

Enter Serial No. here._

In the event of an enquiry please quote this serial number.



OPERATION AND MAINTENANCE MANUAL

MONO ECOTOUCH DECK OVEN



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	CHED Whows.	
	G.A.Williams – Quality 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

IMPORTANT NOTES

- TO REDUCE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT REMOVE COVERS (OR BACK SHEETING). NO USER SERVICEABLE PARTS INSIDE. REPAIR SHOULD BE DONE BY AUTHORISED PERSONNEL ONLY.
- FAILURE TO ADHERE TO THE CLEANING AND MAINTENANCE INSTRUCTIONS DETAILED IN THIS MANUAL COULD AFFECT THE WARRANTY OF THIS MACHINE.
- THE OVEN SHOULD ONLY BE USED FOR BAKING BREAD, PASTRIES AND CAKES
- SOME SECTIONS OF THIS MANUAL ARE FOR ENGINEERS ONLY AND THE CUSTOMER SHOULD NOT ATTEMPT TO MAKE ALTERATIONS.
- <u>BEWARE OF HOT SURFACES</u>. DO NOT TOUCH OVEN FRONT OR DOOR WITH BARE SKIN AND WEAR OVEN GLOVES WHEN LOADING AND UNLOADING.

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1.0 INTRODUCTION

<u>The **MONO** Electric Deck Oven</u> 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 totally reliable

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

• Top quality specification

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

The oven comes with an integral steaming system resulting in a reduction in energy consumption and also a reduction in the overall size of the oven. The system produces real steam and because rapid recovery has been designed into the oven you can enjoy it time and time again.

Ecotouch ovens are supplied with **TOUCH** displays for the user-friendly control panels. This can show pictures of product types or program numbers that have been set by the user. When not being used, the screen can show your company logo.

ECOTOUCH SCREEN CONTROLS

A voice prompt facility is also available for the basic instructions like "Bake over".





Fitted with hinged easy to clean doors, individual top and bottom heat controls and seven day bake timers for each deck, the Mono deck oven gives the Master Baker a fast, even bake.

• Clean design, easy to maintain

The electronic 'touch' controls to each deck are, easy to use and designed for reliability and easy cleaning.

The flue system is integral to the unit and is designed to reduce the build up of combustible deposits in the flue.

2.0 SPECIFICATIONS

NOISE LEVEL: Less than 80 dB

ELECTRICAL DETAILS

3 Tray (5-3-8)	415v.	3ph+N+E	50hz.	42kW 6	0amps per phase.
4 Tray (5-4-8)	415v,	3ph+N+E	50hz.	56.5kW	90amps per phase.



3.0 SAFETY

- All maintenance must be made with the oven disconnected from the power supply and then only by fully trained authorized persons.
- Check all cover panels, and any pipe fittings are securely positioned.
- Check oven door handles are not damaged.
- Do not operate a deck's steaming system with oven door open.
- Always use oven gloves when loading the oven.
- When products are removed from the oven, ensure:
 (a) Tins are knocked out and stored directly onto a tin storage trolley or rack (do not leave hot tins on the floor or on tables).
- (b)Trays are put into a rack and the rack is wheeled to a safe cooling area.
- Do not store items on top of the oven.
- Do not store items behind the oven.
- Beware of hot surfaces. Do not touch oven front or door with bare skin.
- All operatives must be fully trained
- People undergoing training must be under direct supervision
- The oven should only be used for baking bread, pastries and cakes (for other products please contact MONO Equipment)
- No unauthorized modifications should be made to the oven.
- Do not walk on the roof of the oven
- DISPOSAL

Care should be taken when the oven comes to the end of its working life. All parts should be disposed of in the appropriate place either recycling or other means as the law permits at the time.

NOTE: BAKERY STAFF **MUST NOT** UNDER ANY CIRCUMSTANCES REMOVE ANY PANELS TO ACCESS ANY PART OF THE DECK OVEN.

Panels should only be removed by a MONO maintenance engineer (or other fully trained maintenance contractor) for repairs or maintenance, **after isolating oven from power supply.**

NOTE: THE BAKERY MANAGER OR THE BAKERY SUPERVISOR MUST CARRY OUT THE ABOVE DAILY SAFETY CHECKS

4.0 INSTALLATION

GENERAL

- A hard smooth level floor is recommended on which to position the oven and access for maintenance should be considered.
 The oven is not designed to be "built in" so sufficient clearance <u>must</u> be left in front of the access panels (right hand side) to allow for servicing.
- If not chosen as an oven option, it is recommended that an extraction hood be placed above the oven to disperse excess steam and heat, which could have an adverse effect on the bakery ceiling and ambient temperature.

• A wall isolator **must** be available in order to completely isolate the oven. THIS ISOLATOR MUST BE CLEARLY ACCESSIBLE TO THE OVEN OPERATOR

- A chain retainer should be fitted, that is shorter than the power cables, to protect them from strain if the oven is moved. (Fit to the wall or floor and the base, using hole provided in castor fixing corner plates).
- It is recommended that a minimum gap of 75mm be left on the right hand side of the oven to allow maximum cooling of the electrical chamber.
- Installation must be made by a trained authorized engineer and all utilities must conform to all local regulations.
- The oven must be "run in" as stated in the initial start up instructions.

WATER SUPPLY

- All ovens with steam require a 15mm water supply at a pressure of 2 3 bar. standard domestic water supplies are usually within these parameters. All connections should comply with local water regulations.
- No drain is required for this oven.
- Customers are strongly advised to fit a water treatment device to all bakery equipment requiring water. MONO can advise on a suitable water treatment unit. This is essential in hard water areas.
- A non-return check-valve is supplied fitted to the water inlet manifold.

WATER SYSTEM SETUP PROCEDURE.

It is imperative that the water delivery to the deck oven is checked. <u>NOTE.</u> DYNAMIC PRESSURE, NOT STATIC, IS BEING MEASURED.

(SEE DRAWING ON NEXT PAGE)

- 1. Flush out the main feed pipe to be used until water runs clear and free from debris.
- 2. Connect main feed to oven.
- 3. Place a container under the test valve.
- 4. Slowly open drain valve and set the regulator to 0.5bar using the screw underneath.
- 5. When the pressure has stabilised shut the test valve.

REPEAT 3, 4 AND 5 AT THE END OF INSTALLATION.

REAR WATER CONNECTIONS USED FOR SET UP



INITIAL START UP

THIS PROCEDURE MUST BE ADHERED TO FOR THE OVEN WARRENTY TO BE VALID.

In order for the oven to give good reliable service the deck tiles must be initially brought up to temperature as stated below. After this running in period the oven can be used as required.

Running in procedure

- 1. Turn the oven on and note the temperature shown. (This will be the temperature inside the cooking chamber)
- 2. The temperature needs to rise to 90deg C over a period of 3 hours. It must not be allowed to rise by more than 25deg C in an hour or be allowed to rise above 93deg C.
- 3. Leave for 3 hours at 90deg C.
- 4. Take the temperature up to 150deg C for 1 hour.
- 5. Take the temperature up to 200deg C for 1 hour.



5.0 ISOLATION

 A wall isolator rated for the specific model of oven installed must be available in order to completely isolate the oven.

To stop the oven in an emergency Switch off at the main isolator

6.0 CLEANING

DAILY CLEANING INSTRUCTIONS

ISOLATE OVEN FROM MAINS SUPPLY BEFORE CLEANING.

- Sweep any debris out of oven after it has been allowed to cool.
 Use a vacuum cleaner with metal attachments (able to take heat) if available.
- Brush down and wipe oven front, back and sides with a damp cloth.
- Spot clean with a damp cloth, which has been soaked in a solution of mild detergent, and hot water, paying particular attention to ensure excess water is not applied around the area of the electrical panels.

NOTE: ENSURE WATER DOES NOT ENTER CONTROL PANEL MOUNTING OR ROOF MOUNTED FAN.

WEEKLY CLEANING INSTRUCTIONS

ISOLATE OVEN FROM MAINS SUPPLY BEFORE CLEANING.

- Complete daily cleaning as above.
- Scrub oven wheels with a mild detergent and hot water using nylon cleaning brush.
- Ensure the oven roof area is clear of debris and dust build up. (DO NOT STAND ON THE OVEN ROOF)

7.0 OPERATING CONDITIONS

- It is recommended that a space of at least 2 metres be left in front of the oven for ease of operation and safety.
- Bakery utensils must not be used to operate the control panel buttons.

8.0 PRINCIPLE OF OPERATION

NOTE: REFER TO YOUR OWN COMPANY'S RECIPE MANUAL FOR OVEN TEMPERATURE SETTINGS.

Products are baked in an insulated heated chamber. The temperature is regulated by a thermocouple having a read-out on the front control panel. Baking heat is radiant with top and bottom heat being adjusted by means of separate controls. This enables heat to be "balanced" according to product requirement.

STEAM is provided from an integral boiler, and is introduced into the chamber on demand. This is automatically controlled by the programmed parameters. **Once steamed the oven will not steam until the steam unit has recovered heat, typically 3-10 minutes depending on the program selected.**

All ovens are fitted with a steam damper that evacuates steam humidity into a vent at the rear of the oven.

Baking Advice For the best results from deck Ovens

Loading

- 1. Do not place the products too close together. If the loaves are close to each other after oven spring (expansion), the loaves sides will be soft and may collapse on cooling.
- 2. Place the product evenly within the oven. Product bunched together will be paler than those widely spaced.

- 3. **Product should not be placed too close to the edge of the tile**. As it expands towards the front one side of the loaf may enter the cooler air by the door.
- 4. Door opening should be kept to a minimum because cold air enters the oven cooling the sidewalls and roof causing the finished product to be lighter locally at the front and wasting heat. If loading times are consistently long you can alter the front top heat to put more heat at the front.
- 5. If the loading takes a long time, product can form a skin, which causes an imbalance and a less attractive finish. By using the pre-steam function before loading this can be minimised. This function turns the elements off and injects steam to increase the humidity.

Bake settings

- 1. A good starting point for baking breads in Mono deck ovens is **225C** (437F) Top heat 60-65 bottom heat 40.
- 2. For cookies etc, the heat in the oven can be turned almost off, however it may still be necessary to place the trays with cookies etc onto upturned trays on the oven sole.
- Steam should be kept to a minimum, for energy efficiency, depending on the product and finish. Times 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 so you get the product that you require.

- <u>If your product is **light on top**</u>. Either decrease the bottom heat and extend bake time or increase the top heat.
- If the product sides are pale and the top dark. Make sure the products are spaced 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 bake temperature.

• <u>To thicken the crust</u>

Set the damper to open longer. Different ovens will require different lengths of time.



9.0 TOUCHSCREEN OPERATING INSTRUCTIONS

BASIC OPERATION

ALL OPERATIONS ARE ACTIVATED BY TOUCHING AREAS ON THE SCREEN, WHICH WILL PASS YOU ON TO THE NEXT INFORMATION PANEL.

DO NOT USE EXCESSIVE FORCE.

(THE PRESSURE REQUIRED TO OPERATE THE PANEL, CAN BE ALTERED IN THE SETTINGS SECTION)



9-1 BAKING USING "FAVOURITES" MENU





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TOUCHING "VIEW" BUTTON DURING A BAKE



9-2 BAKING USING MANUAL MENU



SET BAKE TIME AND TEMPERATURE



TIME DOES NOT HAVE TO BE SET IN MANUAL MODE. (ONLY TEMPERATURE) WHEN "START" IS PRESSED, THE TIME WILL COUNT UP INSTEAD OF DOWN. TOUCH "STOP" TO FINISH THE BAKE.

USE STEAM TIME AND DAMPER IF REQUIRED



SAVE (KEEP) MANUAL PROGRAM, IF REQUIRED



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

9-3 BAKING USING PROGRAMMES

NOTE : THIS COVERS TWO VERSIONS OF FIRMWARE. (THE OVEN IS PRE-SET TO SHOW ONLY ONE OF THEM). 1. PICTORIAL VERSION SHOWS CHOICES OF PRODUCT CATERGORIES

2. NUMERICAL VERSION SHOWS RANGES OF PROGRAM NUMBERS.





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TOUCHING "VIEW" BUTTON DURING BAKE



9-4 CREATING A PROGRAM





TOUCH " i" BUTTON NEXT TO THE BLANK PROGRAM TO OPEN NEXT SCREEN





CHANGE TRAY LAYOUT













TOUCH "ADD TO FAVOURITES"	3
THE PRODUCT WILL NOW SHOW ON THE FAVOURITES LIST	

9-5 SETTING 7–DAY TIMER



<u>NOTE</u>

Up to four on/off times can be set for each day. Touch "**clear**" to clear the settings on the day shown. Touch "**save**" to activate the times set.

9-6 SETTINGS





OVEN SETTINGS (GENERAL)



TOUCH "GENERAL SETTINGS" AND THE FOLLOWING SCREEN WILL APPEAR.

SCROLL DOWN TO MOVE THROUGH ALL CHOICES AND ADJUST EACH ONE AS REQUIRED, USING THE ARROW KEYS.





OVEN SETTINGS EXPLAINED - GENERAL LEVEL

SCREEN BRIGHTNESS -

Adjusts the brightness of the viewing screen for user comfort.

TOUCHSCREEN SENSITIVITY -

Adjusts the pressure required to operate the touch screen. (5 settings)

TEMPERATURE UNIT OF MEASURE –

Centigrade (Celsius) or Fahrenheit

BAKE EXTENSION (mins) -

Adjusts the extra time at the end of a bake for each "extra time" button touch. (10mins max)

RESELECT PRODUCT AFTER BAKE –

Resumes with same product program without having to reselect.

SLEEP MODE DELAY -

Oven will go into sleep mode after the set minutes, providing it is up to temperature and has been through at least one bake cycle.

8 HOUR COUNTDOWN TIMER -

After 8 hours the oven gives a warning and then turns off. Touch any button for an extra hour if required.

7 DAY SMART TIMER –

ON = 7 day timer fuction OFF = Controls set start time depending on existing oven temperature.

PUMP TIME (SEC) -

Only used on double depth oven to increase pipe pressure before steaming.

CHART INTERVAL -

Time interval, in seconds, that the bars show on the heat and bake time progress charts.

SOUNDER SELECT -

Set as external or onboard.

SOUNDER TONE -

Select a tone - Voice, Tone or Off

SOUNDER VOLUME -

Adjust to suit the volume required. (onboard sounder only)

SHORTCUT BUTTONS -

Gi	ves the choice of what buttons are active and in which order they appear on the ptions screen.
Ö	otions available = Favourites, Programs, Manual bake, Multi bake,
7-	day timer . (Settings at 6fn cannot be changed)

OVEN SETTINGS (HIGH LEVEL)



OVEN SETTINGS EXPLAINED - HIGH LEVEL

OVEN TYPE -

Set this to DX.

MAX. BAKE TEMPERATURE -

Can be set up to 300C, (depending on the oven type)

TEMPERATURE OFFSET –

Can be used to adjust the display to the actual temperature in the oven.

BAKE HYSTERISIS -

Sets bake temperature cycling around a set point. (Above and below).

BAKE CYCLE SET POINT ONLY -

No = Shows set temperature point and actual temperatures on screen. YES = shows set temperature point only

MANUAL DEFAULT TEMPERATURE -

Set for manual program default temperature

SLEEP FALLBACK -

Temperature of the oven in "sleep mode" (100C is suggested).

SLEEP HYSTERISIS -

Sets "sleep mode" temperature cycling around a set point. (Above and below).

READY ACCEPT HIGH –

Highest temperature for the oven to display "READY"

READY ACCEPT LOW –

Lowest temperature for the oven to display "READY"

STEAM TYPE -

Plate or trough.

TOP GAIN -

0-255 centigrade

BOTTOM GAIN -

0-255 centigrade

MONO CONSTANT -

Factory set (Do not change unless instructed to do so)

STEAM TROUGH TEMP -

Degrees Centigrade

STEAM HYSTERISIS -

Degrees Centigrade

STEAM TROUGH EXCEPT -

Degrees Centigrade

LIGHT OUTPUT SOFT START -

On/Off Some lights need this for cold start up to stop them blowing.

HEATER CONTROL –

Contactor or solid state. Defaults to contactor. (solid state not used at the moment)

I/O DIAGNOSTIC -

Displays outputs and inputs at the top of the screen to aid fault finding if needed.

SUPERVISOR (LOW LEVEL) -- 123456

HIGH LEVEL -- 654321

MASTER -- 314159 (This is fixed)

SUGGESTION

To stop unauthorised changes to the oven setup, it is suggested that this page 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.



9-7 USING THE USB PORT





Insert the USB memory stick into the socket on the oven panel. (Rubber plug may have to be removed first).

<u>NOTE</u> The USB stick will only fit in one way. <u>Do not force into the socket.</u>



Wait for the USB symbol to finish moving

3





USB Drive	
Touch item to select	
Load Products	Load Start Screens
Save Products	Load Skin
Save Log	Load Sounds
X Connect	

Choose action you would like to do.

5

6



Select the f	le required.
--------------	--------------

USB Drive File 'MALEVOX' loaded of	<
Load Products	Load Start Screens
Save Products	Load Skin
Save Log	Load Sounds
X Cancel	

When confirmation of "file loaded ok" Shows, remove the usb stick.

7

NOTES ON USING USB STICKS

For a USB stick to function correctly it must have the following folder as a root folder .

Mono

Then into that folder create the following: Firmware Products

Skins Sounds Startup

Place your recipe/product files in the "products" folder.

The oven will find the "**Mono**" folder automatically when the stick is plugged into the oven. Any stick can be used (does not have to be blank) but the Mono folder must be in the root.

The most used folders are explained below:

<u>SKINS</u>

These control the way the screen looks in different modes.

Pictorial is when the screen displays catergories using pictures.



<u>Numerical</u> is when the screen displays program numbers.

Select Catego	ory	<u> </u>
×	UHE.	20-39
40-69	60.7 5	80-99
Back	~	~

STARTUP SCREENS

This is the picture/logo you see when the oven is started.



PRODUCT FILES (PROGRAM FILES)

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

9-8 DIAGNOSTICS





10.0 TROUBLESHOOTING

10.1 NONE OF THE DECKS SWITCHED ON.

- Is oven isolator on?
- Check if bakery main power supply time clock is working (if fitted).
- Is clock set correctly to bring oven on at required time?

10.2 ONE DECK HAS NOT SWITCHED ON.

• Check if individual deck timer is set to bring on at required time.

10.3 UNEVEN OR PATCHY BAKE

- Door being opened too often or too long whilst loading (front pale, back burnt).
- Faulty element.
- Top or bottom deck elements not functioning.
- Uneven loading.

10.4 TEMPERATURE GOING WELL OVER 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 7deg. C difference before diagnosing a fault condition),

10.5 POOR RECOVERY OF SET TEMPERATURE WHEN LOADED

- The doors may be being left open too long during loading, allowing heat to escape.
- The damper may be left open during loading or baking allowing heat to escape.
- Top and/or bottom heat may not be working.

10.6 STEAM SYSTEM NOT OPERATING CORRECTLY

See fault-tracing guide.

11.0 SERVICE AND SPARES

If a fault arises, please do not hesitate to contact the

Customer Service Department, quoting the **machine serial number** on the silver information plate of the machine and on the front cover of this manual

<u>MONO</u>

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12.0 SPARES INFORMATION

PLEASE CONTACT MONO EQUIPMENT FOR THE LATEST SPARES INFORMATION FOR THIS OVEN



13.0 ELECTRICS

PLEASE CONTACT MONO EQUIPMENT FOR THE LATEST ELECTRICAL INFORMATION FOR THIS OVEN

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MONO Equipment

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

DISPOSAL

Care should be taken when the machine comes to the end of its working life. All parts should be disposed of in the appropriate place, either recycling or other means as the law permits at the time.

In the UK, The environmental protection act 1990 applies