



## **FIONN** SOLID FUEL BURNING STOVE



### ***INSTALLATION AND OPERATING INSTRUCTIONS***

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.

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## TABLE OF CONTENTS

	<b>PAGE NO.</b>
1. General .....	3
2. Pre Installation Assembly .....	3
3. Installation Instructions .....	3
4. Floor Protection .....	3
5. Chimney .....	4
6. Chimney Connectors .....	4
7. Installation Clearances .....	4
8. Cylinder .....	4
9. Back Chimney Connectors .....	4
10. Plumbing .....	4
11. Regulations .....	4
12. Gravity Circuit .....	4
13. Injector Tee .....	5
14. Water Circuit Temperature .....	5
15. Pipe Thermostat .....	5
16. Operating Instructions .....	5
17. Coal Burning .....	5
18. Lighting The Fire .....	5
19. Use of Back Air Valve .....	6
20. Lighting .....	6
21. Overnight Burning .....	6
22. Maintenance .....	6
23. Disposal of Ashes .....	6
24. Glass Window .....	7
25. Recommended Fuels .....	7
26. Vitreous Enamel Cleaning .....	7
27. CO Alarm .....	7
28. Exploded View .....	8
29. Stove Specifications .....	9
30. Installation Check List .....	10

# FIONN SOLID FUEL CENTRAL HEATING STOVE INSTALLATION AND OPERATING INSTRUCTIONS

## GENERAL

Before installing your new stove, check that the chimney is clean and clear of obstructions, cracked brickwork and leaking joints should be made good. The chimney should have a cross sectional area of at least 176 sq.cm. or an inner diameter of 15 to 23 c.m. A similar direct air inlet is required in the room to support combustion. Do not connect to a chimney serving another appliance. Always ensure that the connection is to a chimney of the same size - never connect to one of smaller dimensions.

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 It should be noted that the requirements and these publications may be superseded during the life of this manual.

## PRE-INSTALLATION ASSEMBLY

**Step 1:** after removing the stove from its pack, open the fire door and remove the contents from the fire box. Separate the coal burning parts from the wood burning parts. See exploded drawing.

**Step 2:** Lay the stove on its side and fit the 4 legs (item 1) with the  $\frac{1}{4}$ " (6.4mm) hex sets screws provided, tighten screws. Stand the stove upright, taking care not to strain the leg bolts.

**Step 3:** COAL BURNING. Install the Side Bricks (8) one at each side of the boiler and press them out to the sides (7).

**Step 4:** Install the Coal Grate (19) and push it back so that the legs rest on the pads of the base (3).

**Step 5:** Install the Ash Pan (21) between the grate legs and push it back towards the back of the stove.

**Step 6:** Close the fire door (6) to ensure that the grate (19) is installed correctly.

**Step 3a:** WOOD BURNING. Install the Back Baffle (25) with the 4 holes at the top.

**Step 4a:** Install the Side Bricks (8) one at each side of the boiler and push them back to retain the back baffle (25).

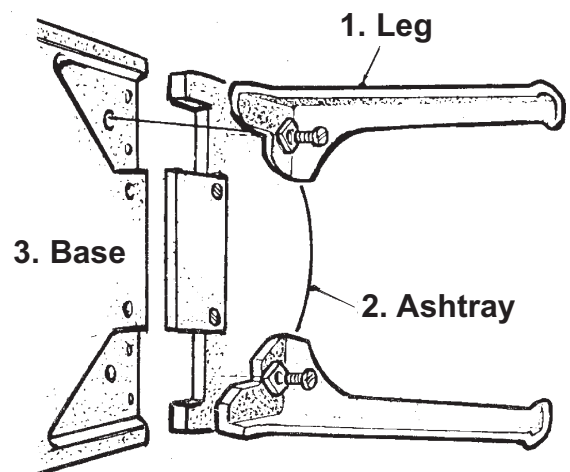
**Step 5a:** Install the Hearth Plate (26) with the flat face upwards.

**Step 6a:** Install the Fire Fence (24) with the long top plate facing outwards and the end lugs between the side bricks (8) and the front frame (17).

**Step 7:** Install the Hot Plate (16) into the large opening of Hob (14). Do not remove the hot plate when the stove is lighting.

**Step 8:** Attach the spigot (15) to the back panel (12) or the hob (14) as required with the  $\frac{1}{4}$ " (6.4mm) countersunk screws provided. Fit the back sealing plate (18) to whichever opening is not used.

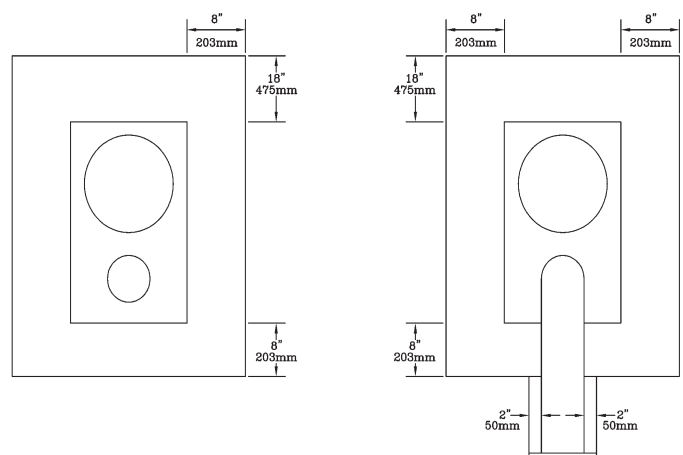
**WARNING: All the above parts must be fitted to the stove before firing.**



## INSTALLATION INSTRUCTIONS

### FLOOR PROTECTION

When installing this heater on a combustible floor, a floor protector, consisting of a layer of non-combustible material at least  $\frac{3}{8}$ " (9.5mm) thick or  $\frac{1}{4}$ " (6.4mm) thick covered with sheet metal is required to cover the area under the heater and to extend to at least 18" (457mm) at the front and 8" (203mm) to the side and rear and this will provide protection from sparks and embers which may fall out from the door when stoking or fuelling.



## CHIMNEY

The Fionn Solid Fuel Stove must be connected to a chimney of the correct size and type.

The chimney must have a CROSS-SECTIONAL AREA of at least 30.sq. inches (176sq.cm) or a diameter of at least 6" (15.2 cm). It is best to connect to a chimney of the same size, as connection to a larger size may result in somewhat less draught. Never connect to a smaller size chimney. Do not connect to a chimney serving another appliance. Minimum chimney height 15ft. (5m) from floor on which stove is installed. An existing masonry chimney should be inspected, and if necessary repaired by a competent mason. A steady draught condition of 1.5mm (0.06 ins) WG is required for this stove.

## CHIMNEY CONNECTORS

(Not Supplied)

The CHIMNEY CONNECTOR is a smokepipe used to connect the Fionn Solid Fuel Stove to the chimney described above. The CHIMNEY CONNECTOR must be made of CORROSION RESISTANT STEEL 24 gauge or heavier ('black' or 'blued' or equivalent treated steel), ENAMELLED CAST IRON or ENAMELLED STEEL of 6" (150mm) diameter.

SINGLE WALL STOVE PIPE MUST NOT PENETRATE COMBUSTIBLE WALLS OR CEILINGS.

## INSTALLATION CLEARANCES

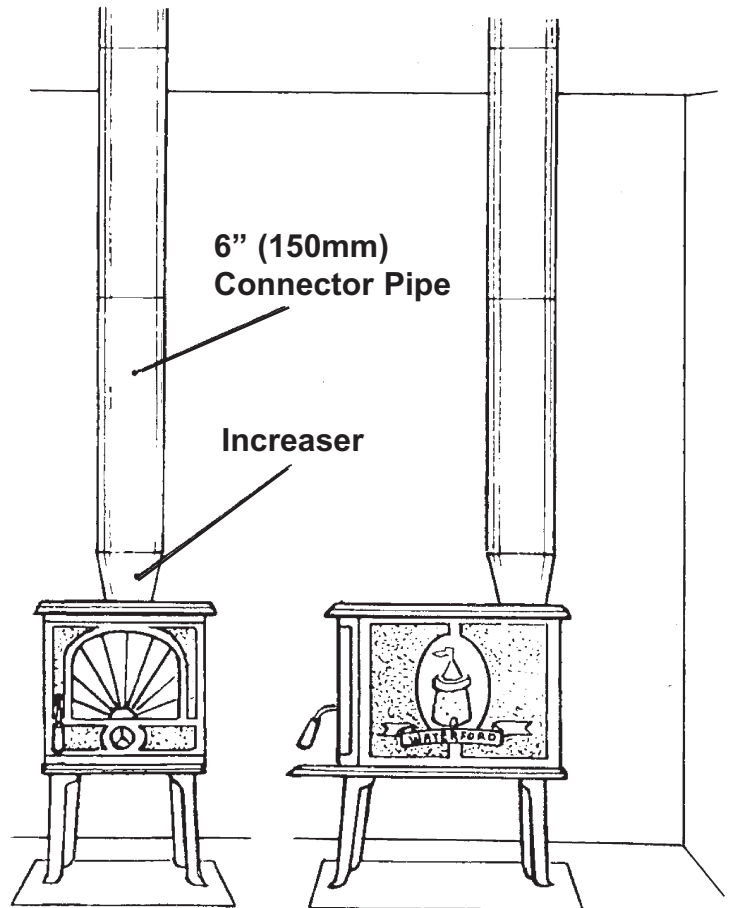
Maintain at least the following clearances to all **combustible material**:

From the front	48"	(1,219mm)
From the back	32"	(820mm) straight up only
From the sides	36"	(914mm)
From the flue pipe	32 <sup>1</sup> / <sub>4</sub> "	(812mm) straight up only

It is recommended that this appliance is sited next to and on a non-combustible surface. A minimum all round clearance of 100 mm will allow air circulation and not impede the performance of the stove.

## CYLINDER

A 135 litre (30 Gallon) indirect cylinder with 25mm (1" bore) flow is suitable and the length of pipes from the cylinder to the stove should not exceed 7.8 metres (25<sup>1</sup>/<sub>2</sub>) feet. There must be no gate valves on this circuit and it must have an expansion pipe exhausting to atmosphere. Cylinder and pipe work should be lagged to minimise heat loss.



## BACK CHIMNEY CONNECTORS

The stove may be installed at zero clearance to a tiled fireplace or masonry wall

## PLUMBING

(Boiler Model)

## REGULATIONS

The Plumbing must be in accordance with all relevant regulations and practices. It must include a gravity circuit with expansion pipe, open to the atmosphere. The central heating will normally be pump-driven as with other types of boilers.

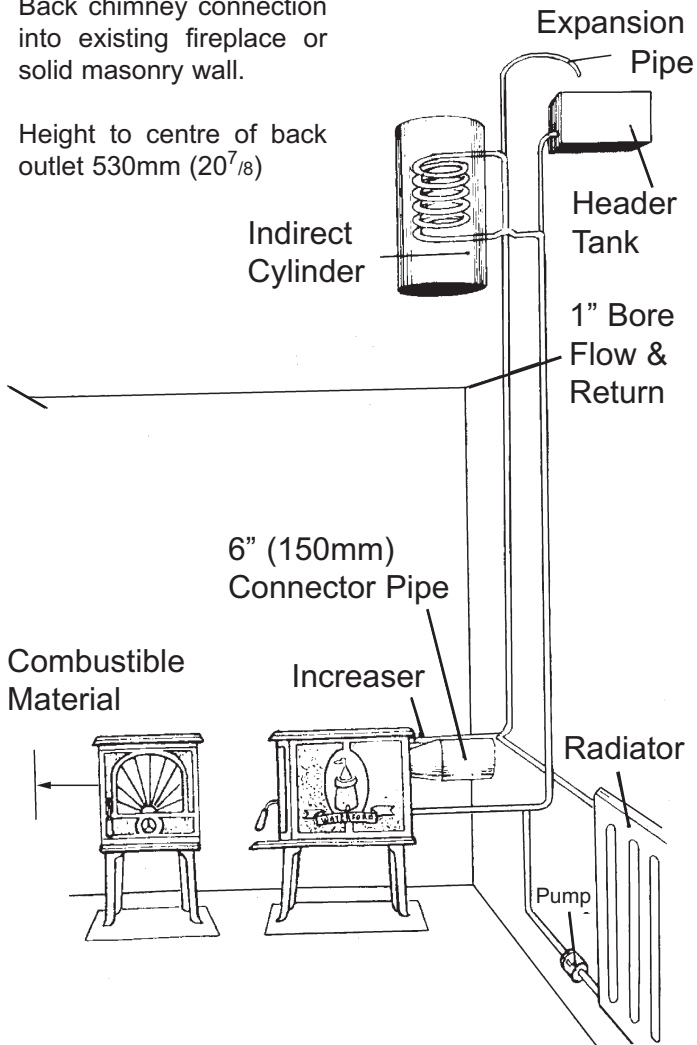
## GRAVITY CIRCUIT

The gravity circuit consists of the domestic hot water tank of 135 litres indirect cylinder, fixed in an upright position, recommended for hot water storage and it should be connected to the boiler by 25mm (1") diameter and return piping. The pipes should not exceed flow 3.7m in length and anything in excess of 2.0m must be fully lagged. The shorter the run of pipe work the more effective the water heating. The cylinder should be fully lagged.

**Do not have any gate valves on this circuit.**

Back chimney connection into existing fireplace or solid masonry wall.

Height to centre of back outlet 530mm (20<sup>7/8</sup>)



mostat to the flow pipe of the gravity circuit and wiring it into the pump control will ensure rapid circulation of the hot water.

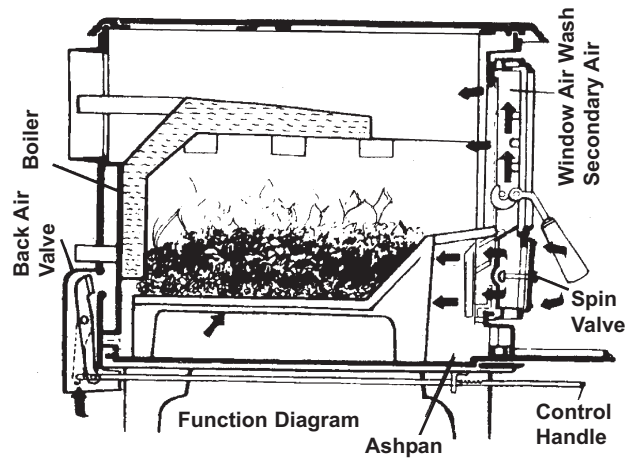
### PIPE THERMOSTAT

The fitting of a pipe thermostat to the flow pipe is essential in order to activate the water circulation pump when the water reaches the selected temperature.

When the water temperature falls below the selected temperature the pipe thermostat will cut off the water circulation pump in order to allow the boiler to recover.

### OPERATING INSTRUCTIONS

#### COAL BURNING



### INJECTOR TEE

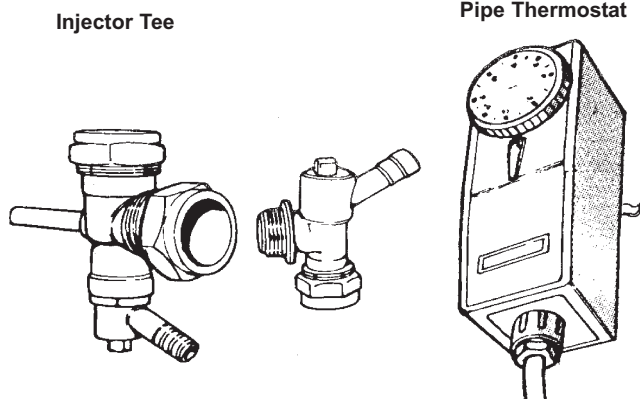
Where the gravity and central heating circuits join together to return the stove we recommended the use of an injector tee connection, situation as close to the unit as possible. This type of tee encourages a stable flow of hot water through both circuits and helps to prevent priority being given to the stronger flow, which is most commonly the pumped central heating circuit. This way, there will be no shortage of hot water to the taps when the heating is on.

### LIGHTING THE FIRE

Thoroughly check all pipe work for leaks, especially the pipe connections to the boiler before lighting. Allow the stove to build up heat slowly at first. Check that all dampers and catches are operating correctly and ensure that all flue connections are thoroughly sealed.

Fully open the Spin Valve and Back Air Valve and kindle with paper and sticks in the usual way and ignite by using a taper or rolled wad of paper. Under no circumstances should any inflammable liquid i.e. petrol, paraffin etc. be used to light the fire. When the fire is well established adjust the spin valve and back air valve. Add fuel to the firebox as required and adjust the air valves to suit current requirements.

When refuelling open the spin valve before opening the door as this will help to eliminate smoking, afterwards be sure to reset the spin valve and back air valve to get maximum output from the boiler. Never pack fuel tightly or fill the firebox to capacity. A low



### WATER CIRCUIT TEMPERATURE

The return water temperature should be maintained at not less than 40°C so as to avoid condensation on the boiler and return piping. Fitting a pipe ther-

level fire is more effective, particularly in regard to water heating efficiency. The maximum fuel level is up to the front lip of the coal grate and angled backwards at approximately 150°.

It is not unusual for some condensation to form on the boiler when the unit is first lit. Do not use the circulating pump until the water in the boiler has heated up. If, when the pump comes on, the return water temperature is too low, condensation may persist. In this case, allow the system to warm up gradually by turning on the radiators in the central heating circuit one by one. Always be prepared for condensation when lighting from cold. To dry out condensation run the appliance for a time with the spin valve and back air valve open, then reset them.

**Attention should be paid to the amount of ash that is allowed to build up in the firebox.**

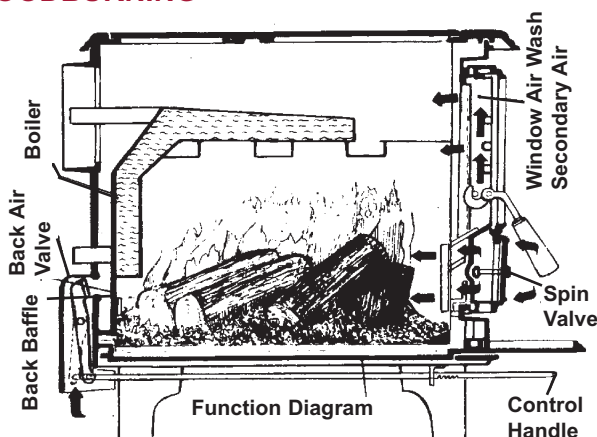
**The ash should be removed from a high burning coal fire after 6 hours, to prevent damaging or burning out of the grate.**

### USE OF BACK AIR VALVE

This air inlet is situated on the back of the stove to supply primary air through the back insulating plate to the fire. Its purpose is to assist the combustion activity at the back of the fire chamber.

The Back Air Valve has four settings: fully closed  $\frac{1}{4}$ " (6.4mm),  $\frac{1}{2}$ " (12.7mm), and fully opened. These settings are used in conjunction with spin valve settings of similar magnitude to give low, medium or high burning rates. A little practice will familiarise you with the best settings for your needs.

### WOODBURNING



To burn wood, peat briquettes, bog peat or synthetic wood, burn directly on hearth, do not use a grate or elevate fire. "Never use gasoline, gasoline type lantern fuel, kerosene, charcoal lighter fluid or similar liquids to start or 'freshen up' a fire in this heater. Keep all liquids well away from the heater while it is

in use." Operate stove only with fuelling door closed.

### LIGHTING

Lay a few crumbled sheets of paper on the hearth, then a few small sticks on the kindling to get the fire started. Close the door, and close the Back Air Valve and open the Spin Valve control ALL THE WAY.

The fire will catch the kindling quickly, after which the full size logs may be placed on top. After the logs have caught fire adjust the Air controls front and back to suit the heat requirements.

The logs will burn slowly towards the rear of the fire chamber and the rate of burning is adjustable at all times by means of the Air controls. The more air (wider opening) the faster the burning. Do not over-fire the stove.

Once they are well lighted, the logs need little attention. It is recommended that the draught be reduced (smaller opening) after the logs are well lighted as they will require little draught to maintain combustion.

When the fire is reduced to embers, open the door and carefully rake the embers towards the front of the fire chamber and reload with logs.

### OVERNIGHT BURNING

Overnight burning is controlled by closing the front spin valve fully or leaving it about half a turn open depending on draught conditions. The Back Air Valve is fully closed by pushing the control rod underneath the ash tray fully home.

### MAINTENANCE

Inspect the chimney flue weekly until a safe frequency is established. The burning of wood, particularly if it is not seasoned, may cause build up of creosote. If creosote has accumulated it should be removed to reduce the risk of a chimney fire. Should this creosote become ignited an extremely hot chimney fire can result.

### DISPOSAL OF ASHES

Remove ashes carefully.

Ashes should be placed in a metal container with a tight-fitting lid. The closed container of ashes should be placed on a non-combustible floor or on the ground, well away from all combustible materials,

pending final disposal. If the ashes are disposed of by burial in soil or otherwise locally dispersed, they should be retained in the closed container until all cinders have thoroughly cooled.

## GLASS WINDOW

The glass will clean itself when there is sufficient heat generated by burning fuel. The Air Way system provides preheated air which keeps the glass clean even at low heat conditions.

## RECOMMENDED FUELS

The stove output levels are assessed on standard House Coals of good quality. Reduced outputs will result when fuels of lower calorific values are used. Wood logs up to 36 cm long are suitable.

All fuels should be stored under cover and kept as dry as possible prior to use.

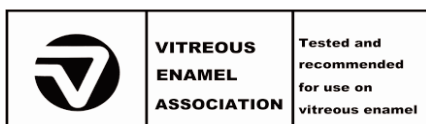
House Coal 25 - 75mm	Calorific Value 7.2 kW/KG = 12,300 BTUS/LB
Timber - Firebox Size	Calorific Value 5.0 kW/KG = 8,600 BTUS/LB
Peat Briquettes -	Calorific Value 4.8 kW/KG = 8,300 BTUS/LB
Bog Peat -	Calorific Value 3.4 kW/KG = 6,000 BTUS/LB

## VITREOUS ENAMEL CLEANING

General cleaning must be carried out when the stove is cool.

If this stove is finished in a high gloss vitreous enamel, to keep the enamel in the best condition observe the following tips:

1. Wipe over daily with a soapy damp cloth, followed by a polish with a clean dry duster.
2. For stubborn deposits a soap impregnated pad can be carefully used on the vitreous enamel.
3. Use only products recommended by the Vitreous Enamel Association, these products carry the Vitramel label.



4. **DO NOT USE ABRASIVE PADS OR OVEN CLEANSERS CONTAINING CITRIC ACID ON ENAMELLED SURFACES. ENSURE THAT THE CLEANSER MANUFACTURERS INSTRUCTIONS ARE ADHERED TO.**

## CO ALARM

Waterford Stanley recommend the fitting of a CO Alarm in the same room as the appliance, this is a requirement under UK Building Regulations. Further guidance on the installation of a carbon monoxide alarm is available in BS EN 50292:2002 and from the alarm manufacturers instructions.

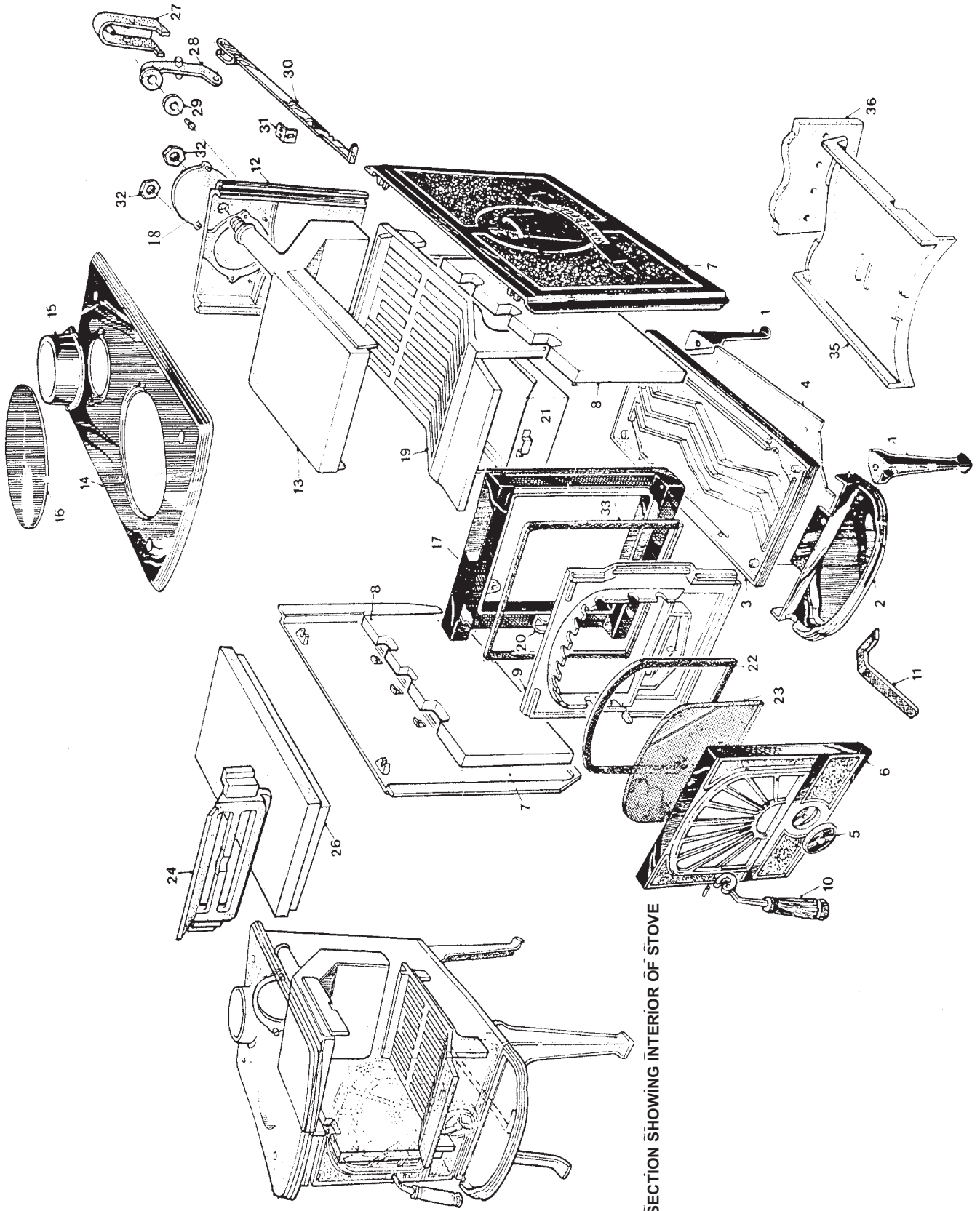
**Provision of an alarm must not be considered a substitute for either installing the appliance correctly or ensuring regular servicing and maintenance of the appliance and chimney system.**

### WARNING:-

**If the CO Alarm sounds unexpectedly:-**

1. **Open Doors and windows to ventilate the room and then leave the premises.**
2. **Let the fire go out.**

# EXPLODED VIEW

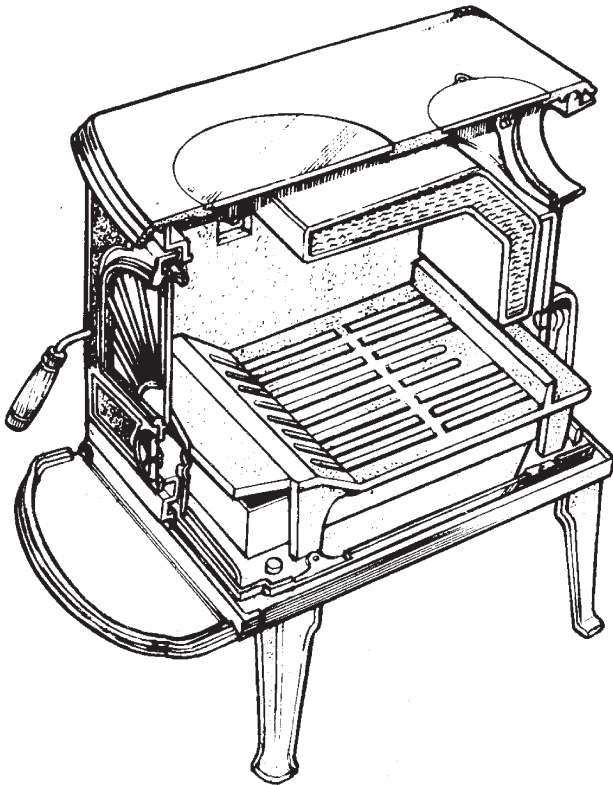


1. LEG
2. ASH TRAY
3. BASE
4. BASE BAFFLE
5. SPIN VALVE
6. FIRE DOOR
7. SIDE
8. SIDE BRICK
9. INSIDE FIRE DOOR
10. DOOR LATCH
11. ASH PAN LIFTING TOOL
12. BACK PANEL
13. BOILER (INDIRECT CYLINDER)
14. HOB
15. SPIGOT
16. HOTPLATE
17. FRONT FRAME
18. BACK SEALING PLATE
19. COAL GRATE (COAL BURNING)
20. DOOR CATCH
21. ASHPAN (COAL BURNING)
22. WINDOW INSULATION
23. WINDOW GLASS
24. FIRE FENCE (WOOD BURNING)
26. HEARTH PLATE (WOOD BURNING)
27. BACK AIR VALVE HOUSING
28. BACK AIR VALVE
29. SEAL TO AIR VALVE
30. CONNECTING ROD TO BACK AIR VALVE
31. GUIDE BRACKET TO BACK AIR VALVE
32. NUT TO BOILER
33. DOOR SEALING ROPE
35. TOP BAFFLE (NON-BOILER)
36. BOILER

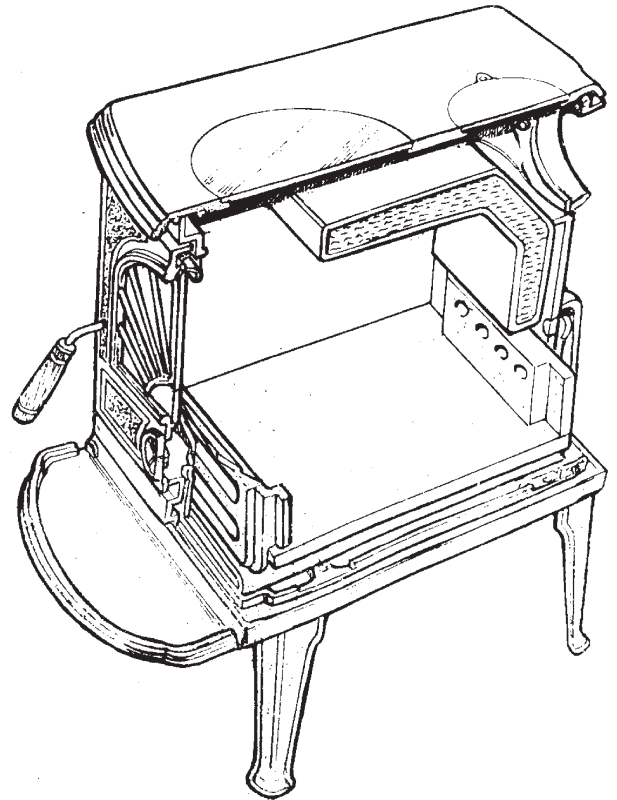
SECTION SHOWING INTERIOR OF STOVE



## FIONN SOLID FUEL STOVE SPECIFICATION



**Coal Burning**



**Wood Burning**

Height .....	650mm	24 <sup>3</sup> / <sub>4</sub> ins.
Width.....	370mm	14 <sup>1</sup> / <sub>2</sub> ins.
Depth.....	630mm	24 <sup>3</sup> / <sub>4</sub> ins.
Flue Size.....	150mm dia.	6 ins. dia.
Height to centre of back of Flue Outlet.....	530mm	20 <sup>7</sup> / <sub>8</sub>
Fire Door Size.....	264mm W x 280mm H	10 <sup>3</sup> / <sub>8</sub> ins. W x 11 ins. H
Log Size.....	360mm Long	14 ins. Long
Burning Rate (Coal).....	2.4 Kg/Hr	5.3 Lbs/Hr
Gross Output.....	19.0 kW/Hr	65,000 Btus/Hr
Radiation to Room.....	7.3 kW/Hr	25,000 Btus/Hr
Max. Heat to Water.....	4.7 kW/Hr	16,000 Btus/Hr
Radiation Surface		
Heating Surface Only.....	8.6 sq. meters	92 sq. feet.
Heating Plus Domestic Hot Water.....	3.7 sq. meters	40 sq. feet.
Gross Weight.....	107 Kg	235 Lbs

It is of the utmost importance to keep the flue pipe and chimney clear of deposits by regular sweeping of the chimney. All fuels give rise to soot or ash deposits and regular cleaning is essential for safe operation.

Blocked or partially obstructed flueways will cause dangerous fumes to be emitted into the room, these may well be invisible if a smokeless fuel is burned.

## INSTALLATION CHECK LIST

### *Flue System*

Tick

1. Minimum Flue Height of 4.6 metres (15 feet).
2. Appliance should be connected to a minimum of 1.8 metres (6 feet) of 150mm (6") flue pipe with a horizontal run not exceeding 150mm (6").
3. Appliance should be connected to a chimney of less than 200mm (8") in diameter (otherwise the chimney must be lined with a 6" flue liner).
4. The chimney venting position must be above the main ridge of the roof or adjacent outside obstructions.
5. The chimney serving this appliance should not serve any other appliance.
6. Access should be provided to the chimney serving the appliance to allow for cleaning.

### *Location*

7. Clearance to combustible materials must be adhered to as described in the Clearance to Combustible section.
8. The stove must be installed on a floor protector that covers the area under the stove and extends 18" to the front & 8" to the sides and back.

### *Plumbing*

9. Appliance must be connected to a gravity circuit using 1" ID flow & return piping.
10. The length of pipes from the cylinder to the cooker should not exceed 7.8 metres (25<sup>1</sup>/<sub>2</sub> feet).
11. A circulation pump should be fitted to the return pipe of the radiator circuit and controlled by a pipe stat fitted to the flow pipe of the gravity circuit to the cylinder.

### *Ventilation & Combustion Air Requirements*

12. The room in which the appliance is located should have an air vent of adequate size to support correct combustion (see Ventilation & Combustion Air Requirement Section for specific details).

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## NOTES



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