



Hamworthy Shaftesbury-HE

Cast Iron Sectional Boilers

Gas, Oil & Dual Fuel Fired Power Flame

Single Boiler Outputs - 110kW to 400kW

Stacked Boiler Outputs - 220kW to 800kW



Heating *at work.*

Shaftesbury

Power Flame Cast Iron Sectional Boilers

Designed as traditional European cast iron sectional boilers the Shaftesbury series has 10 models with outputs ranging from 110kW to 400kW for single boilers, and 220kW to 800kW for stacked multiple boilers. Stacking frames have been introduced for the Shaftesbury range, enabling any of the boilers in the range to be installed one above the other, thereby reducing the required floor space by 50%, and providing outputs up to 800kW on a single boiler footprint. The boilers also feature a new fast fit casing, which simplifies on site assembly thus reducing installation time.

The Shaftesbury has a multi-pass design and a high level of insulation, which contributes to increased efficiency, up to 93% nett c.v. Savings in fuel and reduced NOx emissions reinforce the high performance of the Shaftesbury, which is particularly suited to buildings with consistently high heat demands. The boilers are supplied with a choice of matched burners, compliant with CE marking requirements, and capable of firing class (D) 35(SR1) oil, natural gas, LPG or dual fuel. Key features of power flame boilers from Hamworthy are the high quality cast iron sections and a design which enables reduced loading on the heat exchanger surfaces. Ideally suited for both single and multi-boiler installations the Shaftesbury is available with a Hamworthy Marshall-HE control system as an option, enabling optimum efficiency to be achieved from a multi-boiler installation

Options

- On/Off, High/Low or Fully Modulating operation
- Choice of matched burner
- Choice of fuels, oil, natural gas, LPG or dual fuel
- Stacking frames
- Volt free contacts (BEMS compatibility)
- Marshall HE controller (for multi boiler installations)

- Flexibility in choice of fuels
- High efficiency, saves on fuel costs
- High level of operational reliability
- Stacking frames reduce floor space
- Long life expectancy
- Fast fit casing reducing site assembly costs

BENEFITS

The extended range of Shaftesbury boilers offers a wider choice of outputs and is now available with a new “fast fit” casing and stacking frames allowing optimal use of plant room space.



Shaftesbury stacking frames reduce floor space requirements whilst increasing kW output per square metre, they are compatible with all models and simplify on site assembly.

Specification

Heat Exchanger

Shaftesbury cast iron sectional boilers are constructed from vertical extended surface sections, assembled with guide rings and neoprene rubber 'O' section rings which locate onto machined surfaces on each section.

Each front section is fitted with removable flue cleaning plates, a burner mounting plate complete with a sight glass, together with a flange which houses both the control and limit thermostat capillaries.

Each rear section is fitted with removable flue cleaning plates, a flue box, and a horizontal flue connecting flange and 4" NB flow and return flanges.

Pre-cut blanket lagging sections, are supplied for fitting over the assembled boiler sections which are then fully enclosed with a robust plastic coated steel casing.

Control Assembly

A deep removable front door provides access to the pre-wired control panel.

High/Low Boiler:

Fully automatic burner, integral control panel housing control thermostat - range 0-120°C (for both high and low control), manual reset temperature limiter - range 90-110°C, overheat indicator, weather temperature gauge, illuminated mains on/off switch, hours run meters (total hours run and hours run high fire), high and low fire indicators.

Modulating Boiler

The boiler will be supplied with an on/off control panel and a modulating sensor to be fitted in the pipework.

Volt Free Contacts

Remote signalling is achieved via an optional set of volt free contacts which indicate boiler lockout, high limit lockout and normal run.

Burners:

A range of matched burners and mounting plates are available for oil (class D 35sec) natural gas, LPG or dual fuel applications, in either high/low or fully modulating operation.

Operating Efficiency

Boiler efficiencies and reduced standing losses are achieved with high quality cast iron sections and high levels of insulation.

Section

Each section is ultrasonically tested for uniform thickness and hydraulically pressure tested to 10bar.

The section arrangement of the intermediate sections provides a four pass combustion gas flow, which ensures efficient heat transference giving operating efficiencies of 93% (based on nett CV).

System

Shaftesbury boilers are suitable for operation on open-vented or pressurised systems with a maximum operating pressure of 5.0bar and a maximum flow temperature of 100°C.

Note: The maximum water flow temperature refers to the boiler exit temperature and not the combined mixed flow temperature when using multiple systems.

Stacking frames

For models HE 110 to HE 250 (5 to 9 sections) there are two frames in the stacking frame kit and for models HE 280 to HE 400 (10 to 14 sections) there is an additional intermediate frame included in the kit. Refer to page 7 for further details.

The kits include support devices to assist the build team in assembling the sections on site.

In addition to the flow connection elbow which is supplied as standard on the single boiler, there is a return connection elbow supplied as part of the stacking kit. This is to assist in off-setting the flow and return pipework connections when boilers are aligned vertically.

Fast fit casing

The Shaftesbury features a fast fit casing, which has been designed to significantly reduce assembly time and to simplify the build process. Feedback from contractors has confirmed that it is possible to reduce casing assembly and fitting times by up to 70% with the new design.

Four Pass High Efficiency Boiler

First Pass:

The flame is contained in a circular combustion chamber giving radiant heat into the primary heating surfaces of inner waterways.

Second Pass:

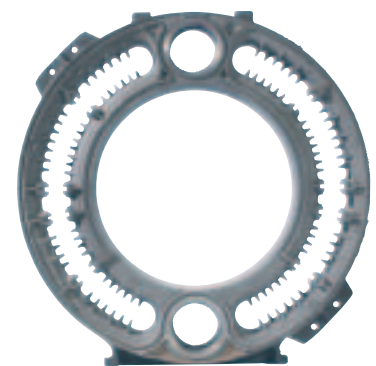
The flue gases pass through the space between the sections into the lower secondary heating surfaces of the boiler giving conducted heat into the inner and outer waterways whilst flowing to the rear of the boiler.

Third Pass:

The flue gases turn towards the front of the boiler giving conducted heat into the inner and outer waterways of the boiler.

Fourth Pass:

The flue gases turn into the final pass and flow towards the flue outlet connection giving conducted heat into the inner and outer waterways.



Other models in the power flame cast iron series include, Lilliput (43kW to 90kW), Broadstone S (110kW to 130kW), Shaftesbury Slimline (150kW to 290kW) and Wimborne (420kW to 1130kW), higher outputs are achieved through Lulworth high efficiency steel boilers, (470kW to 1170kW).

Specification

Thermostats

The control thermostat supplied as standard has a range of 0-120°C, and will be factory pre-set in the range 0-90°C. (The minimum boiler operating temperature setting should be 65°C).

In a multi-boiler system controlled by an external sequencer, the control stat would be typically some 10°C above the system set point. The temperature limiter that is supplied as standard has a range of 90-110°C. This will normally be factory pre-set at 100°C.

Time clock control

Where boilers are operated from time clocks, to avoid overheating and progressive calcium deposition at zero flow conditions, provision should be made for a 5 minute circulating pump over run after the last boiler has ceased firing.

Electrical details

Boiler control panel - 230volt, 50Hz, single phase. The burner modules require either a single or 3 phase supply dependant upon model type and size and should be wired in

accordance with the instructions provided by the burner manufacturer. Certain burners are optionally available for 3 phase supply. Contact Hamworthy Heating Technical Applications Team for details.

Wiring external to the boiler must be installed in accordance with I.E.E. regulations and any local regulations which apply. Wiring must be completed in heat resistant 3 core cable, (size 1.0 mm² c.s.a.). Fascia fuse rating is 6.3 max amp. An isolator correctly fused at 5 amps should be sited close to the boiler, for each control panel.

The control panel is supplied with flying lead and plugs for direct connection to corresponding sockets supplied with the burner.

Delivery

Heat exchanger sections are supplied unassembled, complete with accessory kit, tie rods, smoke box, burner mounting plate and steel cradle, ready for on-site assembly.

The boiler casing is supplied flat

packed for on-site assembly and delivered along with the control panel assembly and burner, packaged in separate cardboard containers.

The boilers are delivered on vehicles equipped with a tail-lift for off-loading to ground level.

Assembly & Site Erection

All boiler modules are supplied in kit form for on-site assembly.

Sections are assembled using short tie rods thus obviating the need for special assembly tools. Once all sections have been assembled, additional tie rods running the full length of the boiler are fitted. A full set of cleaning tools are supplied with each boiler. Hamworthy can provide a site erection service.

Commissioning

Hamworthy Heating Ltd. strongly recommend that all boilers are commissioned by their service department or by an approved burner specialist.

For more information on commissioning or on-site erection Tel: 0845 450 2866.

Controls

The boiler houses a simple, easy to use electro-mechanical control panel, with a drop down fascia allowing good access for servicing. A simple mimic diagram gives visual indication of boiler function and its running condition at any given point. The boilers are supplied as standard with a remote stop/start feature.

For multi-boiler installations, the Hamworthy Marshall-HE Boiler Sequence Control System is recommended and provides a comprehensive range of features to achieve optimum efficiency.

In a multi-boiler installation, each boiler will fire on low fire and then high fire (where fitted) in turn until the heat demand is satisfied.

A sequence control system should be used to achieve optimum efficiency from a multi-boiler installation.

Multi-Boiler Control System

The Marshall-HE boiler sequence controller is the latest in the line of controllers from Hamworthy Heating, designed to achieve optimum efficiency from multi-boiler installations.

Suitable for use with all Hamworthy boilers, the Marshall-HE utilises microprocessor technology to offer the most comprehensive package to date which is totally flexible, easy to use and at the same time provides system security against unauthorised tampering.

The control panel, housed within a smart, slim lightweight casing, is designed to be installed on the boilerhouse wall or alternatively can be located anywhere within the building.

Programming the controller is achieved through an easy to follow display with settings entered using the numeric keypad. The entire system is protected and requires input of a security code to access the programming setup.

A service mode is available to allow servicing of the boilers and override the control system.

The Marshall-HE can control a combination of on/off and high/low

boilers up to a maximum of 8 sequence stages, as well as providing circulation pump control.

Boilers fitted with burners which have an electrical rating in excess of 3A will need to be controlled via a power relay. (Not HHL supply).

The boilers and circulation pump contactor are individually wired to the Marshall-HE panel. The water temperature, room temperature and external temperature sensors (where fitted), are individually wired to the control panel using shielded twisted pair cable.

For further details on the Marshall-HE, refer to publication 500002136.



Marshall-HE Boiler Sequence Controller



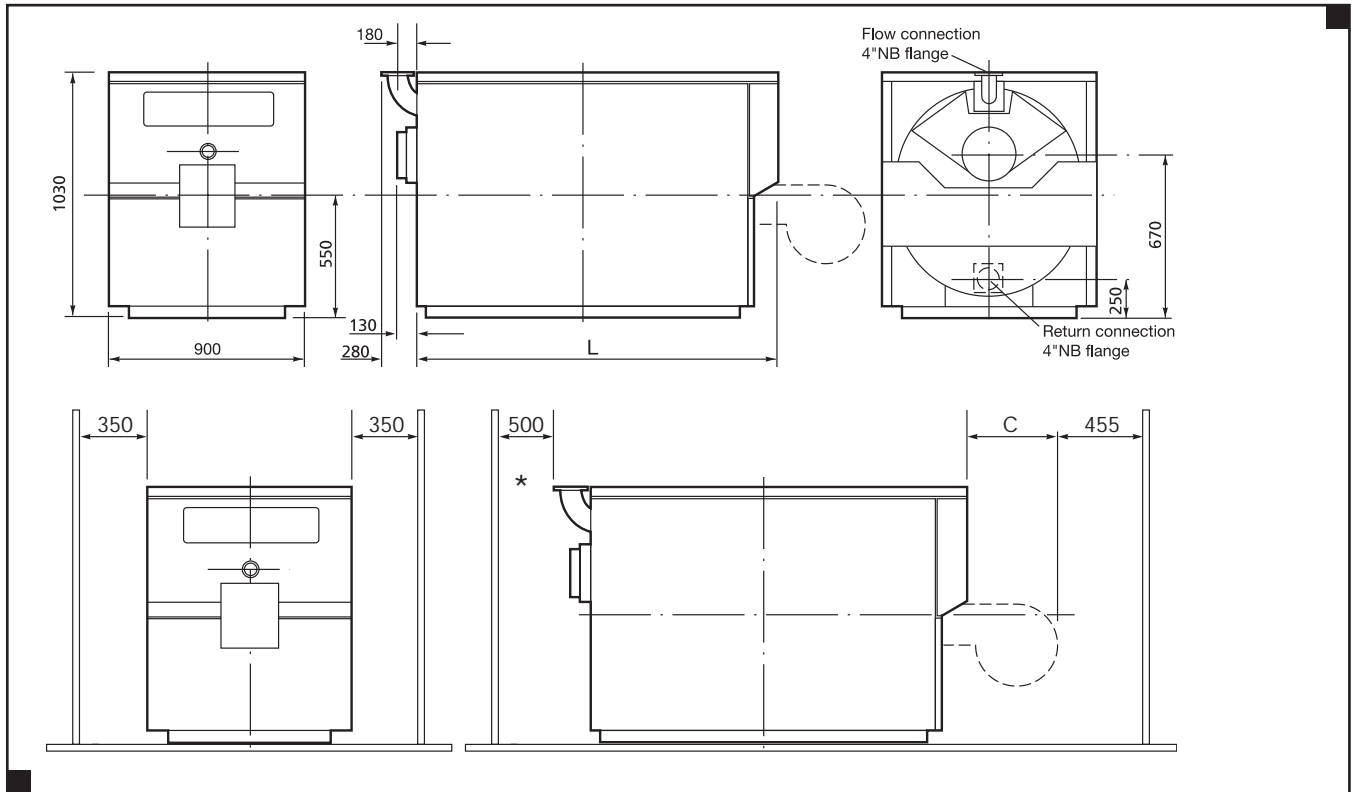
Technical & Dimensional Data

Shaftesbury HE Series

Performance and General Data Information

Boiler Model		HE 110	HE 150	HE 190	HE 220	HE 250	HE 280	HE 310	HE 340	HE 370	HE 400	
Energy	No. of sections	5	6	7	8	9	10	11	12	13	14	
	Heat output to water	kW Btu/hr x 1000	110 375	150 511	190 648	220 750	250 852	280 955.4	310 1057.7	340 1160.0	370 1262.4	400 1364.8
	Heat input (Nett)	kW Btu/hr x 1000	122.4 417.6	168.5 574.9	211.8 722.7	246.6 841.4	281.2 959.5	309.9 1057.4	343.2 1171.1	377.9 1289.5	404.2 1379.1	430 1467.1
Water	Water content	l UK gal	78 17.2	92 20.3	106 23.3	120 26.4	134 29.5	148 32.7	162 35.7	176 38.8	190 41.8	204 44.9
	Design flow rate @ 11°C Δt	l/s UK gal/min	2.64 34.8	3.44 45.4	4.12 54.5	4.77 63.1	5.42 71.7	5.95 78.6	6.61 87.3	7.25 95.7	7.92 104.6	8.58 113.3
	Waterside pressure drop @ 11°C Δt	mbar in wg	3.5 1.4	6.5 2.6	8.5 3.3	11.5 4.5	13.0 5.1	16.5 6.6	18.5 7.4	21.0 8.4	23.5 9.5	26.0 10.5
	Minimum flow rate @ 20°C Δt	l/s UK gal/min	1.33 17.6	1.80 23.8	2.27 30.0	2.62 34.7	2.98 39.5	3.27 43.2	3.63 48.0	4.0 52.8	4.36 57.7	4.72 62.4
	Maximum water pressure	bar psig	5.0 73.0									
	Maximum water flow temperature	°C	100									
Combustion	Combustion resistance (Gas & Oil)	mbar in wg	2.8 1.1	5.0 1.96	4.4 1.73	5.9 2.32	5.9 2.32	3.9 1.53	4.6 1.81	5.5 2.16	6.5 2.56	7.4 2.91
	Input rate - oil (35 SR1)	l/h UK gal/h	12.7 2.8	17.4 3.8	21.9 4.8	25.4 5.6	28.9 6.4	31.4 6.9	34.8 7.7	38.4 8.5	41.0 9.0	43.6 9.6
	Approx. flue gas vol. at NTP oil	m³/h ft³/h	206 7295	252 8907	300 10995	347 12258	394 13937	412.2 14557	457.8 16167	502.8 17756	548.4 19367	594.0 20977
	Approx. flue gas temp - oil	°C	225									
	Input rate Natural Gas (G20)	m³/h ft³/h	12.9 456	17.8 628	22.4 791	26.1 92.1	29.8 1052	32.75 1156	36.27 1280	39.94 1410	42.7 1507	45.5 1604
	Nominal inlet pressure required* Natural gas - inlet to gas train	mbar in wg	20 8.0									
	Approx. flue gas volume at NTP (wet) natural gas	m³/h ft³/h	174 6144	236 8333	254 8938	294 10381	335 11828	372.0 13137	413.4 14599	454.2 16040	495.6 17502	536.4 18943
	Approx. flue gas temp - natural gas	°C	225									
Flue	Flue connection O/D	mm in	180 7									
	Flue draught required at boiler outlet	mbar	(-)0.1 to (-)0.3mbar / (-)0.04 to (-)0.12" wg									
Electrics	Electrical supply - boiler	230v 1PH 50Hz										
	Electrical supply - burner	230v 1PH 50Hz / 400v 3PH Supply dependant on burner selection										

Shaftesbury Dimensions



Layout

The Shaftesbury wet section is located in a steel cradle, which provides a secure foundation for the boiler and reduces the boiler build time, thus obviating the need for a raised plinth. The boiler should be installed on a

level, fire proof surface which should be capable of supporting the weight of the boiler, pipework and ancillary equipment when filled with water.

Boiler Clearances

The Shaftesbury series requires adequate clearances for fuel, flue, water connections and maintenance.

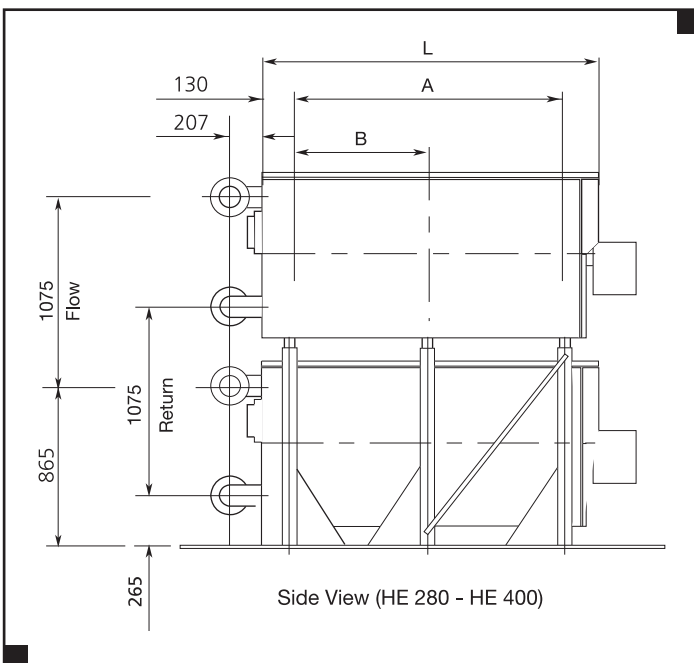
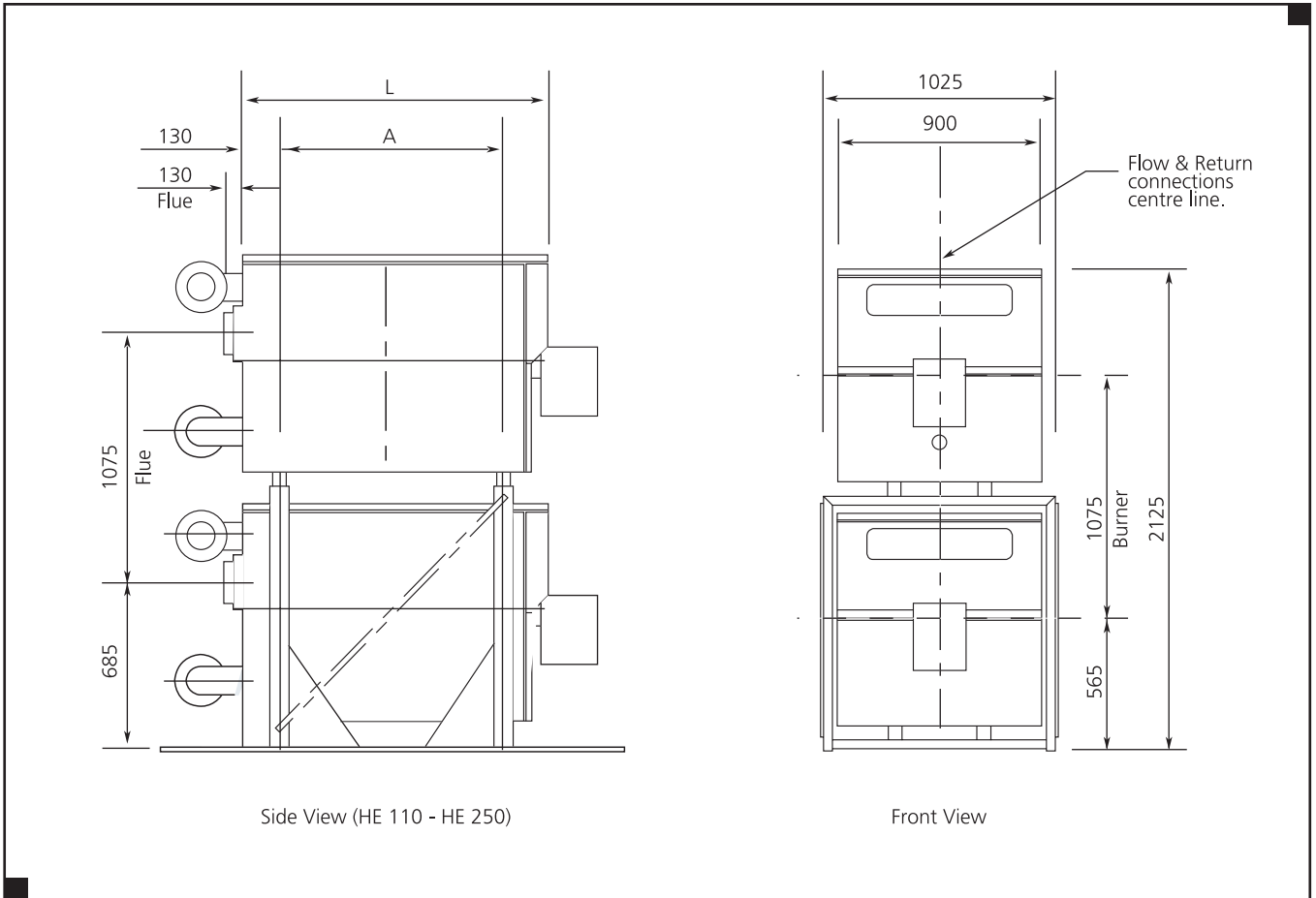
Model	C (mm)						L (mm)	Shipping Weight (Kg) Approx
	Oil		Gas		Dual Fuel			
	Riello	NuWay	Riello	NuWay	Riello	NuWay		
HE 110	261	N/a	356	N/a	N/a	N/a	840	508
HE 150	434	N/a	356	N/a	N/a	N/a	960	592
HE 190	434	N/a	546	N/a	N/a	N/a	1080	676
HE 220	434	N/a	546	N/a	N/a	N/a	1200	755
HE 250	434	N/a	546	N/a	N/a	N/a	1320	834
HE 280	434	546	546	699	611	716	1440	923
HE 310	434	546	546	699	611	N/a	1560	1012
HE 340	434	546	546	699	611	N/a	1680	1106
HE 370	434	652	546	699	N/a	N/a	1800	1200
HE 400	434	652	546	699	N/a	N/a	1920	1274

* This dimension is a minimum recommendation permitting access to the rear of the boiler for maintenance (800mm for stacked boilers). It may not, however, be adequate for the installation of flue bends within the boiler house. Where necessary this dimension must be increased accordingly.

Shaftesbury

Stacking Frames
Layout & Dimensions

All dimensions in mm



Model	Dim A	Dim B	Dim L
HE 110	490	N/A	840
HE 150	610	N/A	960
HE 190	730	N/A	1080
HE 220	850	N/A	1200
HE 250	970	N/A	1320
HE 280	1090	545	1440
HE 310	1210	605	1560
HE 340	1330	665	1680
HE 370	1450	725	1800
HE 400	1570	785	1920

Application & System Data

The installation of the boiler MUST be in accordance with the relevant requirements of the Gas Safety Regulations, Building Regulations, I.E.E. Regulations and the bylaws of the local water undertaking. The installation should also be in accordance with any relevant requirements of the local gas region and local authority and the relevant recommendations of the following documents :-

British Standards

BS 5410 Code of practice for oil firing. **Part 2:** Installations of 45kW and above output capacity for space heating, hot water and steam supply purposes.

BS 5854 Code of practice for flues and flue structures in buildings.

BS 6644 Installation of gas fired hot water boilers - 70kW(net) to 1.8MW(net).

BS 6700 Design, installation, testing and maintenance of services supplying water for domestic use.

BS 6880 Code of practice for low temperature hot water heating systems of output greater than 45kW.

Part 1: Fundamentals & design considerations.

Part 2: Selection of equipment.

Part 3: Installation, commissioning and maintenance.

BS 7074 Application, selection and installation of expansion vessels and ancillary equipment for sealed water systems. **Part 2:** Code of practice for low and medium temperature hot water heating systems.

BS EN 806-2 Specifications for installations inside buildings conveying water for human consumption.

BS EN 60335 Part 1: Safety of household & similar electrical appliances - general requirement.

I.Gas E. Publications

IGE/UP/1 Soundness testing and purging of industrial and commercial gas installations.

IGE/UP/1A Soundness testing and direct purging of small low pressure industrial and commercial natural gas installations.

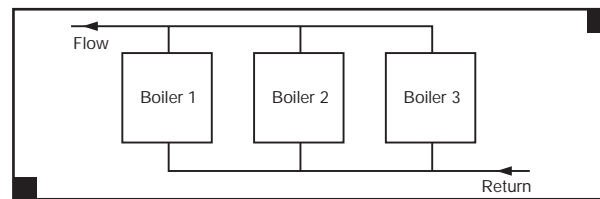
IGE/UP/2 Gas installation pipework, boosters and compressors in industrial and commercial premises.

IGE/UP/10 Installation of gas appliances in industrial and commercial premises.

Clean Air Act 1956 Memorandum

Water systems - Multiple boiler

Shaftesbury boilers are suitable for installation in both open vented and closed systems. Irrespective of the type of system, the water flow and return headers should be connected in a "reverse return" arrangement (i.e. the water flow in each header follows the same direction) thus providing equal flow through each boiler. This also ensures that pressure loss across any number of boilers will never be greater than the head loss across one boiler plus local pipework losses.



Shaftesbury multiple boiler installation in "reverse return arrangement"

Adequate water flow

Care should be taken in the initial design and layout, having due regard for adequate water flow through the boilers and the influence of the system control. In any single or modular system, it is important that the water flow rate through each firing boiler does not fall below the minimum required flow rate for that size of boiler. Refer to the technical data table for minimum water flows required.

The control system and valves, where fitted, should be regulated to avoid lower flows occurring. The flow corresponding to 20°C temperature rise across the boiler is the minimum recommended flow at any time. Minimum return temperature must be maintained for both oil and gas firing: Oil-60°C, Gas-55°C. For boiler pressure drop refer to the technical data table.

In applications where the minimum flow rate will not be met a shunt pump should be installed, sized to provide the minimum stated flow rate per boiler at the equivalent boiler pressure drop plus pipework resistance.

Both heating and shunt pumps should be controlled to provide an overrun period to dissipate residual heat.

System feed water quality

If the boiler feed water has a high degree of hardness, it is recommended that the water be treated to prevent precipitation of scale or sludge in the boiler water passages. Details of additives can be obtained from any specialist water treatment manufacturer or local water authority.

Oil supply storage

The oil supply and supply system should be designed and installed in accordance with BS 5410 Part 1 or 2, as appropriate.

Gas supply

The gas safety (installation and use) regulations require that only competent persons i.e. Corgi registered gas installers, should install gas appliances.

LPG-Propane supply

It is strongly recommended that gas detection equipment is fitted on LPG installations. Sensors should be positioned near the burner and at low level.

The installation of LPG storage vessels, pipework and pressure regulators must be in accordance with current standards and codes of practice. If in doubt, consult the LPG fuel supplier for advice.

Open vent pipe and cold feed pipe		
Boiler	Open vent size	Cold feed size
<60kW	25mm (1in)	19mm (3/4 in)
60kW-150kW	32mm (1 1/4 in)	25mm (1in)
150kW-300kW	38mm (1 1/2 in)	32mm (1 1/4 in)
300kW-600kW	50mm (2in)	38mm (1 1/2 in)

Pressure relief valve

Each boiler, or in the case of a multi-installation, each bank of boilers must be fitted with a pressure relief valve to BS759 or BS6759 Pt.1 and sized as shown in BS6644. BS6644 provides comprehensive information for the selection and location of safety valves and attention is drawn to the higher capacity requirements of safety valves for pressurised hot water systems.

Boiler Accessories

Shaftesbury boilers are supplied with control and high limit thermostats. The following items (not supplied) should be fitted to the boiler pipework system to satisfy British standards. Each isolatable boiler or arrangement of boilers, should have a drain cock at the lowest point, a pressure relief valve and an open vent, (in the case of closed systems, high/low pressure switches are also required). An altitude gauge and temperature gauge should be fitted to the flow manifold beyond the entry of the last boiler but before any branches to different circuits. If a sequence control panel is fitted, the flow temperature sensor should be fitted in a similar position.

System head

Guidance Note PM5 Health and Safety Executive. This note states that " hot water boilers should have an automatic control apparatus to cut off fuel to the burners of gas fired plant when the water at or near the boiler flow outlet rises to a pre-determined temperature. This should provide a margin of at least 17°C below the temperature of saturated steam corresponding to the pressure at the highest point of the circulation system above the boiler. " To comply with this recommendation, the minimum system pressure is dependant on system design flow temperatures and in the case of multi installations, the temperature rise across each module.

Single installations

The minimum pressure must be equal to the gauge pressure equivalent to the saturated steam temperature obtained by adding 17°C to the required boiler flow temperature. The highest point of the circulation system above the boiler should never be less than 2m (6.5ft).

Required flow temperature	95°C
Safety margin	17°C
Equivalent saturated steam temperature	<u>112°C</u>

**From steam tables corresponding gauge pressure - 0.50 bar (7.3 psi)
- 5.1m (16.7ft) head of water.**

Multiple boiler installations

The minimum pressure should be equal to the gauge pressure equivalent to the saturated steam temperature. This is obtained by adding 17°C to the sum of the required mixed flow temperature plus the temperature rise across the modules.

Required mixed flow temperature	82°C
Safety margin	17°C
Temperature rise across modules at minimum flow rate	11°C
Equivalent saturated steam temperature	<u>110°C</u>

**From steam tables corresponding gauge pressure 0.42 bar (6.1 psi)
- 4.3m (14ft) head of water.**

Air supply and ventilation

An adequate supply of fresh air for combustion and ventilation must be provided in accordance with BS 6644.

The air supply should be free from contamination such as building dust and insulation fibres from lagging. To avoid unnecessary cleaning and servicing of the burner, we recommend that the boilers are not fired whilst building work is being undertaken.

The air supply should be achieved using:

- Natural ventilation supplying air with a low level opening and discharge through a smaller sized high level opening.
- A fan to supply air to a low level opening with natural discharge through a high level opening.
- A fan to supply air to a low level opening and discharged by means of a fan at a high level.

Note: Fans must be selected such that a negative pressure is not created in the boilerhouse relative to outside air pressure.

The air supplied for boiler house ventilation should be such that the maximum temperatures within the boiler house are as follows:

At floor level	25°C
(or 100mm above the floor level)	
At mid level	32°C
(1.5m above floor level)	
At ceiling level	40°C
(or 100mm below ceiling level)	

Where natural ventilation is used suitable permanent openings at low level and high level connected directly to the outside air should be provided. These openings must be fitted with grilles that cannot be blocked or flooded.

The free area of the grilles should be as follows:

Low Level (Inlet)

540cm² plus 4.5 cm² per kW in excess of 60kW total rated input.

High Level (Outlet)

270cm² plus 2.25cm² per kW in excess of 60kW total rated input.

For oil, refer to BS5410 Part 2.

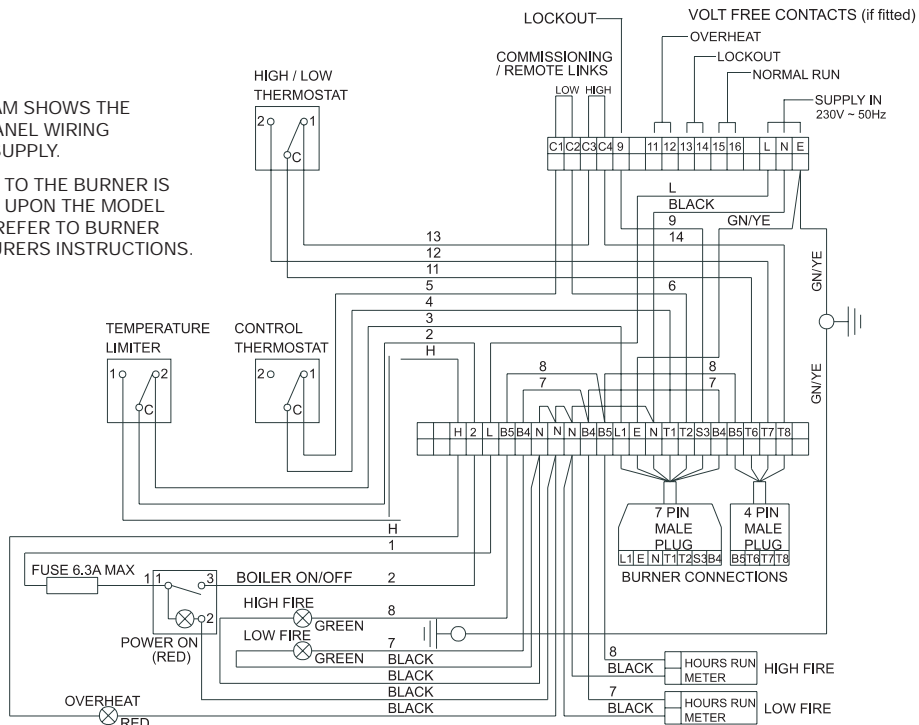
Wiring Diagrams

Shaftesbury

High/Low Operation

NOTE:
THIS DIAGRAM SHOWS THE
CONTROL PANEL WIRING
230V-50Hz. SUPPLY.

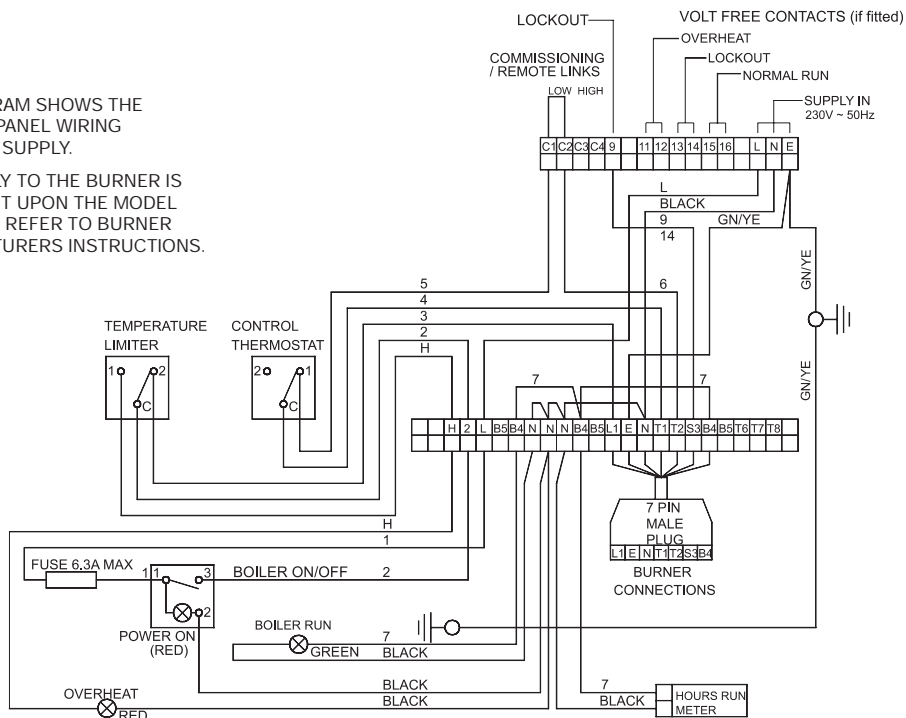
THE SUPPLY TO THE BURNER IS
DEPENDANT UPON THE MODEL
SELECTED. REFER TO BURNER
MANUFACTURERS INSTRUCTIONS.



On/Off Or Fully Modulating Operation

NOTE:
THIS DIAGRAM SHOWS THE
CONTROL PANEL WIRING
230V-50Hz. SUPPLY.

THE SUPPLY TO THE BURNER IS
DEPENDANT UPON THE MODEL
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Flue System

Hamworthy Shaftesbury boilers are designed to be used with natural draught flue systems, which should be designed in accordance with current regulations. The following points should be noted:

- The boiler is designed for connection to a single flue system, or a common flue header, where part of a multiple boiler installation.
- The flue system should be designed to maintain atmospheric pressure or a slight suction at the boiler flue connection at all times.
If at any time the suction is likely to exceed 0.3 mbar (0.12 in wg), it is recommended that a draught stabiliser be fitted to the flue system.
- The flue system must be self supporting and facilitate access for cleaning and maintenance near the boiler connection.
- When designing the flue system, care must be taken to ensure that any condensate that may form within the system can be drained safely to a suitable waste point, and that the flue and drain materials are resistant to the corrosive effect of condensate.
- The Shaftesbury boiler has generously sized flueways, accessible at both ends to facilitate rodding through the boiler for easy cleaning.
- Oil fired boilers will require more frequent service intervals.



Flues from Hamworthy

The Masterflue MF system from Hamworthy is a modular, twin wall, insulated, fully welded flue solution, optimised for high efficiency and condensing boiler applications.

Leak-Free

- Unique factory fitted tri-lip silicone gasket as standard - leak proof, high temperature seal, impervious to water and vapour.
- All components fully welded and pressure tight, including traditionally troublesome elbows.

Corrosion-Free

- Premium grade stainless steel construction for inner and outer walls.
- 87 degree elbows and tees to ensure condensate drains effectively.

Worry-Free

- Fast, push-fit assembly with no need for additional sealants.
- Precision finished, reliable components for high quality installation.
- Range of 'Tru-Align' adjustable wall brackets for simplifying alignment, achieving a faster installation and neater finish.
- Continuous insulation from base to stub.
- Fire resistant - 4 hour fire rated.
- Stress-free thermal expansion.
- CE mark accredited to meet 2005 legislation.

The Masterflue range from Hamworthy also includes the Masterflue ME single wall, fully welded flue system, which is compatible with the MF twin wall system.

Design & Install

Hamworthy's extensive knowledge of combustion systems, and the flue requirements for each boiler, makes a boiler and flue package the perfect solution for every project.

Offering a comprehensive range of flue and chimney equipment for natural draught, fan assisted and fan dilution applications, a full design and installation service incorporating sizing, site survey and drawings for approval (where necessary) prior to installation can be provided.

For your flue requirements:

Telephone: 0845 450 2867
Email: hamworthy@midtherm.co.uk



Customer Service Centre

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Hamworthy reserves the right to make changes and improvements which may necessitate alteration to the specification without prior notice.