

TYPE: Renovations | SECTOR: Education

Academy

Derbyshire, United Kingdom

134 tons
per year
Total fossil fuel
carbon saving

Hybrid heaven for Academy building.

When a Derbyshire Academy received funding to replace its ageing heating plant, ELCO Heating Solutions was on-hand to supply a new, highly sustainable hybrid system. It is now contributing to a combined carbon saving of 134 tonnes per year.

The challenge

The new equipment has replaced two coal-fired 'Robin Hood' boilers, which provided heating and hot water to the premises for many years. With poor efficiencies and the need to be stoked every morning, the academy required a new system that was going to be fit for the future and provide long-term sustainable heating and hot water production.

Testimonials



Commenting on the project James Robinson, Senior Contracts Manager at BSN Group, said: "This was a fantastic job to work on and it's been a pleasure to install a system that will make a dramatic impact to the day-to-day running costs of the academy. The new heat pumps and boilers provide the best of both worlds, delivering optimum efficiency and sustainability throughout the year, while the installation was incredibly simple. All the equipment integrated perfectly thanks to standardised connections, so we've been really pleased with the ELCO products and the outcome of the project."

Consultants for the project were Birmingham-based Jonathan Richard Associates. Commenting on the project objectives, Andrada Borcovi, Low Carbon Consultant for Surveyors to Education, said: "Following a successful Phase 1 Public Sector Decarbonisation Scheme application, funding was received by the academy to undertake the fabric first roof insulation restoration works, and install a highly efficient and low carbon Air Source Heat Pump heating system."

Featured products:

AEROTOP® M

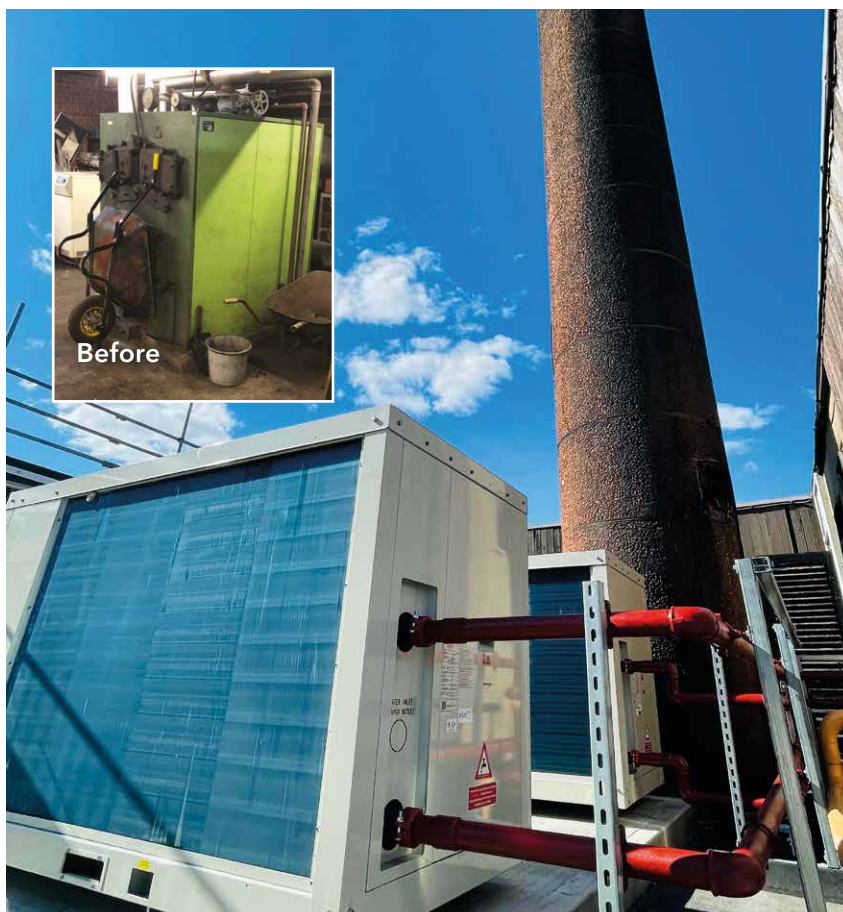


THISION® LECO



AEROTOP® M reversible heat pumps are available in outputs from 24kW to 48kW per unit, and all models supplied with flow and return manifolds for arrangements of up to four heat pumps, while 16 units can be managed by a cascade controller. The AEROTOP® range also extends to 'L' models which can deliver outputs from 54kW to 88kW per unit.

- ▶ R32 refrigerant
- ▶ Cascades
- ▶ ECO mode
- ▶ Quiet operation
- ▶ Reversible
- ▶ SCOP up to 4.3% (W35) and COP up to 3.3%
- ▶ Extended operation range
- ▶ Integrated components



Testimonials (cont'd)

This forms part of the academy's successful Low Carbon Skills Fund application and its long-term decarbonisation plan to make a contribution to reduce emissions as part of the Net Zero by 2050 challenge. The total fossil fuel carbon saving of the combined projects equates to 134 tonnes per year. "We've specified ELCO on many projects in the past and knew their high-quality air source heat pumps would be ideal for this design."

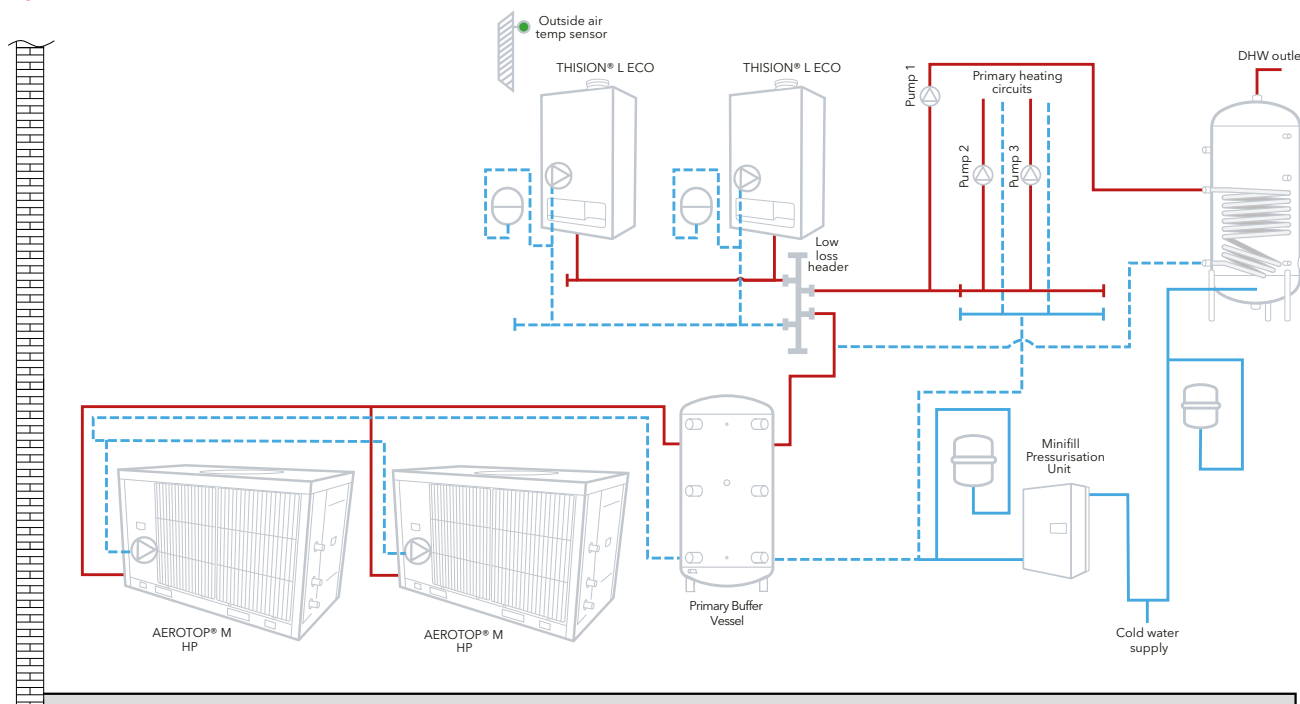
The ELCO solution

Two 48kW AEROTOP® M commercial heat pumps were combined with two THISION® L ECO 120kW wall-mounted condensing gas boilers to deliver a hybrid system. Staff and students are now benefitting from the latest sustainable heating and hot water technology.

"The new heat pumps and boilers provide the best of both worlds..."

James Robinson, Senior Contracts Manager - BSN Group

System schematic



The plant scheme

- ▶ 2 x AEROTOP® M48
- ▶ 2 x THISION® L ECO 120

Benefits

AEROTOP® M48

up to
4.3 (W35)
SCOP

A++
ERP (Energy
Efficiency
Class)

THISION® L ECO 120

15
litres
For single boiler
heat exchanger

36
mg/kWh
NOx level
(annual emission
EN15502)

111.9%
Annual efficiency
(NNG 40/30°C)