



MonoEquip.com

MONO Harmony Deck Oven

EN

Quick Start Guide



Product Version

- USA specification
- Modular decks
- ECO Touch controller



eco-touch control

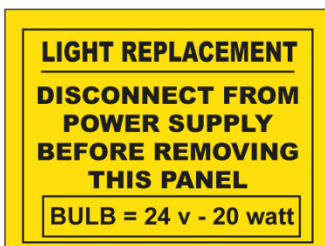
Warning and Information Labels



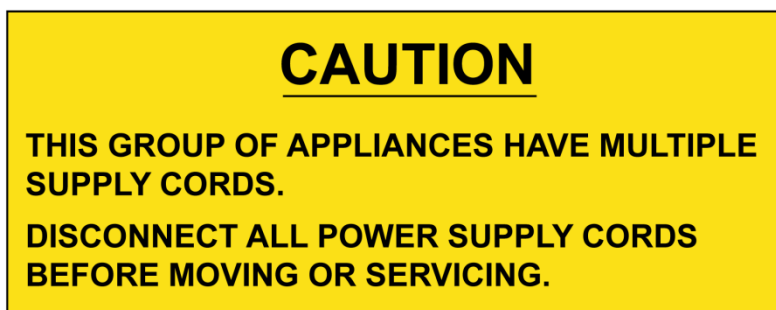
Warning label, to reduce risk of fire or electric shock. Do not remove the cover (or back). No user serviceable parts inside. Repair should be done by authorized personnel only.



Warning label, to warn of hot surfaces.



Light replacement power warning.



Multiple Supply Cord Information.

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 recognized 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 organization'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

- Separate supplies to each deck must all 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 outlets 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 organization.

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 **23**.

General Notices



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 the MONO Service Department at:

MONO Equipment Limited

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

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 in the boxes below.

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 authorized 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 statutory 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**

- Separate electrical supplies to each deck and the prover base must be protected by their own 30mA Type 'A' Residual Current Device (RCD). The RCDs must be fitted before installation and commissioning of the oven and prover base.
- 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**

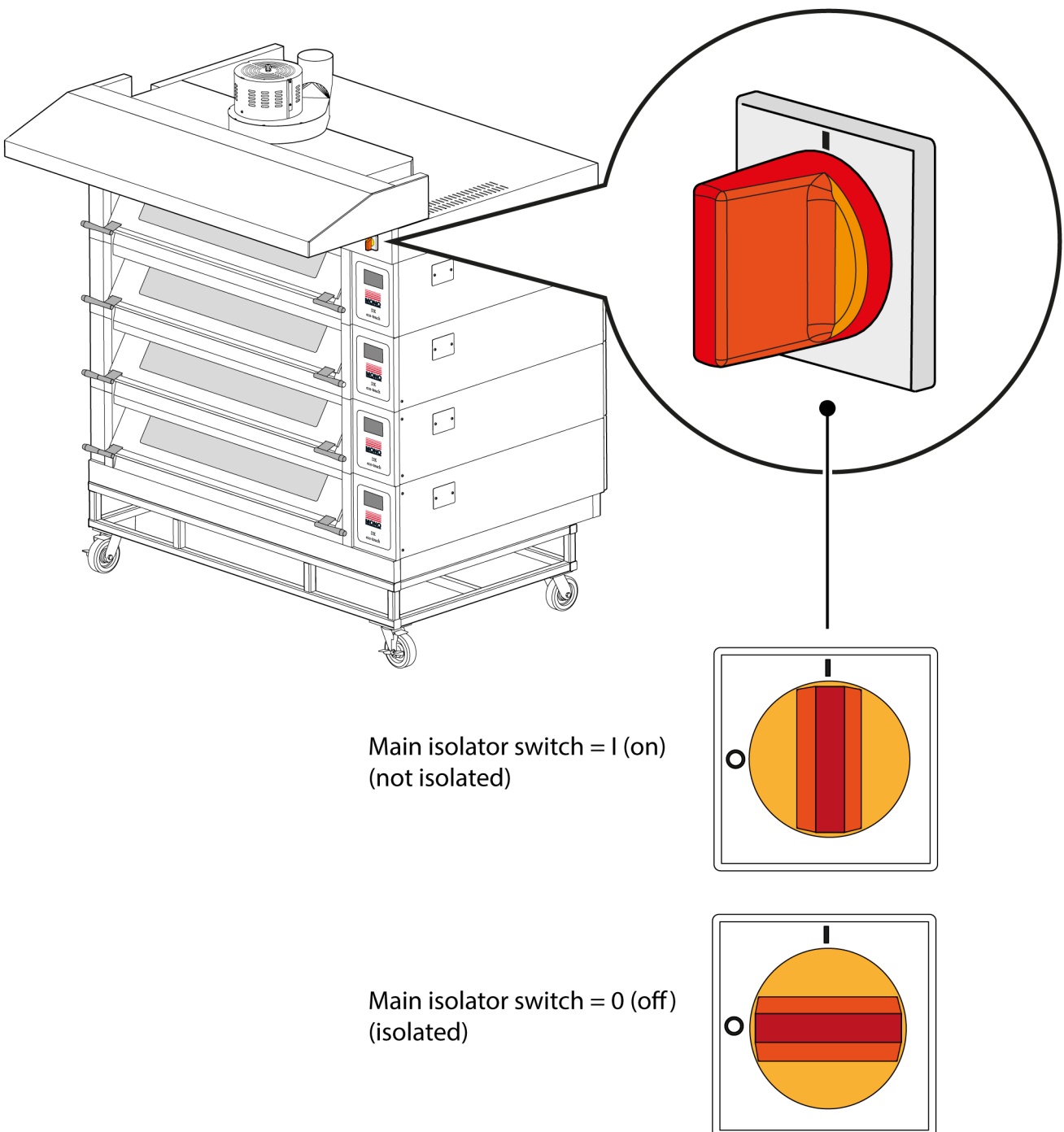
- Be aware of hot surfaces:
 - Do not touch the oven door with bare skin.
 - Always use oven gloves when loading or unloading the oven.
 - Allow time for the oven to cool down before cleaning it.
 - While the oven is in operation (and for some time after use), touching the oven door or the surrounding panels is inadvisable because of the 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 unauthorized 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 switch, rated for the specific model of oven installed, must also be available 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.

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 authorized to install this oven. All water and electrical connections must comply with local and national regulations.



WARNING

- The electrical supply to a deck must be fitted with a 30mA-rated Type ‘A’ Residual Current Device (RCD) before installation and commissioning of the oven.
- Always fit a wall-mounted isolator to isolate the oven completely from the electrical supply. The isolator must be visible, labelled, and easily accessible by an operator.
- Always check the electrical ratings on the nameplate before connecting power.

Electrical connections

Each modular deck requires connecting to a power supply.

Table 1: Supply required for each modular deck

Supply	3-trays wide	2-trays wide	1-tray wide
3 phase (3 wires+ground), 220 Vac (60 Hz)	8.85 kW, 24 Amp	5.93 kW, 18 Amp	3.0 kW, 9 Amp
3 phase (3 wires+ground), 208 Vac (60 Hz)	7.90kW, 22 Amp	5.31 kW, 17 Amp	2.7 kW, 8.7Amp
3 phase (3 wires+ground), 480 Vac (60 Hz)	8.78 kW, 12.4 Amp	5.86 kW, 8.2 A.	4.9 kW, 7 Amp

Table 2: Overload protection for each modular deck

Overload protection	3 trays-wide	2 trays-wide	1-tray wide
Each modular deck	20 Amps	20 Amps	Contact MONO



NOTE

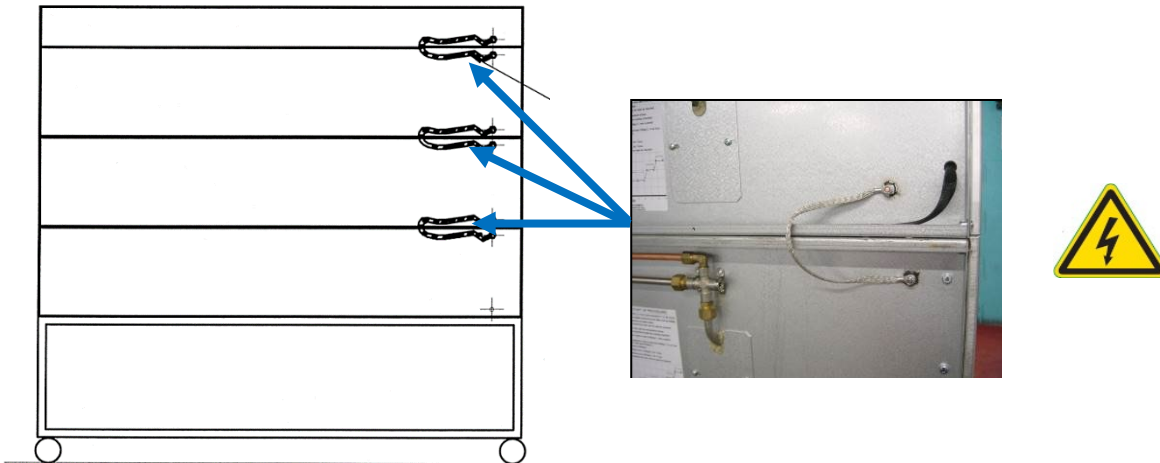
- Whenever connecting power to the oven, eight minutes must elapse before the oven’s steam function can be used. The bottom elements require enough time to heat up for steaming. This waiting time applies even if the power is disconnected and connected again and the oven is still hot.

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

Earthquake zones

When the installation is in an earthquake zone, bolt the base structure to the floor using bracket part number **247-01-00075** (diagonally opposite corners) or suitable alternative fixings. Remember to allow enough space surrounding the oven for maintenance and cleaning without moving the oven.

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 1/2-inch NPT hot or cold water supply rated at 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 US gallon
PH range	7.0 to 8.5
Chloride concentration	0 to 30 ppm
Calcium	0 to 4 ppm
Magnesium	0 to 4 ppm
Alkalinity	0 to 20 ppm

Consult your water treatment company for proper water filtration system information.

- No drain is required for this oven.
- A double-check valve (backflow prevention device) is supplied and fitted to the water inlet manifold.

Oven's water system setup procedure



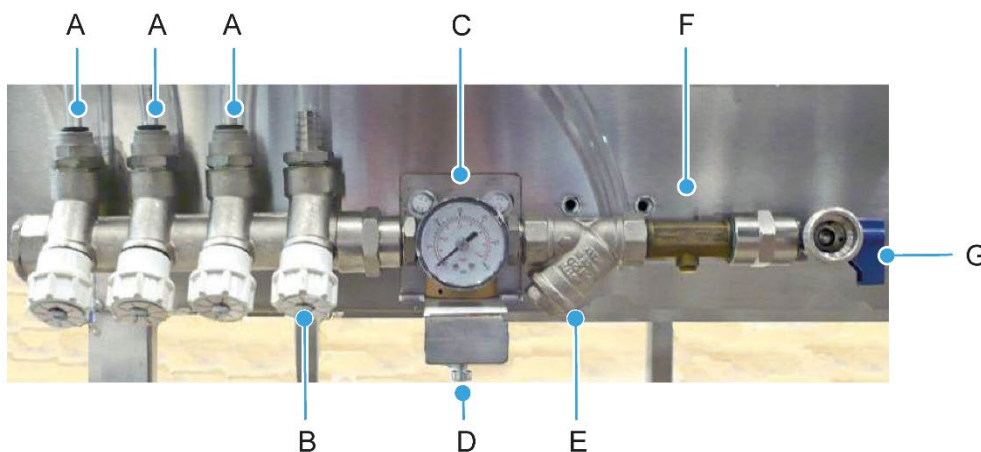
The water delivery to the deck oven must be checked for the steam system to operate correctly.

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 11 psi (0.75) bar using the screw underneath **(D)**.
 - Never use the oven above this setting.
6. When the pressure has stabilized, 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)

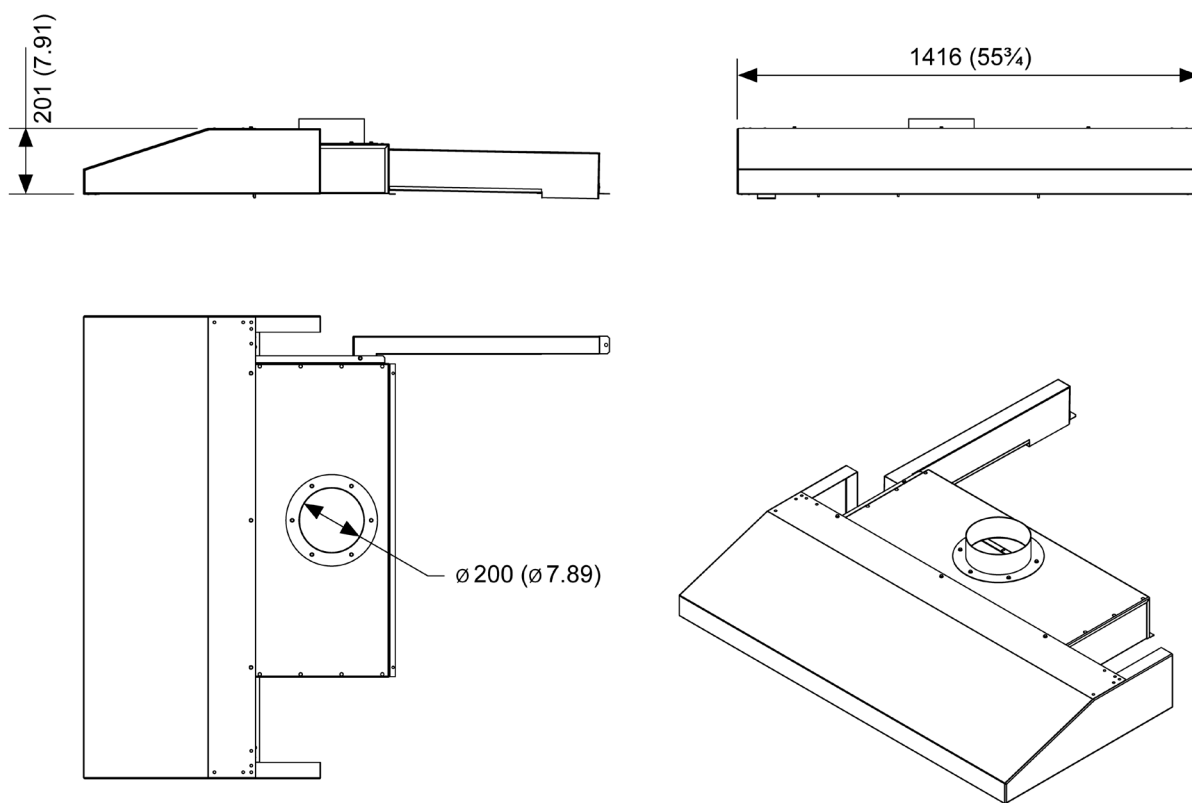


-
- A. To ovens
 - B. Test valve
 - C. Regulator
 - D. Adjusting screw to 11 psi (0.75 bar)
 - E. Filter
 - F. Dual check valve backflow prevention device
 - G. Stop tap
-

Exhaust connections (if canopy fitted)

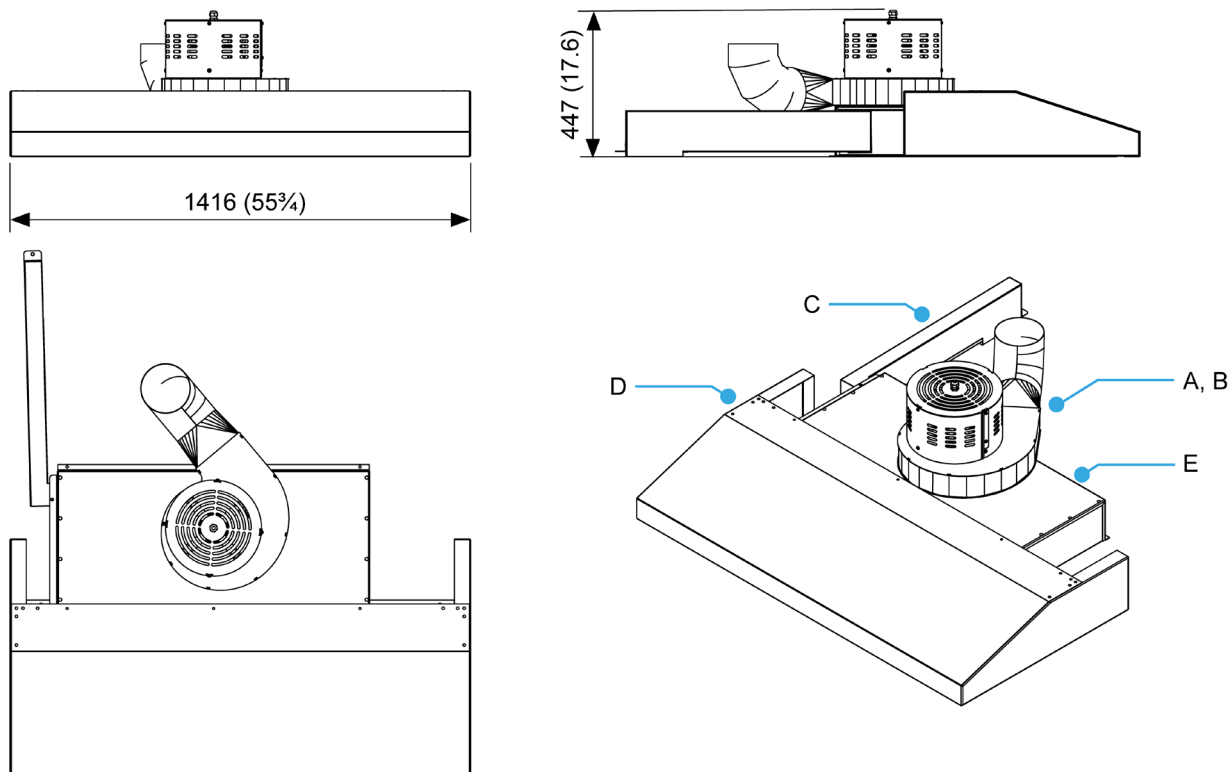
- Ideally, an exhaust duct should rise 78 inches (2 meters) above the bakery roof, protected from wind and birds by a duct protector.
- It should be of a suitable material to take the high temperatures and humidity expected.
- If the oven needs moving for cleaning, the duct should be flexible and easily removable at the oven connection point.

Figure 5: Canopy (without fan) dimensions



Dimensions are in inches (mm)

Figure 6: Canopy (with fan) dimensions



Dimensions are in inches (mm)

- A. Extraction fan assembly
- B. Inlet ring
- C. Flue assembly
- D. Canopy assembly
- E. Extraction duct assembly for 2-tray oven.



NOTE

■ Contact MONO Equipment for the availability of other extraction duct assemblies.

Before The First Use of the Deck Oven

Operating conditions

- Leave a clear space of at least 6 to 10 ft. (2 to 3 metres) 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

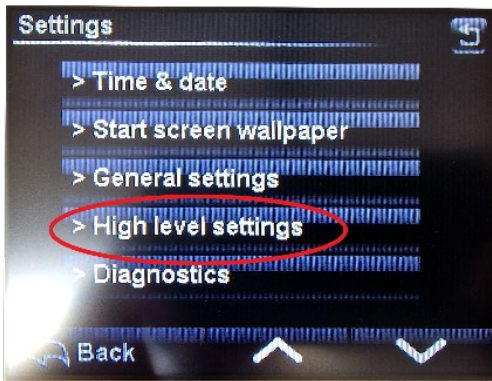
1. From the Main Menu, select the **Settings** icon.



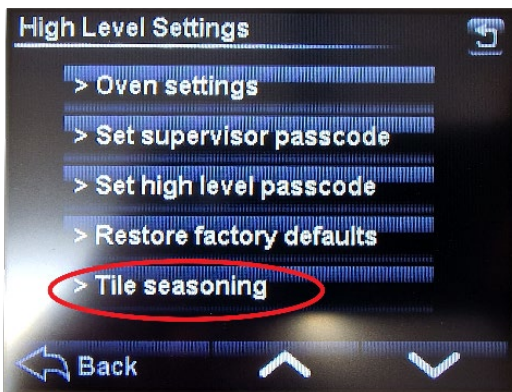
2. Enter the default password **123456** (unless changed) and touch **OK**.



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 are baked 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
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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.

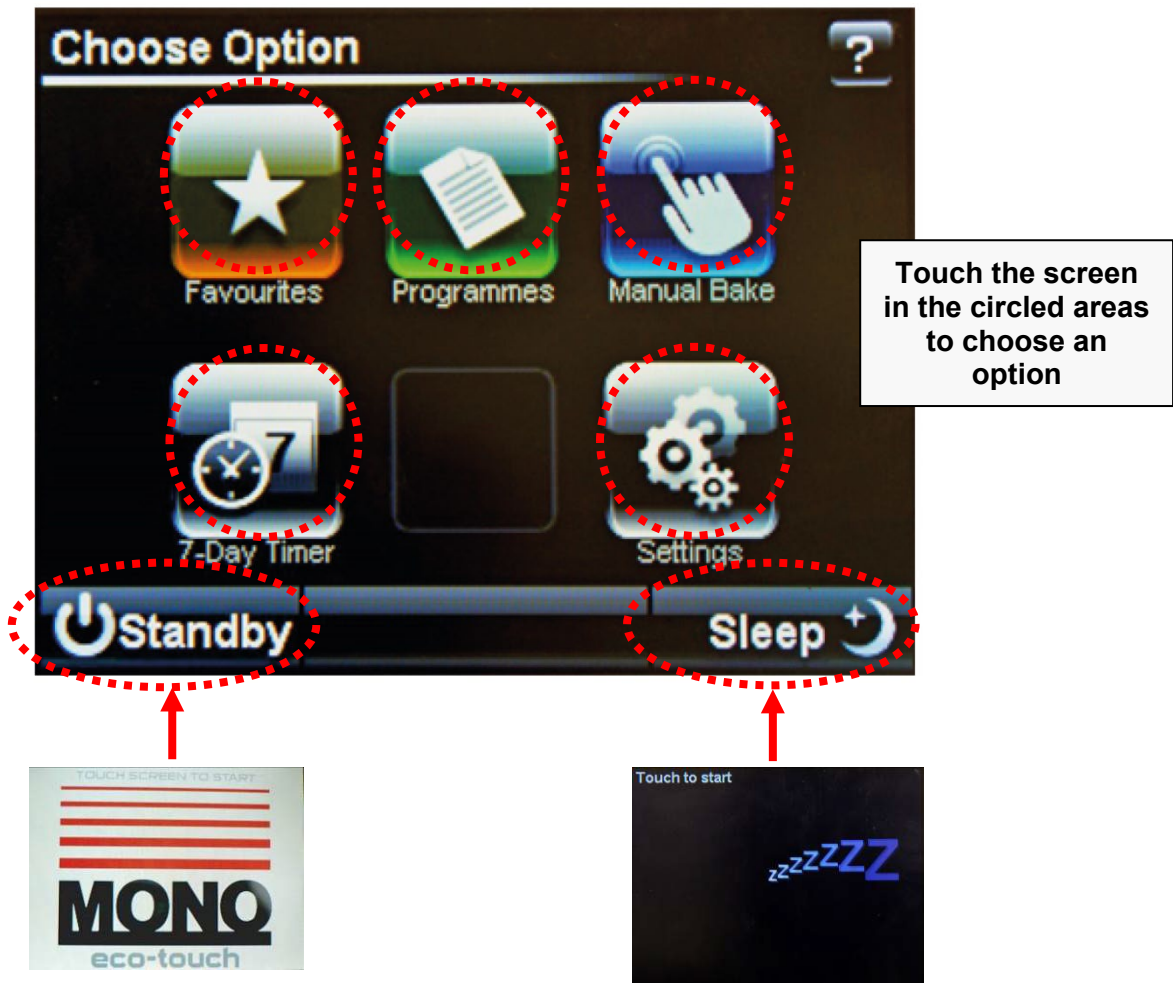
- If your product is **light on top**, decrease the bottom heat and extend the baking time or increase the top heat.
- If the product **sides are pale** and the **top dark**, space the products well apart, drop the top heat and extend the bake time.
- **If the bake time is too long**, first increase 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.

Basic Operations

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



CAUTION ■ 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.

Cleaning

Daily cleaning instructions



WARNING ■ Isolate the oven from the electrical supply before cleaning.



CAUTION ■ 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: Cooling down could take several hours. 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.
3. 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



WARNING ■ Isolate the oven from the electrical supply before cleaning.



Caution! ■ 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 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.

NOTE: Do not stand on the roof.

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.
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- 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 **22**).
- If the light bulb needs replacing, refer to the Harmony Deck Oven Full Manual (FILE-73) in the **Downloads** section on the MONO website [MonoEquip.com](https://www.monoequip.com) for instructions.

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

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

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



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