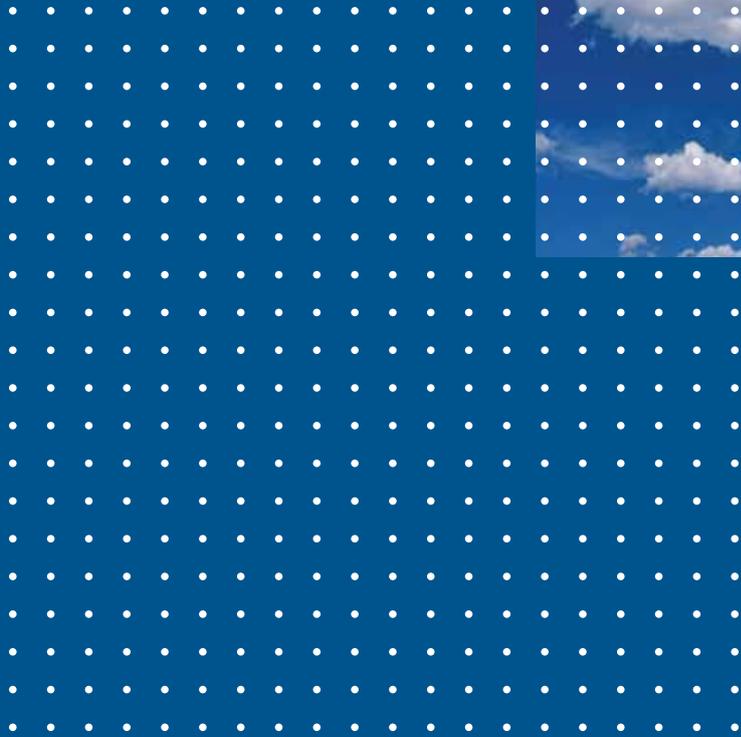


Balanced ventilation for healthy and energy-efficient living



BRINK

Climate Systems

*"A healthy living environment,
indoor and outdoor."*

**Balance
venti
er**

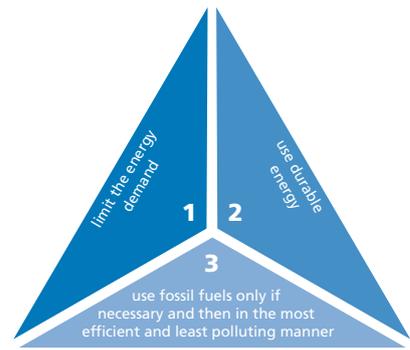


The environment, our joint concern.

Application of heat recovery means a substantial contribution to a reduction of the emissions of CO₂ and NO_x.

Making life in dwellings and buildings more comfortable, that is what we do. That is inseparably connected with attention for health and a clean environment. Abundant use of fossil fuels has caused the problem of rapid global warming, also known as the "greenhouse effect". At the same time supplies of fossil fuels such as coal, oil and natural gas are rapidly running lower. And the emission of harmful flue gases does not do our living environment much good either.

between dwelling lation and the environment



Trias Energetica

Trias Energetica (SenterNovem)

Observing the trias energetica is valuable for realising a durable EPC. Start with as many measures as possible from step 1. If that is no longer possible in a sensible manner, then take as many measures as possible from step 2. If there is a remaining demand, finally take the measures from step 3. Application of heat recovery considerably reduces the energy demand and, consequently, comes under step 1.

causes a bad air quality. Not to mention the accompanying 'humidity problems'. Every day an average family produces some 10 litres of water vapour through showering, cooking, washing, perspiring, etc. If the rooms are not ventilated sufficiently, that has harmful consequences for the building structure as well as for the residents themselves. All in all it's not so strange that GPs find an increasing incidence of chronic respiratory problems.

ENERGY-EFFICIENT, HEALTHY AND COMFORTABLE

Our minds are always occupied with the problem of how to heat a dwelling pleasantly. With sufficient ventilation as well as a minimum of energy, so we can breathe healthily in a comfortable environment every moment of the day. The answer is: balanced ventilation with heat recovery by Brink Climate Systems. This means mechanical supply of atmospheric air in combination with mechanical extraction of used air. That way the indoor climate complies with all requirements everywhere and in every season. And as to the energy problem: the answer is heat recovery. The thermal energy of the discharged air is transferred to the incoming, colder air. At an efficiency of no less than 95%.

This environment problem is a hot issue all over the world. International treaties and national initiatives are signs of an increasing willingness to do something about these environment problems. The Dutch government has laid down what is known as the Energie Prestatie Norm (EPN) [or Energy Performance Standard (EPS)] in the Building Decree. That introduced an 'unambiguous yardstick for the energy quality of a building'. On the basis of this standard, the Energy Performance Coefficient (EPC) can be determined for every building. In 2006 the maximum permissible value for dwellings was reduced to 0.8.

IF YOU INSULATE, YOU MUST VENTILATE

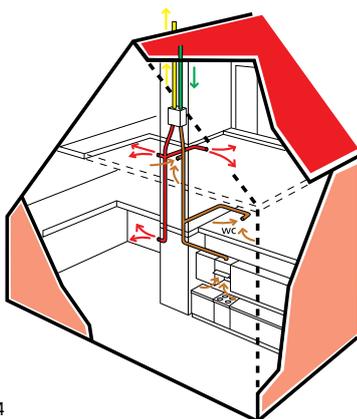
The government's building regulations have been made considerably stricter over the past two decades. That has in particular been brought about by care for our environment (CO₂ emission) and the need to cut back on the use of fossil fuels. As far as residential building is concerned, this has resulted in strict insulation standards. After all, in a tightly sealed home considerably less energy is used than in a dwelling from the seventies or earlier. However, this does have its drawbacks. To prevent draughts, many people do not ventilate their home in winter, which

*“The heat is preserved
when refreshing the air.”*

**The solution
balanced
with heat**

BALANCED VENTILATION WITH RENOVENT HR

- Discharge foul air
- Supply outdoor air
- Discharge foul air from kitchen, bathroom and toilet
- Heated outdoor air to the bedroom and the sitting room



A popular ventilation method is to simply place ventilation grilles in the wall, in combination with a mechanical extraction system. However, this is an unbalanced and rather uncomfortable way to ventilate. The incoming and outgoing air flows are hardly under control, energy is wasted unnecessarily and at the same time the comfort literally flows out of the window. Many people find the incoming flow of fresh ventilation air unpleasant.

ion: ventilation t recovery

HIGH EFFICIENCY MEANS ENERGY-SAVING

Balanced ventilation in combination with heat recovery brings the solution to your home. The foul and humid air from kitchen, bathroom and toilet is extracted. The same quantity of clean, preheated air is supplied to bedrooms and living rooms. Out just as much as in. The heat recovery system

transfers the energy of the discharged air to the fresh, colder outside air. That way 95% of the heat is preserved and waste of energy is prevented. The air is supplied and extracted through automatically controlled low-energy direct current fans. These use 50% less energy than traditional fans. Higher taxes on energy consumption make an energy-efficient appliance even more important.

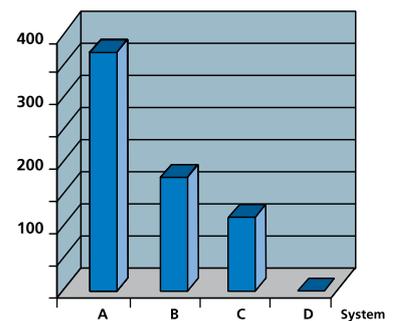


Energy saving

The Renovent HR produces 10 to 15 times more energy than it uses. The heat exchanger transfers 95% of the heat, so it is no longer necessary to heat the ventilation air. The amount of recovered heat is roughly equivalent to 300 to 400 m³ of natural gas annually.

SAVINGS HEAT RECOVERY

m³ natural gas equivalent



Systems

- A = Brink heat recovery at 95% efficiency
- B = Solar boiler
- C = Heat pump
- D = Mechanical ventilation

THE FUNDAMENTAL ADVANTAGES OF BALANCED VENTILATION WITH HEAT RECOVERY.

- Contributes considerable energy savings (approx. 300 to 400 m³ of natural gas annually).
- Guarantees a healthy and comfortable indoor environment.
- Offers the highest EPC gains at the lowest costs.
- It is the ultimate solution to comply with the standard (EPC and Building Decree).

*“Non-stop ventilation results
in a healthy indoor climate.”*



**Constant
a b**

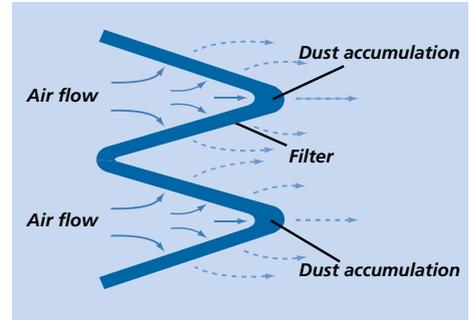
Constant filtering

The appliances come with two standard filters. A high-quality fine dust filter is optionally available (see bottom filter on photograph). Ideal for people with sensitive respiratory organs.



Balanced ventilation guarantees a healthy living environment. You prevent breathing in polluted air and you guarantee the supply of sufficient oxygen. Humidity problems that lead to mould, house dust mite etc. do not stand a chance. The health of the occupants and the preservation of the quality of the dwelling are sound arguments to introduce balanced ventilation with heat recovery.

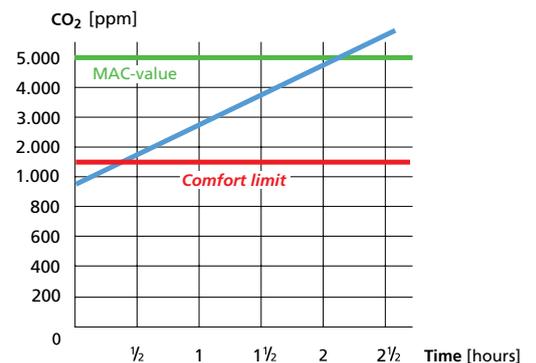
air filtering means breath of relief



Basic drawing fine dust filter

The Brink filter system clears the air.

AIR QUALITY



CO₂ content in ppm

In a badly ventilated bedroom the CO₂ content can reach the maximum accepted concentration (MAC value) in no more than 2 1/2 hours.

THE HEAT RECOVERY UNIT RENOVENT HR

Renovent HR has specially been designed for balanced ventilation with heat recovery. The thermal energy in the foul air that is discharged from the dwelling is used to heat the fresh, clean outdoor air that is brought in. The appliance ensures that the indoor air is continuously refreshed and filtered.

CONSTANT FILTERING

The heat recovery unit has two standard filters that can easily be taken out after opening the filter door. These filters remove 95% of the dust from the air. One filter

filters the fresh outdoor air before it enters the dwelling. The other one filters the used air from the dwelling before it leaves the dwelling again through the appliance.

For people with a sensitive respiratory system, filtering even the smallest dust particles literally means a breath of relief. For that purpose a fine dust filter is available. It replaces the lower standard filter. The fine dust filter removes nearly all pollutants (99%) from the air, including pollen, fungi, tobacco smoke, germs and bacteria. Ideal for people with sensitive respiratory organs.

RADON REDUCTION

Radon is a radioactive inert gas that is released from building materials and from the soil. In dwellings, particularly in crawl spaces, radon can accumulate in the air. According to the Health Council, exposure to radon indoors leads to an estimated 800 additional cases of lung cancer. Ventilating helps to keep the radon concentration in the dwelling low.

*"The arguments and
the comfort are convincing."*

**A co
installati**

Three versions

Every dwelling deserves its own appliance.



Renovent HR has been designed with a view to ease of installation in practice. For that reason both Renovent HR Medium and Renovent HR are available in three versions: one type with all air connections at the top, another with two connections at the top and two at the bottom, and a third one with three connections at the top and one at the bottom. The Renovent HR Small is available with four connections at the top. The air connections of all versions come with a groove for sealing rings. The appliances can easily be rotated and ex factory they are available in a right-handed and a left-handed version.

HIGHEST PERFORMANCE IN ALL TYPES

(REFER TO THE CATALOGUE FOR MORE INFORMATION)

Renovent HR	Small	Medium	Large
Ventilation capacity at 150 Pa [m ³ /h]	Maximum 180	Maximum 300	Maximum 400
Rated power [W] (dependent on setting)	120 at 150 m ³ /h (at 150 Pa)	175 at 300 m ³ /h (at 150 Pa)	300 at 400 m ³ /h (at 150 Pa)
Dimensions duct connection [mm]	Ø 125	Ø 150 en Ø 160	Ø 160 en Ø 180
H x W x D [mm]	600 x 560 x 290	602 x 675 x 420 (with bypass 500)	602 x 675 x 430 (with bypass 510)
Weight [kg]	25	31	32
Temperature efficiency [%]	95	95	95

Comfortable and ion-friendly system

3-way switch with filter indication

The filter indicator light shows when the filter must be cleaned.



CONSTANT FLOW FANS

The heat recovery unit comes with two self-adjusting 'constant flow' fans. In the selected ventilation setting these fans keep the constant air quantity constant under all conditions. This results in a permanently high efficiency and initial adjustment remains limited to the minimum. Filter fouling does not influence the preset air quantity either.

SETTINGS DISPLAY

The appliances come with a display for setting and reading out functions for increased ease of installation. A cable kit and a computer program are available for service purposes.

BYPASS: ADDITIONAL COMFORT WITH NIGHT VENTILATION

In winter it is pleasant and economical to retain heat in the dwelling. In summer on the other hand, freshness is preferred. The Renovent HR Medium and Large come available ex factory with a bypass for night ventilation that shuts off almost completely. In summer this bypass unit ensures that cool night air replaces in so far as possible the indoor air that has been heated during the day. The air is routed through the bypass unit. The appliance comes with an automatic control system that opens and closes the bypass valve.

SIMPLE CONTROL

The Renovent HR can be controlled in various ways. The 3-way switch with filter indication allows the occupant to choose the right ventilation setting. This control can optionally be replaced by a wireless remote control or you can opt for fully automatic control on the basis of a humidity and/or CO₂ sensor.

*“Always
customised support
for your project.”*

**Experi
and des
to**

Ventilation valves

A variety of valves are available for supplying preheated air and extracting air.



Brink Climate Systems has its own consultancy department with ample experience in designing ventilation systems. Our people are fully familiar with the regulations and of course with the flexible economisation possibilities of the Renovent HR. We can compile a recommendation for you, geared to a specific dwelling design and based on quality. We can also arrange the design and the specifications for you. Moreover, we can calculate the environmental impact on the basis of the measures you want.

enced consultants signers are ready o serve you

CERTIFICATE OF EQUIVALENCE

The Building Decree offers the possibility to deviate from the regulations on the basis of equivalence. By commission of the foundation Stichting HR Ventilatie, of which Brink Climate Systems is a member, TNO demonstrated that deviations are possible with a view to health and energy-efficiency. The Building Decree makes a link between the size of the habitable area and the need for ventilation.

SPECIFIC INFORMATION AVAILABLE

Specific product leaflets are available for all appliances referred to here.

THE LUXURIOUS FEELING OF BRINK AIR HEATING

Renovent HR can be used in combination with any type of heating. For new projects you can choose the optimum solution: integration of Renovent HR with air heating. That gives the user a high comfort level. The system is almost invisible. Radiators are not an issue when laying out your home. That gives unlimited freedom. But it's not only the comfort and the aesthetic factors that give air heating an added value. The integrated system takes care of heating, ventilating and filtering, so the occupants can also benefit from pleasant indoor air of healthy quality. That is unique



COMPANY INFORMATION

Brink Climate Systems was the first manufacturer in the Netherlands to develop and market air heating systems. The advanced Brink techniques are even considered revolutionary in the countries where air heating was invented: the United States and Canada. Brink designs and manufactures the equipment and parts in-house. From the sheet steel casing to the operational air heaters. Brink air heating and ventilation systems are available from stock in many capacities and versions, including the duct systems, if required. Moreover, all components are prefabricated and perfectly geared for each other, making assembly effortless. You will find the applications of Brink Climate Systems everywhere: in dwellings, office buildings, health centres, sports centres, schools, workshops, showrooms and production halls.





Climate OK is an initiative by Brink Climate Systems together with partners to ensure a healthy, energy-efficient and comfortable indoor climate.

Realisation of a Climate OK indoor climate starts with the use of products for heating, ventilation, cooling and hot water that meet the highest quality requirements. The final result can only be and remain Climate OK when businesses and institutions, designers and installers, and of course also end users are aware of what a Climate OK indoor climate is and what they should and should not do to achieve it. Within Climate OK, Brink Climate Systems acts as knowledge institute, intermediary and inspirer.

www.ClimateOK.nl



Climate Systems

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