

## Durham Johnson School, County Durham

### Products

- Biomass boiler
- Wessex ModuMax boilers
- Powerstock calorifier
- Pressurisation unit

### Sector

- Education
- Public sector

### Building

- Secondary school
- New build

### Application

- Space heating 1500kW
- Modular boilers
- Hot water 2218 litres/hour
- Indirect DHW



*The eco-friendly school in County Durham*



*Wessex ModuMax modular boilers*

Durham Johnston School in County Durham was the first school in the county to benefit from the Government's £500 million Building Schools for the Future programme. At the heart of this new build lies an environmentally friendly strategy delivered through the sustainable use of energy. It uses a Hamworthy biomass heating solution, supported by Wessex ModuMax condensing boilers, Powerstock calorifier and pressurisation equipment.

The 500kW Biomass boiler with integrated control system, uses wood pellet fuel supply complete with a fuel storage silo and an automated fuel feed system into the boiler intermediate hopper. The boiler feed system has a three-stage burn-back safety system and automatic ignition. To maximise seasonal efficiency the boiler modulates at part load and has an extinguish function to switch off the boiler when there is no load. Unlike many biomass boilers, it does not need trickle heat or kindling to maintain the combustion process. A flue cyclone for fly ash removal and automated ash collection complete this compact low maintenance biomass solution with excellent environmental credentials.

## Our Solution

The biomass boiler, two Wessex ModuMax 250/500 condensing boilers, Powerstock calorifier and pressurisation unit were selected by Balfour Beatty Engineering services, M&E contractors for the project, and installed on behalf of GB Building Solutions Ltd, the main contractor.

Chris Baron, project engineer at Balfour Beatty Engineering Services, remarked: "Hamworthy offered a complete package, including the most up-to-date products. Their Wessex ModuMax manifold kits were excellent as they saved us valuable on-site installation time."

The £29 million project brought together the Whinney Hill and Crossgate Moor sites in a building that focuses on sustainability, energy efficiency and flexibility.

Hamworthy Heating was able to offer the contractors a complete package for the heating system which will work perfectly to the design specification. The use of traditional and renewable energy products to create an integrated system gives specifiers, contractors and end-users a heating system that is environmentally friendly and sustainable, whilst maintaining a comfortable environment for the 1,450 students and staff at the school.

The biomass boiler and gas fired boilers heat the school buildings via radiators, radiant panels, underfloor heating and air handling units for the larger areas, such as the assembly hall, and also fulfil the domestic hot water requirements.

Wessex ModuMax boilers work well with biomass boilers to manage peak loads and ensure the system can respond immediately to demand and provide excellent seasonal efficiencies.

Hamworthy's Powerstock 500 high performance calorifier is a standalone unit supplying hot water directly to the school's science labs. It provides 940 litres storage and a continuous output of 2,218 litres per hour of hot water so Durham Johnson School can rest assured that it will receive a copious supply.



*The Hamworthy Biomass system with fuel hopper, flue cyclone and integrated controller*