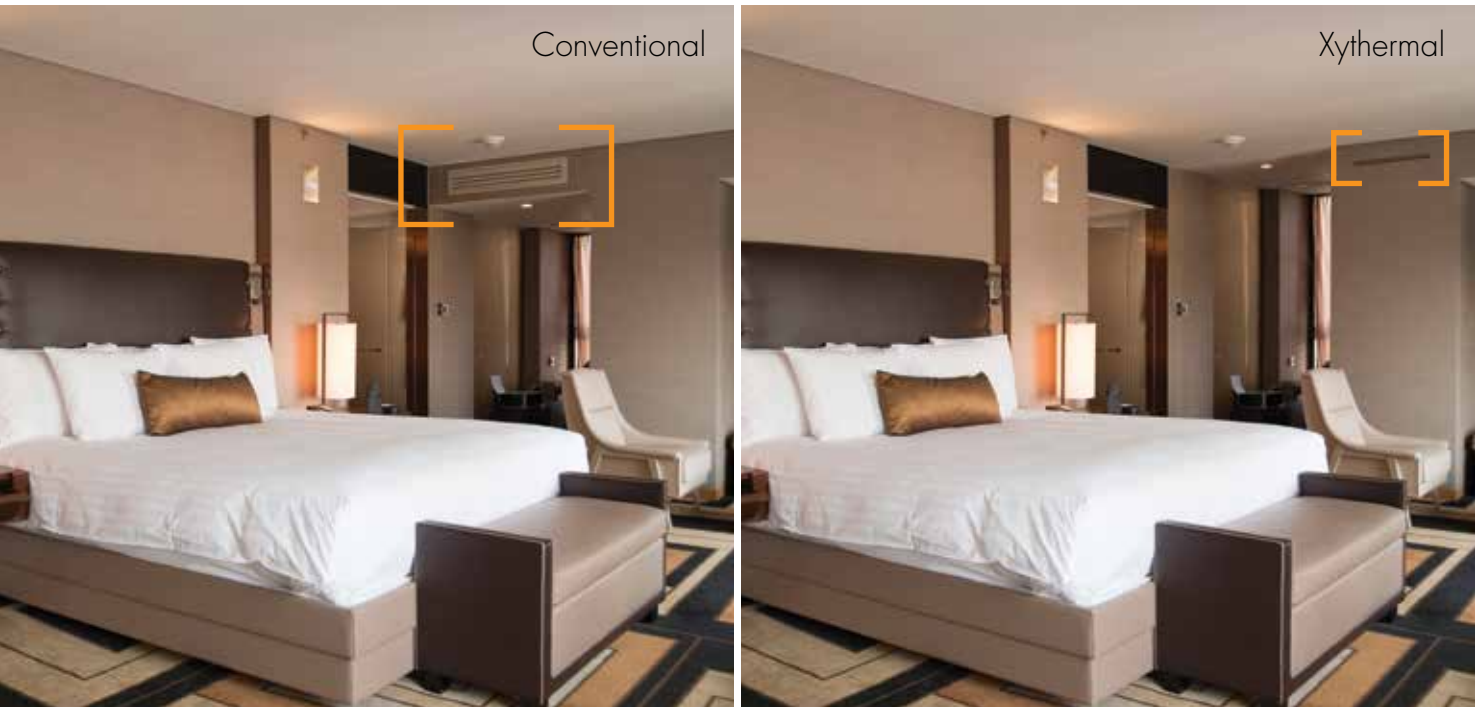




xythermal™  
hotel air jet comfort



**Xythermal™** – A ground breaking hotel ventilation, heating and air conditioning system from **Invisible.AC**

- Innovative solution specifically for hotels
- Single integrated package for ventilation, heating and air conditioning
- Simple, flexible installation in new-build, existing and heritage hotels\*\*

#### Offering:

- Superior guest experience with healthy, even temperatures and instant personal control in quiet, fresh, draught-free rooms
- Discreet air outlets enhance traditional or modern décor
- Central space-saving plant and air filtration
- Centralised control eliminates in-room maintenance
- Low operating costs with energy-efficient system and 80% heat/cooling energy recovery.

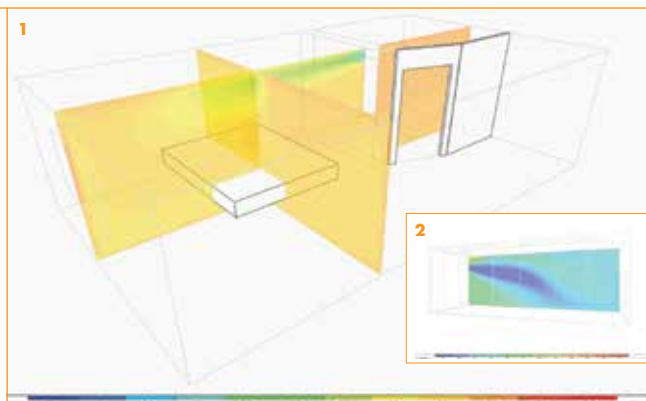
\*\* Requires <150mm bathroom ceiling void and now allows full-height entrance design flexibility

The innovative Xythermal ventilation, heating and air conditioning system means a good night's sleep for guests and no more sleepless nights for management teams worried about customer satisfaction and occupancy levels.

## Improved guest experience

The Xythermal system eliminates the noisy, draughty rooms, stale air and uneven temperatures typical of obsolete hotel climate control systems. Instead, guests enjoy fresh, healthy air with no hot or cold spots, no draughts and no noise in a peaceful, comfortable environment they can control.

- 1 CFD Thermal analysis of Xythermal hotel room installation (3x air jets at 5.5m/sec - Ramboll).
- 2 Conventional HVAC CFD plot.



## Comfort

The Xythermal system uses small-duct, high-velocity jet technology to supply warm or cool air with a variation of less than 1°C in all parts of the room, compared to the variation of up to 6°C with conventional systems. It removes 30 percent more relative humidity and delivers high quality fresh air, with none of the odours associated with recirculated air, condensate drains or dried out traps. If guests want to vary conditions, they can have individual control of room temperatures with instant response.

- 3 Runnymede Hotel room.



## Attractive, flexible room design

The Xythermal system eliminates pipes, radiators, grilles, fans, coils, condensate drains and other mechanical moving parts in the room. The Xythermal system only requires a discreet air outlet in the floor, wall or ceiling for warm or cold air. The single linear slotted outlets blend with any traditional or modern style and are equally unobtrusive in rooms with period décor.

- 4 Runnymede Hotel 25mm horizontal wall slot.



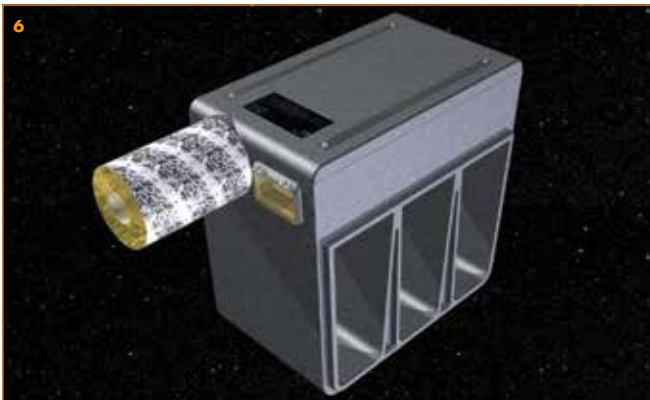
## Quiet rooms

Guest rooms are quiet. All of the mechanical operations take place in the central plant. The use of acoustic technology throughout ensures that the system operates at low noise levels with minimum vibration. Sound-attenuating ducts, smooth running equipment, extensive insulation and low-turbulence outlets enable noise levels as low as NR20.

- 5 SLR Labs — noise level testing.



The Xythermal solution delivers new levels of energy efficiency, flexibility and control, reduces installation, maintenance and operating costs, and helps hotel operators maintain competitive rates by controlling through life costs for heating and cooling.



### Simple installation

A complete integrated Xythermal heating, ventilating and air conditioning system requires only a space-saving central plant and filter with just one hot and cold coil for conditioning multiple rooms. Unique air-switching units supply air to room outlets via a compact, flexible small-bore duct that simplifies installation in building risers, ceiling voids or cavity walls. The system requires no high-pressure refrigerant pipework, condensate drains, fan coils or filters in guest rooms.

6 Xythermal air-switching box (patent application no. GB1420813.6)



### Flexible control

The Xythermal system provides flexible control options. A management console at reception can implement zonal control, with different climate conditions for guest rooms, offices, conference rooms, storage rooms and public areas. Temperatures can be adjusted for occupied rooms, vacant rooms or boosted for north-facing rooms or rooms with large windows. Guests can also make individual adjustments to room temperature using modern touch-sensitive controllers.

7 Hotel touch sensitive room controller.



### Central maintenance

With no mechanical components in guest rooms, all maintenance is carried out centrally, reducing through life costs. There is no need to take guest rooms out of service for maintenance or inspection, maximising occupancy. The system, designed in Cambridge, conforms to international standards, uses highly reliable European blowers plus heat exchanger coils, minimising the risk of downtime and replacement costs.

8 Xythermal ready-insulated mini-ducting (<100mm diameter).

### Efficient energy saving operation

The system links to high-efficiency reversible heat exchanger units to provide heating and air conditioning from a single source – energy recovery is in the region of 80 percent. The heat exchangers are designed to maximise the coefficient of performance (COP), while eco-efficient fan power is typically better than a class-leading 1 W/l/s. As well as eliminating the additional capital costs of installing two separate systems, the combination of a modern heat-pump and an Xythermal system can increase energy efficiency and energy savings by 300 percent over conventional fossil-fuel installations. With modern central rejection-chiller plant COP's approaching double figures can be achieved. The ability to deliver constant, even temperatures and the potential savings from system zoning can increase energy efficiency even further.

300%



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## Xythermal for the hotel industry

Xythermal is a specialist solution for the hotel industry developed by Invisible.AC, one of the UK's leading designers and manufacturers of innovative, integrated heating, ventilating and air conditioning systems. The company has extensive experience in the hotel sector in the UK and Europe and has created solutions for leading hotels.

### Residential

Xythermal systems offer residential customers the convenience of a single system for heating and cooling, and reduced energy costs.

### Offices

Xythermal systems maintain comfortable, even temperatures in the office, helping to improve working conditions and increase productivity.

### Commercial properties

Xythermal systems provide comfortable temperatures for customers, while maintaining appropriate temperatures in kitchens and working areas, protecting products in storage or on display.

## Three recent projects demonstrate the versatility of Xythermal solutions

### Hotel Chocolat (9)

The Hotel Chocolate store at Westfield Stratford City, Olympic Park is an example of Xythermal climate control at work in a retail environment where an evenly maintained temperature is critical to product quality.

### Spanish Villa (10)

This villa is a recent example of the high-end residential properties where our Invisible.AC Xythermal technology is used with installations throughout Europe.

### Pembroke College (11)

The Old Library in Pembroke College, Cambridge has recently been refurbished. Xythermal air conditioning was selected for the building, which was originally the College's chapel and dates back to the fourteenth century. The air outlets blend discreetly with the historic interior and help to maintain the constant temperature that is important to the building.



For further details please see contact details above.

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