

Pellet Stove with Room Sensor

A new pellet fuelled stove with a unique room temperature sensing feature has recently been installed at the home of Mr Eddie Allison who says:

"I chose a pellet stove because I like log stoves but can't be bothered with the effort and mess of storing, loading, lighting and emptying. Refuelling the pellet stove is really easy, just takes a couple of minutes two or three times a week, and there's no mess at all. The ash can will only need emptying once or twice a year."

What is it?

This Harman Accentra pellet stove is cast iron built and has an automatic temperature control system which monitors the ambient temperature of the room and constantly adjusts the burn rate of the pellets to achieve the desired warmth. It will even turn the stove on and off as necessary.

Maintenance

The Harman Stove has a fairly large ash-pan which can burn up to a ton of pellets before needing to be emptied. The glass window is designed with an air wash system to stay clean for long periods of time. It has been designed to be easy to clean and the hopper can hold up to 25 kilos of pellets - needing infrequent filling.

How it Works.

The bagged pellets are added to a store on the back of the stove capable of holding about 25kg. A short auger pipe takes the fuel from here to drop it into the burn pot within the stove. The air drop ensures a separation of the fuel store and the burner as a safety measure and a fan provides a fixed air supply through apertures within the burn pot to give an efficient burn.



At commissioning the air supply is calibrated in relation to the fuel supply to account for variations in pellet quality. During operation the heat setting of the stove can be adjusted to suit the room, the pellet feed rate is thus changed with the fan speed changing accordingly to compensate. An electric element just outside the burn pot is activated at start up to preheat the air going to the pellets. When a suitable temperature is reached the wood gives off a combustible gas which then ignites and the flame travels to the other pellets to stabilise in an even fire. The heat exchanger in the Accentra stove is unusually 'accordian' shaped. This allows for a high level of efficiency in transferring the heat from the flue gases out into the room.

This stove also uses an innovative temperature control system with , instead of a thermostat, a tiny sensing probe that sends information to the microprocessor on the stove. It constantly monitors room temperatures and makes automatic



adjustments to the pellet feed rate and combustion air to achieve even heating. The stove is also able to turn itself on and off to maintain the desired room temperature.

“To light the stove I turn a dial to the setting I want and the rest is automatic. It purrs away all evening, adjusting the burn rate to keep the room at the set temperature, and to put it out, I switch it off. It warms the living room up really quickly, much faster than the central heating, and with the doors to the dining room open it heats most of the house.”

Technical details

Stove:	Harman Accentra 11.7kW	
Manufacture:	USA	
Wood Source:	Wood pellets	
Hopper capacity:	23 kilos	
Dimensions:	Height	80 cm
	Depth	59 cm
	Width	62.5 cm
Fuse Rate:	5 amp	
Feed rate:	1/3 kilo per hour (minimum)	
	2+ kilos per hour (maximum)	
Installed by:	Wendron Stoves	
	Mallow Court, Wendron	
	Helston, Cornwall, TR13 0NA	
	Tel: 01326 572878	

Fuel

This stove is fuelled by wood pellets which at present are sourced from France and supplied by the installers, Wendron Stoves.

A more local manufacturer of pellets is in the process of setting up production and Mr Allison plans to source his fuel from there as soon as they are ready.

See also our Information Sheets:

- Wood Pellet Stoves & Boilers
- Central Heating with Wood Stoves
- Emissions from Wood Heating
- Wood Pellet Heating
- Flues & Chimneys



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This case study has been produced as part of the Log Pile project. For more information, please visit www.logpile.co.uk



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Renewable Energy for the Home Project

Freephone 0800 138 0889 • www.greenenergy.org.uk • renewables@greenenergy.org.uk

NEF Renewables • The National Energy Foundation • Davy Avenue • Knowlhill • Milton Keynes • MK5 8NG

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