

# Case Study

CHANGE IS IN THE AIR

INGENIOUS AIR



## Key Benefits

- ✓ Comfortable, virtually draught-free cooling & heating in one system.
- ✓ Discreet air outlets free up wall and floor space.
- ✓ A natural de-stratification action creates even temperatures, despite 6.5m high, vaulted ceilings.

## Professional Sporting Conditions for Falcon Sports Centre

### The Problem:

The committee members of The Falcon Sports Centre in Slough had a problem. They needed to provide heating and cooling the three badminton courts in their new sports hall. But they had two major concerns:

1. In summer, the draughts from the air conditioning would affect the flight of the shuttlecock and ruin the badminton games.
2. In winter, the 6.5m high ceiling would cause the warm air to rise and be lost. This would mean the hall was not heated evenly and could feel uncomfortably cold.

### The Solution:

Mechanical Consultants, John Noad (Building Environment) Ltd, knew the draught-free Ingenious Air® Small Duct System would solve both concerns. They designed four systems in the sports hall to provide almost 80KW of cooling and heating. This was delivered via an insulated plenum duct running around the periphery at 6m high. A fifth system was installed to provide heating and cooling for the office, reception and crèche areas. Each system was paired with a sustainable, energy efficient heat pump.

The system's unique induction air movement pattern creates even temperatures from floor to ceiling. A natural de-stratification action gently harvests heat that would normally gather in the high ceilings and brings it down to mix with cooler air at lower levels. In heating mode, this reduces the running time of the heat source. In cooling mode, this prevents 'cold toes warm nose' syndrome by ensuring cold air does not sit at a low level. Discreet air outlets save space as no radiators or large wall grilles are required.

### Follow Up:

Temperatures are even, comfortable and draught-free throughout the new sports hall. Players are can enjoy playing badminton without risk of the shuttlecock being blown away.

"The Ingenious Air Small Duct Systems provided the ideal solution for air distribution from a substantial vaulted roof. The system demonstrated excellent energy efficiency and CO2 emissions well within the Part L requirements, and when used with a reverse cycle heat pump also satisfies renewable energy requirements."

**STUART EAST, DIRECTOR, JOHN NOAD (ENVIRONMENTAL BUILDING) LTD**