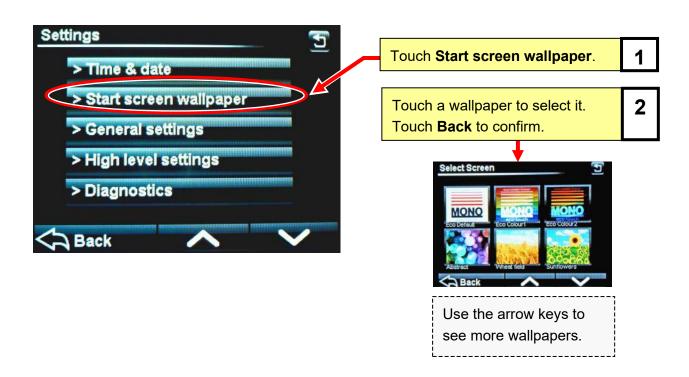


Set time and date (Settings)



Select a wallpaper for the start screen

(Settings)



Cleaning

Daily cleaning instructions



Isolate the oven from the electrical supply before cleaning.



Take care that water does not enter the control-panel mounting or roof-mounting fan. Never use a pressure washer or water hose to clean the oven.

Procedure

1. Sweep any debris out of the oven **after** it has been allowed to cool.

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

- 2. Brush down and wipe the oven front, back and sides with a damp cloth.
- Spot clean outside with a damp cloth, soaked in a solution of mild detergent and hot water.Ensure excess water is not applied around the electrical panels.

Weekly cleaning instructions



Isolate the oven from the electrical supply before cleaning.



Take care that water does not enter the control-panel mounting or roof-mounting fan. Never use a pressure washer or water hose to clean the oven.



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 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.

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 **33**).



MONO Equipment is the leading designer and manufacturer of bakery equipment in the United Kingdom. This proud heritage of British craftmanship, 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.



MONO Equipment Limited

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