

Tailored Baxi Solutions Deployed in Primary Schools to Boost Heating Efficiency and Reliability

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Heating and hot water solutions provider [Baxi](#) has supported the heating refurbishment programmes of two primary schools – supplying technical design support and complete solutions tailored around the project requirements of improved energy efficiency and comfort.

Billesley Primary School in Birmingham and Highlees Primary School in Peterborough, both part of The Elliot Foundation Academies Trust (TEFAT), have successfully completed heating refurbishments that prioritise efficiency, reliability, and comfort for pupils and staff, helping to reduce energy waste and better manage operational costs.

When the non-condensing, cast iron boilers serving both schools reached the end of their lifespan, TEFAT appointed M&E consultants Rider Levett Bucknall (RLB) to explore the most efficient options for delivering reliable heating and hot water. RLB feasibility assessments considered heat pumps for both sites; due to capital and operational cost implications, heat pumps were ruled out for these refurbishments.

Billesley Primary School

At Billesley Primary School, RLB specified a solution based on modular condensing boilers to improve part-load efficiency and resilience. Baxi's technical design team contributed site triage and specialist support, and supplied six Quinta Ace 55 boilers for the building's basement plant room, plus a Megaflo 300l indirect hot water cylinder for the kitchen. Baxi also provided a wall-mounted Quinta Ace 115 and a Megaflo 150l direct electric hot water cylinder for the Early Years building plant room.

The works needed to be completed in term time, so minimising disruption to the live environment and adhering to tight deadlines were major considerations. With the main building's plant room difficult to access via narrow stairs and a single door, the boilers were supplied in a modular cascade design. This helped to overcome site restrictions, improve redundancy, and optimise the efficiency of the boilers.

Commercial heating contractor Ignis Group was appointed to undertake the full replacement works. Director Terry O'Neill said: "We know Quinta Ace boilers well, and our engineers find them straightforward to install and highly reliable in operation. This, together with their space-saving dimensions, proved helpful in overcoming space constraints and meeting the tight project deadlines."

Andrew Hanson, senior M&E consultant at RLB, said: "We chose to work with Baxi as we have a good relationship with them and value their support in providing production information efficiently. The Quinta Ace is renowned for its excellent quality and has the backup we look for from a well-known, well-respected brand.

"This is an extremely successful project that will make a huge difference to the school. The school and trust are extremely happy with the outcome, which meets the high efficiency and reliability requirements and is easy to control through the building management system by the caretakers for straightforward operation and future maintenance."

Highlees Primary School

At Highlees Primary School, Baxi supplied three Remeha by Baxi Gas 120 Ace boilers on an offsite fabricated cascade. Working with RLB, the Baxi team prepared CAD and 3D drawings of the boiler cascade arrangement tailored to the design parameters and integrated specially sized pump sets and a plate heat exchanger (PHE) into the design.

The PHE was recommended to hydraulically separate the new boilers from the existing heating system and protect them from any debris, corrosion or poor water quality. A pressurisation unit, a dosing pot and an expansion vessel were also included. Once the design was agreed, the cascade was created off-site, reducing time and labour needs and helping Ignis keep to a tight schedule, with final commissioning by Baxi engineers.

Terry said: "The reduction in on-site time and labour saved us around two to three days, which, given the tight schedule, was extremely helpful in keeping the project on track."

Neville Radford, national education sector manager at Baxi, said: "The refurbishment programmes at both Billesley and Highlees are perfect examples of the actionable, positive steps schools can take to improve their overall energy efficiency and system reliability, all while cutting down on needlessly high bills and contributing towards a more comfortable and productive working environment. We understood the various challenges associated with both projects and delivered the necessary technical support to ensure a quick turnaround without any issues."