



INGENIOUS AIR

# INGENIOUS AIR<sup>®</sup>

*Guide*

DISCOVER HOW TO  
PROVIDE THE  
**ULTIMATE**  
INDOOR CLIMATE

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## The Need for

# INDOOR CLIMATE QUALITY

We each breathe in 3-4 litres of air per minute. We don't think about it, we just do it. But this unconscious act is becoming fraught with danger: 95% of the world's population is breathing in unsafe and polluted air.

And this frightening statistic is having a devastating negative impact on international health, well-being, finances, productivity and safety:

In the UK, 40,000 people die each year from diseases caused by air pollution; worldwide, one in six deaths were driven by pollution in 2015.

Despite numerous measures, most major cities are now in trouble: Even forward-planning London exceeded its annual pollution legal limit for 2018 before the end of January.

Worse still, indoor air pollution is now becoming up to 100 times more concentrated than outdoor air pollution. The body count is indiscriminate and rising...what can you do to make sure you are not next?

The answer is to ensure your indoor environment achieves a high standard of Indoor Climate Quality (ICQ).

ICQ describes the overall healthiness and comfort of your indoor environment: it includes the quality, safety and cleanliness of the indoor air, plus factors such as comfortable climate control.

“  
The  
Invisible Killer  
You often can't  
see it, or smell  
it, but air  
pollution is one  
of the world's  
biggest killers

”

**AIR POLLUTION COSTS THE  
UK £20 BILLION A YEAR**

**DAMAGES CHILDREN'S  
LUNG DEVELOPMENT**

**CAUSES 7M PREMATURE  
DEATHS ANNUALLY**

**STUDIES NOW SUGGEST  
A LINK TO SUICIDE**

## About

# INDOOR CLIMATE QUALITY

There is a common misconception that pollution only comes from outdoor pollutants such as factories, fumes and car exhausts. If this was the case, a suitable solution would be to remain safely inside, escaping from these pollutants. Unfortunately, this couldn't be further from the truth:

Indoor air pollution is now becoming up to 100 times more concentrated than outdoor air pollution. Common household products release harmful pollutants. These include cleaning agents such as bleaches and soaps, as well as beauty products such as perfumes, deodorants and more. Ironically, even air fresheners have been proven to contain formaldehyde. This contributes to respiratory irritation with common symptoms of chest pains, shortness of breath and coughing.

Multiple studies and articles show that high levels of Volatile Organic Compounds (VOCs) can lead to chronic ailments such as lack of concentration, fatigue and sickness. Air pollution is also increasingly linked with serious and sometimes deadly health conditions, including asthma, heart disease and cancer.

Besides the health aspects, ICQ also considers overall thermal comfort within your indoor environment. Research shows that air conditioning systems, whether providing heating or cooling, are the biggest cause of thermal discomfort.

Air conditioning is often a counterproductive solution: It's safe to say that most offices never get the temperature control quite right. You might be a part of the huge proportion of UK office workers who feel unproductive at work due to draughts and uneven temperatures. You may even be a part of the 76% of employees who perceive the temperature of their office to be uncomfortable or the 74% who argue with colleagues over the air conditioning.

A good place to start is by asking yourself 'does my existing system solve any of the above issues?'. Currently, there are 5 factors included in ICQ guidelines. Each factor must achieve a high standard to create the ultimate indoor environment.



INDOOR CLIMATE QUALITY

✓ Cooling ✓ Heating ✓ Clean Ducting ✓ Air Purification ✓ Surface Purification

*Improving*

# INDOOR CLIMATE QUALITY

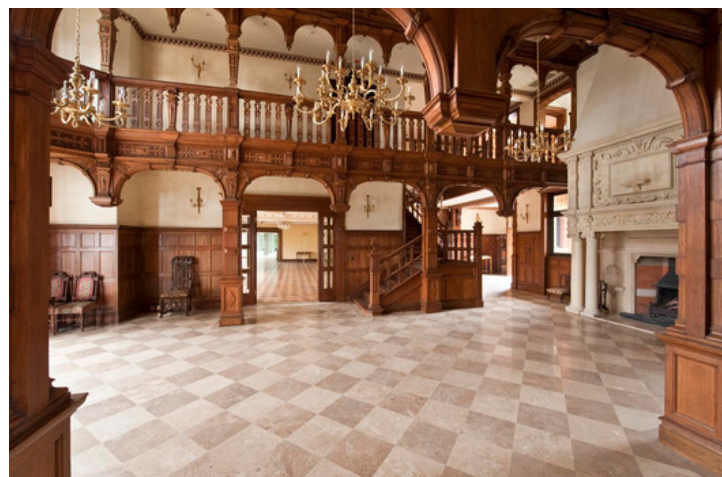
In alignment with Indoor Climate Quality's guidelines, The Ingenious Air Company's motivation is to create the ultimate indoor climate and a safe indoor haven.

Our ethos is 'Enhance Well-being, Enable Performance, Enrich Lives'.

We actively improve indoor air quality and ensure a comfortable and productive environment.

We strongly believe that everyone should live and work in a healthy environment. No one should feel 'over air-conditioned', feel too hot or too cold, or have to breathe in dirty, polluted air.

Ask yourself, what would you do if there was an all-in-one system that complies with all five factors of ICQ?



Discover

## THE SOLUTION

The innovative Ingenious Air® Small Duct System is a revolutionary induction indoor air distribution system, which solves all five factors of Indoor Climate Quality (ICQ) and more.

It creates the ultimate and holistic indoor climate solution, dealing with comfort problems of draughts, hot/cold spots and feeling 'over-air conditioned'. This is achieved by formulating draught-free, evenly temperature-controlled air.

The system also creates a safe haven through purification, which dramatically reducing disease-causing viruses and bacteria, allergens and dust. The advanced technology means air, surfaces and objects are purified, especially in those hard to reach areas.

“

*The discreet system incorporates air conditioning, heating and purification, with minimum impact and maximum comfort*

”



**CREATES THE ULTIMATE INDOOR ENVIRONMENT**



**DRAUGHT-FREE, EVEN TEMPERATURES**



**CLEAN, SAFE, PURIFIED AIR AND SURFACES**

## Learn

# HOW IT WORKS

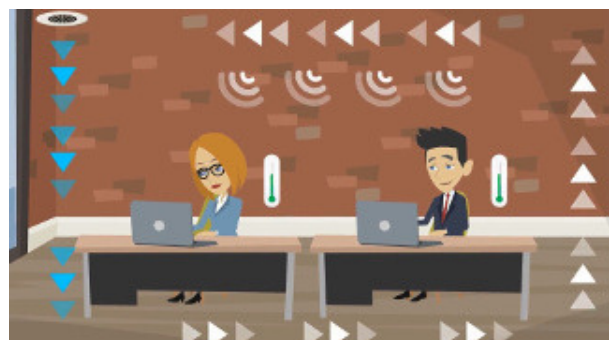
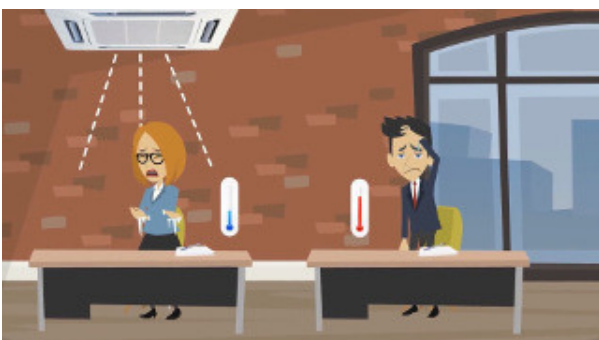
The Ingenious Air® Small Duct System uses induction air movement pattern, which works differently from other air conditioning systems. This provides the ultimate thermal environment that all occupants can feel comfortable in.

A modular air handling unit (AHU) is at the core of the system. The AHU connects to both a sustainable renewable energy source (usually a heat pump) and a static regain plenum ductwork. The AHU usually draws in room air through a return air grille and duct and treats the air as programmed.

The central plenum duct connects to a series of small, flexible ducts. These terminate in discreet air outlets positioned away from the centre of the room in 'out of traffic' areas in floors, wall and ceilings. These air outlets complement any interior design, with an extensive range or the option to design your own.

The system is kind to the environment and significantly lowers carbon footprint. Just one system can provide individual temperature and time control for up to eight rooms, meaning one system can replace up to eight standard air conditioning (fan coil) systems.

The Ingenious Air® Small Duct System provides a superior climate solution by offering up to five options: Cooling, Heating, Ventilation, Purification and Probiotic.



## Optional

# MODULES

Five interchangeable modules can be used independently or in any combination. All of the modules can easily be added retrospectively. Choosing all five modules creates the ultimate clean and comfortable solution:



COOLING



PURIFICATION



HEATING



PROBIOTIC



VENTILATION

Each project is treated on a tailor-made basis, meaning the system is customised for the needs of the occupants. This can help keep costs down by only paying for requirements and not for unnecessary features.

## COOLING

The system solves common air conditioning problems and complaints. Temperatures are unfluctuating, with no uncomfortable draughts and hot/cold spots.

The system has a natural de-humidification action in cooling mode. This removes more excess moisture from the air than other systems, creating more comfort at higher temperatures.

The system is responsive and the temperature effect is felt very quickly.

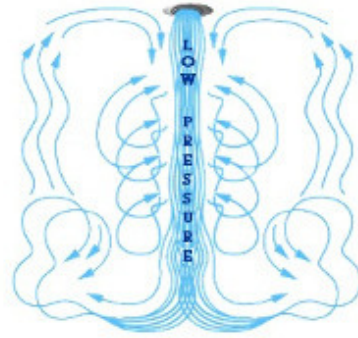




*Optional*

# MODULES

## HEATING



The system has a natural de-stratification effect. Warm air that normally rises and is lost at ceiling level is re-distributed downwards to where it is needed at floor level. This means that temperatures are even, with no hot/cold spots.

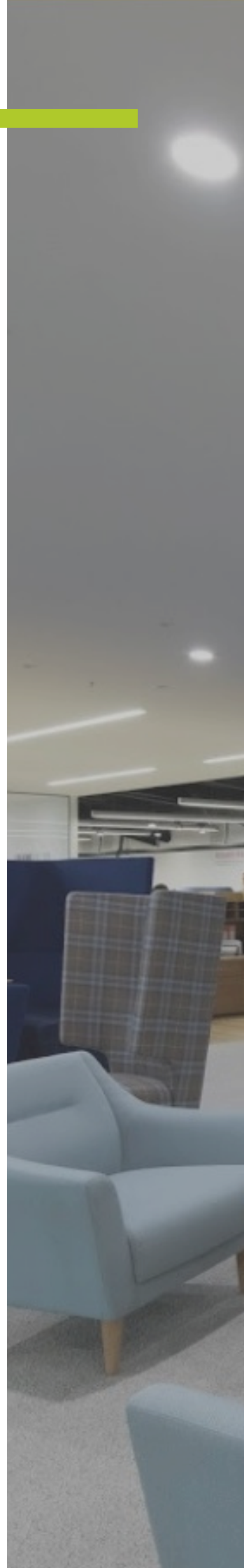
Occupants are warmed at the same rate and do not experience the uncomfortable 'warm nose, cold toes'.

Warm air is not blown directly, which prevents becoming too hot or the feeling of skin drying out. Even temperature distribution also prevents the need for other expensive and inefficient equipment.

## VENTILATION

The induction method of air delivery helps to distribute the outside air evenly across the room. This ensures it is received equally by all occupants. Air is delivered to the 'air on' side of the air handling unit, through a heat recovery unit if required. This can reduce supply-side ventilation ductwork compared with other ventilation systems.

The system can also work alongside an existing ventilation system to improve air distribution and indoor air quality. Adding air purification dramatically reduces harmful pollutants in the incoming outside air.



*Optional*

## MODULES

### PURIFICATION

The High Efficiency Purification System (HEPS) can enhance the overall performance of residential properties. It banishes unpleasant smells such as vehicle exhaust fumes, pesticides and cigarette smoke.

Equally, for commercial buildings, it can help eradicate Sick Building Syndrome. This is a situation where occupants experience ill-health due to spending time in an unhealthy building.

The HEPS reduces the spread of all three serious indoor air pollutants:

- 1 Diseases**  
Removes bacteria (1 to 0.3 microns in size) and viruses (0.001 microns in size), which cause infectious illnesses.
- 2 Allergies**  
Removes allergens (0.3 – 10 microns in size), which trigger allergies, hay fever, and asthma.
- 3 Toxins**  
Removes VOCs (0.3 microns and smaller), which can cause short and long-term ill-health.

“

*The HEPS module significantly improve air quality and meets the standards in Indoor Climate Quality (ICQ)*

”



**SUITABLE FOR ANY INDOOR ENVIRONMENT**



**REMOVES A MINIMUM OF 90% AIR PARTICLES**



**PROTECTS FROM DISEASES, ALLERGIES & TOXINS**

*Optional*

## MODULES

### PROBIOTIC

Probiotics support human health by balancing “good” and “bad” bacteria. Many probiotic products on the market have shown benefits for people with skin conditions, allergies, colds and oral health, weak immune systems and digestive issues. New developments indicate that Environmental Probiotics are essential for a balanced and clean indoor environment.

The solution is Ingenious Air® Probiotic; the innovator of probiotic air, surface and object purification systems. Pioneering a way to introduce probiotics to the environment and using their natural intelligence to bring balance to indoor living and workplaces.

Conventional purification and cleaning methods indiscriminately kill all bacteria harmful and beneficial alike. This causes an imbalanced, sterile environment in which pathogens mutate into resilient superbugs.

Alternatively, Ingenious Air® Probiotic compete over and deplete the resources allergens, pathogens and mould thrive on, and help in the elimination and prevention of bad odours due to microbial contamination.

The beauty of the technology is that it can accommodate virtually any indoor space and every individual. Years of backtesting has proven Ingenious Air® Probiotic to be safe for human, pet and animal contact. They are also environmentally friendly, 100% natural and biodegradable.



REVOLUTIONISE THE WAY YOU  
BREATHE

## Complete

# CLIMATE CONTROL SOLUTION

- 1 Provides comfortable, even temperature control**
  - ✓ Draught-free cooling with lowered relative humidity.
  - ✓ Comfortable heating with de-stratification.
  - ✓ Option for outside air ventilation.
- 2 Provides clean and healthy air**
  - ✓ High-performance air purification (HEPS).
  - ✓ Probiotic surface purification.
  - ✓ Ductwork stays sanitary with no need for cleaning.
- 3 Energy efficient with a low carbon footprint**
  - ✓ Enhances overall environmental building performance.
  - ✓ Compatible with sustainable energy sources i.e. heat pumps.
  - ✓ Multiple control zones significantly reduce carbon footprint.
- 4 Beautifully complements the interior design**
  - ✓ Stylish and discreet air outlets free up floor and wall space.
  - ✓ Multiple colour and compositions complement any interior design.
  - ✓ Option to create custom designed outlets.
- 5 Easier design and installation**
  - ✓ Suitable for most applications, new build and retrofit.
  - ✓ Design flexibility increases layout options and simplifies installs.
  - ✓ Comprehensive Product Design and Approved Installer training programmes, designed in conjunction with The Ford Motoring Company.
- 6 Easier to use and maintain**
  - ✓ Connects with intelligent controls and smart building management systems.
  - ✓ Serviceable parts installed away from occupied areas for easier maintenance.
  - ✓ Routine maintenance service.

*Conventional*

# COMPARISON GUIDE

| FEATURES          | OPTIONS              |                                      |                                 |                    |                               |
|-------------------|----------------------|--------------------------------------|---------------------------------|--------------------|-------------------------------|
|                   | Ingenious Air System | Traditional Air Conditioning Systems | Traditional Heating - Radiators | Underfloor Heating | Conventional Warm Air Heating |
| Draught-Free      | ✓                    | ✗                                    | ✓                               | ✓                  | ✗                             |
| Discreet          | ✓                    | ✗                                    | ✗                               | ✓                  | ✗                             |
| Even Temperatures | ✓                    | ✗                                    | ✗                               | ✓                  | ✗                             |
| Rapid Response    | ✓                    | ✗                                    | ✓                               | ✗                  | ✗                             |
| Heating           | ✓                    | ✓                                    | ✓                               | ✓                  | ✓                             |
| Cooling           | ✓                    | ✓                                    | ✗                               | ✗                  | ✓                             |
| Purification      | ✓                    | ✗                                    | ✗                               | ✗                  | ✗                             |
| Ventilation       | ✓                    | ✓                                    | ✗                               | ✗                  | ✓                             |
| De-Humification   | ✓                    | ✗                                    | ✗                               | ✗                  | ✗                             |
| Energy Efficient  | ✓                    | ✗                                    | ✓                               | ✓                  | ✗                             |
| Probiotic         | ✓                    | ✗                                    | ✗                               | ✗                  | ✗                             |

*Different*

# SECTORS

## OFFICE

Eliminates discomfort and possible arguments over temperature control. Suitable for different commercial environments including open plan offices, multi-floor offices, meeting rooms and boardrooms.



## INDUSTRIAL

Removes airborne chemicals, pollutants, toxins, smells, allergens, viruses and bacteria. Suitable for different industrial environments including factories, agricultural buildings and warehouses.



## HEALTHCARE

Creates a stable and consistent environment and reduce the spread of airborne infections. Suitable for different healthcare environments including hospitals, clinics, surgeries, care homes, dentists and opticians.



*Different*

# SECTORS



## LEISURE

Improves comfort and ambience with even temperatures, which are virtually draught-free. Suitable for different leisure environments including pubs, bars, nightclubs, function rooms, gyms and sports centres.

## RETAIL

Ensures a comfortable experience by providing discreet cooling and heating, with a high-quality finish. Suitable for different retail environments including shops, showrooms, beauty salons, travel agents and estate agents.



## ALSO AVAILABLE FOR RESIDENTIAL

A comfortable and stylish alternative to traditional systems, with cooling, heating, ventilation and purification. Suitable for different residential environments including houses, apartments and listed buildings.

*Client*

# TESTIMONIALS

The system helps control the spread of infection and protect our patients when they visit our surgery. Each room is comfortable and there are no cold draughts when the air conditioning is on. Air outlets in the ceiling, wall and floor mean there are no radiators, which has given us more space in each room.

**DOCTOR FARAH, ST JOHN'S VILLA SURGERY**

We were constantly having maintenance carried out as our system seemed to always get dirty and not work to its maximum potential. Since installing this system, we have dramatically reduced the need because of the 'self-clean' feature, which ultimately is saving us time as well as money.

**SARAH PULLEN, A-Z MARKETING CO**

We had to do something different with our office air conditioning. We previously had many arguments and complaints about uncomfortable temperatures. The system allows us to keep a comfortable temperature, regardless of the weather. It is easy to use, discreet and cleverly blends into the background.

**DAVID METCALF, SEARCHLIGHT ELECTRICAL**



Ten

# INGENIOUS REASONS

- 1** The Ingenious Air® System delivers the perfect indoor climate, ensuring there is never the need to deal with complaints of draughts, hot and cold spots, stale air or uneven temperatures.
- 2** A whole system solution for cooling, heating refrigerant or chilled water, outdoor ventilation, air purification and de-humification. Available in any combination, in a single system, without the need for radiators and/or wall units.
- 3** The only HVAC system in the UK to offer the HEPS Purifier to clean air down to the last molecule for unrivalled air quality.
- 4** Compatible with all sustainable energy sources including air source heat pumps, ground source heat pumps, water cooled condensing units, solar and high-efficiency boilers.
- 5** Energy efficient, low carbon system and installation, that help enhance the green credentials of any project and lower energy bills.
- 6** Ideal for use in listed buildings and tricky applications where traditional systems may not be an effective or energy efficient alternative.
- 7** Quick, flexible and easy installation alongside simple maintenance.
- 8** Unrivalled choice when it comes to air outlets. Have them blend seamlessly into any interior for a near to invisible installation. Additionally, there is the option to create custom designed outlets.
- 9** Affordable lease finance options up to 5 years, with fix payment terms.
- 10** Ingenious Air will always be here to support and answer questions, whether it's supply only, or offering a full supply, design, install and maintenance package.

*Introducing...*



INGENIOUS SOLAR

The most advanced  
renewable energy  
product available today.

Combines both solar  
panels and a heat pump.

Utilises energy in any  
condition, including the  
sun, wind or rain.

Patented features to  
ensure optimum  
performance in the  
UK climate.

DISCOVER THE  
**ULTIMATE**  
RENEWABLE SOLUTION

*Ready to learn more?*



Visit the Ingenious iHub for more information on our full range of products:

**[www.ingenious-air.com/ihub](http://www.ingenious-air.com/ihub)**

CONTACT



INGENIOUS AIR

*Contact us and  
start living today*



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