

comfosystems

**zehnder**

## **Zehnder Comfosystems The fresh air system**





**The fresh air system.** Zehnder Comfosystems is a system for comfortable and controlled ventilation. It is to be recommended not just for those places where the windows are kept shut due to noise or dust particles, but is also essential due to the increasingly airtight structure of modern buildings. With careful design and perfectly attuned components, Zehnder Comfosystems provide good, pre-cooled or preheated fresh air in accordance with the season.

A heat recovering technique, which equally benefits the environment, buildings and residents by saving energy, preserving value as well as ensuring an optimized interior climate. A system whose components are logically designed to complement each other: from the Comfofond geothermal heat exchangers via the Comfounit ventilation equipment to the Comfofresh air distribution systems.

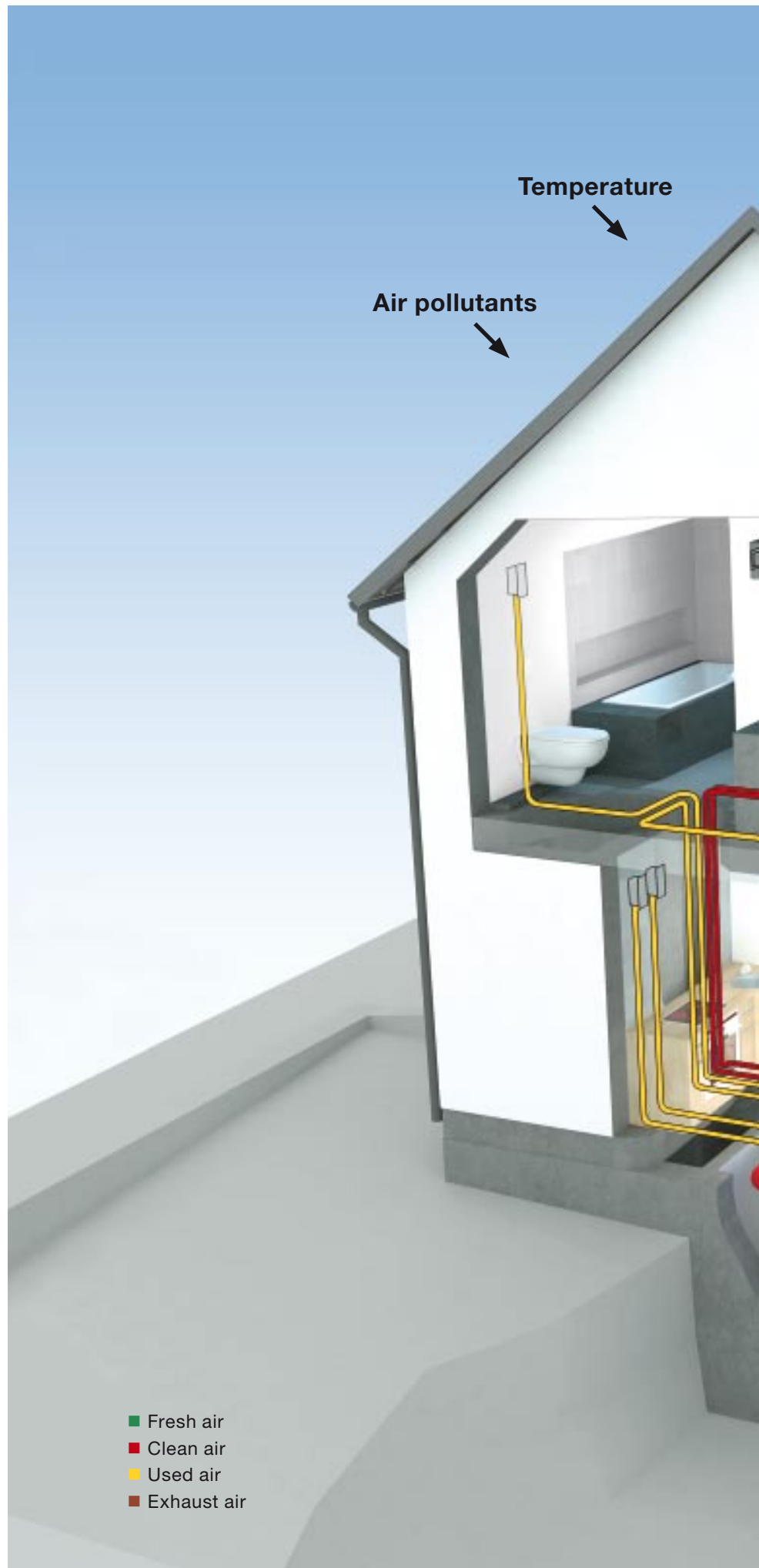
Zehnder Comfosystems ensure fresh air, health and a sense of well being. After all, we spend over 70% of our time indoors.

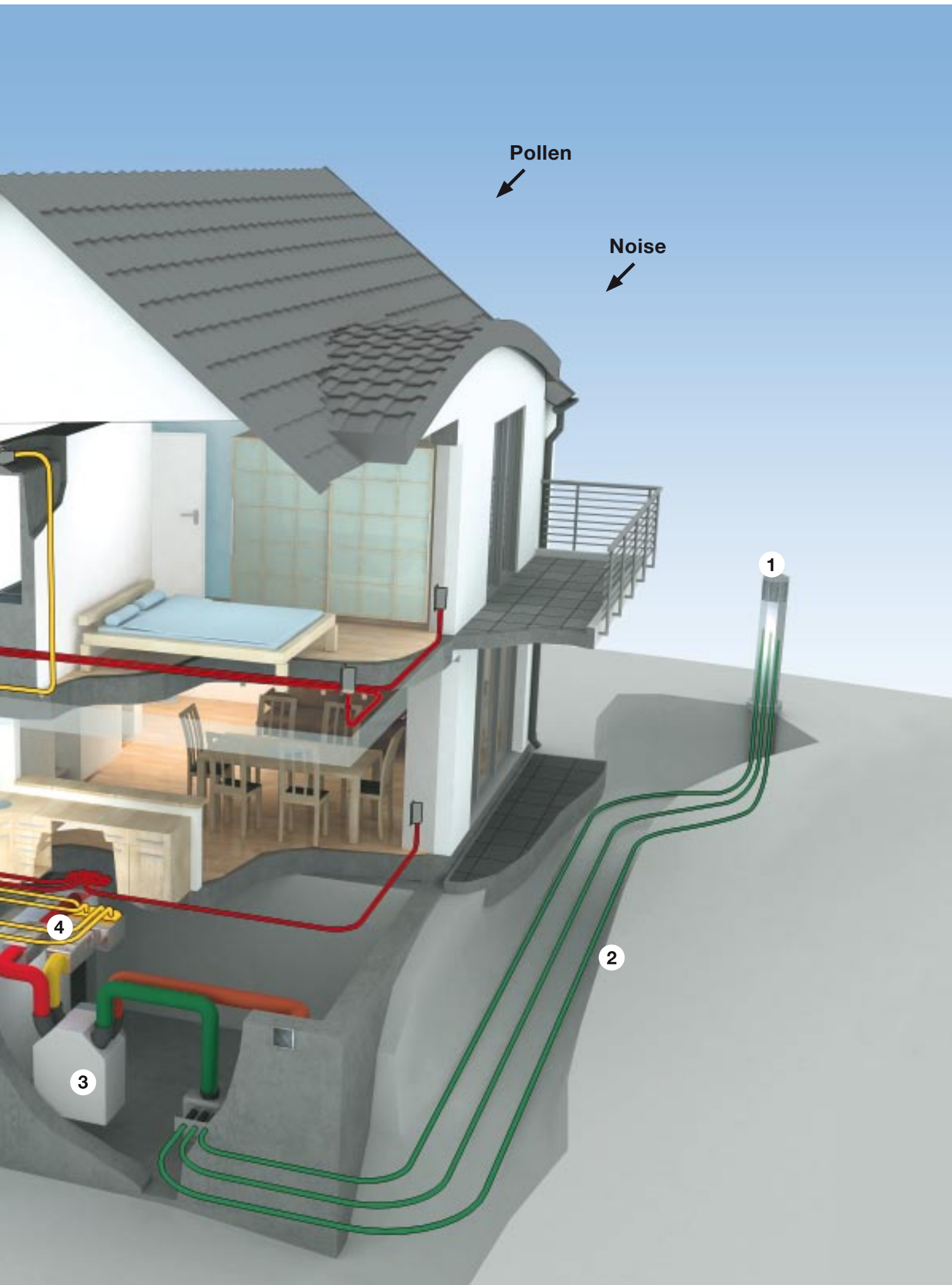
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# Zehnder Comfosystems. And how it works.

Zehnder Comfosystems create optimum quality living conditions with a functional principle that is as plausible as it is effective.

- 1 Fresh air reaches the system via an external air intake.
- 2 The optional, Zehnder Comfond geothermal heat exchanger (operated with air or brine) uses the geothermal heat to pre-equalize the temperature of the external air.
- 3 The Zehnder Comfounit ventilation device recovers up to 90% of the thermal energy and transfers this to the fresh intake air, before the used stale air reaches the outside. Humidification and dehumidification, heating and cooling can additionally take place.
- 4 The required temperature equalized air is supplied to the individual rooms of the house by means of the Zehnder Comfotresh air distribution system.





## What are the benefits of choosing Zehnder Comfosystems?



### 1. Comfort

Your dwelling will be constantly supplied with fresh, clean air whilst humid air, kitchen smells or tobacco smoke is automatically removed at the same time. Additional options ensure temperature controlled air in winter and summer. Nevertheless, the Zehnder Comfosystems is easy to operate – all you need to do is to enjoy the pleasant indoor environment.

### 2. Health

Fresh, clean air has a considerable influence on our sense of well-being. The risk of catching a cold is reduced because fresh and unpolluted air without a draught is always available indoors with Zehnder Comfosystems. Those who suffer from allergies can relax thanks to optional fine filters which are able to collect dust particles (fine dust) and pollen. The risk of allergies is also reduced by removing the vapours emitted by furniture and floor coverings. The ventilation system can continue to be hygienically cleaned for many years. The enthalpy heat exchanger with moisture recovery from Zehnder also ensures that the air in the winter is not too dry.



### 3. Energy-saving

Energy is consumed both by uncontrolled sudden ventilation as well as by costly continuous ventilation. Since this form of ventilation is definitely a thing of the past with Zehnder Comfosystems, the tight, impervious building structure can finally be properly utilized. The possible reduction in heating costs by a further 90% can also be achieved by means of secure room ventilation and heat recovery. The matching system will be far more effective with an additional geothermal heat exchanger.

### 4. Preserving the value

For the employer, Zehnder Comfosystems is an investment that pays for itself. This is due to the controlled restriction in humidity preventing ventilation induced damp walls and mould formation. In this way, Zehnder Comfosystems provides a major contribution towards preserving the value of your property. With a modern, balanced intake and exhaust air system with heat recovery, the property is already being upgraded to comply with the future standard.

### 5. Appearance

Country house or Bauhaus? Whatever style of furnishings you prefer, almost nothing will change in the ambiance where the Zehnder Comfosystems is concerned. This is due to the only visible components being the openings for the intake and outlet air which are discreetly hidden by designer gratings/grille. You have the choice between various wall/ceiling and floor outlets.

## Where and how you can use Zehnder Comfosystems.



### New building

Whether it's an apartment in a block, a terrace, semi or detached house, a bungalow, 2-storeys or more, a solid or timber construction. Zehnder Comfosystems has the appropriate ventilation device with InFloor tubing incorporated in the concrete floor, or an OnFloor system placed on the concrete floor under the screed. Zehnder Comfosystems can ensure optimum air distribution in virtually any building.



Zehnder  
Comfoair WHR 930



## Refurbishment

Do you need to refurbish your home whilst ensuring the best air conditioning at the same time? That's no problem with the ventilation equipment especially developed for this purpose. Depending on the extent of the refurbishment, the OnFloor system can be used. Where the integration of an air distribution system is too complex decentralized heat recovery units, which are suitable for suspension room-by-room can provide an optimum solution.



Zehnder  
Comfoair 100



## Commercial sector

Fresh air is important not only where people live but also where they work. This is because they can also improve concentration and performance levels. That's why Zehnder Comfosystems are also an economic necessity in the commercial sector such as e.g. in apartment buildings, offices and hotels, in schools and nurseries, retirement homes, etc.



Zehnder  
Comfoair 800-4000

## Zehnder Comfosystems. The components.

A system is only as good as its components. These are logically designed where Zehnder Comfosystems are used: From the Zehnder Comfond geothermal heat exchanger, via the Zehnder Comfounit ventilation units to the Zehnder Comfotresh air distribution systems, no process is left to chance so that everything is aimed at achieving the best indoor environment.

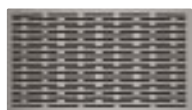
Stainless steel or white designer grilles for wall, floor and ceiling from Zehnder.



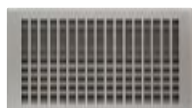
Zehnder Roma



Zehnder Pisa



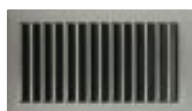
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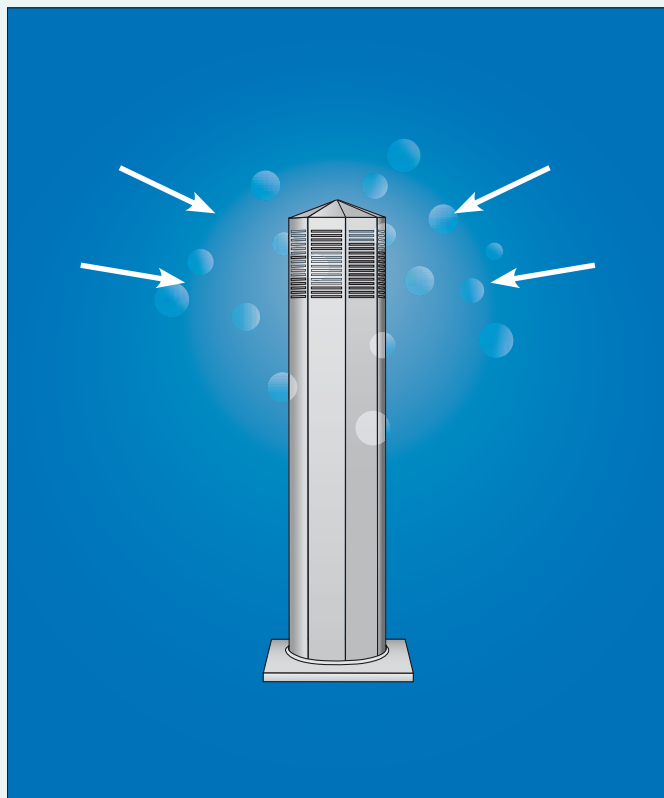
Zehnder Torino



Zehnder Venezia

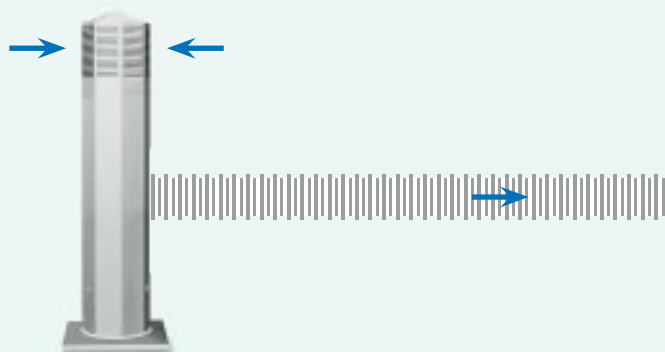


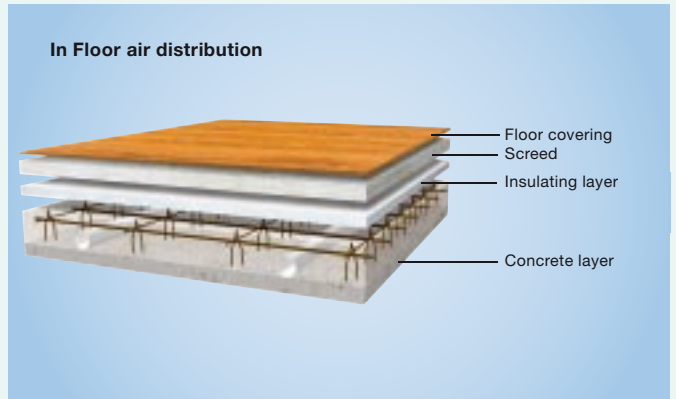
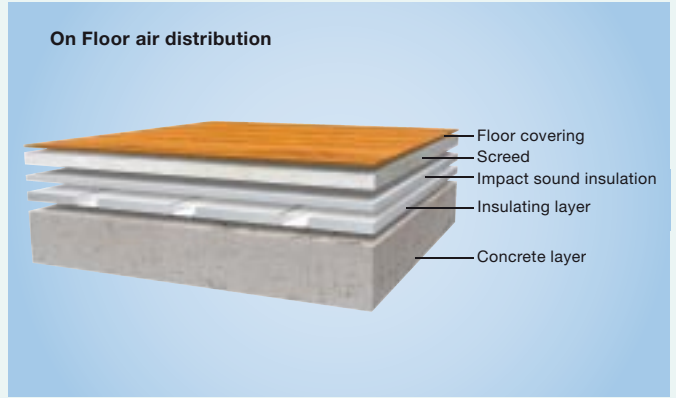
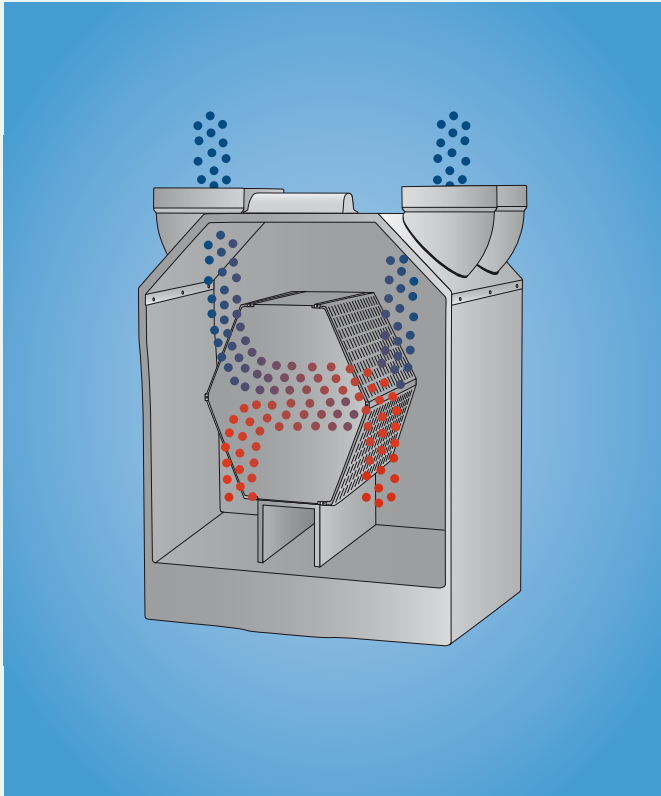
Zehnder Verona



### Comfond Geothermal heat exchangers

**Comfond** The Zehnder Comfond geothermal heat exchanger uses the ground with its relatively constant annual temperature as a storage facility. At a depth of two metres, Comfond heats or cools the fresh air before it flows into the building. The Comfond L model also uses the effect of external air temperature equalization, although in this case by means of a brine pipe installed in the foundation pit.





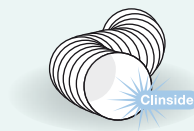
## Comfounit Ventilation equipment/power stations

**Comfounit** The Zehnder Comfoair ventilation equipment controls the intake and exhaust air circuits. In addition, the integrated heat exchanger recovers up to 90% of the heat. Low-noise dc fans operate extremely economically. Fine/pollen filters and preheaters can be optionally integrated in the system. A remote control system is used for control purposes. Coarse filters are a standard feature of the unit.

**Comfounit** The compact power station Zehnder Comfo-box combines the complex mechanical services (heating, cooling, ventilation, generation of hot water) in one unit. The Comfo-box is based on a brine-water thermal pump in combination with the Comfofind L and a ventilation device.

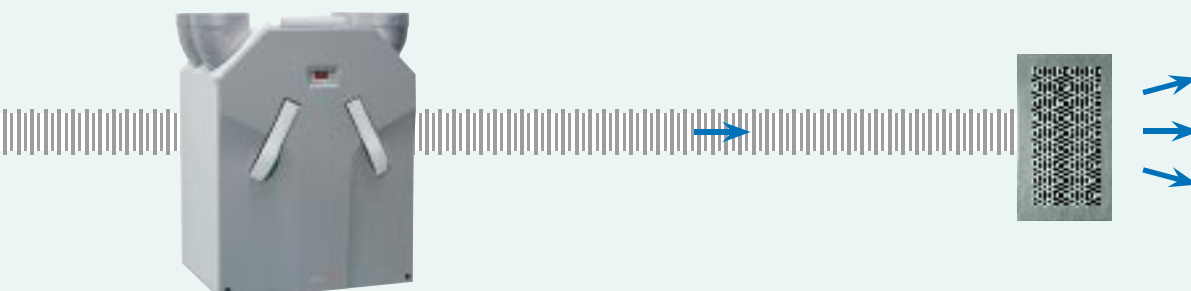
## Comfofresh Comfofresh air distributors

**Comfofresh** The air distribution system Zehnder Comfofresh brings fresh air to all rooms whilst, at the same time, removing stale and excessively humid air and possible odours. This works without a draught due to minimal temperature differences and low air velocity. The quantity of air per room is individually adjustable. The air distribution system is available in two variants: InFloor (in concrete) and OnFloor (on concrete in the insulating layer).



### Zehnder Clinside

The smooth interior surface, more hygienic and easier to clean.



## Heating – Cooling – Fresh Air Designer-based energy-saving system solutions

**Competence** doesn't just happen. In our case, it yields from over 100 years of experience in the production of radiators and 40 years in ventilation technology. Through expertise, commitment, high-grade products and numerous innovations, Zehnder has been able to become a complete provider and a leading European manufacturer for heating, cooling and fresh air.

**Design-Radiators for the bathroom and living room**



**Quality** is of the utmost importance for Zehnder. That's why all our products are subject to strict quality controls, from the choice of material, during the various production processes, right up to final inspection. You are thus certain that only absolutely perfect products will leave our premises.

**Systems for radiant heating and cooling**



**References** demonstrate the most diverse applications. No matter whether for detached houses or apartment blocks, for the office or retirement home, for schools or nurseries, for new buildings or refurbishment. Highly flexible use permits the installation of Zehnder Comfosystems in the widest variety of buildings and structures, in the most diverse regions around the world.

**Zehnder Comfosystems  
for fresh room air**



**Service**, for our customer, this implies all-round care. Consequently, we advise clients, designers, architects and fitters not just during the design phase but also during construction. Where requested, we accompany the heating engineer from the time that the ventilation tubes are installed until the system is commissioned.

**Intensive advice during  
the design and construction phases**



Zehnder has **factories** on three continents. The production of radiators, systems for radiant heating and cooling and Comfosystems for comfortable room ventilation. The close proximity to the market, enables us to react quickly and flexibly to the demands of our customers.

**Zehnder Factory Zwolle for  
residential ventilation equipment**



## Do you still have questions?

### **Can the windows be opened when a ventilation system is operating?**

Of course. Even so, uncontrolled opening reduces the advantages of room ventilation. The best thermal insulation and the tightest construction are worthless in winter when ice cold air flows through the window and has to be heated up to room temperature by the central heating system. In the summer and when there is no pollen in the air, opening the windows for ventilation purposes is of no consequence where energy-saving is concerned. Even so, the effectiveness of a geothermal heat exchanger, which equalizes the temperature of the intake air via the ground, is however restricted by this.

### **Do air outlets fit in with my personal ambience?**

There is a wide diversity of air outlets. Zehnder offers you designer air outlets, e.g. in stainless steel or finished in white, which can be unobtrusively integrated in the ambience of the room.

### **Is there an increase in energy consumption when using a ventilation system?**

Ventilation systems need power. Energy consumption is reduced to a minimum by using highly efficient dc motors. Due to the high level of heat provided, the operating costs are however well below the savings in heat energy.

### **In the winter, can the air become too dry due to a ventilation system?**

At 0°C in winter, the outside air has a relative humidity of about 90%. When the air is heated to 21°C, the relative humidity drops to about 30-35%. This is not altered by a ventilation system. For this reason, Zehnder optionally offers a heat exchanger, which recovers so much moisture from the outside air that a comfortable relative humidity of 40-50% can be achieved.

### **With a ventilation system, can I hear the noise from an adjoining room?**

Zehnder air distributors are designed so that no direct link is made between rooms. All air ducts are installed directly from the air distributing element to the room. A transmission of noise cannot therefore take place. Other troublesome noise is compensated for by silencers.

### **How can deposits of dirt in the ventilation tubes be avoided?**

The Comfotube ventilation tubes have a smooth inner surface that constructively counteracts the deposition of dirt. Cleaning is not a problem since all tubes run from the distribution box without junctions to the air outlet. Fouled intake air is cleaned by filtering the air in the unit and at the air outlet in the room. Changing the air filters is simple. The plastic heat exchanger can be easily cleaned with water.

### **Can a tiled stove be used at the same time as a ventilation system?**

Yes. The precondition for this is that the stove is independent of the room air. Where a room air dependent unit is used, there are products that will ensure that the ventilation device is switched off when a vacuum of 4 Pa arises in the room where the stove is installed. Zehnder units are additionally equipped with a fan monitor. If a fan should fail, the second fan is also switched off. A device induced, unbalanced air supply and removal is thus avoided.

### **Is it possible to integrate a ventilation system in an old building?**

Yes. One possibility is the On Floor System from Zehnder with an installation height of only 5 cm. This tube can be easily integrated in stud walls or a suspended ceiling. If there is absolutely no possibility for the integration of an air distribution system, Zehnder also provides decentralized ventilation units with heat recovery, that can be installed room-by-room. Our local experts can assist you with your design.

Any other questions?  
[www.comfosystems.com](http://www.comfosystems.com)



