

# G3425, G3625, G3925, G31225 and G31525 Chargrills

## INSTALLATION and SERVICING INSTRUCTIONS



The appliance must be installed and serviced by a qualified 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**

**These appliances have been UKCA/CE-marked based on compliance with the Gas Appliance Regulations/Product Safety and Metrology Regulations 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 licensed 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

T100766 Ref. 8

# 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.

**Note :** Take care when removing cast iron components as they are heavy items

**Grid Bar – 7kg**

**Radiants – 6kg**

**Burners – 7kg**

# 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 <i>mm</i>	Depth <i>mm</i>	Height <i>mm</i>	Weight <i>(kg)</i>
G3425 Chargrill	400	770	455	83
G3625 Chargrill	600	770	455	143
G3925 Chargrill	900	770	455	205
G31225 Chargrill	1200	770	455	286
G31525 Chargrill	1500	770	455	348

## 1.2 SITING

The unit may be installed on a non combustible table, counter top or purpose designed floor stand, available from Falcon. The unit must be installed on a firm, level surface in a well lit, suitably ventilated position.

Appliances with castors must be installed in such a manner that takes into account manipulation and the restrictions on site.

Models may be installed to within 175mm of a combustible wall at the back and sides.

### Important

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

## 1.3 VENTILATION

Adequate ventilation must be provided to supply sufficient fresh air for combustion, to prevent the occurrence of unacceptable concentrations of substances harmful to health in the room in which they are installed, and allow easy removal of combustion products which may be harmful to health. Recommendations for Ventilation of Catering Appliances are given in BS5440:2.

The fresh air requirement for this appliance is a rate of 3m<sup>3</sup>/hr per kW.

For multiple installations the requirements should be added together. Installation should be made in accordance with local and/or national regulations that apply at the time. A competent qualified installer must be employed.

The appliance flue discharges vertically at the rear. There must be no direct connection of the flue to outside air or to a mechanical extraction system. Standing the appliance below a ventilated canopy is the most suitable arrangement.

Care must be taken not to disturb the air for combustion admission and evacuation of products of combustion on appliances fitted with open burners.

## 1.4 GAS SUPPLY

The incoming service must be of sufficient size to supply full heat input without excessive pressure drop. A gas meter will be installed in the system by the gas supplier. Alternatively, if an existing meter is to be utilised, this should be checked preferably by supplier to ensure that it will deal with the rate of gas supply required.

This is particularly important when a number of units are being installed in a suite.

Installation pipework should be fitted in accordance with IGE/UP/2. The pipe size from meter to unit must not be less than that of inlet connection, R<sup>3</sup>/<sub>4</sub> (¾" BSP male).

An isolating cock must be located close to the unit to facilitate shut-down during emergency or routine servicing. The cock must be easily accessible to user. The installation must be tested for gas tightness; details are given in IGE/UP/1.

If flexible tube is used, the gas supply tubing or hose shall comply with national requirements in force.

The flexible hose or tubing must not exceed 1.5M in length.

These will be periodically examined and replaced as necessary.

The adjustable governor supplied must be fitted to Natural Gas models only.

## 1.5 TOTAL HEAT INPUTS and PRESSURE ADJUSTMENT

Two burners at maximum position.

Adjustment pressure at test point on gas tap manifold should be 15mbar. (13.5mbar for G3625).

### 1.5.1 Burner Injector Sizes - Natural Gas $I_{2H}$ (20) (in mm)

Model/ No. of burners	1	2	3	4	5
G3425 Chargrill	Ø3.0	-	-	-	-
G3625 Chargrill	Ø2.5	Ø2.4	-	-	-
G3925 Chargrill	Ø2.6	Ø2.6	Ø2.6	-	-
G31225 Chargrill	Ø2.6	Ø2.6	Ø2.4	Ø2.5	-
G31525 Chargrill	Ø2.6	Ø2.4	Ø2.3	Ø2.4	Ø2.4

### 1.5.2 Burner Injector Sizes - Propane Gas $I_{3P}$ (37) (Amal Jet)

Model/ No. of burners	1	2	3	4	5
G3425 Chargrill	400	-	-	-	-
G3625 Chargrill	300	250	-	-	-
G3925 Chargrill	300	300	300	-	-
G31225 Chargrill	300	300	300	300	-
G31525 Chargrill	260	260	260	260	260

### 1.5.3 PILOT INJECTOR SIZES and Heat Input (Natural $I_{2H}$ (20) and Propane $I_{3P}$ (37))

Gas type	Injector	Heat Output
Natural Gas	Polidoro G31.2	0.2kw
Propane Gas	Polidoro G25.1	0.2kw

## 1.6 HEAT INPUTS (Natural $I_{2H}$ (20))

Model	kW (net)	Btu/hr (gross)	M <sup>3</sup> /Hr
G3425	10.8	40,546	1.13
G3625	15	56320	1.57
G3925	26.3	98,737	2.75
G31225	31.8	119,386	3.32
G31525	37.2	139,659	3.88

### HEAT INPUTS (Propane $I_{3P}$ (37))

Model	kW (net)	Btu/hr (gross)	M <sup>3</sup> /Hr	Kg/hr
G3425	10.8	40,546	0.43	0.84
G3625	15	56,320	0.60	1.16
G3925	26.3	98,737	1.05	2.04
G31225	31.8	119,386	1.27	2.47
G31525	37.2	139,659	1.48	2.9

### 1.61 Reduced Heat Inputs (*Natural I<sub>2H</sub>(20)*)

Model	Burner Position Left to Right				
	1 (kW)	2 (kW)	3 (kW)	4 (kW)	5 (kW)
G3425	7.56				
G3625	5.62	5.11			
G3925	6.19	6.19	6.19		
G31225	6.19	6.19	5.11	5.62	
G31525	6.19	5.11	4.68	5.11	5.11

### 1.61 Reduced Heat Inputs (*Propane I<sub>3P</sub>(37)*)

Model	Burner Position Left to Right				
	1 (kW)	2 (kW)	3 (kW)	4 (kW)	5 (kW)
G3425	7.78				
G3625	6.18	5.16			
G3925	6.18	6.18	6.18		
G31225	6.18	6.18	6.18	6.18	
G31525	5.36	5.36	5.36	5.36	5.36

### 1.7 SUPPLY PRESSURE (*Natural I<sub>2H</sub>(20)* and *Propane I<sub>3P</sub>(37) Gas*)

Model	Natural	Propane
All models	20	37

**Burner pressure** test point is located at appliance back panel upon gas valve manifold. An adjustable governor ( $\frac{3}{4}$ " BSP) is provided on Natural Gas units.

#### Governor Adjustment Pressure;

Gas type	mbar	inches w.g
Natural Gas <i>I<sub>2H</sub>(20)</i>	15	6
Natural Gas <b>G3625</b> , both burners on	13.5	5.4
Propane Gas <i>I<sub>3P</sub>(37)</i>	37	14.8

### 1.8 BURNER ADJUSTMENTS Burner Aeration

Burners are fitted with fixed injectors. Adjustable aeration is provided by means of a burner inlet shroud.

#### Typical Aeration

Natural Gas *I<sub>2H</sub>(20)* - Fully open

Propane Gas *I<sub>3P</sub>(37)* - 10mm gap

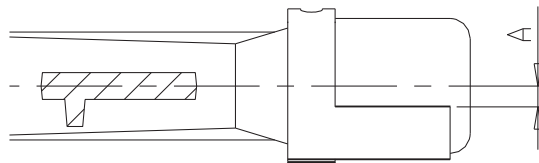


Figure 1

## SECTION 2 - ASSEMBLY and COMMISSIONING

### 2.1 ASSEMBLY

#### 2.1.1 Unpacking

Remove all packing material etc. and ensure burners are correctly located over injectors and at rear.

#### 2.1.2 Positioning

Place unit in position and level using feet adjusters. To mount upon floor-stand, refer to details supplied with stand. The unit is now ready for connection to gas supply.

Appliances with castors must be installed in such a manner that takes into account manipulation and the restrictions on site.

## 2.2 CONNECTION TO THE GAS SUPPLY

With unit in position (see Section 1.2) connect to gas supply in accordance with Section 1.4. For Natural Gas application, governor supplied must be fitted, adequately supported and positioned accessibly to facilitate adjustment. (*Never fit a governor to a Propane appliance*). Purge installation and check gas tightness see IGE/UP/1.

## 2.3 PRE-COMMISSIONING CHECK

### 2.3.1 Setting the Natural Gas Pressure

Connect a suitable gauge to pressure test point located at unit back at RH side.

Light burners in accordance with procedure detailed in Section 2.4 of User Instructions.

#### Governor

On Natural gas units, adjust governor to produce required pressure. To achieve this, remove cap to access adjustment screw and turn screw clockwise to increase pressure or vice-versa. Replace cap when correct pressure has been established.

For all models (except G3625)\*, burner pressure setting at test point with two burners on should be 15mB.

\* (G3625 - Governor Setting is 13.5mbars with both burners running.)


### 2.3.2 Aeration Setting

Observe burner flames through inspection aperture and window. If adjustment is necessary, lift away branding irons and radiants to access aeration adjustment cover. Having achieved optimum performance, lock screw to secure cover in position.

Flame cones shall be stable and display good burner cross-lighting on both LOW and HIGH settings. There should be no yellow tipping or flame lift.

Burner aeration has been set by Falcon and should not be altered unless absolutely necessary.

### 2.3.3 Gas Tightness

	<b>IMPORTANT:</b> After installation, the engineer responsible should check that all connections are gas tight and ensure satisfactory operation of unit before leaving the premises.
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## 2.4 INSTRUCTION TO USER

After installing and commissioning unit, hand User Instructions to user or purchaser, and ensure that person(s) responsible understand how to light, clean and operate appliance. It is important to ensure that the gas isolating cock location is made known to User, and procedure for operation in an emergency be demonstrated.

Instruct User that unit and installation should be SERVICED and INSPECTED REGULARLY as recommended by Falcon.

For continued safe and efficient operation, the User should be made aware that any smell emitting from the new appliance will quickly disappear.

## SECTION 3 - SERVICING and CONVERSION

	<b>IMPORTANT: TURN OFF GAS AT ISOLATING COCK</b> and remove branding irons and radiants <b>Before</b> carrying out any inspection, servicing or exchange of components. <b>After</b> carrying out any servicing or exchange of gas carrying components - <b>ALWAYS CHECK FOR GAS TIGHTNESS!</b>
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When re-assembling, replace parts in reverse order to dismantling unless instructed otherwise.

### 3.1 CONVERSION TO OTHER GASES.

When converting between NATURAL and PROPANE gas, carry out the following:-

- a) Change main injectors and pilot injectors to suit gas type (*Refer to Sections 1.5.3 and 3.4*).
- b) Change gas valve (*Refer to Section 3.6*).
- c) Remove governor when converting to PROPANE GAS. Fit governor when converting to NATURAL GAS.
- d) Check pressure settings (*Refer to Sections 1.7 and 2.3.1*).
- e) Adjust burner aeration (*Refer to Section 1.8*).
- f) Set low flame. Refer to Section 3.6 (*m - q*).
- g) Check gas tightness.
- h) Fit replacement label for appropriate gas.

### **3.2 REMOVAL OF CONTROL PANEL**

Upper and lower panels are secured together. Remove jug and control knobs. Undo fixings on underside of lower panel and top side of upper panel.

Remove top fixings from upper panel face. Disconnect spark igniter leads.

### **3.3 BURNERS**

#### **3.3.1 Main Burner**

To access burners, lift away branding bars and remove cast radiants. Burners should be cleaned periodically to maintain maximum performance.

Remove burner by raising rear slightly, and push back to clear injector.

Clean burner with a damp cloth. Burner ports should be cleared with a suitable metal broach. Shake debris clear or blow it away with compressed air. When replacing, ensure rear pins are located correctly. Check aeration adjustment. Refer to Sections 1.8 and 2.3.2

#### **3.3.2 Pilot Assembly**

To remove, proceed as follows:-

- a) Remove front fascia panels as detailed in Section 3.2. Undo thermocouple securing nut and pull copper capillary gently until thermocouple is completely removed.
- b) Undo electrode.
- c) Release tubing nut from pilot gas pipe. Take care not to lose injector removed with nut.
- d) Undo fixings securing pilot assembly and remove complete assembly. Replace in reverse order.

### **3.4 INJECTORS**

To access, remove burners as detailed in Section 3.3.1. Undo injectors using a spanner. Soak in a suitable solvent to remove debris and wipe with a soft rag.

DO NOT USE metal implements to clear an injector orifice. Check seals are clean before refitting and that this is carried out in the correct order. Refer to Section 1.6.

After replacement, check that burner performance is in accordance with Sections 1.8 and 2.3.2.

### **3.5 THERMOCOUPLE**

To remove, proceed as follows -

- a) Remove control panels as detailed in Section 3.2.
- b) Undo tubing nuts at pilot assembly and gas control.
- c) Manoeuvre thermocouple clear.
- d) Replace in reverse order.

When replacing a thermocouple, coil excess in a similar manner to original, and take care not to bend capillary sleeve to less than 12mm radius.


Take care not to over tighten at valve connection.

### **3.6 GAS Control Tap.**

To access gas control tap, remove control panel assembly as detailed in Section 3.2.

To remove a gas control tap, proceed as follows:-

- a) Undo nut that secures burner feed pipe to control.
- b) Undo pilot tubing nut. (alternatively, easier accessed once tap is removed from float rail, taking care not to strain flexi pipe)
- c) Remove fixings that secure control to float rail.
- d) Manoeuvre control to enable thermocouple removal.
- e) Withdraw control.

	<p>Important: When replacing a control, ensure sealing gasket is in a serviceable condition, and check gas tightness.</p>
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Set/check LOW FLAME as detailed in m) - q) below.

### 3.6.1 Tap Lubricating and Cleaning.

To clean and lubricate a tap, proceed as follows:-

Plugs and bodies are machined in pairs and parts are not interchangeable. Always clean one tap at a time.

- f) Remove fixings which retain front securing plate whilst holding plate against internal spring pressure.
- g) Carefully withdraw plate with operating spindle.
- h) Withdraw exposed rod, spring, brass washer and sealing washer. Take care not to lose any of these small parts.
- k) Withdraw plug and clean with a soft rag at the same time as control body mating. Ensure grease does not block plug hole or tap body holes - this will affect gas flow. Regrease plug sparingly with an approved heat resistant grease. Re-assemble strictly in reverse order and take care with central pin assembly. i.e. fit pin spring first followed by brass washer and sealing washer. When inserting into plug, ensure sealing washer locates snugly in recess at plug hole bottom.

When re-assembling operating spindle, the niting pin should engage within plug slot. When replacing control, ensure sealing gasket is in serviceable condition and check gas tightness. Take care not to bend thermocouple capillary to less than 12mm radius.

- m) LOW FLAME setting can be adjusted by means of a screw on control front (*refer to Figure 2*). If necessary, adjust flame by following procedure:-
- n) Turn adjusting screw fully anti-clockwise.
- p) Light burner and turn to LOW setting.
- q) Observe flame and if necessary turn screw very slightly to obtain a satisfactory condition. Turn anticlockwise to increase flame and vice-versa. Aim to achieve 80% of maximum flame. On multiple burner units, all burners must be adjusted in a similar fashion. Check basic flame stability and that cross-lighting at low flow is satisfactory.

### 3.7 GOVERNOR

This applies to NATURAL GAS models ONLY.

The type of governor supplied is maintenance free. Check that blue dust cap covering vent is fitted and in good condition as this protects the breather hole.

When fitting governor, ensure that direction arrow points toward unit inlet.

### 3.8 SPARK IGNITER

To access connections, open control panel assembly as detailed in Section 3.2.

To remove and replace:-

- a) Disconnect igniter lead at rear of igniter.
- b) Undo panel securing nut and remove igniter.
- c) Replace in reverse order.

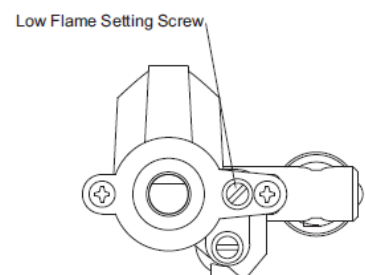


Figure 2 - Low Flame Setting Detail



### **3.9 ELECTRODE**

To access pilot, remove control panel assembly as detailed in Section 3.2.

To remove and replace:-

- a) Disconnect igniter lead at electrode end.
- b) Undo pilot assembly nut and remove electrode.
- c) Replace in reverse order.

## **SECTION 4 - SPARES**

When ordering spares, quote the unit type and serial number. This information will be found on data plate located at rear of unit.

An identity label is also provided on front frame.