

# Lincat

## User, Installation and Servicing Instructions

### Opus 800 Vortech Gas Fryer OG8115/OP

Please make a note of your product details for future use:

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

Model Number: \_\_\_\_\_

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

Dealer: \_\_\_\_\_

\_\_\_\_\_

Dear Customer,  
Thank you for purchasing this Lincat product.

**This is just one of over 450 different items of catering equipment available which is constantly being extended and improved. Details are available from your local distributor or direct from us.**

**Used for the purposes for which it is intended, and with careful maintenance as outlined in this User Guide, your Lincat product will give you years of trouble free service.**

## IMPORTANT INFORMATION



Please read all of the safety and operating instructions carefully before using this product. Please pay particular attention to all sections of this User Guide that carry warning symbols and notices.

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### **WARNING!**

**This is a Warning symbol. This symbol is used throughout the user guide whenever there is a risk of personal injury. Ensure that these warnings are read and understood at all times.**

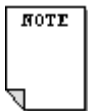
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### **CAUTION!**

This is a Caution symbol. This symbol is used throughout the user guide whenever there is a risk of damaging your Lincat product. Ensure that these warnings are read and understood at all times.

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### **NOTE:**

*This is a Note symbol. This symbol is used throughout the instructions to provide additional information, hints and tips.*

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## EQUIPOTENTIALITY



This equipment is provided with an equipotential bonding terminal to allow earth cross-bonding with other equipment.

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## WARNINGS AND PRECAUTIONS

Please read the following carefully before commencing work on this unit.



### WARNINGS AND PRECAUTIONS

This appliance must be installed by a competent installation engineer in accordance with the installation instructions, and should conform to the following requirements:

- Gas Safety (Installation & Use ) Regulations
- BS 5440: Flues, Air Supply for gas appliances of input not exceeding 70kW (1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> family gases)
- Institution of Gas Engineers publications: IGE/UP/1, IGE/UP/2 and IGE/UP/4
- BS 6173: Code of Practice for Installation of Gas Catering Appliances
- Local and National Building Regulations
- Fire Precautions Act
- Health & Safety At Work etc Act



It is mandatory that all appliances are installed, commissioned and serviced by a qualified and competent person as defined by the regulations in force in the country of installation. **Failure to comply will invalidate the warranty.**

This appliance is for professional use only and must only be used by qualified people.

All equipment must be earthed to prevent shock.

Disconnect the unit from the electricity supply before servicing or undertaking any electrical maintenance.

Parts, which have been protected by the manufacturer or his agent, must not be adjusted by the installer or user.

**If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.**

**Parts of this unit may become hot in normal use; therefore suitable precautions must be taken to avoid accidental contact.**

**Do not move this appliance when the tank contains oil.**

**Hot oil can cause severe burns. Avoid direct physical contact.**

**Always drain food before frying.**

**Never put water into the oil, as this will cause splashing and possible overflow of the tank.**

**Never put anything other than food into the oil.**

**Never leave the unit unsupervised whilst frying.**

**If the unit should begin to smoke, switch off immediately.**

**In the event of a fire occurring, water should not be used to extinguish it. It is advisable to install a suitable fire extinguisher and have a fire blanket within reach of the fryer.**

**Do not use old oil, it will have a reduced flash point and be more prone to surge boiling.**

**Do not overheat the oil.**

**Do not replenish the oil whilst the fryer is hot.**

**Do not overfill the tank with oil; maintain the oil level above the minimum mark.**

**Do not obstruct or block the appliance flue**

**Do not connect directly to any flue, ducting or mechanical extraction system**

**Installation should allow for a sufficient flow of fresh air for combustion air supply**

**Installation must include sufficient ventilation to prevent the occurrence of unacceptable concentrations of substances harmful to health in the room in which they are installed**

**It is recommended that this appliance is sited under an extraction canopy for the removal of combustion products.**

**Do not use flammable solvents and cleaning aids.**

## TECHNICAL DATA

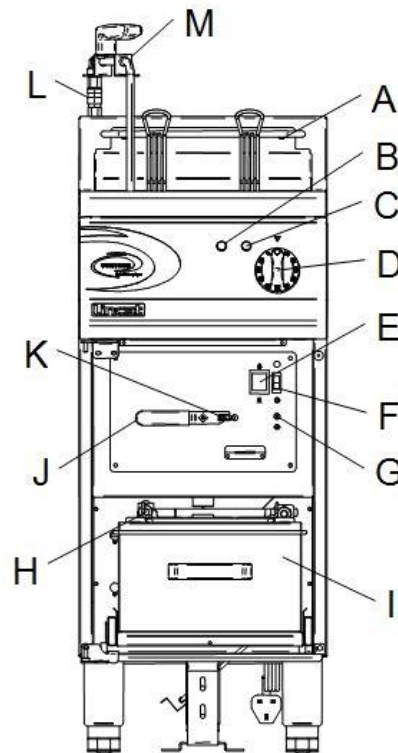
Description	Single Tank Gas Fryer
Model number	OG8115/OP
Overall height (mm)	1070
Width (mm)	400
Depth excluding handles (mm)	800
Weight (Kg)	92
Oil capacity (Litres)	16
Maximum frying weight	3.0 kg
Gas inlet connection	½" Rp
Gas pressure – Natural (G20) I <sub>2H</sub>	20 mBar
Gas pressure – Propane (G31) I <sub>3P</sub>	37 - 50 mBar
Gas pressure – Butane (G30) I <sub>3B/P</sub>	30 - 50 mBar
Heat input (Gross)	22 kW (75,064 Btu's)
Gas rate – Natural (G20) I <sub>2H</sub>	2.10 m <sup>3</sup> h <sup>-1</sup>
Gas rate – Propane (G31) I <sub>3P</sub>	1.57 kg h <sup>-1</sup>
Gas rate – Butane (G30) I <sub>3B/P</sub>	1.60 kg h <sup>-1</sup>
Combustion – Natural (G20) I <sub>2H</sub>	CO <sub>2</sub> – 9.5%±0.2 CO <20 PPM
Combustion – Propane (G31) I <sub>3P</sub>	CO <sub>2</sub> – 10.5%±0.2 CO <20 PPM
Combustion – Butane (G30) I <sub>3B/P</sub>	CO <sub>2</sub> – 11.0%±0.2 CO <20 PPM
Propane Orifice	Ø5.1 mm
Butane Orifice	Ø4.7 mm
Power rating (watts)	250

# CHECK LIST OF ENCLOSURES

Please ensure the following items are included with this piece of equipment:

Model	Filtration	Tick
Wire basket	1	
Batter plate	1	
Drain bucket	1	
Oil return lance	1	
Oil return hose	1	
Filter bag/ Filter bag frame	1	
Stainless drain basket	1	
User/Installation instructions	1	
Guarantee card	1	

A	Knurled fastener
B	Power On
C	Burner On
D	Thermostat knob
E	Operating mode
F	Burner reset
G	Limit thermostat reset
H	Oil pump connection
I	Oil bucket
J	Drain valve handle
K	Drain valve lock
L	Coupling
M	Oil return lance



## SERIAL NUMBER



Each appliance manufactured at Lincat has a unique identifying number found in the top right hand corner of the data plate attached at the rear of the appliance. Please record that number in the space provided should it be required for future reference.

Serial Number	
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## MARK OF CONFIDENCE



Every single product that leaves our factory bears a serial plate showing the assembler's initials. It's a mark of confidence we have in our people and our manufacturing process.

# INSTALLATION

## PREPARATION

Remove all packaging materials and protective coatings prior to installation.

## VENTILATION

The area in which this equipment is to be installed should have sufficient fixed ventilation to comply with local legislation requirements. It is recommended that a room or internal space be provided with a minimum free area of 4.5cm<sup>2</sup> per kW (3,400Btu/hr) of total heat input.

## SITING

The appliance must be installed in accordance with the appropriate regulations listed prior. It is recommended that this appliance is sited under an extraction canopy for the removal of combustion products.

The appliance should be installed on a level surface, in a suitable position that is well lit and draught free, and positioned to minimise the possibility of accidental touching.

A clear space of at least 100mm must be left to the rear of the appliance to allow for servicing with a clear space of 600mm to the front to allow for safe operation.

A minimum space of 100mm must be left between any side of the unit and any combustible surfaces or walls.

**Any partitions, walls or kitchen furniture less than 100mm from the appliance must be of non-combustible materials. Should a flexible hose be used the unit must be secured to the wall by the use of a chain.**

## ELECTRICAL SUPPLY AND CONNECTION

If the supply cable is damaged it should be replaced by Lincat Ltd or other suitably qualified persons, in order to avoid a hazard.

For safety regulations the plug or means of disconnection must always be accessible.

This unit must be earthed.

This unit is supplied with a 13 amp plug. If replacing the plug, connect the terminals as follows:

- Green and yellow wire            Earth    E
- Blue wire                            Neutral N
- Brown wire                          Live     L

## GAS SUPPLY AND CONNECTION

Check that the gas supply corresponds to that specified on the data plate.

Connection is at the rear of the unit via a ½” Rp thread. The gas supply tubing or hose shall comply with the national requirements in force and shall be periodically examined and replaced as necessary. An isolating cock should be fitted into the supply line close to the unit for emergency shutdown or servicing purposes.

If the supply pressure exceeds 37mbar for 3rd family gases then an external regulator must be fitted at the appliance inlet.

# COMMISSIONING



**Never operate the unit without oil in the tank**

## OPERATIONAL CHECK

NOTE

**Although all Lincat fryers are functionally checked during manufacture, commissioning must include a functional check of all controls.**

## PREPARATION

Having sited the unit, with particular attention paid to ventilation and proximity to combustible materials as detailed previously, the unit is ready for commissioning.

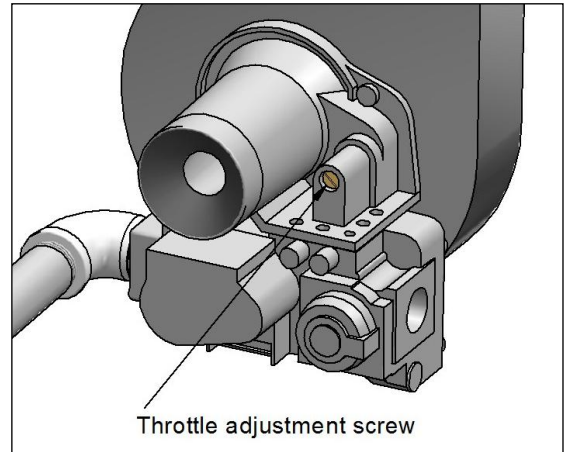
- Connect gas supply and check for gas soundness.
- Connect to the electrical supply as previously outlined.
- Ensure that the oil drain tap is closed.
- Remove the filter bag/holder and the stainless basket from the oil drain tank.
- Clean the fryer tank thoroughly with a warm mild detergent solution.
- Rinse the tanks, drain pipes and taps, and then dry thoroughly.
- Run a small quantity of oil across the bottom of the tank. Open the drain tap and drain any residual water into the oil drain tank. Coat the base of the tank with a layer of oil.
- Close the drain taps.
- Empty oil drain tank, dry thoroughly.
- Place the stainless drain basket and filter bag into the drain tank.
- Re-fit oil drain tank back into the base of the fryer.
- Fill the tank with oil to the lower level mark.

## LIGHTING SEQUENCE

- Please ensure that the gas isolation valve for the appliance is turned to the open position before attempting to light this unit.
- With the control knob in the off position and the 'Filter/fryer mode' toggle switch in fryer mode, switch the unit on at the isolator. The green neon will light.
- Turn the thermostat control knob clockwise to the required temperature.
- The adjacent amber neon will light, indicating that the burner is running.
- Use a suitable device to check the temperature of the oil at a position 25mm below the surface of the oil, at the geometric centre of the tank.
- Using a calibrated combustion analyser, measure the products of combustion at the appliance flue outlet.

**Natural gas** CO<sub>2</sub> – 9.5%±0.1 CO <20 PPM  
**Propane gas** CO<sub>2</sub> – 10.5%±0.1 CO <20 PPM  
**Butane gas** CO<sub>2</sub> – 11.0%±0.1 CO <20 PPM

- If required, adjustment is made via the venturi throttle screw after removing the access panel.
- Anticlockwise increases the gas making the mixture richer and increasing the CO<sub>2</sub> percentage.
- Clockwise decreases the gas making the mixture leaner and decreasing the CO<sub>2</sub> percentage.



## FILTER MODE



**HOT OIL – Wear protective clothing, gloves and safety glasses.**



**When filtering oil during normal service, set the control knob to the ‘off’ position, wait for at least 5 minutes before draining to allow the unit to cool.**

- **Isolate the unit from the gas supply.**
- **Set the thermostat control knob to the off position.**
- Ensure the oil suction pipe is secure within the drain tank and that the drain tank is pushed fully onto the oil inlet pipe.
- Ensure the filter bag is within the filter bag frame and correctly aligned in the drain tank.
- Ensure that the stainless drain basket is sitting in the filter bag.
- Open the drain valve and allow the oil to drain. Close the drain valve.
- Connect the oil return lance to the quick release coupling.
- To operate the pump set the ‘Filter/fryer mode’ toggle switch in filter mode.
- The pump will operate for a predetermined time before stopping.

**It is normal for a small amount of oil to remain in the bottom of the drain tank.**

- To stop the pump set the ‘Filter/Fryer mode’ toggle switch to Fryer mode.
- The green neon will light.



**This manual together with the user instructions must be kept in a safe and accessible place for future reference.**

**Ensure that the person responsible understands how to safely operate, clean and shut down this appliance and is made aware of the position of the gas isolating cock, the electrical supply isolation switch in the event of an emergency, the reset for the limit stat, the burner and the filtration pump.**



# SERVICING



**We recommend that all servicing, other than routine cleaning, be carried out by our authorised service agents.**

## ROUTINE SERVICE

1. Carry out a general check of the installation paying particular attention to the following:-
  - Has the unit been installed using the correct hose?
  - Does the unit have a safety chain?
  - Does the equipment have a separate isolation valve?
  - Is it connected to the supply via a suitable isolating switch?
2. Carry out a gas soundness check.
3. Check that the gas supply is adequate without excessive pressure drop. A test nipple is located on the gas inlet standpipe.
4. Ensure that the flue is clear and check the combustion with a calibrated instrument.
5. Check the operation of the high temperature limit thermostats. The reset button is located on the front panel, see diagram.
6. Check the pump operation, the quick release coupling and plug connection and flexible hose condition and that there is no evidence of leaks on the filtration circuit.

# COMPONENT REPLACEMENT



**Disconnect from both the gas and electrical supply before proceeding with any of the following instructions.**

**Use only genuine Lincat spares.**

## TEMPERATURE CONTROL

- Remove the control knob.
- Undo the control panel retaining screws.
- Remove the screws that retain the temperature control/switch assembly to the control panel.
- Disconnect the cable from the rotary switch.
- Pull the temperature control from the switch to separate then undo the lock nut.
- Reassemble in reverse order.

## **SAFETY THERMOSTAT.**

- Drain the fryer tank.
- Undo the control panel (see above).
- Undo the gland assembly and withdraw the capillary and bulb.
- Remove the drain valve handle
- Undo the four screws retaining the switch panel.
- Undo the nut holding the limit stat to the switch plate. Disconnect the wiring.
- Reassemble in reverse order.

## **FLAME SENSOR, IGNITER ELECTRODE AND LEADS**

- Remove the drain valve handle
- Undo the four screws holding the switch panel and support under the drain valve.
- Pull off the electrode cap and disconnect from the PCB (*if replacing the lead*) and unscrew the electrode.
- Reassemble in reverse order ensuring that the earth wire is reconnected on the ignitor electrode and always use a new gasket. **Do not over tighten the screws.**

## **DRAIN VALVE**

- Remove the drain valve handle
- Undo the four screws holding the switch panel and support under the drain valve.
- Remove the drain valve extension assembly.
- Unscrew the drain valve from the unit.
- Remove the outlet stub pipe from the drain valve.
- Reassemble in reverse order using standard practice for the sealing of the threads.

## **SYSTEM PCB**

- Undo the control panel (see above).
- Remove the right hand side panel by unscrewing the fasteners at the rear, prising the side panel from the rear, then sliding forward until clear of the front frame.
- Identify, then remove all connections. Remove the two fasteners holding the PCB bracket.
- Withdraw the PCB assembly then undo the M4 nuts to allow removal of the PCB.
- Reassemble in reverse order.

## **AIR/GAS RATIO VALVE**

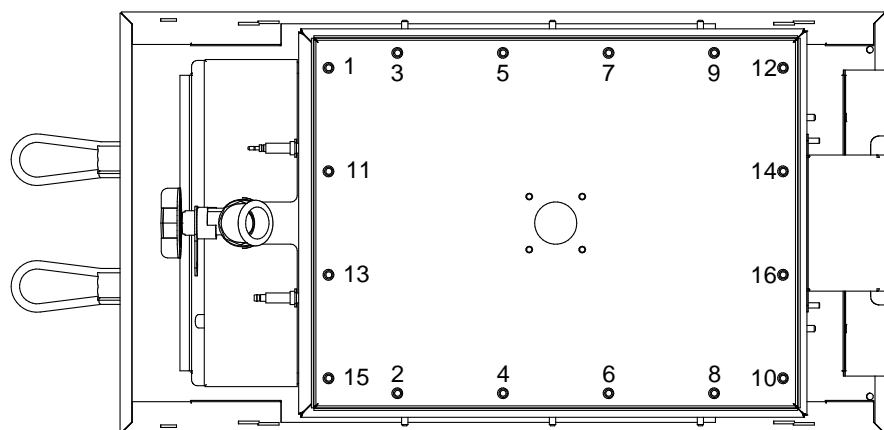
- Follow the instructions above for the removal of the right hand side panel.
- Remove the fasteners holding the left hand side panel. Remove the back panel.
- Undo the four screws on the gas inlet flange, taking care not to lose the o-ring seal.
- Undo the earth lead and the connector from the gas valve.
- Undo the three torx T25 screws to the right of the fan air intake venturi and remove the gas valve assembly.
- Reassemble in reverse order.

## **COMBUSTION FAN**

- Follow the instructions above for the removal of the air/gas ratio valve.
- Unplug the wiring loom connectors from the fan.
- Undo the four nuts holding the fan mounting face to the underside of the burner assembly and remove the fan.
- Reassemble in reverse order.

## **BURNER ASSEMBLY**

- Undo the two fasteners holding the door bracket. Remove the door.
- Remove the left hand side panel.
- Follow the instructions above for the removal of the fan/valve assembly.
- Undo and remove 14 of the M8 nuts from the underside of the burner leaving 11 and 12 still attached. Support the burner and remove the last two nuts and washers.
- Withdraw the burner from the mounting studs and remove from the left hand side taking care not to damage the PCB or the metal fibre of the burner surface.
- Discard the 16 hole burner gasket.
- Before refitting the burner assembly check the mounting faces on the burner assembly and the combustion chamber are clean and smooth.
- Refit the burner assembly using the new burner gasket provided and follow the illustration below showing the bolt tightening pattern.
- Follow the complete pattern in three stages using a torque wrench set at 6 Nm, 9Nm and the final sequence at 12 Nm.



## PUMP/MOTOR UNIT

- Remove the rear panel.
- Disconnect the pump outlet pipe.
- Disconnect the two pump wires.
- Undo the two nuts from the mounting bracket and remove the pump.
- Reassemble in reverse order.

## SPARE PARTS LIST

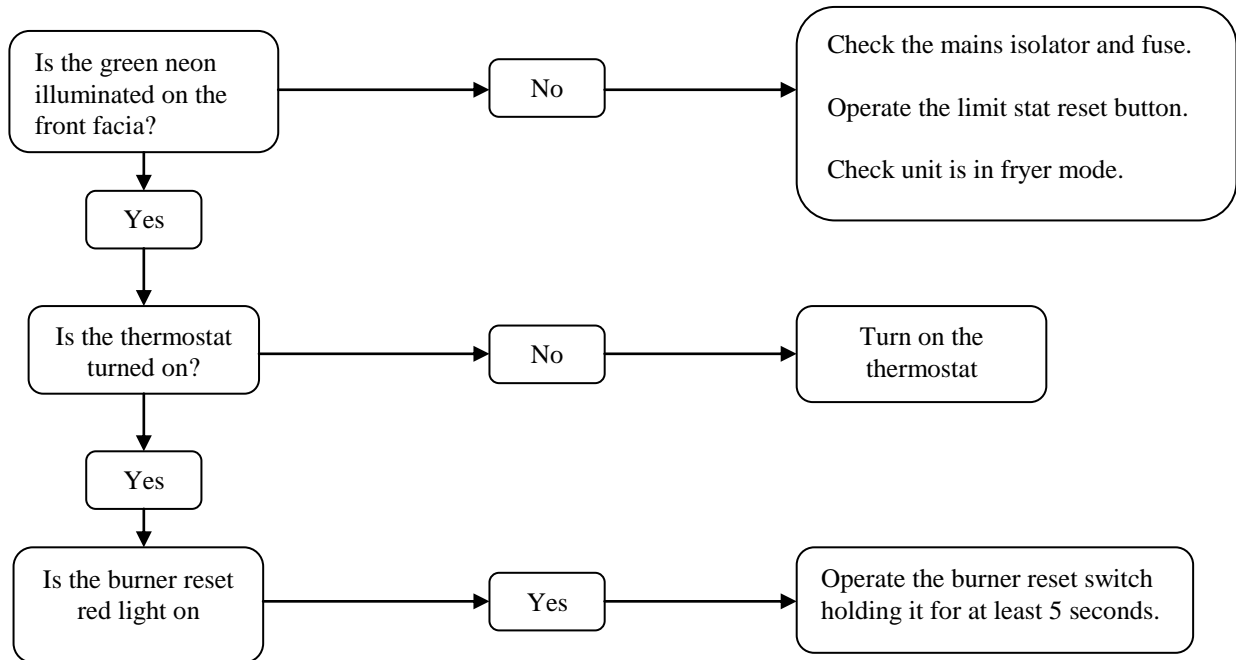
The following components are listed with the Lincat reference number followed by a brief description.

PART NUMBER	DESCRIPTION
BA159	Half basket
BS27	Basket support
BU219	Burner
GA08	Burner gasket
FA112	Combustion Fan
GA09	Fan outlet gasket
VA57	Air/gas Ratio valve
PR67	Main PCB
PR68	Interface PCB
TH103	Thermistor
TH104	Safety thermostat
IG44	Ignition lead
IG45	Flame detection lead

IG43	Ignitor electrode
IG46	Flame detection electrode
FZ401101	Drain valve
LE37	Adjustable leg
FZ214160	Oil return hose
FZ101159	Filter bag
FZ101143	Filter bag holder
FZ101140	Stainless drain basket
FZ214015	Suction pipe
FZ214013	Pump/motor
SW34	Mode switch
SW72	Pump switch/Burner reset
SW99	Rotary Switch
HA78	Lid handle
TI54	Electronic Timer

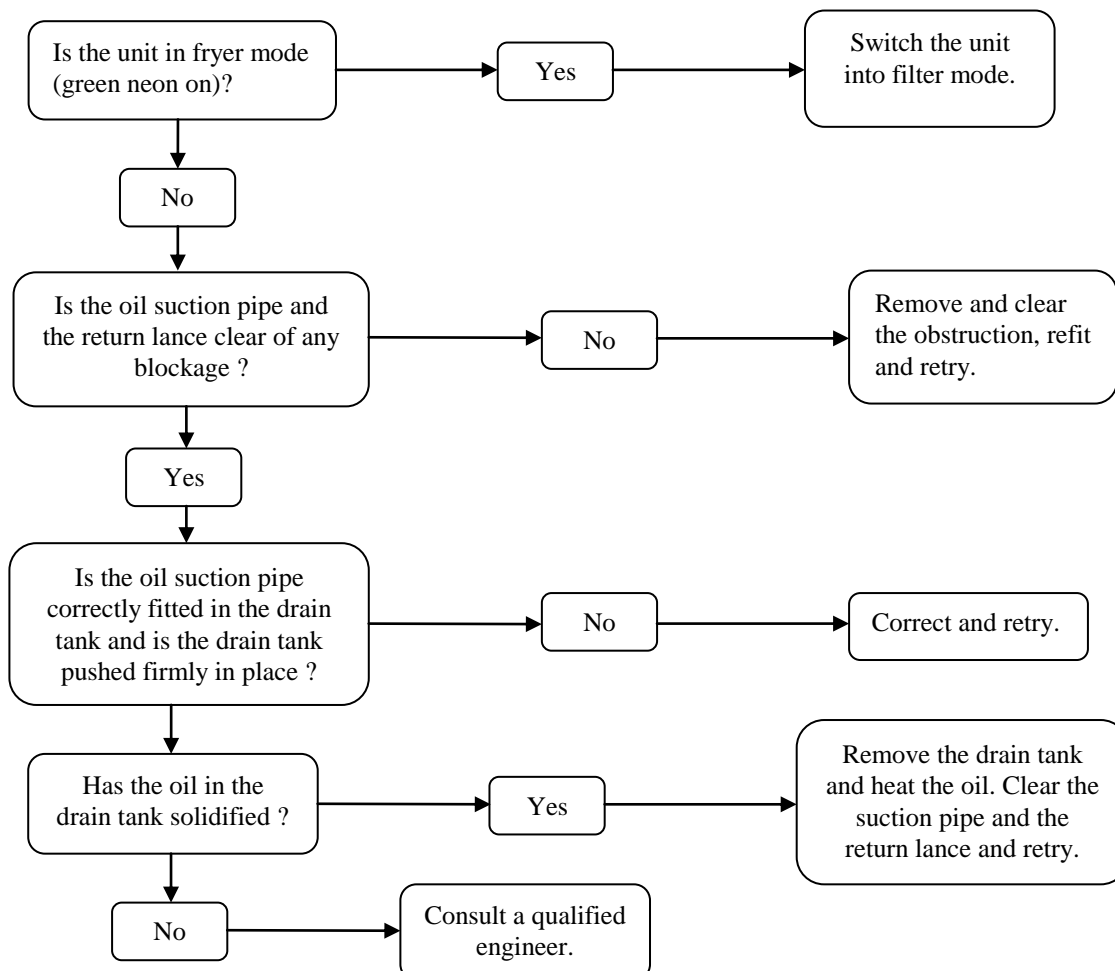
# FAULT FINDING

## Fryer will not heat up



## Filtration pump will not work

Note: Firstly ensure that the control knob is in the 'Off' position.



# USER INSTRUCTION

Model No.	Capacity	Max. load
OG8115/OP	16 litres	3.0 kg



When filtering oil during normal service, set the control knob to the 'off' position, wait for at least 5 minutes before draining to allow the unit to cool.

**Do not operate this unit without oil in the tank.**

**Before operating fill with cold oil to the lower oil level.**

**During operation maintain the oil level to the upper indicated level.**

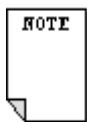
**Do not run water through the filtration system.**

**Isolate from the gas supply before draining oil from the fryer tank.**

## FILL WITH OIL

- Check that the drain valve is in the closed position.
- Fill the tank of the fryer to the lower level marked on the batter plate.

## SOLID FATS



**Solidified oil/fats will not circulate through the pump, to use the filter mode the oil/fat must be in a liquid state.**

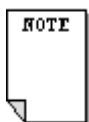
**Do not leave the oil/fat to solidify in the drain tank, always return the oil/fat to the fryer tank whilst it is in a liquid state.**

- When using solid fat, remove the batter plate, cut the fat into small pieces and place approximately 8 kg into the base of the fryer tank.
- Replace the batter plate and press firmly onto the fat. Place another 6 kg of fat on top of the batter plate along the side walls of the fryer tank.
- Select the 'M' (melt cycle) on the control knob and when all the fat has melted and the lower level has been reached, set the required temperature.

## FRYER OPERATION

- Turn on the power supply at the isolating switch.
- Select fryer mode on the 'Filter/fryer mode' toggle switch, the green neon will light indicating the unit is in fryer mode and that mains power is on.
- Turn the thermostat control knob to the required temperature setting.
- The amber neon will light indicating that the burner light sequence has begun.
- When the oil reaches the selected temperature the amber neon will go out.

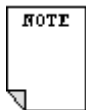
## BASKET LOADS



Overloading the basket reduces the fryer output of cooked product and will result in uneven cooking. It also increases the possibility of surge boiling (the oil may suddenly boil over when the basket is placed into the tank).

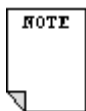
Food that is over-wet increases the possibility of surge boiling.

## FILTERING, OIL CHANGE AND CLEANING INSTRUCTIONS

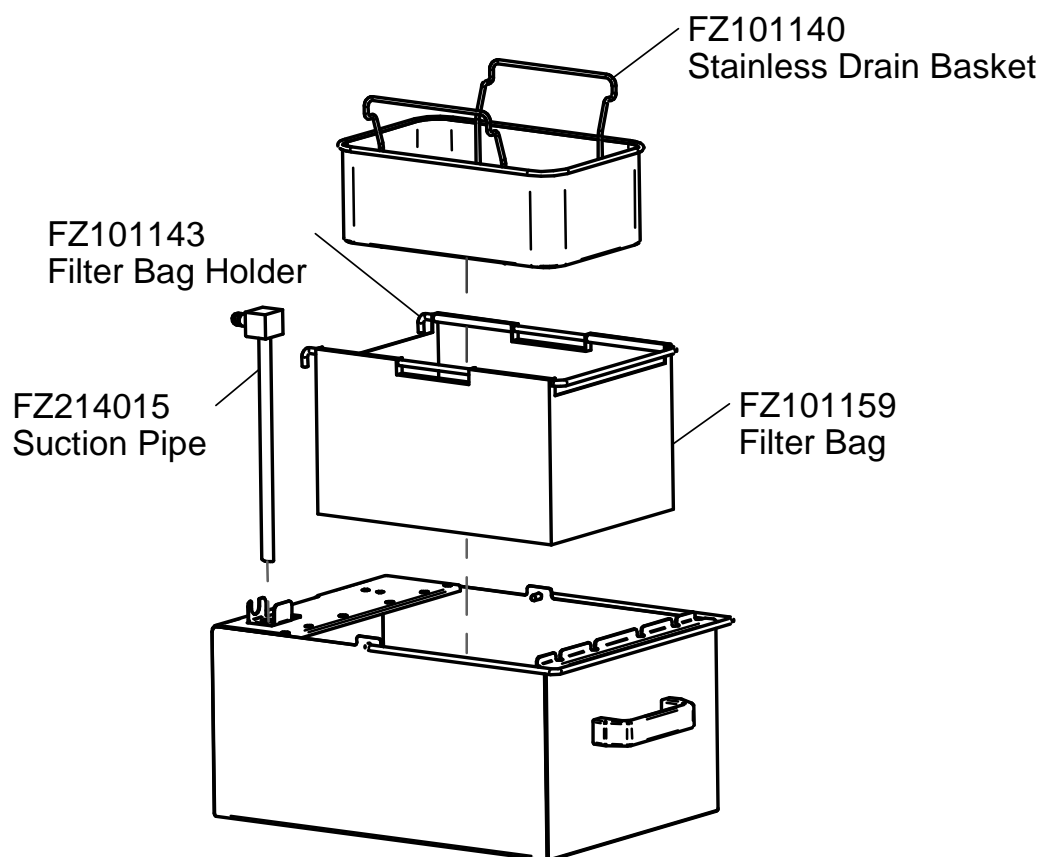


A small amount of oil will remain in the bottom of the oil bucket after the pump has stopped.

### FILTERING THE OIL



Prior to operating the filtration pump ensure that the filter bag is fitted in the holder and correctly located in the drain bucket. Check that the stainless basket is placed in the filter bag and that the suction pipe is positioned in the bracket as shown below.



- **Isolate from the gas supply.**
- Connect the oil return pipe M into position L
- Set the thermostat to the “Off” position with the orange dot at the top of the control dial.
- Ensure that the drain bucket is firmly positioned within the fryer.
- Operate the drain valve lever and drain the oil into the drain bucket.
- Fully close the drain valve.
- Select the **Filtration** mode to operate oil return. Select fryer mode to stop the oil return.

## OIL CHANGE AND CLEANING OF THE FRYER



**When disposing used oil allow the oil to cool to below 40<sup>0</sup> C. Wear protective clothing, gloves and safety glasses.**

- **Isolate from the gas supply.**
- Set the thermostat to the “Off” position with the orange dot at the top of the control dial.
- Operate the drain valve lever and drain the oil into the drain bucket.
- Connect one end of the hose to position L and the other end to the oil return pipe M.
- Operate the pump and discharge the oil to a suitable container.
- Remove the stainless drain basket, filter bag and batter plate and place on a suitable drip tray.
- Remove the back plate by turning the screws A and lifting off.
- Clean all items through the dishwasher.
- Remove large partials using a suitable tool such as a chip shovel.
- Use paper towel or similar to remove any small partials of debris.
- Make sure the drain valve is closed and wash the interior of the fryer tank with a mild detergent. Drain and discard.
- Ensure all components are dry.
- Replace all the components.
- Check that the drain valve is fully closed.
- Fill the fryer with new oil to the lower indicated level.



# SERVICE INFORMATION

Gas catering equipment should be routinely serviced to ensure a long trouble free life. It is recommended that this appliance is serviced every 6 months by a competent gas engineer. For help regarding the installation, maintenance and use of your LINCAT equipment, please call:

## LINCAT SERVICE HELP DESK

 **01522 875520**

### AUTHORISED SERVICE AGENTS

We recommend that all servicing other than routine cleaning is carried out by our authorised service agents we cannot accept responsibility for work carried out by other persons.

Please quote both the model and serial numbers from the data plate attached to the unit. Give brief details of the service requirement.

If possible please quote the product code of the part number you require.

Work carried out under warranty will normally be undertaken only during normal working hours, i.e. Monday to Friday, 8.30 a.m. - 5.00 p.m.

### CONDITIONS OF GUARANTEE

The guarantee does not cover:-

- 1) Accidental breakage or damage
- 2) Operational misuse, wear and tear from normal usage, incorrect adjustment, or neglect.
- 3) Incorrect installation, maintenance, modification or unauthorised service work.