

Integrated Solar Solutions

Sol-Air



Solar Air Collectors

Key Benefits

Introducing Kingspan Sol-Air, a simple and intelligent solar air heating system.

Sol-Air solar air collectors are a special type of heat exchange system that absorbs incident solar radiation and converts it, through the medium of air, into heat energy. Kingspan offers two types of solar air collectors, Integrated and Transpired.

How it Works

Sunshine incident on the outer skin of a Sol-Air panel causes the collector temperature to increase. This heat is transferred to the air inside the collector void.

Low energy fans incorporated within the HVAC or building ventilation system create a negative pressure, which draws external air into the collector. As the air travels towards the top of the collector void it continues to absorb heat energy before exiting at the top of the elevation. Heated air is transferred from the collector into the building via the HVAC system or alternatively through a high level ventilation system.

An automatic control system with in-built temperature sensors constantly monitors the collector supply air temperature and modulates fan power to ensure the collector is operating to an optimum efficiency and effectively supplementing the building heating and ventilation needs.

Cost Reduction

- A low cost and reliable renewable energy source which provides rapid payback on investment - Kingspan's large scale test facilities have shown that heating cost can be reduced by up to 20%.
- Increases building asset value by contributing to a better energy performance rating.

Sustainability

- Can significantly reduce the building's carbon emissions – which can be quantified through the SBEM modelling software.
- Contributes to the planning permission approvals – many local authorities are adopting pro-renewables planning policies.
- Can help to deliver LEED® and BREEAM credits.

Design Flexibility

- Easily integrates with standard HVAC and/or fresh air ventilation systems.
- Easily integrates with other Kingspan insulated panel systems to provide a seamless external building design/finish.
- Is available in a range of colours.

Peace of Mind

- Is available with the Kingspan TOTAL Guarantee, offering 25 years thermal and structural performance guarantee.



G Park Chatterley Valley, Staffordshire, UK

Image courtesy of Gazeley and Central Photography.

Product Range

Achieving Optimal Performance

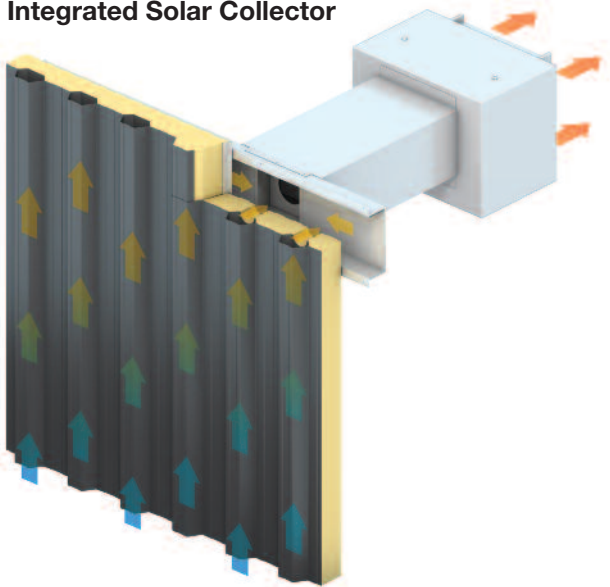
Solar air collectors are generally installed on the most southerly facing wall elevation to ensure maximum heating efficiency. Performance can be further optimised by using darker external colours as they have the higher solar absorptivity rates and therefore increase efficiency.

The benefit of solar air collectors is required primarily in the winter months when heating demand is high. For this reason the system is mounted on a vertical wall to capture the optimum levels of solar radiation at this time of year, when the sun is at a low angle in the sky.

Kingspan offers two types of solar air collectors; Integrated and Transpired.

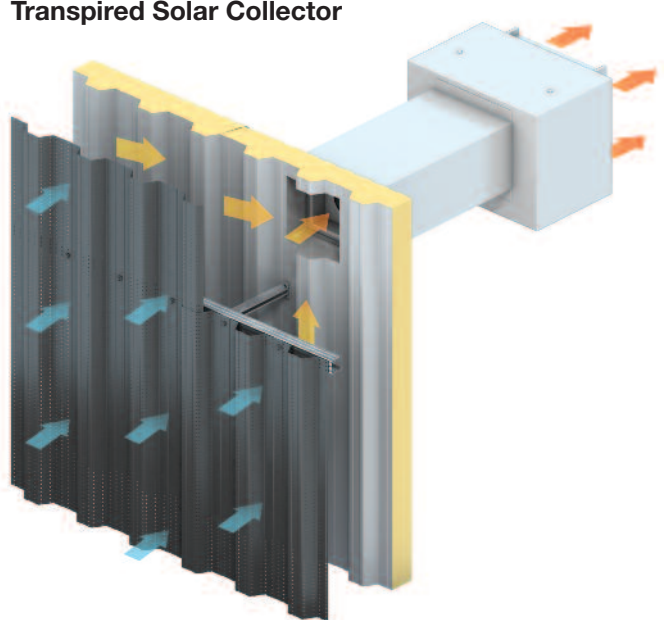
They both work using the same fundamental principle of converting solar radiation into heat (photo-thermal conversion) but they differ in construction and features.

Integrated Solar Collector



- Easy and rapid system installation; no requirement for an additional outer steel sheet, supporting framework, extra fixings, labour or transport costs, over and above the standard building envelope system.
- An ergonomic and lean building envelope solution.
- No on-site fabrication of the system structure.
- Ideal for new build projects.
- Dual functionality product; insulated panel with solar air heating capability.

Transpired Solar Collector



- Additional building envelope layer, providing additional thermal performance.
- External wall area to active collector ratio; 1:1 (Integrated Sol-Air; 1:0.6).
- Flexibility of application; viable for both new build and retrofit projects.

Renewable energy can contribute significantly to the energy used within a building, thereby reducing bills and the carbon footprint. Kingspan solar energy products complement our insulated roof and wall panels and can be easily integrated into any building project.

Full turn-key service; feasibility analysis, detailed design, product supply, installation, system testing/commissioning and project handover are all part of Kingspan's offering.

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For the product offering in other markets please contact your local sales representative or visit www.kingspanpanels.com

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