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**SET UP, OPERATION AND PROGRAMMING INSTRUCTIONS**

# **MX ROTARY RACK OVEN**

## **ELECTRIC VERSION**

**STANDARD 45kW**

**LOW POWER 36kW**

**INCREASED SIZE 60 x 80 tray, 56kW**

## **ECOTOUCH CONTROL**

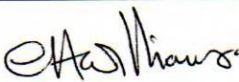
**FILE 141**



## **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 2014 / 35/ EC
  - The requirements of the Electromagnetic Compatibility Directive 2004 / 108EC, 91 / 263 / EEC, 92 / 31 / EEC
- Incorporating standards  
EN55014-1:2006+A1:2009+A2:2011  
EN55014-2:1997+A1:2001+A2:2008
- 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

<b>Signed</b>			
G.A.Williams – Quality Manager			
<b>Date</b>			
<b>Machine FG Code.</b>		<b>Machine Serial No.</b>	

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 9, Bryggen Road,  
North Lynn Industrial Estate,  
Kings Lynn,  
Norfolk,  
PE30 2HZ

# **SAFETY SYMBOLS**

The following safety symbols are used throughout this product documentation and manual (available at [www.monoequip.com](http://www.monoequip.com)).

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



## **WARNING**

Indicates a hazardous situation which, if not avoided, will result in death or serious injury.



## **WARNING**

Indicates a hazardous situation which, if not avoided, will result in electric shock.



## **CAUTION**

Indicates a hazardous situation which, if not avoided, will result in minor or moderate injury.



# **ELECTRICAL SAFETY AND ADVICE REGARDING SUPPLEMENTARY ELECTRICAL PROTECTION**

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

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

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

## **We Recommend:**

- Supplementary electrical protection with the use of a residual current device (RCD)
- Fixed wiring appliances incorporate a locally situated switch disconnector to connect to, which is easily accessible for switching off and safe isolation purposes. The switch disconnector must meet the specification requirements of IEC 60947.

## **Your attention is drawn to:**

### **BS 7671:2018 – Guidance Note 8 – 8.13 : Other locations of increased risk**

It is recognised that there may be locations of increased risk of electrical shock other than those specifically addressed in Part 7 of BS 7671. Examples of such locations could include laundries where there are washing and drying machines in close proximity, and water is present, and commercial kitchens with stainless steel units, where once again, water is present. Where, because of the perception of additional risks being likely, the installation designer decides that an installation or location warrants further protective measures, the options available includes:

- Automatic Disconnection of Supply (ADS) by means of a residual current device having a residual operating current not exceeding 30 mA;
- Supplementary protective equipotential bonding; and
- Reduction of maximum fault clearance time.

The provision of RCDs and supplementary bonding must be specified by the host organisation's appointed installation designer or electrical contractor and installed by a suitably qualified and competent electrician so as to comply with Regulations 419.2 and 544.2.



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

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## **NOTE**

**All reference to RIGHT HAND ovens means that the main door is hinged on the right and the control panel is on the left.**



**RIGHT HAND**

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**All reference to LEFT HAND ovens means that the main door is hinged on the left and the control panel is on the left.**



# 1.0 INTRODUCTION

---

The **MONO MX** rotary rack oven is a compact, electrically heated oven with a touchscreen control panel. The standard version of the MXTE oven accommodates a single **rotating rack** of up to eighteen trays capacity. Versions of the MXTE oven with a rack turntable option support a **standard rack**.

Eco-touch ovens are factory-fitted with touchscreen control panels. This user-friendly controller shows pictures of product types or program numbers as set by the user. When not being used, the screen can show your company logo.

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



## ECOTOUCH SCREEN CONTROLS



The stainless steel construction of the oven has easily cleaned interior and exterior surfaces and a bright appearance. The fan and rack rotator have generously rated, totally enclosed motors and a sealed-for-life gearbox.

The high-speed fan, heating, and steam systems give efficient air circulation to produce a professional bake across a range of products via a diagonal cross-flow system with efficient air circulation. The steam system is connected to a standard water supply. (Pumps are available for very low-pressure areas).

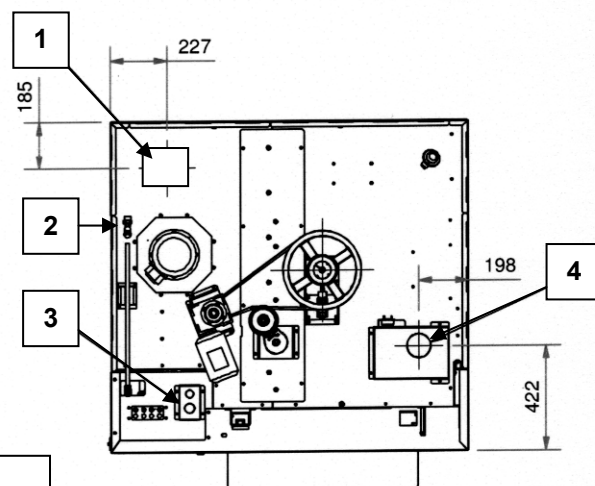
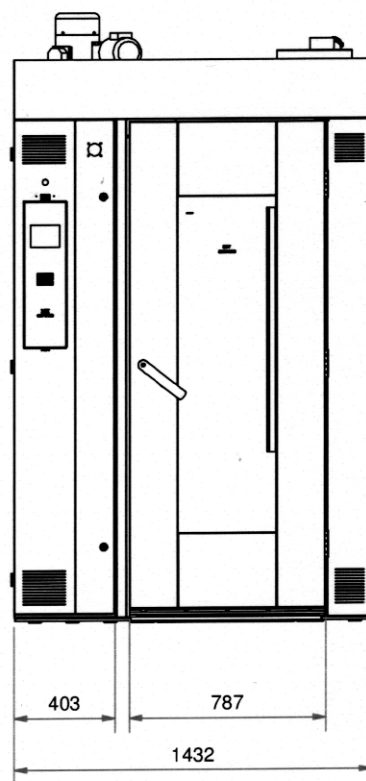
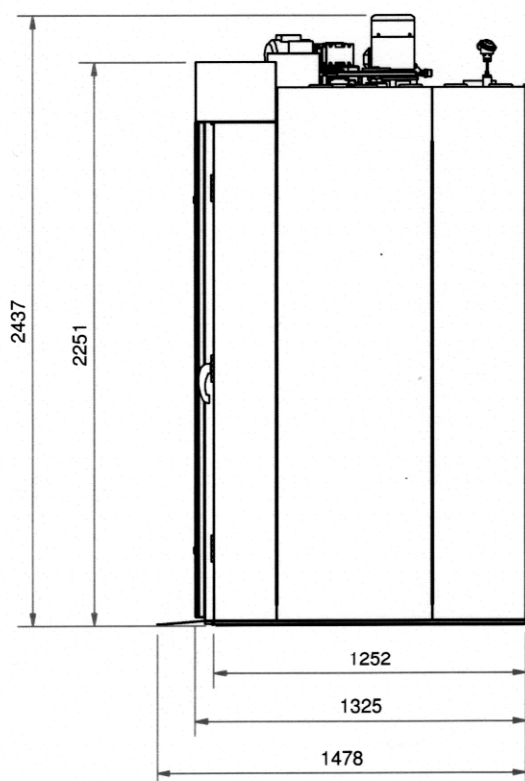
Steam is generated within the oven chamber by means of a multi-point, water injection cascade. The amount of steam to be generated is controlled by means of a programmable time period on the control panel. No drain is required for the baking and steaming process of this oven.

Programmed damper control is provided as part of the programming controls.

The oven door incorporates a large glass panel and LED lights to afford an excellent view of the baking progress. To optimise a bakery layout, the main oven door can be hinged on either side even if the oven is relocated after initial installation.

## 2.0 OVERALL DIMENSIONS

### STANDARD VERSION

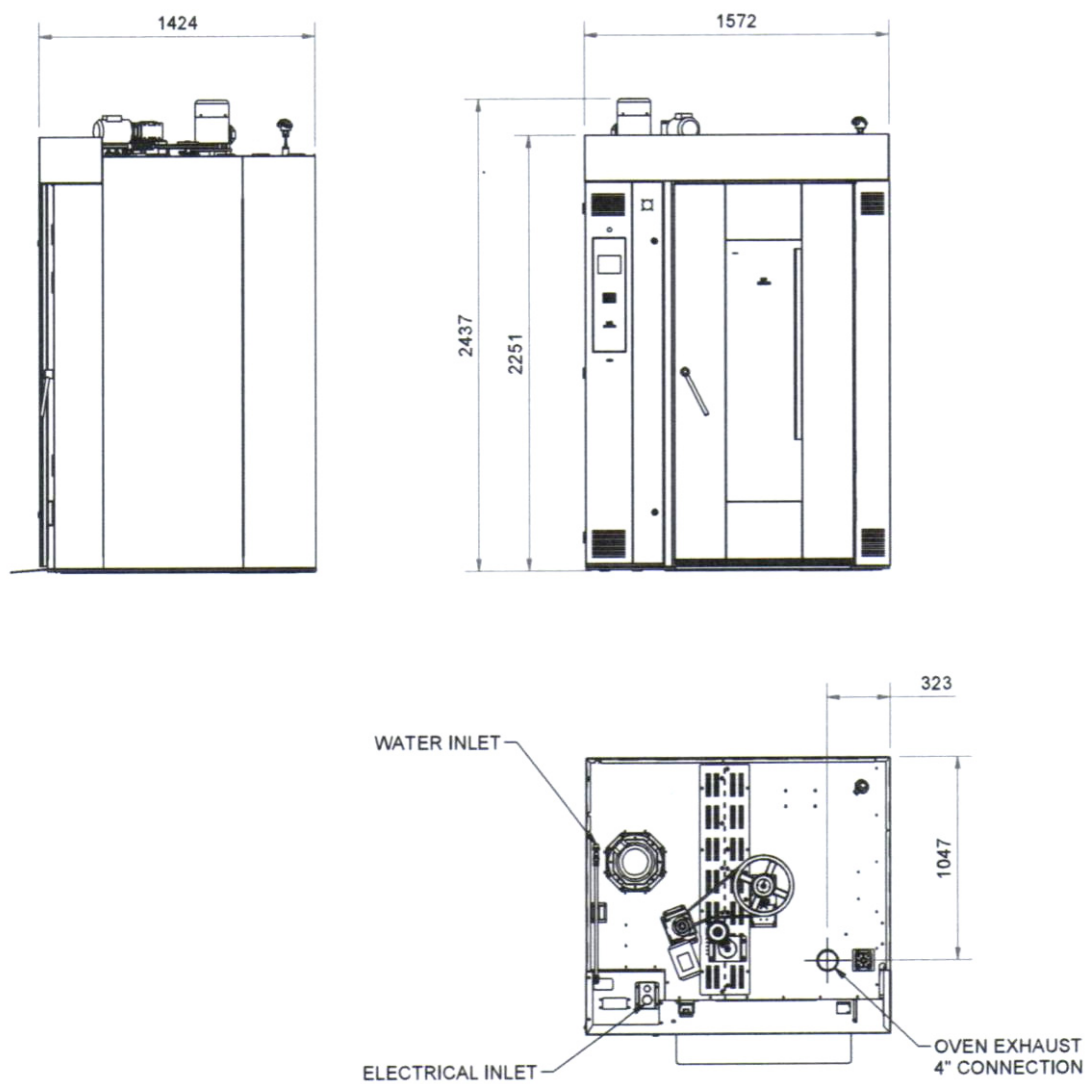


1. FLUE GAS CONNECTION  
(BLANK PLATE ON ELECTRIC OVENS)
2. WATER CONNECTION:  $\frac{3}{4}$ " BSP
3. POWER CABLE INLET
4. STEAM DIVERTER BOX CONNECTION 10mm DIA.

MAX. RACK DIAGONAL = 885mm  
DOOR SWING RADIUS = 790mm



## LARGER 60 X 80 TRAY VERSION



## 3.0 SPECIFICATIONS

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### Product

Designation: Oven

### Electrical



#### **Warning**

The supply to this oven **must be protected** by a 30mA residual current device (RCD).

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Power supply: 415V 3ph + N + E  
50Hz 47kW – 65amps per phase

#### **Low power version**

415V 3ph + N + E  
50Hz 38kW – 53amps per phase

#### **Larger 60 x 80 tray version**

415V 3ph + N + E  
50Hz 56kW – 80amps per phase

Connection point: See section - *Dimensions*

### Mechanical

Width/depth/height: See section - *Dimensions*

Maximum tray size: 762mm (30") x 457mm (18")

Air circulation: Radial fan is driven by an electric powered motor – 1.5 kW

Steam system: Mass energy storage, no drain

Rack rotation: Electric powered motor/gearbox (0.18 kW) driven via belt drive  
Hanger inside the baking chamber.

Rack turntable fitted to selected models (FG166-E\*\*\*\*TT),  
compatible with a range of standard racks. Contact Mono  
Equipment to check for compatibility.

### Materials

No materials containing asbestos have been used in the construction of this oven.

### Heating system

Fuel: Electricity

Output: 45kW (15 elements of 3kW)  
Low power version - 36kW (12 elements of 3kW)

### Flue system

Flue connection: See section - *Dimensions*

## **Rack rotation**

The rack hanger is driven by an electric motor situated on the mid left-hand side of the oven roof. Power transmission to the rack-hanger's central drive shaft is by means of a single tensioned V-belt that affords slippage of the transmission in the event of a blockage to rack rotation.

A rack turntable option is fitted to selected models (FG166-E\*\*\*\*TT), allowing the use of a range of standard racks in the MONO MXTE oven.

## **Air circulation system**

An electrically powered radial fan re-circulates air within the oven. Heated air enters the fan at the upper left-hand side of the oven and is driven within the roof structure to the vertically orientated air door at the rear corner of the baking chamber. Adjustable openings in the air door allow the amount of air entering the baking chamber at various heights to be adjusted to get the optimum baking result.

The air door openings are set at the factory and should not require resetting. The factory settings are given in section – *Setting the Air Slots* for reference. Should these factory setting fail to give a satisfactory baking performance then instructions for adjusting the openings are given.

## **Steam system**

The steam generating system is completely contained within the oven and situated at its left hand side in the lowermost region of the air duct, outside of the baking chamber. Only cold water, at a pressure of 4 – 6 bar (58 – 87 PSI), needs to be connected to the oven for the purpose of steam generation.

From a cold oven start the steam system will typically require 20 minutes to accumulate sufficient energy to produce satisfactory steaming performance; and during repeated baking cycles it automatically re-energises itself during the bake cycle. No drain is required for the steam system.

Under normal conditions of use this oven is not considered a pressure vessel.

## **Heating System**

Heat is transferred to the baking chamber through the interaction of re-circulating air passing over the hot surfaces of the heating elements.

## **Electrical connection**

The oven is fitted with built-in automatic fuses, situated in the uppermost region of the compartment behind the control door. The fuses are marked and can be accessed when the control door is opened.

## **Ventilation**

To ensure the correct operation of the roof-mounted components the ambient temperature should not exceed 50 °C. The oven requires zero clearance on left, right and rear vertical faces for operation or maintenance.

## **Extraction**

Airborne emissions from the baking process, such as steam, oil, etc., will be discharged from the overpressure duct and the damper duct; both situated at roof level towards the front of the oven. Discharge will also occur from the front of the oven upon opening the door at the end of a bake.





See also section – *Installation*.

## **Noise**

Emission of airborne noise is less than 70dB.

## 4.0 SAFETY

***In the interest of safety and efficient operation of the oven, it is essential that this manual should be made available to the operator before work is commenced.  
The following points should be observed and followed at all times.***

1. This oven is designed for baking bread, confectionery and savoury bakery products. Do not use it for other items without consulting with **MONO**.
2. It is essential for proper and safe operation of the oven that users are familiar with its operation and use.  
*Read the instructions provided in this document before use.*
3. This appliance is not intended for residential use.
4. This appliance is not intended for outdoor use.
5. Unauthorised service or repairs to these ovens may cause personal injury or damage to the equipment, which may invalidate warrantee agreements.
-  6. Only qualified engineers appointed by MONO EQUIPMENT should carry out service and repairs to this equipment. Electrical panels and electrical distributor boxes should not be opened until the main electrical supply to the oven has been turned off.
7. All connections to this oven must be made in accordance with the statutory and technical regulations of the country in which the oven is installed.
-  8. When work is being carried out inside the oven, the electrical mains isolator must be turned off and locked. The baking compartment door should be wedged open and a suitable warning notice hung on the door to prevent it being accidentally closed
-  9. While the oven is in operation, and for some time after having been in operation, it is dangerous to touch the window glass or the metal surfaces in its vicinity. The oven must be allowed to cool before any form of cleaning is started.
10. Use only **MONO** spare parts for this oven.
11. The construction of the oven must not be changed.
-  12. Oven gloves should be worn when moving products in or out of the oven.
13. The owner of the oven is **legally obliged to instruct staff** using the oven in its operation and in these safety regulations. The instruction manual for the oven must not be removed from the oven work area.

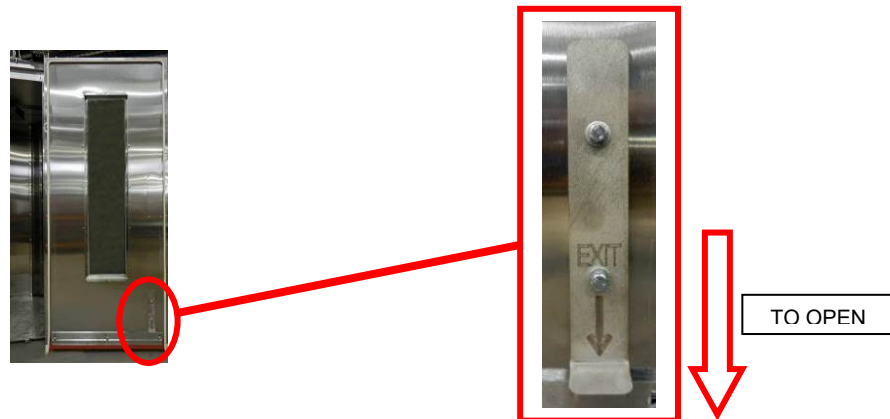


**WARNING: WHEN DOING ANY MAINTENANCE ON TOP, KEEP CLEAR OF THE RECTANGULAR FLUE PIPE TOWARDS THE FRONT RIGHT HAND SIDE OF THE ROOF. VERY HOT AIR IS EJECTED.**

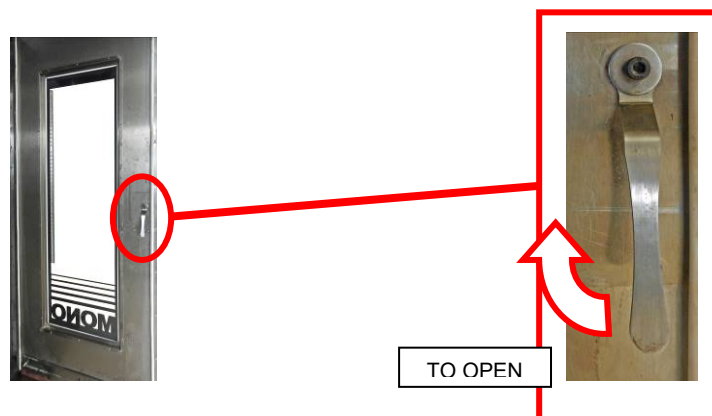


14. Moving parts remain unguarded on the oven roof as this area is out of reach of the operator and therefore deemed safe. Care must be taken to avoid these motorised parts when maintenance tasks are performed.
15. Unless trays/containers for the purpose of holding the oven products are supplied with the oven by the manufacturer, it is the responsibility of the customer to ensure that the nature and surface conditions of materials likely to come into contact with food shall be such that they cannot contaminate or spoil the food.
16. Up until August 2017 the oven's main door has a safety release foot-plate on its inner side allowing the door to be opened from inside in an emergency lock-in situation.

### EMERGENCY INTERNAL-DOOR RELEASE



After August 2017 the oven's main door has a safety release handle on its inner side allowing the door to be opened from inside in an emergency lock-in situation.





## 5.0 INSTALLATION

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- 1 The **MONO MXE** oven is designed to operate as a freestanding unit, and must not be bolted down or fixed to the floor in any way.
- 2 The concrete floor beneath the oven must be smooth, flat and clear of any obstructions, and must be at least 150mm (6") thick.
- 3 The foundation must be flush with the overall bakery floor because racks are wheeled up a ramp (supplied with the oven) into the baking chamber.
- 4 A minimum headroom clearance of 3 metres (180") between the floor and the bakery ceiling must be maintained at all times.

### 5 WATER SUPPLY

The water supply to the oven shall be fitted with protective means against backflow in the water supply and installed according to the national regulations in force.

Customers in hard water areas must ensure that an efficient water treatment device protects the supply to the oven. It is the customers' responsibility to install and maintain an adequate water supply to the oven, which should comply with local water regulations.

Connect to a suitable water supply, making sure that the pipes are flushed out to remove all foreign bodies i.e. flux or solder.

### NOTE

Set up of the pressure regulator should not be required as it is factory set to the optimum setting to provide the best steam during a bake.

## 7. Oven evacuation --- Canopy/Hood

It is recommended that evacuation of the oven baking chamber products is achieved with a hood covering the entire oven top and projecting beyond the front of the oven by 600mm. the extraction rate from the hood should be approximately 1700m<sup>3</sup>/h.

The customer is responsible for providing adequate levels of make-up air if an extraction hood is fitted.

## How to load the oven when a rack turntable is fitted

(FG166-E\*\*\*\*TT models only)

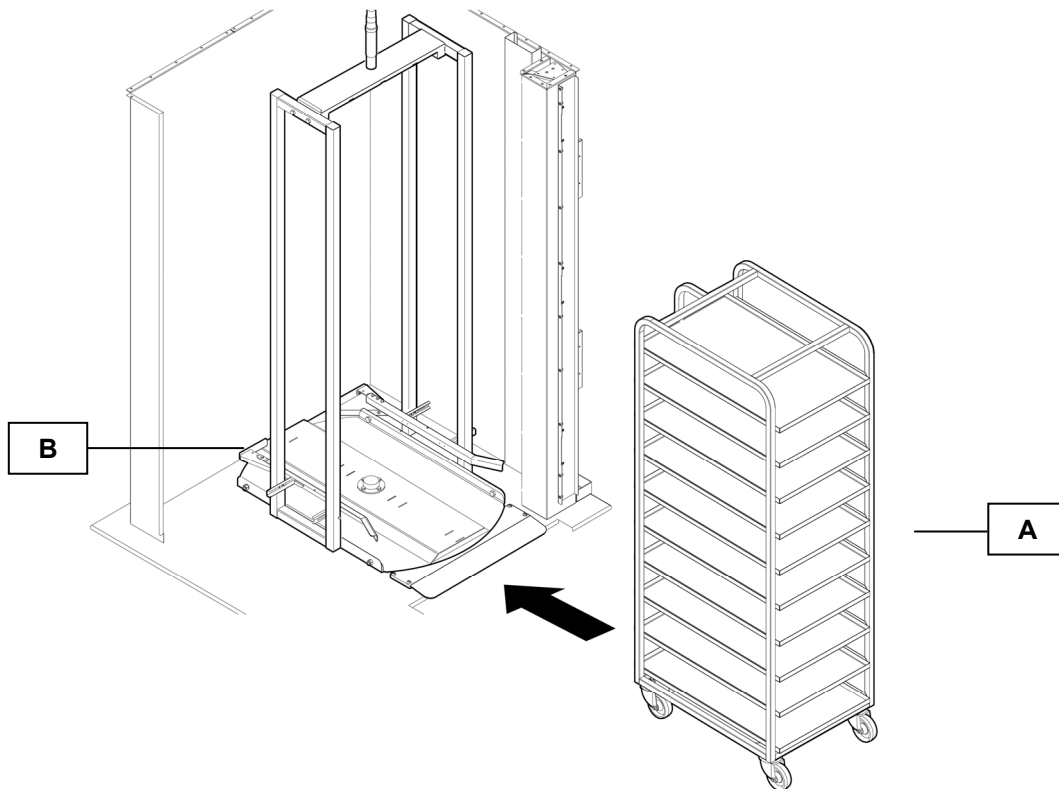


### Caution

Surfaces on the oven will be hot – always wear protective gloves and appropriate clothing (including shoes).

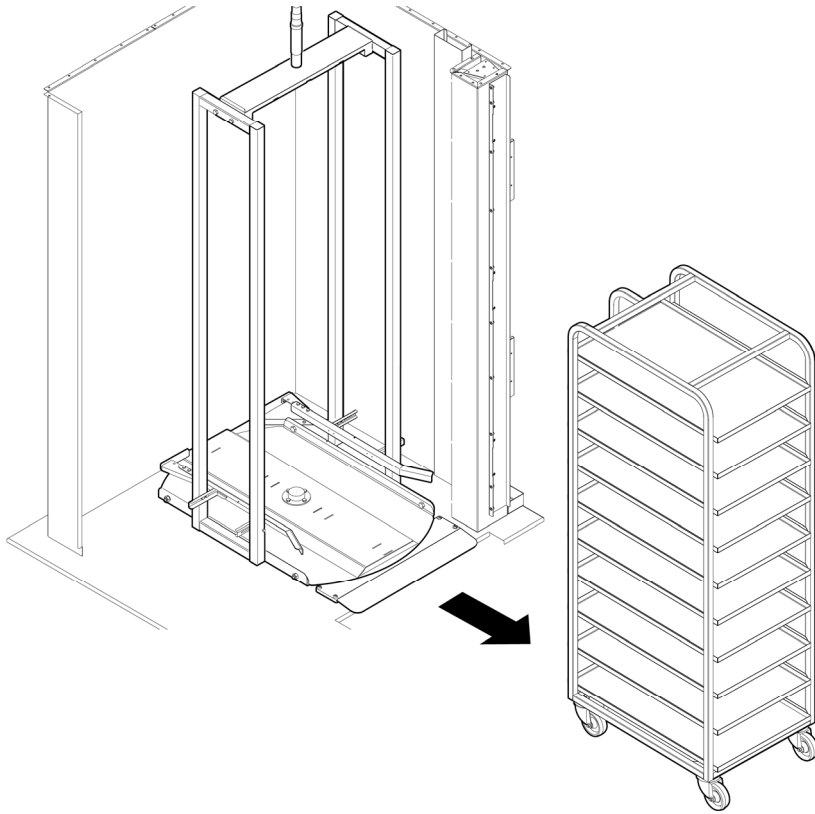
### Before starting a bake

1. Open the oven door.
2. Push the rack (A) into the oven until it reaches the back stops (B) on the turntable.
3. Close the oven door.



### **After baking is complete**

1. Open the oven door.
2. Pull the rack out of the oven.
3. Close the oven door.



## 6.0 ISOLATION



In case of an emergency, switch oven off at mains electrical isolator switch.



**MAINS ELECTRICAL  
ISOLATOR SWITCH**

**NOTE:** IF WORKING ON ELECTRICAL BOX AND PANEL, ensure oven is **DISCONNECTED** from **CONSUMER POWER SUPPLY**.

**NOT ONLY OVEN ISOLATOR ABOVE, AS SOME PARTS  
STAY LIVE AFTER ISOLATOR SWITCH IS OPERATED**



## 7.0 CLEANING INSTRUCTIONS ---

### **Caution**

**Do not use high-pressure equipment to clean the oven.**

The oven has been designed with sealed components, which are used wherever possible. The minimum of routine cleaning is required, but it is essential that it be properly and regularly carried out.

1. Sweep out debris from the oven floor daily.
2. Clean up spillages of product on the oven floor.
3. Wipe off splashes on door window.

Do not use alkaline or abrasive detergents when cleaning the oven.

Do not use detergents on the control panel overlay – wipe with a damp cloth only.

***Note:*** *Buildup of spillages may result caused by incorrectly placed racks. Also check for damage to door seals, particularly if operators are careless with rack handling.*

## 8.0 GENERAL MAINTENANCE ---

To maintain the warranty conditions, the oven must undergo service at specific intervals. Below is the service program with the given intervals:

### **Every 3 months**

#### **Lubrication:**

Door lock

Heat resistant grease

### **Every 12 months**

#### **Check/adjust:**

Door lock mechanism

Internal door release mechanism

Lighting, including cables

Damper function

Drive belt tension

Limit positions

Water connection tightness

Solenoid valve operation

Rack hanger bearing

Function check

Chamber temperature calibration

### **Lighting**

If the lighting in the door fails to operate, contact the Mono service dept.  
It cannot be replaced by the user.





## Section 9

# TOUCH SCREEN OPERATING INSTRUCTIONS

# BASIC OPERATION

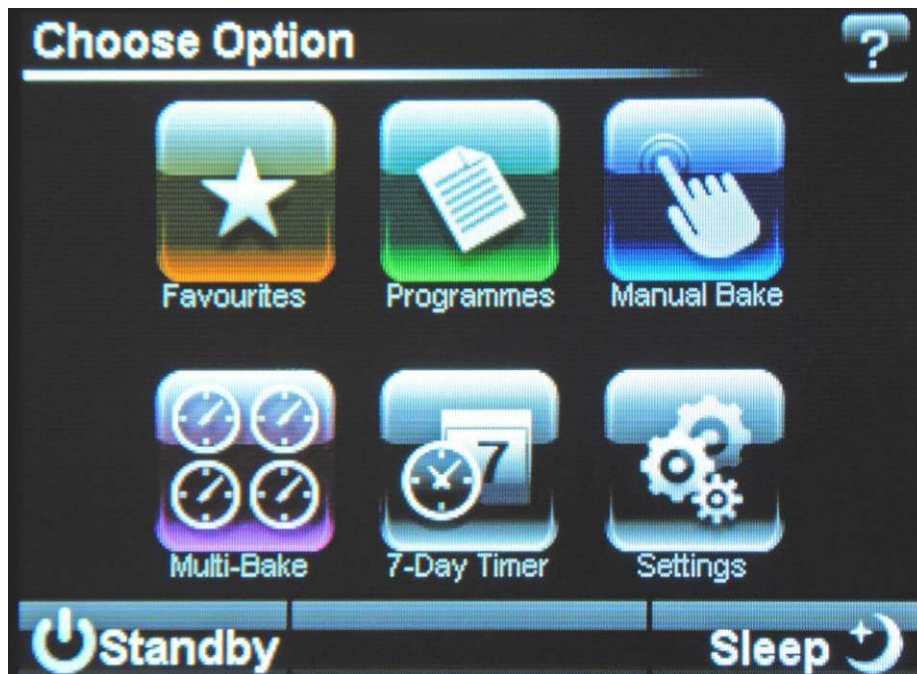
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**ALL OPERATIONS ARE ACTIVATED BY TOUCHING AREAS ON THE SCREEN, WHICH WILL PASS YOU ON TO THE NEXT INFORMATION PANEL.**

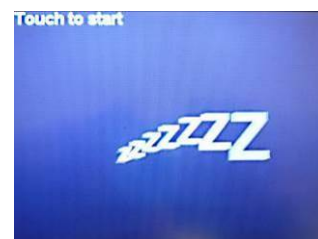
DO NOT USE EXCESSIVE FORCE.

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

TOUCH THE SCREEN  
ON THE AREA YOU  
REQUIRE TO  
ACTIVATE



STANDBY  
THE OVEN TURNS OFF.  
TOUCH THE SCREEN TO GO TO  
THE OPTION SCREEN.



SLEEP  
THE OVEN STAYS AT 100c AND  
HEATS TO LAST PROGRAM  
TEMPERATURE WHEN THE  
SCREEN IS TOUCHED.  
OPTION SCREEN THEN SHOWS.

## 9 -1 BAKING USING FAVOURITES MENU

TOUCH TO OPEN  
THE FAVOURITES  
SELECT SCREEN

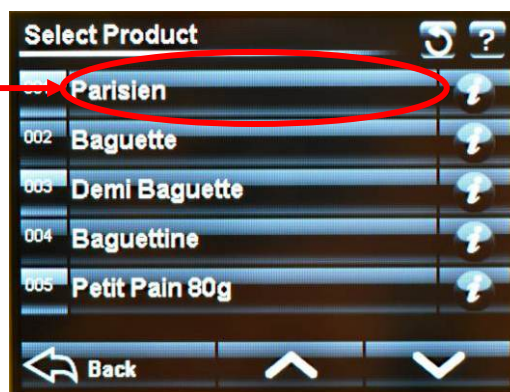
1



OPTION SCREEN

TOUCH THE  
NAME OF THE  
PRODUCT  
REQUIRED

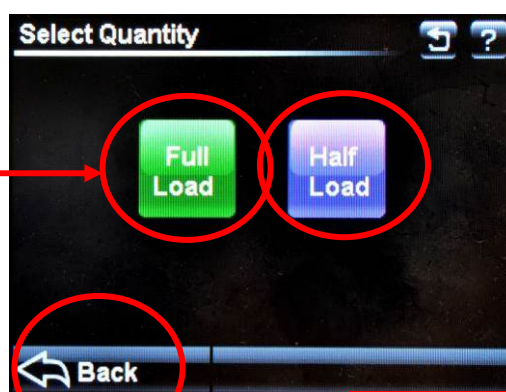
2



SELECT SCREEN

TOUCH THE  
"FULL LOAD" OR  
"HALF LOAD" AS  
REQUIRED

3



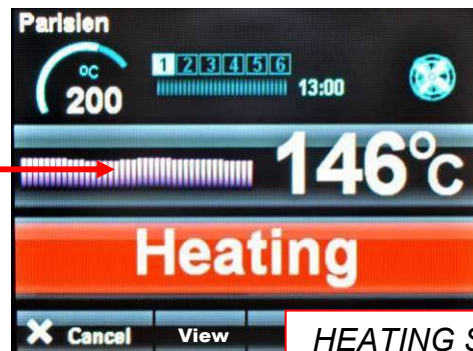
LOAD SCREEN

TO RETURN TO THE  
PREVIOUS SCREEN  
TOUCH THE "BACK"  
BUTTON AT ANY TIME

IF THE OVEN IS NOT UP TO TEMPERATURE IT WILL SHOW THE HEATING SCREEN.

**WAIT FOR THE OVEN TO REACH TEMPERATURE**

IF THE OVEN IS TOO HOT FOR THE TEMPERATURE CHOSEN, THE SCREEN WILL TELL YOU TO OPEN THE DOOR TO AID COOLING.



HEATING SCREEN

READY SCREEN



WHEN OVEN IS AT THE CORRECT TEMPERATURE THE “**READY**” SCREEN WILL SHOW.

1. OPEN DOOR AND LOAD PRODUCT.
2. CLOSE THE DOOR FULLY.
3. TOUCH “**START**”

**TIP**

TO HELP TO KEEP THE OVEN HOT, TRY NOT TO KEEP THE DOOR OPEN MORE THAN NEEDED

4

**BAKE IN PROGRESS SCREEN**

THIS SCREEN WILL SHOW WHILE THE PRODUCT IS BAKING

SET TEMPERATURE

TEMPERATURE PROFILE BAR

BAKE TIME PROGRESS BAR

**NOTE**

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

BAKE PHASE  
(WHEN USED)

ACTUAL OVEN  
TEMPERATURE



BAKE TIME LEFT



## BAKE OVER SCREEN

AT THE END OF THE BAKE TIME A  
SOUNDER WILL BE HEARD AND  
“BAKE OVER” WILL FLASH.  
TOUCH “**STOP**” AND OPEN THE  
DOOR TO REMOVE THE PRODUCT.

TO KEEP THE OVEN BAKING FOR  
EXTRA MINUTES  
THE “+ 10 MIN” BUTTON CAN BE  
TOUCHED.  
(THIS TIME CAN BE ALTERED IN  
SET UP)

5



## TOUCHING “VIEW” BUTTON DURING A BAKE

TOUCHING “**VIEW**” BUTTON  
DURING A BAKE WILL SHOW THE  
SETTINGS FOR THE BAKE IN PROGRESS.  
TOUCH “**CANCEL**” TO GO BACK TO THE  
PREVIOUS SCREEN.



## VIEW SCREEN

## 9 - 2 BAKING USING MANUAL MENU

TOUCH TO OPEN  
MANUAL BAKE  
SCREEN



OPTION SCREEN

### SET BAKE TIME AND TEMPERATURE



MANUAL BAKE SCREEN

#### SET BAKE TEMPERATURE

TOUCH TEMPERATURE ON THE  
SCREEN TO ACTIVATE THE  
KEYBOARD SCREEN.  
KEY IN REQUIRED TEMPERATURE

2



#### SET BAKE TIME

TOUCH TIME ON THE SCREEN TO  
ACTIVATE THE KEYBOARD SCREEN.  
KEY IN REQUIRED TIME AND  
TOUCH "DONE"

3



#### **NOTE:**

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 BAKE.



## USE STEAM TIME AND DAMPER IF REQUIRED

### STEAM

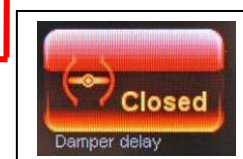
4

TOUCH AND HOLD FOR THE TIME  
(SECONDS) STEAM IS REQUIRED.  
(THIS CAN BE USED BEFORE  
OR DURING THE BAKE)

### DAMPER

5

TOUCH TO OPEN THE DAMPER.  
(SYMBOL IS GREEN)  
TOUCH TO CLOSE THE DAMPER.  
(SYMBOL IS RED)



### CANCEL

TOUCH AT ANYTIME TO  
GO BACK TO THE  
SETTING SCREEN.

MANUAL BAKE SCREEN 2

### START

6

TOUCH "START" TO START  
BAKE



TOUCH "STOP" WHEN END  
OF BAKE BUZZER SOUNDS  
OR WHEN REQUIRED IF NO  
TIME WAS ENTERED

7

## SAVE MANUAL PROGRAM, IF REQUIRED



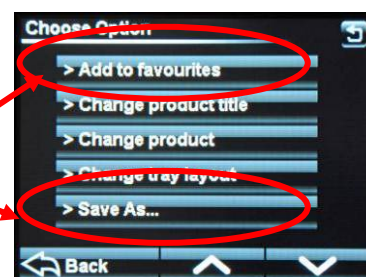
MANUAL BAKE SCREEN 3

### SAVE SETTINGS

IF NO TIME WAS ENTERED AT THE START OF THE BAKE, WHEN STOP IS TOUCHED “**SAVE**” WILL APPEAR AT THE BOTTOM OF THE SCREEN. “**SAVE**” CAN BE TOUCHED AND AN OPTION SCREEN WILL APPEAR.

7

TOUCH “**ADD TO FAVOURITES**” OR “**SAVE AS**”



USE KEYBOARD TO TYPE THE REQUIRED NAME AND TOUCH “**SAVE**”



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

## 9 - 3 BAKING USING PROGRAMMES MENU

**NOTE :** THIS COVERS TWO VERSIONS OF FIRMWARE. (THE OVEN CAN BE PRE-SET TO SHOW ONLY ONE OF THEM).  
 1. **PICTORIAL** VERSION SHOWS CHOICES OF PRODUCT CATERGORIES  
 2. **NUMERICAL** VERSION SHOWS RANGES OF PROGRAM NUMBERS.

TOUCH TO OPEN  
“CATEGORY” or  
“PROGRAM CHOICE”  
SCREEN

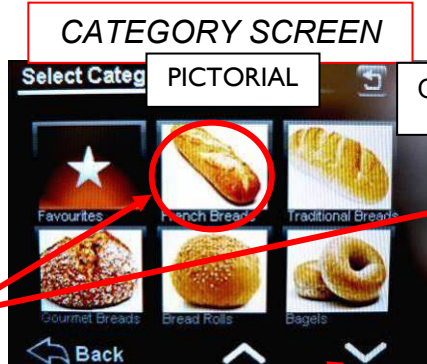
1



OPTION SCREEN

TOUCH THE TYPE OF  
PRODUCT OR PROGRAM  
RANGE CHOICE WANTED  
AND “SELECT” SCREEN  
OPENS

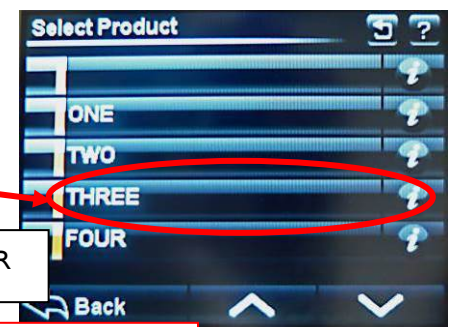
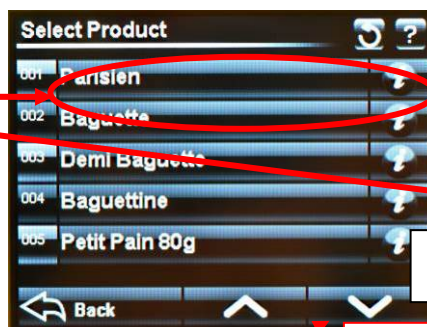
2



MORE

TOUCH THE  
NAME OR NUMBER OF  
THE PRODUCT  
REQUIRED

3



OR

SCROLL DOWN FOR MORE PRODUCTS IF AVAILABLE

SELECT SCREEN

TOUCH THE  
“FULL LOAD” OR  
“HALF LOAD” AS  
REQUIRED

4



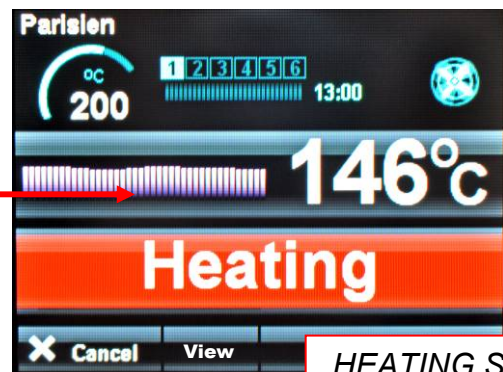
LOAD SCREEN

TOUCH THE “BACK”  
BUTTON AT ANY TIME  
TO RETURN TO THE  
PREVIOUS SCREEN

IF THE OVEN IS NOT UP TO TEMPERATURE IT WILL SHOW THE HEATING SCREEN.

**WAIT FOR THE OVEN TO REACH TEMPERATURE**

IF THE OVEN IS TOO HOT FOR THE TEMPERATURE CHOSEN, THE SCREEN WILL TELL YOU TO OPEN THE DOOR TO AID COOLING.



HEATING SCREEN



READY SCREEN

WHEN THE OVEN IS AT THE CORRECT TEMPERATURE, THE "READY" SCREEN WILL SHOW.

1. OPEN DOOR AND LOAD PRODUCT.
2. CLOSE THE DOOR FULLY.
3. TOUCH "START"

**TIP**

TO HELP TO KEEP THE OVEN HOT, TRY NOT TO KEEP THE DOOR OPEN MORE THAN NEEDED

5

THIS SCREEN WILL SHOW WHILE THE PRODUCT IS BAKING

BAKE PHASE  
(WHEN USED)

ACTUAL OVEN  
TEMPERATURE

SET TEMPERATURE

TEMPERATURE PROFILE BAR

BAKE TIME PROGRESS BAR

**NOTE**

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



BAKE TIME LEFT



## BAKE OVER SCREEN

6

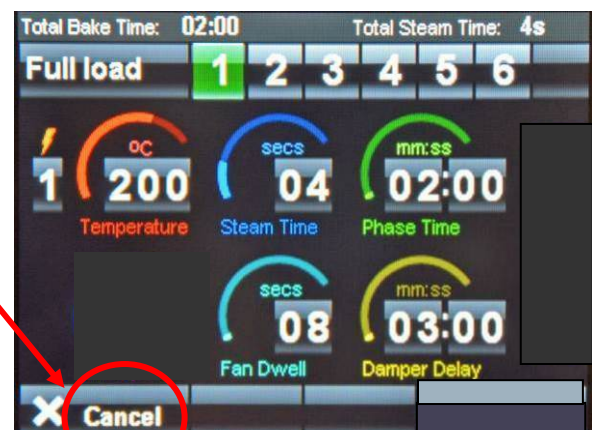
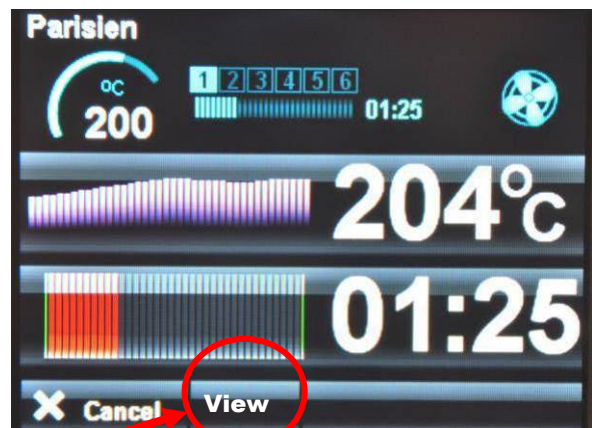
AT THE END OF THE BAKE TIME A SOUNDER WILL BE HEARD AND "BAKE OVER" WILL FLASH. TOUCH "**STOP**" AND OPEN THE DOOR TO REMOVE THE PRODUCT.

TO KEEP THE OVEN BAKING FOR EXTRA MINUTES THE "+ 10 MIN" BUTTON CAN BE TOUCHED. (THIS TIME CAN BE ALTERED IN SET UP)



## TOUCHING "VIEW" BUTTON DURING BAKE

TOUCHING "**VIEW**" BUTTON DURING BAKE WILL SHOW THE SETTINGS FOR THE BAKE IN PROGRESS. TOUCH "**CANCEL**" TO GO BACK TO THE PREVIOUS SCREEN.

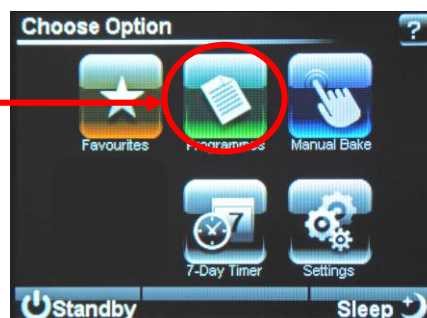


## VIEW SCREEN

## 9 - 4 CREATING A PROGRAM

TOUCH TO OPEN  
"CATEGORY"  
SCREEN

1



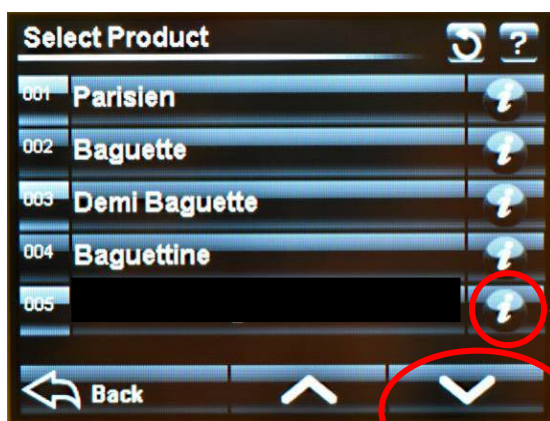
OPTION SCREEN

TOUCH THE TYPE  
OF PRODUCT  
WANTED AND THE  
"SELECT" SCREEN  
OPENS

2



CATEGORY SCREEN



SELECT SCREEN

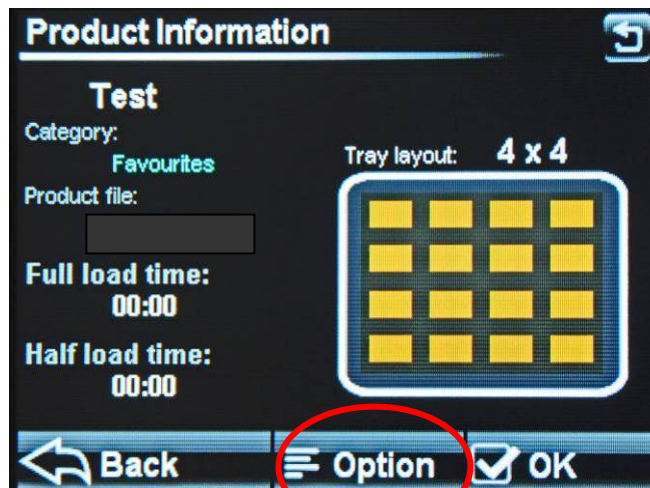
TOUCH THE DOWN ARROW  
UNTIL A BLANK PROGRAM  
IS REACHED.

3

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

4

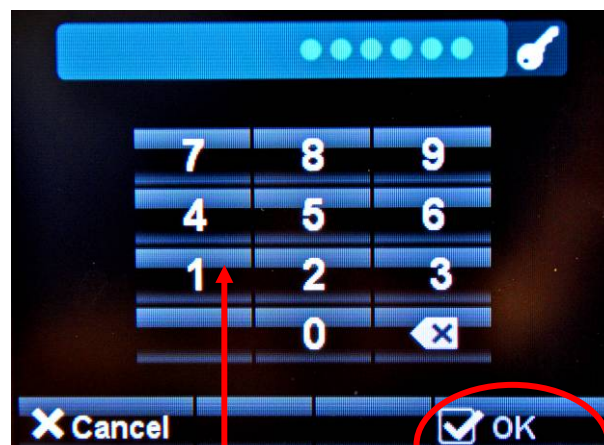




INFORMATION SCREEN

TOUCH OPTION TO GO TO  
PASS CODE SCREEN

5

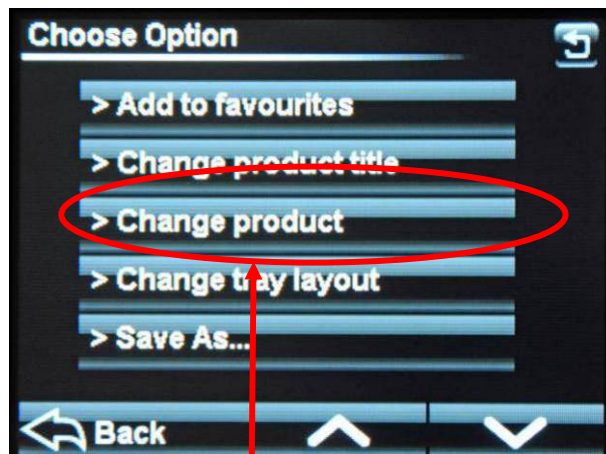


PASS CODE SCREEN

ENTER "SUPERVISOR" PASS CODE AND  
THEN TOUCH OK.  
(DEFAULT CODE = 123456)

6

## CHANGE PRODUCT



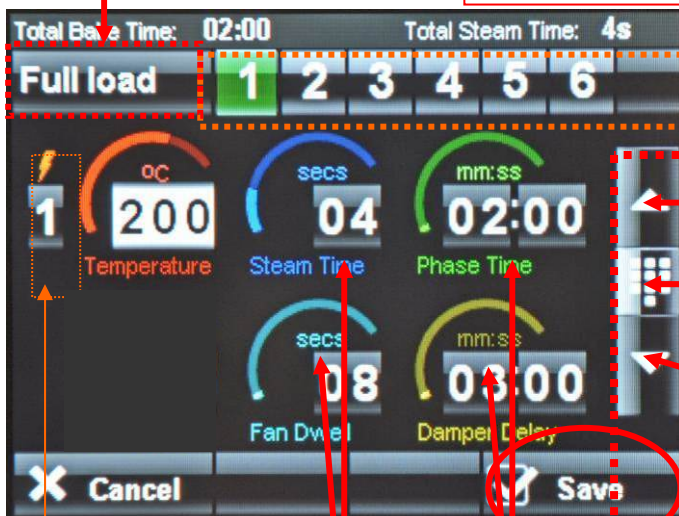
OPTION SCREEN

TOUCH "CHANGE PRODUCT"

7

LOAD  
TYPE

VALUE CHANGE SCREEN



BAKE PHASE (IF REQUIRED)

INCREASE

OR USE  
KEYS

DECREASE



ENTER AMOUNT REQUIRED  
AND TOUCH DONE

POWER  
LEVEL

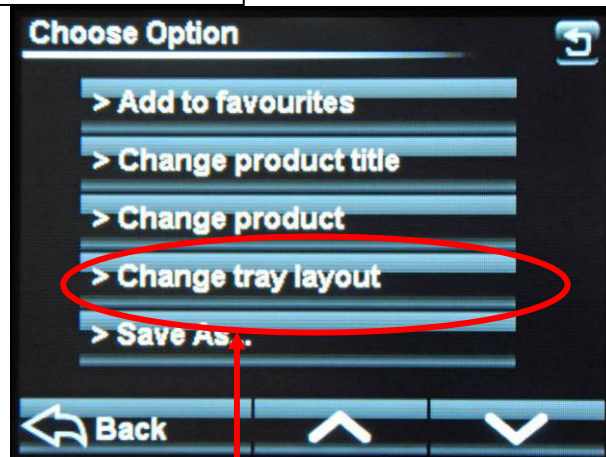
TOUCH EACH ITEM AND CHANGE THE VALUE BY USING THE UP AND DOWN KEYS OR BY USING THE KEY PAD.

TOUCH "FULL LOAD" TO CHANGE TO "HALF LOAD" SETTINGS IF REQUIRED.  
TOUCH AGAIN TO GO BACK TO "FULL LOAD"

TOUCH "SAVE" WHEN SATISFIED WITH THE SETTINGS OF EACH LOAD TYPE.

8

## CHANGE TRAY LAYOUT



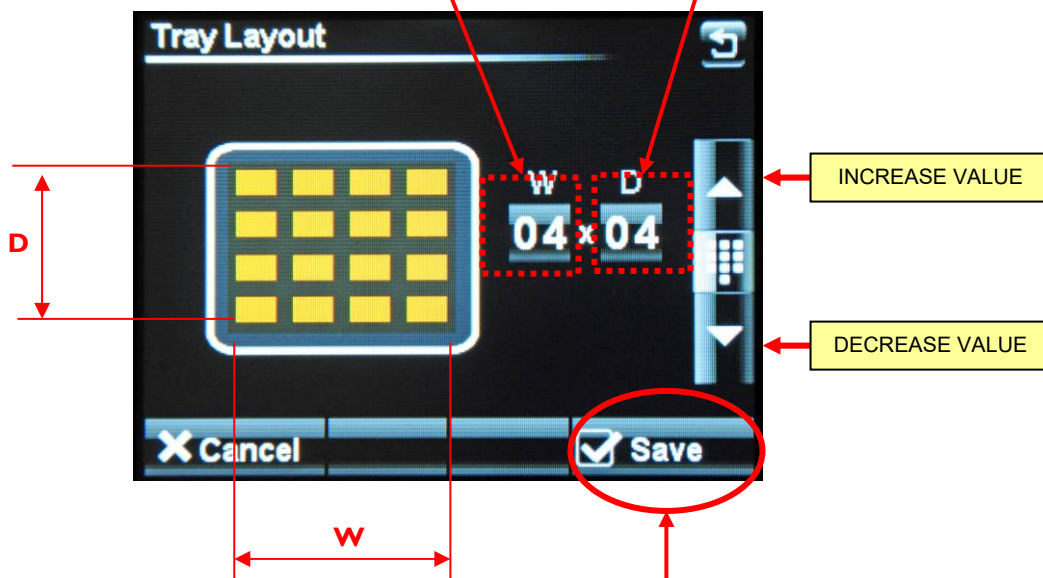
OPTION SCREEN

TOUCH "CHANGE TRAY LAYOUT"

9

TOUCH TO ADJUST  
NUMBER OF PRODUCTS  
ACROSS THE TRAY

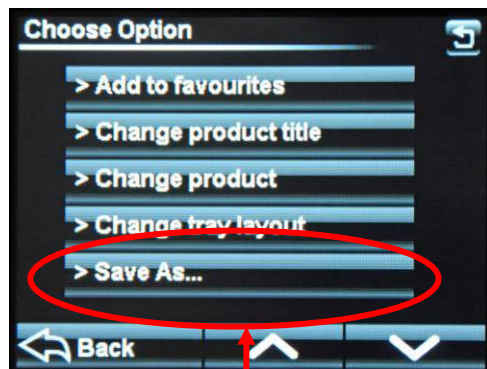
TOUCH TO ADJUST  
NUMBER OF PRODUCTS  
DOWN THE TRAY



WHEN SATISFIED WITH THE TRAY  
LAYOUT TOUCH SAVE TO RETURN TO  
THE "OPTIONS" SCREEN

10

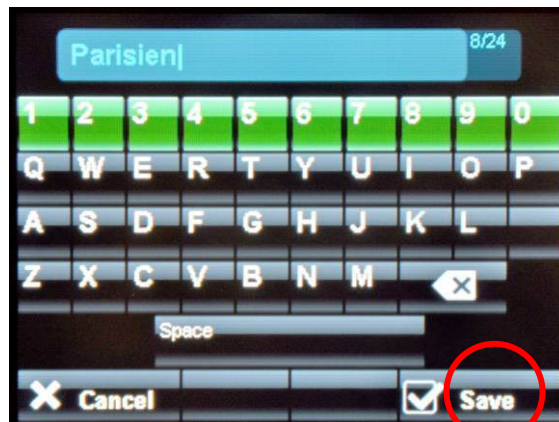
SAVE



OPTION SCREEN

TOUCH "SAVE AS"

11

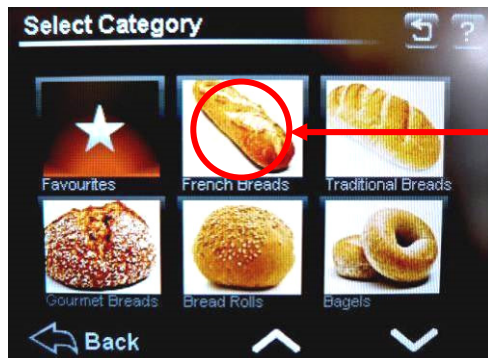


KEYBOARD SCREEN

TYPE IN THE NEW NAME  
AND TOUCH "SAVE"

12

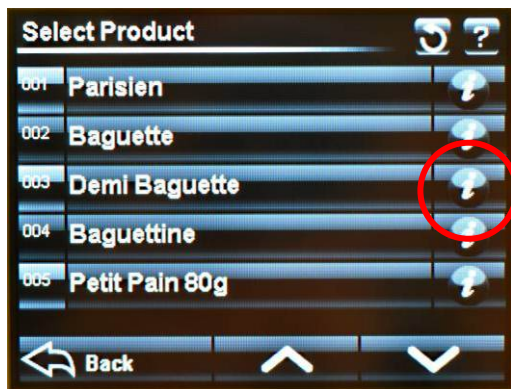
## ADD A PRODUCT TO THE FAVOURITES LIST



TOUCH THE TYPE OF  
PRODUCT WANTED  
AND THE “SELECT”  
SCREEN OPENS

1

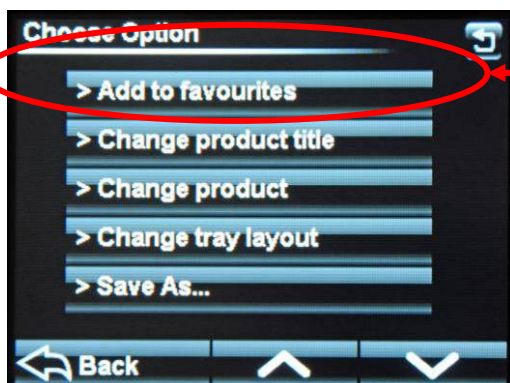
CATEGORY SCREEN



TOUCH THE “i”  
(INFORMATION)  
BUTTON NEXT TO THE  
PRODUCT YOU WANT  
AS A FAVOURITE.  
THIS OPENS THE  
OPTION SCREEN

2

SELECT SCREEN



TOUCH  
“ADD TO FAVOURITES”

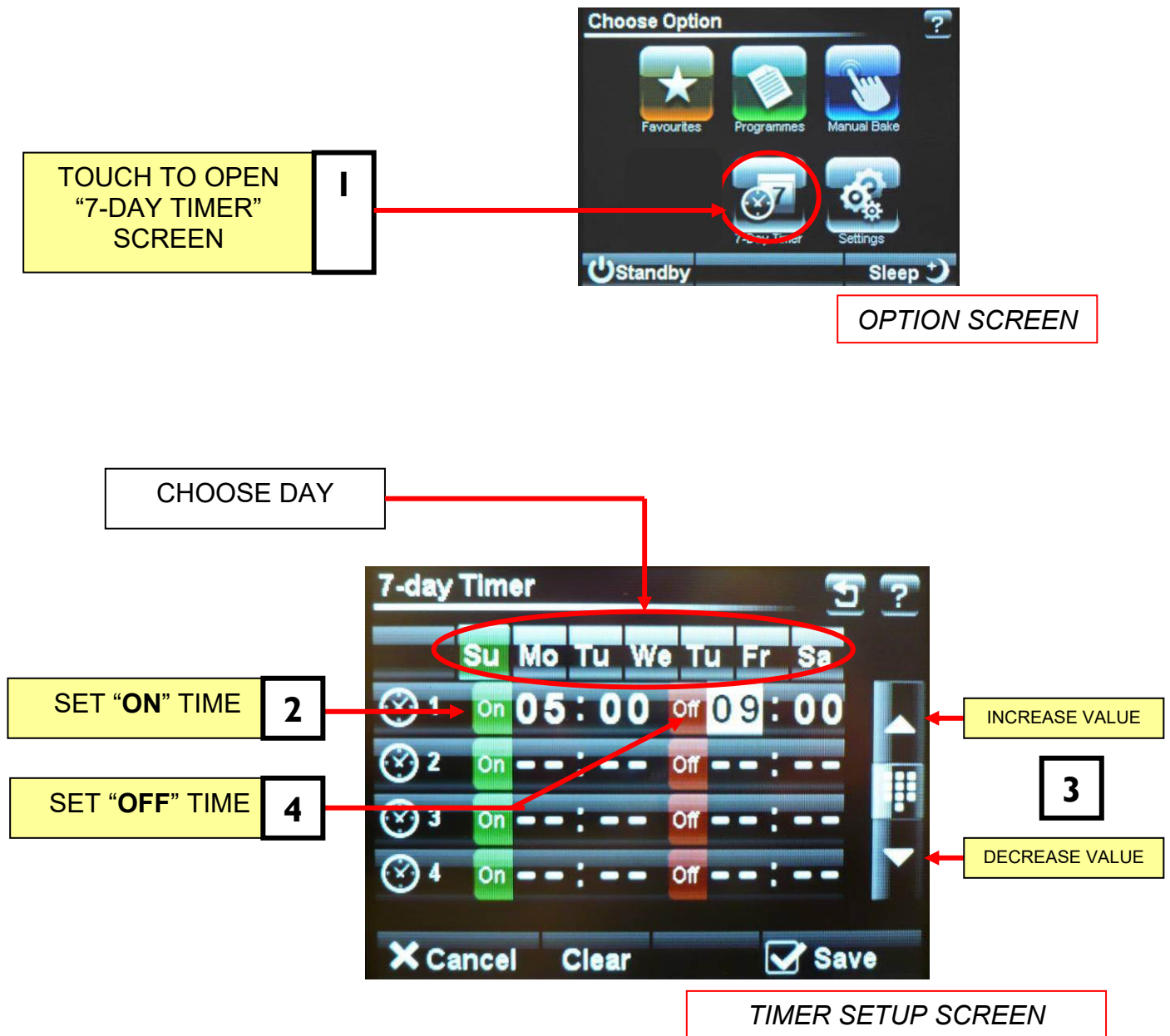
THE PRODUCT WILL  
NOW SHOW ON THE  
FAVOURITES LIST

3

OPTION SCREEN



## 9 - 5 SETTING 7-DAY TIMER



### NOTE

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



TOUCH TO OPEN  
THE "SETTINGS"  
SCREEN

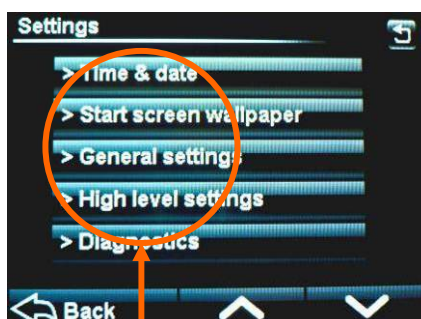
OPTION SCREEN



PASS CODE SCREEN

ENTER "SUPERVISOR"  
PASS CODE AND THEN PRESS OK.  
(DEFAULT CODE = 123456)

1

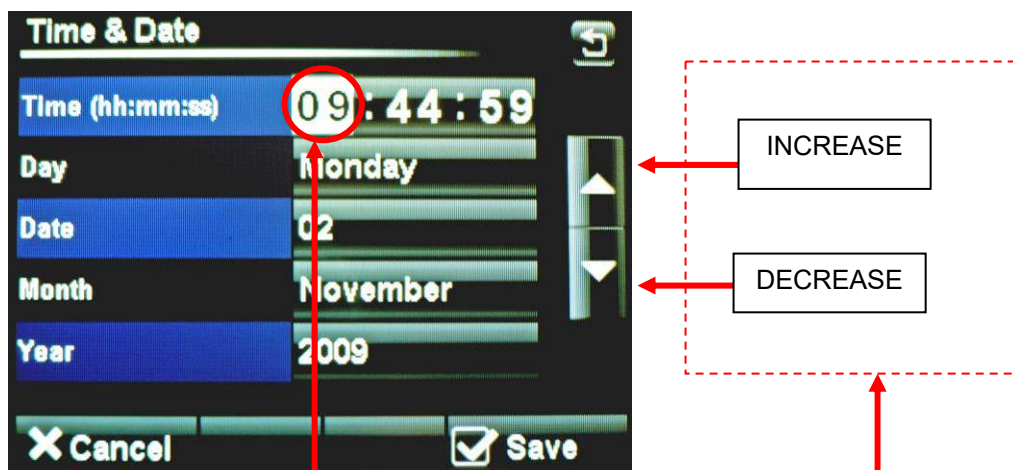


SETTINGS SCREEN

CHOOSE THE SETTING TO ALTER

2

## TIME AND DATE



TOUCH THE SCREEN TO HIGHLIGHT THE ITEM TO CHANGE

1

USE THE INCREASE / DECREASE BUTTONS TO ALTER THE SETTINGS

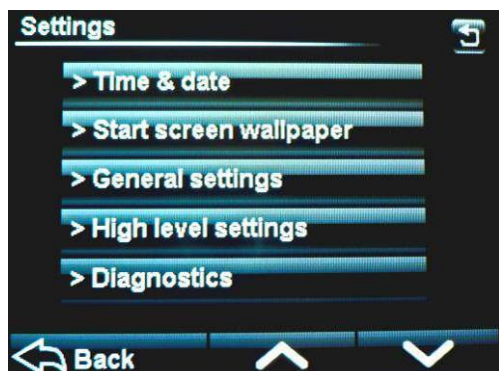
2



TIME AND DATE SCREEN

WHEN ALL INFORMATION IS CORRECT,  
TOUCH "SAVE".  
THIS WILL RETURN TO THE SETTINGS SCREEN

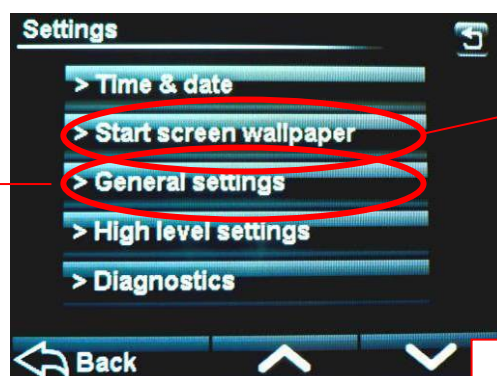
3



SETTINGS SCREEN



## OVEN SETTINGS (GENERAL)

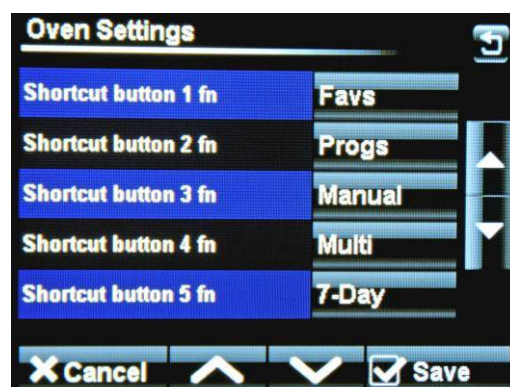
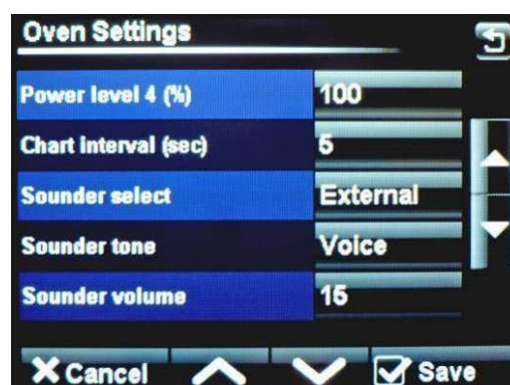
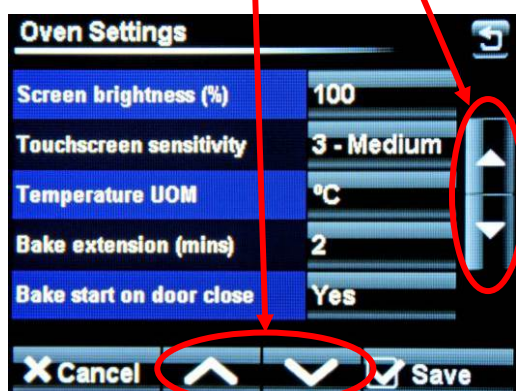


SELECT WALLPAPER.  
TOUCH "BACK" TO CONFIRM

SETTINGS SCREEN

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)

### **BAKE START ON DOOR CLOSE –**

This will start the set bake program as soon as the door closes.

### **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.

### **POWER LEVEL (1-4) –**

Set these as required for each level to be used.

### **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 or Off

### **SOUNDER VOLUME –**

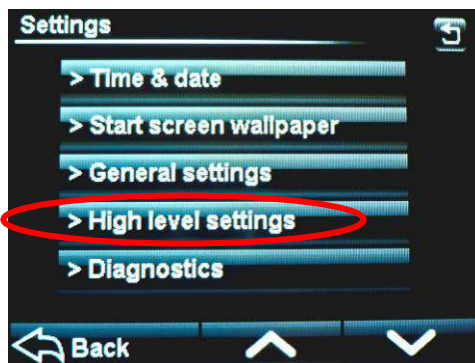
Adjust to suit the volume required. (onboard sounder only)

### **SHORTCUT BUTTONS –**

**1 fn**  
**2 fn**  
**3 fn**  
**4 fn**  
**5 fn**

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

## OVEN SETTINGS (HIGH LEVEL)



TOUCH "HIGH LEVEL SETTINGS" AND THE FOLLOWING SCREEN WILL APPEAR.

1

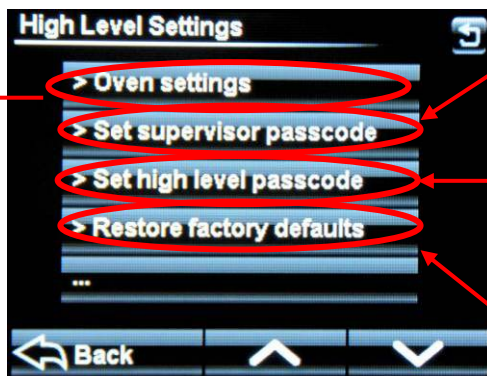
SETTINGS SCREEN



ENTER "HIGH LEVEL" PASS CODE AND THEN TOUCH OK.

2

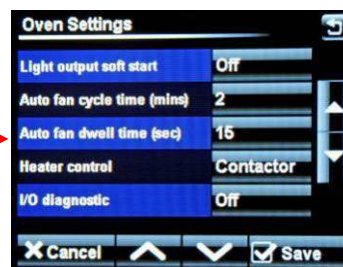
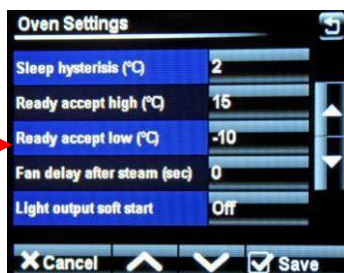
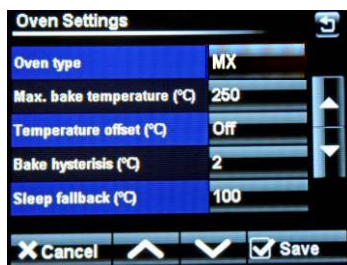
THE FOLLOWING SCREEN WILL APPEAR.



CHANGE SUPERVISOR PASSWORD HERE

CHANGE HIGH LEVEL PASSWORD HERE

RESTORES ALL SCREENS BACK TO ORIGINAL DEFAULT SETTINGS (NOT PASSCODES)



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

3

## **OVEN SETTINGS EXPLAINED - HIGH LEVEL**

### **OVEN TYPE –**

Set this to MX.

### **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).

### **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"

### **FAN DELAY AFTER STEAM –**

Delay before fan starts after the oven has steamed. (60 seconds max)

### **LIGHT OUTPUT SOFT START –**

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

### **AUTO FAN CYCLE TIME (MINS) –**

Set time required. Only used in manual and multibake modes.

### **AUTO FAN DWELL TIME –**

Set time required. Only used in manual and multibake modes.

### **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.

## DEFAULT PASSCODES

---

**SUPERVISOR (LOW LEVEL) -- 123456**

**HIGH LEVEL -- 654321**

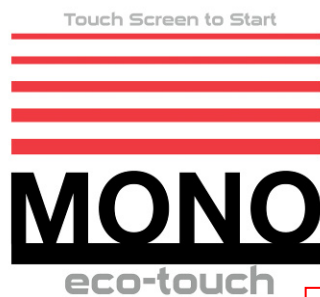
**MASTER -- 314159 (This is fixed)**

### **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



START SCREEN

Ensure the Start screen is showing

1



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

### NOTE

The USB stick will only fit in one way.

Do not force into the socket.

2



Wait for the USB symbol to finish moving

3



If old firmware is found, the firmware version screen will appear.

Touch "OK" to update firmware

-Wait-

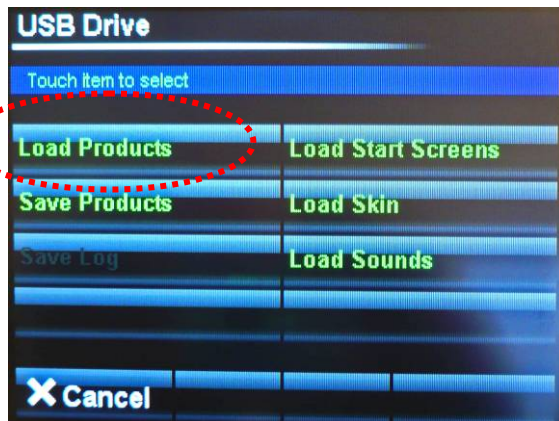
Remove USB stick

OR

Touch "CANCEL" to choose other items to update or change. (see next page)

4





Choose action you would like to do.

5



Select the file required.

6



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 in the root folder .

## **Mono**

Then into that folder add the following:

**Firmware**  
**Products**  
**Skins**  
**Sounds**  
**Start-up**

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 folder.

The most used folders are explained below:

## **SKINS**

These control the way the screen looks in different modes.

**Pictorial** is when the screen displays categories using pictures.



**Numerical** is when the screen displays program numbers.



## **STARTUP SCREENS**

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

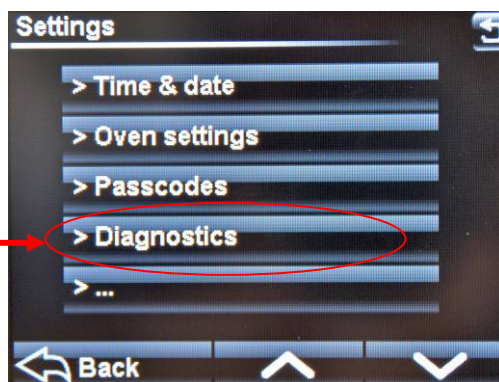


## **PRODUCT FILES** (PROGRAM FILES)

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

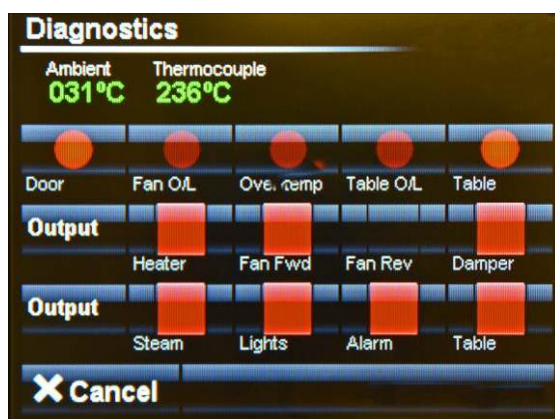


## 9 - 8      **DIAGNOSTICS**



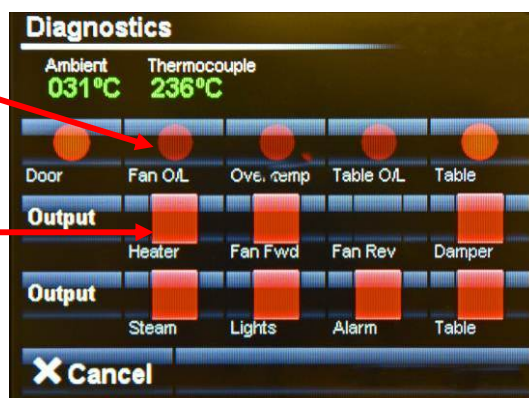
SETTINGS SCREEN

TOUCH "DIAGNOSTICS" AND THE FOLLOWING SCREEN WILL APPEAR.



DIAGNOSTICS SCREEN

INPUTS HIGHLIGHT WHEN A  
SIGNAL IS Received.  
e.g. DOOR OPEN



TOUCH THE REQUIRED OUTPUT AND A SIGNAL IS SENT TO THAT ITEM.  
THE OUTPUT BEING CHECKED IS HIGHLIGHTED WHEN ACTIVE.  
TO STOP THE OUTPUT, PRESS AGAIN.

# 10.0 TROUBLE SHOOTING

## IMPORTANT!

All repairs and adjustments to the oven must be carried out by authorised experts.  
Isolate oven before attempting repairs or removing protective panels.

Symptom	Possible cause	Probable solution
<b>The oven does not start, no fault shown on control panel</b>	The main isolator switch is off.	Switch on the isolator.
	The auxiliary fuse is tripped.	Reset the fuse.
	The main fuse is tripped.	Change the fuse (before the oven).
<b>Neither fan, hanger, steam or heat starts</b>	Door is not closed.	Close door.
	Door switch is defective.	Replace door switch.
<b>Rack hanger does not rotate and no fault shown on control panel</b>	Drive belt slipping.	Check belt tension.
	Drive belt broken	Replace belt.
<b>Oven light is not working</b>	Lighting strip is defective.	Replace the light strip.
	Faulty wiring to light.	Repair wiring.
<b>Oven temperature fails to rise/rises slowly/ cannot be maintained during baking</b>	Damper is open.	Close damper.
	Fan motor tripped.	Reset fan trip.
	Element failure	Call service engineer.
<b>Little or no steam</b>	Water mains disconnected or closed.	Connect water supply or open supply valve.
	Water spreader tube blocked.	Clean/unblock spreader tube.
	Filter in water line blocked.	Clean filter.
	Solenoid valve defective.	Replace solenoid valve.
<b>Oven bakes unevenly</b>	Air slots not adjusted correctly.	Adjust air slots. See section <i>Adjusting air slots</i> .
	Fan motor running in the wrong direction.	Switch electrical connections. Direction of rotation is indicated by arrow adjacent to motor.

## **DO NOT ATTEMPT TO MAKE ADJUSTMENTS UNLESS YOU ARE FULLY AWARE OF THE RESULTS**

### **Setting the air slots**

The oven has an air panel situated in the rear right-hand corner of the baking chamber with adjustable slots, which are accurately set prior to leaving the factory (the factory settings are given in the diagram below). It is through these slots that heated air passes into the baking chamber to perform the baking task. However, external factors can negatively affect the baking result, such as a poorly designed baking programme or the combination of trays and products to be baked, and adjustment of the air slots may be necessary.

However, before making adjustments please consider the following:

- Make sure that differences in baking results are not due to differences in product batches;
- Make sure that the plates that determine the width of the air slot have not come loose thereby causing a change from the factory setting;
- Do not be too hasty in changing air slot settings in response to a sudden change in bake evenness as this may have been caused by other factors, such as, after maintenance of the oven, or a related fault with the oven. Any adjustments to the air slots would be unlikely to cure bake unevenness under these circumstances;
- Check that the air circulation fan's rotation is correct – especially after maintenance or replacement.

If it is considered that adjustments to the air slots are necessary, these should be made in small increments and one slot at a time. Measure the slot opening before adjustment then slacken the screw(s) associated with the slot that requires adjustment, adjust slot opening then retighten screw. Measure slot opening after adjustment is complete to confirm the desired dimension has been achieved.

#### **Factory settings:**

A = 5.9mm

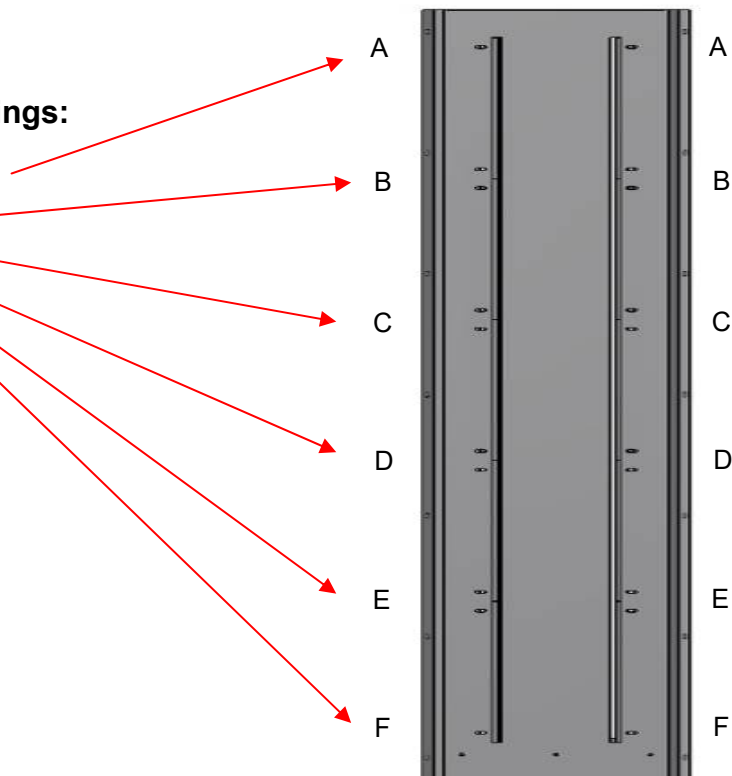
B = 4.8mm

C = 4.8mm

D = 4.8mm

E = 4.8mm

F = 5.9mm



## 11.0 SPARES AND SERVICE

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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

All correspondence must state the details shown on the oven's identification plate.  
*This will reduce errors and time wasted during communication.*

**MONO**

Queensway  
Swansea West Industrial Estate  
Swansea. SA5 4EB UK

**email:spares@monoequip.com**  
**Web site:www.monoequip.com**

**Tel. 01792 561234**  
**Spares +44(0)1792 564039**  
**Fax. 01792 561016**



## 12.0 ELECTRICAL INFORMATION

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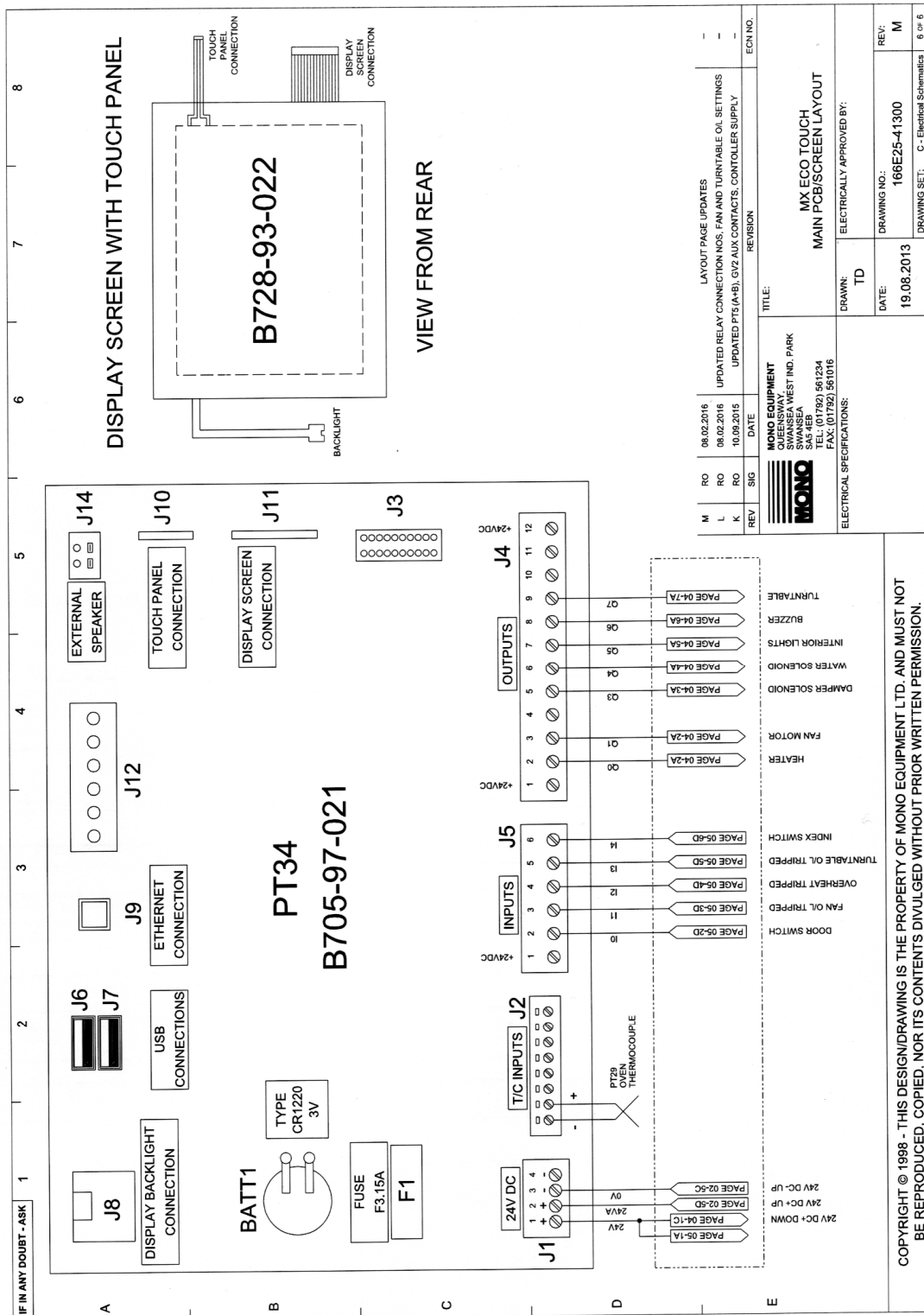




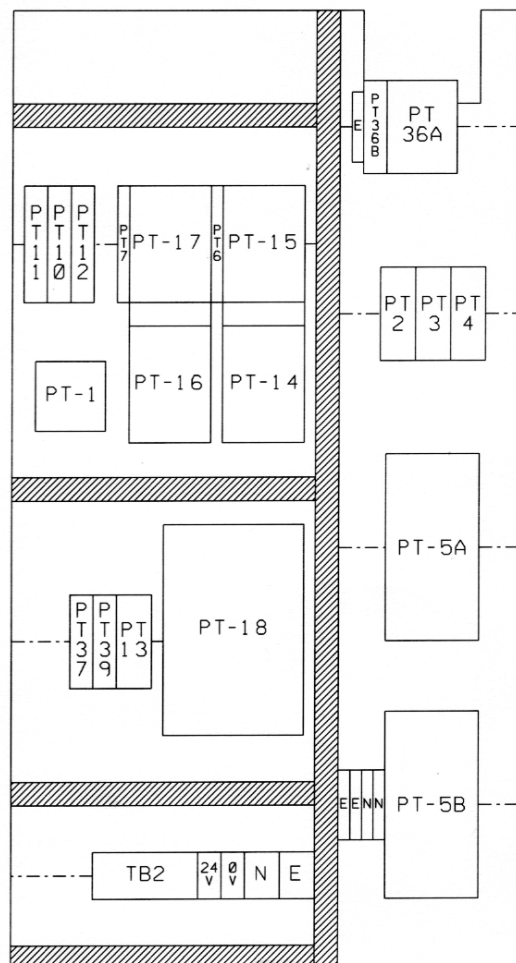








MXT ECOTOUCH ELECTRIC OVEN - DEVICE LIST			
PART REFERENCE	DESCRIPTION		Mono Part Number
PT-1	Overheat Thermostat		B888-30-014
PT-2	Heating Element MCB		B872-22-074
PT-3	Heating Element MCB		B872-22-074
PT-4	Heating Element MCB		B872-22-074
PT-5	Heating Element Contactor		B801-08-032
PT-6	Main Fan Motor Auxiliary Contact		B801-14-006
PT-7	Turntable Motor Auxiliary Contact		B801-14-006
PT-10	Contactor Control Circuit MCB		B872-22-001
PT-11	Control Circuit MCB		B872-22-062
PT-12	Pump Motor MCB		B872-22-062
PT-13	Interior Light Relay		B723-37-021
PT-14	Main Fan Motor Contactor		B801-08-031
PT-15	Main Fan Motor Starter (GV2)		B801-03-024
PT-16	Turntable Motor Contactor		B801-08-031
PT-17	Turntable Motor Starter (GV2)		B801-03-016
PT-18	24V DC Power Supply		B801-93-005
PT-19	Buzzer (Option)		B723-92-002
PT-24	Steam Solenoid		B965-83-007
PT-25	Damper Solenoid		B749-83-004
PT-26	Main Fan Motor		B912-74-035
PT-27	Turntable Motor Unit		B912-74-036
PT-28A	Turntable Index Switch Body		B801-11-013
PT-28B	Turntable Index Switch Head roller plunger		B801-45-008
PT-29	Thermocouple		B709-95-001
PT-30	Door Switch		B801-11-001
PT-31	Led light assembly		166-13-00063
PT-34	PCB Assy		158-25-80000
PT-35	Heating Element		B979-04-001
PT-36	VCCF4 80A Isolator		B801-07-002
PT-37	Heater Contactor Relay		B723-37-021
PT-38	USB Cable		B705-25-009
PT-39	Pump Relay (If Pump Fitted)		B723-37-021
PT-40	Suppressor Unit (If Pump Fitted)		B842-48-010
PT-41	Water Pump (If Fitted)		A900-28-005
PT-42	Speaker		B842-92-005





## 13.0 SPARES



## **SPARES**

### **ELECTRICAL**

<b>MXT ECOTOUCH ELECTRIC OVEN - DEVICE LIST</b>			
<b>PART REFERENCE</b>	<b>DESCRIPTION</b>		<b>Mono Part Number</b>
<b>PT-1</b>	Overheat Thermostat		B888-30-014
<b>PT-2</b>	Heating Element MCB		B872-22-074
<b>PT-3</b>	Heating Element MCB		B872-22-074
<b>PT-4</b>	Heating Element MCB		B872-22-074
<b>PT-5</b>	Heating Element Contactor		B801-08-032
<b>PT-6</b>	Main Fan Motor Auxiliary Contact		B801-14-006
<b>PT-7</b>	Turntable Motor Auxiliary Contact		B801-14-006
<b>PT-10</b>	Contactor Control Circuit MCB		B872-22-001
<b>PT-11</b>	Control Circuit MCB		B872-22-062
<b>PT-12</b>	Pump Motor MCB		B872-22-062
<b>PT-13</b>	Interior Light Relay		B723-37-021
<b>PT-14</b>	Main Fan Motor Contactor		B801-08-031
<b>PT-15</b>	Main Fan Motor Starter (GV2)		B801-03-024
<b>PT-16</b>	Turntable Motor Contactor		B801-08-031
<b>PT-17</b>	Turntable Motor Starter (GV2)		B801-03-016
<b>PT-18</b>	24V DC Power Supply		B801-93-005
<b>PT-19</b>	Buzzer (Option)		B723-92-002
<b>PT-24</b>	Steam Solenoid		B965-83-007
<b>PT-25</b>	Damper Solenoid		B749-83-004
<b>PT-26</b>	Main Fan Motor		B912-74-035
<b>PT-27</b>	Turntable Motor Unit		B912-74-036
<b>PT-28A</b>	Turntable Index Switch Body		B801-11-013
<b>PT-28B</b>	Turntable Index Switch Head roller plunger		B801-45-008
<b>PT-29</b>	Thermocouple		B709-95-001
<b>PT-30</b>	Door Switch		B801-11-001
<b>PT31</b>	Led light assembly		166-13-00063
<b>PT-34</b>	PCB Assy		158-25-80000
<b>PT-35</b>	Heating Element		B979-04-001
<b>PT36</b>	VCCF4 80A Isolator		B801-07-002
<b>PT-37</b>	Heater Contactor Relay		B723-37-021
<b>PT-38</b>	USB Cable		B705-25-009
<b>PT-39</b>	Pump Relay (If Pump Fitted)		B723-37-021
<b>PT-40</b>	Suppressor Unit (If Pump Fitted)		B842-48-010
<b>PT-41</b>	Water Pump (If Fitted)		A900-28-005
<b>PT-42</b>	Speaker		B842-92-005

## **SPARES**

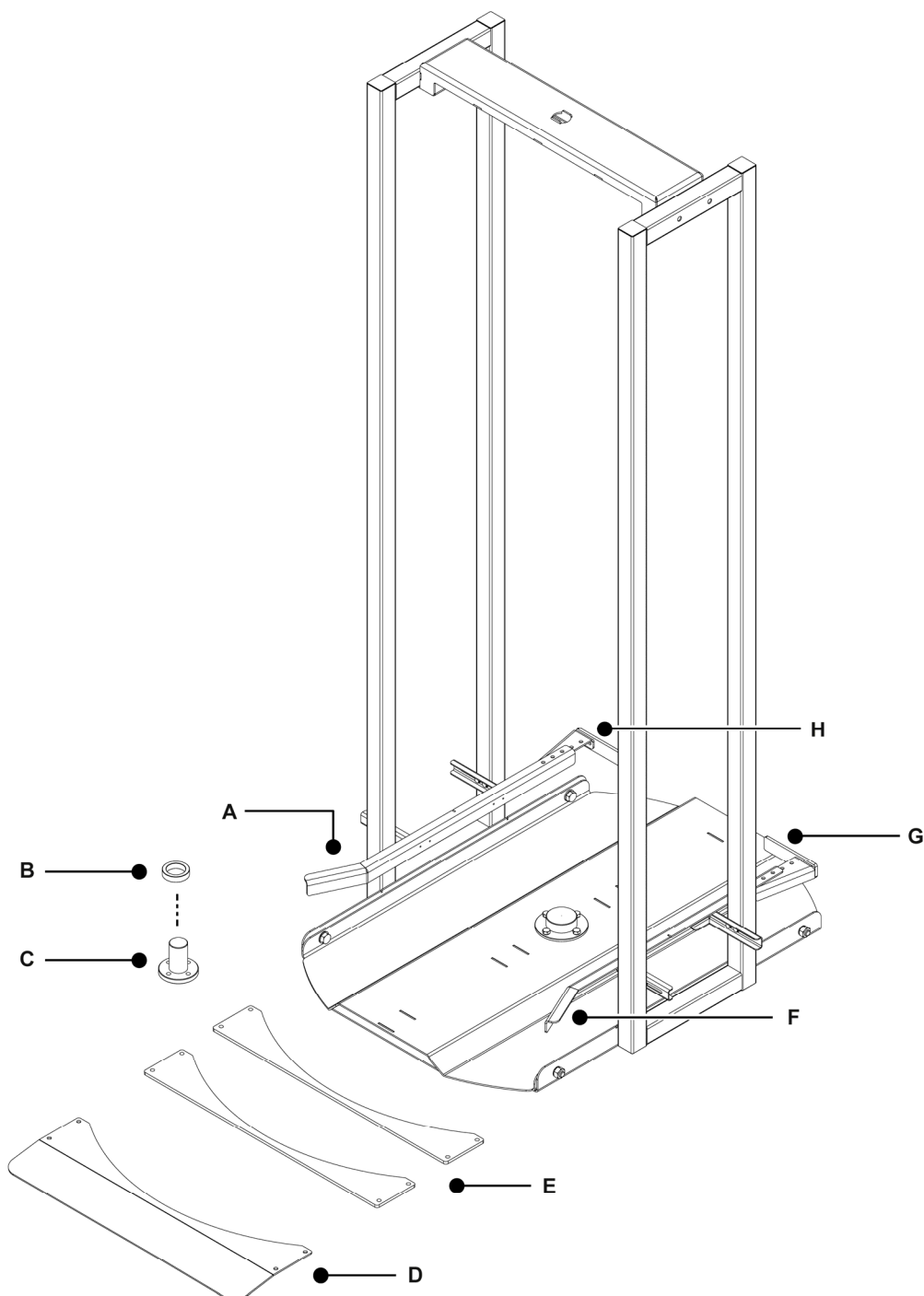
### **MECHANICAL**

Fan drive "VEE" belt	A900-21-114
Door handle	160-32-02000
Bottom door seal	166-13-00060
Door glass unit	166-13-00035
"U" seal for glass unit	166-13-00055
Touch screen overlay	164-90-00001

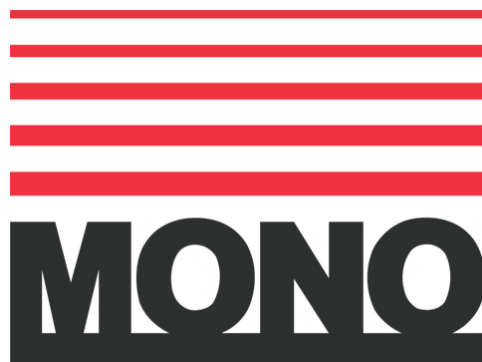
## **PARTS LIST FOR OPTIONAL RACK TURNTABLE**

(Factory-fitted to FG166-E\*\*\*\*TT models only)

### Figure 1: Parts list for rack turntable



- A.** Left-hand adjustable side guide (166-17-00051)    **E.** Ramp packer (166-17-00021)  
**B.** Base bearing (166-17-00014)    **F.** Right-hand adjustable side guide (166-17-00053)  
**C.** Floor turntable boss (166-17-00017)    **G.** Back stop plate (166-17-00064)  
**D.** Turntable ramp (166-17-00019)



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