

RUGBY SCHOOL SPORTS CENTRE

VALUABLE ENERGY SAVINGS AND REDUCED CARBON EMISSIONS



Established in 1567, Rugby School is one of Britain’s oldest and most prestigious public schools. Its Sports Centre, situated on the school grounds, features a 25m swimming pool in addition to a fitness suite and an extensive range of indoor and outdoor courts and sports pitches, making it one of the best equipped sports centres in the area.

The heating and hot water system at Rugby School Sports Centre was renovated in 2016 to replace the existing, ageing plant with an Advenco TOTEM T20 m-CHP and 5 Upsilon boilers. The very high efficiency of the new installation provides the Sports Centre with the valuable energy savings sought by the facilities management, in addition to significantly reducing the building’s carbon emissions.

Customer
Rugby School

Sector
Education

Location
Rugby, Warwickshire

Application
Cogeneration of hot water and power

Products
Advenco Totem T20 m-CHP
A.O. Smith Upsilon Boilers



EXPERTLY ENGINEERED FOR YOU



With efficiencies of modern water heaters and boilers almost as high as they can get, combined heat and power (CHP) technology offers the single most significant source of practical energy savings available.

By connecting an automotive engine directly to a generator, on-site power generation can rival the efficiency of a conventional power plant, but without the energy losses inherent in transmitting power over long distances.

Furthermore, the waste heat produced by the engine can be recovered through a series of heat exchangers to serve as a free energy source for a heating or hot water system at no extra cost to the building management.

“When the time came to change our old cast iron sectional boilers I took the opportunity to investigate the viability of CHP alongside new boilers,” explains Brian Rollason, MBIFM, Building Services Engineering Manager, Rugby School Estates Department. “A swimming pool is a perfect application for CHP, and using the unit from Adveco is ideal as we have used their appliances on all our recent installations. We now have 17 UB heating boilers and six BFC water heaters across our estate.”

Sports, swimming, and leisure facilities are the perfect application for micro-cogeneration units, where there is a large and continuous demand for heating, hot water, and power.

The innovative design of the Adveco TOTEM, built with the expertise of professionals directly from the automotive industry, features an engine with a reliability rate of 99.6% over 100,000 units per year. In addition to a unique self-change oil system, this greatly reduces the maintenance demand and running costs of the unit. The result is a micro-cogenerator with long-lasting, market-leading efficiencies that delivers a consistent financial benefit year after year.

“We have found the technical support and back up from Adveco to be excellent. With a reasonable payback time on such a large investment, turning to Adveco for their CHP was a natural step,” said Brian.

Since its commissioning the TOTEM T20 installed at Rugby School Sports Centre is estimated to have generated equivalent fuel savings of £1,018 per month.

It is projected to reduce the building’s emissions by over 51 tonnes of CO2 and 123.8 kg of NOX per year.

TOTEM M-CHP

- Purpose-built for operation on natural gas
- Combined Heat and Power range with outputs of 10, 20, 25 and 50 kW
- Total cogeneration efficiency up to 107.4%
- Ultra-low emissions: NO_x at <12 mg/kWh and <10 mg/Nm³,
- CO at <10 mg/Nm³
- Unparalleled reliability.
- Eligible for full points under the revised POL02 category of the 2018 BREEAM New Construction Scheme, even when installed in high pollution urban areas.



With almost 50 years of industry experience, Adveco Ltd. is the trusted specialist provider of bespoke hot water, heating and power systems to the building services industry. Committed to partnering with its commercial and government customers, Adveco helps create comfortable, efficient, functional, safe and sustainable buildings through invaluable support in the design, supply, commissioning and service of business-critical hot water, heating and power. Headquartered in the UK, the company operates across Europe from offices in the Netherlands and Belgium.