



# EVOLUTIONSERIES

INSTALLATION AND OPERATION MANUAL

## 'VEE-RAY' GAS FRYERS

GT45E

GT46E

GT60E



Date Purchased \_\_\_\_\_

Serial Number \_\_\_\_\_

Dealer \_\_\_\_\_  
\_\_\_\_\_

Service Provider \_\_\_\_\_  
\_\_\_\_\_

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## MANUFACTURED BY

### Moffat Limited

Christchurch  
New Zealand

## INTERNATIONAL CONTACTS

### AUSTRALIA

#### Moffat Pty Limited

**Web:** www.moffat.com.au  
**E.Mail:** vsales@moffat.com.au  
**Main Office:** (tel) +61 (03) 9518 3888  
(fax) +61 (03) 9518 3833  
**Service:** (tel): 1800 622 216  
**Spares:** (tel): 1800 337 963  
**Customer Service:** (tel): 1800 335 315  
(fax): 1800 350 281

### CANADA

#### Serve Canada

**Web:** www.servecanada.com  
**E.Mail:** info@servecanada.com  
**Sales:** (tel): 800 551 8795 (Toll Free)  
**Service:** (tel): 800 263 1455 (Toll Free)

### NEW ZEALAND

#### Moffat Limited

**Web:** www.moffat.co.nz  
**E.Mail:** sales@moffat.co.nz  
**Main Office:** (tel): 0800 663328

### UNITED KINGDOM

#### Blue Seal

**Web:** www.blue-seal.co.uk  
**E.Mail:** sales@blue-seal.co.uk  
**Sales:** (tel): +44 121 327 5575  
(fax): +44 121 327 9711  
**Spares:** (tel): +44 121 322 6640  
(fax): +44 121 327 9201  
**Service:** (tel): +44 121 322 6644  
(fax): +44 121 327 6257

### UNITED STATES

#### Moffat

**Web:** www.moffat.com  
**Sales:** (tel): 800 551 8795 (Toll Free)  
(tel): +1 336 661 1556  
(fax): +1 336 661 9546  
**Service:** (tel): 800 858 4477 (Toll Free)  
(tel): +1 336 661 1556  
(fax): +1 336 661 1660

### REST OF WORLD

#### Moffat Limited

**Web:** www.moffat.co.nz  
**E.Mail:** export@moffat.co.nz

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- GT45E** 'FAST FRI' GAS FRYER (Single Tank - 20Ltr)
- GT46E** 'FAST FRI' GAS FRYER (Twin Tank - 26Ltr)
- GT60E** 'FAST FRI' GAS FRYER (Single Tank - 31Ltr)

**Introduction .....3**

**Specifications .....4**

- Model Numbers Covered in this Specification
- Gas Supply Requirements
- Electrical Supply Requirements

**Dimensions .....5**

**Installation .....6**

- Installation Requirements
- Unpacking
- Location
- Clearances
- Assembly
- Electrical Connection
- Gas Connection
- Commissioning

**Operation.....10**

- Operation Guide.
- Description of Controls.
- Controller Basic Programming Mode.
  - Entering the Controller Basic Settings.
  - Setting the Parameters.
  - To Exit the Programming Mode.
  
- Filling the Tank(s).
- Lighting the Pilot Burners.
- Lighting the Main Burners.
- Fryer Operation (Flow Chart).
- Turning 'OFF' the Fryer.

**Cleaning and Maintenance .....16**

- General.
  - Draining and Daily Cleaning.
  - Weekly Cleaning.
  - Periodic Maintenance.
-

# Contents List

---

<b>Fault Finding</b> .....	<b>19</b>
Guide to Cooking Problems with the Fryer.	
Fault Finding the Gas System.	
<b>Wiring Schematics</b> .....	<b>22</b>
<b>Controller Advanced Programming Mode</b> .....	<b>25</b>
Timing Mode.	
Temperature Offset.	
Temperature Display Mode.	
Programming the Melt Cycle.	
Setting the Temperature Units.	
System Programmable Default Settings.	
<b>Gas Conversion and Specifications</b> .....	<b>28</b>
Conversion Procedure.	
Gas Specifications.	
<b>Replacement Parts List</b> .....	<b>31</b>

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We are confident that you will be delighted with your BLUE SEAL 'VEE RAY' FRYER and it will become a most valued appliance in your commercial kitchen.

To ensure you receive the utmost benefit from your new Blue Seal appliance, there are two important things you can do.

### Firstly:

Please read the instruction book carefully and follow the directions given. The time taken will be well spent.

### Secondly:

If you are unsure of any aspect of the installation, instructions or performance of your appliance, contact your BLUE SEAL dealer promptly. In many cases a phone call could answer your question.



#### Warning

**IMPROPER INSTALLATION, ADJUSTMENT, ALTERATION, SERVICE OR MAINTENANCE CAN CAUSE PROPERTY DAMAGE, INJURY OR DEATH. READ THE INSTALLATION, OPERATING AND MAINTENANCE INSTRUCTIONS THOROUGHLY BEFORE INSTALLING OR SERVICING THIS APPLIANCE.**



#### Warning

**INSTRUCTIONS TO BE FOLLOWED IN THE EVENT THE USER SMELLS GAS ARE TO BE POSTED IN A PROMINENT LOCATION. THIS INFORMATION SHALL BE OBTAINED BY CONSULTING THE LOCAL GAS SUPPLIER.**



#### Warning

**GREAT CARE MUST BE TAKEN BY THE OPERATOR TO USE THE EQUIPMENT SAFELY TO GUARD IT AGAINST RISK OF FIRE.**

- **THE APPLIANCE MUST NOT BE LEFT ON UNATTENDED.**
- **IT IS RECOMMENDED THAT A REGULAR INSPECTION IS MADE BY A COMPETENT SERVICE PERSON TO ENSURE CORRECT AND SAFE OPERATION OF YOUR APPLIANCE IS MAINTAINED.**
- **DO NOT STORE OR USE GASOLINE OR OTHER FLAMMABLE VAPOURS OR LIQUIDS IN THE VICINITY OF THIS OR ANY OTHER APPLIANCE.**
- **DO NOT SPRAY AEROSOLS IN THE VICINITY OF THIS APPLIANCE WHILE IT IS IN OPERATION.**



#### Caution

- **This appliance is for professional use and is only to be used by qualified persons.**
- **Only authorised service persons are to carry out installation, servicing or gas conversion operations.**
- **Components having adjustments protected (e.g. paint sealed) by the manufacturer should not be adjusted by the user / operator.**
- **DO NOT operate the appliance without the legs supplied fitted.**

# Specifications

## Model Numbers Covered in this Specification

GT45E	'FAST FRI' GAS FRYER (Single Tank - 20Ltr).
GT46E	'FAST FRI' GAS FRYER (Twin Tank - 13Ltr per Tank).
GT60E	'FAST FRI' GAS FRYER (Single Tank - 31Ltr).

## Gas Supply Requirements

	Natural Gas	LP Gas / Butane	Town Gas (**)
<b>Input Rating (N.H.G.C.)</b>	90 MJ/hr (85,300 Btu/hr)	90 MJ/hr (85,300 Btu/hr)	90 MJ/hr (85,300 Btu/hr)
<b>Supply Pressure</b>	1.13 - 2.0 kPa (4.5" - 8.0" w.c.)	2.75 - 3.0 kPa (11" - 12" w.c.)	0.75 - 1.5 kPa (3" - 6" w.c.)
<b>Burner Operating Pressure</b>	0.98 kPa (*) (3.9" w.c.)	2.5 kPa (*) (10.0" w.c.)	0.5 kPa (*) (2.0" w.c.)
<b>Gas Connection</b>	¾" BSP Male		

### NOTE:

- (\*) Measure burner operating pressure at Operating Pressure Test Point (Lower - Out) on gas control valve, with both burners operating at the 'High Flame' setting.
- (\*\*) TOWN GAS Option is only available with specific ex-factory built Town Gas models, which can also be converted to any other gas. Standard models can only be converted between Nat. Gas, LP Gas and Butane, but not Town Gas.
- Refer to 'Gas Conversion and Specifications' section of this manual for further details.

## Electrical Supply Requirements



### Warning

**THIS APPLIANCE MUST BE EARTHED. IF SUPPLY CORD IS DAMAGED, IT MUST BE REPLACED BY A SUITABLY QUALIFIED PERSON IN ORDER TO AVOID A HAZARD.**

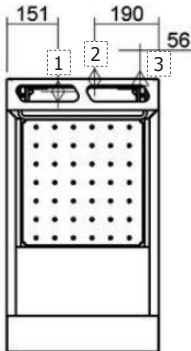
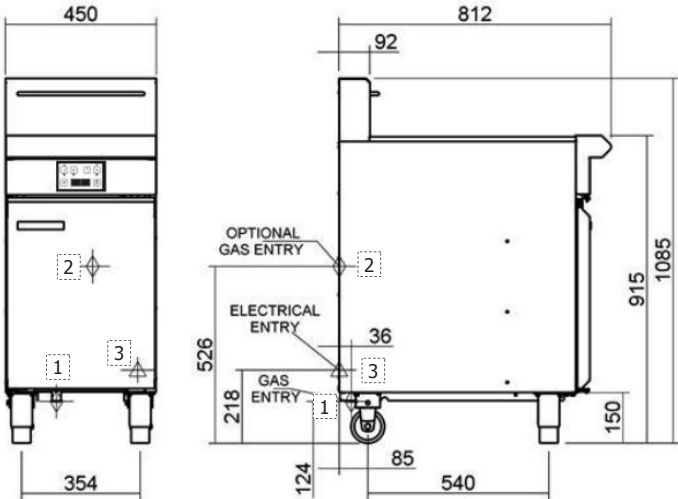
220 -240 Vac, 1P+N+E, 50 Hz, 0.5 A.

### Electrical Connection

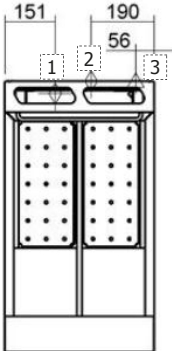
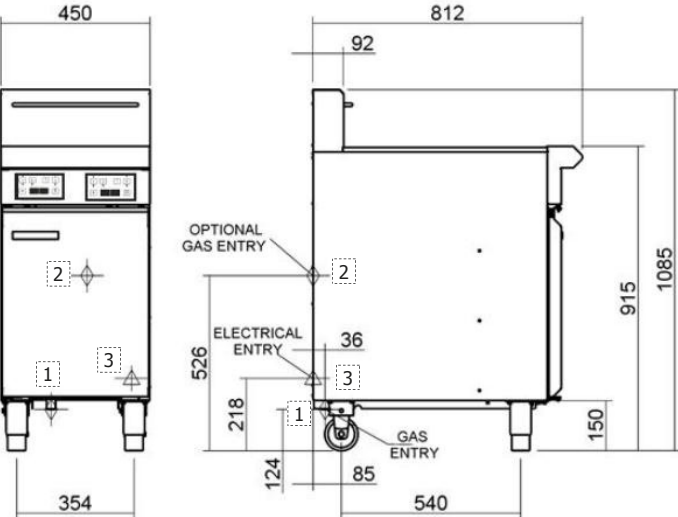
The power cord comes fitted with:

Australia / NZ Models - 10 A, 3-pin plug.

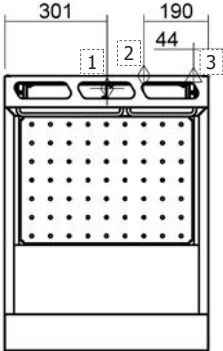
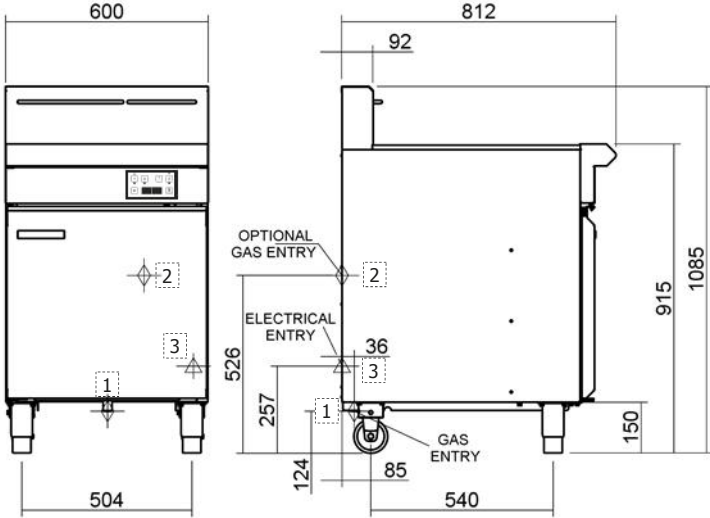
**GT45E**






**GT46E**



**GT60E**



-  1. Primary Gas Entry Point.
-  2. Optional Gas Entry Point.
-  3. Electrical Entry Point.

# Installation

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## Installation Requirements

### NOTE:

- **It is most important that this Fryer is installed correctly and that the operation is correct before use. Installation shall comply with local electrical, gas and health and safety requirements.**
- **This appliance shall be installed with sufficient ventilation to prevent occurrence of unacceptable concentrations of health harmful substances in the room, appliance is installed in.**

Blue Seal 'FAST FRI' gas fryers are designed to provide years of satisfactory service, and correct installation is essential to achieve the best performance, efficiency and trouble-free operation. This appliance must be installed in accordance with National installation codes and in addition, in accordance with relevant National / Local codes covering gas and fire safety.

**Australia / New Zealand:** - AS 5601.1 - Gas Installations.

**Australia / New Zealand:** - AS / NZS 3000 - Wiring Rules.

**Installations must be carried out by qualified service persons only. Failure to install equipment to the relevant codes and manufacturer's specifications shown in this section will void the warranty.**

**Components having adjustments protected (e.g. paint sealed) by manufacturer are only to be adjusted by an authorised service agent. They are not to be adjusted by the installation person.**

## Unpacking

- Remove all packaging and transit protection from appliance including all protective plastic coating from door outer panel and exterior stainless steel panels.
- Check equipment and parts for damage. Report any damage immediately to carrier and distributor.
- Report any deficiencies to distributor who supplied appliance.
- Check available gas supply is correct to as shown on rating plate located on inside of door.
- Check the following parts have been supplied with the appliance:

	<b>GT45E</b>	<b>GT46E</b>	<b>GT60E</b>
Baskets	2	2	3
Basket Grids	1	2	1
Lid	1	1	1
Adjustable Legs	2	2	2
Rear Rollers	2	2	2
Drain Stick	1	1	1

## Location

1. This appliance must be installed in a suitably ventilated room to prevent dangerous build up of combustion products.
2. Installation must allow for sufficient flow of fresh air for combustion air supply. Combustion air requirements:

### **Combustion Air Requirements**

**All Gas Types      24 m<sup>3</sup>/hr minimum.**

3. Position appliance in its approximate working position.
4. All air for burner combustion is supplied from beneath appliance. Legs must always be fitted and no obstructions placed beneath or around base of appliance, as obstructions will cause incorrect operation and / or failure of the appliance.

**NOTE: Do not obstruct or block appliance flue. Never directly connect a ventilation system to the appliance flue outlet.**



## Clearances

### NOTE:

- **Only non-combustible materials can be used in close proximity to this appliance.**
- **To facilitate easy operation, drainage and servicing of appliance, a minimum of 600mm clearance should be maintained at front of appliance.**

Any gas burning appliance requires adequate clearance and ventilation for optimum and trouble-free operation. The following minimum installation clearances are to be adhered to:

	<b>Combustible Surface</b>	<b>Non Combustible Surface</b>
Left / Right Hand Side	50mm.	0mm.
Rear	50mm.	0mm.

## Assembly

This model is delivered completely assembled. Ensure that the legs are securely attached.

**NOTE:** This appliance is fitted with adjustable feet to enable appliance to be positioned securely and level. This should be carried out on completion of gas connection. Refer to 'Gas Connection' section below.

### Optional Accessories (Refer to Replacement Parts List)

- Plinth Kit. For installation details, refer to the instructions supplied with each kit.

## Electrical Connection

**NOTE: ALL ELECTRICAL CONNECTION MUST ONLY BE CARRIED OUT BY A QUALIFIED PERSON.**

1. Each appliance should be connected to an adequately protected power supply and isolation switch mounted adjacent to, but not behind the appliance. This switch must be clearly marked and readily accessible in case of fire.
2. Check electricity supply is correct as shown on Rating Plate attached to inside of access door.
3. For immediate electrical supply, simply plug lead into a properly earthed, 3 pin socket.

## Gas Connection

**NOTE: ALL GAS FITTING MUST ONLY BE CARRIED OUT BY AN AUTHORISED PERSON.**

### Flexible Hose Connection

If a Gas Hose assembly is used to connect this appliance, hose and all fittings must have a minimum 3/4" (Natural Gas) or 1/2" (LPG) inside bore diameter to ensure gas flow rate capacity required by this appliance is achieved.

This must be verified by operating pressure testing at maximum gas supply demand condition.

Gas Hose assembly should also be classified for use in commercial kitchen conditions that appliance will be used in.

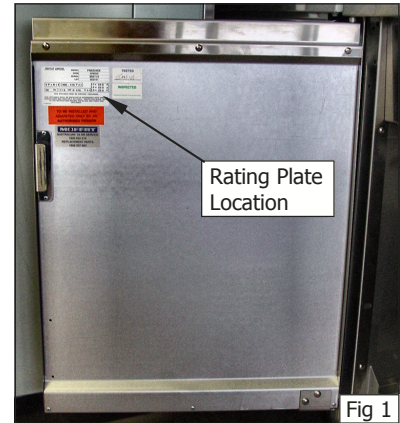
Recommended Gas Hose Assembly Specification:

- AS/NZS 1869 Class B or D compliant or equivalent, that meets the following requirements:-

<b>Class</b>	<b>Max Working Pressure at 23 ± 2°C</b>	<b>Working Temperature Range</b>	<b>Resistance to Oil</b>
<b>B</b>	7.0 kPa	- 20°C to + 125°C	Oil resistant lining and cover.
<b>D</b>	2.6 MPa		

## Installation

1. It is essential that the gas supply is correct for appliance to be installed and adequate supply pressure and volume are available. The following checks should be made before installation:-
  - a. **Gas Type** appliance has been supplied for is shown on a coloured sticker located above the gas entry point and next to the rating plate. Check that this is correct for gas supply appliance is being installed for. Gas conversion procedure is shown in this manual.
  - b. **Supply Pressure** required for this appliance is shown in the Specifications section of this manual. Check gas supply to ensure that adequate supply pressure exists.
  - c. **Input Rate** of this appliance is shown on Rating Plate fitted to inside of access door and in Specifications' section of this manual. Input rate should be checked against available gas supply line capacity. **Particular note should be taken if appliance is being added to an existing installation.**



**NOTE:** It is important that adequately sized piping runs directly to the connection joint on the appliance, with as few tees and elbows as possible to give maximum supply volume.

2. A suitable joining compound which resists the breakdown action of LPG must be used on every gas line connection, unless compression fittings are used.  
Connection to appliance is  $\frac{3}{4}$ " BSP male.

**NOTE:** A Manual Isolation Valve must be fitted to the individual appliance supply line.

3. Correctly locate the appliance into its final operating position and using a spirit level, adjust legs so that the unit is level and at the correct height.
4. Connect gas supply to the appliance.
5. Check all gas connections for leakages using soapy water or other gas detecting equipment.



### Warning

**DO NOT USE A NAKED FLAME TO CHECK FOR GAS LEAKAGES.**

6. Check gas supply pressure is as shown in 'Specifications' section, 'Gas Supply Requirements' table.

**NOTE:** Measure supply pressure at upper test point (Supply Pressure Test Point) on gas control valve.

7. Light Pilot Burners. Refer to **Operation** section, **Lighting Pilot Burners**.
8. Check pilot flame size. Re-adjust if required, using pilot adjusting screw (See Fig 2 overleaf), and as shown in **Gas Conversion and Specifications** section, **Pilot Burner Flame Adjustment**.



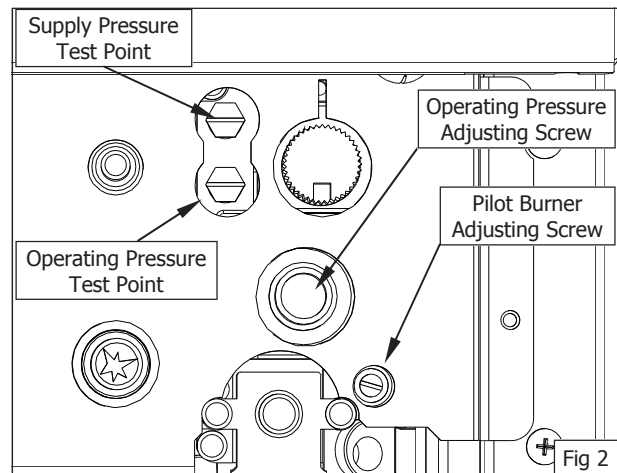
### Caution

**Ensure the tank(s) is / are filled with either water or oil prior to starting Main Burners otherwise damage may be caused to fryer tank(s).**

9. Light Main Burners. Refer to **Operation** section, **Lighting Main Burners**.

10. Verify that supply pressure is still correct.
11. Check Main Burner operating pressure (Adjust, using **Operating Pressure Adjusting Screw** on gas control valve) and as shown in **Gas Conversion and Specifications** section, **Main Burner Operating Pressure Adjustment**.

**NOTE:** Insufficient gas supply line capacity, indicated by operating pressure drop during maximum gas supply demand, is **NOT ACCEPTABLE** and may invalidate manufacturers warranty for this appliance.



### IMPORTANT:

**Control Panel 'ON / OFF' Key provides 'ON / OFF' control of Controller and Main Burner heating cycles ONLY.**

**Gas Valve Control Knob is used to turn 'ON / OFF' Gas System in conjunction with providing Pilot Ignition and Pilot Standby functions.**

## Commissioning

**Carry out the following commissioning checks before handing over the fryer for use, to ensure that the fryer operates correctly and operator(s) understand the correct operating procedure.**

1. Before leaving the new installation;
  - a. Check the following functions in accordance with operating instructions specified in **Operation** section of this manual.
    - Light Pilot Burners.
    - Light Main Burners.
    - Check Fryer Operation (Refer to **Operation** section of this manual).
  - b. The thermostat operation check should be carried out by filling fryer with oil / shortening to oil **FILL LEVEL** mark at rear of tank (refer to **Filling the Tank** in **Operation Section** of Manual) and set thermostat temperature to 180°C. (Refer to **Controller Programming** section). Light pilot burners and turn **On** main burners as shown in **Operation Instructions** in this manual.
  - c. Once the oil is up to temperature, check the calibration of the thermostat. If a discrepancy is found, thermostat calibration should be referred to the supplier.
  - d. Ensure each operator has been instructed in methods of correct lighting, operation and shutdown procedures for appliance.

### **Initial Start-Up**

Before using the fryer;

- a. For first time use of the fryer and before using fryer for cooking product, fill the fryer with oil and operate fryer for about 1 hour at **Full Flame** setting to remove any fumes or odours which may be present from the new appliance.
- b. Refer to Operation Section of this manual for details on how to operate the fryer.
2. This manual must be kept by the owner for future reference and a record of ***Date of Purchase***, ***Date of Installation*** and ***Serial Number of Appliance*** is recorded and kept with this manual. **(These details can be found on the Rating Plate attached to the rear of the access door. Refer to 'Installation' section).**

**NOTE:** If it is not possible to get the appliance to operate correctly, shut 'Off' the gas supply and contact the appliance supplier.

# Operation

## Operation Guide

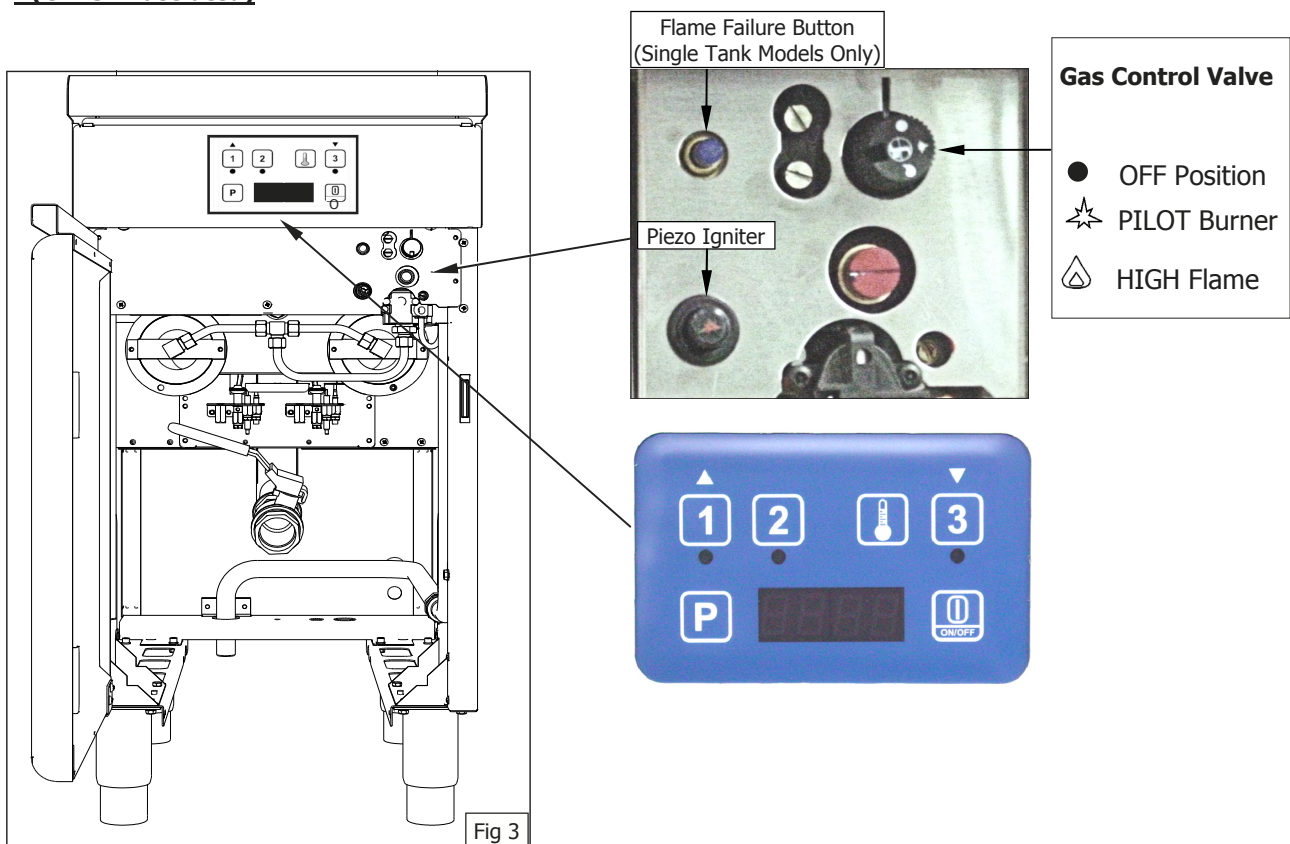


### Caution

- This appliance is for professional use and is only to be used by qualified persons.
- Only authorised service persons are to carry out installation, servicing or gas conversion operations.
- Components having adjustments protected (e.g. paint sealed) by the manufacturer should not be adjusted by the user / operator.

## Description of Controls

- (GT45E Illustrated)



### 6 Touch Control Keys:-



'ON' / 'OFF' Key.



Programme Key (P).



Left Timer - 'UP' Key and LED Indicator Light.



Centre Timer - and LED Indicator Light.



Right Timer - 'DOWN' Key and LED Indicator Light.



Temperature Key (Thermostat).

The 3 Timer keys on each control panel can be used to program 3 different cook times for each tank.

NOTE: Only one temperature setting applies to all 3 timers.

## Controller Basic Programming Mode

The following Parameters can be changed in Controller Basic Programming Mode:-

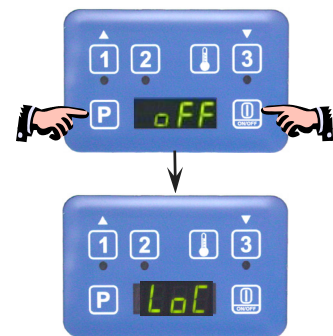
- **Timer 1 - Cook Time Settings.**
- **Timer 2 - Cook Time Settings.**
- **Timer 3 - Cook Time Settings.**
- **Cooking Temperature Setting.**
- **Keypad 'Lock - Unlock' (Programming the Password Protection).**

NOTE:

- **Each Timer key on the control panel can be individually programmed with a different cook time.**
- **The user cannot enter Basic Programming Mode whilst a timer is running. An alarm will sound indicating the key press, but access to programming mode will be blocked.**

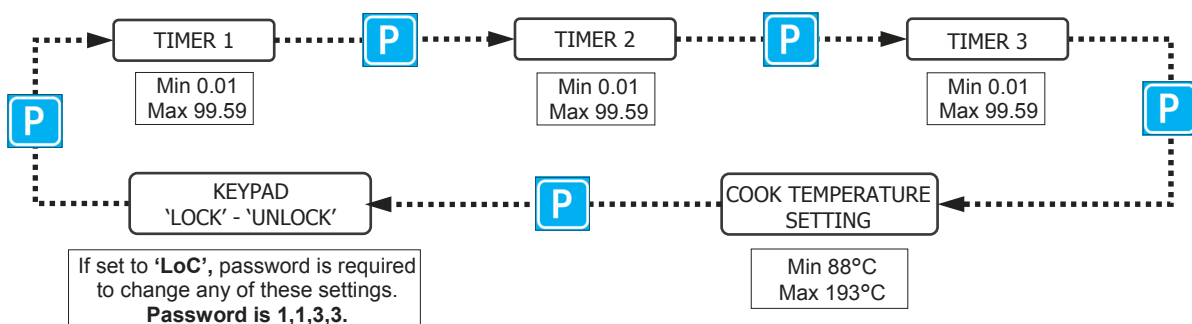
### Entering the Controller Basic Settings

1. To enter 'Programming Mode', press 'ON / OFF' key to turn 'ON' the control panel.
2. Press Programme 'P' key to access the parameter setting required.
  - a. If 'LoC' is displayed, control panel is locked which will prevent any accidental change to the operating mode.
  - b. To access parameters, whilst 'LoC' is displayed on screen, enter the passcode '1 1 3 3'.



### Setting the Parameters

1. To change the settings, press either **1** or **3** key until the value required is shown on the display.
2. Press Programme Key 'P' to confirm new value and the change will be accepted. Display will step on to the next parameter.



### To Exit the Programming Mode.

To exit Programming Mode, press and hold Programme Key 'P' for approximately 3 seconds, **or** do not press any key for 2 minutes. Display will revert to 'Idle Mode'.

## Operation

### Filling the Tank(s)



#### Warning

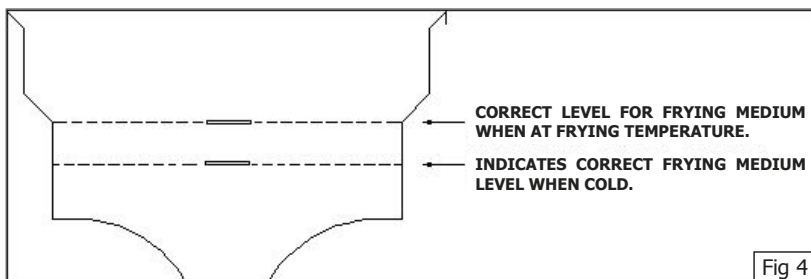
THE OPERATOR MUST TAKE GREAT CARE TO USE THE FRYER SAFELY, TO GUARD AGAINST RISK OF INJURY AND FIRE.

- **DO NOT LEAVE FRYER UN-ATTENDED DURING OPERATION.**
- **DO NOT REPLENISH THE OIL (FRYING MEDIUM) IN THE FRYER WHEN THE FRYER IS HOT.**
- **DO NOT OVER FILL THE OIL (FRYING MEDIUM) IN THE FRYER ABOVE THE TOP LEVEL MARK.**
- **DO NOT ALLOW THE OIL (FRYING MEDIUM) IN THE FRYER TO FALL BELOW THE LOWER LEVEL MARK.**
- **DO NOT ALLOW THE OIL (FRYING MEDIUM) IN THE FRYER TO OVERHEAT.**
- **DO NOT INTRODUCE WET FOOD OR WATER INTO THE HOT OIL (FRYING MEDIUM).**
- **DO NOT USE FLAMMIBLE SOLVENTS AND CLEANING AIDS ON OR IN CLOSE PROXIMITY TO THE FRYER WHILST THE FRYER IS STILL HOT.**



#### Warning

DANGER OF FIRE EXISTS IF THE OIL LEVEL IS BELOW THE MINIMUM 'LO' INDICATED LEVEL



**NOTE: BLUE SEAL 'FAST-FRI' fryers can be used with both oil and shortening.**

1. Before filling the tank, always check that the drain valve(s) behind the door is (are) closed. A locking slide is provided on these valves and this should always be locked in position during use.

**OIL** - Carefully fill fryer tank with oil until the 'FILL-LEVEL' mark is reached.

The GT45E fryer will hold 20 litres of oil.

The GT46E fryer will hold 13 litres of oil per tank.

The GT60E fryer will hold 31 litres of oil.

**SHORTENING** - Shortening should be cut in pieces and packed down into tank.

The GT45E fryer will hold 37lbs shortening.

The GT46E fryer will hold 24lbs shortening per tank.

The GT60E fryer will hold 46.5lbs shortening.

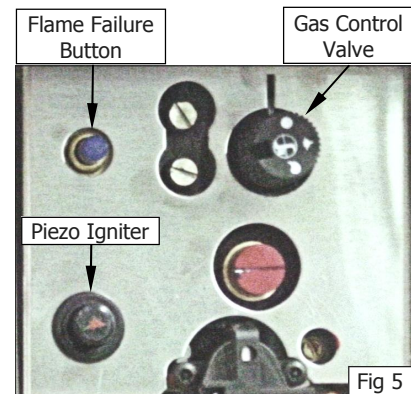
- Turn 'On' the fryer. Melt cycle should be set to **CY S** on the control panel display. Refer to 'Controller Advanced Programming Mode' section to change. Heating will automatically cycle at a lower temperature to gently melt the shortening.



## Lighting the Pilot Burners

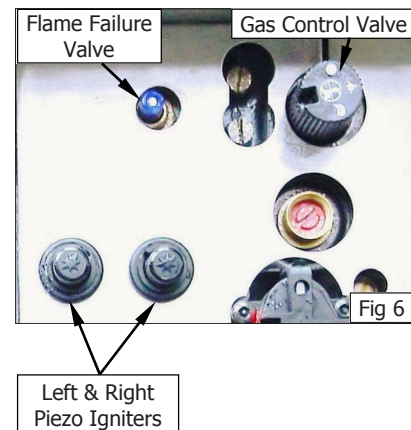
### GT45 Fryer (Single Tank)

1. Rotate gas control knob to **Pilot** position and hold knob depressed.
2. At the same time hold flame failure button depressed.
3. Depress piezo igniter until right hand pilot ignites.
4. Hold gas control knob and flame failure button depressed for approx. 10 to 15 seconds after igniting pilot burner, then release, both pilot burners should remain alight.
5. If pilot burners do not ignite, repeat Items 1 to 4 above.



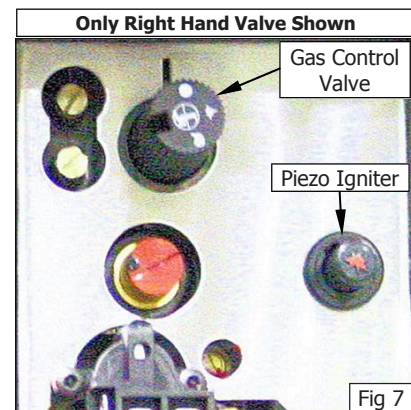
### GT60 Fryer (Single Tank)

1. Rotate gas control knob to **Pilot** position and hold knob depressed.
2. At the same time hold flame failure button depressed.
3. Depress right and left hand piezo igniters until both pilots ignite.
4. Hold gas control knob and flame failure button depressed for approx. 10 to 15 seconds after igniting both pilot burners, both pilot burners should remain alight.
5. If pilot burners do not ignite, repeat Items 1 to 4 above.



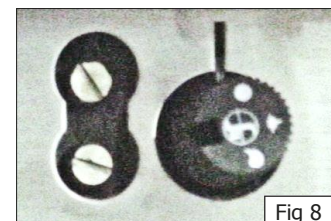
### GT46 Fryer (Twin Tank)

1. Rotate gas control knob to the position marked 'PILOT' and hold depressed.
2. Depress the piezo igniter until pilot ignites.
3. Continue holding the gas control knob depressed for approx. 10 to 15 seconds after igniting pilot burner, pilot burner should remain alight.
4. If pilot burner does not ignite, repeat Items 1 to 3 above.
5. To ignite the second pilot burner, repeat Items 1 to 3 above.



## Lighting the Main Burners

1. Ensure pilot burners are alight, by opening front access door of appliance and check that both pilot flames are alight.
2. Depress and rotate gas control knob to **Full Flame** position.
3. Main burners will ignite automatically off pilot burners.



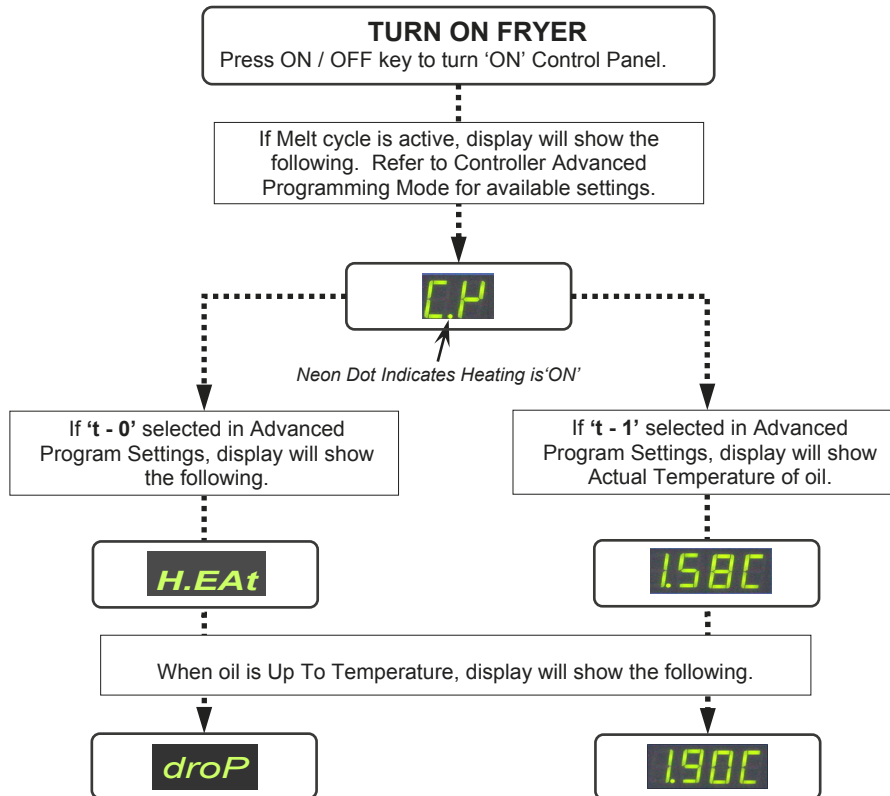
**NOTE:** As a safety precaution all Blue Seal 'Fast-Fri' Fryers feature an Over-Heat Control, which will 'Turn Off' the fryer should there be a thermostat failure and the oil temperature reaches

## Fryer Operation (Flow Chart)

Refer to 'Controller Basic Programming Mode' at the start of this section for basic programmable settings for the controller.

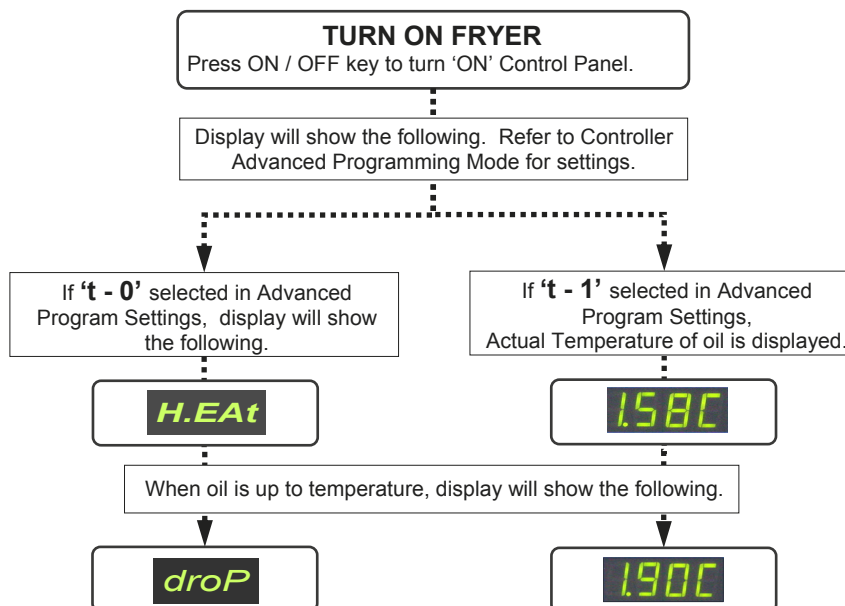
Refer to 'Controller Advanced Programming Mode' section for controller advanced programming.

### If Melt Cycle is turned ON.



Fryer can now be used without using the Timers, if required.

### If Melt Cycle is turned OFF.

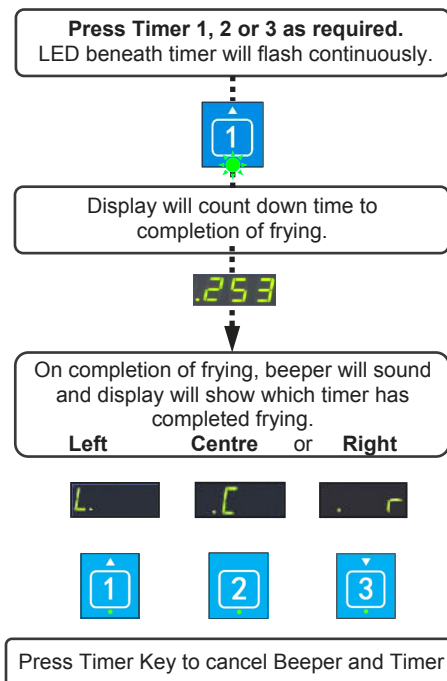


Fryer can now be used without using the Timers, if required.



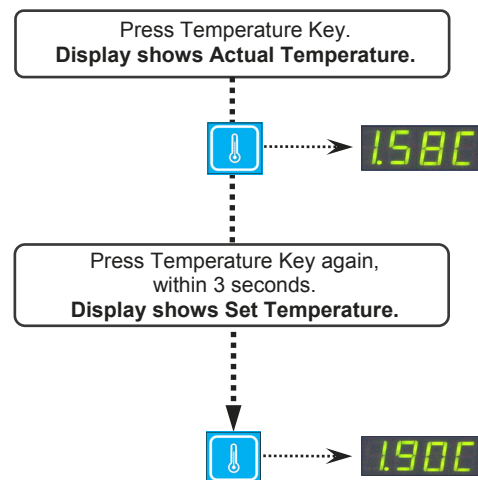
## To Use the Timers

**NOTE:** Refer to 'Basic Programming Mode' for information on how to set the Timer Pre-Set times.



## To Use the Temperature Display

**NOTE:** Refer to 'Basic Programming Mode' for information on how to set the Cooking Temperature.



## Turning 'OFF' the Fryer

### To 'Pilot' Position

- Depress and rotate gas control valve clockwise to the **Pilot** position.
- Main burners will extinguish and **Pilot** will remain alight.

### To 'Off' Position

- Depress and rotate gas control valve fully clockwise to the **Off** position.
- The **Pilot** burners will extinguish.

### IMPORTANT:

Should any abnormal operation like;

- ignition problems,
- abnormal burner flame,
- burner control problems,
- partial or full loss of burner flame in normal operation,

If any of the above problems are noticed, the appliance requires **IMMEDIATE** service by a qualified service person and should not be used until a service is carried out.

# Cleaning and Maintenance

## General



### Warning

**DO NOT USE FLAMMIBLE SOLVENTS AND CLEANING AIDS ON OR IN CLOSE PROXIMITY TO FRYER WHILST FRYER IS STILL HOT.**



### Caution

**Always turn 'Off' gas supply before cleaning.**

**This appliance is not water proof.**

**Do not use water jet spray to clean interior or exterior of this appliance.**

- To achieve the best results, cleaning must be regular and thorough and all controls and mechanical parts checked and adjusted periodically by a qualified service person. If any small faults occur, have them attended to promptly.
- Don't wait until they cause a complete breakdown. It is recommended that the appliance is serviced every 6 months.
- Clean the fryer regularly. A clean fryer looks better, will last longer and will perform better.

### NOTE:

- **DO NOT use abrasive detergents, sharp scrapers, strong solvents or caustic detergents as they could corrode or damage the fryer.**
- **Ensure that any detergent or cleaning material have been completely removed after each cleaning.**

To keep your fryer clean and operating at peak efficiency, follow the procedures below:-

## Draining and Daily Cleaning

1. At end of each day or at the end of each shift, if frying schedule is heavy, frying medium should be drained and filtered into a receptacle.



### Warning

**DO NOT ATTEMPT TO MOVE FRYER WHILST FRYER IS FULL OF OIL.**



### Caution

**Never drain the fryer with power or burners turned 'ON'  
Always switch 'OFF' the fryer before draining or re-filling the tank.**

2. Always filter fryer when cool zone under burners is hot and liquid. A cold fryer heated up won't drain, because frying medium in this zone will remain hard if using solid fat / oils.
3. Screw drain extension pipe onto end of drain valve (see Fig 9) and position a suitable container and filter under drain extension pipe.

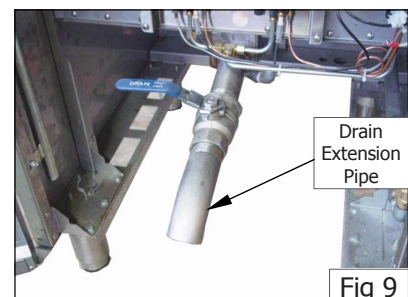


Fig 9

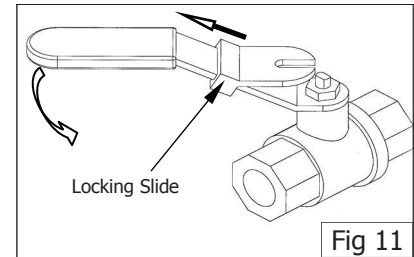
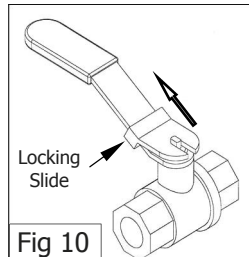
### Opening the Drain Valve



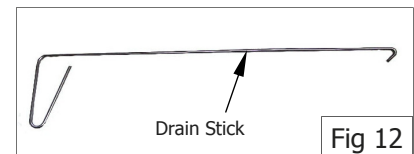
#### Warning

**HOT OIL WILL BURN - DO NOT RUSH THIS JOB.**

- a. Lift locking slide on valve handle (Fig 10) to release valve.
- b. While holding locking slide in the withdrawn position, rotate handle anticlockwise (Fig 11) to open valve.
- c. When valve is closed, locking slide will drop down over locking valve to prevent accidental opening of valve as shown in Fig.10.



4. Do not empty total fryer contents into one large container, as this will be dangerous and may be difficult, when lifted up, to pour hot oil back into tank.
5. Slip a muslin or other suitable filter bag over the end of the drain valve. Crumbs will be caught in bag but frying medium will strain freely through into receptacle.
6. Open drain valve slowly to minimise splashing, and take care not to overfill container.
7. If necessary, use the drain stick (see Fig 12) to dislodge any blockages in the drain.
8. When tank has been drained, use a ladle or small pan with a handle and dip into hot frying medium from container and pour around sides and bottom of tank to wash out crumbs and particles adhering to tank.
9. Continue to dip and pour until all crumbs are washed down and into filter bag.
10. Open drain valve fully and check for any particles or crumb residue lodged in valve. Clean out valve with a stiff nylon brush. Do not use a wire brush as this can damage the valve seating and will eventually lead to leakage. If obstruction cannot be removed with a brush, use a wooden probe to dislodge obstruction.
11. Wipe all exterior panels with a cloth dampened with detergent and rinse off any residue with clean warm water.
12. Clean Control Panel with a damp cloth lightly moistened with a solution of water and a commercial quality foodservice approved detergent.
13. Once the daily cleaning operation is completed, close drain valve and pour frying medium back into tank.



# Cleaning and Maintenance

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## Weekly Cleaning

**NOTE: If fryer usage is very high, we recommend that the weekly cleaning procedure is carried out more frequently.**

1. Proceed to drain and filter the tank as for 'Daily Cleaning'. Do not refill tank with frying medium until it has been cleaned as shown below.
2. Fill fryer with cold water to normal fill level and add a high quality commercial cleaner that has been specifically formulated for fryers. *All purpose cleaners are not recommended.*

**NOTE: Never use a caustic or lye solution, as this will leave a fat destroying film on the tank.**

3. Heat water to approximately 80-90°C.
4. Clean fryer baskets at same time by immersing them in the cleaning solution. Allow fryer to soak for 5-10 minutes or as directed on cleaner instructions. Remove baskets and turn **Off** main burners.
5. Scrub baskets and fryer tank with a stiff nylon bristle brush to remove any remaining deposits. **DO NOT use a wire brush, as this will scratch the tank sides.**
6. Empty fryer and rinse thoroughly with water. Use a 1 part vinegar to 15 parts water solution to rinse tank and neutralise any cleaner residue. If this proves unsuitable for cleaner being used, use a weaker solution of up to 1 part vinegar to 25 parts water.
7. Rinse tank thoroughly with water, drain and dry.
8. Refill tank with new filtered frying medium.

### **Stainless Steel Surfaces**

- a. With tank(s) drained, cleaned and dried as shown above, clean exterior surfaces of fryer with hot water, a mild detergent solution and a soft cloth.
- b. Dry all components thoroughly with a dry cloth and polish with a soft dry cloth.
- c. To remove any discoloration, use an approved stainless steel cleaner or stainless steel wool. Always rub in direction of grain.

## Periodic Maintenance

**NOTE: All maintenance operations should only be carried out by a qualified service person.**

To achieve the best results, cleaning must be regular and thorough. All controls and mechanical parts should be checked and adjusted periodically by a qualified service person. If any small faults occur, have them attended to promptly. Don't wait until they cause a complete breakdown. It is recommended that the appliance is serviced every 6 months.

### Guide to Cooking Problems with the Fryer

This section provides an easy reference guide to the more common problems that may occur during the operation of your equipment. The fault finding guide in this section is intended to help you correct, or at least accurately diagnose problems with your equipment.

Although this section covers the most common problems reported, you may encounter a problem not covered in this section. In such instances, please contact your local authorised service agent who will make every effort to help you identify and resolve the problem. Please note that the service agent will require the following information:-

- **Model Code and Serial Number of appliance. (both can be found on Rating Plate located on appliance.**

Fault	Possible Cause	Remedy
<b>Frying medium foaming.</b>	Presence of soap or detergent residue from cleaning tank.	Rinse fryer thoroughly three times with clean water. Ensure fryer is perfectly dry before re-filling with frying medium.
	Excessive breakdown of frying medium.	Add fresh frying medium daily to replace contents every 3-5 days.
	Continual frying of food with excess moisture.	Remove excess moisture from foods to be fried.
	Continued overheating of oil.	Check thermostat setting. Turn down heat to around 140°C (Standby) when use is quiet
	Overloading	Maintain 1-8 ratio of food to frying medium.
<b>Gumming.</b>	Heating frying medium too rapidly.	When charging fryer or starting up, melt frying medium gradually.
	Continued overheating of frying medium.	Check oil temperature by using a thermometer or thermocouple.
	Frying oil broken down.	Check amount of fresh frying medium added to fryer to be sure 'turnover' is adequate.
	Using wrong frying medium.	Some frying mediums form gums when used in a deep fryer. e.g safflower oil.
<b>Greasy foods.</b>	Frying at too low a temperature.	Increase temperature and check thermostat setting.
	Inadequate preparation of food.	Be sure foods (especially potatoes) are 'cured' correctly.
	Excessive quantities of breading or batter.	Remove surplus breading or batter.
	Placing food in frying medium direct from freezer.	Allow frozen foods to thaw before frying.
	Surplus moisture in and on surface of food.	Drain and dry foods before frying.
	Frying medium in advanced stages of breakdown.	Discard 'old' frying medium and refill fryer with new medium.
	Use of dripping or other unrefined oil.	Due to low smoking point, cooking in these oils at lower temperatures will result in greater oil absorption by food.
	Using wrong kind of cooking oil.	Always use a completely refined and deodorised cooking oil.

## Fault Finding

<b>Fault</b>	<b>Possible Cause</b>	<b>Remedy</b>
<b>Rapid oil breakdown.</b>	Inadequate frying oil turnover.	Adjust procedures to fry more food in fryer to increase turnover.
	Oil overheating.	Check oil temperature by using a thermometer or thermocouple.
	Contamination.	Filter or strain oil daily.
	Poor cleaning procedures.	Clean fryer each day or at least once a week and rinse thoroughly. Dry fryer before use.
	Presence of copper or brass in the fryer equipment.	Remove all copper or brass fittings from contact with oil.
	Overloading fryer.	Maintain 1-8 ratio of food to frying oil.
	Food excessively moist.	Drain and dry food before frying.
	Overheating oil on 'Standby' mode.	Turn control to <b>Pilot</b> position during idle ('Standby') periods.
<b>Oil smoking.</b>	Insufficient turnover of oil.	Maintain a minimum quantity of oil in fryer for more rapid turnover or increase quantity of food fried in fryer. Replace with fresh oil every 3 to 5 days.
	Continual frying with excess moisture on food.	Drain foods before frying, pat food dry.
	Contamination of oil.	Filter or strain daily to remove contaminants.
	Oil overheating.	Check oil temperature by using a thermometer or thermocouple.
	Rapid breakdown of oil.	Use a stable frying oil.
	Use of unrefined oils.	Dripping smokes at lower temperature than refined and deodorised oils.
<b>Darkening of oil.</b>	Presence of salt on the food.	Salt food after frying and away from fryer.
	Foods dipped in batter high in egg yolk.	Reduce egg content of batter, replace part egg with milk.
	Contamination of oil.	Filter or strain oil daily to remove contaminants.
	Poor cleaning practice.	Clean fryer at least once a week or each day in cases of heavy usage. Ensure fryer is perfectly dry before use.
	Overheating of oil.	Check oil temperature by using a thermometer or thermocouple.
	Insufficient oil turnover.	Top up daily to replace contents of fryer in 3 to 5 days.
	Cooking foods with high sugar levels.	Potatoes are usually high in reduced sugars at the end of a season. When fried, they will darken quickly and discolour the oil.

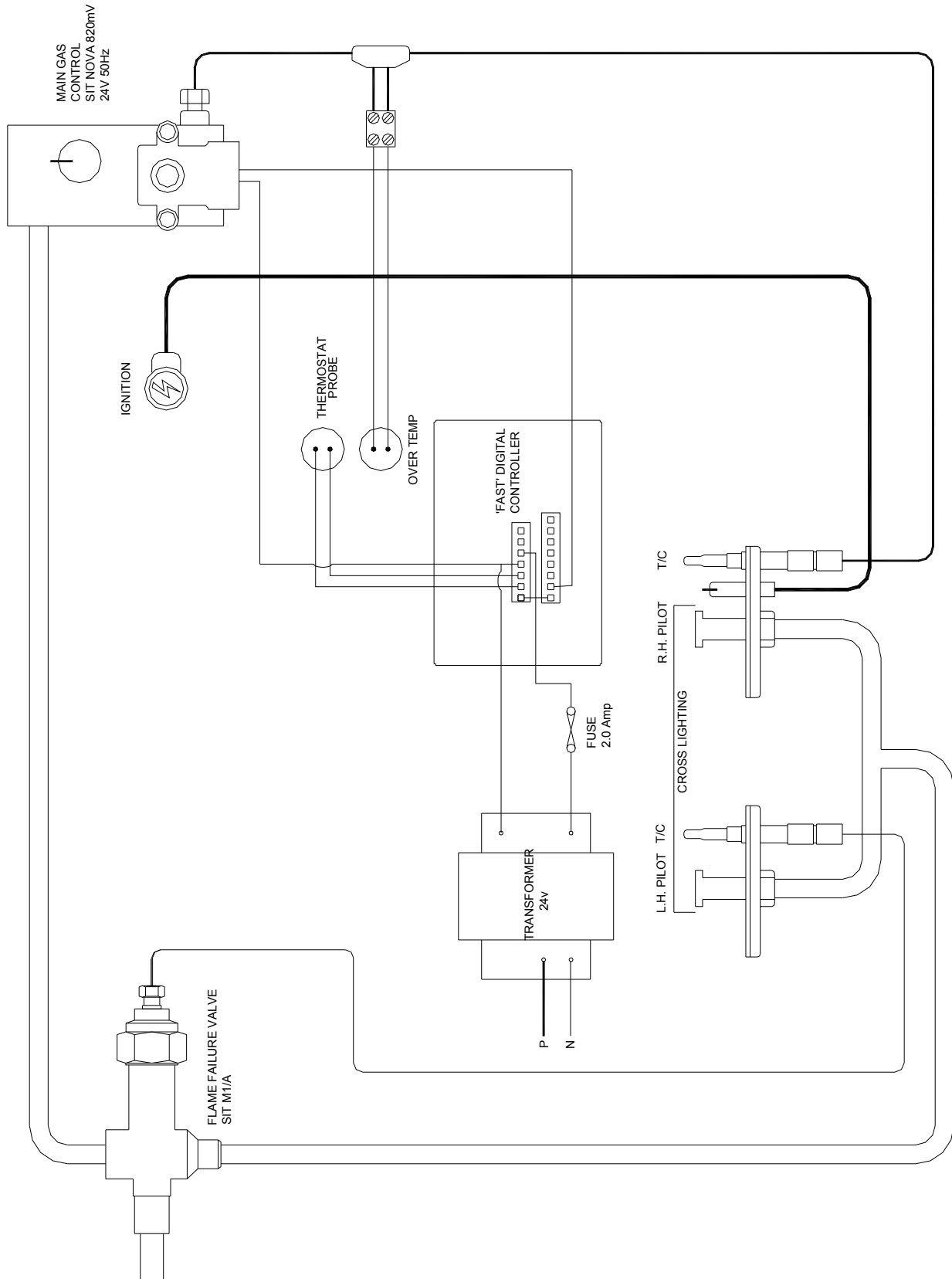
**NOTE:** Excessive usage of oil is an indication of high absorption of oil into the food. This is a function of temperature and character of the goods being fried - NOT due to the type of oil being used (unless refined oils are being used). Any variation in the apparent life of the oil is always due to one or more of the causes mentioned above.

### Fault Finding the Gas System

Fault	Possible Cause	Remedy
<b>Pilot Burners will not light.</b>	Gas supply is turned <b>Off</b> .	Turn <b>On</b> gas supply.
	Gas bottles empty.	Replace gas bottles.
	Blocked pilot burner.	Call for service.
	Faulty piezo ignition.	Call for service. <b>NOTE: Pilot can be manually lit until repair is carried out.</b>
<b>Pilot Burner lights then goes out when Gas Control Button is released.</b>	Gas valve control button not held <b>In</b> for long enough.	Hold <b>In</b> for at least <b>10 seconds</b> after ignition of the pilot.
	Blocked / weak pilot.	Call for service.
	Low gas pressure.	Call for service.
	Faulty thermocouple.	Call for service.
	Faulty overtemp.	Call for service.
	Faulty gas control valve.	Call for service.
<b>Pilot Burner goes Out during operation.</b>	Low / fluctuating gas pressure.	Call for service.
	Weak pilot.	Call for service.
	Faulty thermocouple.	Call for service.
	Faulty overtemp.	Call for service.
	Faulty gas control valve.	Call for service.
	Overtemp tripped, pilot is turned <b>Off</b> if temperature exceeds 220°C.	Call for service.
<b>Main Burners do not light.</b>	Low gas pressure.	Call for service.
	Blocked pilot.	Call for service.
	Faulty thermostat.	Call for service.
	Faulty gas control valve.	Call for service.
<b>Main Burners do not burn correctly.</b> (Burners roar or flash back to Main Injector).	Faulty burner.	Call for service.
	Blockage in flue.	Call for service.

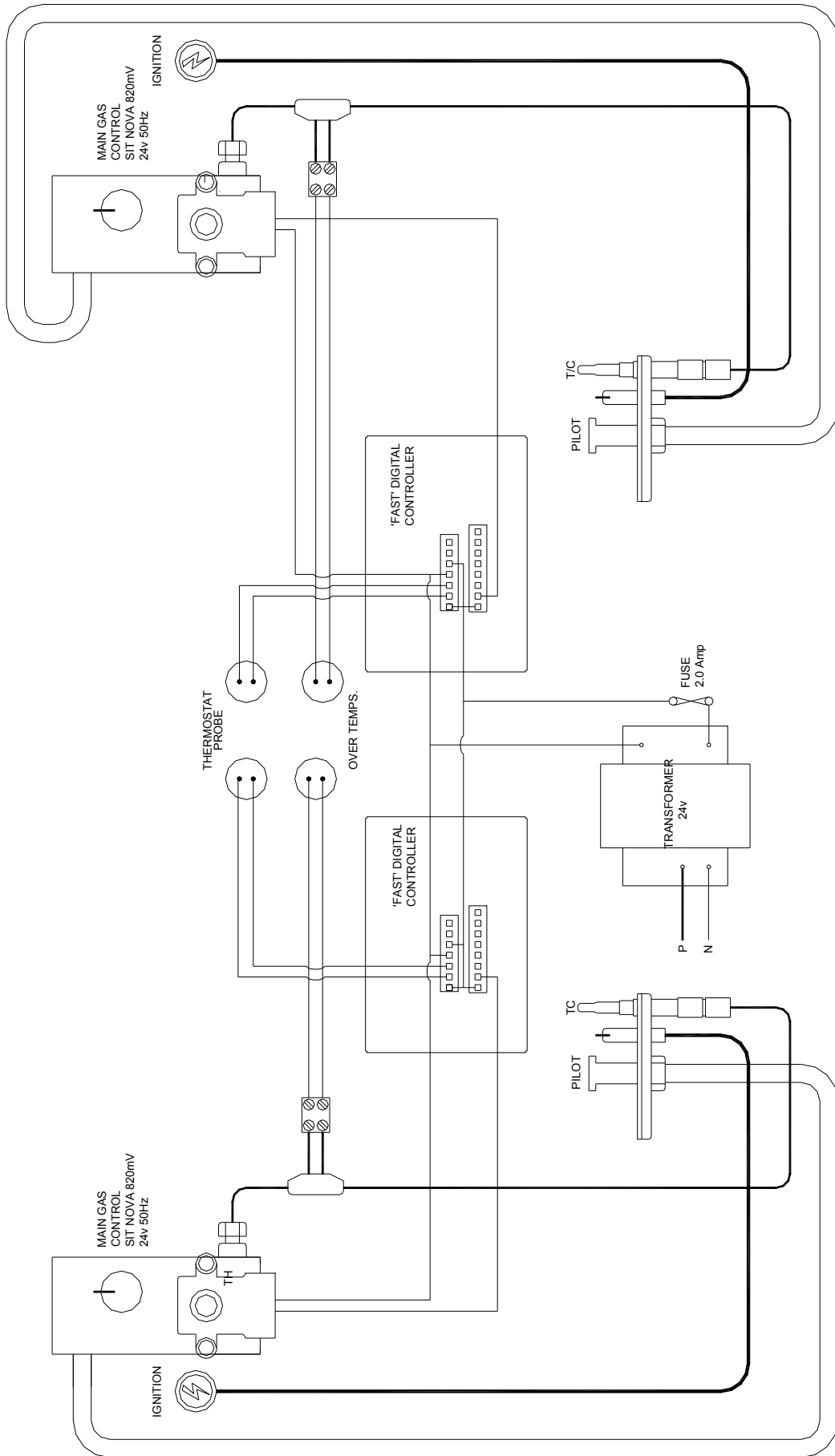
# Wiring Schematics

## GT45E Fryer Schematic



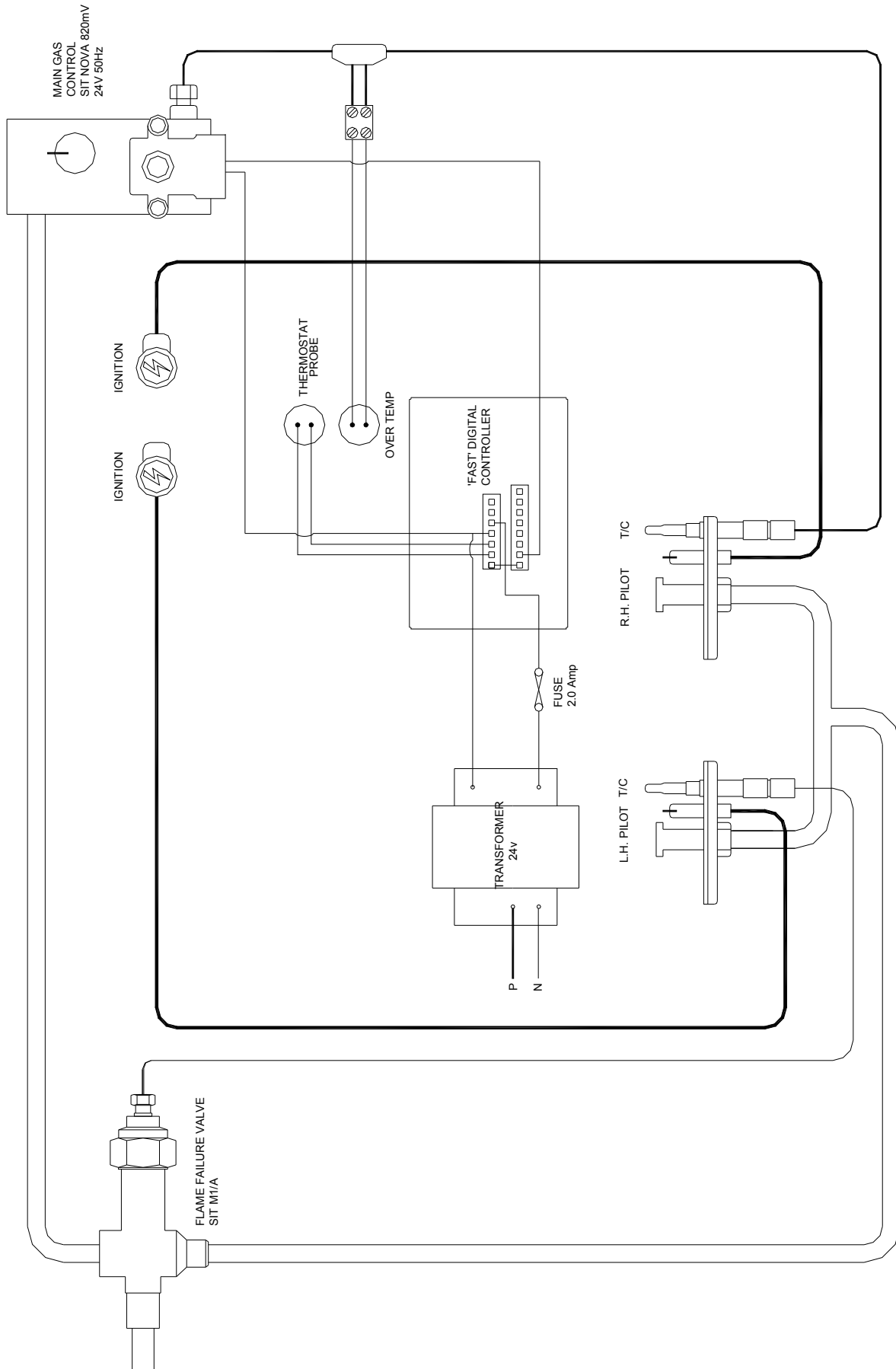


GT46E Fryer Schematic



# Wiring Schematics

## GT60E Fryer Schematic

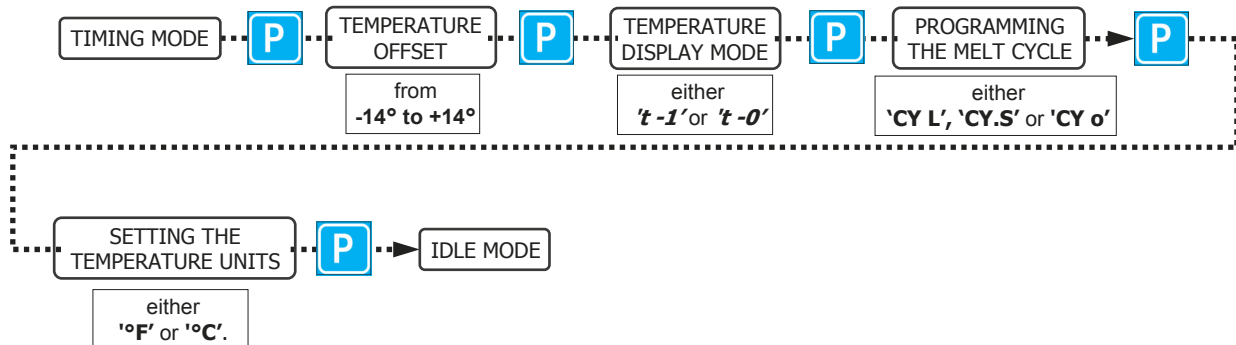
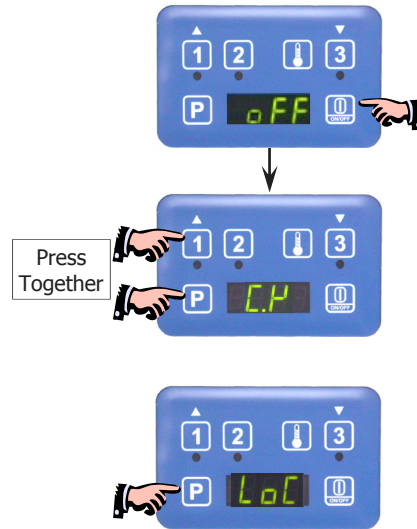


# Controller Advanced Programming Mode

The following Parameters can be accessed and adjusted in the Advanced Programming Mode:-

- **Timing Mode (Straight or Flexi cook time).**
- **Temperature Offset (Calibration Setting) -14° to +14°.**
- **Temperature Display Mode (Temp display or prompt display).**
- **Programming the Melt Cycle.**
- **Setting the Temperature Units (either °C or °F).**
- **System Programmable Default Settings.**

1. Press the 'ON / OFF' key to turn 'ON' fryer controller.
2. Press Programme Key 'P' and 'Timer 1' key together to enter 'Advanced Programming Mode'.
3. **If 'LoC' is displayed**, password protection is turned 'ON' and control panel is locked. Unlock the control panel, refer to 'Controller Basic Programming Mode' - 'Entering the Controller Basic Settings', and repeat from Item 2 above.



## Timing Mode

1. One of the following options will display:-

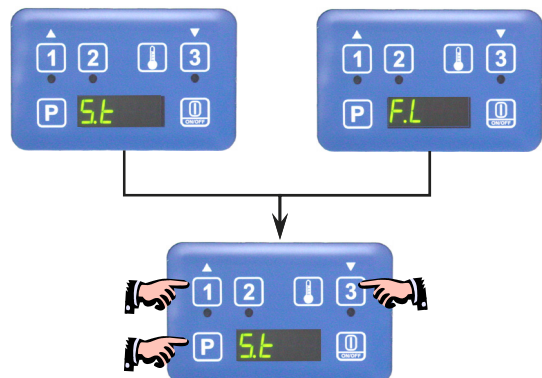
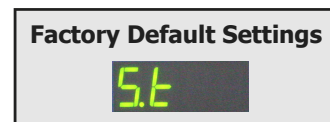
### Straight Cook Time

Straight cook time refers to real time cooking.

### Flexible Cook Time

Cook time can be automatically adjusted to compensate for size of load being cooked.

2. To change 'Timing Mode', press either 'Timer 1' or 'Timer 3' key.
3. Press Program Key 'P' to confirm options, the change will be accepted and display will step on to '**Temperature Offset**' parameter.



# Controller Advanced Programming Mode

## Temperature Offset

The display temperature can be adjusted by between -14° to +14°.

Factory Default Settings

0°

### To Calibrate the Control Temperature

- Set control temperature to 170°.
- Measure the oil temperature that the control is cycling at.
- If oil temperature is **higher** than reading on control panel, enter a **positive** value of the difference between oil temperature and set temperature (170° + difference).
- If oil temperature is **lower** than reading on control panel, enter a **negative** value of the difference between oil temperature and set temperature (170° - difference).

1. Temperature offset will appear on the screen.
2. To change temperature offset option, press either 'Timer 1' or 'Timer 3' key to change selection.
3. Press Program Key 'P' to confirm the change and the display will step on to 'Temperature Display' parameter.



## Temperature Display Mode

Factory Default Settings

t. -0

Temperature display can be set for either of two display modes:-

**'t - 1'** - Display will show oil temperature as an actual temperature.

**'t - 0'** - Display will show one of the following temperature status;

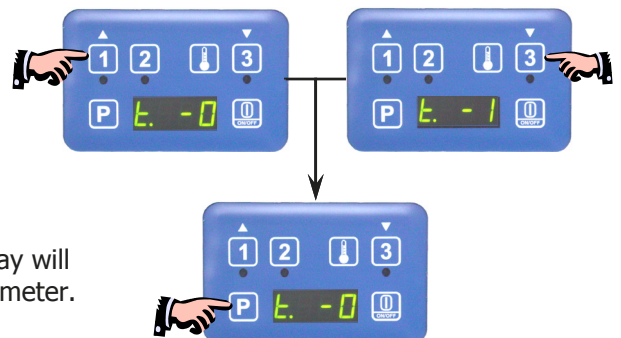
**'HEAt'** - Awaiting for fryer to heat up to set temperature.



**'droP'** - When fryer is within 10° of set temperature to indicate that fryer is ready for loading.



1. One of the following options will display:-
2. Press either 'Timer 1' or 'Timer 3' key to select option required.
3. Press Program Key 'P' to accept the change and display will step on to the 'Programming the Melt Cycle' parameter.

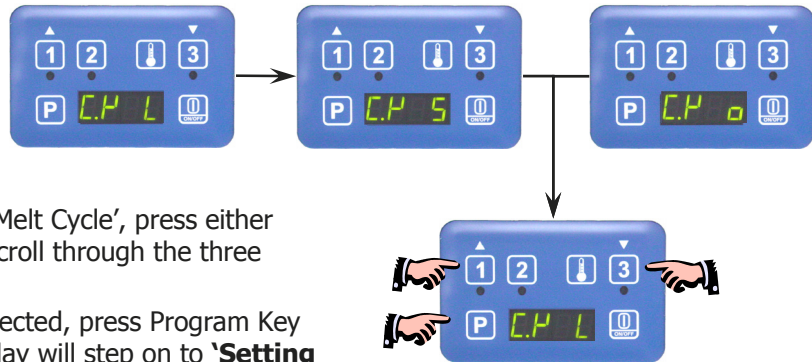


## Controller Advanced Programming Mode

### Programming the 'Melt Cycle'.

1. One of the following 3 options may be selected:-

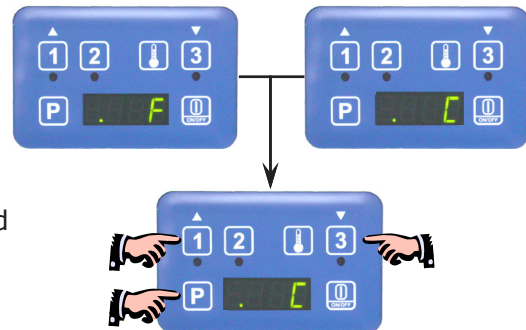
- 'L' (Liquid).
- 'S' (Solid).
- 'O' (Override).



2. To change the programmed 'Melt Cycle', press either 'Timer 1' or 'Timer 3' key to scroll through the three options.
3. Once the desired option is selected, press Program Key 'P' to accept the change, display will step on to **'Setting the Temperature Units'**.

### Setting the 'Temperature Units'.

1. User may select from 'F' (Fahrenheit) or 'C' (Celsius).
2. Press either 'Timer 1' or 'Timer 3' key to change selection.
3. Press Programme Key 'P', the change will be accepted and display will revert to **'Idle Mode'**.



#### NOTE:

- **Pressing and holding Programme Key 'P' for approximately 3 seconds (Or not pressing any keys for 2 minutes) during Advanced Programming Mode, the appliance will exit Advanced Programming Mode and return to Idle Mode.**

### System Programmable Default Settings

The table below shows a list of the programmable parameters and the default settings for this appliance. These settings can be edited from the Control Panel when in either **'Controller Basic Programme Mode'** or **'Controller Advanced Programming Mode'**.

Programmable Default Settings	
Controller Basic Programming Mode	Default Settings
Timer 1 'L' Cook Time	3:00 min.
Timer 2 'Ctr' Cook Time	3:00 min.
Timer 3 'R' Cook Time	3:00 min.
Temperature Set Point	177°C (350°F).
Keypad Lock or Unlock	Unlock.
Controller Advanced Programming Mode	Default Settings
Timing Mode	S.t (Straight).
Temperature Offset	0°.
Temperature Display Mode	t. -0 = 'HEAt' or 'droP'.
Melt Cycle Mode	L (Liquid).
Degrees; °F or °C	°C.

## Conversion Procedure



**Caution**

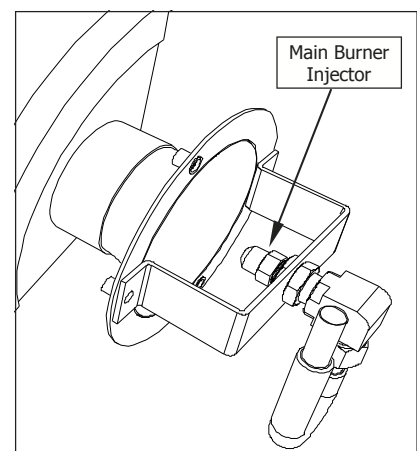
**Ensure Appliance is isolated from gas supply before commencing servicing.**

### NOTE:

- These conversions should only be carried out by qualified persons. All connections must be checked for leaks before re-commissioning the appliance.
- Adjustment of components that have adjustments / settings sealed (e.g. paint sealed) can only be adjusted in accordance with the following instructions and shall be re-sealed before re-commissioning this appliance.
- For all relevant information and specifications refer to table at end of this section.

### Main Burners

1. Remove main burner injectors and replace with correct size injectors as shown in **Gas Specifications** table.

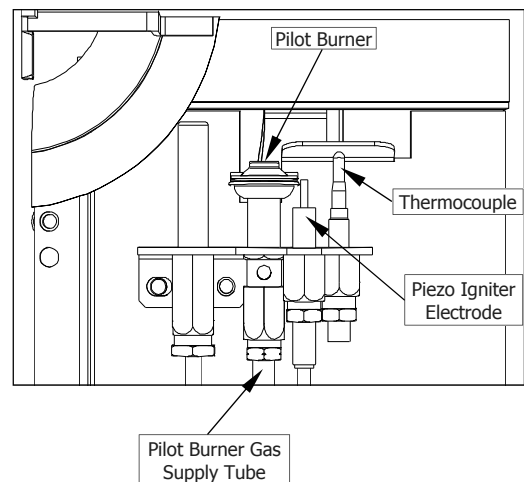


### Pilot Burners

1. Remove the following:-
  - Gas supply tube to pilot burner.

**NOTE: Remove the piezo igniter electrode from mounting bracket before unscrewing pilot supply tube.**

2. Remove pilot burner injector and replace with correct size injector as shown in **Gas Specifications Table** at rear of this section.
3. Refit the following:-
  - Gas supply tube to pilot burner.
  - Piezo igniter electrode.



## Gas Controller

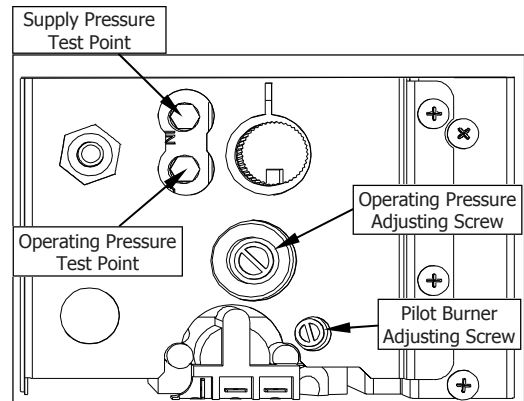
**NOTE:** For Twin Tank Fryers only, the units will be fitted with 2 gas control valves. These valves operate independently of each other. Gas regulator and pilot adjustment will need to be carried out separately for each gas valve.

### Main Burner Supply Pressure Check

- Connect a manometer to the upper test point (**Supply Pressure**) on the gas control valve.

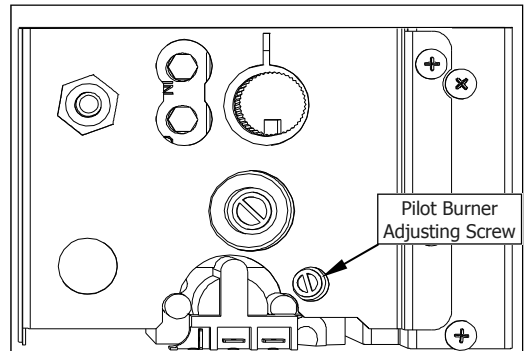
### Main Burner Operating Pressure Adjustment

- Connect a manometer to the lower test point (**Operating Pressure**) on the gas control valve.
- Remove slotted cap to reveal **Operating Pressure Adjusting Screw**.
- Light main burners and turn the operating pressure adjusting screw to obtain correct burner pressure for type of gas being used. Refer to **Gas Specifications Table** at rear of this section.
- Refit slotted cap to screw adjustment point.



### Pilot Burner Flame Adjustment

- Once main burner operating pressure has been set, adjust pilot burner supply so that the impingement of the pilot flame on the thermocouple is correct and main burner pilot flame ignites main burners satisfactorily.
- Adjust pilot flame size by adjusting **Pilot Burner Adjusting Screw**. Pilot burner flame should be approximately 1" long for main burner ignition. Anti-clockwise rotation of adjustment screw will increase size of pilot flame.



## Gas Type Identification Label

On completion of gas conversion, replace gas type identification label located at:-

- The rear of appliance, above gas connection point.
- Beside rating plate.

## Commissioning

Before leaving the converted installation;

- Check all gas connections for leakages using soapy water or other gas detecting equipment.



### Warning

**DO NOT USE A NAKED FLAME TO CHECK FOR GAS LEAKAGES.**

- Carry out a **Commissioning** check of the appliance as shown in Installation Section of this manual.
- Ensure any adjustments done to components that have adjustments / settings paint sealed, these are to be re-sealed.

**NOTE:** If, for some reason, it is not possible to get appliance to operate correctly, shut Off gas supply and contact supplier of this appliance.

## Gas Conversion and Specifications

---

### Gas Specifications

	Natural Gas	LP Gas	Butane	Town Gas (**)
<b>Main Burner Injectors</b>	Ø 3.1mm	Ø 1.9mm	Ø 1.7mm	Ø 6.3mm
<b>Pilot Burner Injectors</b>	0.62	0.35		0.75
<b>Pilot Screw Adjustment</b>	Full Out (CCW)	1½ turns out (CCW)		Full Out (CCW)
<b>Burner Operating Pressure</b>	0.98 kPa (*) (9.8 mbar)	2.5 kPa (*) (25 mbar)		0.5 kPa (*) (5 mbar)
<b>Supply Pressure</b>	1.13 - 2.0 kPa	2.75 - 3.0 kPa		0.75 - 1.5 kPa

**NOTE:**

- (\*) Measure burner operating pressure at Operating Pressure Test Point (Lower - Out) on gas control valve, with both burners operating at 'High Flame' setting.
- (\*\*) TOWN GAS Option is only available with specific ex-factory built Town Gas Models, which can also be converted to any other gas. Standard models can only be converted between Nat. Gas, LP Gas and Butane, but not Town Gas.
- Refer to 'Gas Conversion and Specifications' section of this manual for further details.



### Replacement Parts List

**IMPORTANT:**

**Only genuine authorized replacement parts should be used for servicing and repair of this appliance. Instructions supplied with parts should be followed when replacing components.**

**For further information and servicing instructions, contact your nearest authorized service branch (contact details are as shown on reverse of front cover of this manual).**

When ordering spare parts, please quote part number and description as listed below. If part required is not listed below, request part by description and quote model number and serial number which is shown on rating plate.

#### Gas System

018094	Interrupted Thermocouple - Main Gas Valve.		
227865	Thermocouple - Flame Failure Valve.		
032190	Main Burner Injector	(LPG)	Ø 1.90mm.
032310	Main Burner Injector	(Nat)	Ø 3.10mm.
032170	Main Burner Injector	(Butane)	Ø 1.70mm.
032630	Main Burner Injector	(Town Gas) -	Ø 6.30mm.
018090K	Pilot Burner (Special) -	(No Injector - includes electrode).	
018972	Pilot Injector	(Nat)	0.62.
018971	Pilot Injector	(LPG / Butane)	0.35.
026393	Pilot Injector	(Town Gas)	0.75.
228617	Gas Control Valve 24V	(Nova).	
229158	Gas Valve Cable / Plug 24V.	(GT45E / GT46E Only).	
229159	Gas Valve Cable / Plug 24V.	(GT60E Only).	
019237	Flame Failure Valve.	(GT45E / GT60E Only).	
018095	Piezo H.T. Lead 0.5 m long.		
227508	Piezo Ignitor.		
022575	Burner Kit.		
018022K	Overtemperature Thermostat.		

#### Electrical System

020117	Temperature Probe.		
228660	Transformer 24Vac.		
229033	Fuse Holder		
020109	Fuse 2 Amp.		
228707	Digital Controller.		
230101	Controller Overlay (3 Basket).		
025948	Terminal Block - 6 Way.		
025951	Terminal Block - 3 way.		

## Replacement Parts List

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### General

018019	Basket.	
227856	Door Magnet.	
227449	Door Handle.	(GT45E / GT46E).
227459	Door Handle.	(GT60E).
018358	Drain Valve.	
018147	Drain Extension.	
018176	Drain Stick.	
228576	Basket Tray.	(GT45E).
228577	Basket Tray.	(GT46E).
228578	Basket Tray.	(GT60E).
228419	Lid.	(GT45E / GT46E).
228575	Lid.	(GT60E).
229674	Rear Roller Assy.	
227850	Leg 150mm - Adjustable.	

### Accessories

228793	450mm (Fryer) Plinth Kit.
228794	600mm (Fryer) Plinth Kit.

### Gas Conversion Kits

Models	Gas Type to Convert to			
	Nat. Gas	LPG	Butane	Town Gas
GT45E GT46E GT60E	231963	231962	231964	N/A (*)

