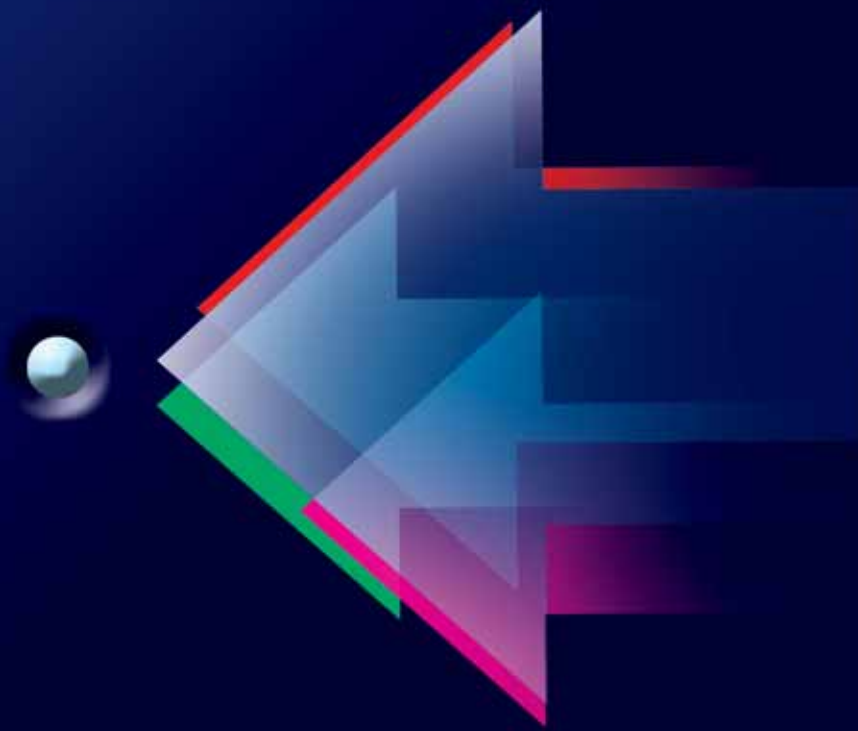




A SOLUTION
DESIGNED
FOR OPTIMISED
PERFORMANCE



Dixi JM - RCS Lyon B 353 000 870 - Printed in France



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Supersedes order No.: New
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A member of the United Technologies Corporation family

SYSTEM OPTIMISATION: ALL COMPONENTS WORKING TOGETHER

Whatever type of building requires air conditioning, a new building or refurbishment project, Carrier can offer complete uniform systems - a global solution.

Each Carrier solution is a global solution, integrating comfort, performance and rationalised investment.

The choice depends on many different criteria, and therefore Carrier has prepared this guide to help you choose the essential system components, the fan coil solutions.

SUMMARY

This document contains an introduction on:

- Market trends by application.
- Fan coil ranges with advantages and possible application limits.

Floor-mounted system p. 5/6

High-wall system p. 7/8

Ceiling system p. 9/10

Ducted system p. 11/12

Corridor system p. 13/14

Centralised system p. 15/16

This will help you find the optimal solution for your individual requirements.

FAN COIL *Solutions*

THE FAN COIL SOLUTIONS

Hydronic systems offer a reliable, flexible and ecological solution to meet the demands of the heating, ventilation and air conditioning markets.

All solutions allow cooling, heating, fresh air intake and more or less complex controls to satisfy the needs of our customers.

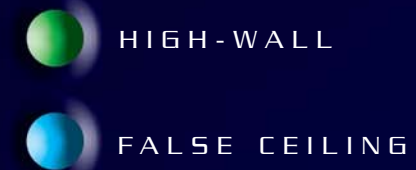
The final choice of one of the system components, the fan coil, very much depends on the application and the installation site.

Carrier can rely on extensive technological and product experience and know-how. We offer customers a large number of solutions to satisfy all of their needs and suit all possible applications: in the room, in the ceiling, above a false ceiling, in a plant room ... and others.

This document will guide you with illustrations to select the most suitable system for your needs, listing the advantages and application limits for each solution.



CLOSEST TO THE MARKETS



MARKET TRENDS

A European study carried out on fan coil systems revealed that in many cases the solution chosen is based on the application. In this document we explain the main types by application and look at the possibility of change in the future.

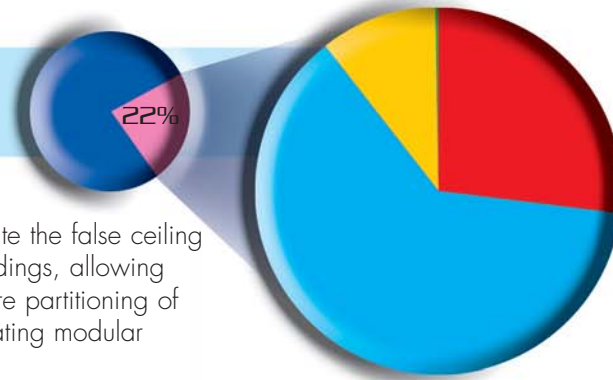
LARGE COMMERCIAL

(>1000 m²)

Today architects integrate the false ceiling concept into office buildings, allowing greater flexibility in future partitioning of work areas, and facilitating modular installation.

Looking at the market today, this tendency is confirmed. More than 60% of installations use ductable solutions, with a great range suitable for any configuration type.

Cassettes with 19% of the market are also often used in this sector. They are ideal for the requirements of large open spaces, such as meeting rooms and entrance halls. Floor-mounted solutions are often used in refurbishment projects.



SMALL AND MEDIUM COMMERCIAL

(<1000 m²)

Today's market has a great development potential. As it is often difficult to choose between direct-expansion and hydronic systems, the installer needs to be helped, guided and advised about the most suitable solutions.

There are two distinct applications in this market segment:

- Retail establishments: who must offer their customers enhanced well-being, an indispensable strategy in helping to achieve sales, customers purchase in absolute comfort.
- Business parks with offices specifically designed for small and medium-size companies.

The most frequent solutions in this market sector are floor-mounted units in offices, and ducted or cassette units in modern retail premises, often designed with rough ceilings.

LODGING (HOTELS, HOSPITALS)



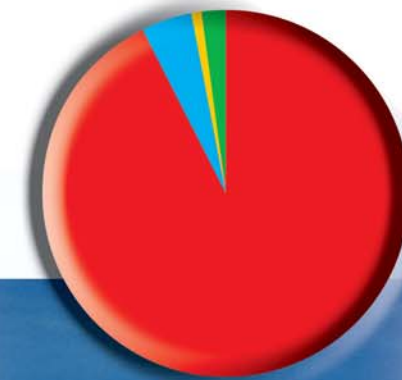
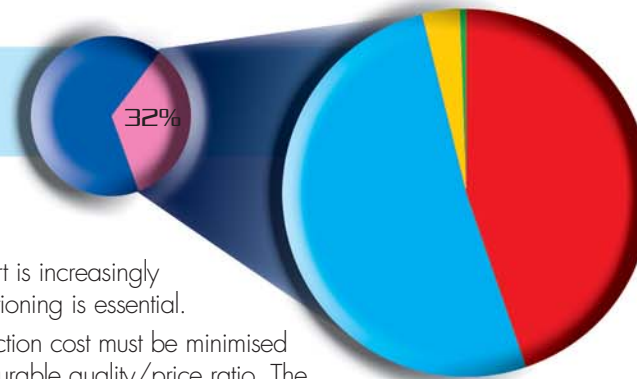
In hotels customer comfort is increasingly important, and air conditioning is essential.

At the same time construction cost must be minimised to offer customers a favourable quality/price ratio. The trend is towards modularity of the rooms, as well as the air conditioning system installed.

The most frequent choices for this approach:

- ductable solutions, using false ceilings in entrance halls and room corridors for new buildings.
- floor-mounted solutions for refurbishment projects.

For either of these two systems, areas such as large open spaces, dining rooms, receptions and conference halls that have other requirements, often use the cassette solution.



RESIDENTIAL

This promising market sector has not yet reached its full potential, even though in certain Southern European countries market penetration is well advanced. Heat pump systems are often considered as the most suitable solution, offering both air conditioning and heating.

At European level, permanent research for economic and ecological comfort has already resulted in new hydronic solutions with under-floor heating and cooling. In the most demanding applications fan coils complete the system to offer a true air conditioning solution.

Today the most frequent solutions are:

- floor-mounted solutions for individual houses – easy to install in refurbishment projects, using existing central heating pipes. Enhanced comfort without a lot of work.
- ductable solutions for apartments, utilising false ceilings in the entrance hall.
- high-wall solutions, using the space above doors that is otherwise lost.

The ductable unit may well become the solution of the future, if the building concept takes the application limits of this solution into consideration.





FLOOR-MOUNTED System

VISIBLE / IN THE ROOM

APPLICATIONS



OFFICES

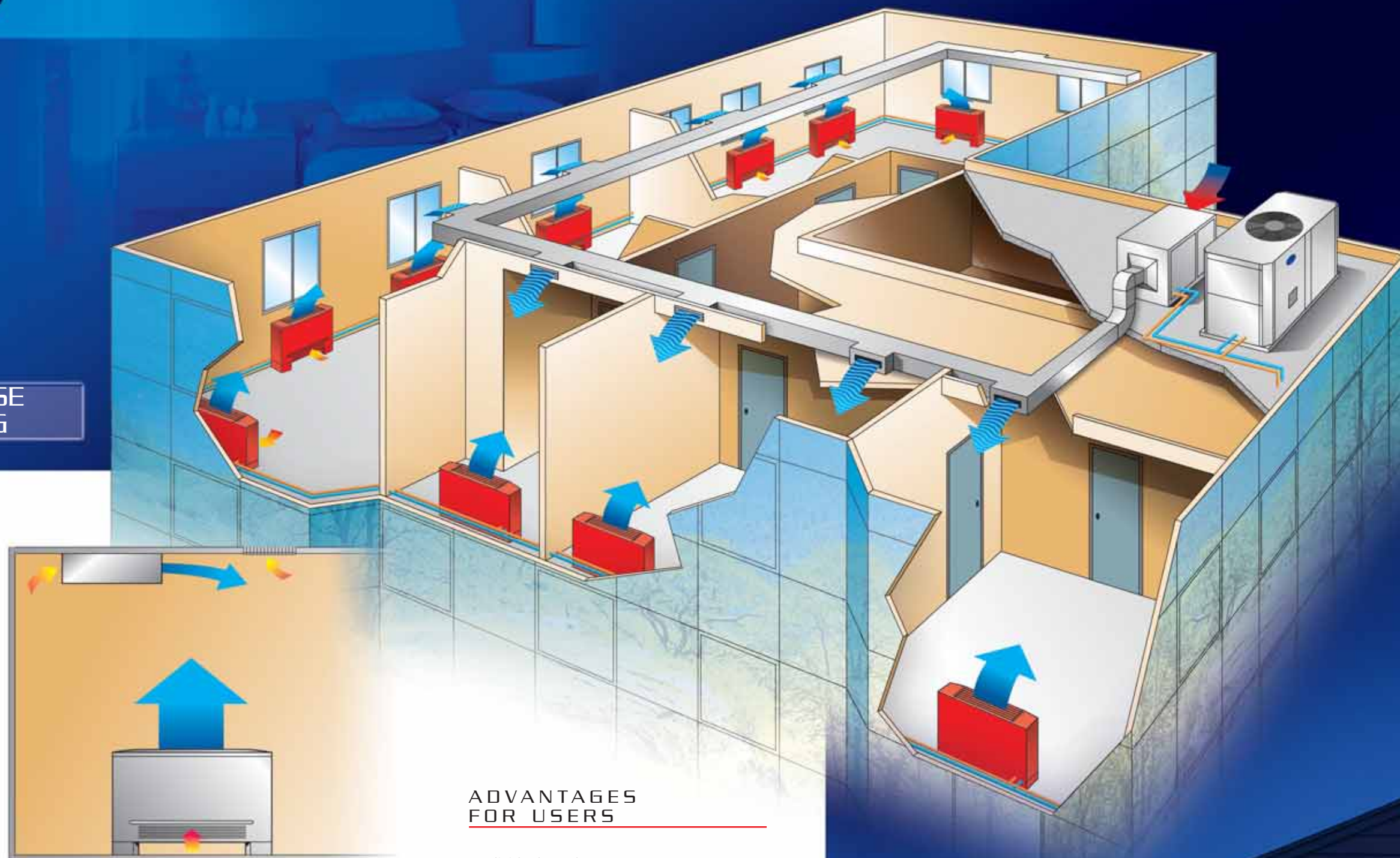


RESIDENTIAL

Best solution for:

REFURBISHMENT

NO FALSE CEILING



ADVANTAGES FOR INVESTORS, DESIGN OFFICES AND ARCHITECTS

- Reduced investment costs due to the modular concept and simplified installation.
- A technical option allowing easy access for air conditioning during refurbishment.
- Low energy consumption resulting in energy savings.
- Easy maintenance, no specific know-how required.
- Low noise level due to the tangential fan.
- Extended capacity range for all installation types.
- Highly adaptable with two different installation positions: low-wall and under-ceiling.
- A EUROVENT-certified system.

ADVANTAGES FOR USERS

- Individual comfort management.
- Direct accessibility.
- Placed under a window, it ensures optimal climate comfort summer and winter.

ADVANTAGES FOR INSTALLERS

- Easy to install: can be done by just one person.
- Saves time.
- A factory-pre-equipped system: only fixing and connection required on site.

APPLICATION LIMITS

- Maintenance in the work area.
- Separate fresh air treatment.





HIGH-WALL System

VISIBLE / IN THE ROOM

APPLICATIONS



HOTELS



HOSPITALS

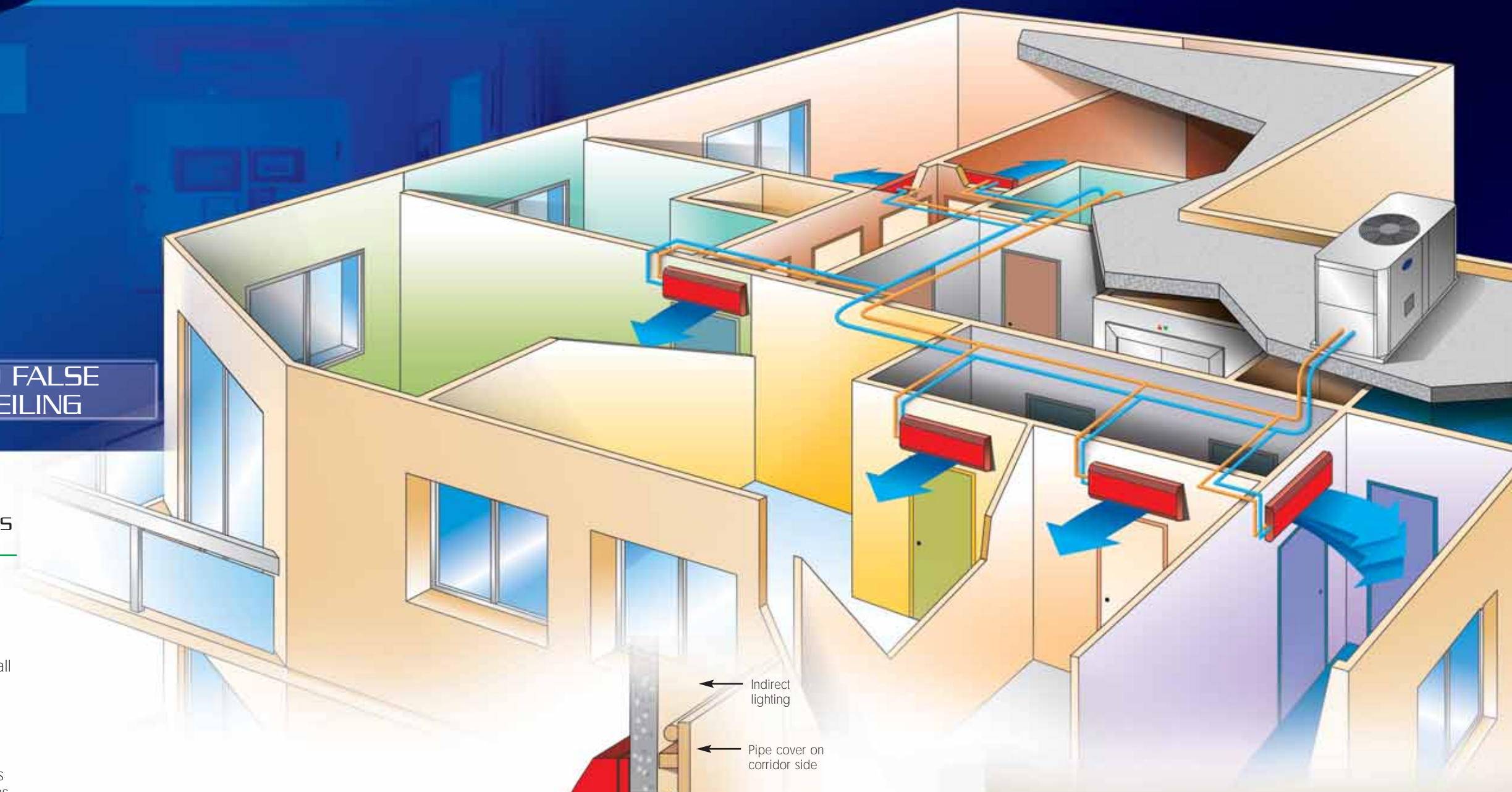


RESIDENTIAL

Best solution for:

REFURBISHMENT

NO FALSE CEILING



ADVANTAGES FOR INVESTORS, DESIGN OFFICES AND ARCHITECTS

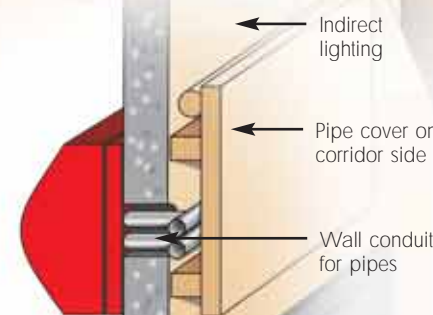
- A system offering a good quality/price ratio.
- Use of lost space above doors, permits complete freedom in the choice of location.
- Aesthetic discretion: the unit is installed high on the wall and can be completely forgotten.
- Perfect solution, suitable for refurbishment of existing buildings, where air conditioning has become an essential comfort factor.
- An installation that does not require a lot of work: units can be installed with minimum disturbance in the rooms.

ADVANTAGES FOR INSTALLERS

- Fast and easy installation: all peripheral unit components are factory-installed and tested: control valves, shut-off valves, flexible hydronic pipes etc.
- Less installation time: ducts are run to the corridor, and distribution ducts can be run to each room later.
- Fewer pipes: ducts go only to the unit above the door and not inside the room.

ADVANTAGES FOR USERS

- Personalised comfort in each room: individual control to maintain the required conditions (local occupied or unoccupied mode, set-point adjustment, fan speed selection).
- Possible central control for better site use, with the installation of a module linked to all units.
- Optimised air distribution: the air flow can be easily adjusted with a deflector and motorised guide vanes offering continuous sweep and a choice of six automatic direction positions.
- A lower noise level thanks to an optimised system design and the use of a tangential fan.



APPLICATION LIMITS

- Fresh air intake separate from the system.
- Maintenance carried out in the room.





CEILING System

VISIBLE / IN THE ROOM

APPLICATIONS



COMMERCE



RESTAURANT



OFFICES

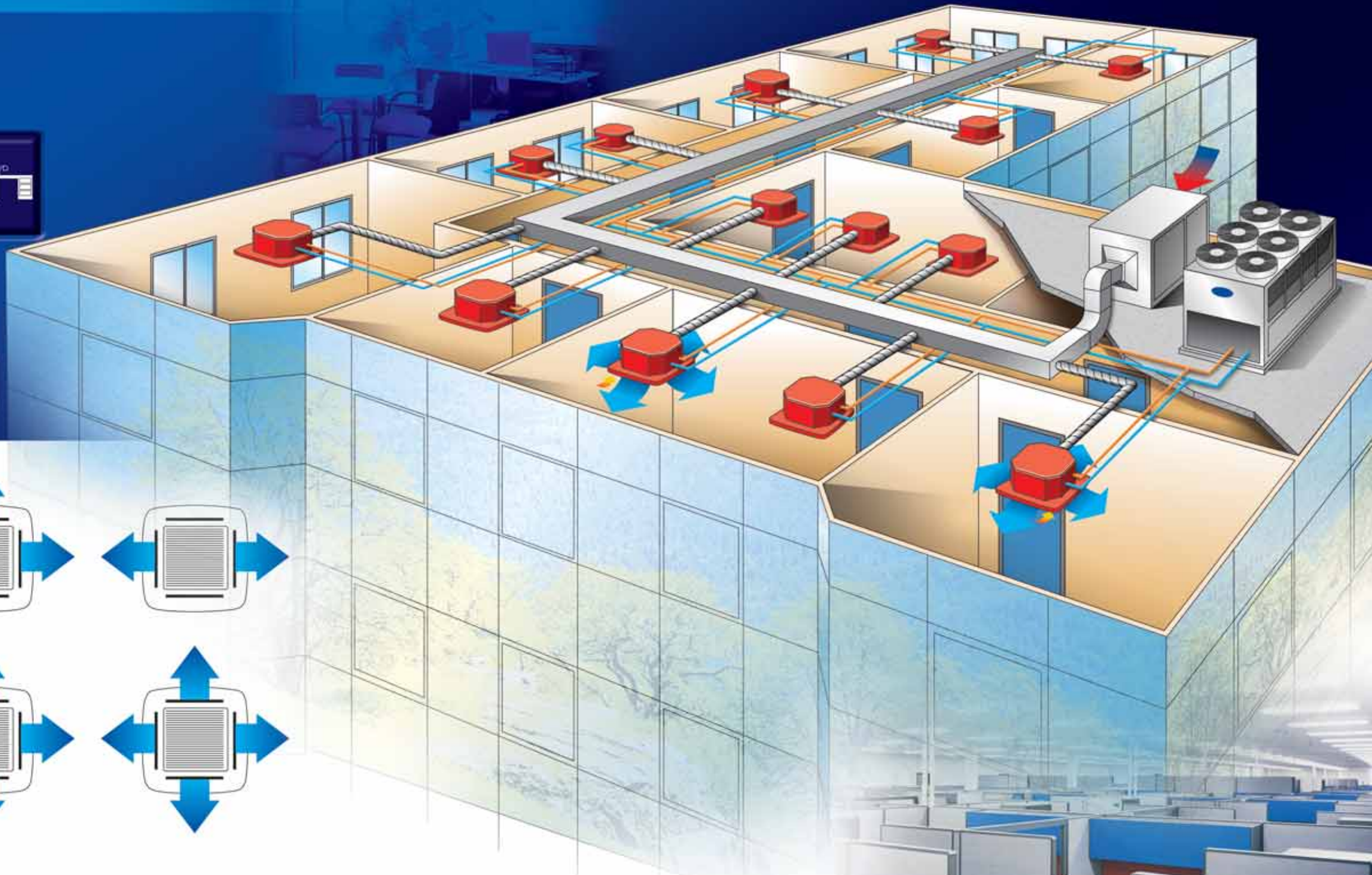


OPEN SPACES

Best solution for:

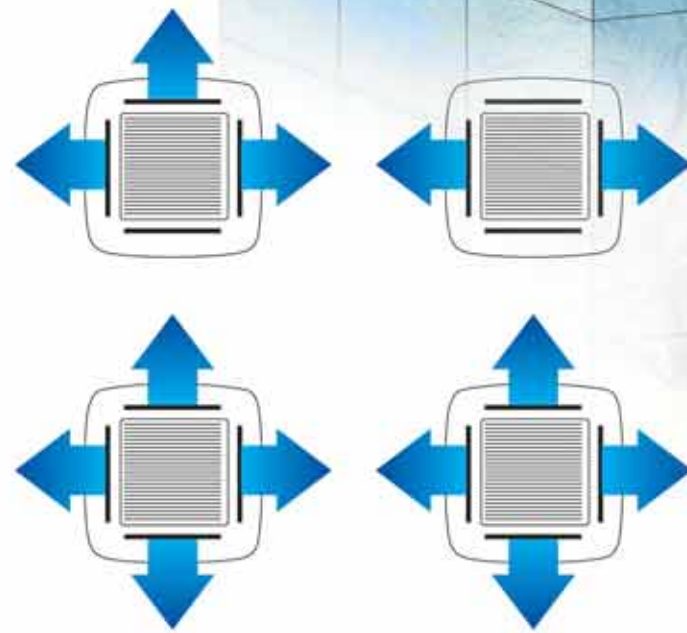
FALSE CEILING

NEW



ADVANTAGES FOR INVESTORS, DESIGN OFFICES AND ARCHITECTS

- Complete location freedom in each room.
- One size designed for standard false-ceiling dimensions.
- A specially conceived design for open spaces.
- The modularity and adaptability of cassettes allow redistribution without too much work when the space arrangement is changed.



ADVANTAGES FOR INSTALLERS

- A compact product, with all peripheral components integrated at the factory (condensate removal pump, control valves and electronic control).
- Less installation time: just tighten the four fixing screws and connect.

ADVANTAGES FOR USERS

- Enhanced comfort: air distribution on several sides ensures uniform air flow all year round.
- No cold shower effect: the air flow is directed along the ceiling, encouraging rapid mixing of supply air and ambient air.
- Quiet operation thanks to the aerodynamic profile of the fan wheel.
- Fresh air intake ensures optimal air quality.
- High-precision control.

APPLICATION LIMITS

- Maintenance access in the office.
- Installation requires two people.

DUCTABLE System

FALSE CEILING /
IN THE SPACE

APPLICATIONS



OFFICES



HOSPITALS

Best solution for:

FALSE CEILINGS



ADVANTAGES FOR INVESTORS, DESIGN OFFICES AND ARCHITECTS

- Free space for the interior arrangement.
- Total freedom of choice for the diffuser.
- A quiet system: as the unit is installed in the false ceiling the noise level in the occupied space is very low.

ADVANTAGES FOR INSTALLERS

- A modular installation: when the space is re-arranged, only the ducts need to be changed and located where they are needed.

ADVANTAGES FOR USERS

- Absolute well-being: no cold-shower effect.
- Personalised space control.
- Fresh air intake integrated for enhanced comfort.

APPLICATION LIMITS

- Installation requires two people.
- Maintenance in the occupied space.



CORRIDOR System

FALSE CEILING /
OUTSIDE THE ROOM

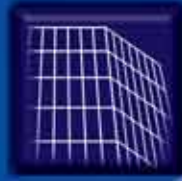
APPLICATIONS



OFFICES



HOSPITALS



COMMERCIAL
APPLICATIONS

Best solution for:

FALSE CEILINGS

ADVANTAGES FOR INVESTORS, DESIGN OFFICES AND ARCHITECTS

- A system meeting efficiency and rationalisation demands.
- The optimal acoustic solution as the system is away from the occupied space.
- Efficient air treatment ensuring individual comfort, room by room.
- Linear and simplified architecture.
- Fewer pipes, resulting in a reduction of installation costs.
- No installation in the interior space.

ADVANTAGES FOR INSTALLERS

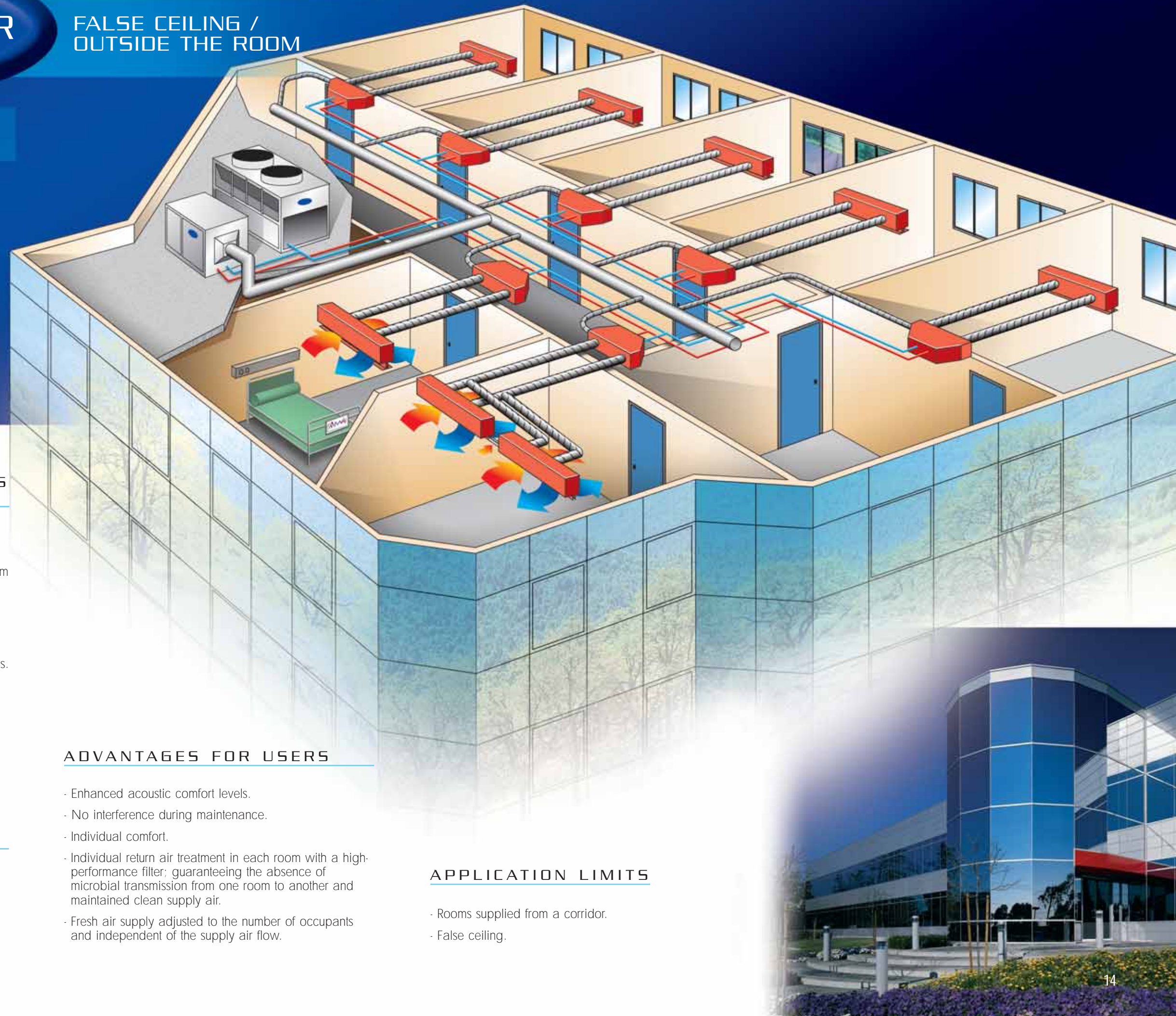
- Enhanced site security: possible piping problems are restricted to the corridor.
- Easy access and maintenance.
- Reduced pipe length limiting the risks of possible leaks.

ADVANTAGES FOR USERS

- Enhanced acoustic comfort levels.
- No interference during maintenance.
- Individual comfort.
- Individual return air treatment in each room with a high-performance filter; guaranteeing the absence of microbial transmission from one room to another and maintained clean supply air.
- Fresh air supply adjusted to the number of occupants and independent of the supply air flow.

APPLICATION LIMITS

- Rooms supplied from a corridor.
- False ceiling.



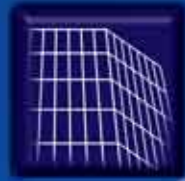
CENTRALISED System

PLANT ROOM / RECOVERED SPACE

APPLICATIONS



OFFICE

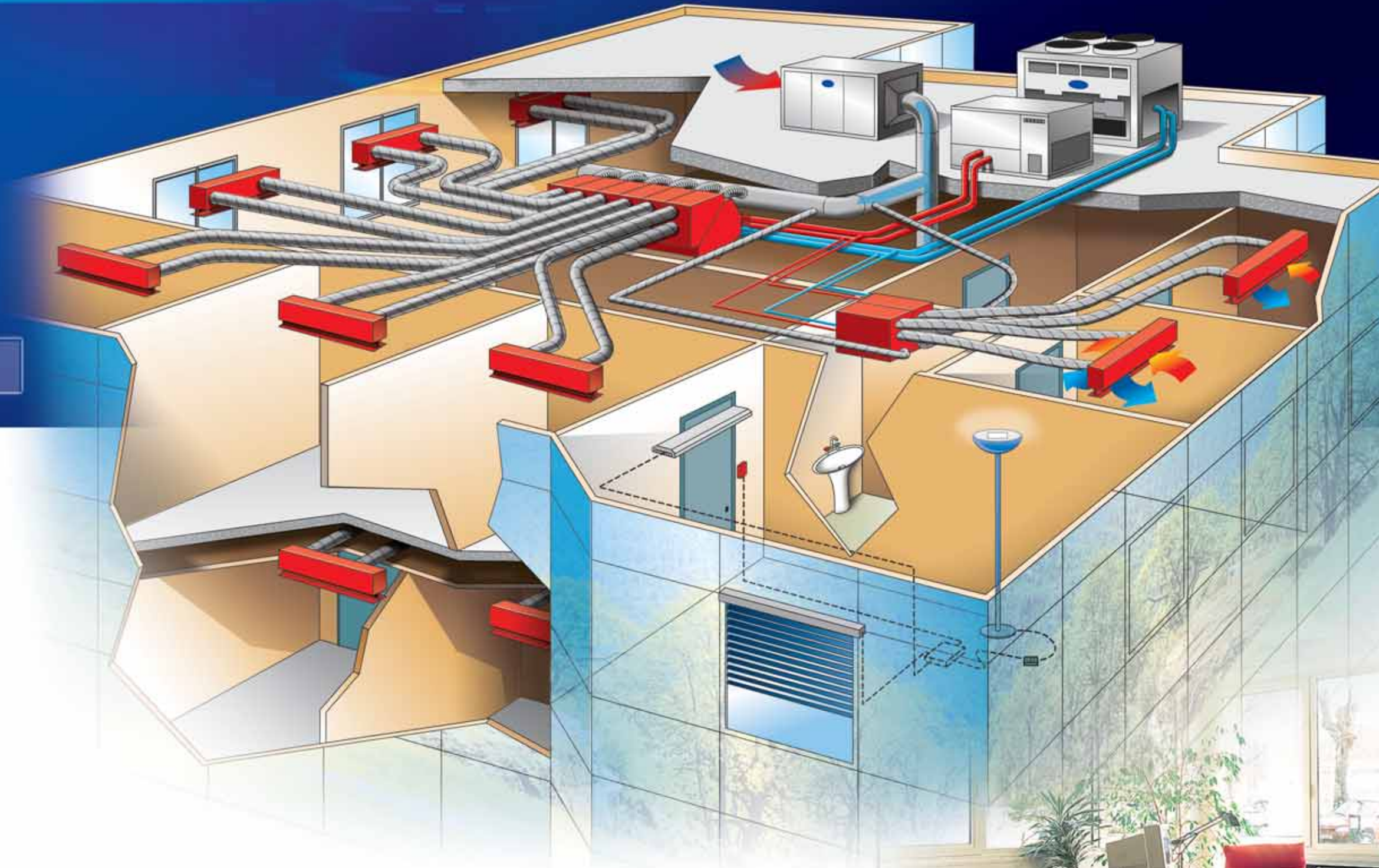


BUILDINGS

Best solution for:

FALSE CEILINGS

NEW



ADVANTAGES FOR INVESTORS, DESIGN OFFICES AND ARCHITECTS

- Investment time staggered, air conditioning installed as offices are occupied.
- Reduced false ceiling height of 250 mm: less space required resulting in considerable savings in the whole building and increased profitability.
- Individualised heating and cooling.
- Guaranteed air quality (CO₂ sensor).
- Exceptional comfort parameter control.
- Simplified global architecture with a central technical area for the whole building.
- Powerful fan allowing connection of up to 50 m ducting.

ADVANTAGES FOR INSTALLERS

- Simplified installation: first install the hanging rail with suspension casings, and then install each unit that needs to be attached above. Quick connections to the hydronic circuits and the low-voltage connection further facilitate and accelerate the installation.

ADVANTAGES FOR USERS

- Efficient filtration for optimised individual air quality.
- Remote control permits regulating all set-points as well as the lights (control of two light sources) and control of the blinds (up, down, angle) in each office.
- Total absence of noise irritation thanks to the remoteness of the system.

APPLICATION LIMITS

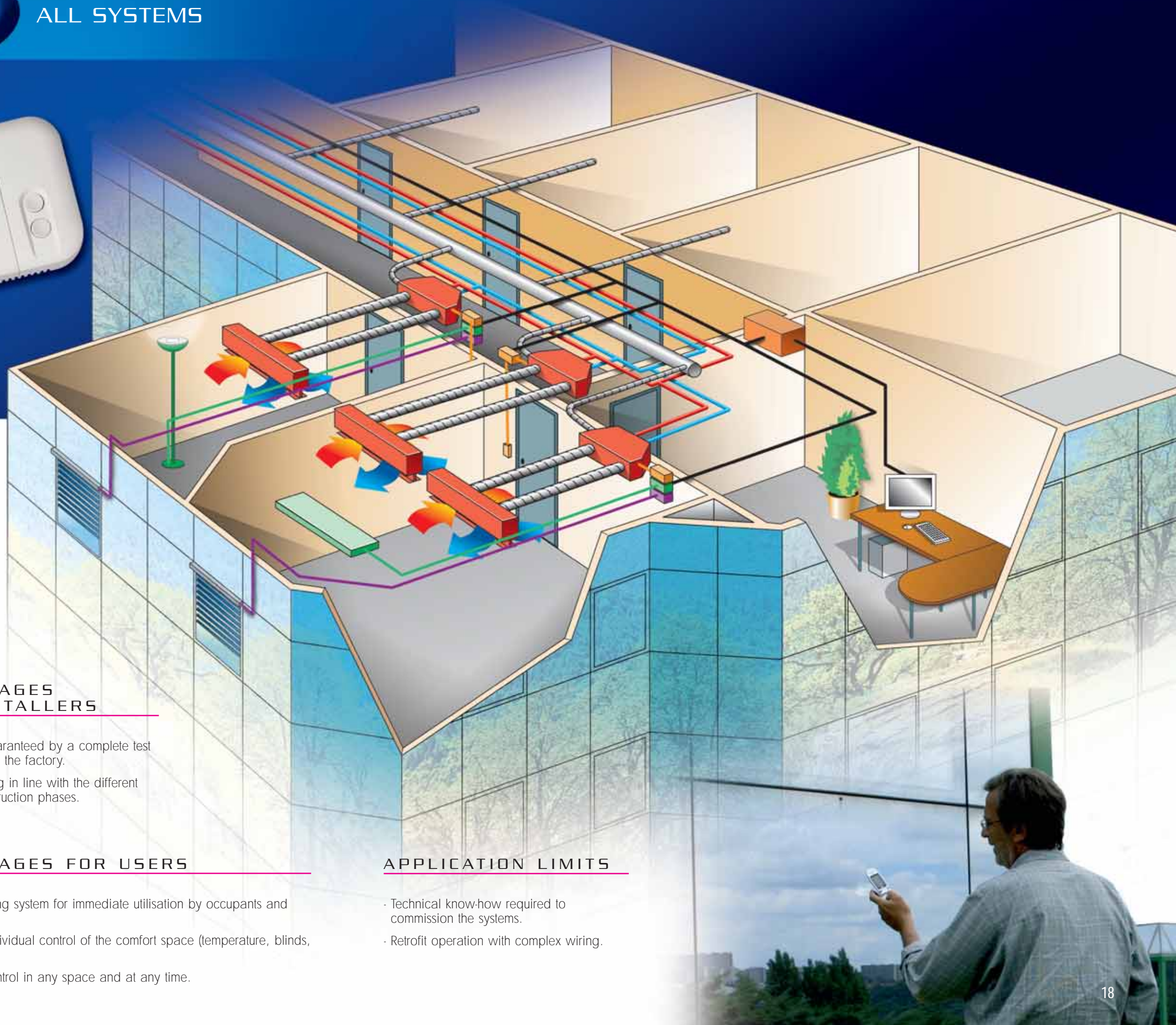
- A solution dedicated to projected constructions.
- System needs to be considered for the internal building arrangement.





CONTROL System

ALL SYSTEMS



ADVANTAGES FOR INVESTORS, DESIGN OFFICES AND ARCHITECTS

- Easy integration with other building systems.
- Enhanced energy efficiency systems (possibly linked to applicable regulations).
- Easy diagnostics and maintenance.
- Capability to work autonomously when the system fails.
- Evolution possibilities and flexibility for lifelong service in the building.

ADVANTAGES FOR INSTALLERS

- Operation guaranteed by a complete test of each unit in the factory.
- Commissioning in line with the different building construction phases.

ADVANTAGES FOR USERS

- Intuitive building system for immediate utilisation by occupants and landlords.
- Optimised individual control of the comfort space (temperature, blinds, lights etc.)
- Installation control in any space and at any time.

APPLICATION LIMITS

- Technical know-how required to commission the systems.
- Retrofit operation with complex wiring.