

G3830, G3860, G3865 Fryers

INSTALLATION and SERVICING INSTRUCTIONS



This appliance must be installed and serviced by a competent person as stipulated by the Gas Safety (Installation & Use) Regulations.

IMPORTANT

The installer must ensure that the installation of the appliance is in conformity with these instructions and National Regulations in force at the time of installation. Particular attention MUST be paid to:

**Gas Safety (Installation & Use)
Regulations Health And Safety At Work etc. Act
Local and National Building Regulations Fire
Precautions Act**

Detailed recommendations are contained in
Institute of Gas Engineers published
documents: **IGE/UP1, IGE/UP/2
BS6173 and BS5440**

The appliance has been CE-marked on the basis of compliance with the Gas Appliance Directive for the Countries, Gas Types and Pressures as stated on the data plate.

WARNING: TO PREVENT SHOCKS, ALL APPLIANCES WHETHER GAS OR ELECTRIC, MUST BE EARTHED.

On completion of the installation, these instructions should be left with the Engineer-in-Charge for reference during servicing. Further to this, The Users Instructions should be handed over to the User, having had a demonstration of the operation and cleaning of the Appliance.

IT IS MOST IMPORTANT THAT THESE INSTRUCTIONS BE CONSULTED BEFORE INSTALLING AND COMMISSIONING THIS APPLIANCE. FAILURE TO COMPLY WITH THE SPECIFIED PROCEDURES MAY RESULT IN DAMAGE OR THE NEED FOR A SERVICE CALL.

PREVENTATIVE MAINTENANCE CONTRACT

In order to obtain maximum performance from this unit we would recommend that a maintenance contract be arranged with **SERVICELINE**. Visits may then be made at agreed intervals to carry out adjustments and repairs. A quotation will be given upon request to the contact numbers below.



WEEE Directive Registration No. WEE/DC0059TT/PRO At end of unit life, dispose of appliance and any replacement parts in a safe manner, via a licenced waste handler.

Units are designed to be dismantled easily and recycling of all material is encouraged whenever practicable.

Falcon Foodservice Equipment

HEAD OFFICE AND WORKS

Wallace View, Hillfoots Road, Stirling. FK9 5PY. Scotland.

SERVICELINE CONTACT

Phone: 01438 363 000

Fax: 01438 369 900

T100822 Ref. 3

IMPORTANT INFORMATION

Warranty Policy Shortlist

Warranty does not cover :-

- Correcting faults caused by incorrect installation of a product.
- Where an engineer cannot gain access to a site or a product.
- Repeat commission visits.
- Replacement of any parts where damage has been caused by misuse.
- Engineer waiting time will be chargeable.
- Routine maintenance and cleaning.
- Gas conversions i.e. Natural to Propane gas.
- Descaling of water products and cleaning of water sensors where softeners/ conditioners are not fitted, or are fitted and not maintained.
- Blocked drains
- Independent steam generation systems.
- Gas, water and electrical supply external to unit.
- Light bulbs
- Re-installing vacuum in kettle jackets.
- Replacement of grill burner ceramics when damage has been clearly caused by misuse.
- Where an engineer finds no fault with a product that has been reported faulty.
- Re-setting or adjustment of thermostats when unit is operating to specification.
- Cleaning and unblocking of fryer filter systems due to customer misuse.
- Lubrication and adjustment of door catches.
- Cleaning and Maintenance
 - Cleaning of burner jets
 - Poor combustion caused by lack of cleaning
 - Lubrication of moving parts
 - Lubrication of gas cocks
 - Cleaning/adjustment of pilots
 - Correction of gas pressure to appliance.
 - Renewing of electric cable ends.
 - Replacement of fuses
 - Corrosion caused by use of chemical cleaners.

SECTION 1 - INSTALLATION

UNLESS OTHERWISE STATED, PARTS WHICH HAVE BEEN PROTECTED BY THE MANUFACTURER ARE NOT TO BE ADJUSTED BY THE INSTALLER.

1.1 MODEL NUMBERS, NETT WEIGHTS and DIMENSIONS

Model	Width (mm)	Depth (mm)	Height (mm)	Weight
G2830 Fryer	300	770	890	59
G3860 Fryer	600	770	890	74
G3865 Fryer	600	770	890	99

1.2 SITING

The unit should be installed on a level, fireproof surface in a well lit, draught free position. A clear space of 150mm should be left between the rear and sides of the fryer and any combustible wall.

If the floor is constructed of combustible material, then local fire requirements should be checked to ensure compliance.

Important - If appliance is to be installed in suite formation with other matching units, the instructions for all models must be consulted to determine the necessary clearances to any combustible rear wall or overlying surface. Some models require greater clearances than others and the largest figure quoted in individual instructions will therefore determine clearance of complete suite adjoining appliances.

1.3 VENTILATION

Adequate ventilation must be provided to supply sufficient fresh air for combustion. This should allow easy removal of combustion products which may be harmful to health.

Recommendations for Ventilation of Catering Appliances are given in BS5440:2.

For multiple installations, the requirements for individual units require to be added together. Installation should be carried out in accordance with local and/or national regulations which apply at the time. A competent installer MUST be employed.

1.4 GAS SUPPLY

The incoming service must be of sufficient size to supply full rate gas without excessive pressure drop. A gas meter is connected to the service pipe by Gas Supplier. Any existing meter should be checked by the supplier to ensure that it is of adequate capacity to pass required rate of gas for the unit, in addition to any other gas equipment that has been installed.

The multifunctional control has no in-built governor therefore an external device must be fitted to natural gas models.

Installation pipework should be fitted in accordance with IGE/UP/2. This should not be smaller than gas inlet connection.

G3830 - Rp $\frac{1}{2}$ ($\frac{1}{2}$ " BSP)

G3860 - Rp $\frac{3}{4}$ ($\frac{3}{4}$ " BSP)

G3865 - 2 x Rp $\frac{1}{2}$ ($\frac{1}{2}$ " BSP)

An inlet manifold is supplied with the G3865 to enable connection to 1 x Rp $\frac{3}{4}$ ($\frac{3}{4}$ " BSP) mains inlet (if required).

If flexible tube is used, the gas supply tubing or hose shall comply with national requirements in force. These should be periodically examined and replaced as necessary.

An isolating cock must be located close to the unit to allow shutdown during an emergency or servicing. The installation should be checked for gas tightness and purged as specified in IGE/UP/1.

1.5 ELECTRICAL SUPPLY –

Not applicable to these units.

1.6 WATER SUPPLY –

Not applicable to these units.

1.7 TOTAL GAS RATES - NATURAL and PROPANE GAS

Model	kW	Btu/hr (Gross)
G3830 Fryer	16.7	62,700
G3860	30	112,600
G3865	2 x 16.7	2 x 62,700

1.8 INJECTOR SIZE

1.8.1 Natural Gas

Model	Pilot Burner	Cross- Lighter	Main Burner
G3830 Fryer	51	0.026	2 x Ø2.38mm
G3860	51	0.026	2 x Ø3.3mm
G3865	51	0.026	4 x Ø2.38mm

1.8.2 Propane Gas

Model	Pilot Burner	Cross-Lighter	Main Burner
G3830 Fryer	35	0.016	2 x Ø1.47mm
G3860	35	0.016	2 x Ø1.95mm
G3865	35	0.016	4 x Ø1.47mm

1.9 GAS PRESSURE ADJUSTMENT

1.9.1 Supply Pressures

A pressure test point is fitted on the burner manifold and the operating pressure is shown in the tables below. On G3865 model, burner pressure should be set with both pans turned on.

An adjustable governor is required on Natural Gas models.

Gas Type	mbar	Inches w.g.
Natural Gas	202	8
Propane Gas	37	14.8

1.9.2 Natural Gas Burner Pressures

Model	mbar	Inches w.g.
G3830	13	5.2
G3860	11.2	4.8
G3865	13	5.2

1.9.3 Propane Gas Burner Pressures

Model	mbar	Inches w.g.
G3830	35.6	14.2
G3860	34.5	13.8
G3865	35.6	14.2

1.10 BURNER ADJUSTMENTS

1.10.1 Pilot

No adjustment is available.

Main Burner - No aeration adjustment is necessary, however gas pressure should be set as per value shown in Section 1.9.

SECTION 2 -

ASSEMBLY and COMMISSIONING

2.1 ASSEMBLY

The unit is packed as a complete assembly, except the flue. To fit this, slide flue over upstand on hob rear and secure with fixings along lower front and rear edges. Slot basket hanger over knurled nuts and hand-tighten.

2.2 APPLIANCES ON CASTORS

For units on castors, refer to guidelines in BS6173. These state that where wheels, castors or rollers are used, these must be fitted with a brake or locking device. This should be accessible to operator from front or side.

2.3 CONNECTION TO A GAS SUPPLY

Gas supply piping and unit connection must be installed in accordance with regulations listed on front page of this document.

A gas isolating cock must be fitted to the supply in a position that is readily accessible to operator.

2.4 CONNECTION TO AN ELECTRICAL SUPPLY

Not applicable to these units.

2.5 CONNECTION TO A WATER SUPPLY

Not applicable to these units.

2.6 PRE-COMMISSIONING CHECK

Prior to operation, ensure that all packing material has been removed from unit.

2.6.1 Setting The Gas Pressure

- a) It is necessary to check gas pressure during commissioning. A suitable pressure gauge must be connected to test point on supply manifold.
- b) Turn on main gas valve at supply.
- c) Light burners as detailed in User Instructions. The supply pipes may contain air therefore it may be necessary to repeat lighting procedure.
- d) **Natural gas models only.** Adjust governor to setting as detailed in Section 1.9.
- e) Disconnect pressure gauge from test point. Replace sealing screw and test gas soundness.

2.7 INSTRUCTION TO USER

After installing and commissioning the fryer, hand User Instructions to operator or purchaser. Ensure details to light, turn off, use and clean are properly understood. The main gas isolating valve location should be made known to user and the procedure for operation in event of an emergency should be demonstrated.

SECTION 3 -

SERVICING and CONVERSION

Important

BEFORE ATTEMPTING ANY SERVICING, ENSURE ISOLATING COCK IS TURNED OFF AND THAT IT CANNOT BE INADVERTENTLY TURNED BACK ON.

FRYER REQUIRES TO BE COOLED AND DRAINED PRIOR TO MAINTENANCE.

AFTER ANY SUCH MAINTENANCE TASK, CHECK THE APPLIANCE TO ENSURE CORRECT PERFORMANCE AND CARRY OUT ANY NECESSARY ADJUSTMENTS AS DETAILED IN SECTION 1.

After carrying out any servicing or exchange of gas carrying components -

ALWAYS CHECK FOR GAS TIGHTNESS!

3.1 GAS CONVERSION CHECK LIST

CHANGE MAIN INJECTORS CHANGE PILOT INJECTOR

CHANGE CROSS LIGHTING INJECTOR CHANGE DATA PLATE

To convert from natural to propane gas, remove governor.

To convert from propane to natural gas, fit external governor. Adjust unit manifold pressure as detailed in Section 1.9.2.

All relevant injectors to be changed to suit gas type.

3.2 BURNERS

Burners should be cleaned periodically to maintain maximum performance and are best cleaned with a wire brush. Blocked parts require to be cleared using a metal broach. Any material pushed into burner should be shaken out via air inlet.

3.2.1 Removal of Burner Assembly

Turn off main gas supply to unit. Remove fixings that secure pilot and cross-lighter assemblies to main burner and drop assemblies slightly. Disconnect compression joint above manifold. Remove fixings that retain burner assembly front cross strap to side runners. Pull burner assembly forward (*approx. 25mm*) and drop it slightly to clear front cross strap. While supporting weight of assembly, push it back to clear rear strap from runners and lower to withdraw. Replace in reverse order.

3.2.2 Removal of Pilot Burner

Isolate main gas supply to unit. Disconnect pilot supply pipe compression nut and remove pipe from pilot burner. Withdraw injector. Undo thermocouple retaining nut and remove thermocouple from pilot burner. Pull lead from spark electrode.

Undo nuts that secure pilot burner bracket to burner. Withdraw pilot burner assembly. Replace in reverse order.

3.3 CLEANING THE INJECTORS

Injectors should be periodically cleaned using a wooden splinter or soft wire. Avoid use of metal reamers as these may distort or increase size of orifice.

3.3.1 Removal of Main Burner Injectors

Isolate main gas supply.

Use a 10mm open-ended spanner to remove injector.

3.3.2 Removal of Pilot/Cross-Lighting Injectors Isolate main gas supply. Undo pilot/cross lighter supply pipe compression nut and remove pipe from pilot/cross lighter burner.

Withdraw injector. Replace in reverse order.

3.4 FLAME FAILURE THERMOCOUPLE

Undo nuts at pilot assembly and valve body brass interrupter.

Disconnect white wires from thermocouple to safety thermostat.

3.5 PIEZO IGNITER/SPARK ELECTRODE

The igniter is a piezo spark type. The electrode is mounted upon pilot burner bracket. Push button is located below valve mounted to control panel inside door at RH side.

Two wires are connected to push button at one end. One is orange in colour and the other is a green/yellow earth wire. Both must be connected at each end for igniter to function properly.

3.5.1 Removal of Igniter Switch

Remove igniter and earth lead connections from push button. Undo large nut that secures push button flange to control compartment and remove device.

Replace in reverse order.

3.5.2 Removal of the Electrode

Remove igniter lead connection from electrode and remove nut located below electrode. Withdraw electrode downward from pilot burner bracket.

Replace in reverse order.

3.6 THERMOSTATS

For removal of User thermostat, refer to Section 3.7.

The safety thermostat is an EGO model. When activated, this interrupts the millivolt signal from thermocouple tip and subsequently shuts down the gas supply in the event of user thermostat failing, causing oil to overheat.

Note : Manual intervention is required to reset safety thermostat if operated.

3.6.1 Re-setting Safety Thermostat

The safety thermostat is located behind door within main controls compartment. It is situated above the user thermostat temperature knob on RH of compartment.

Unscrew black plastic safety cover to expose spindle. The reset button is at the spindle centre. The button may be pushed to reset safety thermostat when oil temperature drops below 200°C.

Warning: Fully investigate reason for safety thermostat trip. Do not operate fryer unless both user and safety thermostats operating to specification.

3.6.2 Checking the User Thermostat Calibration

Using a reliable thermometer immersed 25mm below oil surface at pan centre. Measure oil temperature when a steady condition has been established.

3.6.3 Replacement of Safety Thermostat

Isolate gas supply and drain cool oil from pan. Undo fixings that secure controls cover panel.

Remove fixings securing upper panel to LH side of controls cover panel.

Ease upper panel out and pull controls cover panel away from control valve knobs.

Remove nut that secures spindle of safety thermostat to controls cover panel.

Remove two wires from spark igniter push button terminals. Controls cover panel may now be removed.

Undo nuts that secure thermostat capillary to pan front.

From inside pan, gently remove two nuts that secure safety thermostat bracket to pan base.

Release safety thermostat bulb from mounting bracket.

Carefully pull mounting bracket guard tube assembly free from thermostat capillary. Remove capillary through front of pan.

Remove white thermostat wires on thermocouple interruptor.

Re-assemble parts in reverse order. Ensure small compression nut is not secured before thermostat is secured to mounting bracket inside pan.

3.7 REMOVAL OF GAS CONTROL VALVE INCORPORATING USER THERMOSTAT

Isolate gas supply and drain cool oil from pan. Undo fixings that secure controls cover panel.

Remove fixings that secure upper panel to LH side of controls cover panel.

Ease the upper panel out and pull controls cover panel away from control valve knobs.

Remove nut that secures spindle of safety thermostat to controls cover panel.

Remove two wires from spark igniter push button terminals.

Controls cover panel may now be removed.

From inside pan, remove two fixings that secure thermostat bulb guard and bulb securing clamp to front face of pan.

Remove bulb guard and pull thermostat from bulb securing clamp.

Undo pan boss nuts that secure thermostat capillary to pan front. Gently pull thermostat bulb through pan boss.

Remove gas inlet and outlet at control valve. Remove thermocouple from brass interrupter block. Remove pilot pipe connection.

Control valve/user thermostat may now be removed.

Re-assemble parts in reverse order. Ensure pan boss nuts are not secured before thermostat is fixed to mounting bracket.

3.8 GOVERNOR

An external governor must be fitted to natural gas units. No in-built governor is fitted to this appliance.

SECTION 4 - SPARES

When ordering spare parts, always quote unit type and serial number.

This information will be found on data badge on upper panel behind door.