

THE ENERGYMASTER RANGE



- Direct fired Water Heater
- Horizontal storage design
- Energy efficient
- Choice of fuels
- Scale shedding heat exchanger
- Easily maintained for long life



BRITISH MADE

APPLICATIONS

Hotels and Motels.
Hospitals and Nursing Homes.
Restaurants and Kitchens.
Schools and Halls of Residence.
Holiday camps and Caravan parks.
Sports Centres.
Factory washrooms and showers
...and wherever low cost, reliable, on-demand hot water is required.

SAMPLE SPECIFICATION

"Model 230 Energymaster direct fired hot water generator by Beaumont Water Heaters having an output of 88kW nominal storage capacity of 910 litres and a recovery rate of 1681/h through a 45°C rise. Complete with natural gas pressure jet burners and electronic digital thermostat. The recommended minimum standby flow rate through the unit is 0.75l/s. All as manufactured by Beaumont Water Heaters

THE BEAUMONT ENERGYMASTER RANGE

Direct-fired hot water generators equipped with twin pressure jet burners for natural gas, LPG, oil, or biodiesel firing .

LONG LIFE

All hydraulic components are protected by a tough polypropylene based coating and the purpose designed dual stainless steel heat exchangers shed scale during normal operation. Regular servicing by Beaumont trained engineers includes loose scale removal to ensure a length of service unsurpassed by other makes of water heater.

TECHNICAL DATA	SI UNITS	115	125	230	250	360	375	480	4100	5100	
Number of sections		1	1	2	2	3	3	4	4	5	
Output	kW	44	73	88	146	176	220	234	293	293	
Recovery @ 45°C	litre/h	841	1395	1681	2790	3363	4203	4471	5598	5598	
Nominal storage capacity	Litre	430	430	784	784	1138	1138	1492	1492	1956	
Maximum flow temperature (Standard polypropylene coating)	°C	80									
Weight	Dry	kg	570	591	977	977	1175	1175	1425	1425	1733
	Full	kg	1025	1046	1887	1887	2540	2540	3245	3245	4008
Flue Size	mm	200									
Flue conditions negative draught	minimum	Pa	12.5								
	maximum	Pa	37.5								
Fuel consumption	Gas (max)	m ³ /h	5.2	9.1	11.0	18.2	20.6	27.5	29.3	36.3	36.3
	Oil (max)	kg	5.2	8.6	10.3	17.3	20.6	25.0	27.5	34.6	34.6
Fuel connection	Gas	BSP	¾"	¾"	¾"	¾"	¾"	1½"	1½"	1½"	1½"
	Oil	BSP	¾"								
Fuel inlet pressure	Gas (min)	Pa	1750								
	Gas (max)	Pa	3000								
	Oil (max)	bar	0.345								
Electrical rating 240 Vac 1ph 50hz	Start Current	Amp.	3.7	3.9	4.8	4.9	6.8	7.0	7.0	9.2	9.2
	Run Current	Amp.	1.3	1.4	2.4	2.5	4.4	4.6	4.6	6.8	6.8
Overall dimensions	Width	mm	1150	1150	1150	1150	1150	1150	1150	1150	1150
	Height	mm	1500	1500	1500	1500	1500	1500	1500	1500	1500
	Length	mm	1510	1510	2240	2240	2970	3070	3800	3800	4530

LONGER LIFE

Long after the payback period has gone, units can be completely refurbished at a fraction of the replacement cost, to extend their life further still.

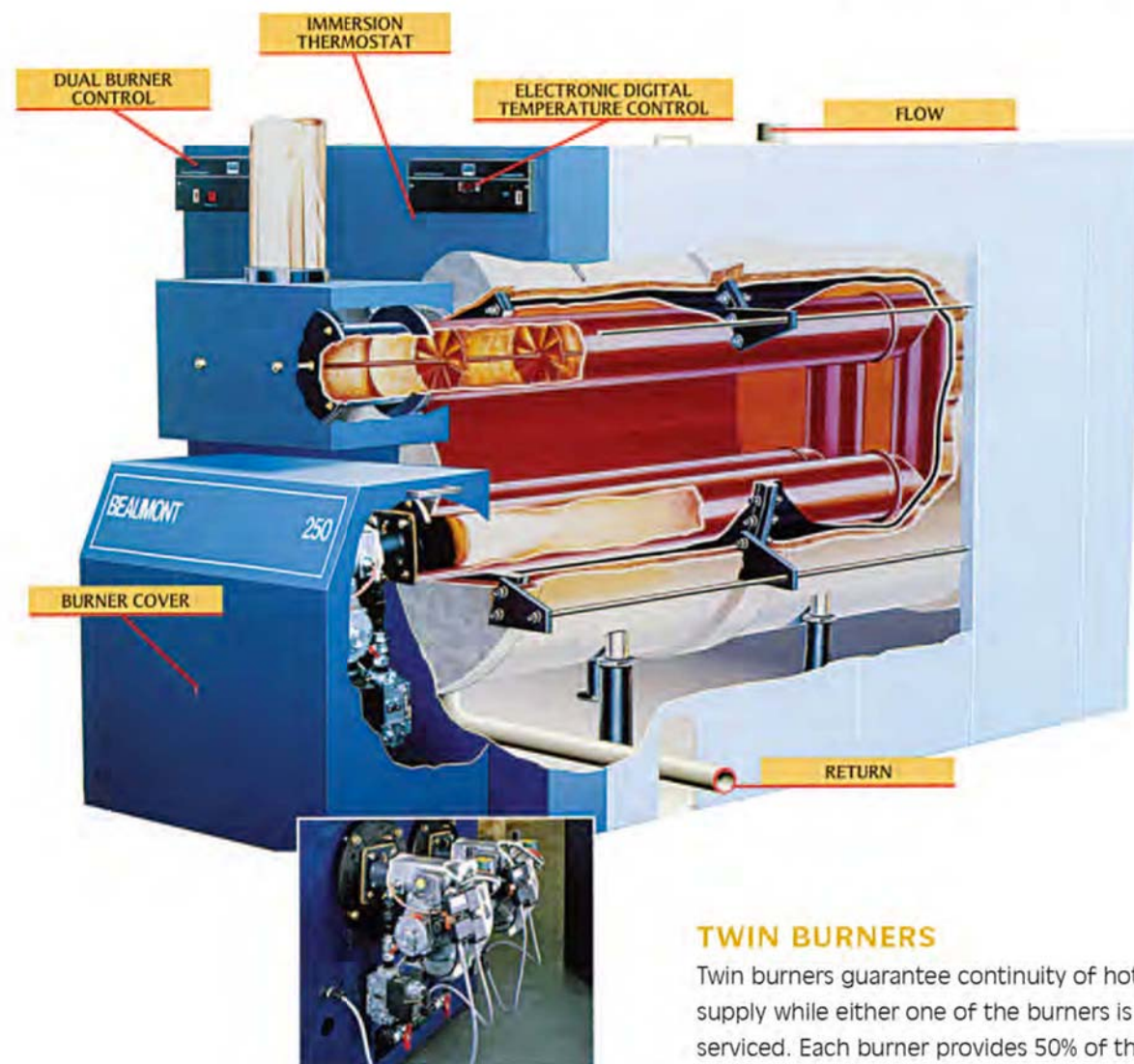
ENERGY EFFICIENT

Direct firing is the most energy efficient method of heating large volumes of hot water and this coupled with the control of the accurate integral electronic digital thermostat provides a high thermal transmission efficiency of 80%.

THE BEAUMONT ENERGYSMASTER RANGE

The largest range of direct fired water heaters from a single source, specifically designed for commercial and industrial applications.

The nine sizes in regular production are detailed on the back cover and these are supplemented by high storage variants where large dump loads are required. The first digit of the model number indicates the number of sections. Each section nominally holds 455 litres. Extra storage is, therefore, obtained by ordering an Energymaster with an extra section. For example, if a recovery rate of 2790 litres per hour is acceptable but a storage of 1356 litres is required, then order the unit as an Energymaster 350 Special.



CONTROLS

Standard controls fitted to all Energymasters are

- Twin Burner Control having individual On/Off switches and lockout indicators with reset buttons and a manual over-ride facility.
- Electronic Temperature Control with digital read-out which is very accurate and can be set in the range 30°C to 80°C. The switching differential can also be set, in the range -10°C to 0°C.

240 volt BMS contacts are provided for the purpose of interfacing with Building Energy Management Systems.

SELF CONTAINED SYSTEMS

Hot water generation by an Energymaster is a complete hot water system which eliminates the primary losses normally incurred by costly indirect systems. A reduction in secondary losses is also possible due to the acceptable lower water temperatures in the secondary circuit.

TWIN BURNERS

Twin burners guarantee continuity of hot water supply while either one of the burners is being serviced. Each burner provides 50% of the duty.

SCALE SHEDDING HEAT EXCHANGERS

The stainless steel heat exchangers are fitted with turbulators to maximise heat transfer to the water. The exchangers expand and contract at a different rate to the scale, causing any scale formation to loosen and fall to the bottom of the cylinders.

SIMPLE SCALE REMOVAL

The 1000mm diameter end door provides access for fast removal of sludge and the loose scale which has fallen from the heat exchangers. The frequency of scale removal will depend on the hardness of the water and the client will be advised by Beaumont following the first service by the company's fully trained engineers.

CORROSION RESISTANT SHELL

All hydraulic components are protected by a tough, long life, hot bonded polypropylene based coating which is corrosion resistant and minimises scale adhesion. This eliminates the need for chemical descaling and is a major factor in the longevity of the Energymaster range.

MODULAR CONSTRUCTION

All components will pass through a standard door opening ensuring rapid low cost site assembly, and can be stored and handled on site with ease.

INSULATION

50mm foil backed fibreglass wrap to water cylinders and ends, independent of casing.

SERVICING

Beaumont offer an extended warranty maintenance contract for regular servicing, which will provide full labour and consumable part replacement for a minimum period of five years.

SELECTION AND SIZING

APPLICATION	RECOVERY RATE		NOTES
	LITRES/H	UNIT	
Hospitals	24	per bed	Hot water loads vary considerably with the type of hospital
Flats	20 or less	47	per flat
	20 to 50	37	per flat
	50 to 75	34	per flat
	75 to 100	26	per flat
Hotels	20 rooms or less	45*	per person
	20 to 50 rooms	40*	per person
	50 rooms or more	30*	per person
Motels	21	per person	Medium class hotels *Double if more than 50% of hotel is used for conferences
Halls of Residence	21	per student	
Nursing Homes	17	per person	
Restaurants/Kitchens	7	per person	
Schools	Infants/Juniors	3.5	per student
	Seniors/College	5	per student
Office	1	per person	
Holiday Camps	22	per chalet	

Beaumont Energymaster hot water generators must be sized on Recovery Rate. The storage content is to be considered as "buffer stock" only.

Determine the peak hourly rate of demand for hot water. The 24 hour pattern of demand must also be taken into account.

An initial indication of the size of the unit required can be established using the recovery rates in the table. Buildings designed for different purposes require varying amounts of hot water. Similar hotels may require different amounts depending on the class of each and hospital wards requirements can vary widely according to the type of treatment being performed.

The peak hourly rate is then matched with the nearest Energymaster continuous rated output – see Recovery Rate in the Technical Data on the back page. However, Beaumont strongly recommend a Beaumont Site Survey to accurately establish both the pattern of demand and the peak flows.