

PART 1

APPLIANCES BURNING SOLID MINERAL FUELS AND WOOD

A. INTRODUCTION

The wide range of appliances listed in this section are designed to burn either solid mineral and/or wood based fuels.

Principally, the solid mineral based fuels consist of manufactured smokeless fuels which have been “authorised” for use in smoke control areas and which have been subjected to Approval testing themselves. The tests applied show these fuels to be suitable for either open or closed appliances or in some cases for both types of appliance. In selecting a suitable fuel for your appliance reference should be made to the Headings of the appliance sections and the notes which accompany the individual appliance listings and Part 2 of this ‘Guide’. Additionally, naturally occurring smokeless fuels such as anthracite may also be burned in smoke control areas. These fuels are listed against those appliances for which they are suitable.

Wood logs and wood based products are of major importance following the implementing of the Energy Performance of Building Directive (see below). They should be from renewable sources to claim low CO₂ emission values. Where the appliance is an exempted appliance designed to burn wood logs then specific conditions as to the quality of the wood fuel are imposed by the Statutory Instrument. Usually this requires the use of untreated dry wood i.e. without halogenated organic compounds or heavy metals as a result of treatment with wood-preservatives or coatings. Sometimes the SI refers to air-dried wood logs or untreated dry wood. Where appliances are designed to burn wood chips or wood pellets the fuel size, quality and type specified by the manufacturer should always be adhered to.

Petroleum coke is not recommended by HETAS for use on solid fuel burning appliances because its use can result in serious damage to grates and other appliance components in the firebed area. However, a number of products which contain petroleum coke or are blends of petroleum coke with other fuels have been tested and approved (see Introductory Note 4.6).

Where the various grades of House Coal, wood logs and other wood products are listed against appliances, in general, they must not be burned in smoke control areas. However, a number of appliances are especially designed to burn specific grades of bituminous coal, wood logs and other wood products with a degree of smoke reduction to permit their use in smoke control areas. **These “exempted” appliances are designated with a † after their name in this Guide.** An up to date list of authorised fuels and exempted appliances, for use in smoke control areas, is available from the Department for Environment, Food and Rural Affairs, Air Quality Policy Division, Zone 4/D13, Ashdown House, 123 Victoria Street, London SW1 E 6DE and are given on their website, “www.uksmokecontrolareas.co.uk”.

With the adoption by the UK of the Energy Performance of Buildings Directive and its introduction via Building Regulations L, we list the nominal output and efficiency at nominal output of all the appliances listed. These have been obtained from Type Test Reports from Notified Laboratories in Europe against harmonized European Standards. UK Building Regulations require that if a solid fuel burning appliance is to be installed it must have an efficiency which meets minimum levels. These levels are the same as those required for HETAS Approval and are given in Section 6 of the Introductory Notes at the front of this Guide. Further, if burning the same fuel, the replacement appliance must have an efficiency no more than 2 efficiency points less than the appliance it replaces. If the replacement appliance burns a different fuel, then a calculation based on relative carbon emissions is applied. A list of the efficiencies of earlier HETAS Approved Appliances based on BS testing is given on the HETAS web site, “www.hetas.co.uk”.

For new installations an SAP assessment must be carried out. These efficiency and output figures may then be used for SAP calculations remembering that they are for nominal output conditions. Currently, when the appliance is for supplementary heating the nominal output efficiency is used. Where the appliance supplies full heating for the house and no slow combustion Test figure is available a default figure is applied for slow combustion being 95% of that at nominal output. This usually results in a “seasonal” efficiency of 97.5% of the measured efficiency at nominal output.

The appliances listed provide a wide choice of styles and outputs ranging from open fires with and without water heating boilers, through roomheaters and stoves with and without boilers, to independent central heating boilers and cookers which may also include small or large output boilers. Care should be taken in the selection of the appliance best suited to the specific needs of your house and your life style. A number of organisations are ready and able to give help should you require it and their names and addresses are given elsewhere in this publication.

B. OPEN FIRES

- OVERNIGHT BURNING** Except where otherwise stated in the "Manufacturer's Remarks" column the approval requirements for classification as overnight burning are deemed to have been met. Appliances which require a deepening plate for overnight burning will be intermittent if the deepening plate is not used. The statement 'Intermittent' indicates that although the appliance can be operated at low combustion rates it is not intended to burn overnight.
- DEEPENING BAR** Where these words appear in the "Appliances" column, a deepening bar is necessary to achieve the required heat output.
- OPTIONAL EXTRAS** Where a deepening plate or a deepening bar is shown as an optional extra in the "Manufacturer's Remarks" column, its use, although improving the performance of the appliance, is not essential

B1. INSET - INCLUDING THOSE WITH UNDERFLOOR AIR SUPPLY ATTACHMENT

Fires in this section are recommended for rooms of normal construction up to 50m³ maximum for 400mm fires and 57m³ maximum for 450mm fires and larger fires. Minimum rated outputs are 2.5kW for 400mm fires and 2.9kW for 450mm fires and larger fires.

Some makes of inset fires are marketed in two forms with the same name: one form for fixing to the hearth; the other, a "portable" model said to require no fixing. In such cases only the fixed model is approved.

Approval relates only to the appliance as a simple inset fire and selection for installation to an existing boiler should only be made with technical guidance. When an inset fire is approved for use with a specific back boiler it is shown as part of the complete unit in Section C and/or D.

APPROVED FUELS
<p>Fuels regarded as suitable for the appliances in this section are listed, as approved open fire fuels, in Table B (Manufactured Smokeless Fuels) and Tables D and E (Bituminous Coal) (see Introductory Note 4.5) of Part 2 (Fuels) of this 'Guide'.</p> <p>For fires with underfloor air attachment, also 'Sunbrite' Doubles. For fires with fans, also 'Sunbrite' doubles, 'Phurnacite' and Anthracite Large Nuts listed in Table C (Natural Smokeless Fuels) of Part 2 (Fuels) of this 'Guide' .</p>

Appliances	Manufacturers	Manufacturer's Remarks (See Notes page 13)
Carlton, 400mm with deepening plate	Ouzledale Foundry Co. Ltd.	
Firemaster Regal, 400mm	" " " "	Alternative firefronts: No. 65, No. 100, No. 2000 Intermittent. Deepening bar optional extra.
Firemaster, Drop Front Firestar, 400mm	" " " "	Deepening bar not required
Parkray Paragon, 400mm , with deepening bar and deepening plate	Parkray Ltd.	Chrome iron 16mm air space bottomgrate available. Not suitable for petroleum coke but approved petroleum coke blends may be used if a chrome iron bottomgrate is fitted. See Introductory Note 4.6.
Queen Star, 400mm and 450mm Drop Front	Grahamston Iron Co. (1993) Ltd	Deepening bar and deepening plate optional extras

B2. FREESTANDING - CONVECTOR

Fires in this section have an adjustable throat (see Introductory Note 5.3) and allowance has been made for this in the room heating figures

APPROVED FUELS

Fuels regarded as suitable for the appliances in this section are listed, as approved open fire fuels, in Table B (Manufactured Smokeless Fuels) and Tables D and E (Bituminous Coal) (see Introductory Note 4.5) of Part 2 (Fuels) of this 'Guide'

Appliances	Manufacturers	Minimum Rated Output kW and Gross Efficiency At Nominal Output (see introductory Notes 6.2, 6.3 and 6.4)		Manufacturer's Remarks (See Notes page 13)
		Minimum Rated Output kW	% Gross Eff.	
Rembrandt, 450mm	AGA	3.6	52.6	Requires suitable recess according to maker's instructions. Intermittent.

B4. INSET - CONVECTOR

Fires in this section are designed to be built into a builder's opening or into a recess.

APPROVED FUELS

Fuels regarded as suitable for the appliances in this section are listed, as approved open fire fuels, in Table B (Manufactured Smokeless Fuels) and dry matured wood logs (see Introductory Note 4.5) of this "Guide"

Appliances (See Notes above)	Manufacturers	Rated Output kW and Gross Efficiency at Nominal Output		Manufacturer's Remarks (See Notes above)
		Direct Room Heating kW	% Gross Eff.	
Universal 500	Jetmaster Fires Ltd	When burning wood using wood tray only 15.0	43.0	Manual primary air control. Burns wood logs using supplied wood tray only. Refuel period is 0.75 h to give the rated output shown. This appliance is classed as "intermittent" when burning wood.
Standard 18"	Jetmaster Fires Ltd	When burning wood using wood tray only 8.5	43.0	Manual primary air control. Burns wood logs using supplied wood tray only. Refuel period is 1.0 h to give the rated output shown. This appliance is classed as "intermittent" when burning wood.

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B4. INSET – CONVECTOR (continued)

Appliances (See Notes above)	Manufacturers	Rated Output kW and Gross Efficiency at Nominal Output		Manufacturer's Remarks (See Notes above)
		Direct Room Heating kW	% Gross Eff.	
Standard 16W	Jetmaster Fires Ltd	When burning wood using wood tray only 5.5	46.4	Manual primary air control. Burns wood logs using supplied wood tray only. Refuel period is 1.0 h to give the rated output shown. This appliance is classed as "intermittent" when burning wood.
Standard 16M	Jetmaster Fires Ltd	When burning wood using basket 18.0 When burning Smokeless fuels using basket 5.8	49.1 50.8	Manual primary air control. Supplied with basket for burning Manufactured and Natural Smokeless fuels as approved for open fires in Part 2 of this Guide and wood logs only. Refuel periods are 0.25 h for wood and 2.0 h for smokeless fuels to give the rated outputs shown. This appliance is classed as "intermittent" when burning both wood and smokeless fuels.
Universal 600	Jetmaster Fires Ltd	When burning using wood tray 20.0	43.0	Manual primary air control. Supplied with either a basket or wood tray for burning wood logs only. Refuel period is 0.5 h using wood tray to give the rated outputs shown. This appliance is classed as "intermittent" when burning wood.

D. OPEN FIRES WITH HIGH OUTPUT BACK BOILERS

OVERNIGHT BURNING

Except where otherwise stated in the "Manufacturer's Remarks" column the approval requirements for classification as overnight burning are deemed to have been met. Appliances which require a deepening plate for overnight burning will be intermittent if the deepening plate is not used. The statement 'Intermittent' indicates that although the appliance can be operated at low combustion rates it is not intended to burn overnight.

DEEPENING BAR

Where these words appear in the "Appliances" column, a deepening bar is necessary to achieve the required heat output.

OPTIONAL EXTRAS

Where a deepening plate or a deepening bar is shown as an optional extra in the "Manufacturer's Remarks" column, its use, although improving the performance of the appliance, is not essential.

APPLICATION

These appliances give their heat output in two forms:

- (a) Radiation from the open fire for direct room heating.
- (b) Hot water from the boiler which is available for domestic use and/or radiators.

The purpose of quoting performance under two different operating conditions (boiler damper closed or boiler damper open) is to illustrate the range of outputs offered. Specialist advice should always be sought to ensure a satisfactory balance between direct heating by radiation (possibly supplemented by a radiator) of the living-room and indirect heating by the boiler of domestic hot water and radiators. The rated outputs set against each appliance relate to the maintainable performance under test conditions with a standard test fuel and calculated to a burning rate of 1.13kg/h for 400mm and 1.36 kg/h for 450mm fires. These outputs are given under alternative conditions of working. The appliance selected should be one capable of meeting the particular space heating and hot water requirements together under one of the conditions set down, i.e. with the boiler damper either closed or open if satisfactory service under conditions of -1°C outside temperature is to be obtained. Flexibility can be obtained by control of the burning rate and by selective control of the installed radiators.

Other factors should be taken into account when selecting any appliance, and the appliance manufacturer's leaflets should be consulted for details of appliance construction, fuel and ashpan capacity, etc. Radiator sizes should be based on the heat transmission coefficient of the type of radiator selected. **The following commonly used figures are the lowest which should be taken in making a preliminary selection of an appliance:**

Room heating rating for the open fire - 0.05 kW/m³

Domestic hot water - 1.2 kW

Radiator and pipe-work transmission - 0.5 kW/m²

SPECIAL NOTES

Fires and boilers should not be ordered separately or they may not correspond and results may be unsatisfactory; approval in this Guide, therefore, implies the sale of the complete units. All the open fires in this section are supplied either as complete units or as complete sets of components (grate, boiler, fire bricks, etc.), together with the assembly instructions. For boilers which have narrow waterways the remark "Suitable for indirect hot water systems only" is added (see introductory Note 7.3).

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D. OPEN FIRES WITH HIGH OUTPUT BACK BOILERS (continued)

1. INSET

APPROVED FUELS

Fuels regarded as suitable for the appliances in this section are listed, as approved open fire fuels, in Table B (Manufactured Smokeless Fuels) and Tables D and E (Bituminous Coal) (see Introductory Note 4.5) of Part 2 (Fuels) of this 'Guide'.

For fires with fans, also 'Sunbrite' doubles, 'Phurnacite' and Anthracite Large Nuts listed in Table C (Natural Smokeless Fuels) of Part 2 (Fuels and Firelighters) of this 'Guide'.

Appliances	Manufacturers	Rated Output kW and Gross Efficiency at Nominal Output (see introductory Notes 6.2, 6.3 and 6.4) Damper: C=closed; 0=open			Manufacturer's Remarks (See Notes above)
		Direct Room Heating	Water	% Gross Eff.	
Dunsley Flued Boiler , with the following Fires: Dunsley Firefly, 400mm , with deepening bar and deepening plate Dunsley Firefly, 450mm , with deepening bar and deepening plate	Dunsley Heat Ltd				
	" " " "	C.2.2 O.1.5	4.0 5.3	61.7 68.8	Suitable for indirect hot water systems only.
	" " " "	C.2.6 O.1.8	4.8 6.5	61.7 68.8	Suitable for indirect hot water systems only.
Dunsley Super Flued Boiler , with the following Fires: Dunsley Firefly, 400mm , with deepening bar and deepening plate Dunsley Firefly, 450mm , with deepening bar and deepening plate	Dunsley Heat Ltd				
	" " " "	C.1.9 O.1.3	4.6 5.6	64.1 68.5	Suitable for indirect hot water systems only.
	" " " "	C.2.2 O.1.6	5.5 6.9	64.1 68.5	Suitable for indirect hot water systems only.

3. INSET – WITH RECTANGULAR FIREBOXES

The notes at the beginning of Section D Open Fires with High Output Boilers also apply to units with rectangular fireboxes, with the following exceptions: (a) The rated outputs of such 400mm fires are based on a burning rate of 1.36 kg/h (b) The test standards are those applied to 450mm fires in Section D1.

APPROVED FUELS

Fuels regarded as suitable for the appliances in this section are listed, as approved open fire fuels, in Table B (Manufactured Smokeless Fuels) and Tables D and E (Bituminous Coal) (see Introductory Note 4.5) of Part 2 (Fuels) of this 'Guide'.

Appliances	Manufacturers	Rated Output kW and Gross Efficiency At Nominal Output (see introductory Notes 6.2, 6.3 and 6.4) Damper: C=closed; 0=open			Manufacturer's Remarks (See Notes page 15)
		Direct Room Heating	Water	% Gross Eff.	
Dunsley Enterprise boiler with Standard or Castle 400mm fire , with deepening bar and deepening plate	Dunsley Heat Ltd	C.2.1 O.1.9	5.7 7.2	65.1 75.4	
	" " " "	C.2.5 O.2.5	6.3 7.7	63.0 73.2	
Dunsley Enterprise boiler with Standard or Castle 450mm fire , with deepening bar and deepening plate					

D. OPEN FIRES WITH HIGH OUTPUT BACK BOILERS (continued)

4. INSET – WITH RECTANGULAR FIREBOXES – TESTED AND RATED ON BOTH BITUMINOUS COAL AND SMOKELESS FUEL

The appliances have been tested using standard smokeless test fuels and have met the thermal and constructional requirements for appliances in Section D.1. These appliances are suitable for use in Smoke Control Areas when burning smokeless fuel but have not been exempted for use in these areas when burning bituminous coal.

- (a) The rated outputs on bituminous coal are based on the performance with representative samples under test conditions which provide for 1½ hourly refuelling intervals and 1.81 kg/h burning rate for 400mm appliances with rectangular bottom grates.
- (b) The rated outputs on standard smokeless test fuels are based on the performance under test conditions and calculated to a burning rate of 1.36 kg/h for 400mm appliances with rectangular bottom grates.
- (c) The test standards for coal burning differ from those applied to other coal burning appliances in other sections of the list.

APPROVED FUELS

Fuels regarded as suitable for the appliances in this section are listed, as approved open fire fuels, in Table B (Manufactured Smokeless Fuels) and Tables D and E (Bituminous Coal) (see Introductory Note 4.5) of Part 2 (Fuels) of this 'Guide'.

Appliances	Manufacturers	Rated Output kW and Gross Efficiency at Nominal Output (see introductory Notes 6.2, 6.3 and 6.4) Damper: C=closed; O=open			Manufacturer's Remarks (See Notes page 15)
		Direct Room Heating	Water	% Gross Eff.	
Dunsley Enterprise Mk2 Super-Clean boiler with Standard or Castle 400mm fire, with deepening plate	Dunsley Heat Ltd.	When burning House Coal at 1.81 kg/h			
		C.1.8	5.3	43.5	
		O.1.7	9.6	68.9	
		When burning Smokeless Fuels at 1.36 kg/h			
		C.2.1	4.6	56.5	
		O.2.0	6.8	73.8	
Dunsley Enterprise Mk2 Super-Clean boiler with Standard or Castle 450mm fire, with deepening plate	" " " "	When burning House Coal at 2.12kg/h			
		C.2.2	5.9	42.6	
		O.2.2	10.1	64.4	
		When burning Smokeless Fuels at 1.59kg/h			
		C.2.4	6.0	60.1	
		O.2.6	7.2	70.4	
Hydrograte Triple Pass Easy Clean with Queen Star Drop Front, 400mm, with deepening bar	Grahamston Iron Co. (1993) Ltd.	When burning House Coal at 1.81 kg/h			
		C.1.9	5.5	45.8	
		O.1.3	9.0	63.5	
		When burning Smokeless Fuels at 1.36kg/h			
		C.2.0	5.7	64.6	
		O.1.7	7.2	74.9	
Hydrograte Triple Pass Easy Clean with Queen Star Drop Front, 450mm, with deepening bar	" " " "	When burning House Coal at 2.12 kg/h			
		C.2.4	6.1	44.2	
		O.1.8	10.1	62.1	
		When burning Smokeless Fuels at 1.59 kg/h			
		C.2.5	5.4	57.0	
		O.2.0	8.0	71.6	

E. ROOMHEATERS

The type of appliance is shown in the "Manufacturer's Remarks" column as Freestanding or Inset.

APPLICATION

The rated output shown against each roomheater is based on the performance with a standard test fuel and doors closed under test conditions which provide for a four-hourly refuelling interval.

In making a preliminary selection of an appliance, an allowance of not less than the following should be taken:

For rooms of about 28m³ - 0.07 kW/m³ For rooms of about 57m³ - 0.06 kW/m³ For rooms of about 85m³ - 0.05 kW/m³

The precise value varies appreciably not only with size, but according to the insulation and exposure of the room and the temperature requirements. In consequence final selection should not be made without specialist advice. See introductory Note 2.3. If the appliance is installed in a smaller room than the largest it could serve, it will, of course, burn less fuel and require less frequent refuelling. The output shown against each appliance assumes its use with doors closed.

It should be noted that bituminous coal and wood is not by law permitted to be burned on appliances in Smoke Control Areas, except where the appliance has been exempted under Section II (4) of the Clean Air Act, 1956. These exempted appliances are designated thus † in this list, together with a note in the Manufacture's Remarks column for easy recognition.

Appliances have also been approved on the basis that they are 'Safe and Fit for Purpose' without assessment of performance. This is particularly applicable to those classes of appliance which do not provide the main heating of the house or which are installed primarily for aesthetic reasons and to which the full British Standard does not apply but for which the purchaser requires the degree of assurance appropriate to his needs.

APPROVED FUELS

Fuels regarded as suitable for the appliances in this section are listed, as approved closed appliance fuels, in Table B (Manufactured Smokeless Fuels) and Table C (Natural Smokeless Fuels) of Part 2 (Fuels) of this 'Guide'. Refer to the Manufacturer's Remarks column for variations including woodburning.

'Sunbrite' Singles are more suitable than 'Sunbrite' Doubles when the room size is much smaller than the recommended maximum and at such times as Spring and Autumn.

Appliances (See Notes above)	Manufacturers	Rated Output kW and Gross Efficiency at Nominal Output (see introductory Notes 6.2, 6.3 and 6.4)		Manufacturer's Remarks (See Notes above)
		Direct Room Heating	% Gross Eff.	
Yorkshire Multi Fuel Stove †	Dunsley Heat Ltd.	When burning smokeless fuels 7.7 When burning wood 7.5	68.2 71.0	When assessed to achieve the output level claimed this appliance falls within the recognised category of an intermittent burning appliance, when fired on wood. Note: This roomheater has also been exempted by DEFRA under Section 11 (4) of the Clean Air Act, 1956 for burning wood in smoke control areas.
Highlander 7 Multifuel	Dunsley Heat Ltd	When burning smokeless fuels 6.0 When burning wood 5.0	72.3 70.3	Freestanding multi-fuel roomheater. Manual primary air control. Burns Manufactured and Natural Smokeless fuels as approved for closed appliances in Part 2 of this Guide and wood logs only. Refuel periods are 1.0 h for both wood and smokeless fuels to give the rated outputs shown. This appliance is classed as "intermittent" when burning both wood and smokeless fuels.

E. ROOMHEATERS (continued)

Appliances (See Notes above)	Manufacturers	Rated Output kW and Gross Efficiency at Nominal Output (see introductory Notes 6.2, 6.3 and 6.4)		Manufacturer's Remarks (See Notes above)
		Direct Room Heating	% Gross Eff.	
Aga Little Wenlock	AGA	When burning smokeless fuels 4.2 When burning wood 5.7	77.0 73.9	Burns Manufactured and Natural Smokeless fuels as approved for closed appliances in Part 2 of this Guide and wood logs only. Refuel periods for wood are 1.5h and for smokeless fuels 4h to give the rated outputs shown. This appliance is classed as "intermittent" when burning wood.
Aga Much Wenlock	AGA	When burning smokeless fuels 4.1 When burning wood 5.5	69.5 72.0	Comments as above
Aga Berrington	AGA	When burning smokeless fuels 8.5 When burning wood 8.2	75.0 67.9	Comments as above
Oisin	Waterford Stanley	When burning smokeless fuels 4.2 When burning wood 5.7	77.0 73.9	Burns Manufactured and Natural Smokeless fuels as approved for closed appliances in Part 2 of this Guide and wood logs only. Refuel periods for wood are 1.5h and for smokeless fuels 4h to give the rated outputs shown. This appliance is classed as "intermittent" when burning wood. European Type Test Report No. 6026
Tara	Waterford Stanley	When burning smokeless fuels 4.1 When burning wood 5.5	69.5 72.0	Comments as above European Type Test Report No. 6027
Ashling	Waterford Stanley	When burning smokeless fuels 8.5 When burning wood 8.2	75.0 67.9	Comments as above European Type Test Report No. 6032

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E. ROOMHEATERS (continued)

Appliances (See Notes above)	Manufacturers	Rated Output kW and Gross Efficiency at Nominal Output (see introductory Notes 6.2, 6.3 and 6.4)		Manufacturer's Remarks (See Notes above)
		Direct Room Heating	% Gross Eff.	
Bransdale, Priory & Glaisdale Range: Bransdale Priory Glaisdale	Town and Country Fires	When burning smokeless fuels 8.0	77.3	Freestanding multi-fuel stoves. Manual primary air control. Burns Manufactured and Natural Smokeless fuels as approved for closed appliances in Part 2 of this Guide and wood logs only. Refuel periods are 1.0 h for wood and 2.0 h for smokeless fuels to give the rated outputs shown. These appliances are classed as "intermittent" when burning both wood and smokeless fuels.
		When burning wood 8.0	67.1	
		When burning smokeless fuels 8.0	76.8	
		When burning wood 8.0	67.1	
		When burning smokeless fuels 10.0	76.8	
		When burning wood 10.0	69.8	
		When burning smokeless fuels 5.0	81.6	
		When burning wood 5.0	73.8	
Farndale, Little Thurlow, Rydale & Whisperdale Range: Farndale Little Thurlow Rydale Whisperdale	Town and Country Fires	When burning smokeless fuels 5.0	77.6	Freestanding multi-fuel stoves. Manual primary air control. Burns Manufactured and Natural Smokeless fuels as approved for closed appliances in Part 2 of this Guide and wood logs only. Refuel periods are 1.0 h for wood and 2.0 h for smokeless fuels to give the rated outputs shown. These appliances are classed as "intermittent" when burning both wood and smokeless fuels.
		When burning wood 5.0	72.2	
		When burning smokeless fuels 5.0	77.6	
		When burning wood 5.0	72.2	
		When burning smokeless fuels 5.0	77.6	
		When burning wood 5.0	72.2	
		When burning smokeless fuels 5.0	77.6	
		When burning wood 5.0	72.2	

E. ROOMHEATERS (continued)

Appliances (See Notes above)	Manufacturers	Rated Output kW and Gross Efficiency at Nominal Output (see introductory Notes 6.2, 6.3 and 6.4)		Manufacturer's Remarks (See Notes above)
		Direct Room Heating	% Gross Eff.	
Thornton Dale	Town and Country Fires	When burning smokeless fuels 7.5 When burning wood 7.0	79.4 67.5	Freestanding multi-fuel stove. Manual primary air control. Burns Manufactured and Natural Smokeless fuels as approved for closed appliances in Part 2 of this Guide and wood logs only. Refuel periods are 1.0 h for wood and 2.0 h for smokeless fuels to give the rated outputs shown. This appliance is classed as "intermittent" when burning both wood and smokeless fuels.
Runswick	Town and Country Fires	When burning smokeless fuels 4.3 When burning wood 4.3	73.0 72.7	Freestanding multi-fuel stove. Manual primary air control. Burns Manufactured and Natural Smokeless fuels as approved for closed appliances in Part 2 of this Guide and wood logs only. Refuel periods are 1.0 h for wood and 2.0 h for smokeless fuels to give the rated outputs shown. This appliance is classed as "intermittent" when burning both wood and smokeless fuels. Top flue adaptor supplied for use with chimney liner.
Charnwood Island Range: Island I Island II Island III	A J Wells & Sons	When burning wood 6.0 8.0 12.0	 72.1 71.5 70.5	Freestanding wood burning stoves. Manual primary air control. Burns wood logs only. Refuel periods are 1.5h to give the rated outputs shown. These appliances are classed as "intermittent" when burning wood.
Charnwood Cove Range: Cove 1 Cove 2 Cove 3	A J Wells & Sons	When burning wood 4.0 8.0 12.0	 69.1 69.6 73.1	Freestanding wood burning stoves. Manual primary air control. Burns wood logs only. Refuel periods are 1.5h to give the rated outputs shown. These appliances are classed as "intermittent" when burning wood.
Charnwood Country Range: Country 4 Mk II Country 6 Mk II Country 8 Mk II Country 12 Mk II	A J Wells & Sons	When burning wood 4.0 6.0 8.0 12.0	 75.0 74.3 73.1 68.4	Freestanding wood burning stoves. Manual primary air control. Burns wood logs only. Refuel periods are 1.5h to give the rated outputs shown. These appliances are classed as "intermittent" when burning wood.

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E. ROOMHEATERS (continued)

Appliances (See Notes above)	Manufacturers	Rated Output kW and Gross Efficiency at Nominal Output (see introductory Notes 6.2, 6.3 and 6.4)		Manufacturer's Remarks (See Notes above)
		Direct Room Heating	% Gross Eff.	
Villager Bromley/ Berkeley	Lyme Regis Engineering Co. Ltd	When burning wood only 8.0	69.5	Freestanding wood burning stove. Manual primary air control. Burns wood logs only. Refuel period is 1.0 h to give the rated output shown. This appliances is classed as "intermittent" when burning wood.
Villager Chelsea Solo	Lyme Regis Engineering Co. Ltd	When burning smokeless fuels 5.0 When burning wood 5.0	66.4 65.7	Freestanding multi-fuel stove. Manual primary air control. Burns Manufactured and Natural Smokeless fuels as approved for closed appliances in Part 2 of this Guide and wood logs only. Refuel periods are 1.0 h for wood and 2.0 h for smokeless fuels to give the rated outputs shown. This appliance is classed as "intermittent" when burning both wood and smokeless fuels.
Villager Bayswater	Lyme Regis Engineering Co. Ltd	When burning smokeless fuels 7.0 When burning wood 6.0	71.8 65.2	Freestanding multi-fuel stove. Manual primary air control. Burns Manufactured and Natural Smokeless fuels as approved for closed appliances in Part 2 of this Guide and wood logs only. Refuel periods are 0.85 h for wood and 3.0 h for smokeless fuels to give the rated outputs shown. This appliance is classed as "intermittent" when burning both wood and smokeless fuels.
Villager Flatmate	Lyme Regis Engineering Co. Ltd	When burning wood only 8.0	71.2	Freestanding wood burning stove. Manual primary air control. Burns wood logs only. Refuel period is 1.0 h to give the rated output shown. This appliances is classed as "intermittent" when burning wood.
Villager 'A Flat' Woodburner	Lyme Regis Engineering Co. Ltd	When burning wood only 15.0	65.0	Freestanding wood burning stove. Manual primary air control. Burns wood logs only. Refuel period is 1.0 h to give the rated output shown. This appliances is classed as "intermittent" when burning wood.

E. ROOMHEATERS (continued)

Appliances (See Notes above)	Manufacturers	Rated Output kW and Gross Efficiency at Nominal Output (see introductory Notes 6.2, 6.3 and 6.4)		Manufacturer's Remarks (See Notes above)
		Direct Room Heating	% Gross Eff.	
Harmony, Stanford and Nestor Martin 23 Models (Rear Flue Outlet Only) S23 † H23 † R23 † SP23 †	Nestor Martin Euroheat Distributors (H.B.S) Ltd	When burning wood only 5.9	65.7	Freestanding wood burning stoves. Manual primary air control. Burns wood logs only. Refuel period using rear flue outlet only is 0.75 h to give the rated output shown. This appliance is classed as "intermittent" when burning wood.
Harmony and Stanford 43 Models (Rear Flue Outlet Only) S43 H43 SP43	Nestor Martin Euroheat Distributors (H.B.S) Ltd	When burning wood only 10.5	72.8	Freestanding wood burning stoves. Manual primary air control. Burns wood logs only. Refuel period using rear flue outlet only is 0.79 h to give the rated output shown. This appliance is classed as "intermittent" when burning wood.
Nestor Martin Models (Rear Flue Outlet Only) RH33 FH33	Nestor Martin Euroheat Distributors (H.B.S) Ltd	When burning wood only 8.0	69.7	Freestanding wood burning stoves. Manual primary air control. Burns wood logs only. Refuel period using rear flue outlet only is 0.76 h to give the rated output shown. This appliance is classed as "intermittent" when burning wood.
Harmony 1 (Rear Flue Outlet Only)	Nestor Martin Euroheat Distributors (H.B.S) Ltd	When burning wood only 8.0	70.1	Freestanding wood burning stove. Manual primary air control. Burns wood logs only. Refuel period using rear flue outlet only is 0.85 h to give the rated output shown. This appliance is classed as "intermittent" when burning wood.
Harmony III (Rear Flue Outlet Only)	Nestor Martin Euroheat Distributors (H.B.S) Ltd	When burning wood only 16.0	68.9	Freestanding wood burning stove. Manual primary air control. Burns wood logs only. Refuel period using rear flue outlet only is 0.99 h to give the rated output shown. This appliance is classed as "intermittent" when burning wood.
Stanford 80 (Rear Flue Outlet Only)	Nestor Martin Euroheat Distributors (H.B.S) Ltd	When burning wood only 8.0	70.1	Freestanding wood burning stove. Manual primary air control. Burns wood logs only. Refuel period using rear flue outlet only is 0.85 h to give the rated output shown. This appliance is classed as "intermittent" when burning wood.

† denotes it is a DEFRA Exempted Appliance and can be used in Smoke Control Areas.

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E. ROOMHEATERS (continued)

Appliances (See Notes above)	Manufacturers	Rated Output kW and Gross Efficiency at Nominal Output (see introductory Notes 6.2, 6.3 and 6.4)		Manufacturer's Remarks (See Notes above)
		Direct Room Heating	% Gross Eff.	
Hwam Beethoven † Hwam Beethoven H † Hwam Vivaldi † Hwam Mozart † Hwam Ravel † Hwam 30 †	Hwam Euroheat Distributors (H.B.S) Ltd	When burning wood only 4.5	70.1	Freestanding wood burning stoves. Burns wood logs only. Refuel period is 1.20 h to give the rated output shown. These appliances are classed as "intermittent" when burning wood.
Hwam Monet Hwam Monet H Hwam Dali Hwam 60	Hwam Euroheat Distributors (H.B.S) Ltd	When burning wood only 5.5	68.3	Freestanding wood burning stoves. Burns wood logs only. Refuel period is 1.07 h to give the rated output shown. These appliances are classed as "intermittent" when burning wood.
Hwam 3310 Hwam 3320	Hwam Euroheat Distributors (H.B.S) Ltd	When burning wood only 4.6	74.6	Freestanding wood burning stoves. Burns wood logs only. Refuel period is 1.20 h to give the rated output shown. These appliances are classed as "intermittent" when burning wood.
Hwam Figaro	Hwam Euroheat Distributors (H.B.S) Ltd	When burning wood only 6.0	66.4	Freestanding wood burning stove. Burns wood logs only. Refuel period is 0.97 h to give the rated output shown. This appliance is classed as "intermittent" when burning wood.
Hwam 1060 Inset	Hwam Euroheat Distributors (H.B.S) Ltd	When burning wood only 7.0	69.2	Inset wood burning stove. Burns wood logs only. Refuel period is 1.0 h to give the rated output shown. This appliance is classed as "intermittent" when burning wood.

† denotes it is a DEFRA Exempted Appliance and can be used in Smoke Control Areas.

E. ROOMHEATERS (continued)

Appliances (See Notes above)	Manufacturers	Rated Output kW and Gross Efficiency at Nominal Output (see introductory Notes 6.2, 6.3 and 6.4)		Manufacturer's Remarks (See Notes above)
		Direct Room Heating	% Gross Eff.	
Firewarm 4	Heat Design	When burning wood 4.0	69.1	Freestanding wood burning stove. Manual primary air control. Burns wood logs only. Refuel period is 1.5 h to give the rated output shown. This appliance is classed as "intermittent" when burning wood.
Firewarm 6	Heat Design	When burning wood 6.0	71.6	Freestanding wood burning stove. Manual primary air control. Burns wood logs only. Refuel period is 1.5 h to give the rated output shown. This appliance is classed as "intermittent" when burning wood.
Firewarm 8	Heat Design	When burning wood 8.0	71.1	Freestanding wood burning stove. Manual primary air control. Burns wood logs only. Refuel period is 1.5 h to give the rated output shown. This appliance is classed as "intermittent" when burning wood.
Firewarm 12	Heat Design	When burning wood 12.0	70.2	Freestanding wood burning stove. Manual primary air control. Burns wood logs only. Refuel period is 1.5 h to give the rated output shown. This appliance is classed as "intermittent" when burning wood.

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E. ROOMHEATERS (continued)

Appliances (See Notes above)	Manufacturers	Rated Output kW and Gross Efficiency at Nominal Output (see introductory Notes 6.2, 6.3 and 6.4)		Manufacturer's Remarks (See Notes above)
		Direct Room Heating	% Gross Eff.	
Vermont Castings Resolute Acclaim †	BFM Europe Ltd	When burning Wood only 10.7	67.1	Freestanding wood burning stove. Manual primary air control. Burns wood logs only. Refuel period is 1.3 h to give the rated output shown. This appliance is classed as "intermittent" when burning wood.
Vermont Castings Encore (Non-catalytic)	BFM Europe Ltd	When burning Wood only 12.5	68.5	Freestanding non-catalytic wood burning stove. Manual primary air control. Burns wood logs only. Refuel period is 1.25 h to give the rated output shown. This appliance is classed as "intermittent" when burning wood.
Vermont Castings Encore (Catalytic) †	BFM Europe Ltd	When burning Wood only 10.1	69.2	Freestanding catalytic wood burning stove. Manual primary air control. Burns wood logs only. Refuel period is 2.0 h to give the rated output shown. This appliance is classed as "intermittent" when burning wood.
Vermont Castings Defiant (Non-catalytic)	BFM Europe Ltd	When burning Wood only 14.5	65.6	Freestanding non-catalytic wood burning stove. Manual primary air control. Burns wood logs only. Refuel period is 1.8 h to give the rated output shown. This appliance is classed as "intermittent" when burning wood.
Vermont Castings Defiant (Catalytic)	BFM Europe Ltd	When burning Wood only 12.6	69.0	Freestanding catalytic wood burning stove. Manual primary air control. Burns wood logs only. Refuel period is 2.0 h to give the rated output shown. This appliance is classed as "intermittent" when burning wood.
Vermont Castings Federal Dutchwest (Catalytic):	BFM Europe Ltd			Freestanding catalytic wood burning stoves. Manual primary air control. Burns wood logs only. Refuel period is 2.0 h to give the rated outputs shown. These appliances are classed as "intermittent" when burning wood.
Model 2462CE		When burning Wood only 11.2	69.1	
Model 2461CE		When burning Wood only 9.6	69.1	
Model 2460CE		When burning Wood only 8.1	70.7	

E. ROOMHEATERS (continued)

Appliances (See Notes above)	Manufacturers	Rated Output kW and Gross Efficiency at Nominal Output (see introductory Notes 6.2, 6.3 and 6.4)		Manufacturer's Remarks (See Notes above)
		Direct Room Heating	% Gross Eff.	
Vermont Castings Intrepid II Multifuel 1695CE 1697CE	BFM Europe Ltd	When burning wood 7.0 When burning smokeless fuels 6.4	68.8 68.7	Freestanding multi-fuel stove. Manual primary air control. Burns Manufactured and Natural Smokeless fuels as approved for closed appliances in Part 2 of this Guide and wood logs only. Refuel periods are 2.0 h for wood and 2.0 h for smokeless fuels to give the rated outputs shown. This appliance is classed as "intermittent" when burning both wood and smokeless fuels.
Vermont Castings Intrepid II Wood-burning †	BFM Europe Ltd	When burning Wood only 6.2	66.4	Freestanding wood burning stove. Manual primary air control. Burns wood logs only. Refuel period is 2.0 h to give the rated output shown. This appliance is classed as "intermittent" when burning wood.
Vermont Castings Federal Dutchwest Convection (Non Catalytic): Model 2477CE Model 2478CE Model 2479CE	BFM Europe Ltd	When burning Wood only 11.1 When burning Wood only 11.6 When burning Wood only 12.2	65.2 65.2 68.6	Freestanding Non Catalytic wood burning convection stoves. Manual primary air control. Burns wood logs only. Refuel periods are 2.0 h for the 2478 and 2479 models and 1.0 h for the 2477 model to give the rated outputs shown. These appliances are classed as "intermittent" when burning wood.
Vermont Castings Aspen	BFM Europe Ltd	When burning Wood only 5.5	69.5	Freestanding wood burning stove. Manual primary air control. Burns wood logs only. Refuel period is 1.75 h to give the rated output shown. This appliance is classed as "intermittent" when burning wood.

† denotes it is a DEFRA Exempted Appliance and can be used in Smoke Control Areas.

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E. ROOMHEATERS (continued)

Appliances (See Notes above)	Manufacturers	Rated Output kW and Gross Efficiency at Nominal Output (see introductory Notes 6.2, 6.3 and 6.4)		Manufacturer's Remarks (See Notes above)
		Direct Room Heating	% Gross Eff.	
Hawk 3	Hunter Stoves Ltd	When burning wood 4.0 When burning smokeless fuels 3.5	65.0 65.1	Freestanding multi-fuel roomheater. Manual primary air control. Burns Manufactured and Natural Smokeless fuels as approved for closed appliances in Part 2 of this Guide and wood logs only. Refuel periods are 1.0 h for wood and 2.0 h for smokeless fuels to give the rated outputs shown. This appliance is classed as "intermittent" when burning both wood and smokeless fuels.
Herald 6	Hunter Stoves Ltd	When burning Wood 5.5 When burning smokeless fuels 6.5	68.5 65.6	Freestanding multi-fuel roomheater. Manual primary air control. Burns Manufactured and Natural Smokeless fuels as approved for closed appliances in Part 2 of this Guide and wood logs only. Refuel periods are 1.0 h for wood and 4.0 h for smokeless fuels to give the rated outputs shown. This appliance is classed as "intermittent" when burning wood.
Herald 8	Hunter Stoves Ltd	When burning Wood 9.1 When burning smokeless fuels 7.6	72.3 66.7	Freestanding multi-fuel roomheater. Manual primary air control. Burns Manufactured and Natural Smokeless fuels as approved for closed appliances in Part 2 of this Guide and wood logs only. Refuel periods are 1.0 h for wood and 4.0 h for smokeless fuels to give the rated outputs shown. This appliance is classed as "intermittent" when burning wood.
Herald 14	Hunter Stoves Ltd	When burning Wood 11.5 When burning smokeless fuels 9.0	72.3 77.4	Freestanding multi-fuel roomheater. Manual primary air control. Burns Manufactured and Natural Smokeless fuels as approved for closed appliances in Part 2 of this Guide and wood logs only. Refuel periods are 0.75 h for wood and 4.0 h for smokeless fuels to give the rated outputs shown. This appliance is classed as "intermittent" when burning wood.
Cleanburn CB5	Cleanburn Stoves	When burning wood 5.1	65.5	Freestanding wood burning stove. Manual primary air control. Burns wood logs only. Refuel period is 1.0h to give the rated output shown. This appliance is classed as "intermittent" when burning wood.

E. ROOMHEATERS (continued)

Appliances (See Notes above)	Manufacturers	Rated Output kW and Gross Efficiency at Nominal Output (see introductory Notes 6.2, 6.3 and 6.4)		Manufacturer's Remarks (See Notes above)
		Direct Room Heating	% Gross Eff.	
Pioneer 400 †	Clearview Stoves	When burning wood 5.0	71.9	Freestanding stove. Manual primary air control. Burns wood logs only. Refuel period is 1.0 h to give the rated output shown. This appliance is classed as "intermittent" when burning wood.
Vision 400	Clearview Stoves	When burning Wood 5.0	70.1	Freestanding stove. Manual primary air control. Burns wood logs only. Refuel period is 1.5 h to give the rated output shown. This appliance is classed as "intermittent" when burning wood.
Vision 500 †	Clearview Stoves	When burning Wood 7.0	65.2	Freestanding stove. Manual primary air control. Burns wood logs only. Refuel period is 1.0 h to give the rated output shown. This appliance is classed as "intermittent" when burning wood.
Pioneer 400 Oven †	Clearview Stoves	When burning Wood 6.0	76.8	Freestanding stove. Manual primary air control. Burns wood logs only. Refuel period is 1.0 h to give the rated output shown. This appliance is classed as "intermittent" when burning wood.
Solution 400 †	Clearview Stoves	When burning Wood 5.0	70.1	Freestanding stove. Manual primary air control. Burns wood logs only. Refuel period is 1.0 h to give the rated output shown. This appliance is classed as "intermittent" when burning wood.
Solution 500	Clearview Stoves	When burning Wood 7.0	65.2	Freestanding stove. Manual primary air control. Burns wood logs only. Refuel period is 1.0 h to give the rated output shown. This appliance is classed as "intermittent" when burning wood.

† denotes it is a DEFRA Exempted Appliance and can be used in Smoke Control Areas.

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E. ROOMHEATERS (continued)

Appliances (See Notes above)	Manufacturers	Rated Output kW and Gross Efficiency at Nominal Output (see introductory Notes 6.2, 6.3 and 6.4)		Manufacturer's Remarks (See Notes above)
		Direct Room Heating	% Gross Eff.	
Contura 400 Series : 450 450T 460tall/low 470medium-high 470tall 480	NIBE AB	When burning wood 7.0	70.1	Freestanding wood burning stoves. Manual primary air control. Burns wood logs only. Refuel periods are 0.87 h to give the rated outputs shown. These appliances are classed as "intermittent" when burning wood.
Contura 500 Series : 510 520T 550 560T 560K 570 580	NIBE AB	When burning wood 5.0	73.7	Freestanding wood burning stoves. Manual primary air control. Burns wood logs only. Refuel periods are 1.0 h to give the rated outputs shown. These appliances are classed as "intermittent" when burning wood.
Contura 600 Series : 650 650T 660K 670 680 690	NIBE AB	When burning wood 6.0	67.3	Freestanding wood burning stoves. Manual primary air control. Burns wood logs only. Refuel periods are 1.0 h to give the rated outputs shown. These appliances are classed as "intermittent" when burning wood.
Handóli 20 Series : 21 22 22T 23 23T 24 25 25T	NIBE AB	When burning wood 6.0	71.0	Freestanding wood burning stoves. Manual primary air control. Burns wood logs only. Refuel periods are 1.0 h to give the rated outputs shown. These appliances are classed as "intermittent" when burning wood.

SAFE AND FIT FOR PURPOSE

Appliances (See Notes above)	Manufacturers	Manufacturer's Remarks (See Notes above)
Charnwood LA20i	A.J. Wells & Sons	Hetas approved for burning solid mineral fuel only. Inset. Body temperature thermostat.
Chilli Penguin Stove Multifuel	Chilli Penguin Stoves	Only the freestanding dry model is approved. The boiler and cooker models are not approved.

F. ROOMHEATERS WITH BOILERS

The type of appliance is shown in the "Manufacturer's Remarks" column as Freestanding, Inset or Hopper Feed.

APPLICATION - The following notes are intended to assist the technically minded in using the figures given in this section.

These appliances give their heat output in two forms:

- (a) Radiation and Convection for direct room heating.
- (b) Hot water from the boiler which is available for domestic use and/or radiators.

The rated outputs shown against each roomheater are based on the performance with a standard test fuel and doors closed under test conditions which provide for a four-hourly refuelling interval for smokeless fuels and a 1½ hourly refueling interval for wood logs, except in the case of hopper feed appliances which have a six-hourly refuelling interval. Exceptions are noted in the "Manufacturer's Remarks" column.

In making a preliminary selection of an appliance, a room heating allowance of not less than the following should be taken:

For rooms of about 28m³ - 0.07 kW/m³
For rooms of about 57m³ - 0.06 kW/m³
For rooms of about 85m³ - 0.05 kW/m³

The precise value varies appreciably not only with size, but according to the insulation and exposure of the room and the temperature requirements. In consequence final selection should not be made without specialist advice. See Introductory Note 2.3.

The following commonly used figures are the lowest which should be taken in making a preliminary selection of an appliance:

Domestic Hot Water - 1.2kW
Radiator and pipe-work transmission - 0.5kW/m²

It may be assumed as an approximation that over a range of burning rates the proportions of direct room heating and water heating follow the same ratio as the rated output figures shown against each appliance. The appliance will burn less fuel and require less frequent re-fuelling if:

- (a) it is installed in a smaller room (or a room having a lower heat loss) than the largest it can serve, in which case the boiler output will be correspondingly less; or
- (b) it is installed or operated with a domestic hot water and/or central heating load which is less than the rated output of the boiler.

Account should be taken of the conditions outlined in (a) when determining the domestic hot water and/or central heating load that can be served by the boiler. In the case of (b) it will be necessary to determine whether any supplementary heating surface will be needed in the room in which the roomheater is installed.

Installation of a radiator in the same room as the appliance gives the user greater control over the total heat input to the room and thus provides for economy in running costs. This is particularly the case when:

- (a) The "direct room heating" output of the roomheater is close to the calculated heat requirement of a room, or;
- (b) There is a pro-rata reduction of the direct room heating output as described in paragraph (b) above.

If the appliance is installed in a room having a heat requirement in excess of the direct room heating output, then an appropriate amount of radiator surface must be installed in the same room. Some roomheaters are fitted with boiler flue dampers which vary the proportion of space heating output to water heating output. In these cases outputs are given under alternative conditions of working. The appliance selected should be one capable of meeting the particular space heating and hot water requirements together under one of the conditions set down, ie with the boiler damper either closed or open, if satisfactory service under conditions of -1°C outside temperature is to be obtained. In the case of boilers which have narrow waterways the remark 'Suitable for indirect hot water systems only' is added (see Introductory Note 7.3).

There are three types of combustion control used on appliances in this Section:

- (a) Manual control where the user turns the control up or down according to need which gives a changing output over a period of several hours due to changes in the firebed
- (b) Body temperature control where the burning rate is thermostatically controlled by a thermostat having the heat sensitive phial in close proximity to the body of the roomheater. This type of control tends to produce a steady output by responding to the roomheater body temperature and so compensates for changes in the firebed. However the control only responds very slightly to changes in room temperature and not at all to changes in hot water for radiators and domestic hot water.
- (c) Water temperature control where the burning rate is controlled by a thermostat having the heat sensitive phial in, or on, the boiler. This type of control tends to produce a fluctuating roomheating and boiler output dependent on the water temperature and therefore, on the demand for hot water for radiators and domestic use which affects the water temperature. The thermostat does not respond to changes in room temperature but aims to maintain reasonably constant pre-selected water temperature. It is particularly useful on appliances which have a low direct room heating output and a relatively high hot water output from the boiler.

Roomheaters with thermostats are indicated by a note in the "Manufacturer's Remarks" column as follows:

Body temperature thermostat
Water temperature thermostat

Continued on next page

F. ROOMHEATERS WITH BOILERS (continued)

APPROVED FUELS

Fuels regarded as suitable for the appliances in this section are listed, as approved closed appliance fuels, in Table B (Manufactured Smokeless Fuels) and Table C (Natural Smokeless Fuels) of Part 2 (Fuels) of this 'Guide'. Refer to the Manufacturer's Remarks column for variations.

'Sunbrite' Singles are more suitable than 'Sunbrite' Doubles when the room size is much smaller than the recommended maximum and at such times as Spring and Autumn.

Appliances	Manufacturers	Rated Output kW and Gross Efficiency at Nominal Output (see introductory Notes 6.2, 6.3 and 6.4) Damper: C=closed; O=open			Manufacturer's Remarks (See Notes page 21)
		Direct Room Heating	Water	% Gross Eff.	
Charnwood LA 45iB	A.J. Wells & Sons	3.1	10.1	67.9	Inset. Water temperature thermostat. When fitted with boiler reduction brick, the outputs are reduced to 8.8kW boiler, 2.1 kW direct room heating, (at a gross efficiency of 71.3%).
Charnwood LA 50iB	" " " "	2.2	12.0	71.5	Inset. Water temperature thermostat.
Charnwood LA 30iB	" " " "	2.7	6.1	71.9	Inset. Water temperature thermostat.
Parkray G Series:					
99G	Parkray Ltd	C.2.3 O.2.2	8.7 9.4	70.7 74.1	Inset. Has chrome iron centre grate. (See Introductory Note 5.2). Water temperature thermostat.
111G Mk. II	" " " "	2.0	11.7	68.0	Inset. Water temperature thermostat.
Parkray Cumbria 99	" " " "	1.7	9.5	69.9	Inset. Has chrome iron centre grate. (See Introductory Note 5.2). Water temperature thermostat.
Parkray Cumbria 111	" " " "	1.4	12.1	67.6	Inset. Has chrome iron centre grate. (See Introductory Note 5.2). Water temperature thermostat.
TRH 45	Trianco Heating Products Ltd	1.9	11.4	68.4	

F. ROOMHEATERS WITH BOILERS (continued)

Appliances	Manufacturers	Rated Output kW and Gross Efficiency at Nominal Output (see introductory Notes 6.2, 6.3 and 6.4)			Manufacturer's Remarks (See Notes page 21)
		Direct Room Heating	Water	% Gross Eff.	
Aga Much Wenlock Boiler	AGA	When burning smokeless fuels 1.8 4.5 When burning wood 2.3 4.7		67.7 65.1	Freestanding multi-fuel stove. Manual primary air control. Burns Manufactured and Natural Smokeless fuels as approved for closed appliances in Part 2 of this Guide and wood logs only. Refuel periods are 1.5h for wood and 4h for smokeless fuels to give the rated outputs shown. This appliance is classed as "intermittent" when burning wood.
Aga Berrington Boiler Stove	AGA	When burning smokeless fuels 3.4 4.5 When burning wood 3.2 4.8		76.3 70.0	Freestanding multi-fuel stove. Thermostatic primary air control. Burns Manufactured and Natural Smokeless fuels as approved for closed appliances in Part 2 of this Guide and wood logs only. Refuel periods are 1.5h for wood and 4h for smokeless fuels to give the rated outputs shown. This appliance is classed as "intermittent" when burning wood.
Tara Boiler	Waterford Stanley	When burning smokeless fuels 1.8 4.5 When burning wood 2.3 4.7		67.7 65.1	Freestanding multi-fuel stove. Manual primary air control. Burns Manufactured and Natural Smokeless fuels as approved for closed appliances in Part 2 of this Guide and wood logs only. Refuel periods are 1.5h for wood and 4h for smokeless fuels to give the rated outputs shown. This appliance is classed as "intermittent" when burning wood.
Ashling Boiler Stove	Waterford Stanley	When burning smokeless fuels 3.4 4.5 When burning wood 3.2 4.8		76.3 70.0	Freestanding multi-fuel stove. Thermostatic primary air control. Burns Manufactured and Natural Smokeless fuels as approved for closed appliances in Part 2 of this Guide and wood logs only. Refuel periods are 1.5h for wood and 4h for smokeless fuels to give the rated outputs shown. This appliance is classed as "intermittent" when burning wood.
Solution 500 Boiler	Clearview Stoves	When burning wood 2.9 3.1		75.3	Freestanding stove. Manual primary air control. Burns wood logs only. Refuel period is 1.5 h to give the rated outputs shown. This appliance is classed as "intermittent" when burning wood.

G. COOKERS – FREESTANDING

APPROVED FUELS

Fuels regarded as suitable for the appliances in this section are listed, as approved closed appliance fuels, in Table B (Manufactured Smokeless Fuels), Table C (Natural Smokeless Fuels) and Table D (Bituminous Coal) (see Introductory Note 4.5) of Part 2 (Fuels) of this 'Guide'.

SPECIAL NOTE: These appliances were tested as continuous burning appliances against BSEN 12815 which requires a minimum refuelling period at low output of 10h for wood and 12h for smokeless fuels.

G1. COOKERS, WITHOUT BOILERS OR WITH DOMESTIC BOILERS WITH OUTPUT NOT EXCEEDING 3.5kW

Appliance	Manufacturer	Rated Output (kW) and Gross Efficiency at Nominal Output			Remarks
		Direct Room Heating	Water	% Gross Efficiency	
Rayburn Heatranger 212 SFW	AGA	when burning smokeless fuels		74.2	Burns Manufactured and Natural Smokeless fuels as approved for closed appliances in Part 2 of this Guide and wood logs only. Alternative grates are provided for wood and smokeless fuels. Refuel periods for wood 1h and smokeless fuels 2h to give rated output This appliance is classed as "intermittent" when burning wood
		4.2	1.9		
when burning wood logs		72.8			
3.8	1.9				
Rayburn Cookmaster 200 SFW	AGA	when burning smokeless fuels		77.1	Burns Manufactured and Natural Smokeless fuels only as approved for closed appliances in Part 2 of this Guide and wood logs only. Refuel periods for wood 1h and smokeless fuels 2h to give rated output This appliance is classed as "intermittent" when burning wood
		4.4	No boiler		
when burning wood logs		65.0			
5.4	No boiler				
Rayburn Heatranger 300 W	AGA	when burning wood logs		68.2	Burns wood logs only. Refuel period to give the rated output shown is 1.0 h This appliance is classed as "continuous"
		5.2	No boiler		

G2. COOKERS WITH CENTRAL HEATING BOILERS ABOVE 3.5Kw OUTPUT

These cookers provide a cooking service and a boiler for combined heating and hot water. During summer use the boiler may be modified to reduce boiler output.

Appliances	Manufacturers	Rated Output (kW) and Gross Efficiency at Nominal Output W=Winter Setting S=Summer Setting			Remarks
		Direct Room Heating	Water	% Gross Efficiency (Mean)	
Rayburn Heatranger 355 SFW	AGA	when burning smokeless fuels W = 5.7 W = 10.8 S = 3.2 S = 7.9		76.2	Burns Manufactured and Natural Smokeless fuels as approved for closed appliances in Part 2 of this Guide and wood logs only. Refuel periods to give rated output are:- 1) for smokeless fuels, winter setting=3h, summer setting=3h 2) for wood logs, winter setting=2h, summer setting =1h This appliance is classed as "intermittent" when burning wood
		when burning wood logs W = 6.3 W = 10.1 S = 8.1 S = 7.8		65.6	
Rayburn Heatranger 216 SFW	AGA	when burning smokeless fuels W = 3.6 W = 5.4 S = 4.1 S = 5.2		71.6	Comments as above
		when burning wood logs W = 4.0 W = 4.3 S = 3.5 S = 4.2		68.6	
Rayburn Heatranger 345 W	AGA	when burning wood logs W = 3.7 W = 6.8 S = 4.1 S = 6.3		63.2	Burns wood logs only. Refuel periods to give rated output are:- winter setting=1.5h, summer setting =1.5h This appliance is classed as "continuous" burning
Stanley Donard	Waterford Stanley	when burning smokeless fuels W = 8.2 W = 13.4 S = 4.3 S = 7.9		69.5	Burns Manufactured and Natural Smokeless fuels as approved for closed appliances in Part 2 of this Guide and wood logs only. Refuel periods to give rated output are:- 1) for smokeless fuels, winter setting=2h, summer setting=2h 2) for wood logs, winter setting=1h, summer setting =1h This appliance is classed as "intermittent" when burning wood
		when burning wood logs W = 5.3 W = 10.0 S = 4.7 S = 6.2		60.8	

J. INDEPENDENT BOILERS

SPECIAL NOTE

The rated output of independent boilers indicates the heat released to water but does not take account of the additional useful heat released as direct space heating to the room in which the appliance is installed (usually the kitchen).

In addition to heating water, the boiler itself provides spaceheating to the room by up to 6% of the published water heating rating. If the boiler is connected to the chimney by a one metre long fluepipe, the useful direct spaceheating increases by about 1 kW for small domestic hot water boilers and up to 2kW for larger boilers.

The actual amount of direct space heating will vary with the rate at which a boiler is run. In cold weather a generally faster burning rate results in more direct space heating.

APPROVED FUELS

Fuels regarded as suitable for the appliances in this section are listed, as approved closed appliance fuels, in Table B (Manufactured Smokeless Fuels) and Table C (Natural Smokeless Fuels) of Part 2 (Fuels) of this 'Guide'. Refer to the Manufacturer's Remarks column for variations.

For boilers smaller than about 5.9kW and for long idling periods of Summer use 'Sunbrite Singles are preferred to 'Sunbrite' Doubles

4. GRAVITY FEED BOILERS WITH THERMOSTAT

This section is limited to boilers of up to 50kW.

Boilers in this section are primarily designed for space heating at the rated outputs given; where hot water service is also required they must be connected to an indirect system.

The rated outputs are based on the performance with a standard test fuel with a minimum refuelling interval of 10 hours.

APPROVED FUELS

Fuels regarded as suitable for the appliances in this section are Anthracite Grains, Peas or Beans, listed as approved gravity feed fuels in Table C (Natural Smokeless Fuels) of Part 2 (Fuels) of this 'Guide'.

Appliances	Manufacturers	Rated Output kW and Gross Efficiency at Nominal Output (see introductory Notes 6.2, 6.3 and 6.4)		Manufacturers Remarks
		Rated Output kW	% Gross Eff.	
TRG 45 MkII	Trianco Heating Products Ltd	13.2	72.5	A heat leak radiator must be fitted to the system
TRG 60 MkII	" " " "	18.0	72.6	" " " "
TRG 80	" " " "	23.5	75.6	" " " "