



Kingswood Family Home

Vent-Axia has been specified as part of a luxury 1,300m² new-build family home in Kingswood, Surrey.



Sentinel Kinetic High Flow

Designed to provide privacy, space, luxury and comfort the property spans four floors, with five Vent-Axia Sentinel Kinetic High Flow Mechanical Ventilation with Heat Recovery (MVHR) units, providing ventilation for this extensive project. Featuring a cinema, a basement swimming pool with spa and sauna, a golf simulation room and a fully equipped fitness suite as well as a separate studio flat for guests, all of which will benefit from quiet, energy efficient, effective ventilation.

This impressive build was project managed by the owner who appointed Built Environment Technology Ltd as the MVHR specialist with full turnkey responsibility for specification, design, procurement and project management. Built Environment specified the Vent-Axia Sentinel Kinetic High Flow MVHR units to provide energy efficient ventilation throughout and the units were selected thanks to their high efficiency, their ability to meet the substantial airflow demands of the property and to ensure excellent indoor air quality with proportionate control - the units are factory-fitted with an integral humidity sensor, which intelligently tracks air quality and adjusts ventilation rates accordingly.

With energy-efficiency also central to the project it was vital to reduce the heating and cooling demands of the home; to achieve this, the Vent-Axia MVHR system was combined with geothermal intake ducts, which harness ground energy to remove the extremes of outside temperatures. As fresh filtered air is drawn through polymer ducts which are laid at a depth of 1.5-2.5m below ground, renewable geothermal energy is transferred to the intake air, providing natural warmth when very cold outside and natural cooling when hot, with potential annual energy-savings of 3,400kWh (the equivalent to a saving of £476 a year when using an electricity tariff of 14p/kWh). In addition, conventional higher-energy frost-protection heaters are not required, as would normally be the case.

The Vent-Axia High Flow is the most powerful MVHR unit in the Sentinel Kinetic range and is designed to ventilate larger homes and smaller commercial premises; the unit is fitted with an integral digital controller which provides an end-user menu and commissioning and diagnostic functions for suitably competent personnel and a wired, remote version of this controller is also available, for convenience.

The unit is fitted with an integral relative humidity sensor for intelligent condensation control and temperature sensors, which activate the frost protection and summer bypass modes. Additional remote sensors such as CO₂ and air-quality can be connected, where relevant. The unit operates with a normal and boost airflow setting, with both automatic and manual control methods and the software includes a 7-day timer, which allows ventilation rates to be programmed, if necessary.

"This large-scale project involved a complex ventilation system design, combined with geothermal intake ducts to optimise energy-efficiency gains all year round. We specified the Vent-Axia Sentinel Kinetic High Flow units, as they provide high levels of performance and efficiency, with very site-friendly characteristics such as side and top duct connections, which are valuable in confined spaces."

Richard Porteous, Senior Projects Manager at Built Environment Technology Ltd.

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