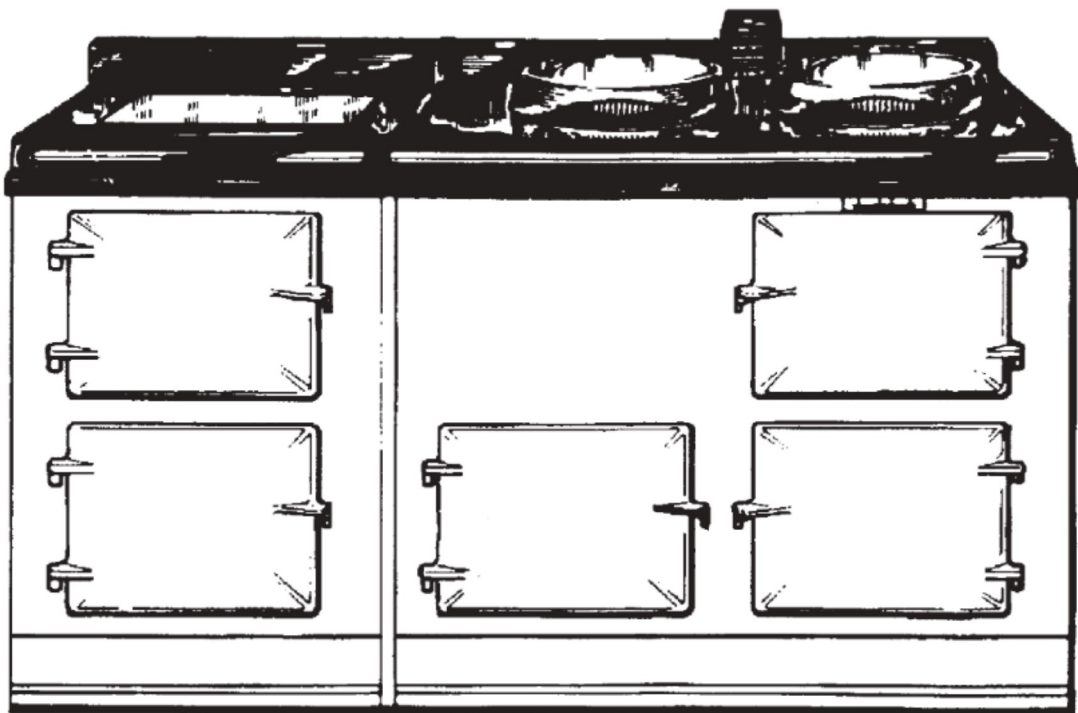




## AGA DIESEL 2 & 4 OVEN (DC & DE)



# *Installation Instructions*

Remember, when replacing a part on this appliance, use only spare parts that you can be assured conform to the safety and performance specification that we require. Do not use reconditioned or copy parts that have not been clearly authorised by Aga.

PLEASE READ THESE INSTRUCTIONS BEFORE USING THIS APPLIANCE



For use in GB and IE

04/08 EINS 513669

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## Consumer Protection

As responsible manufacturers we take care to make sure that our products are designed and constructed to meet the required safety standard when properly installed and used.

### **IMPORTANT NOTE: PLEASE READ THE ACCOMPANYING WARRANTY**

Any alteration that is not approved by Aga could invalidate the approval of the appliance, operation of the warranty and could affect your statutory rights.

## Health & Safety

This appliance may contain some of the materials that are indicated. It is the Users/Installers responsibility to ensure that the necessary person protective clothing is worn when handling where applicable, the pertinent parts that contain any of the listed materials that could be interpreted as being injurious to health and safety, see below for information.

### **Firebricks, Fuels beds, Artificial Fuels**

When handling use disposable gloves.

### **Fire cement**

When handling use disposable gloves.

### **Glues and Sealants**

Exercise caution - if these are still in liquid form use face mask and disposable gloves.

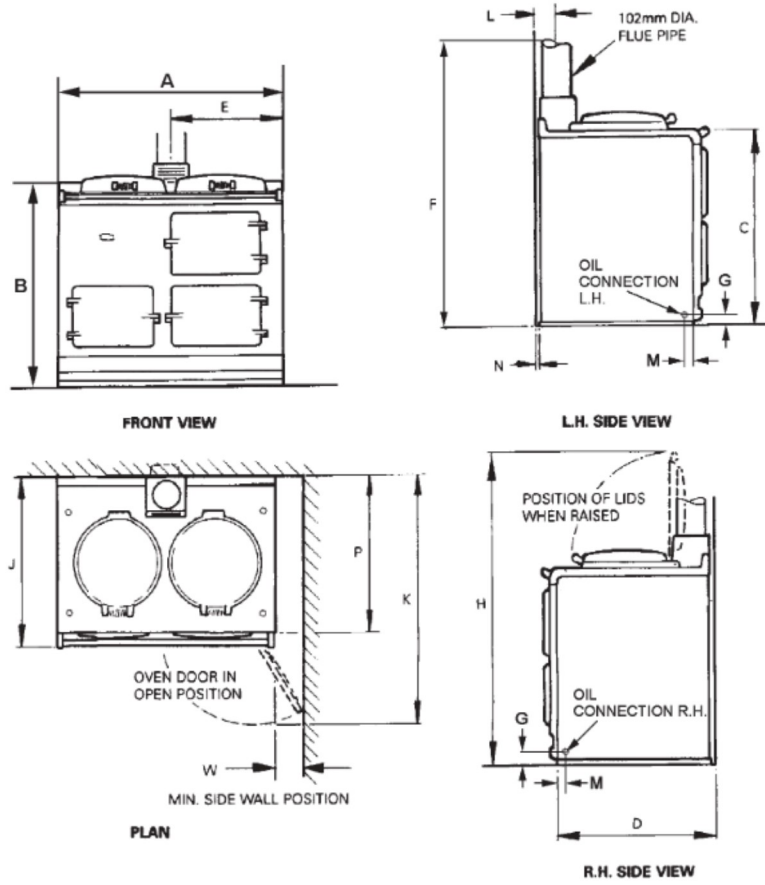
### **Glass Yarn, Mineral Wool, Insulation Pads**

May be harmful if inhaled. May be irritating to skin, eyes, nose and throat, When handling avoid contact with skin or eyes. Use disposable gloves, face-masks and eye protection. After handling wash hands and other exposed parts. When disposing of the product, reduce dust with water spray, ensure that parts are securely wrapped.

### **Gas Oil fuels (mineral oils)**

1. The effect of mineral oils on the skin vary according to the duration of the exposure.
2. The lighter fractions also remove the protective grease normally present on the surface of the skin. This renders the skin dry, liable to crack and more prone to damage caused by cuts and abrasions.
3. 'Oil acne' is recognised by the presence of skin rashes. The arms are most often affected, but may occur where there is contact with oil or oil clothing.
4. Inhalation of mineral oil vapours must be avoided. Never fire the burner in the open as unburnt oil vapours are likely to occur.
5. Use a suitable barrier cream which will give protection against mineral oil, lanolin based hand creams are usually very effective.
6. Never syphon mineral oils by use of the mouth. If accidentally swallowed, call a doctor, do not induce vomiting.

**DC MODEL**

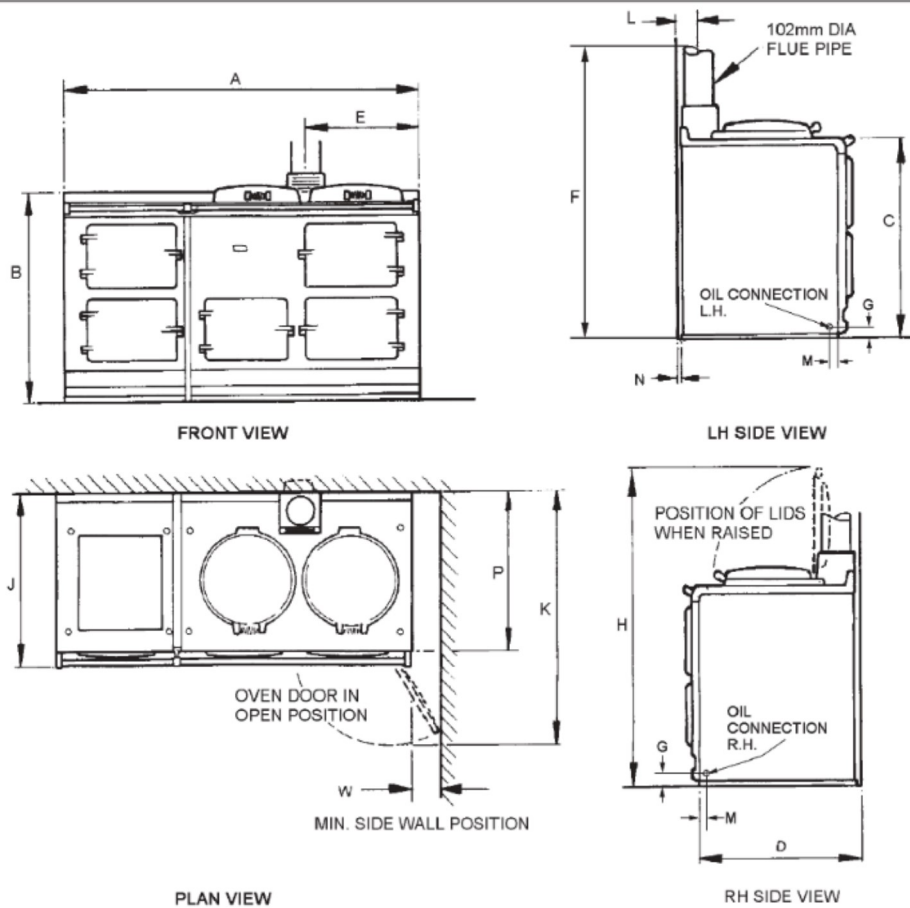


	A	B	C	D	E	F	G	H	J	K	L	M	N	P
mm	987	889	851	679	467	1450	41	1330	756	1125	64	39	3	698

FIG. 1A

DESN 513673

**DE MODEL**



	A	B	C	D	E	F	G	H	J	K	L	M	N	P
mm	1487	889	851	679	467	1450	41	1330	756	1125	64	39	3	698

FIG. 1B

DESN 513672

## Site requirements

### TECHNICAL DATA

<b>Oil Inlet</b>	R1/4 (1/4" BSP Taper Ext)	<b>Smoke</b>	0 - 1
<b>Electrical Supply</b>	230V ~ 50Hz 3 amp Fused	<b>Fuel -</b>	Gas Oil Class D
<b>Flue Outlet</b>	100 mm	<b>Unpacked Weight of Appliance -</b>	DC - 406 Kg DE - 584 Kg
<b>CO<sub>2</sub>%</b>	IN FLUE MANIFOLD 6.5 - 7.0 (COLD)	<b>Firing Rate -</b>	0.25 l/hr
<b>CO (MAX)</b>	62 ppm (Nominal rate)	<b>Approximate Weekly Consumption -</b>	40 litres (8.8 gallons)
<b>NOx (MAX)</b>	106 ppm (Nominal rate)		

#### BURNER

BURNER NOZZLE (US g/h)	0.30 @ 60° I H (DANFOSS)
OIL PRESSURE Bar (psi)	7 (100)
OIL BURNING RATE cc/m (FIRING)	17
HEAT INPUT kW (FIRING)	10.5
OIL BURNING RATE (AVERAGE)	4.1 cc/min
OIL BURNING RATE (AVERAGE)	2.52 kW

### INTRODUCTION

#### IMPORTANT

- **This appliance must only be used with Gas Oil Class D complying with BS:2869.**
- **A fire valve MUST be fitted in the oil supply line.**
- **The supplied in line filter MUST be fitted.**

### REGULATIONS

The installation of the appliance must be in accordance with the relevant standards. It should also be in accordance with the relevant Codes of Practice.

### LOCATION

**Appliance Hearth:** The surface temperature of the floor below the appliance does not exceed 100°C. However this appliance must be installed on a solid floor or base of incombustible material which is capable of supporting the total weight.

The location chosen for the appliance must permit the installation and the provision of a satisfactory flue and an adequate air supply. The location must also provide adequate space for servicing and for air circulation around the appliance. See "Installation of the Appliance".

The space in which the appliance is to be fitted must have the following minimum dimensions:

Between wall and LH side of appliance - 10mm  
Between wall and RH side of appliance - 10mm  
**SHOULD THE WALL PROJECT BEYOND THE FRONT OF THE APPLIANCE. WHEN IT MUST BE INCREASED TO 50mm. (SEE FIG. 1A & 1B).**  
Above the raised insulating cover - 60mm

In addition, adequate clearance must be available at the front of the appliance to enable it to be operated and serviced. Flue pipes and fittings must not be closer than 25mm to combustible materials and where passing through a combustible partition such as a ceiling or roof, must be enclosed in a non-combustible sleeve providing an air space of at least 25mm.

Spaces around flue pipes passing through walls or floors should be sealed against the passage of smoke and flame.

Where the cooker is to stand in a recess or against a wall which is to be tiled, in no circumstances should the tiles overlap the cooker top plate.

## OIL PIPE LINE

SEE FIG. 2

The oil supply connection between the storage tank and the oil pipe should be run in copper or steel pipe with a minimum diameter of 10mm. Galvanised pipes and fittings should not be used. Annealed copper pipe is preferred with flare type manipulative fittings. Capillary fittings with soft solder should not be used. Steel pipes should be joined using taper threads.

All pipe work and fittings must be completely air tight. Only oil resistant compounds and PTFE tape should be used when making joints. Pipe work must be protected against damage whether fitted above or below ground.

The size and arrangement of pipe work will depend upon the distance and height of the oil storage tank in relation to the oil pump inlet.

**The oil line from the storage tank to the appliance must be fitted with a remote acting fire valve operating at 140PF (90PC), fitted with an appropriate length of capillary to enable the valve body to be located externally at the point where the oil line enters the building. The heat sensing phial of the fire valve MUST be fitted to the clips, to the left of the burner.**

The paper element oil filter supplied with the appliance must be fitted on the oil pipe line and isolation valve must be fitted, as close to the cooker as possible in an accessible position. A fire valve must be installed to protect the property and the phial fitted in the clips provided.

A flexible pipe connection, is supplied to fit between the oil supply pipe and the oil pump for ease of burner removal.

## OIL STORAGE

When positioning the tank, due consideration should be give to appropriate access for fuel delivery vehicles.

Positioning should comply with the relevant standards.

The tank should be complete with the following:

1. Sludge cock (steel tanks)
2. Outlet valve and filter
3. Contents indicator
4. Vent pipe

To prevent entry of water or fitted with return bend.

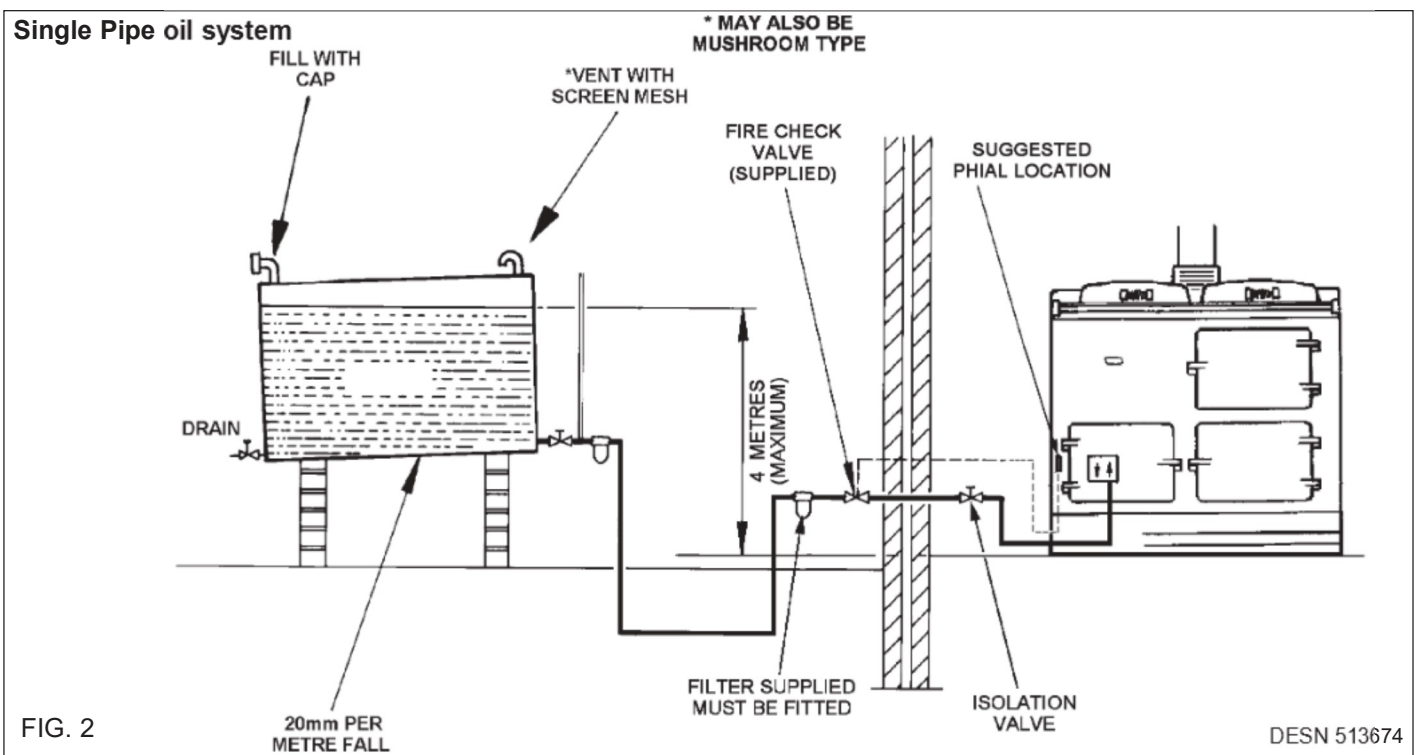
5. Fill pipe and screw cap (50mm black pipe)

The use of open lids to fill tanks is not recommended.

**Steel Tanks** - should be mounted on suitable supports. If of masonry, a damp proof membrane should be positioned between the tank and its supports to prevent the steel from rusting when in direct contact with water. Steel tanks should slope 20mm for each 1m run from the oil outlet towards the sludge cock (opposite end).

**Plastic Oil Tanks** - UV Stabilized, plastic tanks are a modern alternative to steel. These green tanks are protected against sunlight and do not need to stand on piers. They do however need to be supported over their entire base area. Ideally 50mm smooth faced garden slabs bedded down onto sand or a smooth concrete base.

The single tapped outlet makes them more suited to single pipe gravity feed.



## Site requirements

### FLUE SYSTEM

The flue system must be installed to the regulations in force.

#### Information

Mean flue gas temperature 260°C

The appliance requires a minimum negative chimney draught of 1.0mm WG (0.04" WG) with the burner on.

Maximum chimney draught 3.7mm (0.15" WG). Draughts in excess of this will require draught stabilizer fitted either in the chimney or flue pipe and in the same compartment.

Due to the range in flue gas temperature a brick chimney should be fitted with a suitable multi fuel stainless steel flexible liner. Where it is necessary to avoid condensation, such as an exposed end gable insulation; such as vermiculite, should be back filled and the full length of the brickwork.

Factory built chimneys must comply with the relevant standards.

The cross-sectional area of the flue serving the appliance must not be less than the equivalent area of 100mm diameter flue pipe, and be at least 4.5m high.

The flue pipe must not be less than 100mm internal diameter. Flue pipes and fittings between the appliance and the chimney should be constructed from one of the following materials:

- Cast Iron
- Mild steel, acid resistant vitreous lined.

Flue pipe from the Aga must rise vertically to the full height of 1450 mm before a bend is introduced.

#### Chimney Terminations

All chimneys should terminate above roof level, or with the relevant standards in force.

#### Chimney Cleaning

Ensure there are accessible airtight flue cleaning doors in order to obtain access to the complete chimney. Providing the appliance is operating correctly, an annual chimney flue cleaning will suffice, but if in doubt arrange for a half yearly clean.

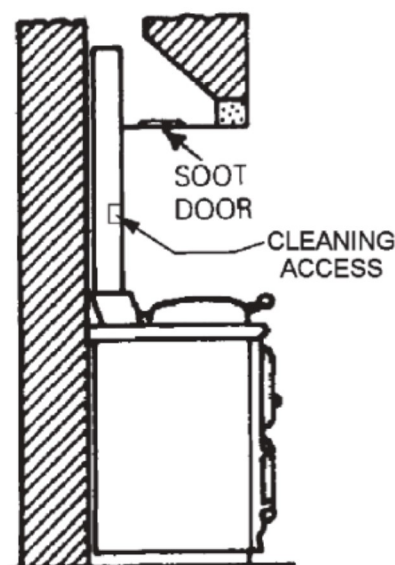
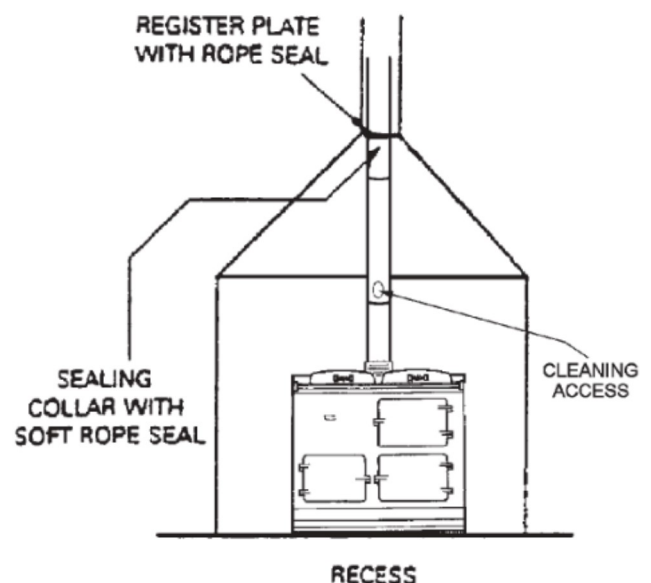


Diagram 1 - Cooker installed in a recess with flue pipe passing through the register plate into the throat of the chimney.



### AIR SUPPLY

The appliance can only be installed in a room which meets the ventilation regulations in force. But, in any event the room must have a permanent vent of minimum free air area, see below.

MODEL	MIN. AIR REQUIREMENT
DC/DE	30 cm <sup>2</sup>

### AIR SUPPLY

Detailed recommendations are given in the relevant standards and codes of practice. The following notes are intended for general guidance.

1. Combustion and ventilation air supply to oil fired appliance has to comply with the relevant standards and codes of practice. The air supply requirement for oil fired appliances is 550mm<sup>2</sup> per kW of maximum rated output above 5.0 kW.
2. The combustion air supply to open flued appliances should normally be provided at high level into a room where it will not cause discomfort by creating a cold draught across the floor.
3. If combustion air is supplied through an under floor duct the grilles at each end should be positioned in the vertical plane to reduce risk of blockage. Ducts should be sized so as to reduce resistance air flow.
4. Extract fan should be positioned as far away from the open flue as possible and should have a sufficient dedicated air supply. To undertake a test the oil fired appliance should be set in operation and the doors and windows of the room containing it should be closed. The extract fan should then be run at its maximum setting. The oil fired appliance should then be run at its maximum setting. The oil fired appliance should be observed to operate satisfactorily both before and after the fan is switched on.
5. It is preferable for the air supply for an extract fan to be located where it can serve the fan without the air stream passing close to the oil fired appliance.
6. Oil fired appliances must not draw combustion air from a garage.



## Site requirements

### ELECTRICAL SUPPLY

Wiring external to the appliance must be installed in accordance with the relevant standards, wiring regulations and any local regulations which apply. The appliance is supplied for 220/230 Volt - 50 Hz and a fuse wiring of 3 amps.

The method of connection to the mains supply should facilitate complete electrical isolation of the appliance, by the use of a fused double pole switch having a contact separation of at least 3mm serving only the appliance. The point of connection to the mains should be readily accessible and adjacent to the appliance. The installation should be protected by a 30mA Residual Current Circuit Breaker (RCCB).

The minimum requirement for the power cable is that it should be a 3 core PVC sheathed flexible cord (85°C min) at least 0.75mm<sup>2</sup> (24 x 0.2mm) to the relevant standard.

**WARNING: THIS APPLIANCE MUST BE EARTHED.**

In the event of an electrical fault after installation of the appliance, preliminary electrical system checks must be carried out i.e. earth continuity, short circuit, polarity and resistance to earth.

For wiring instructions, see wiring diagram.

WIRING DIAGRAM

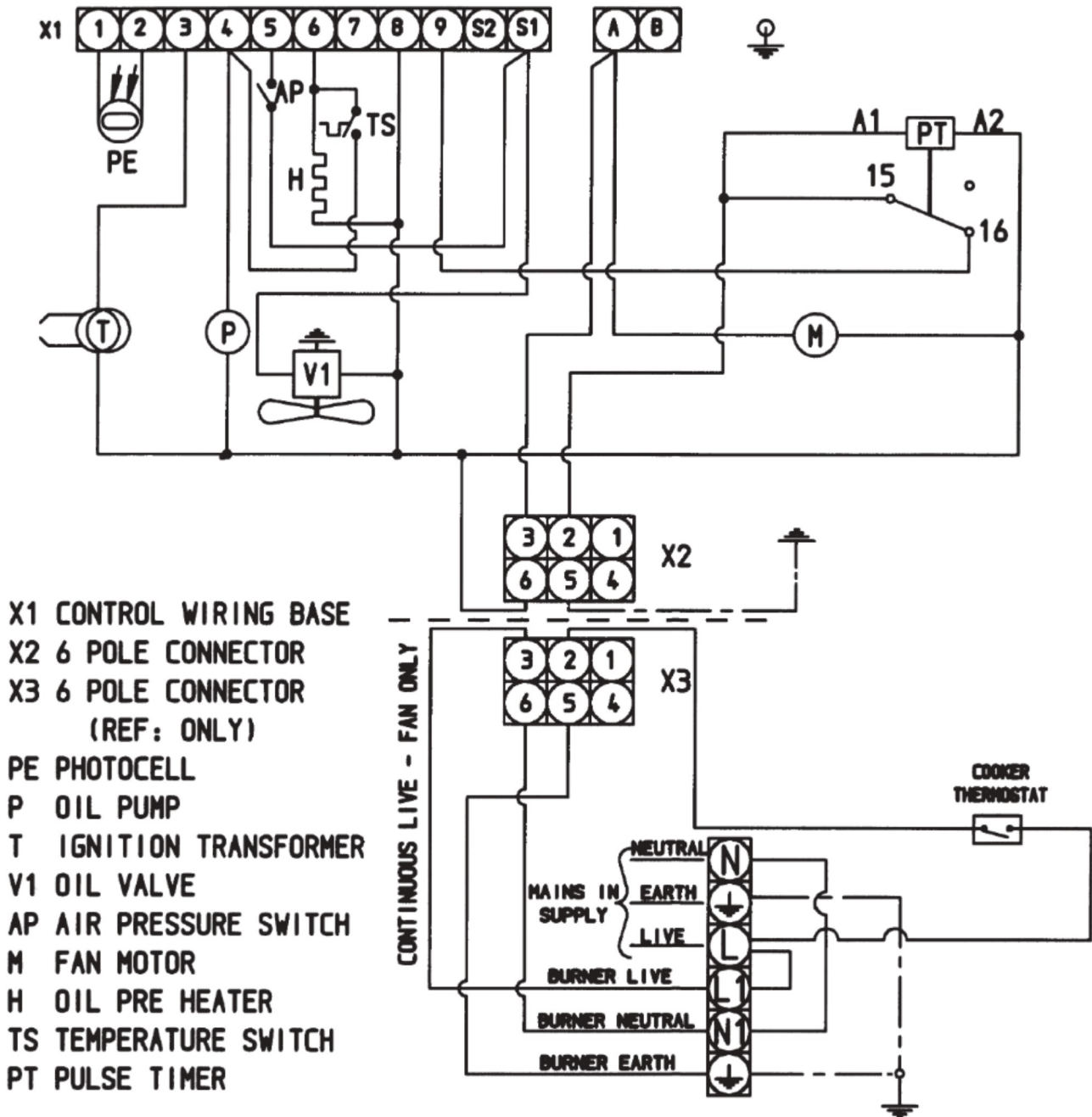


FIG. 4

## Installation requirements

### SITE LOCATION

1. Check that the hearth is level, then remove the appliance from its transit wooden pallet, and locate it with its back against the wall and in its intended position for flue position.
2. Locate the cooker as separately instructed and install/connect the oil burner/electrical supply.
3. Locate and fit the flue pipe into the socket of flue pipe adaptor, seal joint with fire cement.
4. Connect and terminate the flue system in accordance with the regulations in force.

### BURNER CHAMBER INSULATION

To identify the Burner Chamber Insulation and assembly order, check the pads to the following sizes. (Fig. 5)

- |                            |              |
|----------------------------|--------------|
| 1. 295 x 195               | 2. 270 x 195 |
| 3. 195 x 178               | 4. 260 x 178 |
| 5. 260 x 178 (WITH CUTOUT) | 6. 225 x 155 |
| 7. 195 x 155               | 8. 195 x 195 |
| 9. 216 x 200               |              |

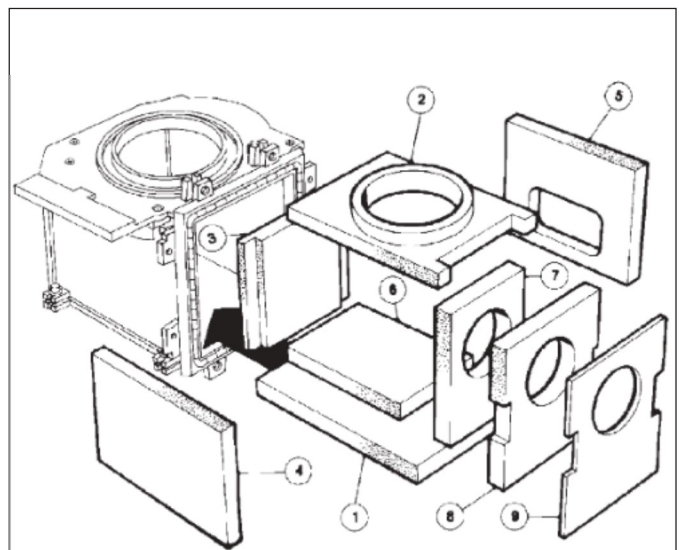


FIG. 5

DESN 513498

### R.H. PIPE OIL SUPPLY

For connecting cooker oil supply from the R.H. side, drill 2 holes  $\varnothing$  19mm in the burner housing duct.

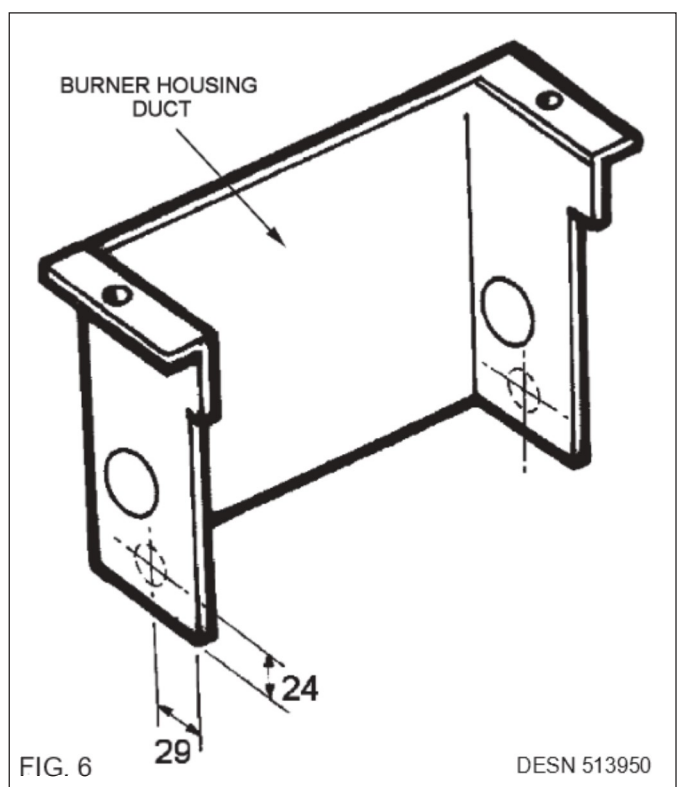


FIG. 6

DESN 513950

# Commissioning Instructions

## NOTE: SMOKE/SMELL EMITTED DURING INITIAL USAGE

During initial usage of operation of the cooker, smoke/smell may be emitted and is normal and not a fault with the appliance, it is therefore advisable to open doors and or windows to allow for ventilation.

## BURNER ACCESS

SEE FIG. 7

1. Open the burner access door.
2. Remove 2 air inlet shield fixings and withdraw air inlet shield.

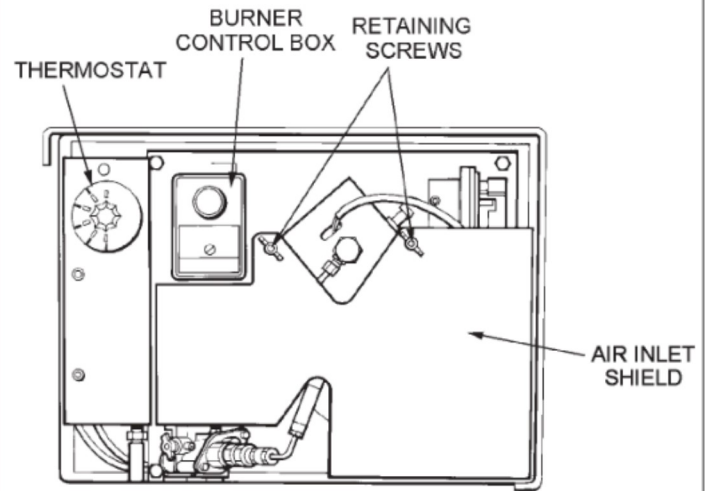


FIG. 7

DESN 513591

## ELECTRICAL CONNECTION

1. Make electrical connections to terminal strip as wiring diagram (See Fig. 8).

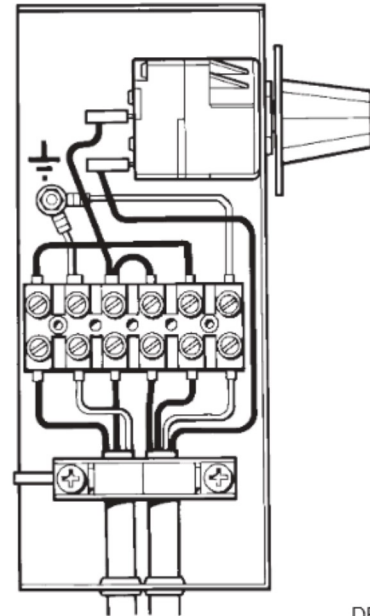


FIG. 8

DESN 513578

## OIL PUMP CONNECTION

SEE FIG. 9

1. Bring the sensing phial of the fire valve through the inlet tube in the left/right hand side panel and located on the clips provided.
2. Connect the flexible hose to the outlet pipe from the oil feed.
3. Before connecting the flexible oil pipe to the pump inlet, open the stop valve slowly and run off some of the oil into a receptacle to establish an air free supply to the pump. Make the connection onto the oil pump tight and leave valve open.

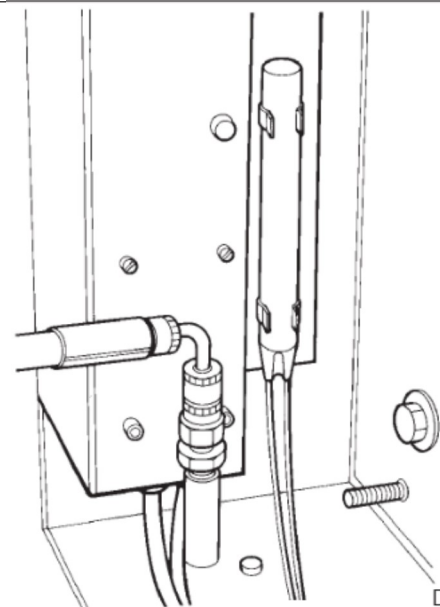


FIG. 9

DESN 513587

## Commissioning Instructions

### ELECTRICAL CHECK

Checks to ensure electrical safety should be carried out by a competent person.

### FIT PRESSURE GAUGE

SEE FIG. 10

Remove the bleed screw from the manifold and fit an oil pressure gauge with R 1/8 connection to check the pump output pressure.

#### Switch on the Electricity

Set the cooker oven thermostat to position 4, wait 2 minutes for the pre-heater. The burner should run on pre-purge for 10 to 20 seconds, with the ignition spark energised. The oil solenoid valve should then open allowing the burner to fire.

Until all the air from the oil pump is flushed out there may be some flame instability resulting in the burner locking out.

This will be shown by the burner stopping and the illumination of the signal light in the reset button of the control box (See Fig. 11). In this event, wait at least one minute, then press the re-set button to restart.

**NOTE:** This appliance is fitted with a pulse burner which has a four minute on and four minute off cycle.

### VENT OIL PUMP

SEE FIG. 10

Whilst the burner is running, vent air from the pump by slackening the pressure gauge connection sufficient to allow air to bleed out. When bubble free oil seeps out retighten.

### ADJUST OIL PRESSURE

SEE FIG. 10

After 15 minutes

Whilst the burner is running check the oil pressure on the gauge. Wait for 30 seconds after ignition, for the burner to establish full firing rate.

If the pressure gauge is not indicating the correct reading then adjust the pressure by turning the pressure regulator clockwise to increase or anti-clockwise to decrease the pressure until the pressure gauge reads 7 bar (100 lbf/in<sup>2</sup>).

Switch off the burner, remove the pressure gauge and refit the bleed screw.

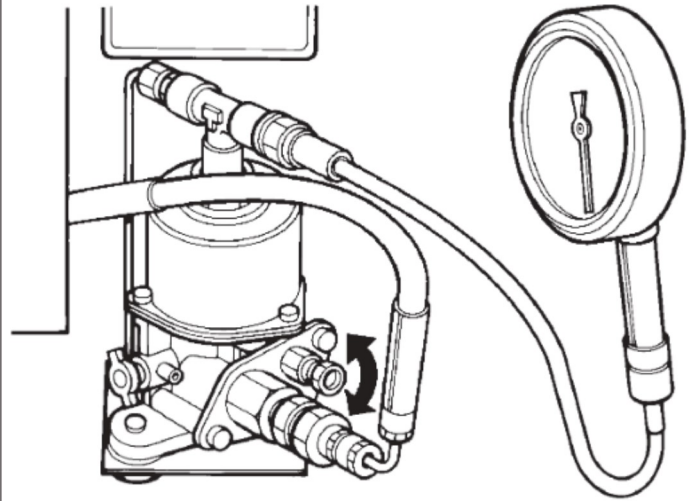


FIG. 10

DESN 513581

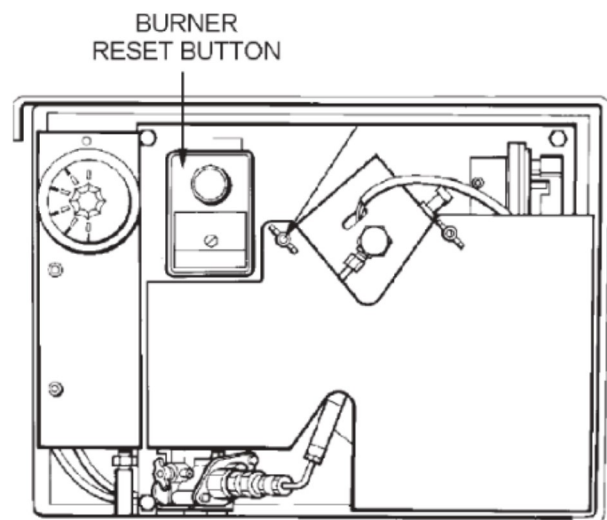


FIG. 11

DESN 513909

## SET COMBUSTION AIR

SEE FIG. 12 & 13

The air control of the burner is factory pre-set, however small adjustments may be necessary to suit the site conditions.

Turn burner on.

After 15 minutes remove the enamel shroud and screw. Insert the sensing end of a portable indicator to check the CO<sub>2</sub> (Carbon Dioxide) level. Adjust the burner air intake until a reading of 6.5 - 7.0 is recorded on the indicator.

### Check Smoke

Remove the CO<sub>2</sub> sampling tube and using the same hole for flue sampling insert the sensing end of a Baccarach Smoke Pump and check that the smoke does not exceed 0 - 1 on the scale. Replace the screw.

**NOTE:** Ensure that the sampling screw is fitted correctly as this forms part of the cooker combustion circuit.

Take care to refit shroud and avoid unnecessary enamel contact.

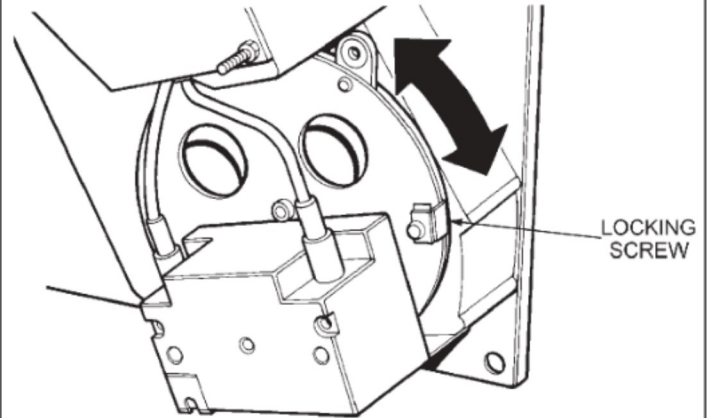


FIG. 12

DESN 513589

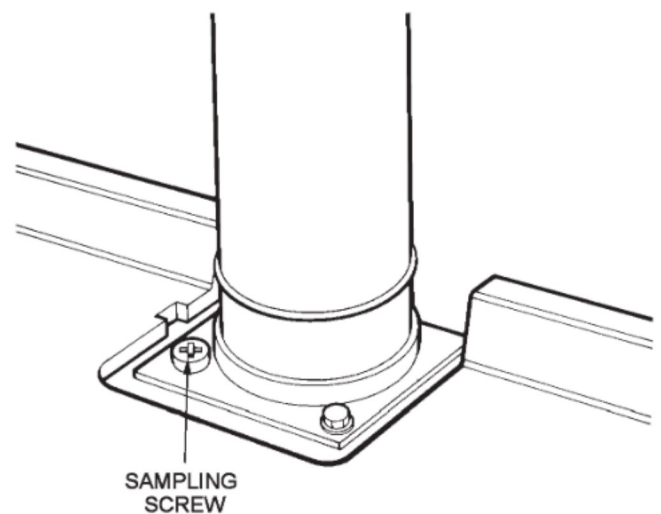


FIG. 13

DESN 513931

## Commissioning Instructions

### ANCILLARY CONTROLS CHECK

In the event of a flame failure the control box should cut off the oil supply by closing the solenoid valve. The reset buttons will then be illuminated.

**WAIT 1 MINUTE BEFORE RESETTING THE CONTROL BOX.**

### INSTRUCT THE USER

1. Advise the user that, for continued efficient and safe operation of the appliance, it is important that adequate servicing is carried out at regular 12 monthly intervals.
2. Hand the operating instructions to the user and demonstrate the correct operation of the appliance and system controls.
3. Leave the installation and servicing instructions with the user.

**For further advice or information contact  
your local distributor/stockist**

With Aga's policy of continuous product improvement, the Company reserves the right to change specifications and make modifications to the appliance described and illustrated at any time.



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