



The Ingenious
Air Small Duct System

Heritage Case Study Pack

Case Study

For Your Perfect Indoor Climate



Key Benefits

- ✓ Integrates unobtrusively into listed building.
- ✓ A wide choice of discreet air outlets blend beautifully into the stunning interior design.
- ✓ Comfortable, virtually draught-free cooling & heating in one system.

A Luxurious Indoor Climate for a Luxurious £25m Home

The problem: A property developer refurbished this majestic deluxe residence in Oxshott, overlooking the Surrey countryside. The client required an energy efficient complete comfort system that would integrate unobtrusively into the listed building and complement the luxurious interior design. The project value was £206,000.

The solution: The developer chose the Ingenious Air Small Duct System to provide comfort cooling and heating, based upon his previous experience. The system is a discreet, simple and versatile indoor air quality delivery system. Ten systems with total cooling and heating capacities of 110 kW and 200 kW respectively were designed, supplied and installed. Each system was paired with a sustainable energy, inverter driven air source heat pump and incorporates a low pressure hot water (LPHW) heating coil.

Each system has an inverter-driven electrically commutated (EC) fan motor. This motor provides a constant static pressure in the ducting, which ensures air delivery is even and comfortable. A central 'smart' zone control system ensures each room has individual on/off and rapid response temperature control. Discreet, white circular air outlets mean there are no large grilles, wall mounted units or radiators to detract from the stunning interior design. Different compositions and colours were used to perfectly complement the décor of each room. Some outlets were painted to match.

Follow up: The project was completed on time to everyone's satisfaction. The client is now enjoying complete heating, cooling. Routine planned maintenance is carried out twice a year by The Ingenious Air Company. This increases the life span of the systems and ensures they always work at optimum capacity and efficiency.

Mr. A Holeshowski, AMM Construction Ltd

"The small duct system was the ideal choice for this project as a diverse range of air outlet vent plates in the walls, ceiling and floors were used to co-ordinate with the interior decoration of each room. Floor outlets were painted to blend seamlessly with the tiles."



The Ingenious Air Small Duct System - WINNER of UK 'Air Conditioning Product of the Year' RAC Industry Cooling Awards 2015

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- ✓ A choice of colours and compositions mean discreet air outlets blend beautifully into the tasteful interior design.
- ✓ Comfortable, virtually draught-free cooling, heating & outside air ventilation all in one system.
- ✓ Maintains the original features of the Grade One listed building. No radiators, large grilles or wall mounted units required.

Discreet Heating, Cooling and Ventilation for Listed London Library

The problem: Wandsworth Borough Council were converting their Grade One listed building and museum into a library. They needed a cost effective and flexible heating, cooling and outside air ventilation system that could be installed with minimal disruption. The system had to be unobtrusive in order to maintain the original features of their beautifully renovated building.

The solution: Members of Wandsworth Council first saw The Ingenious Air Small Duct System at an exhibition in 2008. They were impressed by the discreet air outlets and subsequently attended a CIBSE CPD presentation to find out more. They set up a feasibility study and secured architectural approval that the system would maintain the aesthetics of their building. As a result, the Ingenious Air Small Duct System was specified for their project.

Four systems, with total cooling and heating capacities of 45 kW and 80 kW respectively (one system is heating only) were installed. Each system handles 50% outside air. Each system is paired with an energy efficient, sustainable, inverter driven air source heat pump. A low pressure hot water (LPHW) heating coil is incorporated in each air handling unit. Effective multiple-zoning allows individual time and temperature control for the main areas.

The induction method of air delivery means that temperature control is comfortable, even and virtually draught-free. Discreet air outlets positioned in the walls and floors free up valuable space, as there are no wall mounted units or radiators. Different compositions complement the interior design of each area: standard white air outlets blend with the white paintwork, whilst brushed aluminum air outlets provide a stylish look under the windows.

Follow up: The library manager and staff are delighted that the aesthetics of the building have been maintained. They are enjoying the comfortable environment provided. The new library was officially opened by the Mayor of London, Boris Johnson, on October 21st 2009.

Wandsworth Borough Council

“All expectations were met. The aesthetics of the listed building were maintained due to the unobtrusive, draught-free and quiet Ingenious Air Small Duct Systems. The library manager and staff are pleased with the environment provided by the energy efficient heat pumps.”



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- ✓ Solves the problem of how to air condition a historic, listed building.
- ✓ Discreet air outlets blend beautifully into the stunning interior design.
- ✓ Comfortable, virtually draught-free cooling.
- ✓ De-stratification keeps the room warmer when heating - warm air that normally rises and is lost in the high ceilings is reclaimed and used.

The Perfect Cooling Solution for This Iconic, Listed Function Room

The problem: The Jockey Club at Newmarket race course is a magnificent Grade Two listed building and a popular venue for private and corporate functions. The iconic Coffee Room is the oldest of the reception rooms, dating back to 1752. It showcases a remarkable collection of famous equestrian paintings and historic racing trophies. The impressive bronze statue of the Classic Derby winner Hyperion can be viewed through imposing arched Georgian windows.

Unfortunately, the Coffee Room was unusable in warm weather due to uncomfortable overheating. The many windows are large and at high-level. A discreet cooling system was urgently needed. However, a traditional wall mounted air conditioning system would spoil the impressive interior design.

The solution: One 19.5kW Ingenious Air Small Duct System, paired with a sustainable heat pump, was installed to provide perfect climate control. Cooling and back-up heating were enhanced by a combination of re-circulated and damper controlled outside air supply. Provision was made to fit an energy saving CO₂ sensor, which controls outside air supply to match the occupancy of the room. English Heritage agreed the finish of discreet white air outlets to blend unobtrusively into the impressive interior design.

Follow up: The Ingenious Air Small Duct System creates the perfect indoor climate whilst maintaining the prestigious atmosphere. The Coffee Room no longer overheats. Events are hosted all year round, regardless of the outside temperature.

Mr. Bob Senior, Consultant M & E Engineer, KJ Tait Engineers:

“The unusually shaped room was difficult to service with very little accessible wall-space, and only the tall ceiling through which to locate ventilation. Air outlets had minimal impact on the coved ceiling and the slim ducts were compact enough to fit in the existing timber roof structure without expensive or intrusive alterations. This delighted the Conservation Officer and the Club.

The Events Manager is pleased with the resulting environment in the room, which is appreciably cooler than before. This allows the Club to take bookings year-round. Previously they had to advise clients to avoid the room for large events in the summer months”.



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The Ingenious Air Company

Award Winning Indoor Climate Control

The award winning Ingenious Air Small Duct System is a modular induction air distribution system. One system gives you perfect indoor climate control for up to eight rooms.

The system helps to create a comfortable indoor climate, without any draughts of hot or cold spots! The additional HEPS module can improve indoor air quality and reduce respiratory and asthmatic symptoms. The discreet air outlets blend into any interior decor, making it perfect for residential applications.

To find out how The Ingenious Air Small Duct System can help you create the perfect indoor climate, contact one of our dedicated experts today!

Telephone: 0800 7331 6352 | E-mail: info@ingenious-air.co.uk

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