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



## **MXT ROTARY RACK OVEN**

**SET UP AND OPERATION OF OVEN** 

(With programming instructions)

**GAS** 

**ECOTOUCH** CONTROL

Rev. B21 21-05-21 MONO EQUIPMENT I



#### **EU PRODUCT SURVEILLANCE CERTIFICATE**

This is to certify that factory production control systems in place for the appliances covered under EU Type Examination certificates listed, have been examined under Annex III, section 2, Module C2 Conformity to type based on quality assurance of the production process, of the Council Regulation (EU) 2016/426 of 9th March 2016 on the approximation of the laws of the Member States relating to appliances burning gaseous fuels, and have been found to be in conformity to the type as described in the EU type-examination certificates and to satisfy the essential requirements listed in Annex I of the same directive. The manufacturer is hereby licenced to affix the Intertek Notified Body number (0359) to the appliances listed within this certificate

**Applicant: Mono Equipment Limited** 

Address: Queensway, Swansea West Industrial Park

Swansea. SA5 4EB. Wales Country: United Kingdom Contact: Mr. Alex Davies Phone No: + +44 (0) 1792 561234

Email: adavies@monoequip.com

Party Authorised To Apply Mark:

**Certificate Number:** 

Period Valid:

Manufacturer: Mono Equipment Limited

Address: Queensway, Swansea West Industrial Park

Swansea. SA5 4EB. Wales **Country: United Kingdom** Contact: Mr. Alex Davies Phone No: +44 (0) 1792 561234 Email: adavies@monoequip.com

Same as Manufacturer UK-LHD-0359-0001033S

From: APRIL 2020 To: MARCH 2022



This certificate only relates to those products detailed in the following surveillance report number:

Report No: 104466762LHD-001

#### Intertek Certificate

Issue date: 23 October 2020

GAR004 July 2019 1.0

The issued document and statement(s) herein refers only to a presumption of conformity in accordance with Regulation (EU) 2016/426. However, it is the manufacturers sole responsibility to affix the CE logo and, by doing so, confirms full compliance and conformity to all other European mandatory directives and regulations that may also apply

This certificate is for the exclusive use of Intertek's client and is provided pursuant to the agreement between Intertek and its Client. Intertek's responsibility and liability are limited to the terms and conditions of the agreement. Intertek assumes no liability to any party, other than to the Client in accordance with the agreement, for any loss, expense or damage occasioned with the use of this Certificate. Only the Client is authorized to permit copying or distribution of this Certificate. Any use of the Intertek name or one of its marks for the sale or advertisement of the tested material, product or service must first be approved in writing by Intertek.

The manufacturer must inform Intertek Testing and Certification Limited if any mechanical or material changes made to the products covered by this certificate, as unauthorised modifications could invalidate this certificate.

Intertek Testing & Certification Ltd, Registered office: Academy Place, 1-9 Brook Street, Brentwood, Essex, CM14 5NQ, United Kingdom. Registered No: 3272281 (England), VAT No: GB 672-7639-96-011

Certification body: Name: S Yathunanthan

Intertek Testing & Certification Ltd. Title: **Business Manager** United Kingdom (Notified Body 0359) Authentication of this Certificate can be Signature: S. YoHunen Hen.

confirmed at: info.gas@intertek.com

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1 of 2



#### **EU QUALITY SYSTEM SURVEILLANCE CERTIFICATE**

Product Type:	Gas Fired	l MXT Rotary Rack Oven		
Model N	lo.:	Issuing Notified Body	EC Type Examination Certificate No.:	Product Identification No.
Model FG166		Intertek Testing & Certification Ltd	UK-LHD-0359-0000294	0359CR294
Scope:		Gas Category	Country of Destination	Supply Pressure
		I <sub>2H</sub>	AT, CH, CY, CZ, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LT, LU, LV, NL, NO, PT, TR, SE, SI, SK.	20mbar

In accordance with EC NOTICE TO STAKEHOLDERS WITHDRAWAL OF THE UNITED KINGDOM AND EU RULES IN THE FIELD OF INDUSTRIAL PRODUCTS dated 13 March

This issued certificate - Certificate No: UK-LHD-0359-0001033S

and supporting Technical Construction File underwent a legal transfer of new ownership by signed agreement between the named applicant on this certificate and the 3<sup>rd</sup> party bodies named applicant on this certificate and involved in the transfer from NB0359 to NB2575 on 22 December 2020

Name: Sandro Zornio

GAR Certification Manager Position:

Signature:

22/12/2020

#### **Revisions and comments**

DD/MMM/YYYY	Amended by	Project No.	Test Report No	Reason for revision
				First issue – None

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## **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 / EU
- The requirements of the Electromagnetic Compatibility Directive EN 55014-1:2006 + A1:2009 + A2:2011 EN 55014-2:1997 + 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
- Tested in accordance with BSEN 203-1:2014, BESN203-2-2:2006 and BSEN 203-3:2009

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

## **SAFETY SYMBOLS**

The following safety symbols are used throughout this product documentation. 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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# Failure to adhere to the cleaning and maintenance instructions detailed in this booklet could affect the warranty of this machine.



## **NOTE**

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



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

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#### 1.0 INTRODUCTION

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

Eco-touch 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.

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



## 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.

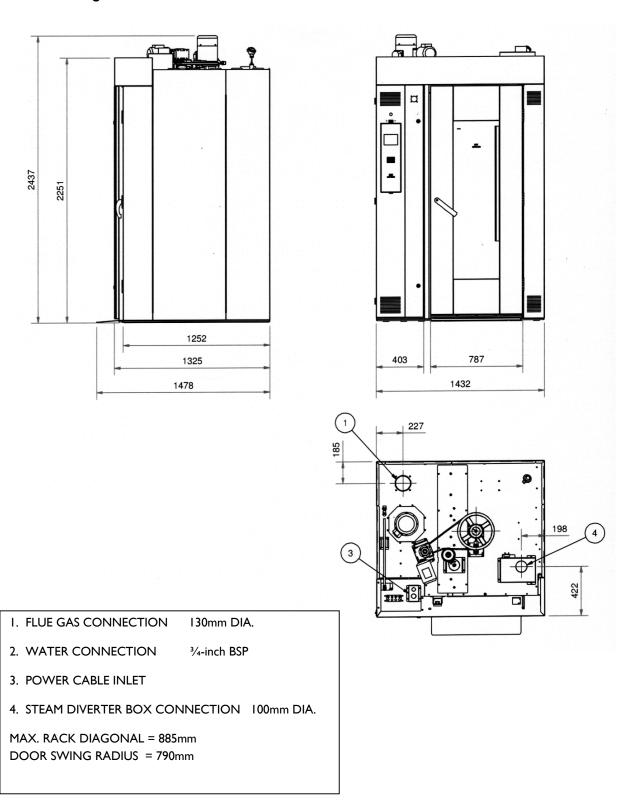
Steam is generated within the oven chamber by means of a multi-point, water injection cascade. The amount of steam to be generated is controlled by means of a programmable time period on the control panel. No drain is required for the baking and steaming process of this oven.

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 bakery layout the main oven door can be hinged on either side; even if oven is relocated after initial installation.

## 2.0 OVERALL DIMENSIONS

Figure 1: Dimensions for models FG166-G11LH\*\* and FG166-G11RH\*\*



#### 3.0 SPECIFICATIONS

#### **Product**

Designation: Oven

Classification: Category 1<sub>2H</sub> Type B<sub>23</sub>

#### **Electrical**



#### Warning

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

Power supply: 400 Vac, three phase, Earth and Neutral, 50 Hz

1.9 kW, 8 amps per phase.

Connection point: See the Power Cable Inlet in **Figure 1**.

#### **Mechanical**

Overall dimensions: See **Figure 1** for width, depth, and height.

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

Air circulation: Radial fan driven by an electric powered motor.

Steam system: Mass energy storage, no drain

Rack rotation: Single electric-powered motor/gearbox driven via a belt drive.

Hanger inside the baking chamber.

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

compatibility.

#### **Materials**

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

#### **Gas system**

Fuel: Natural gas (G20)

Operating pressure: 20mbar Rated output, high: 50 kW

Combustion air: 50 m<sup>3</sup>/h (approximately)

Burner inlet connection: See **Figure 1**.

#### **Gas connection**

Mono MXTG ovens are supplied with a two-stage bespoke burner that is set-up prior to dispatch. The burner is suitable for use with natural gas only. (See Specifications for other details).

Heat output	Gas pressure at connection point	Gas flow with burner in operation
50 kW	20.0 mbar	5.16 m³/h



#### Warning

- Burner installation and start-up should be carried out by an authorized technician.
   Local regulations for gas installations must be followed.
- Always check the nameplate for the gas type.
   Do not use the burner with other gas types.
- Repairs and maintenance to be carried out by an authorised service engineer.

#### Flue gas connection

Connection on oven: Outside diameter Ø130 mm

Draft conditions: There must be a negative pressure of 1 to 5 mm WG in the

combustion chamber. If the pressure is higher than 0 mm WG in

service, a flue gas fan must be installed.

Temperature: The gas exhaust flue must be capable of withstanding a temperature

of at least 400 °C.

Heat output	Flue gas temperature	Flue gas quantity
50 kW	400 °C	150 m³/h

**Note:** None of the flue gas ducts should slope downwards or be horizontal (if no flue gas fan is installed). The slope must be upwards towards the chimney. Avoid too many sharp elbows.

#### Initial burning-off procedure

All ovens undergo the burn-off procedure in the factory before being dispatched.

#### 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-G\*\*\*\*TT), allowing the use of a range of standard racks in the MONO MXTG 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.

<u>The air door openings are set at the factory and should not require resetting</u>. 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 2 bar (29 PSI) – 4 bar (58 PSI), needs to be connected to the oven for the purpose of steam generation, domestic pressure is usually within this parameter.

The pressure reducing valve on the oven is factory set at 1.5 bar (22 PSI).

From a cold oven start the steam system will typically require 30 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.

#### **Gas Heating System**

The gas heating system consists of the gas supply pipework, a pre-mix burner, air-to-air heat exchanger and flue outlet.

The gas burner is factory-fitted and must be connected to a natural gas fuel supply only. Every burner is pre-set and no adjustment should be attempted. Gas is mixed with air supplied from the room the appliance is situated in and burned to produce hot gaseous products of combustion that flow through the internal passages of the heat exchanger and are kept separated from the oven's re-circulating air.

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

After passing through the heat exchanger the products of combustion discharge from the oven through the flue outlet terminating at roof level towards the rear left side of the oven. This oven is intended to be connected to a flue in accordance with the specification and local authority guidelines.

#### **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*.

#### <u>Noise</u>

Emission of airborne noise is less than 70 dB.

## 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. This appliance is not intended for outdoor use.
- 3. This appliance is not intended for residential use.
- **4.** 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.*
- 5. EVERY OVEN INSTALLATION MUST BE APPROVED BY THE LOCAL AUTHORITY

  Neither the manufacturer, nor the vendors are liable in respect of accidents or damage where the purchaser/installer has not obtained such approval.
- **6.** Connection of the oven to the local gas supply is the responsibility of the installer, who should be a "Gas Safe" registered engineer using components that conform to the current industry standards.
- 7. It is the responsibility of the installer to ensure that an adequate supply of combustion air to the oven (see *Specifications* section for details) and the evacuation of combustion products are permanently in place.
- **8.** An emergency isolation valve must be fitted in the gas supply and be well marked and accessible to operators.
- 9. No change is permitted to the gas group or family from that which is specified for this oven.
- **10.** Parts of the oven that are protected by paint are not to be adjusted. *Do not adjust these parts.*
- **11.** Unauthorised service or repairs to these ovens may cause personal injury or damage to the equipment, which may invalidate warrantee agreements.
- **12.** Only qualified engineers appointed by MONO EQUIPMENT should carry out service and repairs to this equipment.



- **13.** Electrical panels and electrical distributor boxes should not be opened until the main supply to the oven has been turned off.
- **14.** When choosing and installing a flue, the precautions and instructions in this manual must be observed.

**15.** 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.



**16.** When work is being carried out inside the oven, the electrical mains isolator must be turned off and locked.



17. Whenever there is someone working inside the oven, the baking compartment door should be wedged open and a suitable warning notice hung on the door to prevent it being accidentally closed.



- **18.** 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.
- **19.** Use only **MONO** spare parts for this oven.
- **20.** The construction of the oven must not be changed.
- **21.** Customers operating this oven in a hard water area must ensure that an efficient water-softening device protects the water supply to the equipment.
- **22.** Oven gloves should be worn when moving products in or out of the oven.
- 23. 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.

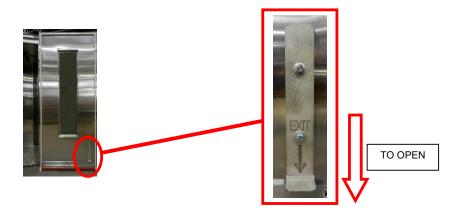


WARNING: WHEN DOING ANY MAINTENANCE ON TOP, KEEP CLEAR OF THE RECTANGULAR FLUE PIPE TOWARDS THE FRONT RIGHT HAND SIDE OF THE ROOF. VERY HOT AIR IS EJECTED.

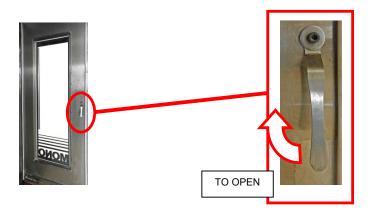
- 24. Moving parts remain unguarded on the oven roof as this area is out of reach of the operator and therefore deemed safe. Care must be taken to avoid these motorised parts when maintenance tasks are performed.
- **25.** Unless trays/containers for the purpose of holding the oven products are supplied 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.
- **26.** This appliance is only for professional use and must be used by qualified people.

27. <u>Up until August 2017</u> 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

- 1. The **MONO MXTg** 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. A minimum clearance of 100mm (4") is to be maintained between bakery walls and oven rear and sides.
  Ovens may be installed next to each other without clearance between them.

#### **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. Minimum pressure should be 2 bar - 4 bar.

Domestic pressure is usually within this parameter.

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 1.5 bar to provide the best steam during a bake.

- **6.** Pipework from the gas supply to the oven shall be arranged so as to not require removal of the burner for routine maintenance tasks.
- Parts of the oven that are protected by paint are not to be adjusted. Do not adjust these parts.
- 8. Pipework connections shall be achieved either by threaded joints conforming to EN10226-1 (taper-parallel threads) or EN10226-2 (taper-taper threads), each sealed with compound or tape suitable for the gas specified for this oven, or by compression fittings.

#### **OVEN EVACUATION**

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 600 mm. the extraction rate from the hood should be approximately 1700 m<sup>3</sup>/h.

The oven is a Type B appliance requiring an 8" flue to evacuate the products of combustion to the outside of the room containing the oven and the combustion air to be drawn from that room. The customer is responsible for providing adequate levels of make-up air.

#### **GAS CONNECTION**

Ovens will be supplied with a bespoke burner that will be set-up prior to dispatch. The burner is suitable for use with natural gas only.

The burner output is 50 kW.

Heat output	Gas pressure at connection point	Gas flow with burner in operation
50 kW	20.0 mbar	5.16 m³/h



#### Warning

- Burner installation and start-up should be carried out by an authorized technician.
   Local regulations for gas installations must be followed.
- Always check the nameplate for the gas type.
   Do not use the burner with other gas types.
- Repairs and maintenance to be carried out by an authorised service engineer.

#### **Burner reset**

The burner reset button is located above the control panel. After 3 failed attempts of igniting, the button will illuminate Signalling that the burner has locked out.

To reset, press the button until the light goes out.

The burner will then attempt to ignite 3 more times.

If the burner continuously fails, contact a qualified gas engineer.



#### **FLUE GAS CONNECTION**

Connection on oven: Outside diameter Ø130 mm.

Draft Conditions: There must be a negative pressure of 1 to 5 mm WG in the

combustion chamber. If the pressure is higher than 0mm WG in

service, a flue gas fan must be installed.

Temperature: The gas exhaust flue must be capable of withstanding a temperature

of at least 400 °C.

Heat output	Flue gas temperature	Flue gas quantity
50 kW	400 °C	150 m³/h

**Note:** None of the flue gas ducts should slope downwards or be horizontal (if no flue gas fan is installed). The slope must be upwards towards the chimney. Avoid too many sharp elbows

#### Initial burning-off procedure

All ovens undergo the burn-off procedure in the factory before being dispatched.

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

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

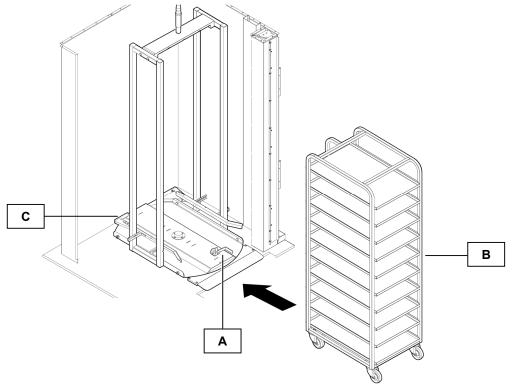


#### Caution

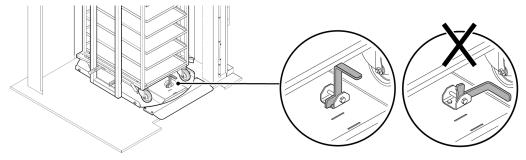
Surfaces on the oven will be hot – always wear protective gloves and appropriate clothing (including shoes).

#### Before starting a bake

- 1. Open the oven door.
- 2. Ensure the foot brake (A) on the turntable is released (i.e. in the horizontal position).
- 3. Push the rack (B) into the oven until it reaches the back stops (C) on the turntable.



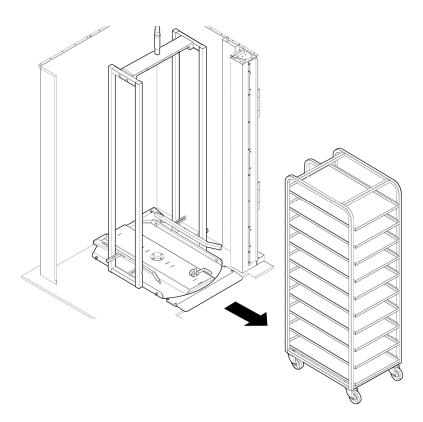
**4.** Put the foot brake on (i.e. move it to the vertical position).



5. Close the oven door.

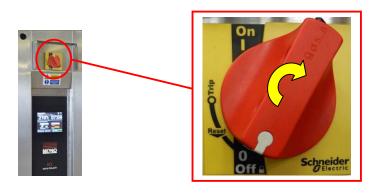
#### After baking is complete

- **6.** Open the oven door.
- **7.** Release the foot brake (i.e. move it to the horizontal position).
- **8.** Pull the rack out of the oven.



## 6.0 ISOLATION

In case of an emergency, switch the oven off at the mains electrical isolator switch  $\underline{\text{and}}$  gas mains tap.



MAINS ELECTRICAL ISOLATOR SWITCH On main control door.



#### **NOTE:**

AS SOME PARTS STAY ELECTRICALLY LIVE AFTER THE ISOLATOR SWITCH ABOVE IS OPERATED, ENSURE THE OVEN IS DISCONNECTED FROM THE <u>CONSUMER POWER SUPPLY (MAINS)</u> IF WORKING ON THE ELECTRICAL BOX AND PANEL.



TYPICAL GAS ISOLATING VALVE Installed near oven.

### 7.0 CLEANING INSTRUCTIONS



#### Caution

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

The oven design uses sealed components wherever possible. A minimal amount of routine cleaning is required. However, it is essential for cleaning to be regularly and adequately done.

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

A buildup of spillages may result from incorrectly placed racks. Also, check for damage to door seals, particularly if operators are careless with rack handling.

#### **GAS BURNER**

For cleaning, service, and maintenance of the burner, please contact an authorised expert company.

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## 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:

#### Maintenance every 3 months

#### Lubrication:

Door lock - use heat-resistant grease

#### Maintenance 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

#### Gas heated oven

Servicing of the gas burner, heat exchanger, and flue should be carried out at least once every 12 months by a suitably qualified person.

#### **Lighting**

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



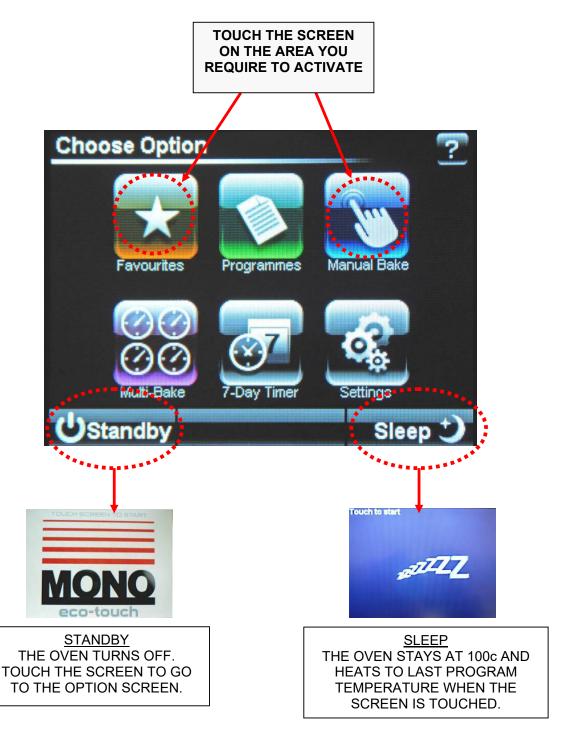
## **Section 9**

## TOUCH SCREEN OPERATING INSTRUCTIONS

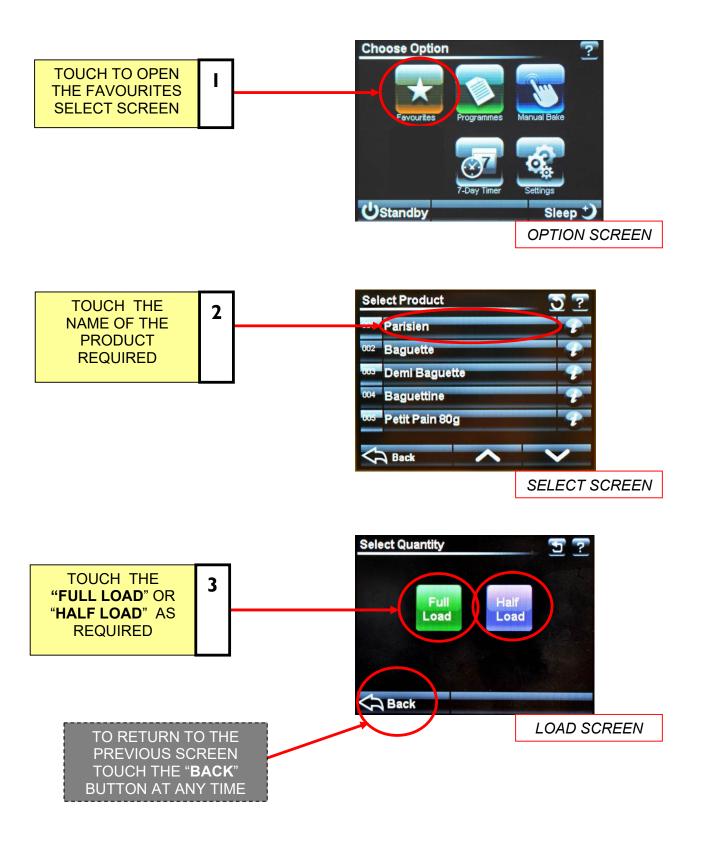
## **BASIC OPERATION**

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)



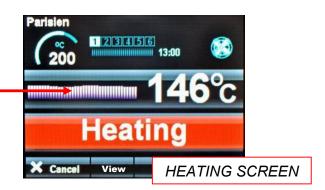
## 9-1 BAKING USING FAVOURITES MENU



# 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.



# 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"

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#### TIP

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

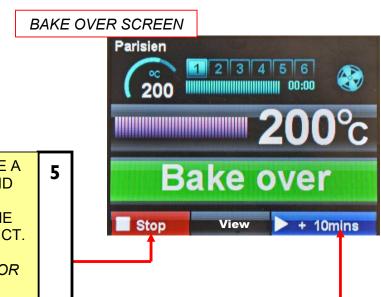


#### **BAKE PHASE ACTUAL OVEN BAKE IN PROGRESS SCREEN TEMPERATURE** (WHEN USED) THIS SCREEN WILL SHOW WHILE THE PRODUCT IS BAKING **Parisien SET TEMPERATURE 1** 200 TEMPERATURE PROFILE BAR **BAKE TIME PROGRESS BAR** NOTE Viev The actual temperature shown will rise and fall above and below the set temperature as the oven cools and reheats. This is not a fault **BAKE TIME LEFT**

**MONO EQUIPMENT** 

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4



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 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.

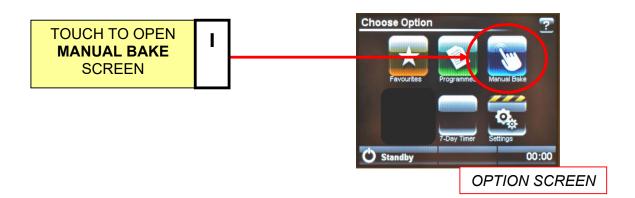




VIEW SCREEN

30

## 9 - 2 BAKING USING MANUAL MENU



#### SET BAKE TIME AND TEMPERATURE



#### SET BAKE TEMPERATURE

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



#### **SET BAKE TIME**

3

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

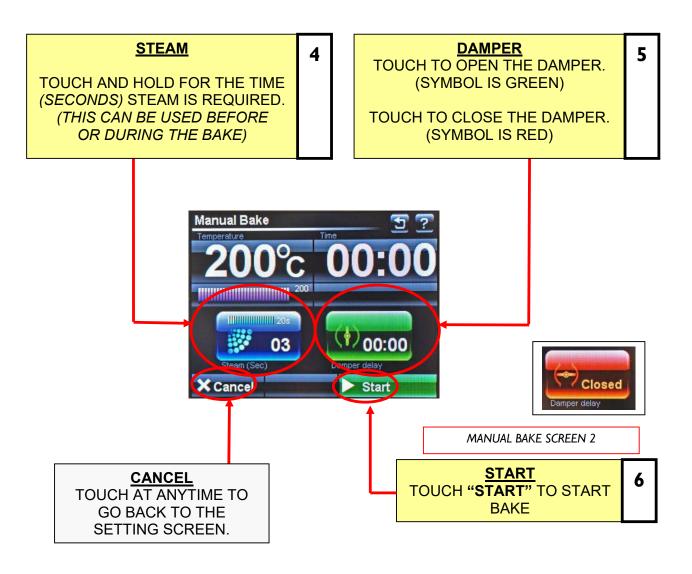


#### NOTE:

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 THE BAKE.

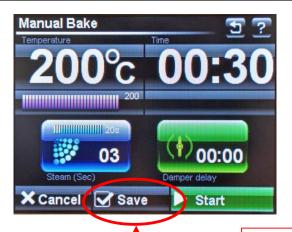
2

#### USE STEAM TIME AND DAMPER IF REQUIRED





## SAVE MANUAL PROGRAM, IF REQUIRED



MANUAL BAKE SCREEN 3

7

#### **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.

TOUCH "ADD TO FAVOURITES" OR "SAVE AS"



USE KEYBOARD TO TYPE THE REQUIRED NAME AND TOUCH "SAVE"

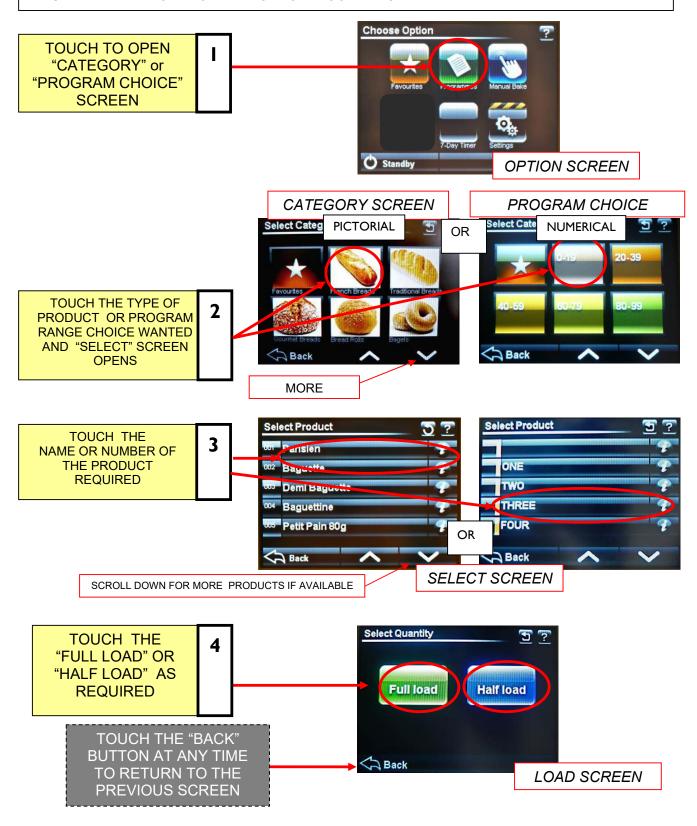


NOTE: In manual mode, only one operation of the steam or damper is saved.

## 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).

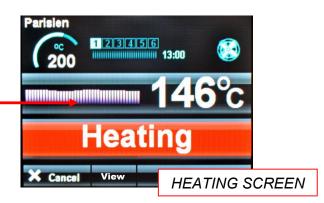
- 1. PICTORIAL VERSION SHOWS CHOICES OF PRODUCT CATERGORIES
- 2. NUMERICAL VERSION SHOWS RANGES OF PROGRAM NUMBERS.



# 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.

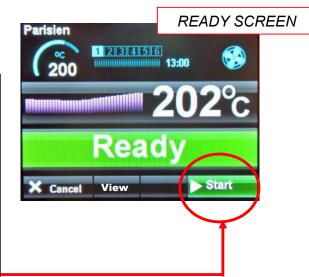


WHEN THE OVEN IS AT THE CORRECT TEMPERATURE, THE "READY" SCREEN WILL SHOW.

- 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



# THIS SCREEN WILL SHOW WHILE THE PRODUCT IS BAKING BAKE PHASE (WHEN USED) Parisien 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

5

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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.

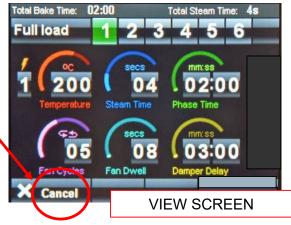
6

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

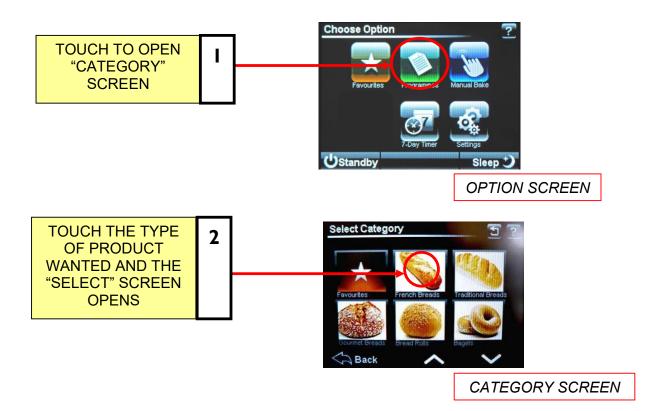
#### **TOUCHING "VIEW" BUTTON DURING BAKE**

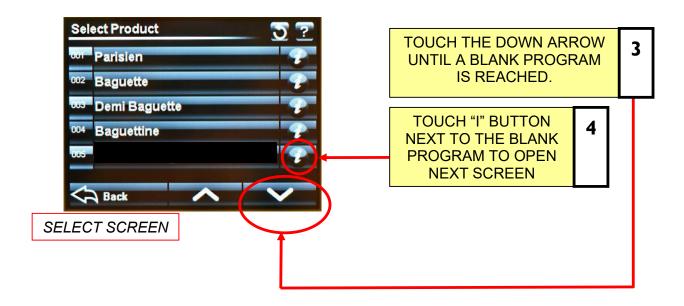
TOUCHING "VIEW" BUTTON
DURING BAKE WILL SHOW THE SETTINGS
FOR THE BAKE IN PROGRESS.
TOUCH "CANCEL" TO GO BACK TO THE
PREVIOUS SCREEN.

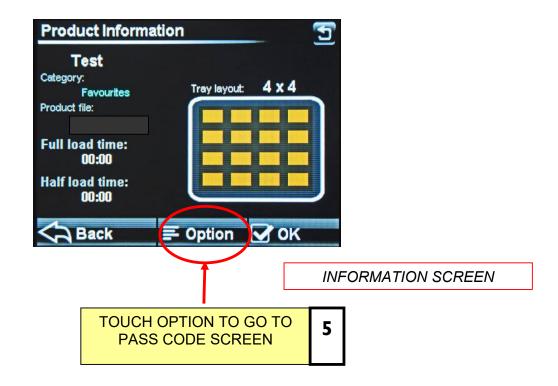


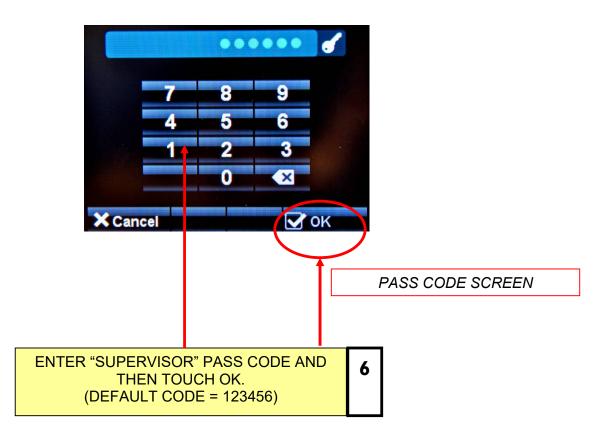


# 9-4 CREATING A PROGRAM

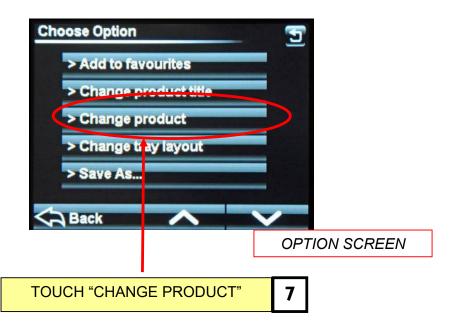


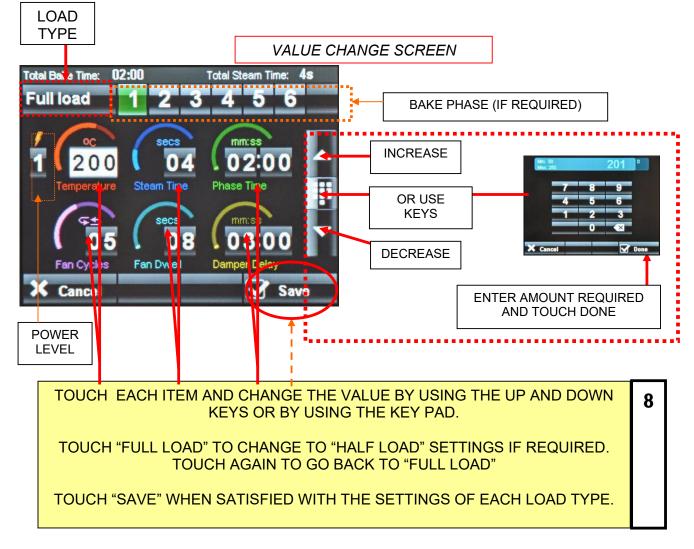




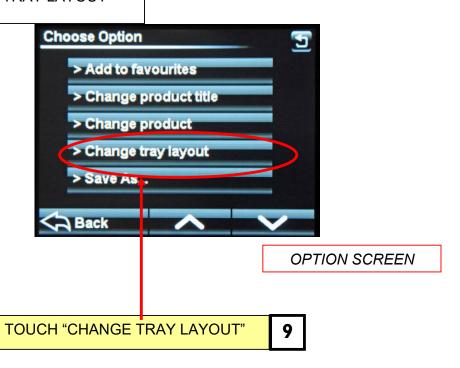


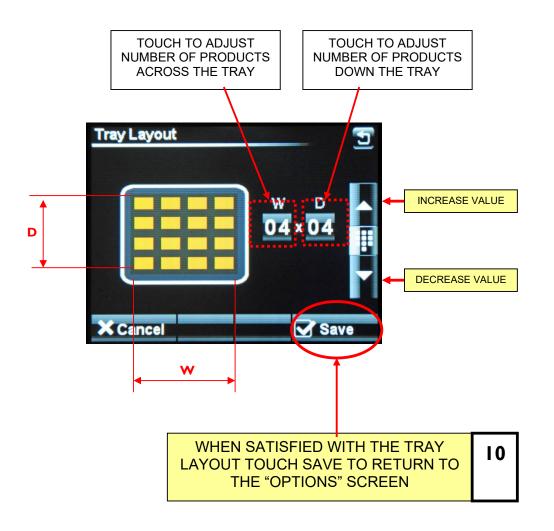
#### **CHANGE PRODUCT**

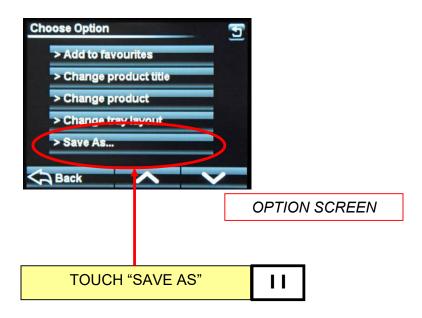


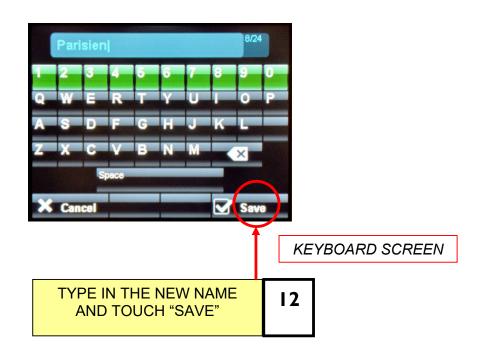


### **CHANGE TRAY LAYOUT**

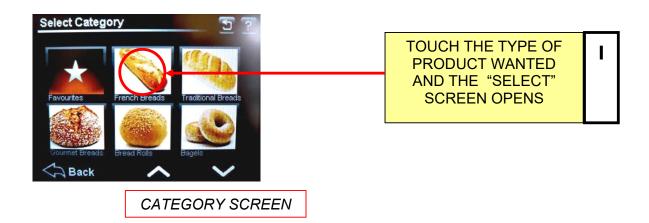


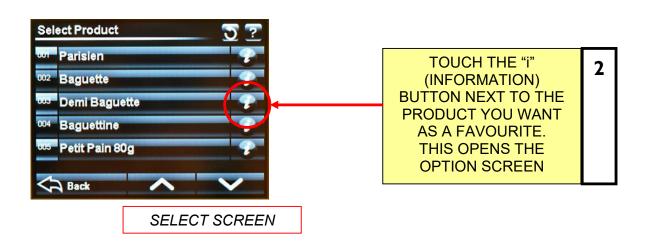


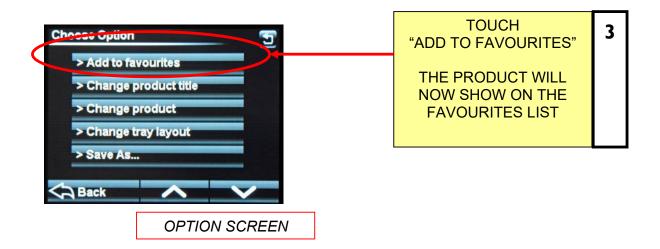




#### ADD A PRODUCT TO THE FAVOURITES LIST

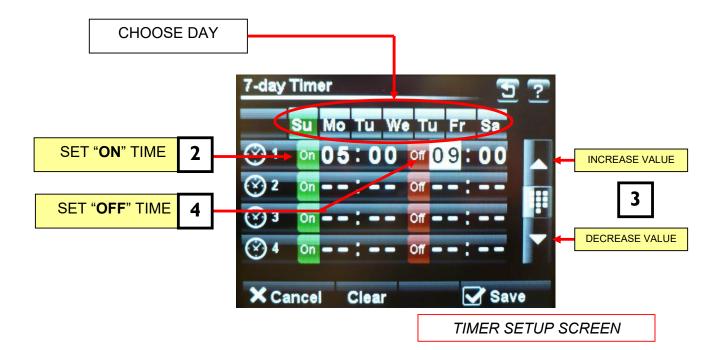






# 9 - 5 SETTING 7-DAY TIMER





### NOTE

Up to four on/off times can be set for each day.

Touch "clear" to clear the settings on the day shown.

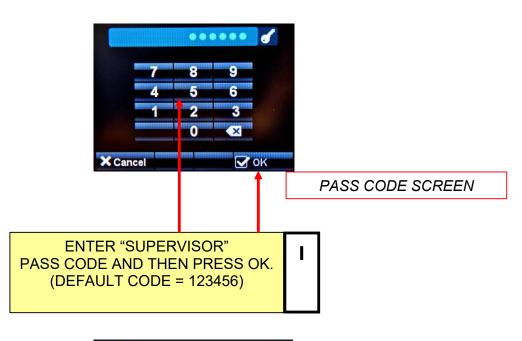
Touch "save" to activate the times set.

# 9-6 SETTINGS



**OPTION SCREEN** 

TOUCH TO OPEN THE "SETTINGS" SCREEN



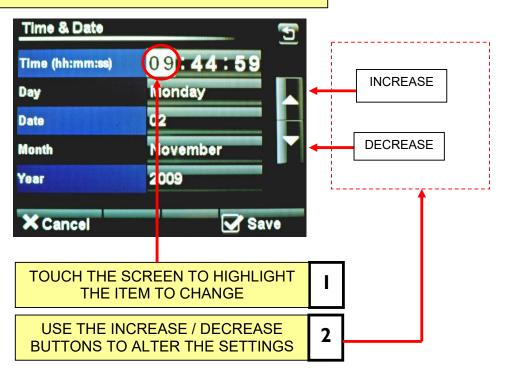


SETTINGS SCREEN

CHOOSE THE SETTING TO ALTER

2

### TIME AND DATE

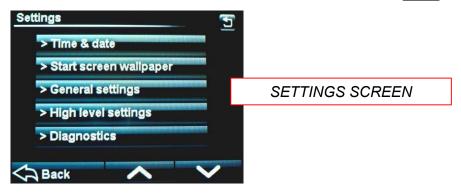




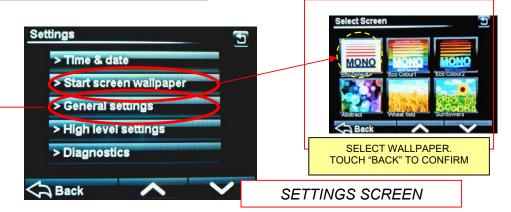
TIME AND DATE SCREEN

3

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

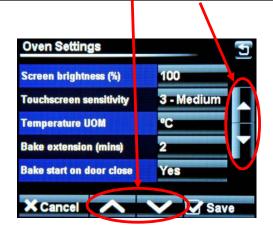


# **OVEN SETTINGS (GENERAL)**



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)

#### **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 -**

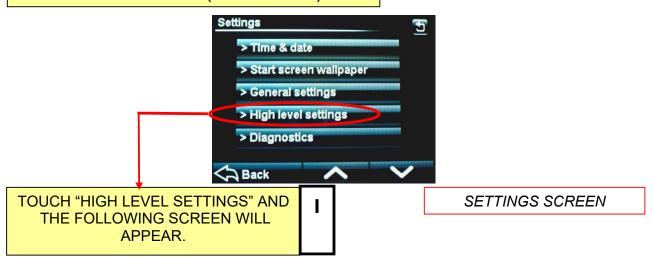
1 fn Gives the choice of what buttons are active and in which order they appear on the options screen.

**3 fn** Options available = Favourites, Programs, Manual bake, Multi bake,

4 fn 7-day timer . (Settings at 6fn cannot be changed)

5 fn

# **OVEN SETTINGS (HIGH LEVEL)**

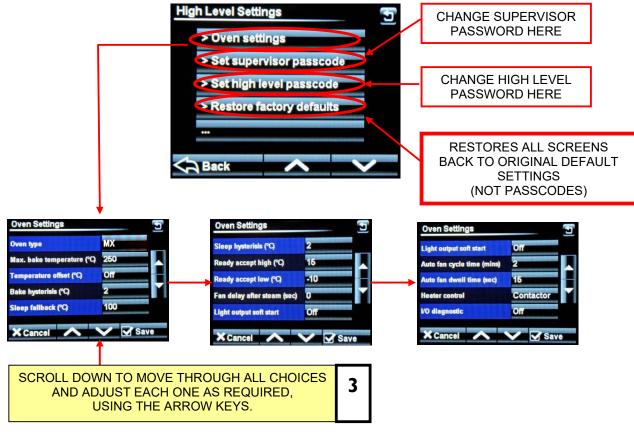




ENTER "HIGH LEVEL" PASS CODE AND THEN TOUCH OK.

2

THE FOLLOWING SCREEN WILL APPEAR.



### 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



Ensure the Start screen is showing

START SCREEN



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

2

#### NOTE

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

4



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

Touch "OK" to update firmware <a href="Wait-">-Wait-</a>

Remove USB stick OR

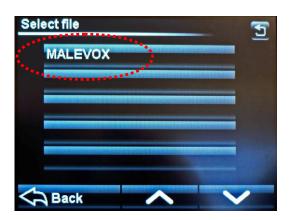
Touch "CANCEL" to choose other items to update or change. (see next page)

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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

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## **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.

**<u>Pictorial</u>** is when the screen displays catergories 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)**

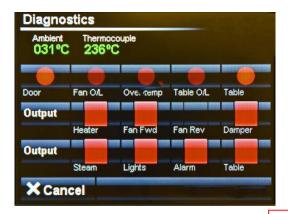
These are the files that contain the information for baking each product e.g. bread,buns,cakes etc.

## 9 – 8 DIAGNOSTICS

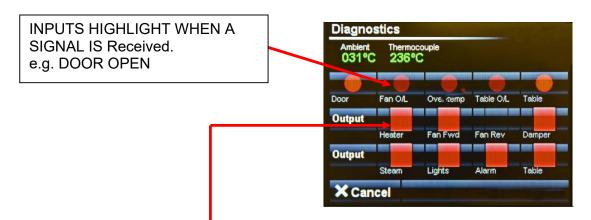


SETTINGS SCREEN

TOUCH "DIAGNOSTICS" AND THE FOLLOWING SCREEN WILL APPEAR.



**DIAGNOSTICS SCREEN** 



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.

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

#### Burner reset

The burner reset button is located above the control panel. After 3 failed attempts of igniting, the button will illuminate Signalling that the burner has locked out.

To reset, press the button until the light goes out.

The burner will then attempt to ignite 3 more times.

If the burner continuously fails, contact a qualified gas engineer.



**BUTTON** 

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

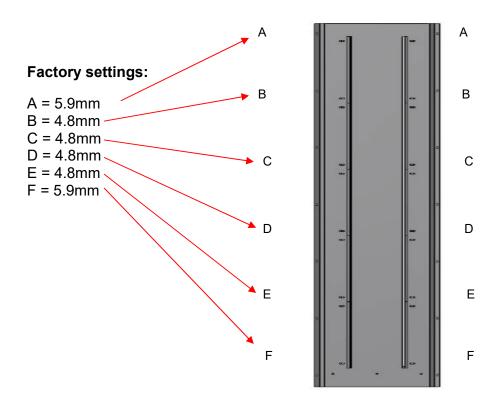
### **Setting the air slots**

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.



## 11.0 SPARES AND SERVICE-

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**

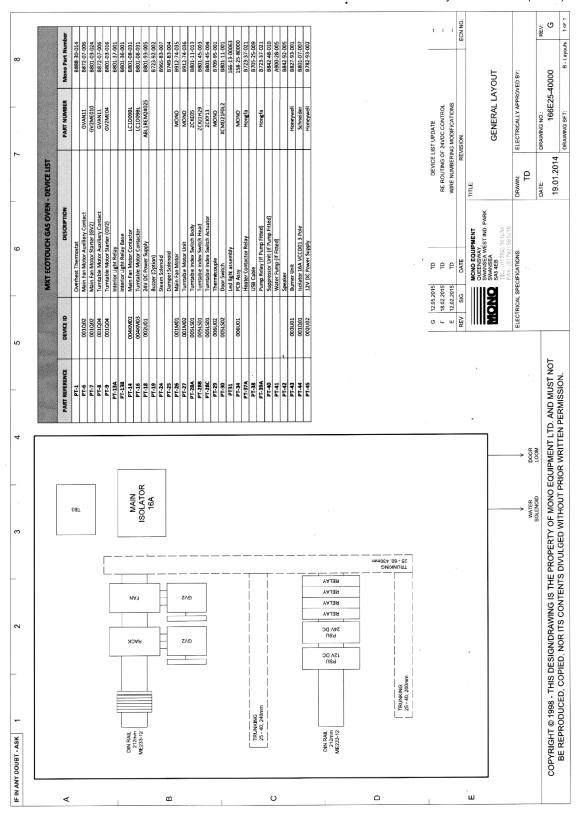
Queensway Swansea West Industrial Estate Swansea. SA5 4EB UK

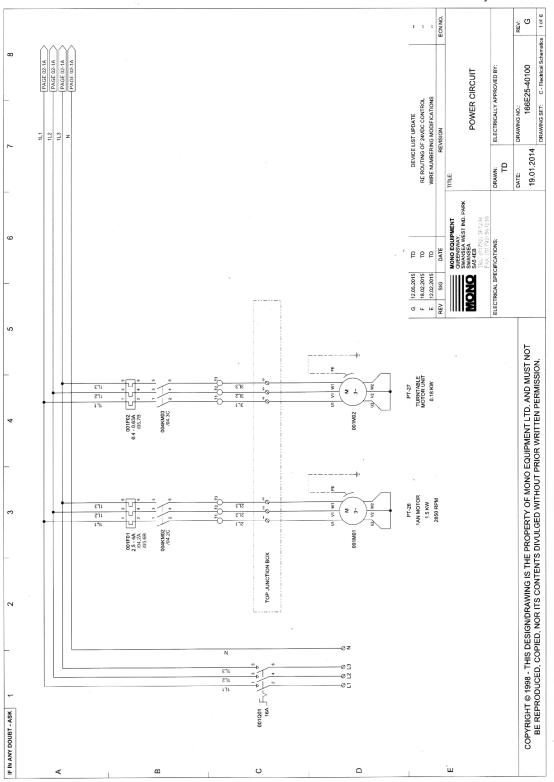
email:spares@monoequip.com Web site:www.monoequip.com

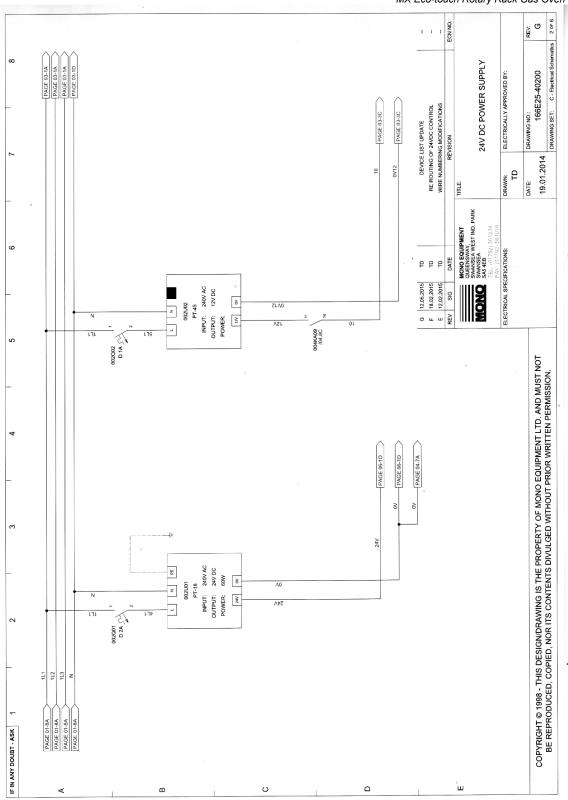
Tel. 01792 561234 Spares +44(0)1792 564039 Fax. 01792 561016

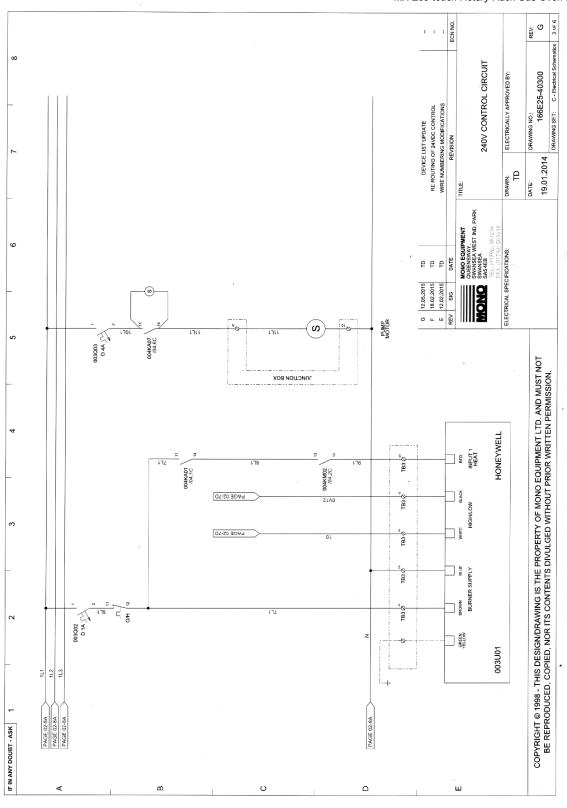


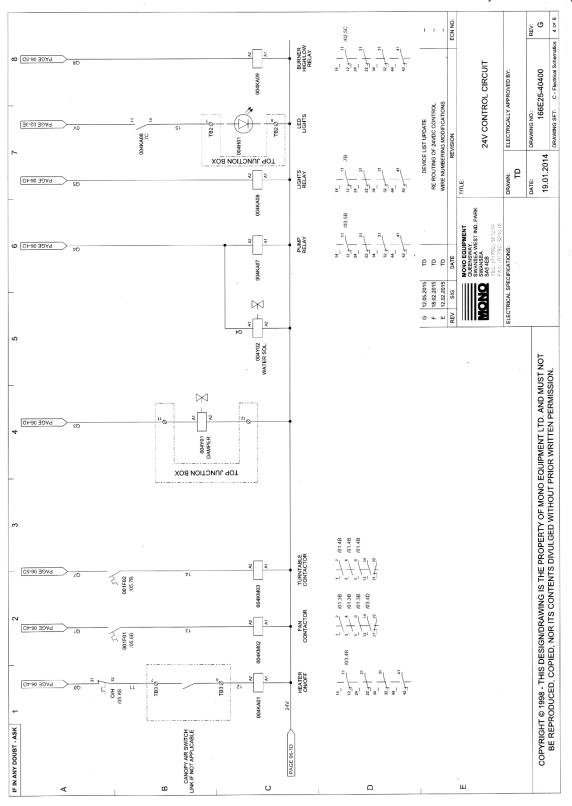
# 12.0 ELECTRICAL INFORMATION

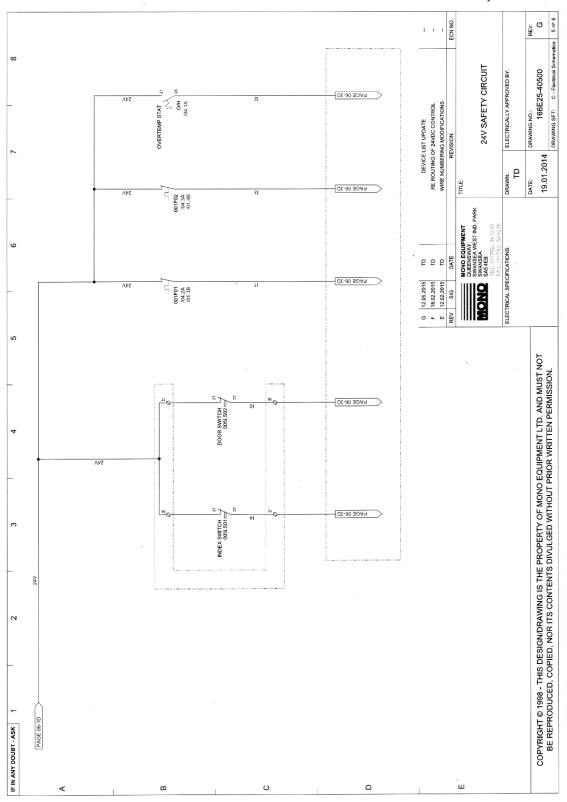


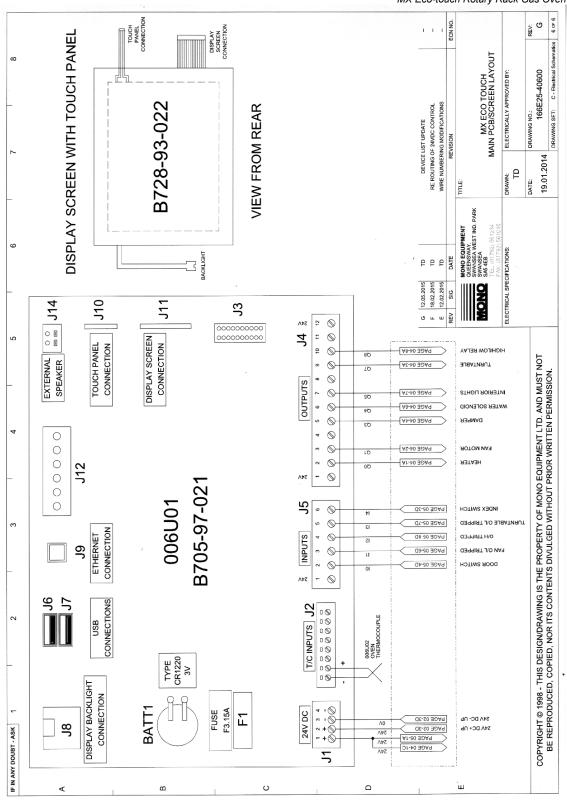














13.0 SPARES

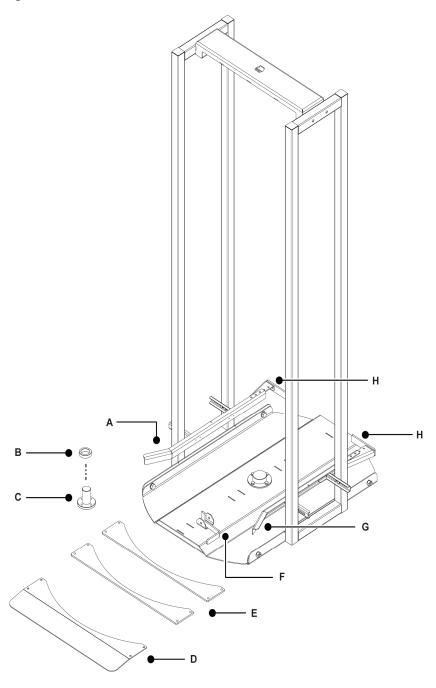
# **SPARES**

DESCRIPTION	PART NUMBER
Overheat thermostat	B888-30-014
Main fan motor auxiliary contact	B872-07-006
Main fan motor starter	B801-03-024
Turntable motor aux contact	B872-07-006
Turntable motor starter	B801-03-016
Interior Light relay	B801-37-001
Interior light relay base	B801-36-001
Main fan motor contactor	B801-08-031
Turntable motor contactor	B801-08-031
24v DC power supply	B801-93-005
12V DC power supply	B782-93-002
Steam solenoid	B965-83-007
Damper solenoid	B749-83-004
Main fan motor	B912-74-035
Turntable motor unit	B912-74-036
Turntable index switch body	B801-11-013
Turntable index switch head	B801-45-003
Turntable index switch actuator	B801-45-004
Thermocouple Door switch LED light assembly complete PCB Assembly Heater contactor relay USB cable Burner unit Isolator 16A 3 pole	B709-95-001 B801-11-001 166-13-00057 158-25-80000 B723-37-021 B705-25-009 B827-93-001 B801-07-007
Fan drive "VEE" belt Door handle Bottom door seal Door glass unit "U" seal for glass unit Touch screen overlay Touchscreen and board	A900-21-114 160-32-02000 166-13-00060 166-13-00035 166-13-00055 164-90-00001 158-25-80000

### PARTS LIST FOR OPTIONAL RACK TURNTABLE

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

Figure 2: Parts list for Standard Rack Turntable

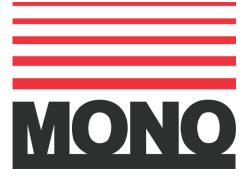


- A. Left-hand adjustable side guide (166-17-00051) E. Ramp packer (166-17-00021)
- **B.** Base bearing (166-17-00014)
- **C.** Floor turntable boss (166-17-00017)
- **D.** Turntable ramp (166-17-00019)
- **F.** Foot brake (166-17-00065 or 166-17-00067)\*
- **G.** Right-hand adjustable side guide (166-17-00053)
- **H.** Back stop plate (166-17-00064)

<sup>\*</sup> Please state which rack type.

MX Eco-touch Rotary Rack Gas Oven (FG166)





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