

# Recommended use of heat recovery ventilation units in summertime – recommendation of the supplier

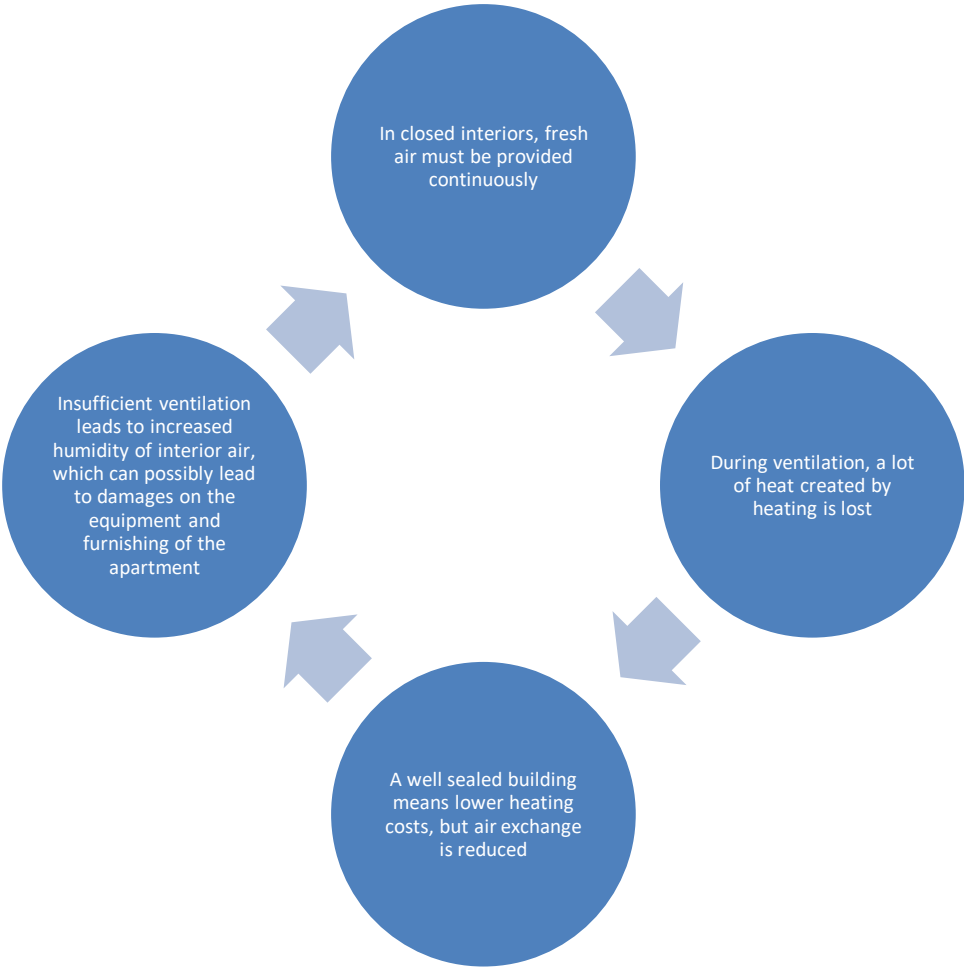
A heat recovery ventilator keeps the air sucked from the outside to the inside at the same temperature as that of the air in the interior. To lower the temperature inside, especially in summertime, we recommend airing out your apartments by opening windows at times when the outside temperature is lower, e.g. at night or in the evening, and thus lowering the interior temperature while making sure that the heat recovery ventilation unit takes colder air into the apartment.

*For those of you who are interested in more information about how the heat recovery ventilators work, we prepared the following article:*

## Heat recovery

A heat recovery ventilation unit reduces temperature losses caused by standard airing out.

This is why a system of regulated ventilation with heat recovery is installed in buildings. Ducts, flexible pipes or fixed plate heat exchangers are built into walls, dropped ceilings or shafts, and then they are covered so that the space remains visually pleasing.



In kitchens, bathrooms and toilets, air intakes are installed (as part of the ducting system described above) that suck in warm, humid and unclean air using ventilators. This air is then taken to the heat recovery unit, where the heat of this warm air is transferred to the cold/hot clean air which is being sucked in from the outside by the unit. Clean air is heated (or it is cooled down if the outside temperature is higher) so that its temperature is similar to that of the interior. The heated/cooled clean air is then distributed to interior rooms where high interior comfort is desired – these are especially living rooms, bedrooms and children's rooms.

Let us show an example – a situation where the outdoor temperature is -5°C. To reach comfortable microclimate in the interior, you need clean air from the outside, but heated to the interior temperature, i.e. approximately 20°C. However, a large amount of energy is spent on this procedure. But if w the heat recovery system (a heat recovery ventilation unit) is used, up to 85% of energy that would be used on heating of the air is saved. This is not a big issue from a technical point of view – you just need to add heat recovery units to the ducting of the ventilation system.

The heat recovery system works the same also when the outdoor temperature is higher than in the interior. In such a case, a heat recovery unit cools down the outside air (e.g. 35°C) to the temperature of the interior, with 85% effectiveness. If the indoor temperature is 24°C, the ventilators will provide the interior with outside air cooled down from 35°C to ca. 26°C.

**The heat recovery system does not by itself serve as an air conditioning system. It functions primarily as an air exchange system that saves costs on heating and cooling at times when the outdoor temperature is significantly higher or lower than the temperature inside.**

#### ***Can I open windows when heat recovery system is functioning?***

Use of heat recovery in your apartment or house is not in opposition to open windows. It just helps airing out the interior when the outside temperature is not ideal, i.e. it is very hot or very cold, or when there is noise outside or air pollution. When you feel like opening a window because it is pleasingly cold outside, or when you want the outside breeze to refresh you in the morning, go for it as it is no problem and it helps you improve the interior comfort and regulate the indoor temperature.

A heat recovery ventilation unit does not include just a heat exchanger, an exhaust ventilator and intake ventilator, but also two filters – a clean air filter and an interior air filter. These filters prevent heat exchangers and ducting from getting dirty.

#### ***How to prevent overheating of the interior in summertime?***

The heat recovery ventilation system must be always on as its heat exchange unit prevents hot air from getting inside during hot summer days. As the temperature of outdoor air may be lower in the evening and in the morning than that of the interior, we recommend you to open your windows at those times and thus improve the microclimate in your house or apartment.

#### **Advantages of using heat recovery units**

- Low operating costs
- Improved comfort
- Reduced risk of damage in the interiors - reduced humidity of the building, prevention of moss
- Quiet operation
- the best possible effectiveness of heat recovery
- constant intake of fresh air
- no noises from the outside

- Natural exhaustion of smells - continuous exhaustion of smell caused by animals, cooking, etc.

It needs to be pointed out that there is only very little natural air exchange in well-sealed buildings that have been insulated in order to withstand changes in outside temperature, and this is why air ventilation systems must be used to get fresh air inside and to get waste air outside. Heat recovery systems help you in days of extreme temperatures (very high or low outside temperatures) so that the fresh air brought to the interior does not disturb the indoor comfort due to its very high or low temperature. However, a heat recovery system cannot replace a heating system or an air conditioning system.

When used correctly, a system of ventilation and heating succeed in maintaining a comfortable microclimate in the interior. It never hurts to cool down or heat the interior air by the outside air if the temperature outside is higher or lower.

As it continuously provides fresh air, a heat recovery system has a positive effect on your lifestyle and it helps your body recover during sleep.