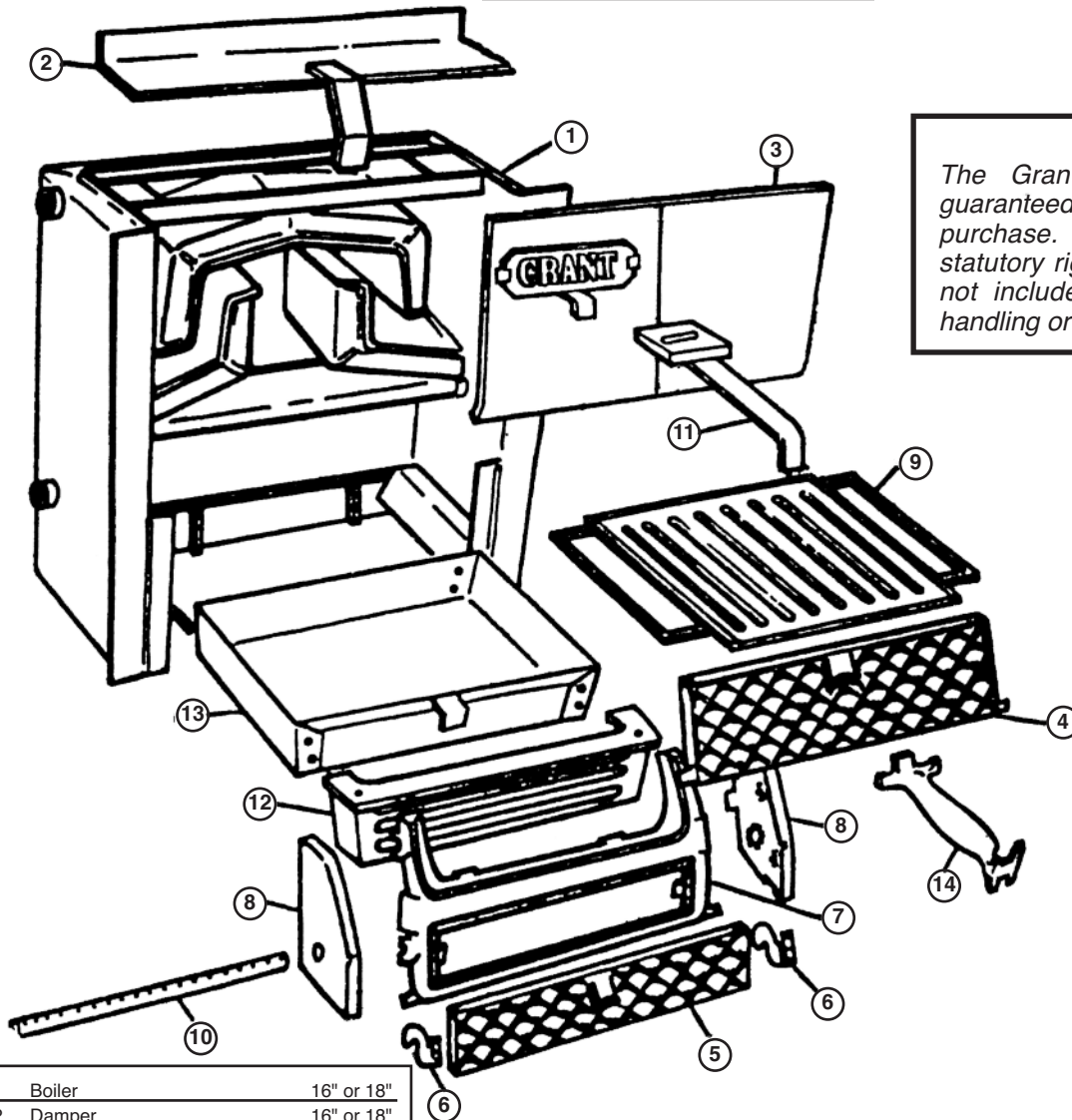


Installation and Operating Instructions for the **GRANT TRIPLE PASS** *EASY CLEAN - HIGH OUTPUT BACK BOILER*

This Leaflet should be left with the
Householder



GUARANTEE

The Grant Triple Pass boiler is guaranteed for five years from date of purchase. This does not affect your statutory rights. This guarantee does not include cast iron parts, labour, handling or shipping.

1	Boiler	16" or 18"
2	Damper	16" or 18"
3	Removable Cleaning Door	16" or 18"
4	Drop Plate	16" or 18"
5	Ashpit Door	16" or 18"
6	2 Adjusting Brackets	(left and right)
7	Main Frame	16" or 18"
8	Side Cheeks	(left and right)
9	Grate	16" or 18"
10	Gas Ignitor	16" or 18"
11	Cleaning & Operating Tool	
12	Front Firebars	16" or 18"
13	Ashpan	16" or 18"
14	Queenstar Operating Tool	
A Log Bar and Deepening Plate is also available		

When ordering parts state colour of enamelled parts, no, and size i.e. 16" or 18"

**IT IS RECOMMENDED THAT THIS LEAFLET BE
STUDIED BEFORE OPERATION OF BOILER**

DOC: 50 REV:01 OCT2002

GRANT ENGINEERING LTD.
Crinkle, Birr, Co. Offaly, Ireland.
Telephone:
057 9120089, 9120352, 9120793

EFFICIENT OPERATION OF APPLIANCE

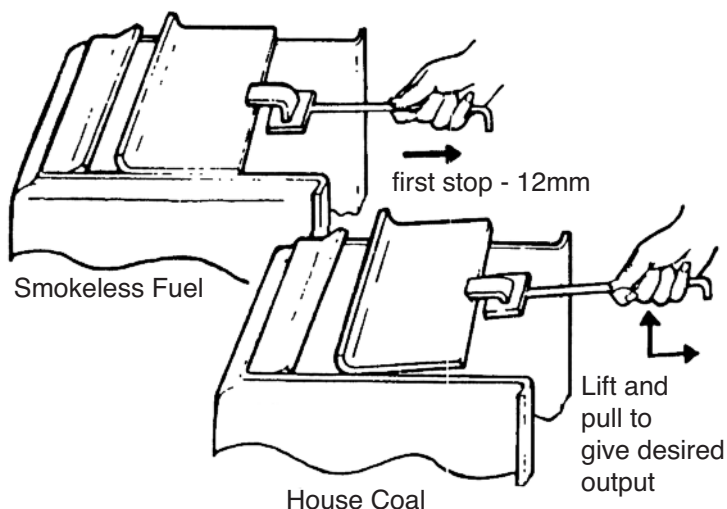
PROCEDURE ON LIGHTING FIRE:

Close boiler damper, open ashpit door fully. Place firelighters on grate surround with small pieces of fuel and ignite. When well alight fuel to desired level. When fire is fully established, set ashpit door and damper to desired openings. If gas ignition burner is used switch it off as soon as the fire is established as unnecessary use may damage the appliance.

To achieve maximum efficiency the appliance should:

- be de-ashed and refuelled as soon as the bottom of the flue becomes visible.
- for high output to room, the boiler damper should be closed (pushed fully in) and the drop front of the Queen Star fire lowered.

For high boiler output the boiler damper should be opened (pulled out) to the first stop - 12 mm for smokeless fuel; if housecoal is being burned the damper should be lifted and pulled out to give desired output. See diagrams below. To close damper lift clear of stops and push fully back.



A deepening bar should be fitted when burning smokeless fuels and removed when burning coal.

The ashpit door is used to control the draught of the continuous burning fire and should never be fully closed when boiler damper is open.

For Overnight Burning: Close boiler damper. Close ashpit door and put drop plate in upright position. Fuel to desired level. Better results will be achieved with smaller fuels.

To Recover from Overnight Banking: First open the ashpit door then, when the fire is burning brightly, de-ash and refuel to the normal level.

When fitting the grate ensure that the word "Bottom" is on the underside.

The ashpan is removed and replaced with tool provided with Queen Star Fire. *This also operates drop front and air control

*See Queen Star instructions for further advice on operation of fire.

WARNING NOTE:

Properly installed and operated this appliance will not emit fumes into the dwelling. Occasional fumes from de-ashing and re-fuelling may occur. Persistent fume emission is potentially dangerous and must not be tolerated.

If fume emission does not persist, then the following immediate actions should be taken:

- Open doors and windows to ventilate room.
- Let the fire out or eject and safely dispose of fuel from the appliance.
- Check for flue or chimney blockage and clean if required.
- Do not attempt to relight fire until cause of fumes has been identified - if necessary seek expert advice.

FUELS:

In Smoke Control Areas the smokeless fuels Coalite, Rexco Royal Homefire, and Welsh dry steam coal (large nuts) are recommended. In other areas, housecoal trebles/large nuts or doubles/nuts are also suitable.

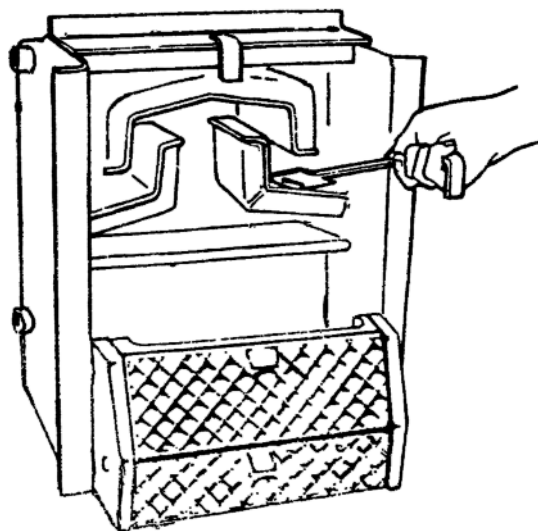
Sunbrite, phurnacite, anthracite are not suitable.

When in doubt, check suitability and quality of fuels with your fuel supplier.

CLEANING OF BOILER AND CHIMNEY

For maximum efficiency the boiler should be cleaned weekly and the chimney at least twice yearly.

It is important that the chimney be cleaned regularly as blocked flues are dangerous. When cleaning the chimney the boiler damper and cleaning the chimney the boiler damper and cleaning doors must be removed. Clean boiler and replace doors and damper.



Note

The life of the bottom grate will be severely reduced due to the following:

- Overfiring (i.e.) boiler damper fully open or removed.
- Excessive ash build-up under grate, ashpan should be emptied at least daily - replace ashpit cover correctly. Ash must be cooled before placing in a bin or liner.
- Insufficient clearance between grate and ashpan (minimum 3 1/2").
- Boiler damper open and ash door closed.

Note:

A fireguard should be used in the presence of children and old or infirm people. The fireguard should be manufactured in accordance with BS6539.

Note:

To avoid condensation and corrosion if the appliance is to be left unlit for long periods, it should be thoroughly cleaned.

BEFORE RE-LIGHTING:

The chimney should be thoroughly cleaned and all loose soot removed from boiler flues.

Householders please note that if the fire has been left unlit or has gone out in periods of cold weather check before re-lighting that no part of the system is frozen up, and call in expert advice if necessary.

Installation Instructions

GENERAL:

These instructions should be read carefully. They give the basic requirements for a satisfactory installation, but minor alterations may be necessary to suit individual site conditions.

NOTE:

HEALTH AND SAFETY AT WORK ACT

Due to the caustic nature of fire cement and the dangers of asbestos dust, appropriate protection should be given to the person(s) carrying out the installation.

All installations should conform to the Building regulations B.S. Code of Practice BS8303, BS6461, BS1251 and BS5449 Part 1.

The installer must ensure that service i.e. electricity, water and gas (as appropriate) are installed and connected according to current regulations and codes of practice.

A double feed indirect cylinder to B.S. 1566 Part 1 should be used where there is a combined central heating/domestic hot water system.

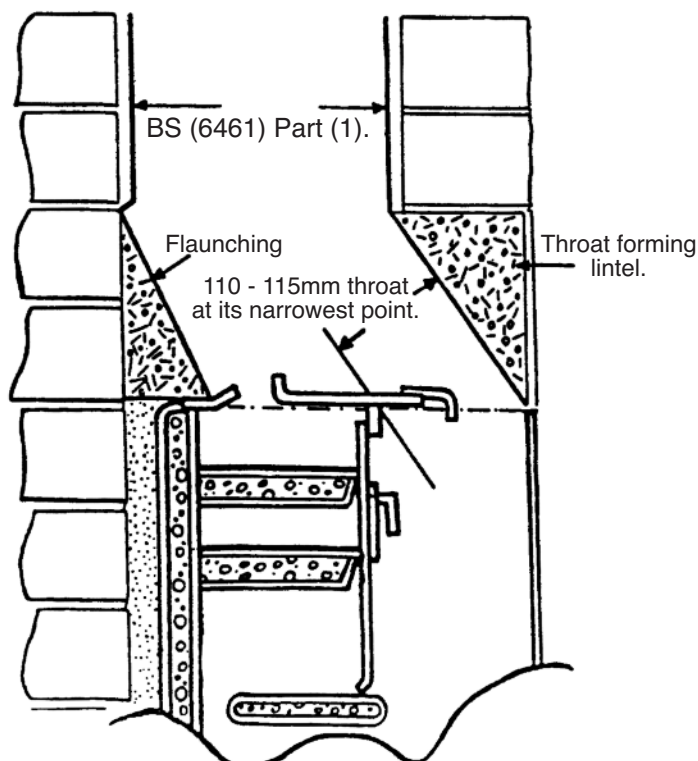
NOTE

An exterior fan must not be fitted in the same room as the boiler as it may cause flue reversal and fume emission.

PROCEDURE

Before commencing installation ensure that the chimney has been swept clean, is unobstructed and is free from cracks and other faults which might allow fumes to escape into the room. Ensure that the flue is lined and of the correct size, in accordance with (BS 6461) Part (1).

NOTE: Take remedial action to correct any chimney faults before installing boiler.



A throat-forming lintel should be installed, leaving an opening of approximately 110mm between boiler and lintel (not to exceed 115mm, see diagram). The sides and back must lead with a gradual slope up to the start of the flueway at an angle not more than 30° to the vertical - rendering may be necessary to achieve these conditions.

BOILER TAPPINGS

25mm (1" B.S.P.) flow and return tappings. The flow tappings are located at the top on the sides of the boiler and are 70mm from the back. The return tappings are on the sides and are 115mm from the base and 70mm from the back of the boiler (measured to centre of tappings). Approx. dimensions.

NOTE

If the flue needs to be offset, an angle not more than 30° to the vertical is permitted under Buildings Regulations.

Lay structural hearth. Ensure it is level. Place the boiler in the centre of the opening and in line with the back face of the tiled surround.

Make boiler pipe connections using 25mm (1"B.S.P.) pipe from at least one pair of tappings for the primary circuit. Ensure that the primary flow and return pipe rise is on a gradual rise to the vent pipe. Any reductions in pipe size must be made in vertical pipework.

NOTE: The system must be properly vented and a suitable safety valve must be fitted.

NOTE: The system should be filled with water and thoroughly checked for leaks before fitting tiled surround.

Make good the side opening in the chimney breast. Fill the space between the boiler and the fire opening up to the level of the top of the boiler with suitable insulating material, e.g. glass fibre, rockwool, or exfoliated vermiculite. Ensure that the top of the builder's opening is properly gathered to the flue. Stick Glass Fibre rope along the two front edges of the boiler, using fire cement. Fit the tiled surround, making sure that a good seal is made between the Fibre rope and the surround. Proceed to install the Queen Star Hydrograte Fire in accordance with its own instructions.

On completion of installation the installer must check the appliance under fire for soundness of seals and that the flue functions correctly with all the productions of combustion vented to atmosphere through the chimney terminal. Balance all radiators and set circulation pump at correct running pressure.

Installers please note that as the Hydrograte back boiler is of rectangular construction, the only continuous burning fire suitable is the Queen Star Hydrograte fire.

Installation Details

Builders Openings

Boiler Size	Height from Hearth	Width	Depth
16"	585mm/23"	610mm/24"	355mm/14"
18"	585mm/23"	660mm/26"	355mm/14"

Typical Installation of Boiler

Note

In all boiler installations the pump should be controlled by a pipe thermostat. The function of this thermostat being that when water temperature of the boiler reaches a level suitable for central heating. e.g. 50° - 60°, the pump will switch on automatically.

If temperature drops below this level the pump will switch off, e.g. overnight burning.

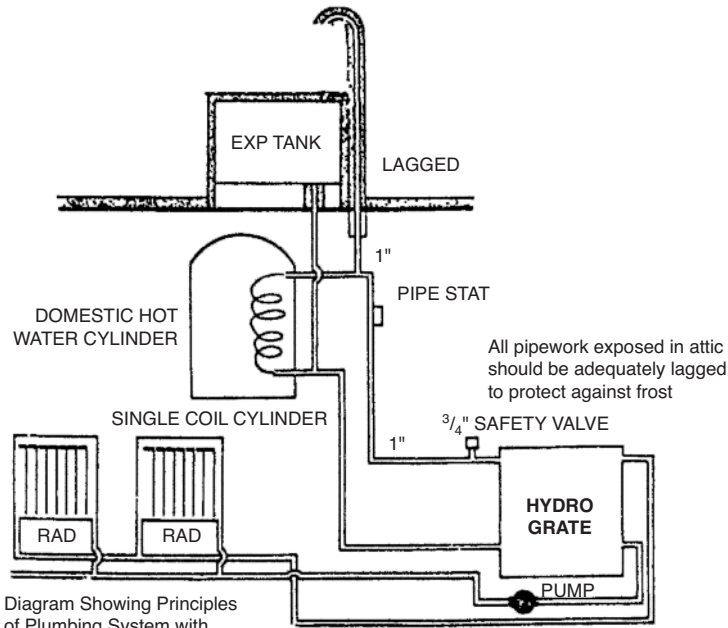
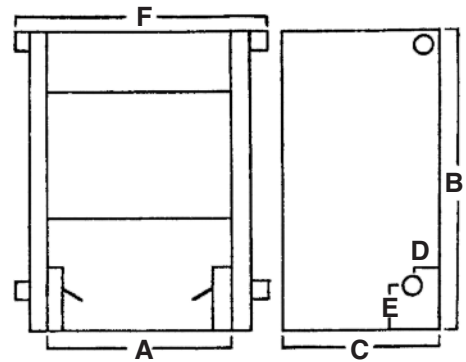


Diagram Showing Principles of Plumbing System with Primary Circuit Working on Thermo Syphon Circulation



Tappings 1" B.S.P.

Boiler Size	mm	mm	mm	mm	mm	mm
	A	B	C	D	E	F
16"	405	557	325	75	115	520
18"	457	557	325	75	115	570

The 16" and 18" Grant Triple Pass Easy Clean boiler and Queen Star Fires have been tested and approved by the U.K. Domestic Solid Fuel Appliances Approval Scheme after tests carried out to British Standard Specification 4834.

QUEEN STAR FIRE

16" BOILER				18" BOILER			
When burning housecoal at 1.81 kg/h				When burning housecoal at 2.12 kg/h			
Heat output component	Direct kW/Btu/h	Water kW/Btu/h	Total kW/Btu/h	Heat output component	Direct kW/Btu/h	Water kW/Btu/h	Total kW/Btu/h
Damper closed (H.R.O.)	1.9/6.483	5.5/18.766	7.4/25.249	Damper closed (H.R.O.)	2.3/7.848	6.1/20.813	8.4/28.661
Damper open (H.B.O.)	1.3/4.436	9.0/30.708	10.3/35.144	Damper open (H.B.O.)	1.8/6.142	10.1/34.461	11.9/40.603
When burning smokeless fuel at 1.36 kg/h				When burning smokeless fuel at 1.59 kg/h			
Heat output component	Direct kW/Btu/h	Water kW/Btu/h	Total kW/Btu/h	Heat output component	Direct kW/Btu/h	Water kW/Btu/h	Total kW/Btu/h
Damper closed (H.R.O.)	2.0/6.824	5.7/19.448	7.7/26.272	Damper closed (H.R.O.)	2.5/8.530	5.4/18.425	7.9/26.955
Damper open (H.B.O.)	1.7/5.800	7.2/24.566	8.9/30.367	Damper open (H.B.O.)	2.0/6.824	8.0/27.296	10.0/34.120