

Custom Solid Fuel Design

Thank you for considering our custom solid fuel design service. Using our engineering and heating system design skills, we can design the pipe work or electrical control system that will enable you to add a stove-boiler or range cooker boiler into your existing sealed heating and hot water system.

Your HETAS-trained installer will be provided with:

- A pipe work layout showing how to connect the boilers, hot water source, and motorised valves.
- An electrical drawing showing the wiring of the timers, thermostats, pumps and motorised valves.

Although the drawings will not include exact pipe or cable sizes and materials, the overall flows of energy will be shown clearly so that your installer can use his own preferred methods and components. So the exact wiring to your specific equipment (eg. Honeywell L641 thermostat terminal "2") will not be provided, because each component you buy will have its own installation instructions, usually in the box!

The cost of each drawing is usually £160 +VAT. If you would us to consider the design work for your property, please return the information requested in the attached **Solid Fuel Design Specification**. If you have any queries, please email us at the address shown below.

Before embarking on this exercise, please check first that you understand the overall process:

- 1) A traditional stove/cooker-boiler with a thermostatically controlled air supply is often sold only with instructions on plumbing it into an old-fashioned open vented pipework, where a feed and expansion tank exists in the loft or a top bedroom. First you need to buy our Wood Safety Kit to overcome this irritation, so that your HETAS registered installer can safely and legally adapt such a boiler for direct connection into a sealed heating system.
- 2) The same installer will use his experience and knowledge from the HETAS wet appliance course to connect a large enough safety radiator above the boiler, so that the boiler can be safely fuelled for any length of time without the water temperature exceeding approx. 93°C. This radiator will be on a gravity driven circuit, which is certain to operate during any emergency such as a power cut. Safety radiators (or heat dump radiators) also have other useful safety functions.
- 3) The stove/cooker-boiler is now ready to be connected to work together with the other heat source, which we will assume is a gas boiler (although it may actually be an oil boiler, heat pump, electric boiler or a heat store connected to solar collectors or a batch boiler). This step requires careful pipework and the addition of electrical time and temperature controls, pumps and valves. Various plans are available on the internet for this purpose, or you can request plans from Advance Heating, customised for your particular configuration. If you decide to order a plan from us, the result will be a system that is fully compliant with current Building Regulations, and draws upon the guidance provided by the Government's Approved Documents ADG, ADJ and ADL. At this point your HETAS installer will be able to install the system, supply a chimney plate and register the stove/cooker-boiler as being safe and fuel efficient.

If required, we can also be contracted to attend on site to inspect the finished installation, and complete the certification on behalf of your HETAS engineer.

Solid Fuel Design Specification

This document outlines the required information about the property and your particular needs so we can create custom plans for your pipe work or electrical controls. Please supply us with the following information by post or email:

1. Drawings showing the plan views of all floors of the property - hand drawings are perfectly OK.
2. Brief description of property age and insulation levels, eg. 1960's cavity walls, double glazed, 5" rockwool in the loft.
3. The model, fuel and brand of your stove/cooker-boiler, eg. Dunsley Heat Yorkshire wood boiler (location shown on plans).
4. The model, fuel and brand of your automatic boiler, eg. Viessmann Vitodens 100 system WB1C natural gas (location shown on plans).
5. Other sources of energy to be integrated, eg. 4m² of direct flow solar vacuum tubes; 6kW immersion heater for hot water.
6. The means of producing and distributing hot water, eg. Consolar SOLUS II 560L heat store (location shown on plans) with a pumped hot water recirculation loop connected to movement sensors in rooms.
7. Existing or planned heating controls, eg. 4 heating zones (bedroom rads, living room rads, annexe ufh, bathroom rads); weather compensation on radiators only.
8. State how excess energy from the solid fuel boiler should be dissipated, for the rare occasions that the safety radiator is unable to do so, eg. pump the heat into the bathrooms first, and then into the ground floor under floor heating.
9. List any existing problems with the heating prior to this work, eg. the water pressure has to be topped up every month; the dining room gets too cold in winter; we have to wait an hour for any hot water after our daughter has "showered".
10. Expected pattern of using the heating, eg. we want the stove to create hot water and to heat the bathroom even during power cuts (resilient heating); we want to burn wood for most of our heating consumption throughout the year; the number of occupants rises from 3 to 5 during college holidays.
11. List personal preferences for the heating work, eg. keep all pipes invisible irrespective of cost; select digital controls so we can connect the heating to the laptop (rather than electro-mechanical controls that can be repaired in a local workshop for decades to come).

If you have any queries whatsoever, please email us at advanceheating@gmail.com