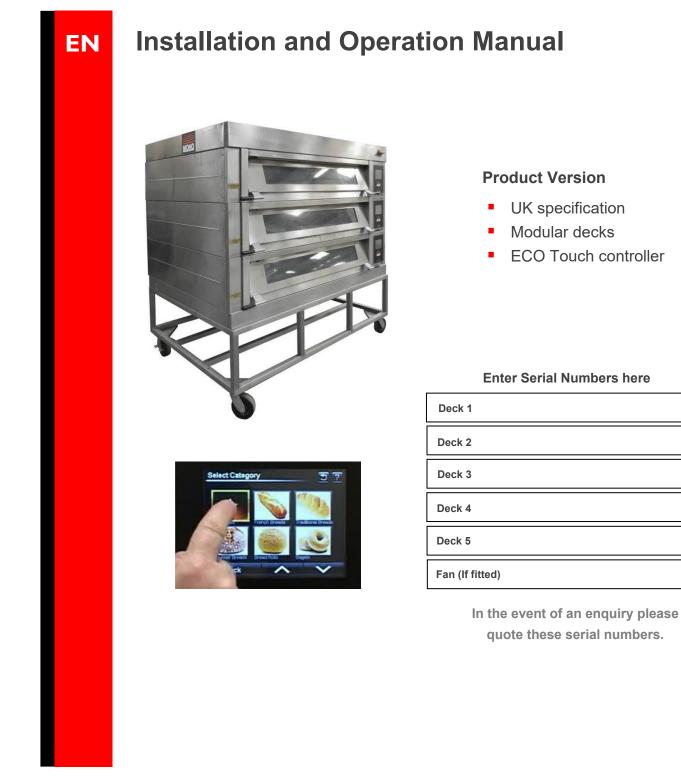




MONO Harmony Deck Oven



Manual Revisions

Revision	Publication Date	Author	Description		
B22	07-Aug-2022	CD	Added canopy dimensional drawings.		
A23	05-Mar-2023	CD	Added Residual Current Device (RCD) safety messages.		
			Added tile seasoning instructions.		
B23	12-Aug-2023	CD	Added a 'Before First Use of The Deck Oven' chapter.		
			Updated safety messages and notices to latest information.		
			Added JAN-2025 cable statement to the electrical sections.		
A25	28-Feb-2025	CD	Added Thank you page.		
			Updated Declaration of Conformity to latest version.		

Thank you

Thank you for purchasing MONO's Harmony Deck 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 Limited 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 Harmony Deck Oven.

Happy baking!

The MONO Team



Safety Symbols

The following safety symbols are used throughout this user manual (available electronically at **MonoEquip.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



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 20).
- 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 **67**.

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 qualified and experienced persons only. Customers must never make any modifications or repairs to MONO's machines.

Declaration of Conformity Certificate

		Conformity CA
We the manufacturer:	MONO EQUIPMENT Queensway,	Machine:
	Swansea West Industrial Park,	FG Code:
	Swansea SA5 4EB UK	Serial No:
\rightarrow The Machine Dire	ective 2006/42/EC	complies with the following directives:
	Directive 2014/35/EC etic Compatibility Directive 20	014/30/EU Incorporating Standards EN
_	1:2022 & EN 55014-2:1997-	A1:2001+A2:2008
55014-1:2017/A1	11:2022 & EN 55014-2:1997- ety of Machinery and Food Pro	
55014-1:2017/A1 → The General Safe → Materials and Art 1935/2004	ety of Machinery and Food Pro icles Intended to Come into (ocessing Standards Contact with Food – Regulation (EC) No.
55014-1:2017/A1 → The General Safe → Materials and Art 1935/2004	ety of Machinery and Food Pro icles Intended to Come into (ring Practices (GMP) for Mate	ocessing Standards
55014-1:2017/A1 → The General Safe → Materials and Art 1935/2004 → Good Manufactur - Regulation (EC)	ety of Machinery and Food Pro icles Intended to Come into (ring Practices (GMP) for Mate	ocessing Standards Contact with Food – Regulation (EC) No. rials Intended to Come into Contact with Foc
55014-1:2017/A1 → The General Safe → Materials and Art 1935/2004 → Good Manufactur - Regulation (EC) A technical construction	ety of Machinery and Food Pro- ticles Intended to Come into (ring Practices (GMP) for Mate No. 2023/2006 In file for this machine is retai a business name of AFE Gro 23428136	ocessing Standards Contact with Food – Regulation (EC) No. rials Intended to Come into Contact with Foc
55014-1:2017/A1 → The General Safe → Materials and Art 1935/2004 → Good Manufactur - Regulation (EC) A technical construction MONO Equipment is a VAT Registration No. 92 Registered office: Unit 3 Bryggen Road, North Lynn Industrial Es Kings Lynn Norfolk,	ety of Machinery and Food Pro- ticles Intended to Come into (ring Practices (GMP) for Mate No. 2023/2006 In file for this machine is retai a business name of AFE Gro 23428136	ocessing Standards Contact with Food – Regulation (EC) No. rials Intended to Come into Contact with Foo ned at MONO Equipment

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1. Introduction

The electric modular 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

The external and internal contact surfaces are stainless steel.

Each modular deck has one or more durable reinforced tiles, high-grade insulation, and high-temperature ceramic sealant to make the oven more efficient.

The oven comes with a patented integral steaming system, which reduces energy consumption and the overall size of the oven. The system produces natural steam with the advantages of spray steam. Pre-steam is also available to reduce the effects of long loading times. No drainage is required.

Eco-touch ovens are supplied with **TOUCH** displays for user-friendly control panels. The displays can show pictures of product types or program numbers to meet the bakery's requirements. When not being used, the screen can show a company logo. A voice-prompt facility is also available for basic instructions such as "Bake over".



ECOTOUCH SCREEN CONTROLS

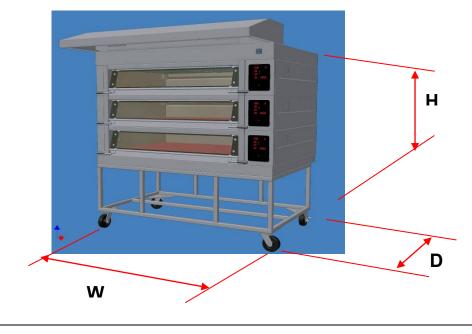


The lights are low voltage, sealed from the chamber and easily accessed from outside the oven.

Fitted with a choice of hinged easy to clean double-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).

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

2. Overall Dimensions



NOTE

1

All dimensions are approximate and do not include the optional canopy (see pages **24** and **25**).

Overall dimensions (standard-size decks)

Specification	1-tray wide	2-trays wide	2-trays wide 3-trays wide			
Width	955 mm (37½ in.) 1416 mm (55¾ in.)		1890 mm (74½ in.)	2365 mm (93 in.)		
Depth	1312 mm (51½ in.)					
Height (2 decks) ⁽¹⁾	2020 mm (79½ in.)					
Height (3 decks) ⁽¹⁾	2020 mm (79½ in.)					
Height (4 decks) ⁽¹⁾	2020 mm (79½ in.)					
Height (5 decks) ⁽¹⁾	2140 mm (84¼ in.)					

⁽¹⁾ Including the base and top finishing. See **pages 14 and 15** for dimensional diagrams.

Overall dimensions (compact decks)

Specification	2-trays wide		
Width	1354 mm (53.3 in.)		
Depth	1172 mm (46.1 in.)		
Height (2 decks) ⁽¹⁾	1679 mm (66.1 in.)		
Height (3 decks) ⁽²⁾	To be advised		
Height (4 decks) ⁽²⁾	To be advised		
Height (5 decks) ⁽²⁾	To be advised		

⁽¹⁾ Including the base and top finishing. See page **17** for dimensional diagrams.

⁽²⁾ Contact MONO Equipment for information.

3. Specifications

Electrical specifications

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

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

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

Environmental specifications

The noise level is less than 80 dB.

Mechanical specifications

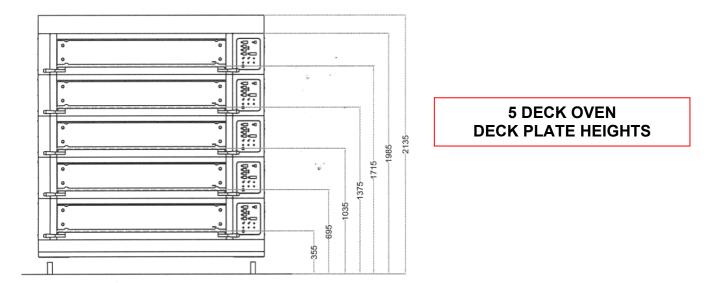
Table 3: Weights for standard-size deck oven

Creation	Nominal	Modular	Weig	ht ⁽¹⁾
Specification	trays wide	decks	Lbs	Kg
	4	3	(1)	(1)
Total oven weight	3	3	2345	1064
(including base frame)	2	3	1569	711
	1	3	(1)	(1)
	4	_	(1)	(1)
Weight per oven	3	-	575	261
chamber module	2	_	421	191.5
	1	-	(1)	(1)
	4	-	(1)	(1)
Weight per oven	3	_	38	17
canopy module	2	-	31	14
	1	-	(1)	(1)
	4	-	(1)	(1)
	3	-	62	28
Weight per fan module	2	-	62	28
	1	-	(1)	(1)
	4	_	(1)	(1)
Weight of product	3	-	131	60
(maximum) per deck	2	-	86	39
F	1	-	(1)	(1)

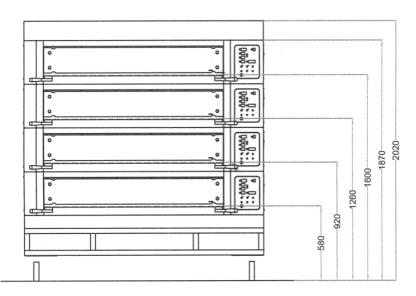
⁽¹⁾ To be advised. Contact MONO Equipment for information.

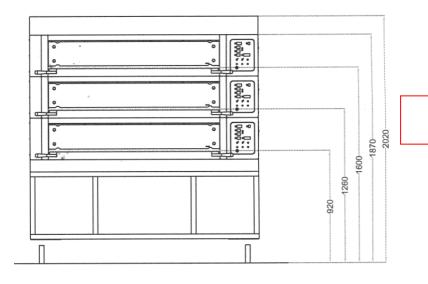
(2) All weights are approximate.

Standard-size deck oven dimensions

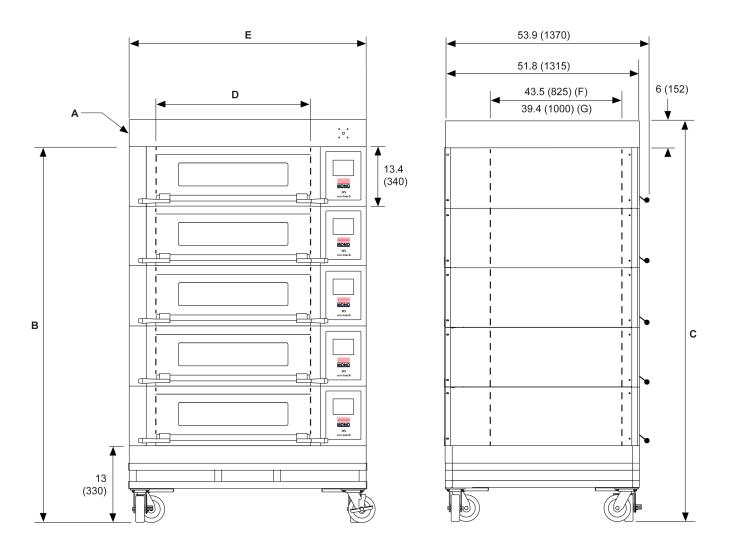








3 DECK OVEN DECK PLATE HEIGHTS



- **A.** Top valence or extractor hood (to customer specifications)
- B. 5-deck: 78.2 in. (1985 mm); 4-deck and 3-deck: 73.6 (1870 mm)
- C. 5-deck: 78.2 in. (2135 mm); 4-deck and 3-deck: 73.6 (2020 mm)
- D. Baking chamber width see Table 5 on page 16
- E. Overall deck width See Table 6 on page 16
- F. Baking tiles See Table 7 on page 16
- G. Chamber

 Table 4: Internal usable surface areas and number of trays per deck

Nominal trays	Internal usable surface area (per deck)		Number of trays (per deck)				
wide	ft²	m²	60 cm x 80 cm (24 in. x 32 in.)60 cm x 40 cm (24 in. x 16 in.)18 in. x 30 in.18 in. x				
4	16.7 ft ²	1.55 m ²	3	4	4	4	
3	12.5 ft ²	1.16 m ²	2	3	3	3	
2	8.28 ft ²	0.77 m ²	1	2	2	2	
1	4.2 ft ²	0.39 m ²	_	1	1	1	

Table 5: Baking chamber widths

Number	Chamber width	
of trays	mm	inches
1	483	19
2	950	37
3	1420	56
4	1895	74½

Table 6: Overall deck widths

Number of trays	Deck width	
	mm	inches
1	955	37½
2	1416	55¾
3	1890	74½
4	2365	93

Table 7: Baking tiles

Number of trays	Number of baking tiles (pieces)	
1	1	
2	1	
3	1	
4	2 (1)	

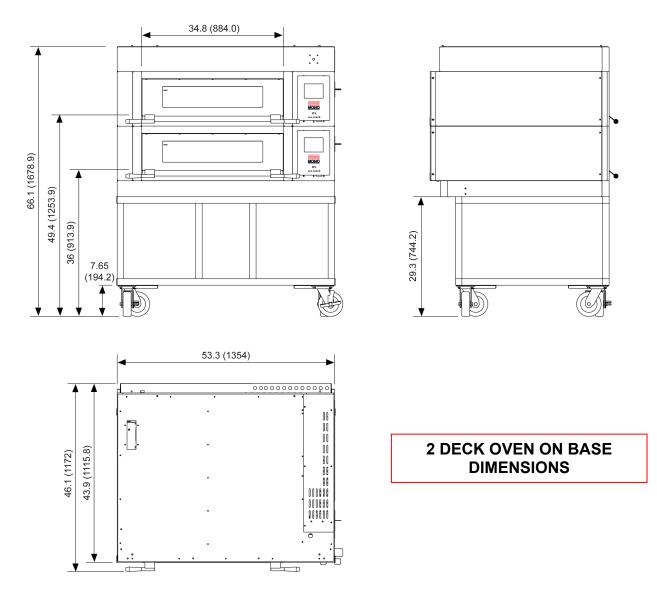
(1) Two tiles with a gap in the middle.

NOTE



See pages 24 and 25 for canopy dimensions.

Compact deck oven dimensions



Dimensions are in inches (mm)

4. 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.

L	7

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:

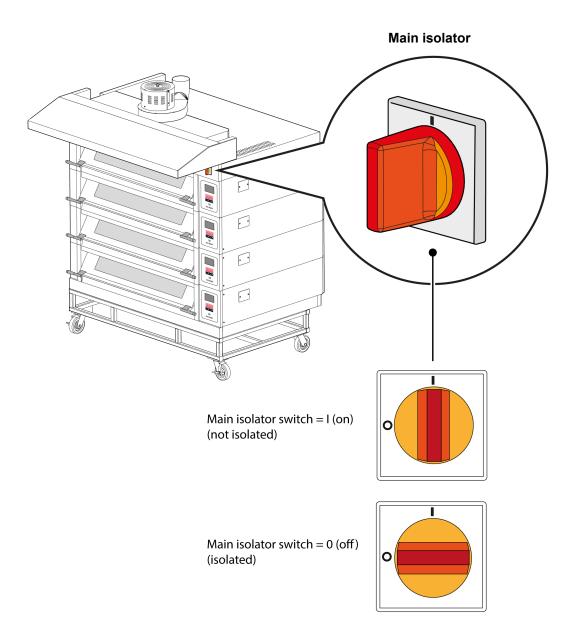
- Do not touch the oven door with bare skin.
- Always use oven gloves when loading or unloading the oven.
- Allow time for the oven to cool down before cleaning it.
- While the oven is in operation (and for some time after use), touching the oven door or the surrounding panels is inadvisable because 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



5. 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.

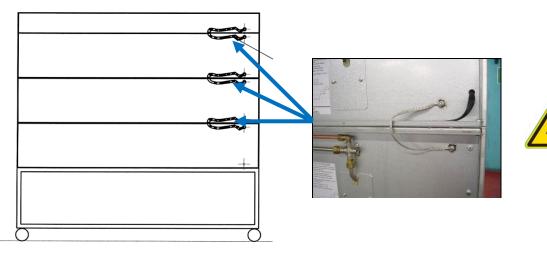
Electrical connections

- Each modular deck requires its own power supply. Power cables are not supplied with the oven. The customer is to supply the power cables in accordance with the appropriate regulations.
- A wall isolator must be available to isolate the oven completely. This isolator must be easily accessible to the oven operator.
- Read the Safety section on page 18.
- Electrical loadings are in the Specifications section on page 13.

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



NOTE

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



 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 ³/₄" 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



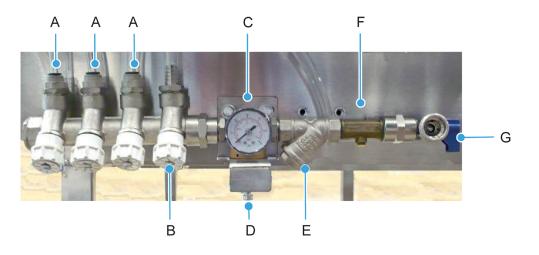
The water delivery to the deck oven must be checked for the steam system to operate correctly.

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.

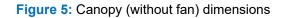
Figure 4: Water regulator setup (located on the rear of the oven)

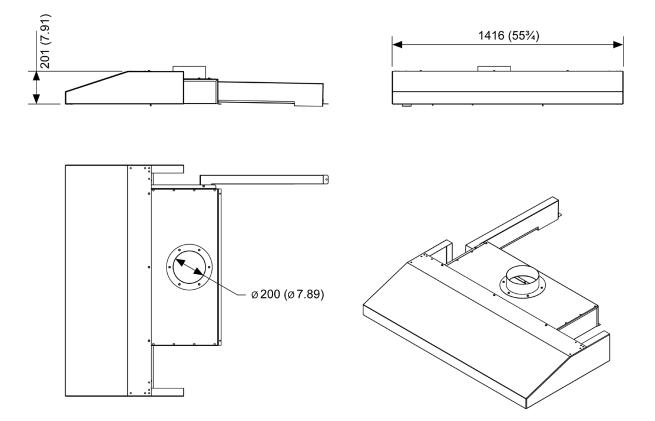


- A. To ovens
- B. Test valve
- C. Regulator
- D. Adjusting screw to 0.75 bar
- E. Filter
- F. Dual check valve backflow prevention device
- G. Stop tap

Exhaust Connections (if canopy fitted)

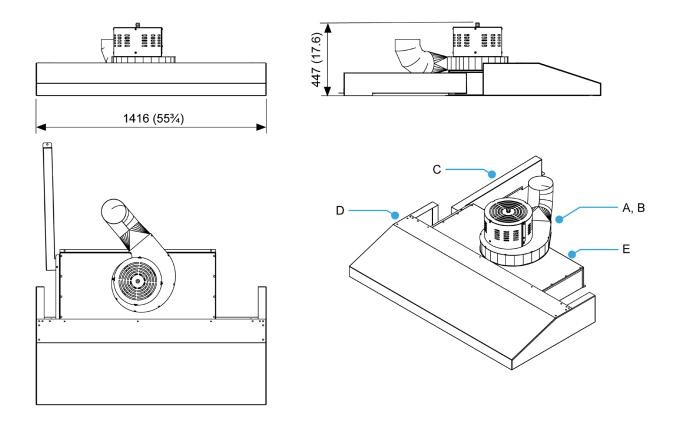
- Ideally, an exhaust duct should rise 2 metres above the bakery roof and be protected from wind and birds by a duct protector.
- It should be of a suitable material to take the high temperatures and humidity expected.
- It should be flexible and easily removable at the oven connection point. This allows the oven to be moved for cleaning when required.





Dimensions are in mm (inches)

Figure 6: Canopy (with fan) dimensions



Dimensions are in mm (inches)

Table 8: Canopy parts

Item		Part number
А	Extraction fan assembly	247-08-04900
В	Inlet ring	247-08-05100
С	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.

6. 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.

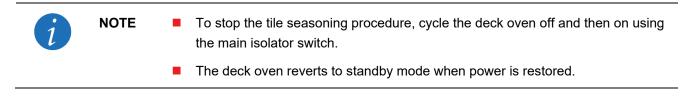


6. The oven's controller shows the Target Temperature and the Remaining Process Time.



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.



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.
- 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.

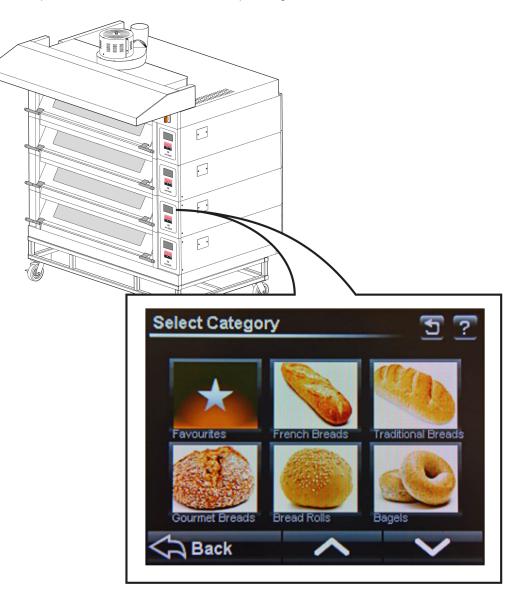
Is the product baked in the time and to the quality you require?

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.

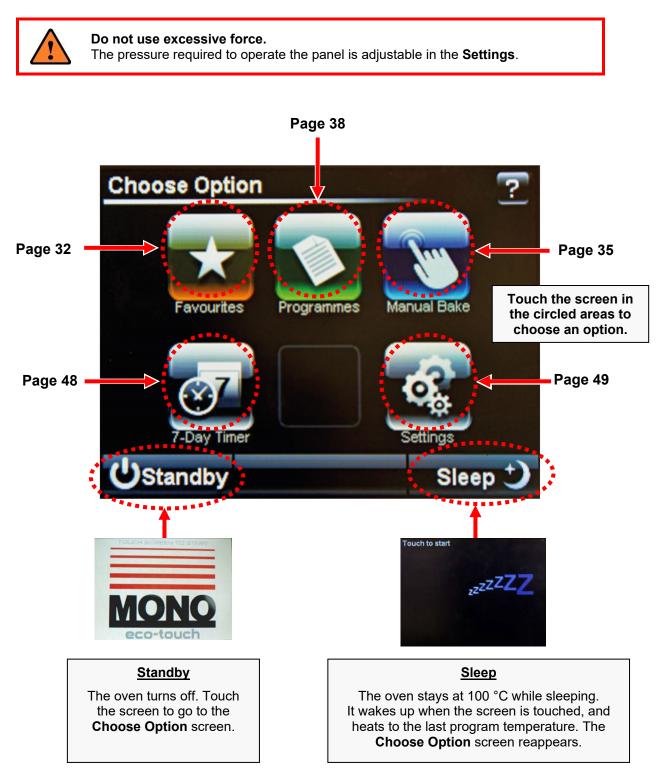
7. Operating Instructions

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

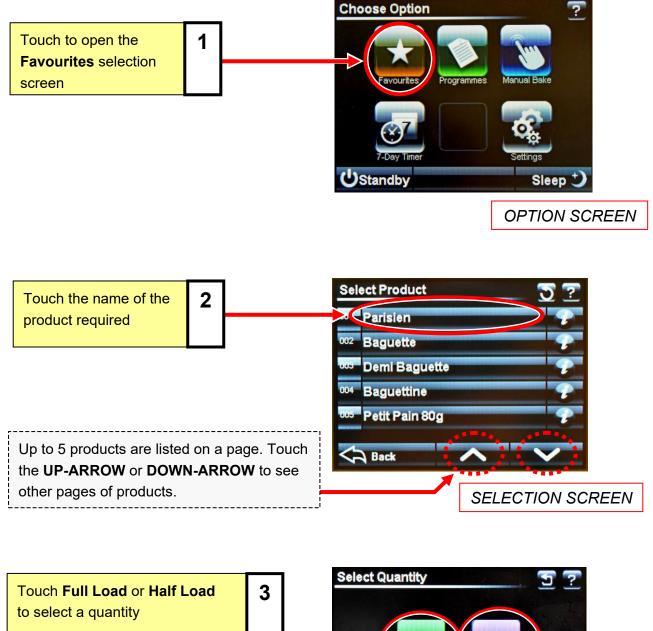


Basic operation

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



Baking using the "Favourites" menu



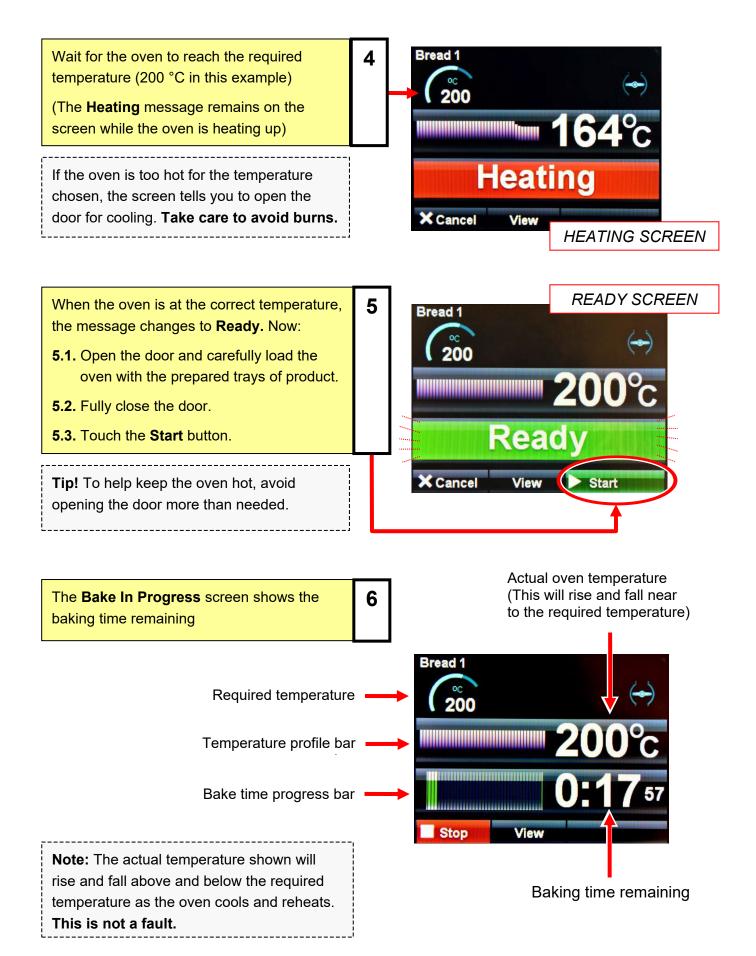
(This screen only appears if a half load is saved in the program)

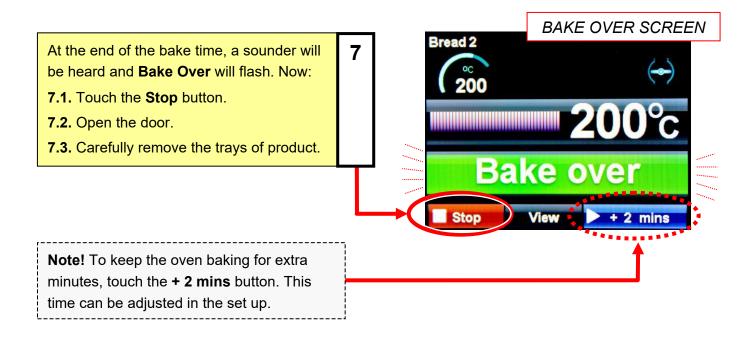
Touch the **Back** button to return to a previous screen.

LOAD SCREEN

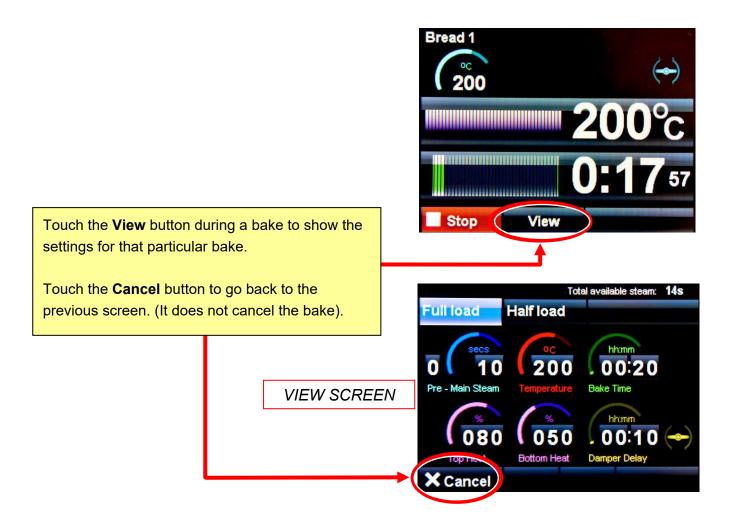
Load

oad

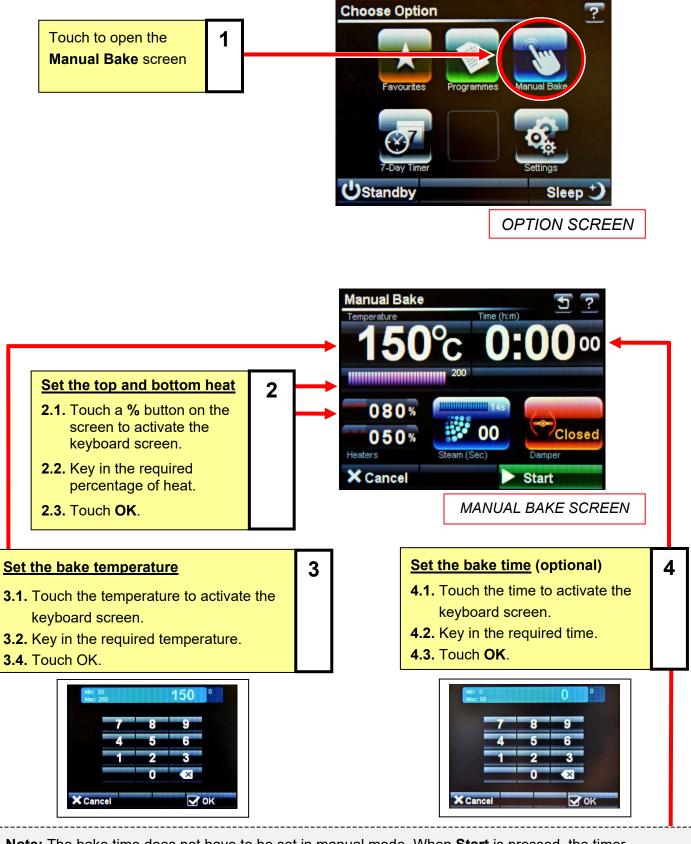




Touching the View button during a bake (optional)



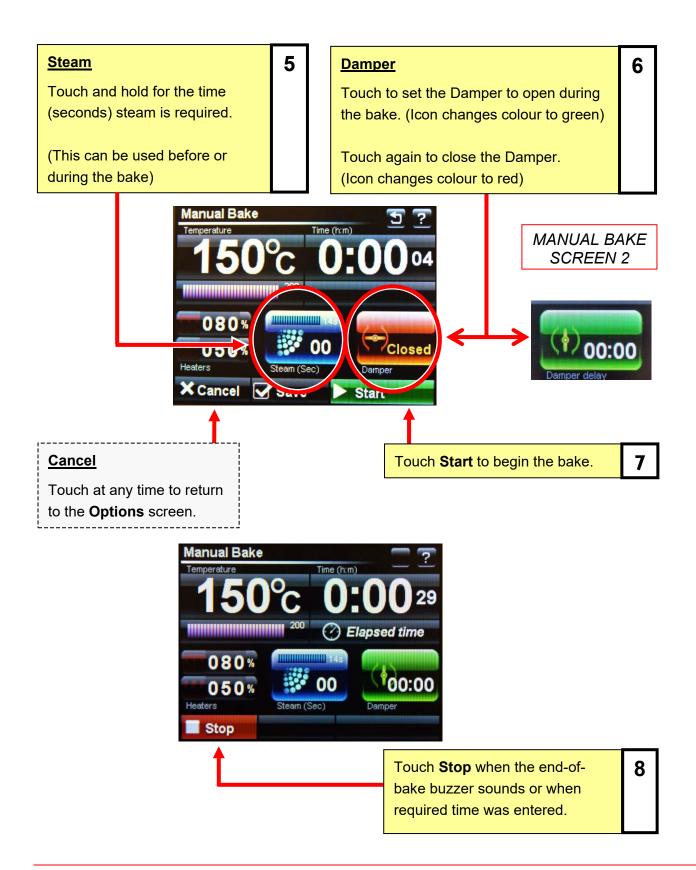
Baking using the "Manual Bake" menu



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.

Set the Steam Time and Damper (if required)

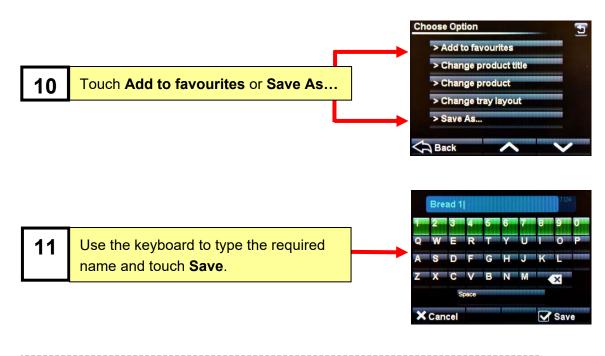
(Manual Bake)



Save (keep) the Manual Bake Program

(Manual Bake)



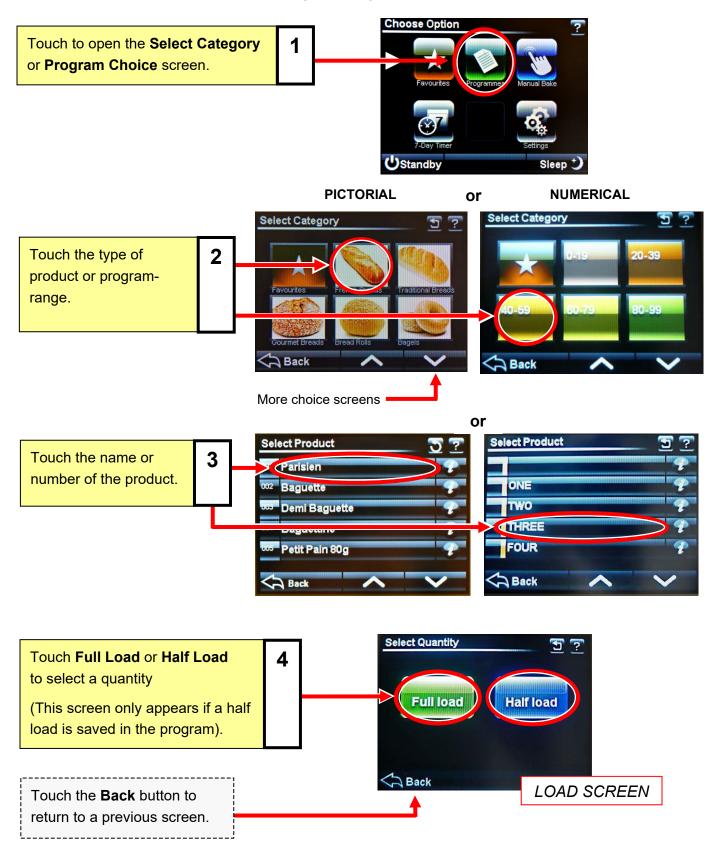


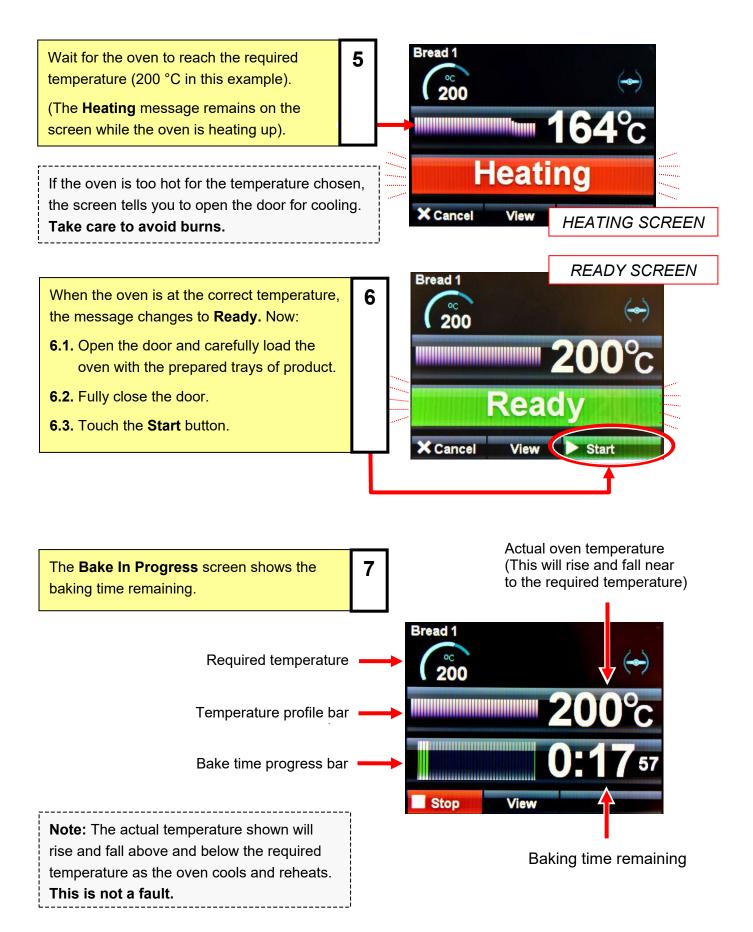
Note: In manual mode, only one operation of the steam or damper is saved.

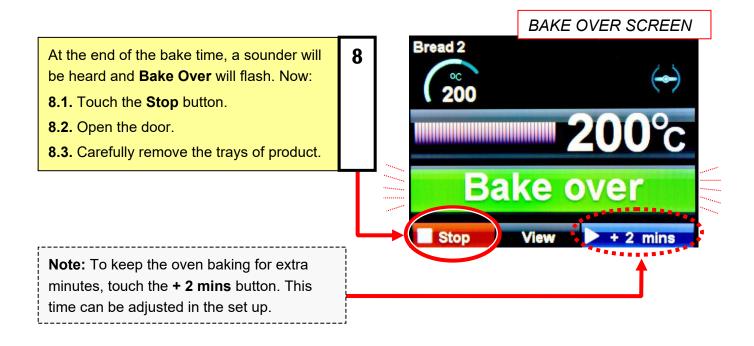
Baking using the "Programmes" menu

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

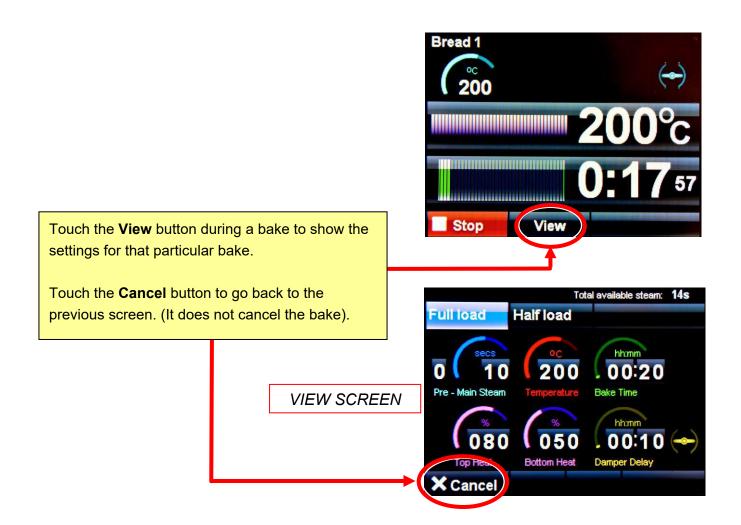
- PICTORIAL version shows choices of product categories
- NUMERICAL version shows ranges of program numbers



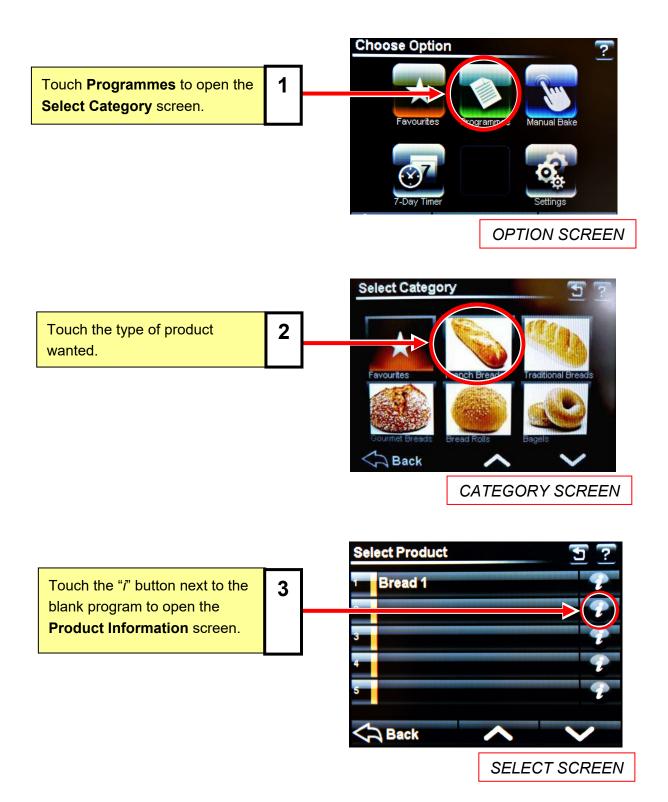




Touching the View button during a bake (optional)

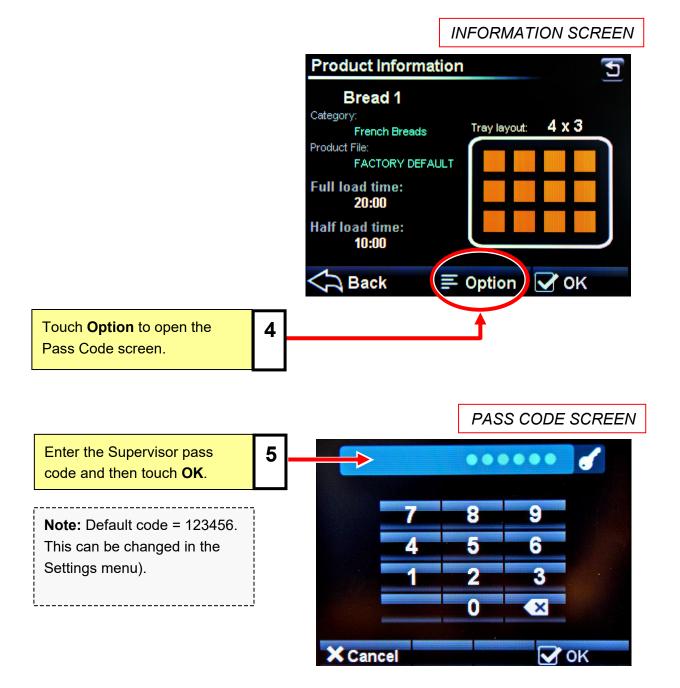


Creating a bake program



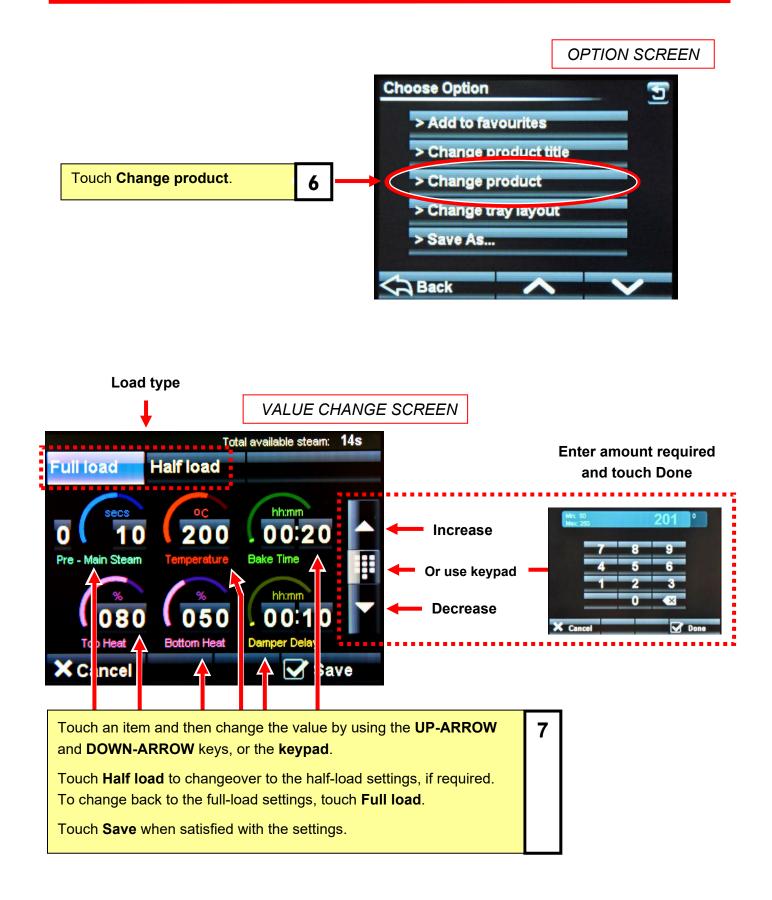
Enter the Supervisor passcode

(Creating a Bake Program)



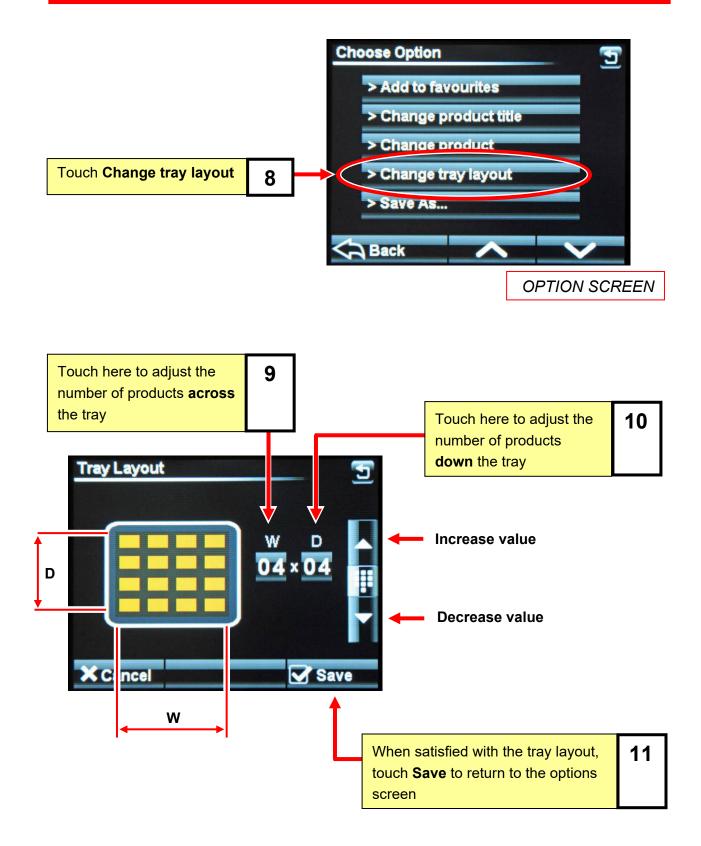
Enter the product bake details

(Creating a Bake Program)



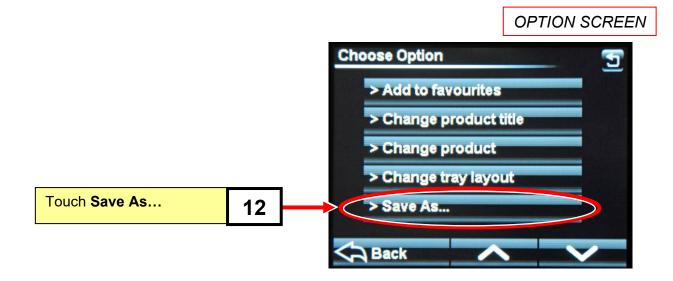
Changing the tray layout

(Creating a Bake Program)

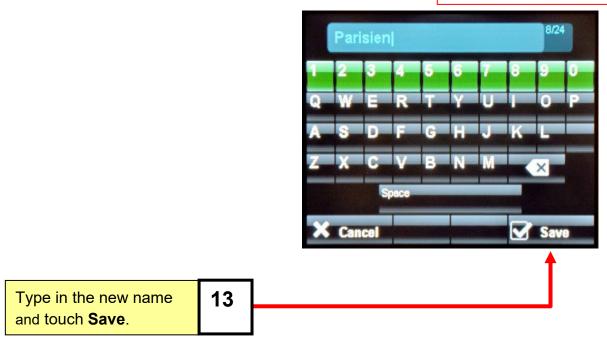


Save the product

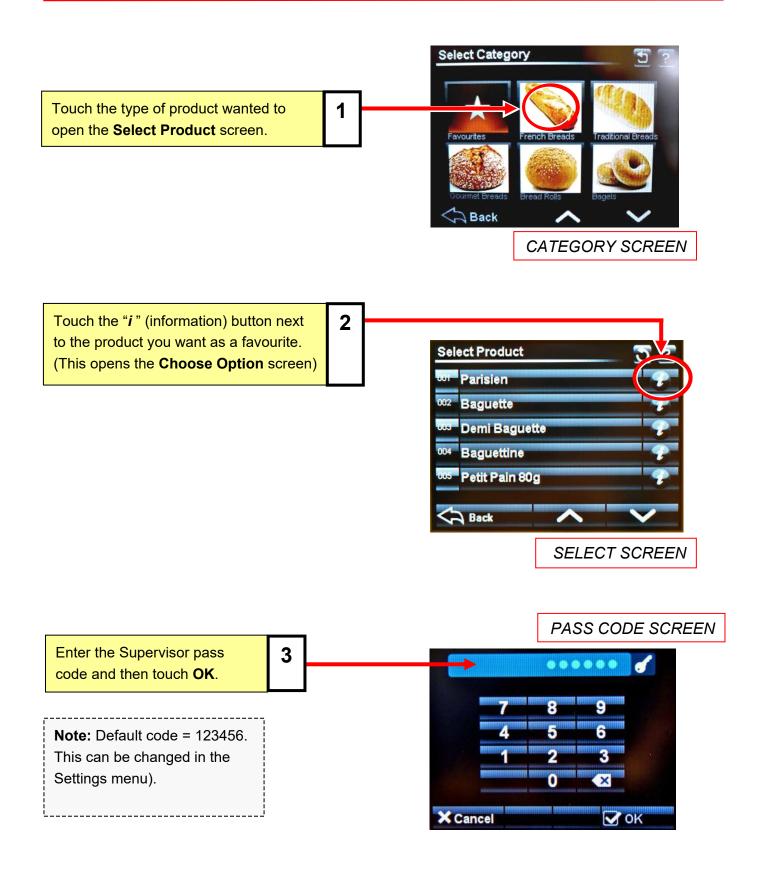
(Creating a Bake Program)

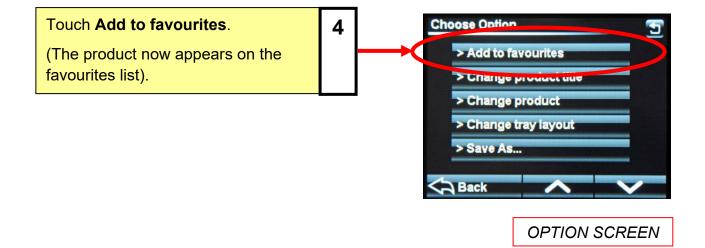


KEYBOARD SCREEN

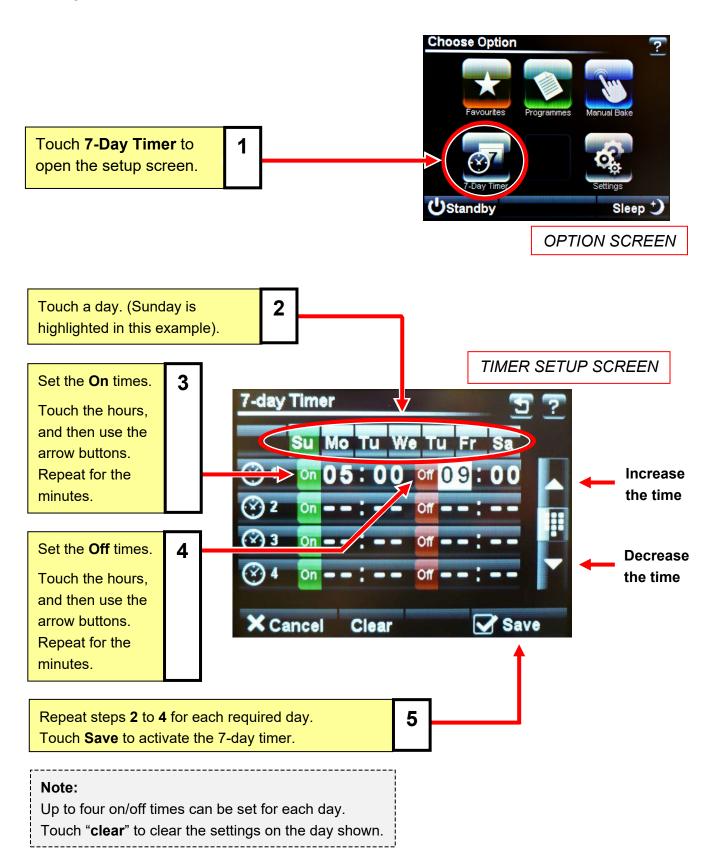


Add a product to the favourites list (optional)

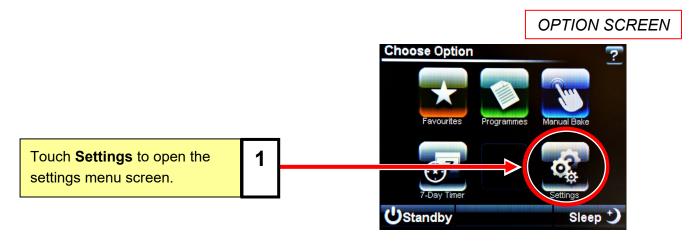




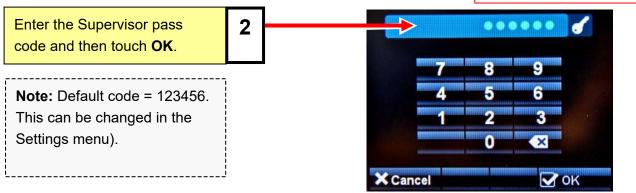
7-day timer

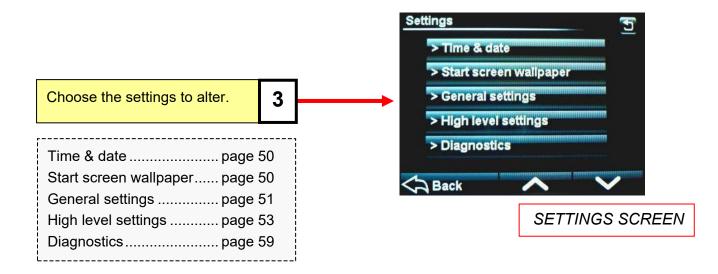


Settings

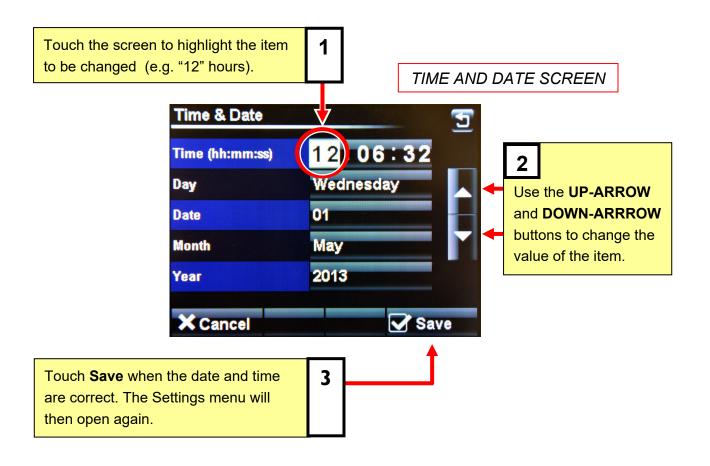


PASS CODE SCREEN



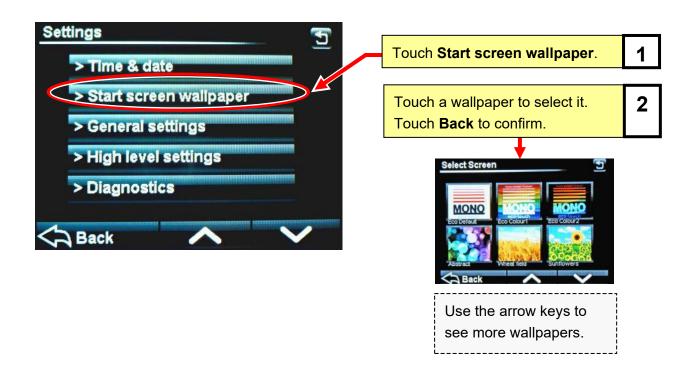


Set time and date



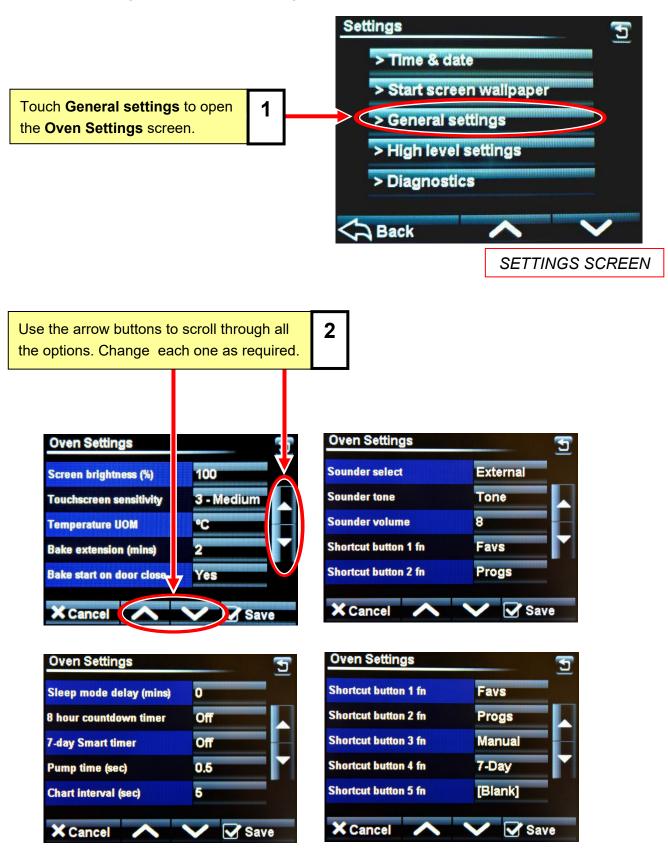
Select a wallpaper for the start screen

(Settings)



General oven settings

See Table 9 for a guide to each oven setting.



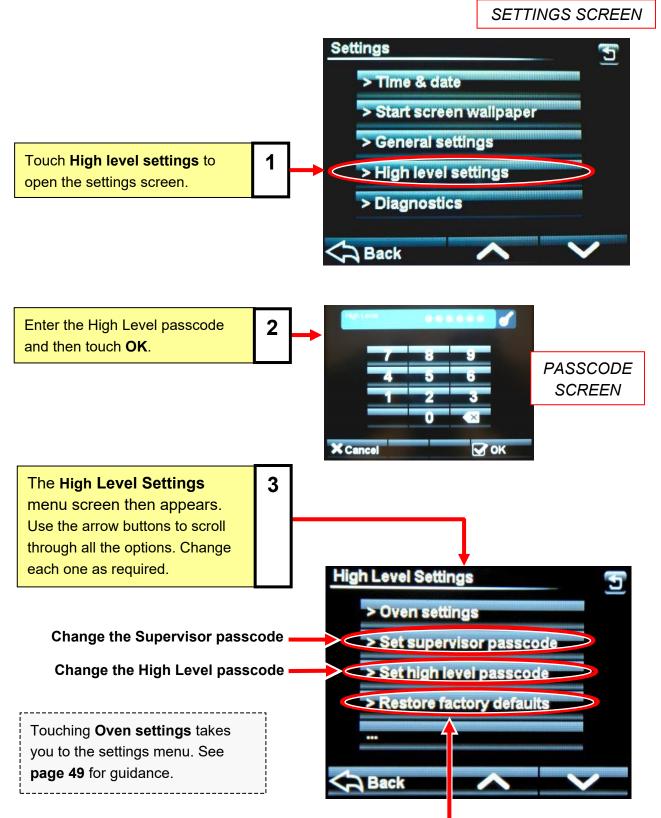
Oven setting	Explanation of the settings	Default
Screen brightness	Adjusts the brightness level of the viewing screen. Settings are 5 to 100.	100
Touchscreen sensitivity	Adjusts the pressure required to operate the touch screen. (5 levels of sensitivity)	3 - Medium
Temperature unit of measure	Centigrade (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)	This setting increases the pipe pressure (before steaming) only when a pump is fitted. Settings are 0.0 to 3.0 .	
Chart interval (sec)	sec) Time interval in seconds that the bars show on the heat and bake time progress charts. Settings are 1 to 60 .	
Sounder select	Set as External or Onboard sounder.	External
Sounder tone	r tone Select a tone – Voice, Tone, or Off.	
Sounder volume	Adjust to suit the volume required for the onboard sounder. Settings are 0 to 15 .	
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]

Table 9: Oven settings explained (general level)

(Settings)

High-level settings

See **Table 10** for a guide to the high-level settings.



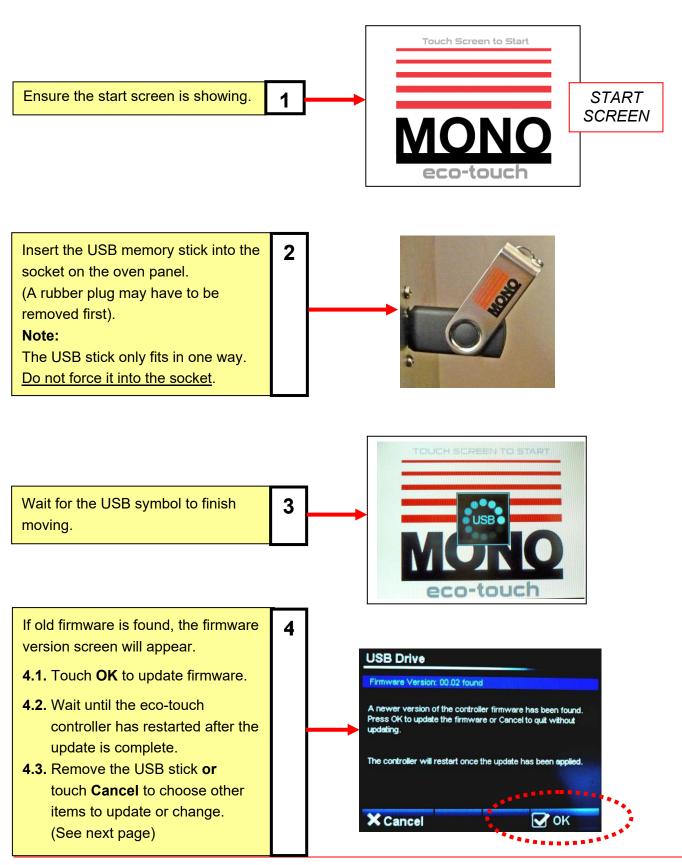
Restores all screens to original (factory default) settings

Table 10: 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).	
Sleep hysteresis	b hysteresisKeeps "sleep mode" temperature cycling around a set point.Settings for above/below thresholds are 1 to 20 (°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.	
Top gain	Top and bottom heat gains.	50 (°C) or
Bottom gain	Settings are 0 to 255 °C (32 to 491 °F)	122 (°F)
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	ut soft start Some lights need this for a cold start-up to stop them blowing.	
Heater control	Always fixed to the Contactor setting for this oven.	Contactor
I/P diagnostic	gnosticDisplays inputs and outputs at the top of the screen to aid fault-finding.	

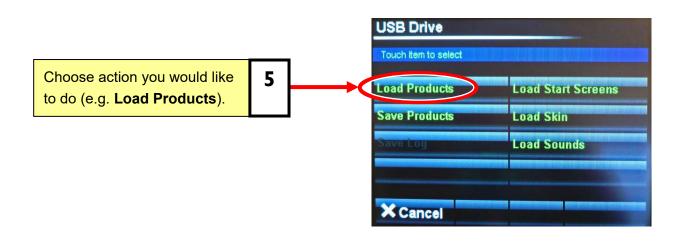
8. Using the USB port

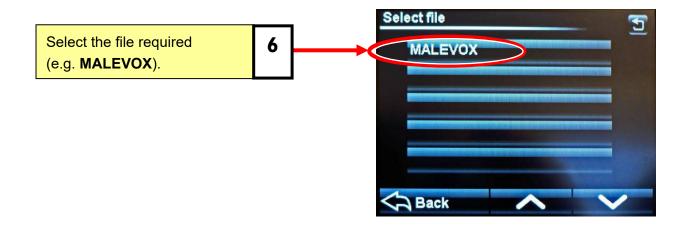
Never use this USB port to power or recharge electronic devices e.g., mobile phones. Incorrect usage causes damage to the oven and could result in a fire.

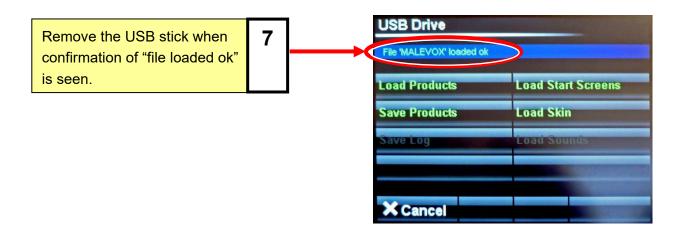


Other items to update









Notes on using USB sticks

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**.

<u>SKINS</u>

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)

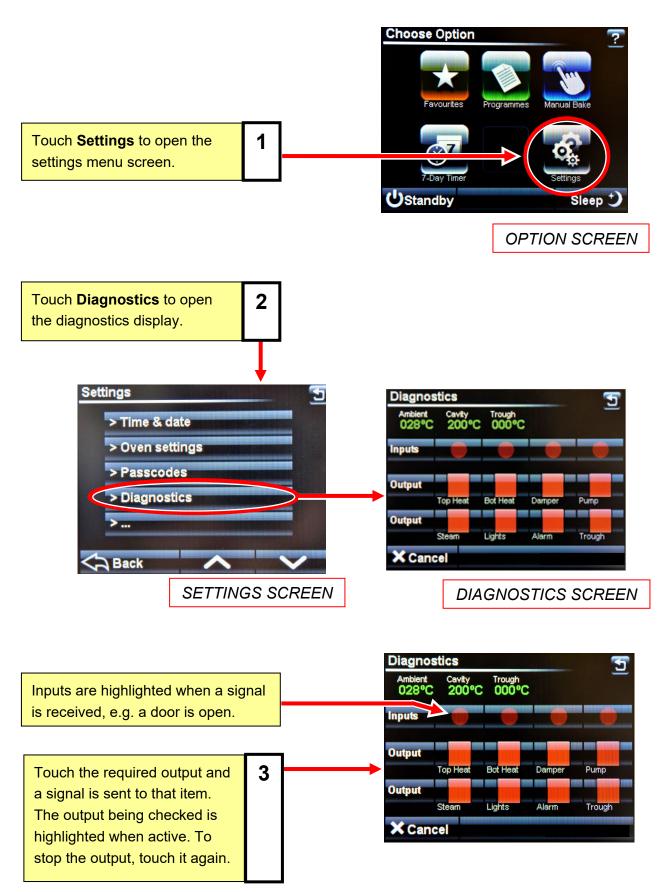
These files contain the information for baking each product, e.g. bread, buns, and cakes.

STARTUP SCREENS

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



9. Diagnostics



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10. Passcodes

Default passcodes

Table 11: Security level and passcodes

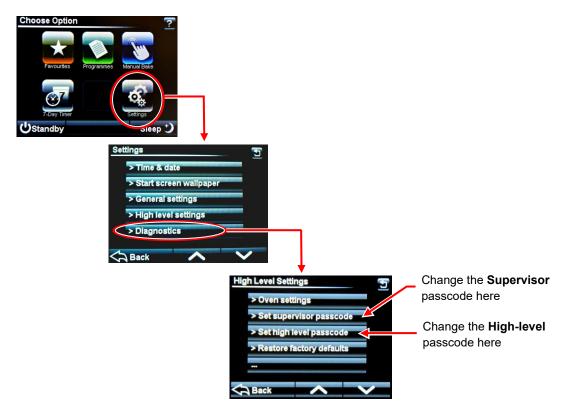
Security level	Passcode
Supervisor (low level)	123456 (default)
High-level	654321 (default)
Master	314159 (fixed)

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.



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11.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.
- 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.

12. 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.

13. Service

Oven spares

Table 12: Oven spares

Spare	Part number
Frosted glass (lights)	257-02-00027
Plain glass (lights)	257-02-00028
Door bumper stop	257-03-00094
Hinge pin, right-hand-side	257-03-00005
Hinge pin, left-hand-side	257-03-00009
Black door handle	A900-27-192
Door spring	257-03-00017
Wire rope	257-03-00024
Spring retaining pin	257-03-00025
Pulley	257-03-00015
Pulley spindle	257-03-00013
Damper drive coupling	257-07-00007
Element gasket	245-02-01300

Spare	Part number
24v 20w Dichroic Lamp	B855-94-008
Top heat element, 0.66 kW	B854-04-102
Top heat element, 0.4 kW	B854-04-100
Bottom heat element, 0.5 kW	B854-04-101

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.



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

+44/0 1792 561234

Spares +44/0 1792 564039 Email: <u>mono@monoequip.com</u>

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.

14. Maintenance

General maintenance

MA WA	ARNING	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 **63**).

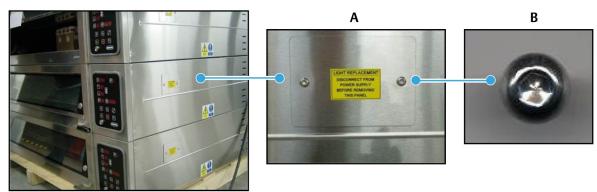
Light bulb replacement



WARNING Disconnect from the supply before replacing light bulbs.

How to replace the 24Vac 20w lamp (part number B855-94-008)

- 1. Unscrew the plate (A) next to the light to be replaced.
 - Keep the hex head socket screws (B) safe.



2. Slide the fitting out.



3. Remove the light from the holding slot and unclip from the cable.



4. Replace the light and refit all parts.



5. Reconnect the power supply and test.

15. Oven Electrics

Table 13: Parts list for the electrica	I drawings (3-tray wide)
--	--------------------------

Reference in drawing	Description	Part number
F1 (single-phase only)	Heaters MCB	B872-22-007
F2 (single-phase only)	Heaters MCB	B872-22-007
F3 (single-phase only)	Heaters MCB	B872-22-007
F4	Control power supply MCB	B872-22-062
F5	Overheat thermostat	B888-30-014
T1	Control circuit power supply	B801-93-005
К1	Top heat contactor	B801-08-021
К2	Bottom heat contactor	B801-08-021
Y1	Water solenoid (8 mm pipe)	A900-34-365
H1	Interior light	B855-94-008
B1	Oven thermocouple	B873-95-007
U1	Main ECO printed circuit board	158-25-80000
D1	Damper solenoid	B749-83-004
R1	Top heat element, 1.0 kW	B854-04-093
R2	Top heat element, 0.6 kW	B854-04-091
R3	Top heat element, 0.6 kW	B854-04-091
R4	Top heat element, 0.6 kW	B854-04-091
R5	Top heat element, 0.6 kW	B854-04-091
R6	Top heat element, 0.6 kW	B854-04-091
R7	Top heat element, 0.6 kW	B854-04-091
R8	Bottom heat element, 0.75 kW	B854-04-092
R9	Bottom heat element, 0.6 kW	B854-04-091
R10	Bottom heat element, 0.6 kW	B854-04-091
R11	Bottom heat element, 0.6 kW	B854-04-091
R12	Bottom heat element, 0.6 kW	B854-04-091
R13	Bottom heat element, 0.6 kW	B854-04-091
R14	Bottom heat element, 0.6 kW	B854-04-091

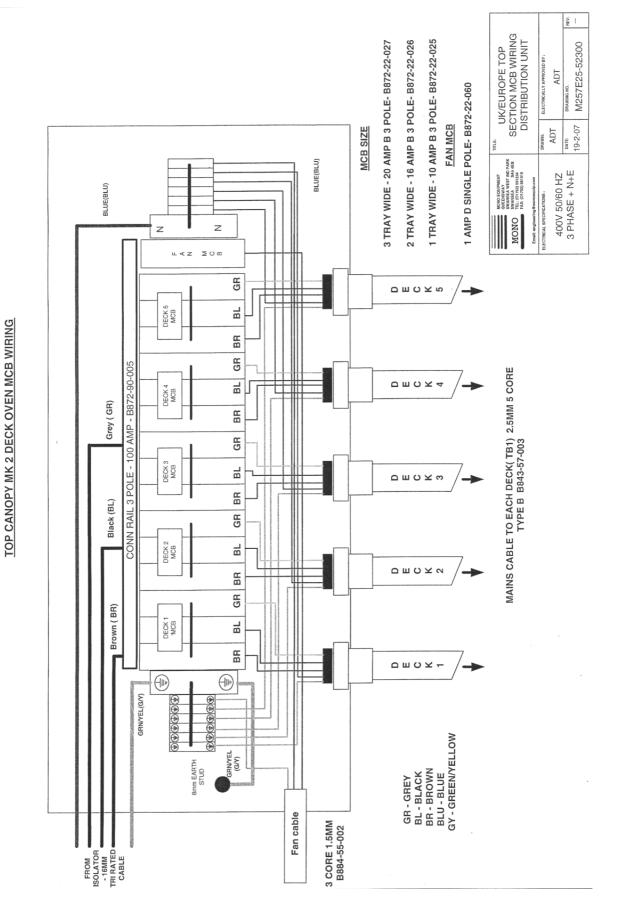
Table 14: Parts list for the electrical drawings (2-tray wide)

Reference in drawing	Description	Part number
F1 (single-phase only)	Heaters MCB	B872-22-006
F2 (single-phase only)	Heaters MCB	B872-22-006
F3 (single-phase only)	Heaters MCB	B872-22-006
F4	Control power supply MCB	B872-22-062
F5	Overheat thermostat	B888-30-014
T1	Control circuit power supply	B801-93-005
К1	Top heat contactor	B801-08-021
К2	Bottom heat contactor	B801-08-021
Y1	Water solenoid (8 mm pipe)	A900-34-365
H1	Interior light	B855-94-008
B1	Oven thermocouple	B873-95-007
U1	Main ECO printed circuit board	158-25-80000
D1	Damper solenoid	B749-83-004
R1	Top heat element, 0.65 kW	B854-04-102
R2	Top heat element, 0.4 kW	B854-04-100
R3	Top heat element, 0.4 kW	B854-04-100
R4	Top heat element, 0.4 kW	B854-04-100
R5	Top heat element, 0.4 kW	B854-04-100
R6	Top heat element, 0.4 kW	B854-04-100
R7	Top heat element, 0.4 kW	B854-04-100
R8	Bottom heat element, 0.5 kW	B854-04-101
R9	Bottom heat element, 0.4 kW	B854-04-100
R10	Bottom heat element, 0.4 kW	B854-04-100
R11	Bottom heat element, 0.4 kW	B854-04-100
R12	Bottom heat element, 0.4 kW	B854-04-100
R13	Bottom heat element, 0.4 kW	B854-04-100
R14	Bottom heat element, 0.4 kW	B854-04-100

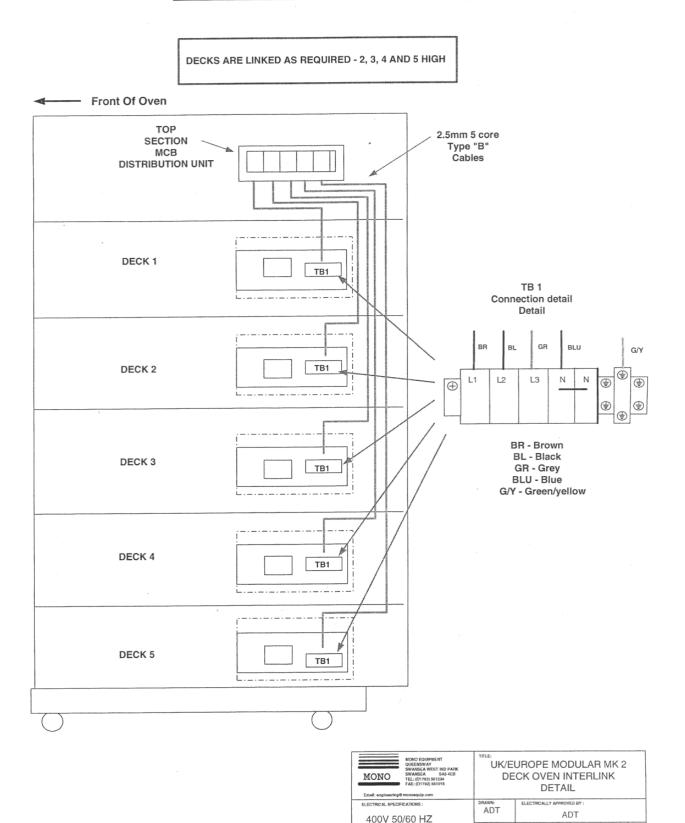
Table 15: Parts list for the electrical drawings (1-tray wide)

Reference in drawing	Description	Part number
F1 (single-phase only)	Heaters MCB	B872-22-006
F2 (single-phase only)	Heaters MCB	B872-22-006
F3 (single-phase only)	Heaters MCB	B872-22-006
F4	Control power supply MCB	B872-22-062
F5	Overheat thermostat	B888-30-014
T1	Control circuit power supply	B801-93-005
К1	Top heat contactor	B801-08-021
К2	Bottom heat contactor	B801-08-021
Y1	Water solenoid (8 mm pipe)	A900-34-365
Н1	Interior light	B855-94-008
B1	Oven thermocouple	B873-95-007
U1	Main ECO printed circuit board	158-25-80000
D1	Damper solenoid	B749-83-004
R1	Top heat element, 0.325 kW	B854-04-111
R2	Top heat element, 0.2 kW	B854-04-109
R3	Top heat element, 0.2 kW	B854-04-109
R4	Top heat element, 0.2 kW	B854-04-109
R5	Top heat element, 0.2 kW	B854-04-109
R6	Top heat element, 0.2 kW	B854-04-109
R7	Top heat element, 0.2 kW	B854-04-109
R8	Bottom heat element, 0.25 kW	B854-04-110
R9	Bottom heat element, 0.2 kW	B854-04-109
R10	Bottom heat element, 0.2 kW	B854-04-109
R11	Bottom heat element, 0.2 kW	B854-04-109
R12	Bottom heat element, 0.2 kW	B854-04-109
R13	Bottom heat element, 0.2 kW	B854-04-109
R14	Bottom heat element, 0.2 kW	B854-04-109

Electrical drawings



DX UK Modular MK2 Deck Oven Interlink Detail



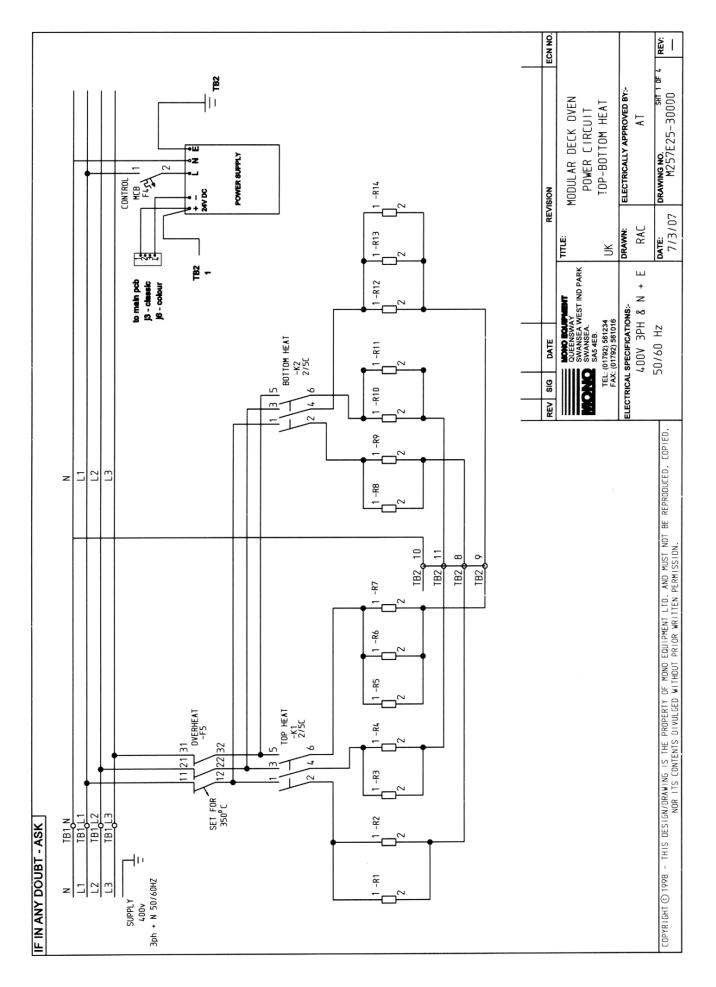
3 PHASE + N+E

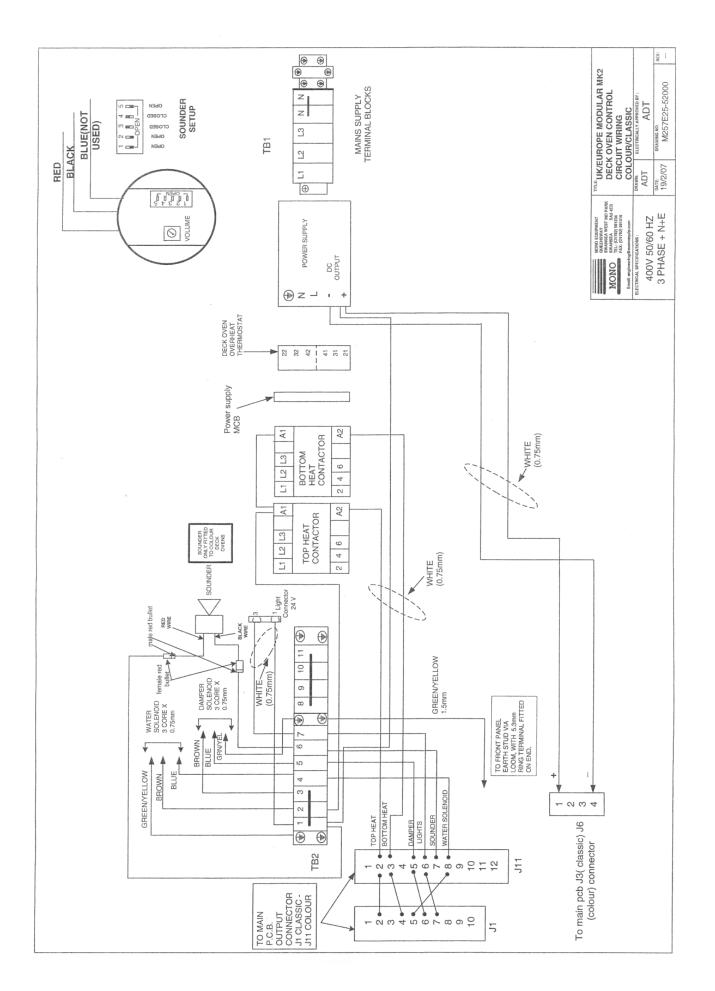
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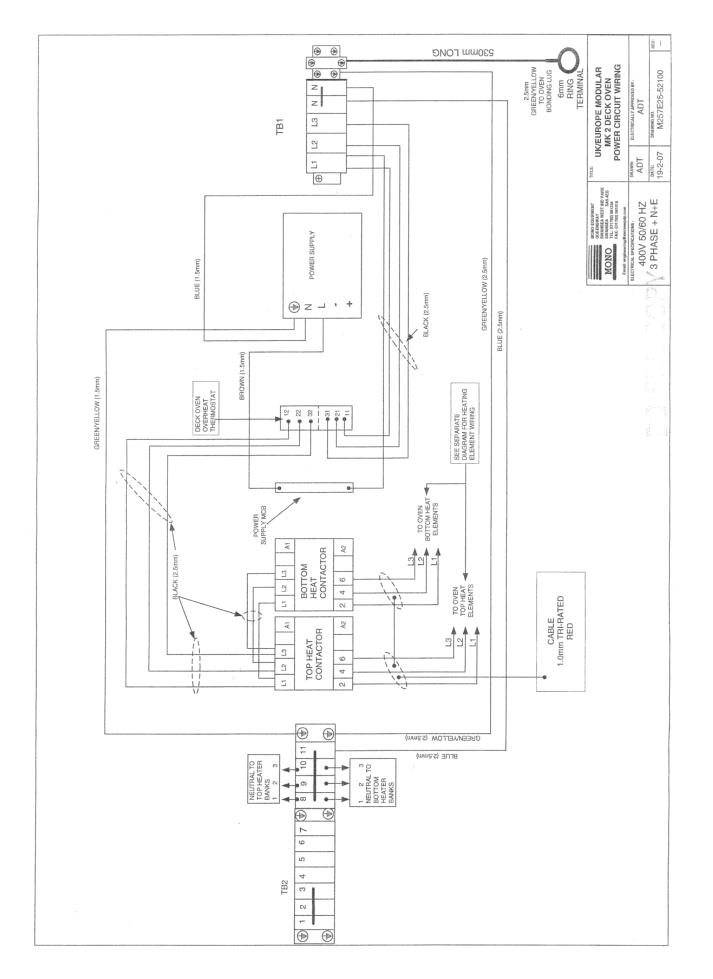
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19-2-07

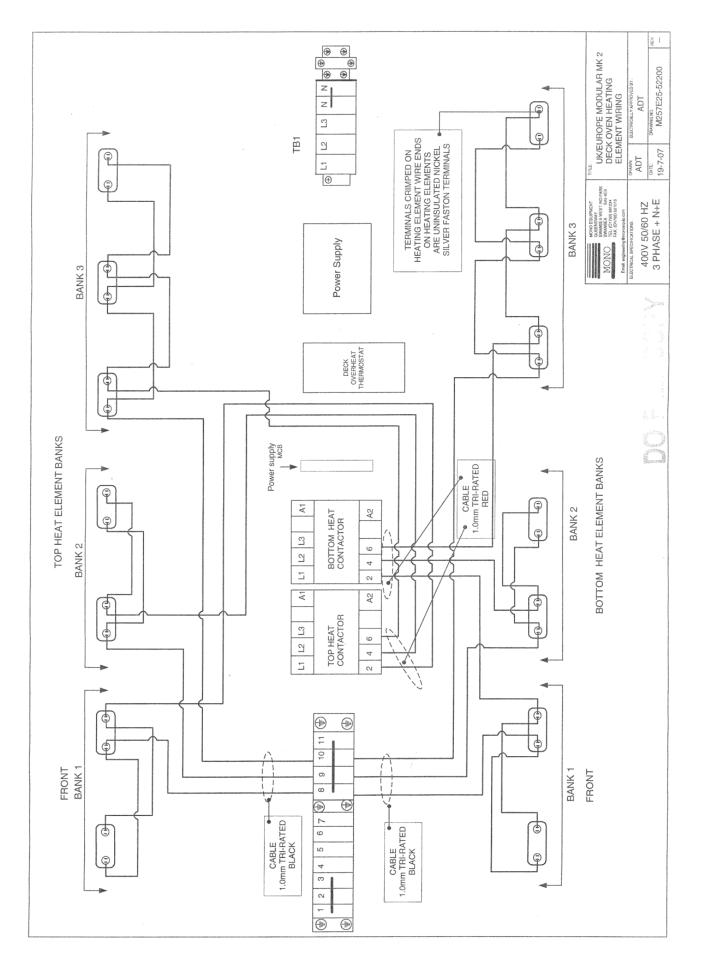


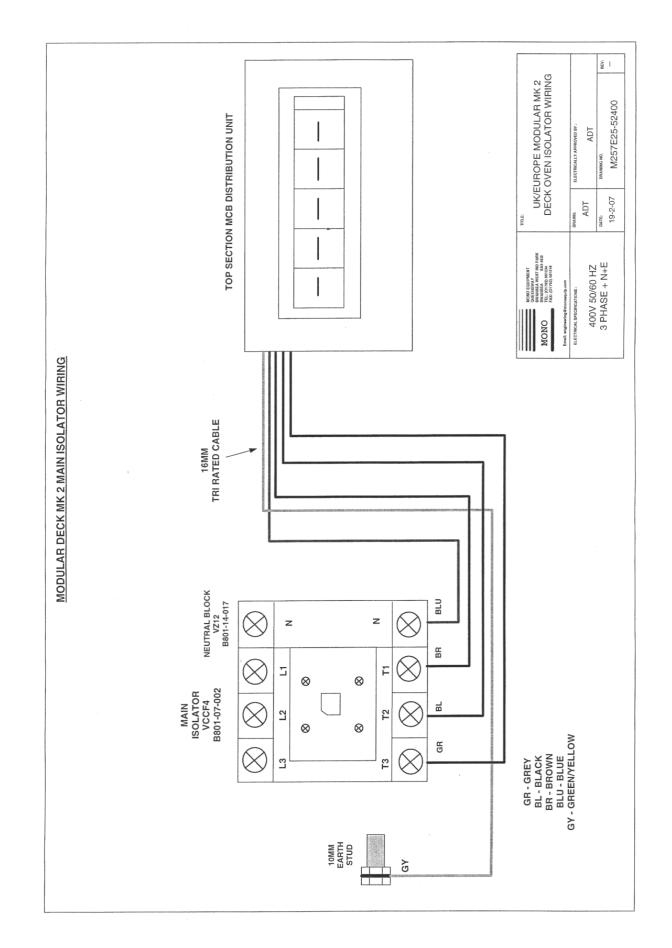






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Electrical panel main components

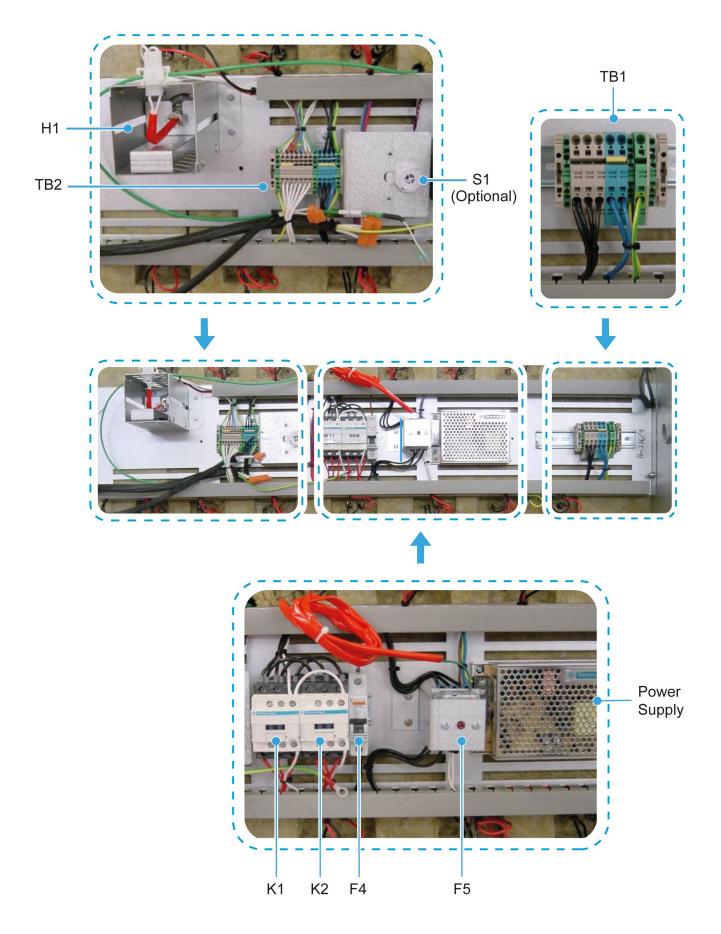
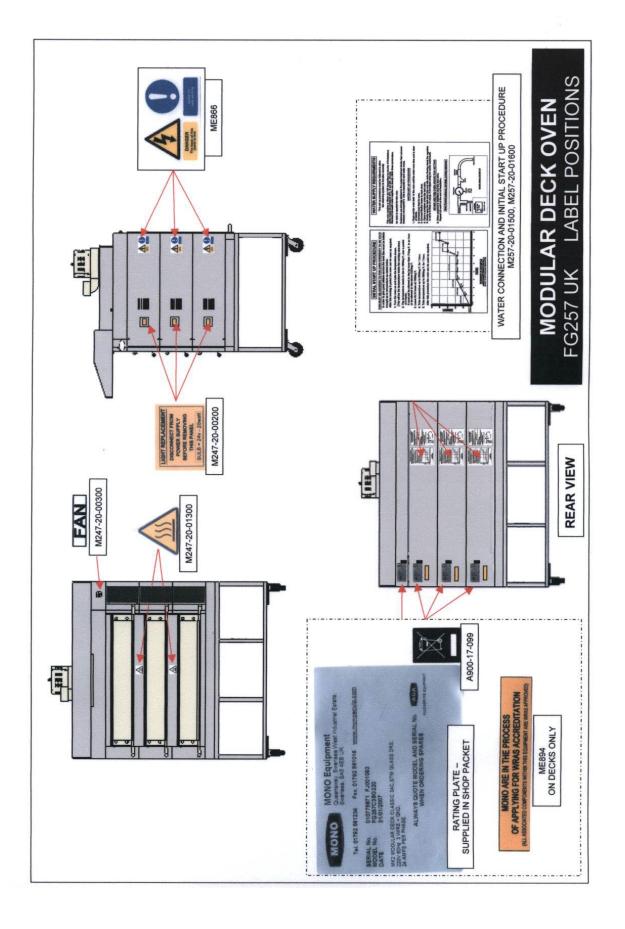


Table 16: Oven canopy layout parts list

Reference	Part description	Part number
C1	Canopy fan capacitor, 5 µF, 400VDB, metal	B869-23-005
Q1	Canopy fan on/off switch	B895-07-005
M1	Canopy fan motor R2E225-AG01-21 (230V, 1.4 Amp, 305 Watts)	B869-75-026

16. Warning and Information Labels



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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.



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