

Sport England's Performance Archery Centre

The Performance Archery Centre, based at Lilleshall National Sports Centre, is a new £3.6m sporting facility based in Shropshire. Home to Archery GB and run by Serco, the new centre, which officially opened in April 2024, was funded by Sport England with support from UK Sport.



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End client:
Sport England/
Archery GB
Architect:
DB3 Group

**Main contractor/
Mechanical & electrical consultant:**
Speller Metcalfe
Mechanical & electrical contractor:
TC Ventilation

Technology used:
Eleven Airscoop® roof mounted
terminals and a two-zone
iC8000 intelligent controller

The centre has been used by Olympic and Paralympic archers for daily elite training and preparation for major competitions, starting with the Paris 2024 Games, as well as being a base for talent development archers and community activity, including grassroots sport.

The new archery facility is one of the biggest single funded projects that Sport England has completed to date. Designed by DB3 Group architects and constructed by Speller Metcalfe, the 'L' shaped building brings together indoor and outdoor shooting ranges, changing rooms and other workspaces.

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**building
product design**

The challenge

The ventilation system for the new 70 m indoor shooting range, which formed part of the overall archery facility, needed to be controllable with minimal energy usage, as well as providing the necessary airflow performance. It was also imperative that the finished roof terminals aligned with the design aesthetics of the building. A natural ventilation strategy was the ideal choice to fit with the eco-friendly nature of the new centre, which itself aimed to support UK Sport's wider sustainability strategy.

The energy-saving features of Passivent's Airscoop terminals were chosen to meet these design demands and the overall specification brief for the required ventilation strategy.



The solution

Ideally suited to provide natural ventilation to large buildings and deep plan spaces, Passivent's Airscoop roof ventilation terminals were specified to help naturally ventilate the new indoor shooting range. Harnessing the natural power of displacement ventilation, the Airscoop terminals are designed to direct fresh air via four separate chambers to the indoor space below whilst also extracting stale air. The centre's natural ventilation strategy also benefits from the integration of Passivent's iC8000 multi-zone intelligent controller which enables automatic control of the terminals as required, based on temperature and CO₂ levels.

The energy-saving design of the roof terminals, which require no power to move the air, not only reduces operational costs but also helps to reduce ongoing maintenance costs as there are no mechanical or electrical elements that require servicing.

For additional peace of mind, Passivent's Airscoop terminals are also covered by a 15 year No Leak Guarantee as well as featuring patented double-bank louvres which provide Class A rain rejection (tested to BS EN 13030:2001) so that the building can be fully ventilated regardless of the weather.

Commenting, Alex Drouet, Senior Design Manager at Speller Metcalfe said: "Natural ventilation is a key aspect of the eco-friendly nature of the new Lilleshall Performance Archery Centre. Passivent's Airscoop roof terminals fitted the bill perfectly as they not only suit the aesthetics of the building but also provide reliable ventilation in all weather conditions while contributing to lower maintenance and operational costs."

Passivent offers natural and hybrid ventilation solutions for a broad range of sectors including education, commercial, leisure, care, healthcare and residential.

