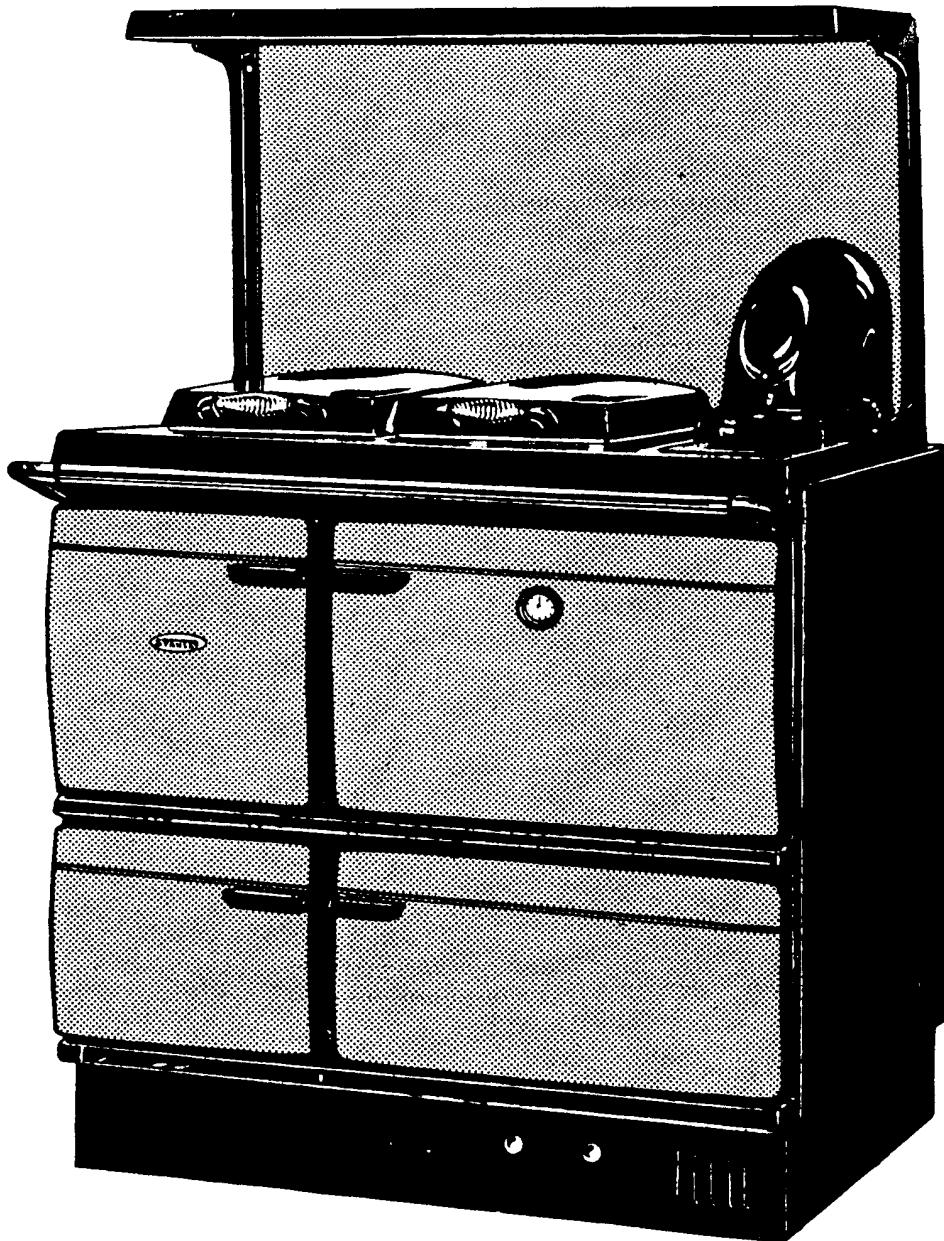


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# STANLEY

TURNING YOUR HOUSE INTO A HOME

## Brandon Dry & DHW Gas Models



TO BE INSTALLED BY A TRAINED COMPETENT PERSON

### *Installation and Commissioning Instructions*

THIS MANUAL IS TO BE LEFT WITH END USER

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## Introduction

Congratulations on purchasing this fine Irish made cast iron Range Cooker. It is built to exacting standards and it will give you every satisfaction in use. We invite you to read carefully the operating and installation instructions provided. This will enable you to familiarise yourself with this appliance.

In the interests of safety, it is the law that all gas appliances must be installed by competent persons in accordance with the Gas Safety Installation and Use Regulations 1998 (as amended).

Please note for DHW Models the domestic hot water facility involved must fully conform to good plumbing practices, established standards & Regulations.

As manufacturers and suppliers of cooking appliances, we take every possible care to ensure, as reasonably practicable, that these appliances are so designed and constructed as to meet the general safety requirements when properly used and installed.

### United Kingdom

Section 10 of the Consumer Protection Act.

Gas Safety (Installation and Use) Regulations 1998 (as amended).

Gas Appliance Safety Regulations (as amended).

Health and Safety at Work Act.

### Ireland

Safety Health and Welfare at Work Act 1989.

S.I. 101 of 1992 (as amended).

S.I. 150 of 1995 (as amended).

**IMPORTANT NOTICE:** Any alteration to this appliance that is not approved in writing by Waterford Stanley, will render the guarantee void. The complete installation must be done in accordance with the current Standards & Local Codes. It should be noted that the requirements and these publications may be superseded during the life of this manual.

The complete installation must be done in accordance with current Standards and Local Codes. It should be noted that the requirements and these publications may be superseded during the life of this manual.

### **IMPORTANT — Control of Substances Harmful to Health:**

It is the Users/Installers responsibility to ensure that the necessary personal protective clothing is worn when handling materials that could be interpreted as being injurious to health and safety.

When handling Firebricks, Fire Cement, Fuels, use disposable gloves.

Exercise caution and use disposable masks and gloves when handling glues and sealants.

When working with fibre glass, mineral wool, insulation materials, ceramic blanket/board, avoid inhalation as it may be harmful. Avoid contact with skin, eyes, nose and throat, use disposable protection.

Installation should be carried out in a well ventilated area.

### **The Installation must comply with the following:**

The Building Regulations: Part J England & Wales., Part F Section 5 Scotland, Part L Northern Ireland and Part J Ireland.

B.S. 7671: Requirements for Electrical Regulations.

Safety Document 635: The Electricity at Work Regulations.

B.S. 5440: Part 1 & 2: Installations & maintenance of Flues and Ventilation.

D.M.2. Installation in Timber Framed Buildings.

Gas Safety (Installation & User) Regulations 1998. (As amended)

B.S. 6891 Gas Pipe Sizing to the Installation Requirements.

I.S. 813: Domestic Gas Installation

### **FOR DHW MODELS ADDITIONALLY THE INSTALLATION MUST COMPLY WITH THE FOLLOWING:**

B.S. 7593: Treatment of Water in Domestic Hot Water Systems.

B.S. 7074: Parts 1 & 2: Hot Water Supply.

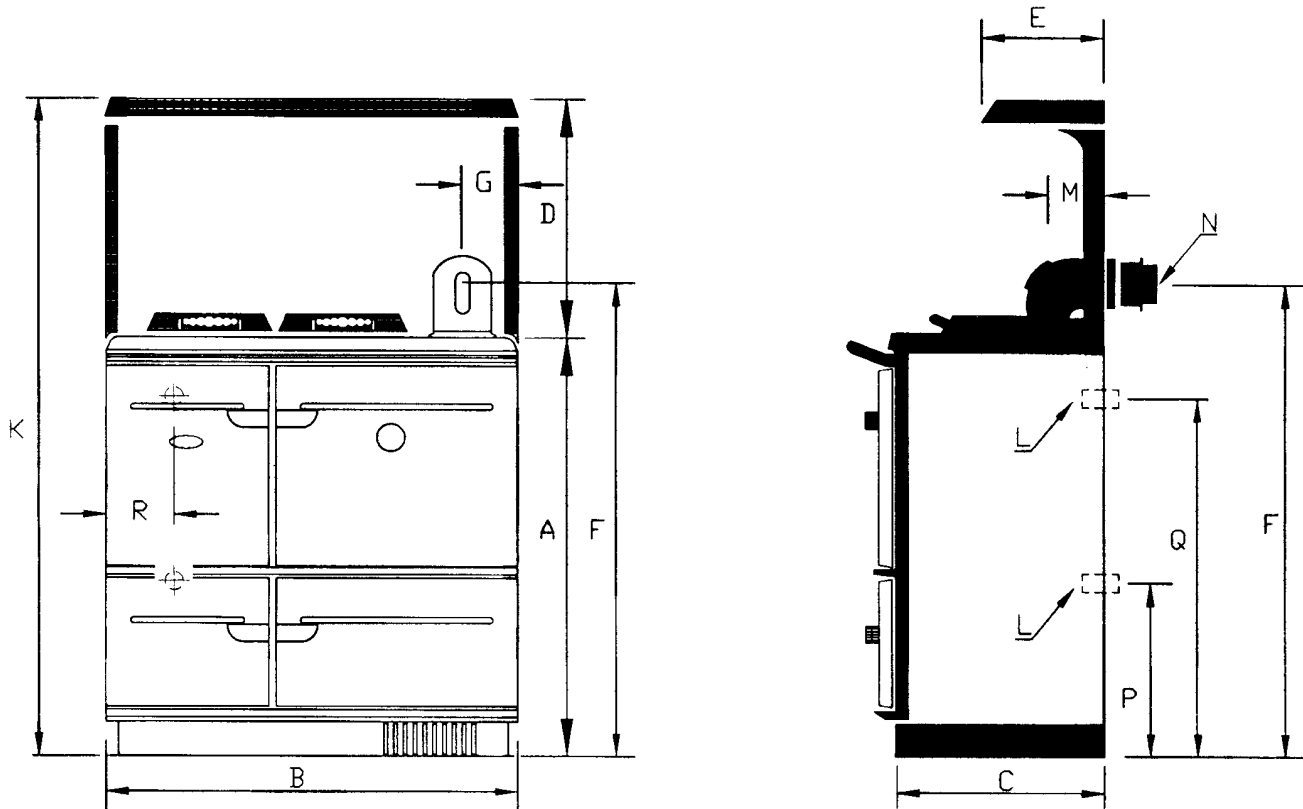
**U.K.: ALL GAS APPLIANCES MUST BY LAW BE INSTALLED BY A COMPETENT PERSON, ONLY USE A C.O.R.G.I REGISTERED ENGINEER.**

**IRELAND: ALL GAS APPLIANCES MUST BE INSTALLED BY A COMPETENT PERSON AS OUTLINED IN I.S. 813.**

This appliance is hot while in operation and retains its heat for a long period of time after use. Children, aged or infirm persons should be supervised at all times and should not be allowed to touch the hot working surfaces while in use or until the appliance has thoroughly cooled.

The manufacturers reserve the right to make alterations to design, materials or construction for manufacturing or other reasons subsequent to publication.

## Specification



**NOTE:** Dimensions stated below may be subject to a slight +/- variation.

For DHW Models Only

Dimensions	A	B	C	D	E	F	G	K	M	N	P	Q	R
Metric (mm)	920	920	630	510	300	1047	130	1430	115	125	395	765	140
Imperial (inches)	36 <sup>1</sup> / <sub>4</sub>	36 <sup>1</sup> / <sub>4</sub>	24 <sup>3</sup> / <sub>4</sub>	20 <sup>1</sup> / <sub>8</sub>	11 <sup>3</sup> / <sub>4</sub>	41 <sup>1</sup> / <sub>4</sub>	5 <sup>1</sup> / <sub>8</sub>	56 <sup>1</sup> / <sub>4</sub>	4 <sup>1</sup> / <sub>2</sub>	5	15 <sup>1</sup> / <sub>2</sub>	30 <sup>1</sup> / <sub>8</sub>	5 <sup>1</sup> / <sub>2</sub>

FEATURE	METRIC (mm)	IMPERIAL (inches)
Hot Plate	550W x 323L	21 <sup>5</sup> / <sub>8</sub> W x 12 <sup>3</sup> / <sub>4</sub> L
Roasting Oven	390W x 310H x 406D	15 <sup>1</sup> / <sub>4</sub> W x 12 <sup>1</sup> / <sub>4</sub> H x 16D
Simmering Oven:	390W x 220H x 406D	15 <sup>1</sup> / <sub>4</sub> W x 8 <sup>3</sup> / <sub>4</sub> H x 16D

This appliance has been tested and approved in accordance with the Gas Appliance Directive (90/396/EEC), the Low Voltage Directive (72/23/EEC) and the Electromagnetic Compatibility Directive (89/336/EEC) as amended.

## TECHNICAL DATA

FUELS:	2nd Family, Natural Gas or 3rd Family, L.P.G.
PRODUCT IDENTIFICATION:	63AT5325
COUNTRY OF DESIGNATION:	G.B., I.E., B.E., A.T., D.K., E.S., F.I., I.T., P.T., S.E. & F.R.
GAS TYPES:	N.G.: I <sub>2</sub> H, G20, 20 mbar (I.E., G.B., A.T., D.K., E.S., F.I., I.T., P.T., & S.E.) L.P.G.: I <sub>3</sub> P, G31, 37mbar (I.E., G.B., B.E., F.R., E.S., & P.T.)
MAINS SUPPLY:	230V - 240V, 50 Hz, A.C.
SUPPLY FUSE RATING:	3 A
IONISATION CURRENT:	Minimum of 7µA
I.P. PROTECTION DEGREE:	IP 20
ELECTRICAL INPUT:	90 watts.

MAINS GAS PRESSURE:  
 MAXIMUM FLUE RESISTANCE:  
 GAS RATES  
 GROSS HEAT INPUT:  
 MANIFOLD PRESSURE -  
 SPACE HEATING -

NATURAL GAS	L.P.G.
20 mbar (8" wg)	37 mbar (14.8" wg)
0.8 mbar (0.32" wg)	0.7mbar (0.28" wg)
1.48m <sup>3</sup> /hr (52.26 ft <sup>3</sup> /hr)	0.59m <sup>3</sup> /hr (20.8 ft <sup>3</sup> /hr)
15.8 kW (53,909 Btu's/hr)	15.8kW (53,909Btu's/hr)
6.4 mbar (2.56" wg)	4.6mbar (1.85" wg)
1.70 kW (5,800 Btu/hr)	1.7 kW (5,800 Btu's/hr)

COOKER WEIGHT:	356 Kgs 783 lbs
MAINS GAS PIPE:	Installation of gas pipe to be carried out in accordance with BS 6891.

Whilst the primary air and gas rate on this appliance have been set, combustion tests and the gas rating must be undertaken, during commissioning and adjusted accordingly.

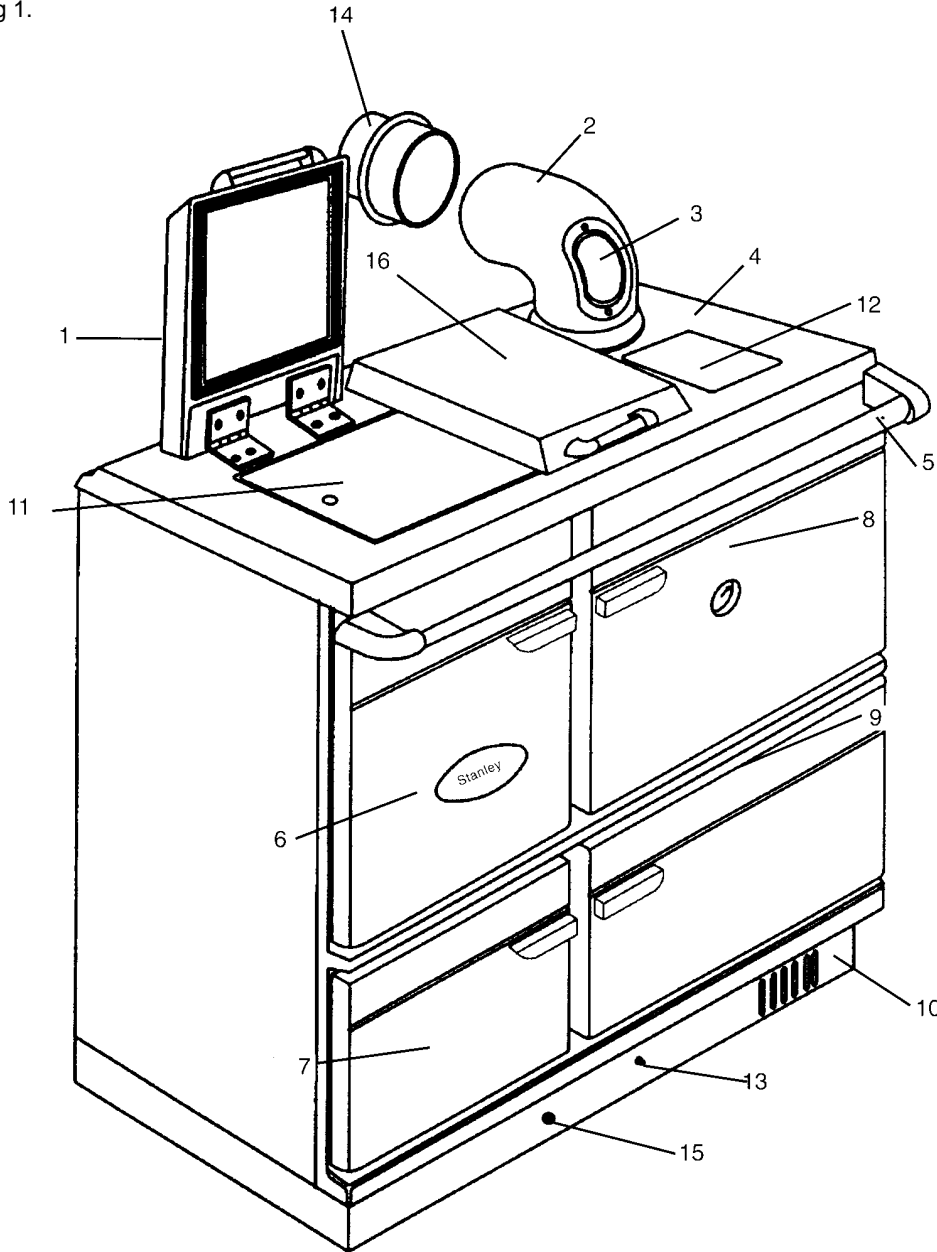
**NOTE:** This appliance must be installed in accordance with the regulations in force and only used in a well ventilated location. Read the technical instructions before installing this appliance. Read the user's instructions before lighting this appliance.

### ADDITIONAL TECHNICAL DATA FOR DHW MODELS:

MANIFOLD PRESSURE:	N.G.: 6.4 mbar (2.56"wg). L.P.G.: 4.1 mbar (1.65" wg).
MAX. DHW BOILER WORKING PRESSURE:	28 p.s.i.
TEST PRESSURE IN DHW BOILER:	40 p.s.i.
OPERATING TEMPERATURE LIMIT IN DHW BOILER:	96°C (194°F)
DHW BOILER CAPACITY:	10 Litres (2.2 gallons)
DHW BOILER MATERIAL:	3mm Stainless Steel
COOKER WEIGHT:	360 kg (790 lbs)
DHW BOILER OUTPUT:	3.8 kW (13,000 Btu's) (Continuous Running)

# SCHEMATIC

Fig 1.



1. Left-hand Hotplate Cover.
2. 150mm (6'') 90° Bend
3. Bend Cleaning Plate
4. Hob
5. Towel Rail
6. Firedoor
7. Burner Door
8. Main Oven Door
9. Simmer Oven Door
10. Base Frame
11. Hotplate
12. Simmer and Cleaning Plate
13. High Limit Reset Button
14. 6'' (150mm) to 5'' (125mm) Adaptor
15. Burner control box lock out reset button.
16. Right-hand Hotplate Cover.



**NOTE:** These instructions are only valid if the country symbol appears on the appliance. If the symbol does not appear on the appliance it is necessary to refer to the technical instructions covering modifications of the appliance to the conditions of use of the country.

## LOCATION

Prior to installation, ensure that the local distribution conditions (nature of the gas and gas pressure) and adjustment conditions are compatible. The adjustment conditions for this appliance are stated on the data badge which is fitted inside the bottom burner door.

When choosing a location for this appliance you must have:

- Sufficient room for the installation (see clearances), a satisfactory flue, and an adequate air supply for correct combustion and operation (see Ventilation & Combustion Air Requirements).
- Adequate space for maintenance and air circulation.
- Solid floor or base of non-combustible material which is capable of supporting the total weight. (See Technical Data).

## HEARTH CONSTRUCTION

When a non-combustible floor surface is not available then we recommend that the cooker be placed on a slab of pre-cast concrete 40mm (1<sup>1</sup>/<sub>2</sub>" ) deep or a slab of other insulating material. This hearth must extend 150mm (6") to either side of the appliance and 225mm (9") to the front.

## ELECTRICAL SUPPLY

All wiring external to the appliance must conform to the current BS 7671, B.S. 7462, Safety Document 635 ETC: Part 1 Section 5.4.6. & the Electricity at Work Regulations. The cooker requires a 230V - 240V, 50Hz supply. Connection of this appliance to the mains supply must be through a moulded on plug top (with a 3A fuse) which is fitted to the appliance in accordance with EN 60335, Consumer Protection: SI 1994 No. 1768 (plug and sockets etc) Safety Regulations 1994.

**Always install in accordance with current local wiring regulations.**

**WARNING: THIS SUPPLY AND COOKER MUST BE EARTHED** (Refer to B.S. 7430 : Code for Protection of Earthing).

Where a risk of low voltage (below 190 volts) can occur, a voltage sensitive device should be fitted to prevent start up of the burner so as not to endanger the installation. Primary fuse is located at rear of control box.

To isolate the appliance completely unplug from the mains socket. Always ensure that this socket is easily accessible and close to the appliance. Persons in charge of this appliance should be aware of this socket outlet position.

## COOKER CLEARANCES

**Minimum clearances to combustible materials:**

- 6" (150mm) to either side
- 2" (50mm) to rear
- 36" (915mm) above
- 48" (1220mm) to front (See figs 2 & 3)

Fig.2

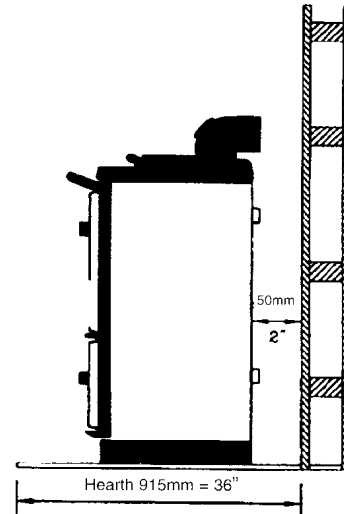
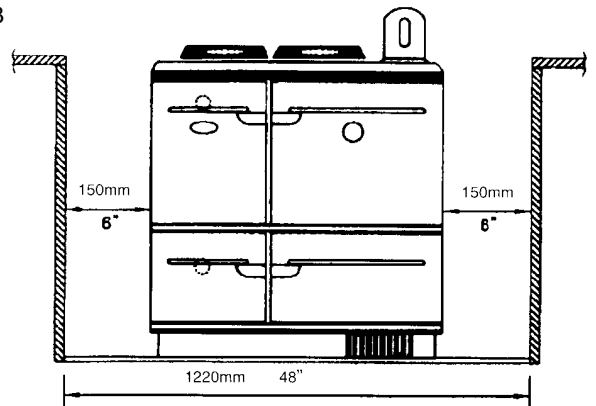


Fig.3





**Minimum clearances to non-combustible materials:**

- 1" (25mm) to either side.
- Reduced to 15mm stops at rear
- 36" (915mm) above
- 48" (1220mm) to front (see figs.4&5)

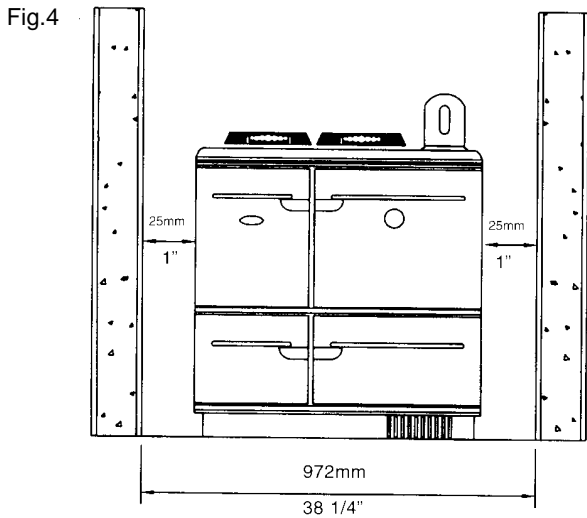


Fig.4

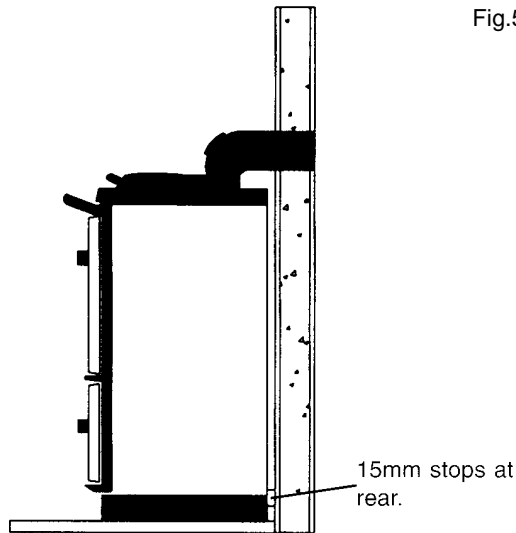


Fig.5

If the cooker is to be installed against combustible material (e.g. cabinetry or wall panelling) a panel of 12mm (1/2") thickness non-combustible insulation board the size of the appliance must be fitted between the cooker and the combustible material. The insulation board used must not contain asbestos or ceramic. (See Figs. 7 & 8)

The clearances for non-combustible materials can then be observed (see Fig.4)

An optional hob filler strip can be fitted between the Stanley and adjacent units. Refer to fig.7.

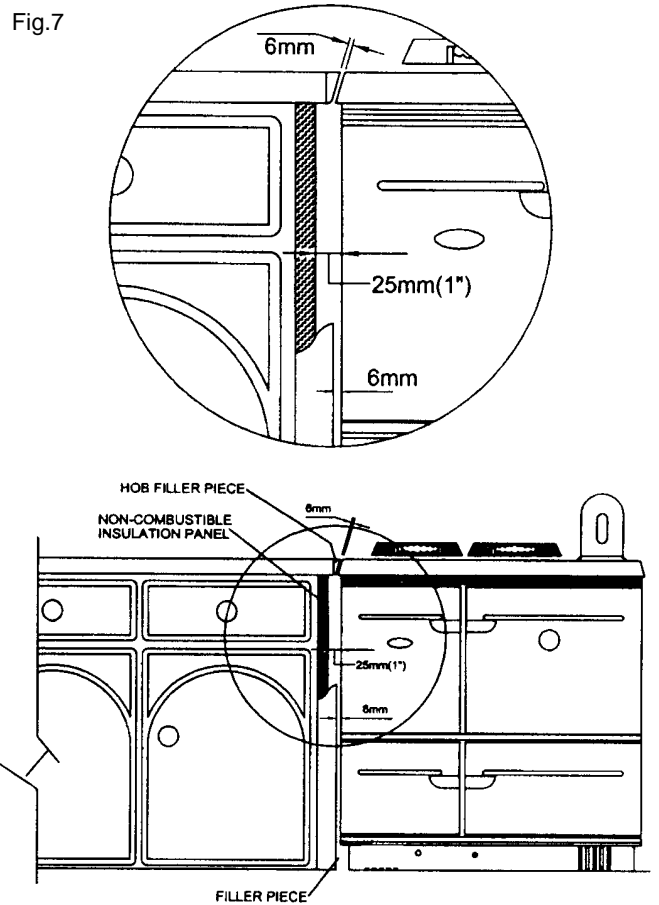


Fig.7

**REDUCED CLEARANCES**

Where the flue passes through a combustible material a twin wall solid packed insulated chimney connector must be used and must come flush with the outer surface of the material and run all the way to the masonry chimney or to the point of termination of the factory made chimney (See Fig.6).

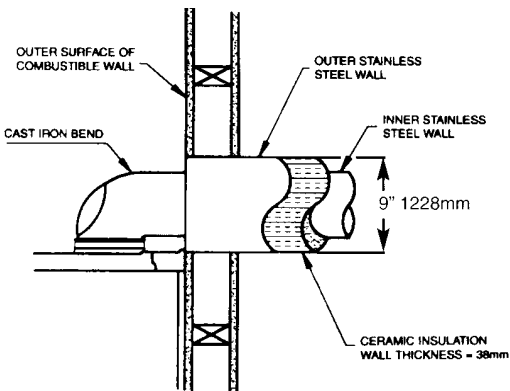


Fig. 6

Fig.8

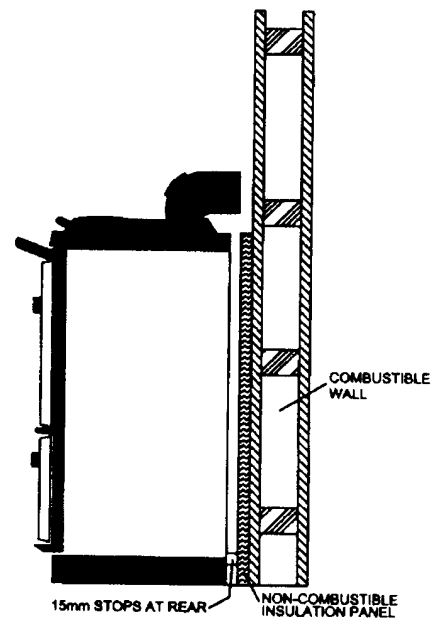
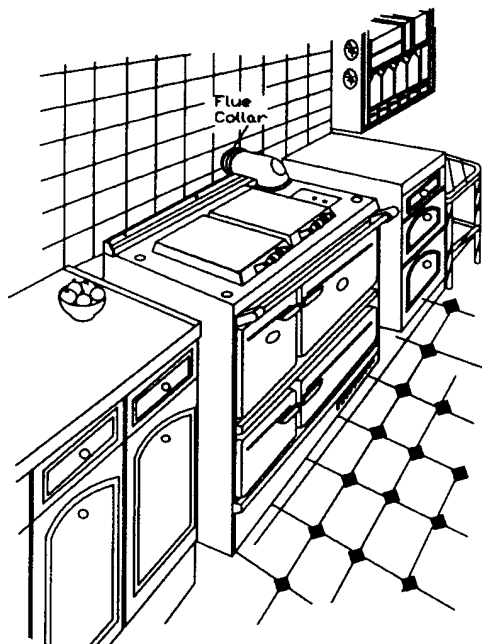




Fig.9

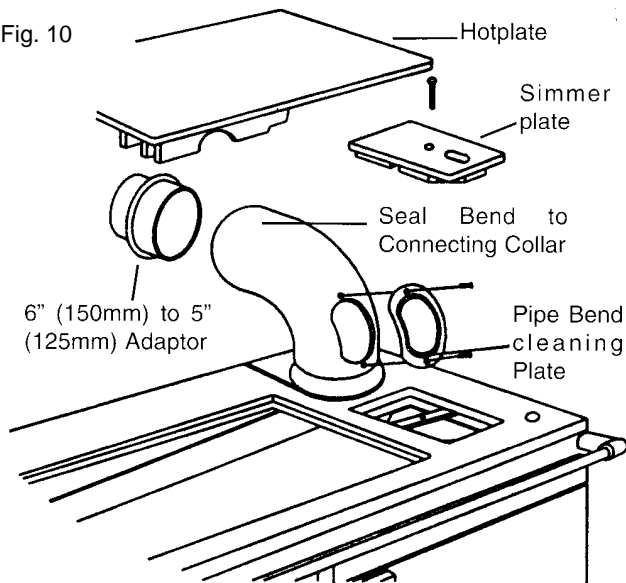


### PRE-INSTALLATION CHECK

Before installing your cooker, check that the chimney is clean and clear of obstructions. Cracked brickwork and leaking joints should be made good.

**IT IS RECOMMENDED TO CONNECT TO A FLUE OR FLUE LINER OF 125MM (5").**

Fig. 10



### FLUES

The chimney and flue pipes intended for use with this appliance should be mechanically robust, resistant to internal and external corrosion, non-combustible, and durable under the conditions to which they are likely to be subjected.

Flues require a suitable external terminal which should be designed to permit the easy exit of combustion products whilst providing protection against the ingress of rain, birds and other foreign matter into the system. Flue pipes and accessories such as clips and stays should not be made of

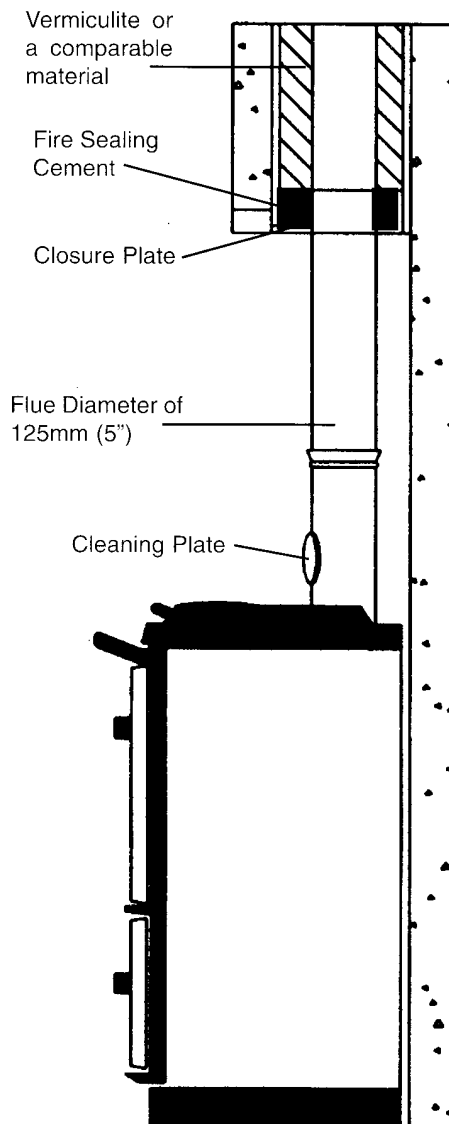
unprotected mild steel or other material which is likely to corrode.

Where flue piping passes through a closure plate with a sliding door, ensure that the pipe continues up and is ultimately connected to the flue liner and well sealed with fire cement.

Do not connect to a chimney serving another appliance. Always ensure that the connection is to a chimney of the same size. Chimneys wholly constructed of single skin pipe are not recommended under any circumstances. Due to their inability to retain heat such chimneys will inevitably give rise to the formation of condensation.

### FLUE LINER

Fig.11



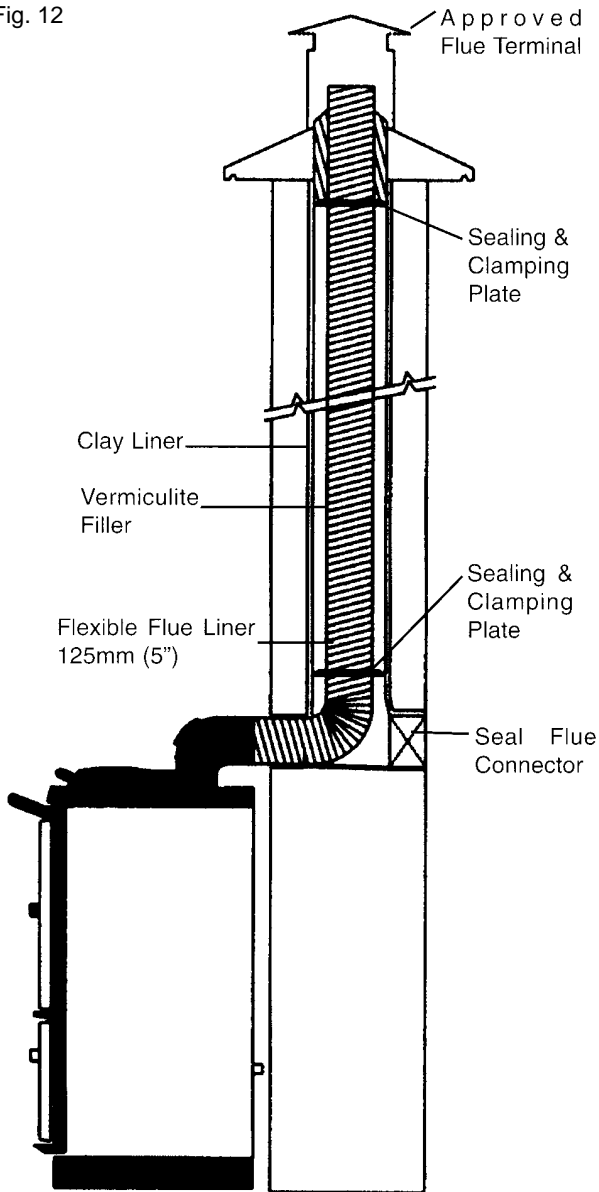
**Note:** Fill voids and area around liner with vermiculite or a comparable approved material. (See Fig. 11 & 12)

### CHIMNEY'S

Generally the most effective chimney for gas is one that is straight, avoid offsets and terminate with a straight sided pot.

## Flue greater than 125mm (5") Diameter

Fig. 12



### SEALING

This cooker and flue system operate under a positive pressure, it is essential that all flue joints are tightly sealed against flue gas leakage and tested accordingly (see Fig. 11 & 12).

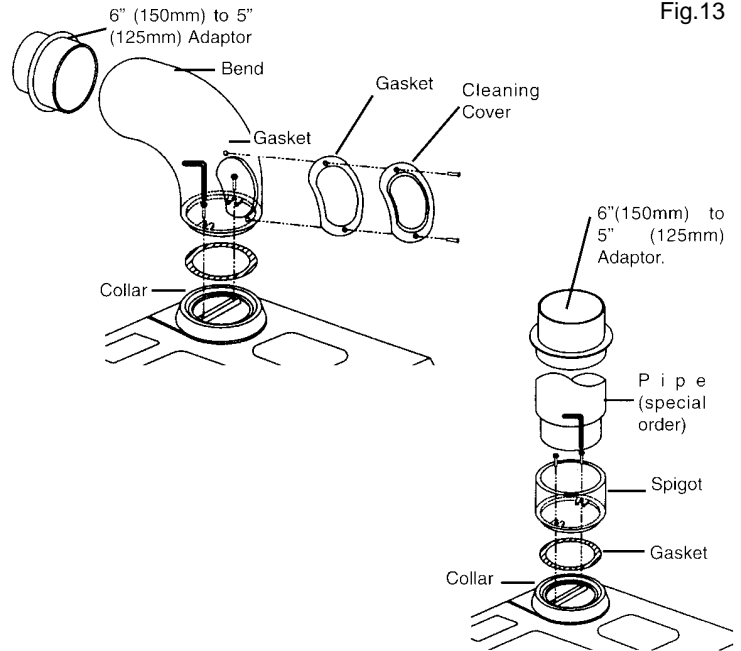
There is a flue pipe collar available which surrounds the flue pipe where it meets the wall, giving a tidier finish to a tiled background (see fig. 9). The flue pipe collar is available as an optional extra, to order.

### FLUE HEIGHT

The flue must be high enough 4.5 mts. (15ft), minimum measured vertically from the appliance outlet to the top of the flue terminal, to allow the flue gases to vent into the clear air, away from the turbulence that may be caused by roof structures, other chimney stacks, etc.

Refer to Flue Assembly Instructions sheets. See Fig.13

Fig.13



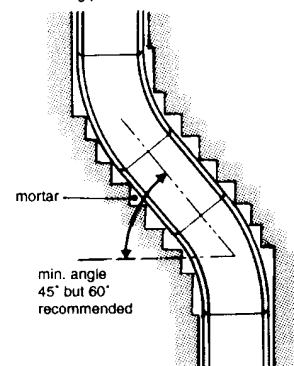
The terminal position should be in accordance with B.S. 5440 Part 1 & the current Building Regulations.

If it is necessary to offset the chimney the recommended angle is 60° to the horizontal and the statutory minimum is 45° (see fig. 14).

**Note:** Never connect to a chimney or flue system serving another appliance.

Fig.14

Offset using prefabricated bends



### CONNECTIONS

A cast iron 90° bend with cleaning door is supplied with the cooker, along with a cast iron spigot for connection to a vertical flue pipe. A vertical cast iron outlet pipe with cleaning door is available to order. A flexible flue adaptor is supplied, this is to connect the cooker bend or straight pipe to the chimney liner.

**Note:** Maximum horizontal length should not be more than 300mm (12") where the appliance spigot or flue pipe protrudes into the chimney, care should be taken to ensure that it does not block the chimney.

**ALL FLUE CONNECTIONS MUST BE THOROUGHLY SEALED.** Blocked chimneys are dangerous, keep chimneys and flueways clean, read the operating instructions.

**STANLEY CAST IRON PIPES AND BENDS ARE HIGHLY RECOMMENDED FOR INTERIOR USE.**

### **SUITABLE MATERIALS**

- \* Mineral Fibre cement pipes conforming to B.S. 7435.
- \* Sheet metal conforming to B.S. 715 & B.S. 4076.
- \* Insulated metal chimneys conforming to B.S. 4543 and B.S. 5440 (a galvanised finish is not suitable).
- \* Clay flue linings conforming to B.S. 1181.
- \* Pre-cast concrete chimney blocks, incorporated into the building structure. It is particularly important that the correct connection block be provided at the base of the flue, B.S. 3572.
- \* Cast Iron or acid resistant vitreous enamel lined mild steel to B.S. 41.

### **FLUE CLEANING**

The flue pipe must be fitted with a cleaning plate. The flue must be inspected annually and cleaned when necessary.

### **USE OF EXISTING FLUES AND CHIMNEYS**

When connecting to an existing chimney it is necessary to line the flue using approved 125mm (5") rigid or flexible stainless steel flue liner.

An existing flue pipe or chimney that has proved to be satisfactory when used for solid fuel can normally be used for this appliance provided that its construction, condition and dimensions are acceptable. Flues that have proved to be unsatisfactory, particularly with regard to down draught, must not be considered for this appliance until they have been examined and any faults corrected. If there is any doubt about an existing chimney, a smoke test to B.S. 5440: Part 1 should be carried out.

Before connecting this appliance to a chimney or flue pipe which has previously been used with another fuel, the chimney or flue pipe must be thoroughly swept and lined accordingly.

All register plates, restrictor plates, damper etc. which could obstruct the flue at a future date must be removed before connecting this appliance.

Where a chimney is not to be lined a suitable void should be provided at the base to contain any debris which might fall from inside the chimney, so as to prevent that debris from obstructing the

appliance flue outlet. (Removal of debris should be facilitated by the provision of an access door). The void should have a depth of not less than 250mm (10") below the appliance connection.

The combustion products will have a descaling effect on hardened soot deposits left from burning solid fuels.

ALTHOUGH THE CHIMNEY MAY HAVE BEEN CLEANED OF LOOSE SOOT PRIOR TO INSTALLATION, IT IS IMPERATIVE THAT THE CHIMNEY IS INSPECTED FOR SCALED SOOT PARTICLES AFTER THE FIRST MONTH OF OPERATION AND ANY LOOSE MATERIALS REMOVED TO AVOID BLOCKAGE.

### **DRAUGHT REQUIREMENTS**

While inadequate draught can seriously effect the efficient operation of the appliance, chimneys over (5.4m) 18ft. or houses built on high ground can experience excessive draught, a steady draught of between 1mm (0.04") and 1.5mm (0.06") W.G. is required for satisfactory operation.

### **FLUE LINERS**

Chimney's lined with salt glazed earthenware pipes are acceptable if the pipes comply with BS 1181 and must be 125mm (5"). When lining an existing chimney, a liner approved to BS 715 and BS 4543, Parts 1, 2 & 3 should be used. The liner should be secured at the top and bottom by using closure/clamping plate firmly sealed and secured and an approved terminal used at the top.

It is essential that every flue system be inspected and tested by a competent person for its correct effectiveness, to ensure that the combustion products are completely discharged to the outside atmosphere.

### **FACTORY MADE INSULATED CHIMNEYS**

Factory-made insulated chimneys should be constructed and tested to meet the relevant standards and recommendations given in:

- \* B.S. 7566 - Installation of factory-made chimneys conforming to B.S. 4543 for domestic appliances.
  - Part 1: Method of specifying installations design information.
  - Part 2: Specification for installation design.
  - Part 3: Specification for site installation.

## VENTILATION AND COMBUSTION AIR REQUIREMENTS

It is imperative that there is sufficient air supply to the burner of the cooker in order to support combustion.

Detailed recommendations for air supply are given in BS 5440 Part 2. The minimum effective air requirement for this appliance is 44cm<sup>2</sup>. When calculating combustion air requirements for this appliance use the following equation: 5cm<sup>2</sup> per each kW of rated input above 7 kW.

If there is another combustion appliance fitted in the same or adjacent room, it will be necessary to refer to B.S. 5440: Part 2 & I.S 813 to calculate the additional air supply.

All materials used in the manufacture of air vents should be such that the vent is dimensionally stable and corrosion resistant.

The effective free area of any vent should be ascertained before installation.

Air vents direct to the outside of the building should be located so that any air current produced will not pass through normally occupied areas of the room.

An air vent outside the building should not be located less than the dimensions specified within the Building Regulations (see Technical Data) from any part of any flue terminal. These air vents must also be satisfactorily fire proofed in accordance with the current Building Regulations.

Air vents in internal walls should not communicate with bedrooms, bedsits, toilets, bathrooms or rooms containing a shower.

Air vents traversing cavity walls should include a continuous duct across the cavity. The duct should be installed in such a manner as not to impair the weather resistance of the cavity.

Joints between air vents and outside walls should be sealed to prevent the ingress of moisture. Existing air vents should be of the correct size and unobstructed for the appliance in use.

If there is an air extraction fan fitted in the room or adjacent rooms where this appliance is fitted, additional air vents will be required to alleviate the possibility of spillage of products of combustion from the appliance/flue while the fan is in operation. Refer to B.S. 5440 Part 2 and the Gas Safety (Installation & Use) Regulations as amended.

Where such an installation exists, a test for spillage should be made with the fan or fans and other gas

burning appliances in operation at full rate. (i.e. extraction fans, tumble dryers) with all external doors and windows closed.

If spillage occurs following the above operation, an additional air vent of sufficient size to prevent this occurrence should be installed. As a general guide an extra 50cm<sup>2</sup> of air vent free area will be sufficient for most situations.

## OUTSIDE AIR CONNECTION

This appliance may be connected direct to the outside of the house for its air supply.

1. If this option is used a special kit is available to order.
2. Additional combustion air is not required as indicated in B.S. 5440 Part 2.
3. Remove air inlet plate on front right hand side, replace it with the blanking plate located at back left hand side (see fig.15).
4. Connect the optional 125mm (5") spigot to the base, see fig. 16
5. To connect this cooker to an outside air supply use the special order kit.
6. Air inlets traversing cavity walls should include a continuous duct across the cavity. The duct should be installed in such a manner as not to impair the weather resistance of the cavity. This duct should be satisfactorily fire proofed as per Building Regulations.
7. Joints between air vents and outside walls should be sealed to prevent ingress of moisture.

Fig. 15

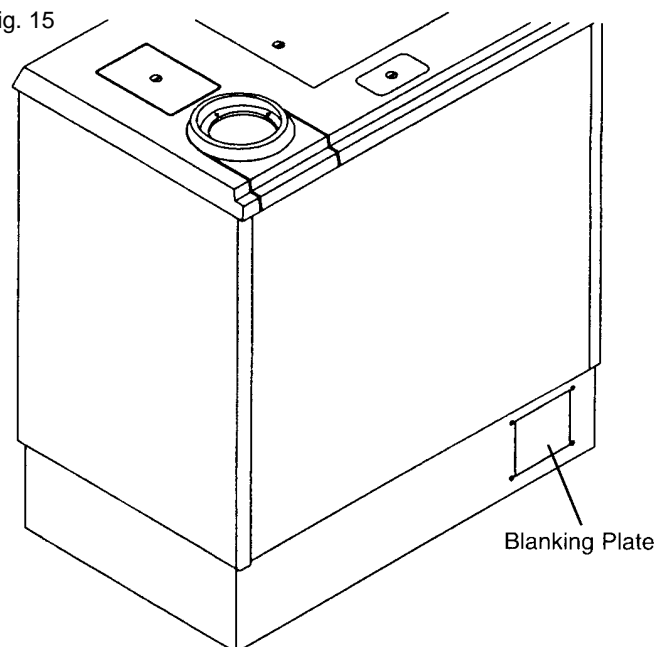


Fig. 16

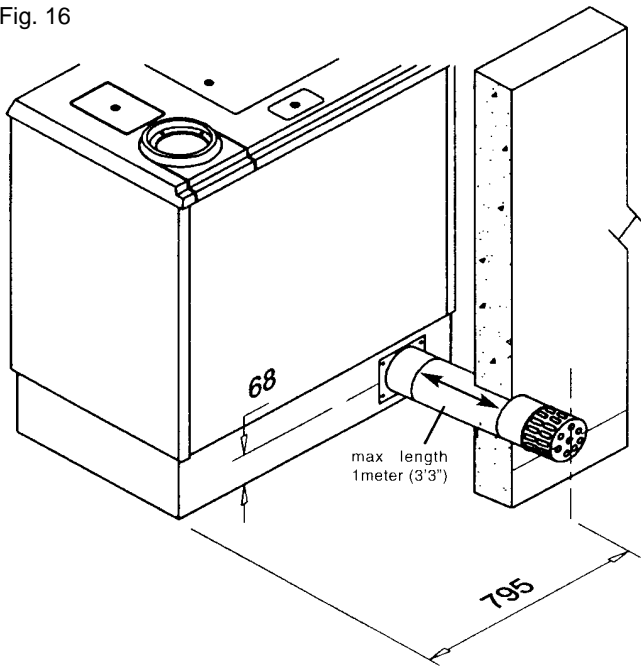
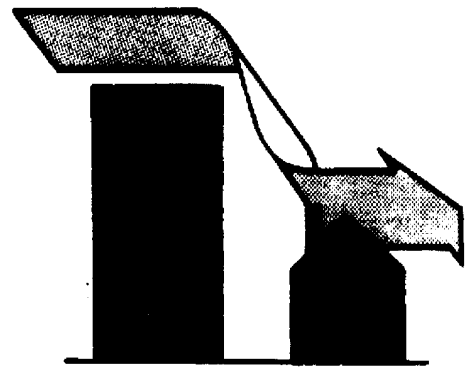
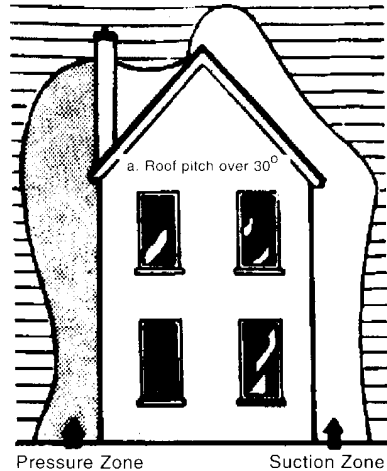


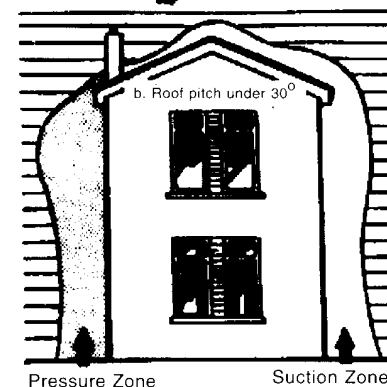
Fig. 18



Direction of Wind →



Direction of Wind →



Direction of Wind →

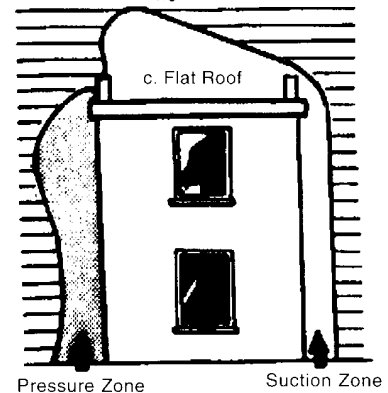
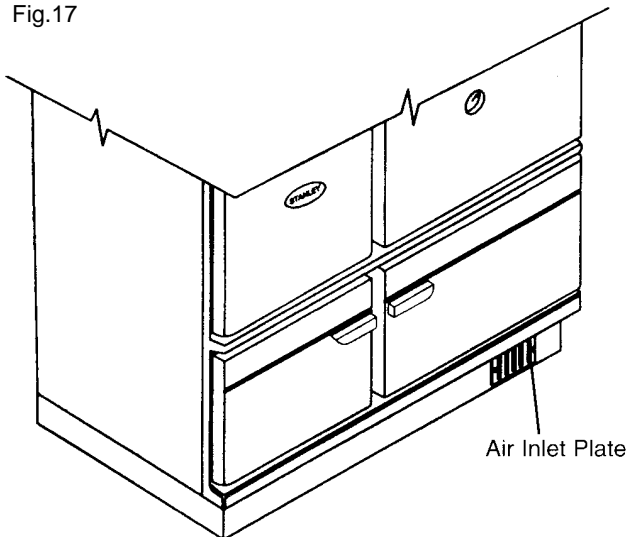


Fig.17



## DOWN DRAUGHTS

However well designed, constructed and positioned, the satisfactory performance of the flue can be adversely affected by down draught caused by nearby hills, adjacent tall buildings or trees. These can deflect wind to blow directly down the flue to create a zone of high pressure over the terminal.

A suitable anti-down draught terminal or cowl will usually effectively combat direct down blow but no cowl is likely to prevent down draught due to a high pressure zone. Ensure that any cowl used will not restrict the flue exit or cause excessive back pressure (See fig. 18) Refer to BS 5440 Part 1.



## METERS (NATURAL GAS)

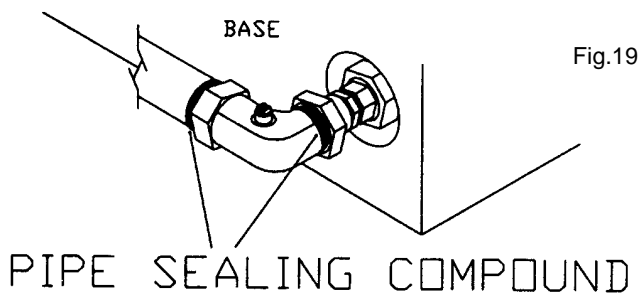
A suitable gas meter must be connected to the service pipe either by a representative of the gas supplier or by an appointed contractor. If using an existing meter have it checked to ensure that the meter is capable of dealing with the total rate of gas supply needed (see Technical Data).

## GAS PIPE SIZE

It is important that the correct service pipe size be used in order to ensure an adequate gas supply of 1.48 cubic meters/hr (52.5 Cubic ft./hr) for Natural Gas or 0.59m<sup>3</sup>/hr (20.8 ft<sup>3</sup>/hr) for LPG. This depends on the distance between the supply meter, the pressure drops caused by bends and the expected pressure drop in the gas mains at peak demand times. (See B.S. 6891). (If in doubt contact your local gas supply company)

## GAS CONNECTION

**A FLEXIBLE HOSE MUST NOT BE USED TO CONNECT THE GAS SUPPLY TO THE COOKER.**



**WARNING:** To avoid pipe sealing compounds from entering into the gas train, do not apply sealing compound to the first two threads at the tip of the gas connection. (See Fig.19)

**NOTE:** Clean off any excess pipe compounds from connections.

A shut off valve must be fitted as close as possible (See Fig.20) to the cooker and should be accessible at all times. A combined valve and elbow fitting is supplied with the appliance, located in the oven package. One end of this fitting simply fits onto the gas train located at the bottom left hand side of the cooker. The other end has a 3/4" BSP Male thread. If it is necessary to use an alternative valve, select a valve which does not cause a restriction in the flow or a pressure drop across it when open, and install it as close as possible to the cooker.

## Step 1

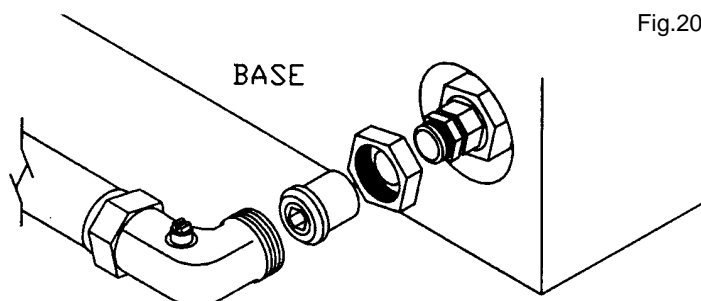
Fit valve to the gas train pipe located at the bottom left side. (See Fig.20).

## Step 2

Connect gas supply pipe to the valve.

## Step 3

Check all joints for soundness.



## GAS PIPES AND FITTINGS

Materials used for installation work should be fire resistant and gas tight and should conform to the following or their equivalent:

- \* B.S. 2871: Part 1 and EN 1057 - Copper Tubes
- \* B.S. 219, EN 29453 & ISO 9453 - soft solders.
- \* B.S. 669 - flexible hoses, fittings & sockets.
- \* B.S. 759 - Valves, gauges and other safety equipment.
- \* B.S. 1387 - Steel tubes.
- \* B.S. 6362 & B.S. 4127 - Stainless steel tubes
- \* B.S. 1740 - Wrought steel pipes.
- \* B.S. 5295 & B.S. 6956 Jointing materials.
- \* B.S. 1552 Manual shut off valves

## GENERAL MAINTENANCE

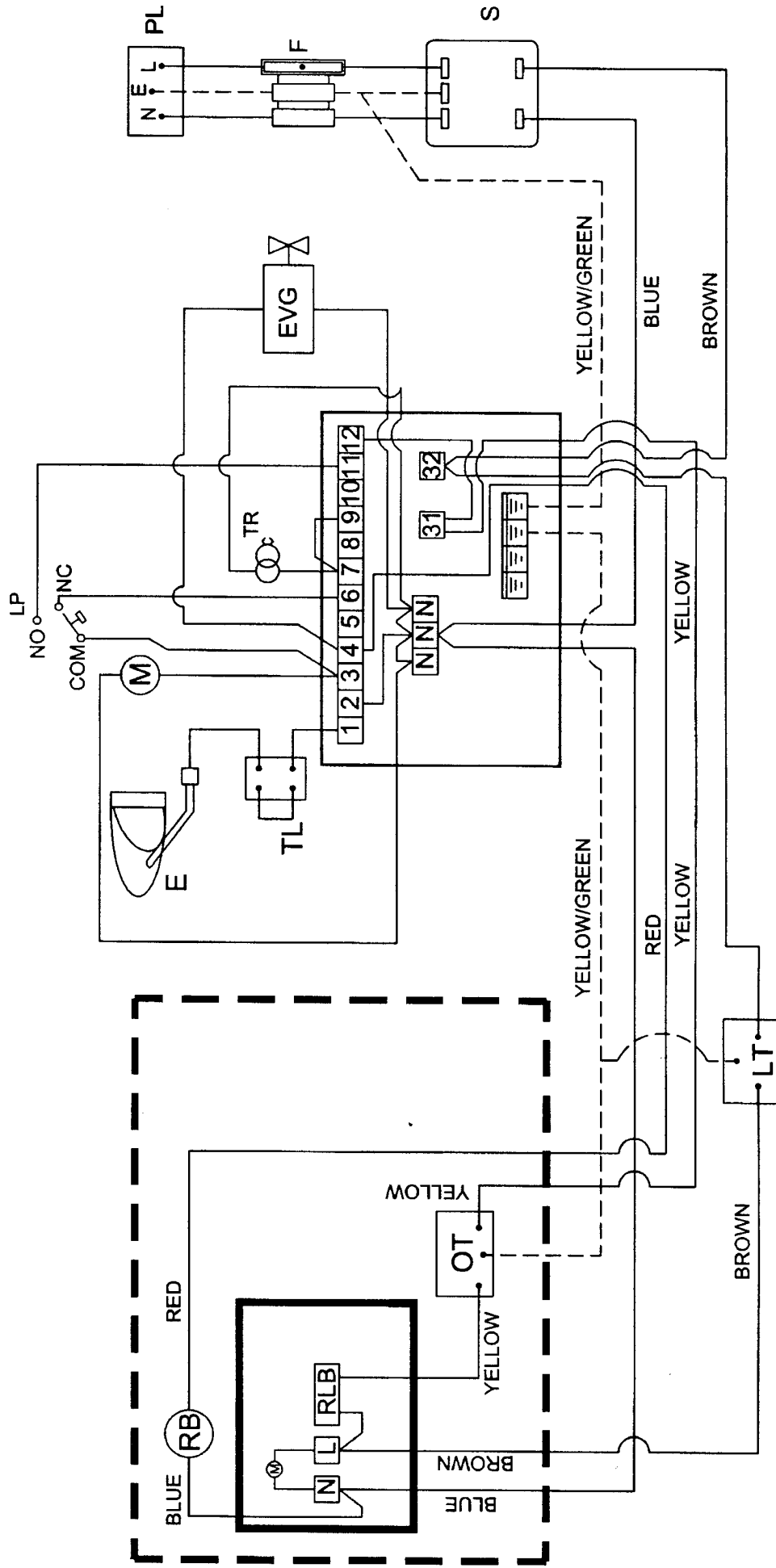
It is important that the user is familiar with their cooker and that they ensure regular checks and maintenance which can limit unnecessary break-downs.

## SERVICING

To ensure continued efficient and safe operation of the appliance it is recommended that it is checked and serviced as necessary at regular intervals. The frequency of servicing will depend upon the particular installation and usage, but in general once a year should be adequate.

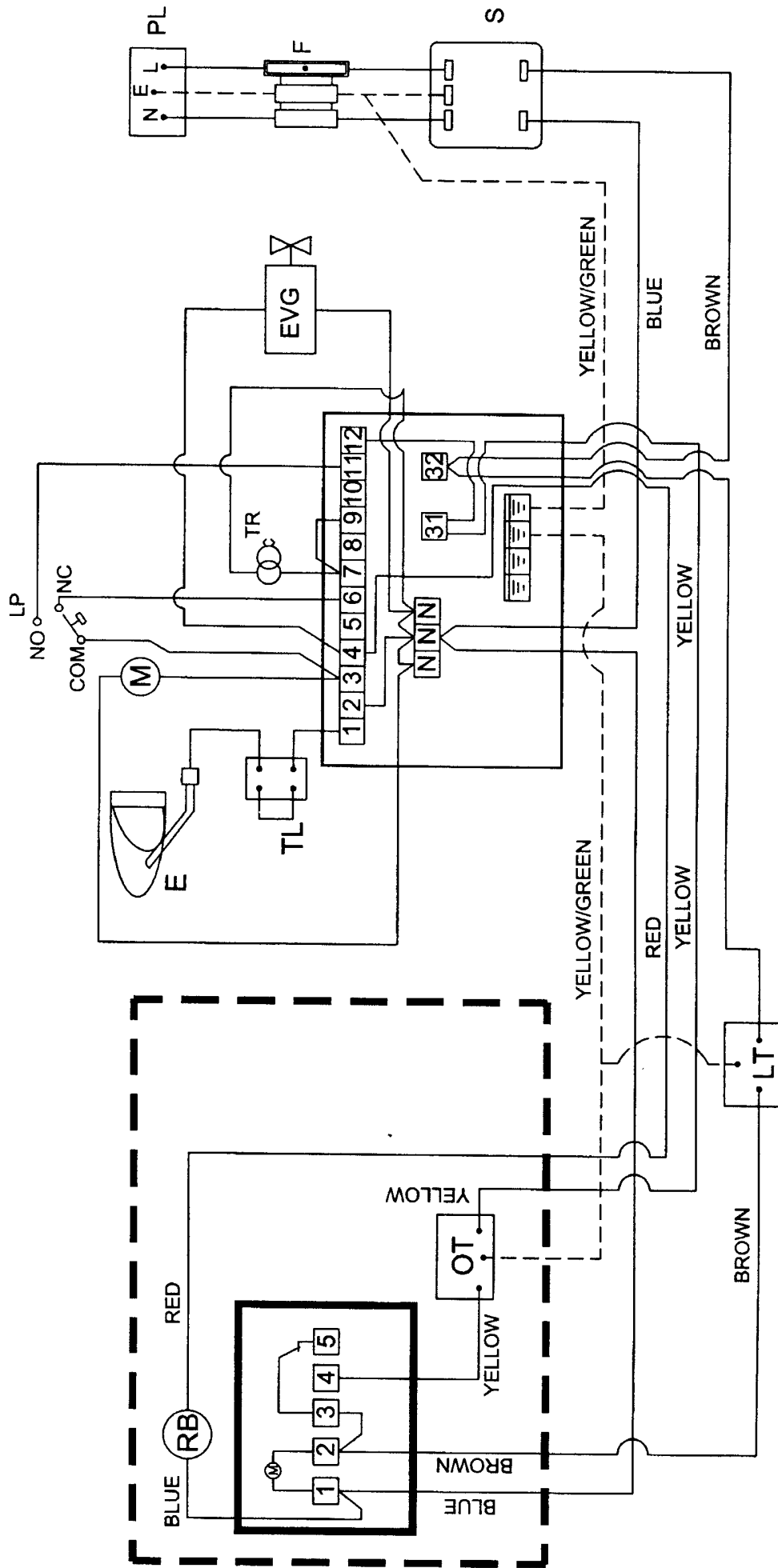
**WIRING DIAGRAM (DIGITAL TIMER)**

Fig.21





WIRING DIAGRAM (MECHANICAL TIMER) Fig.22



## DOMESTIC HOT WATER SYSTEM (DHW MODEL ONLY)

### SYSTEM

The DHW Model must be connected to a fully pumped system.

Care should be taken to ensure that the domestic hot water installation is correctly installed and that it complies with all relevant codes of practice. If this appliances is being connected to an existing system, it is strongly recommended to check the following:

- That the system is sound.
- That the pipe work is adequately insulated.
- Check that the system is fitted with a circulation pump and a pipe stat and that both are operating satisfactorily.
- Check if there are any modifications necessary to make the domestic hot water system more efficient.

### SAFETY VALVE

A non-adjustable 3 bar safety valve must be fitted to the primary flow pipe adjacent to boiler connection ensuring that any discharge will not create a hazard to occupants or cause damage to electrical components or property.

**NOTE:** We strongly advise the use of pipe lagging and also the use of a frost thermostat if the installation is likely to be exposed to situations where the temperatures will drop to a level consistent with frost.

Only competent personnel should be employed to carry out any work on your domestic hot water system.

It is important that no external control devices e.g. economisers are directly fitted to this appliance unless covered by these installation instructions or agreed with the manufacturer in writing. Any direct connection of a control device not approved by the manufacturer could make the guarantee void.

### PIPE FITTINGS

Materials used for installation work should be resistant, sound and should conform to the current editions of the following or there equivalent:

#### 1.1 Ferrous Materials

- B.S. 4127: Stainless Steel Tubes
- B.S. 1387: Steel Tubes
- B.S. 1740: Steel Pipe Fittings
- B.S. 6956: Jointing Materials

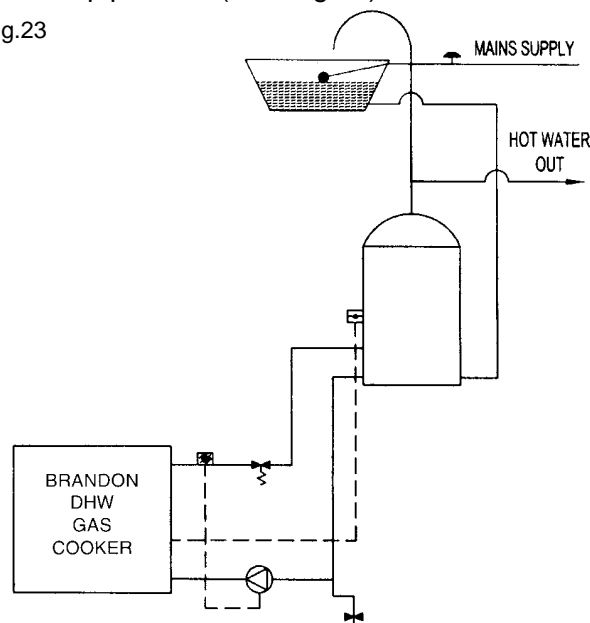
#### 1.2 Non-Ferrous Materials

- EN 29453: Soft Solder Alloys
- B.S. 864: Compression Tube Fittings
- B.S. 2871 & B.S. EN 1057 Copper and Copper Alloys

### DIRECT DOMESTIC CYLINDER

A 227 Litre (60 Gallon) direct domestic cylinder can be connected to this cooker using copper or stainless steel 28mm O.D. (1") flow & return pipes. We recommend that the cylinder is lagged along with the pipework. (See Fig.23)

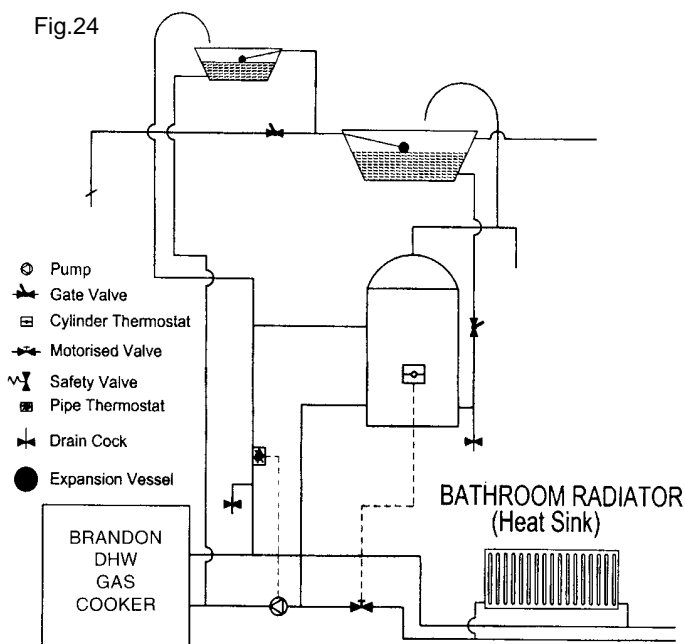
Fig.23



### INDIRECT DOMESTIC CYLINDER

A 227 Litre (60 Gallon) indirect domestic cylinder can be connected to this cooker using copper or stainless steel 28mm O.D (1") flow and return pipes. We recommend that the cylinder is lagged along the pipework (See Fig. 24)

Fig.24



**NOTE:** Copper cylinder should be “finned-coil” type with minimum capacity of 210 litres to B.S. 1566 & B.S. 699.

Cylinder thermostat set to 60° and connected to motorised valve (see Fig.24).

#### **INDIRECT SYSTEM ONLY**

**To off-load excess hot water generated during long cooking periods, it may be necessary to install a heat sink radiator.**

We strongly recommend the fitting of a circulating bronze pump on the return pipe to the boiler, controlled by a pipe thermostat fitted on the flow pipe within 6” (150mm) of the appliance.

#### **PIPE THERMOSTAT**

The fitting of a pipe thermostat to the common flow pipe within 150mm (6”) of the cooker is recommended in order to activate the water circulation pump when the boiler reaches 60°C. This will ensure that the return temperatures are maintained and allow the pump to ‘run on’ to transfer any residual heat to prevent possible overheating.

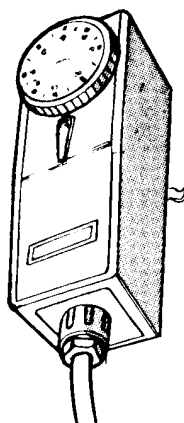


Fig.25

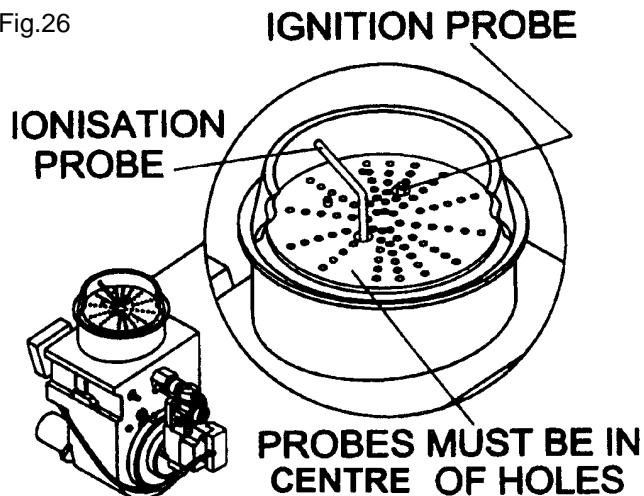
**NOTE:** In line water conditioners fitted to the cold mains supply both of chemical and magnetic type are suitable for use with DHW cooker.

### **COMMISSIONING CHECKS**

1. Check all items of packaging are removed from ovens and the shelves are properly fitted.
2. Check that electrical wiring is correct.
3. Check that the cylinder and pipework are purged of air and full of water with a suitable safety valve fitted.
4. Check that the pipe stat is fitted as close as possible to the boiler outlet.
5. Time switch must be on.

6. Check that the oven thermostat is functional.
7. Check that the gas supply is connected.
8. Check that the gas supply line is capable of supplying the cooker.
9. Check that the ignition electrodes and ionisation probes are set correctly. (See Fig. 26)

Fig.26



10. Turn on the gas supply ensuring that the cooker is switched off. Test the whole gas installation including the meter for soundness and purge in accordance with B.S. 6891, purge not to exceed 50 mbar.
11. Check the gas supply and burner for leaks using an approved leak detector spray and tighten if necessary.
12. With the gas supply off switch on the burners.
13. Complete the start sequence to lock out observing the correct operating functions.
14. Reinststate the gas supply and switch on the burner to ensure that it fires correctly.
15. With the cooker operating on full flame check for adequate gas supply by connecting a water manometer to the nipples on the gas valve.
16. Similarly check the manifold pressures by connecting the manometer to the test nipple nearest to the burner head and adjust as required.
17. When commissioning ensure that all doors of the appliance are closed while in operation.
18. After a minimum of 15 minutes of continuous operation with the burner still running, check flue gas analysis.

19. Correct position of the air shutters should be checked to give a CO<sub>2</sub> reading of 8.2 - 9.4% (NG) or 11.2 - 11.6% (LPG).
20. Make sure specified clearances are adhered to.
21. A spillage test should be then carried out with all external doors and windows closed and all extract fans and any other appliances requiring air in full operation.
22. Check flue joints are sealed correctly and that no escapes are occurring.
23. Check the ionisation current on the burner by disconnecting the link and connecting the multi-meter set on  $\mu$ A.C. (See Fig.29).
24. If the cooker is not operating correctly, refer to the trouble shooting guide and/or the Manufacturers Technical Services.
25. **IMPORTANT**  
Check that the mains cable anti-tug gland located at the left side of the cooker at base level is secure and tighten if required.
26. Refer to the Operation Instructions Manual for correct operation of the appliance and familiarise the occupants on the correct method of operating the appliance.

**LEAVE ALL DOCUMENTS WITH THE END USER**

**COMMISSIONING OF BURNERS**

The burner used in the Brandon Gas cooker is the standard Ecoflam Azur 30 burner thus ensuring that spare parts are readily available. The burner uses a Honeywell VK4100 gas valve.

The Landis and Gyr control box has a programme indicator which aids fault finding. A full description of the programme indicator is given on page 19.

The following checks must be carried out when commissioning the burner:

**1. Gas Pressure & Rates**

The gas pressure is checked by connecting a manometer to the test point on the burner. The burner pressure is set by adjusting the gas pressure adjuster screw. Note: This adjuster screw is very sensitive to even small adjustments so the gas pressure must be set accurately. Consequently the manometer used must be graduated in mbar or be of a higher resolution. Check to make sure that the gas rate is correct (see technical data).

**2. Air Setting**

The CO<sub>2</sub> operating level for the burner is measured at a test point using a combustion gas analyser (See Fig.27). The CO<sub>2</sub> level must be set to within the operating ranges specified below. This is achieved by moving the air adjuster on the burner. (See Fig.28)

Fig.27

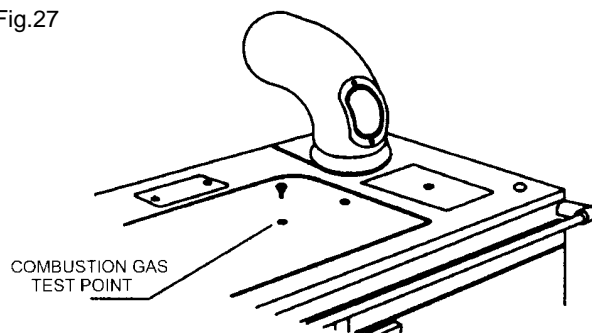
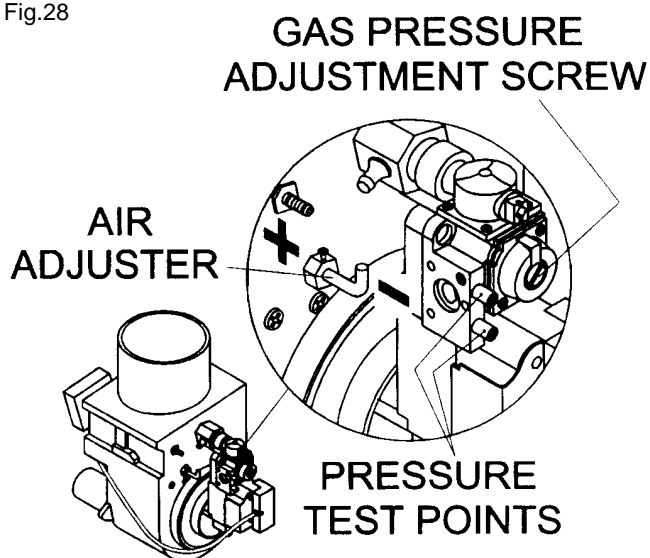


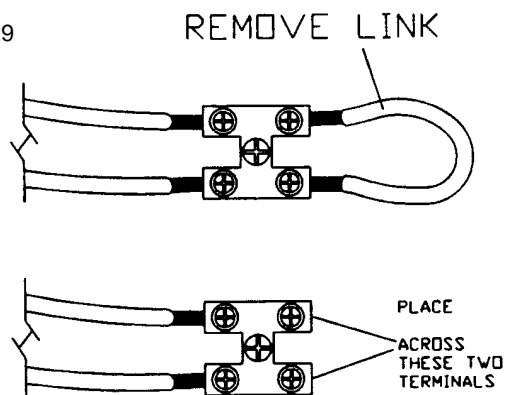
Fig.28



**3. Ionisation Current**

The ionisation current for the burner must be measured. This is done by removing the link on the test block and connecting an amp meter across both terminals of the block. (See Fig.29 & 30)

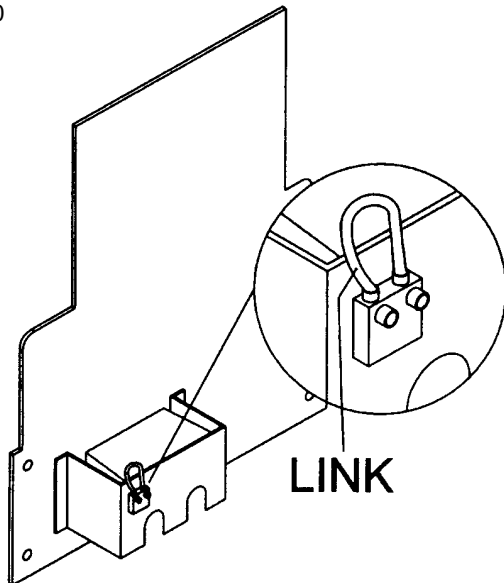
Fig.29



## COMMISSIONING TABLE:

	NAT.GAS	L.P.G.
Inlet Gas Pres.	20 mbar	37 mbar
Manifold Pres. (Dry Model)	6.4 mbar	4.6mbar
Manifold Pres. (DHW Model)	6.4 mbar	4.1mbar
CO <sub>2</sub> Range	8.2 - 9.4%	11.2 - 11.6%
Ionisation Current	7µ Amps min.	7µ Amps min.
CO max	150ppm	100 ppm

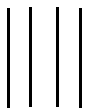
Fig.30



### Description of Landis and Gyr control box.

The following is a description of the start up sequence of the control system. The corresponding control box programme indicator symbol for each step is shown in the left hand column.

Step	Description
<b>Turn on oven thermostat.</b>	When the oven thermostat is turned on power is supplied to the oven control box which start immediately. The oven pressure switch closes. The indicator cam on the control box then rotates to the start position.
<b>Waiting Time</b>	During this interval the "No Air" signal is checked by testing the continuity between pins 3 and 6. The control box also carries out an internal check that it is not receiving an ionisation flame signal. At the end of this period a signal is sent from pin 3 on the control box.



**Pressure Switch** The control box checks that the air pressure switch has switched by testing that continuity no longer exists between pins 3 and 6. If this is found to be satisfactory the control box will continue to the pre-purge stage.

**P**

### Pre-Purge

>>>>

The pre-purge period will last approximately 30 seconds. The control box checks continuity between Pin 3 and Pin 11. It also checks that Pins 7 and 9 are linked.

### Ignition

1.

The transformer sparks and the gas valve opens for 5 seconds.

### Flame Signal

2.

A flame signal must be present to hold the gas valve in the open position.

||||

Full load operation.

⤴

Operating Position.

### NOTE:

1. If the control box is interrupted during its starting sequence it must continue through to the end of this sequence before it can start a new sequence. This may sometimes make the start-up of the appliance seem very long.
2. If air on the operating burner is not proven at start up or is lost during operation the pressure switch will open and the control box will lock out.

## TROUBLE SHOOTING

These checks must be undertaken by a trained and competent person.

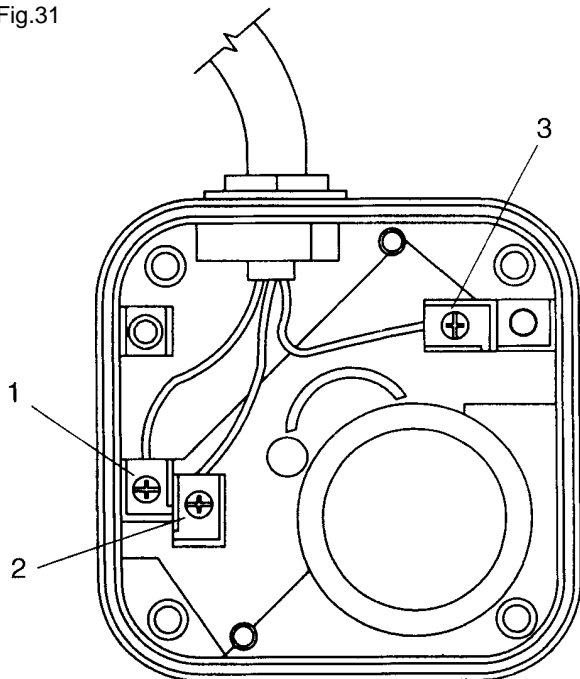
### ***Burner motor will not start, reset button not illuminated:***

1. Check for electrical supply at the fuse holder. If no supply exists check external wiring.
2. Check for electrical supply at terminal 12 on the control box. If there is electrical supply at the fuse but not at terminal 12 check the following.
  - A. Check if high limit thermostat has tripped out.
  - B. Check the operation of the time clock.
  - C. Ensure that the control thermostat is functioning properly.

### ***Burner will not start, reset button illuminated:***

1. Press the reset button located under the bottom left door if cooker still goes to lockout.
2. Remove control box from front panel, and note the position of the control programme indicator underneath the reset button when the button is lit up.

Fig.31



### ***P Signals a problem with the pressure switch:***

1. Check that air pressure switch is closing by testing for phase on terminal 2 in the pressure switch. The phase should switch from terminal 1 to terminal 2 when the fan is powered on. (See Fig.31)
2. Check air pressure switch setting and burner air setting.
3. Check for adequate air supply.
4. Check for blockage in chimney.

### ***If the dial stops at 1 this denotes a problem at ignition:***

1. Check gas supply is at the correct pressure, check that gas valve is energised and operating during safety time.
2. Check that ignition spark is present.
3. Check that the flame detection probe is positioned correctly in the flame. Ensure that the probe insulation is sound, free from cracks or moisture, check that probe is not in contact with other metallic parts of the burner.
4. Check that burner is effectively earthed and bonded to the incoming earth wire from the mains supply.
5. Check the burner air setting and the gas adjuster setting.

### ***Burner will not start, control programme indicator rotates continuously:***

1. Check wiring air pressure switch. (See Fig.31)
2. Check air pressure switch by checking for phase on terminal 2 in the pressure switch.