

HEATING
UNITS

HEATING UNITS

HEAT

RECOVERY UNITS

VENTI-
LATION UNITS

VENTILATION UNITS

AIR AIR
CURTAINS CURTAINS

AIR CURTAINS

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RECOVERY UNITS

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WHISPER AIR

Enjoy the silence



DECENTRALISED VENTILATION

INDOOR ENVIRONMENT QUALITY

Did you know that people spend 90 % of their lives indoors? This fact has an immense impact on our health and wellbeing. There are many indoor effects that adversely affect us, above all: temperature, humidity, CO₂ level and inadequate ventilation.

Effects of CO₂ on the human body

Approx. 350 ppm	Comparable to outdoor environment
Up to 1 000 ppm	Recommended optimum indoor CO ₂ level
1 200-1 500 ppm	Recommended maximum indoor CO ₂ level
1 000-2 000 ppm	Onset of the symptoms of fatigue and lower concentration
2 000-5 000 ppm	Possible onset of headache
5 000 ppm	Max. safe concentration without health hazards
>5 000 ppm	Nausea and increased pulse rate
>15 000 ppm	Breathing difficulties
>40 000 ppm	Possible loss of consciousness

Clean fresh air is vital for our wellbeing at home, school or work. However, it is not so easy to ensure sufficient and proper ventilation. Ideally, rooms that are occupied should be aired out every 2 hours. When rooms are ventilated by opening windows, heat loss occurs and the room is contaminated by outside noise and polluted air.

NEGATIVE EFFECTS OF STAYING IN POORLY VENTILATED AREAS:

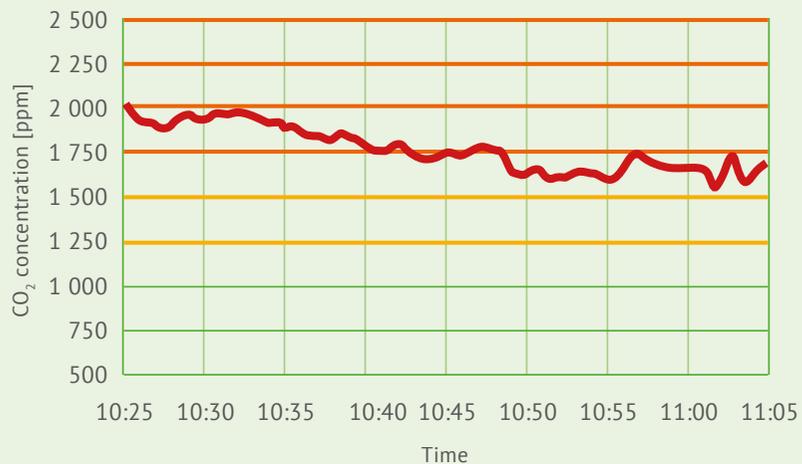
- Fatigue
- Headache
- Poor concentration
- Allergies
- Compromised immune system



TYPICAL QUALITY OF SCHOOL INDOOR ENVIRONMENT

Children spend a lot of their time in school. Classrooms and other premises often lack sufficient ventilation. The classroom is a place where children stay for long periods of time. This leads to high CO₂ levels, which in turn, negatively affects the children's ability to learn.

CO₂ concentrations measured during lessons



Total air volume: 250 m³
Pupils in classroom: 30
Windows: tripled glass
Indoor temperature: 22.3 °C
Outdoor temperature: 27 °C, sunny weather
Windows were closed. Ventilation was ensured by opening doors.



NEGATIVE EFFECTS OF INSUFFICIENT FRESH AIR IN CLASSROOMS:

- Fatigue
- Poor concentration
- Compromised ability to perceive new information
- Demotivation of children

HAVE YOU CONSIDERED INSTALLING AN ENERGY-EFFICIENT VENTILATION SYSTEM?



Do you want to have your existing school or office equipped with a heat recovery ventilation unit?

Is a central ventilation system too expensive?

Do you want to ventilate only selected rooms?



DECENTRALISED VENTILATION = COMFORT • EFFICIENCY • FLEXIBILITY

Decentralised ventilation

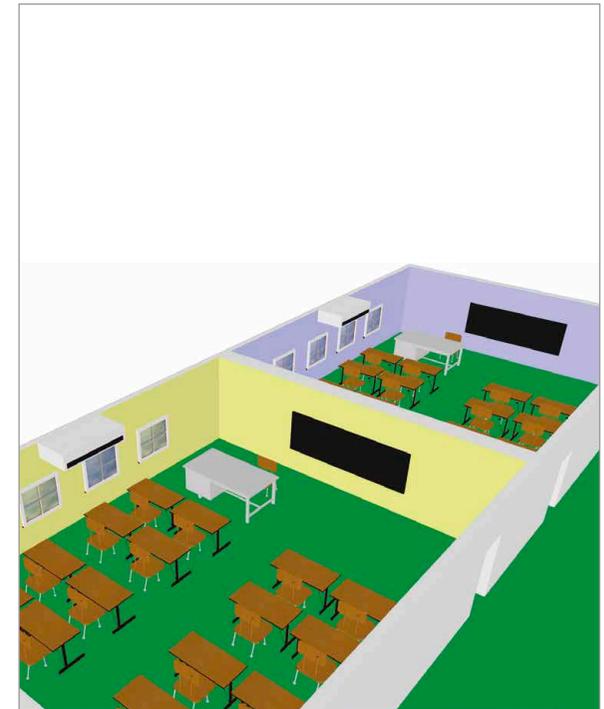
An optimum indoor environment can be maintained with decentralised ventilation when supply air and exhaust air is managed with a suitable heat recovery unit.

Ventilate individual rooms as necessary

- Suitable for ensuring ventilation in a single larger room (classroom, meeting room, open office)
- The system can be installed in existing buildings without having to design a detailed ventilation system
- No air ducts
- High flexibility



DECENTRALISED VENTILATION	Advantage +/ Disadvantage -
Only openings in the perimeter wall are required for ducts	+
Heat recovery efficiency	= 90 %
Minimum cost of assembly; suitable for existing buildings	+
Easy access by maintenance staff	+
Central control	-



The **WHISPER AIR** units by 2VV feature a new generation of efficient, energy-saving and **ultra quiet technologies** that ensure the highest-quality of indoor environments and are ideal **for classrooms and offices.**



WHISPER AIR

The **WHISPER AIR** heat recovery unit is designed for decentralised ventilation. It provides an ideal solution in both new and existing buildings. Its minimum noise level makes it a perfect choice **for schools, offices and conference rooms.**



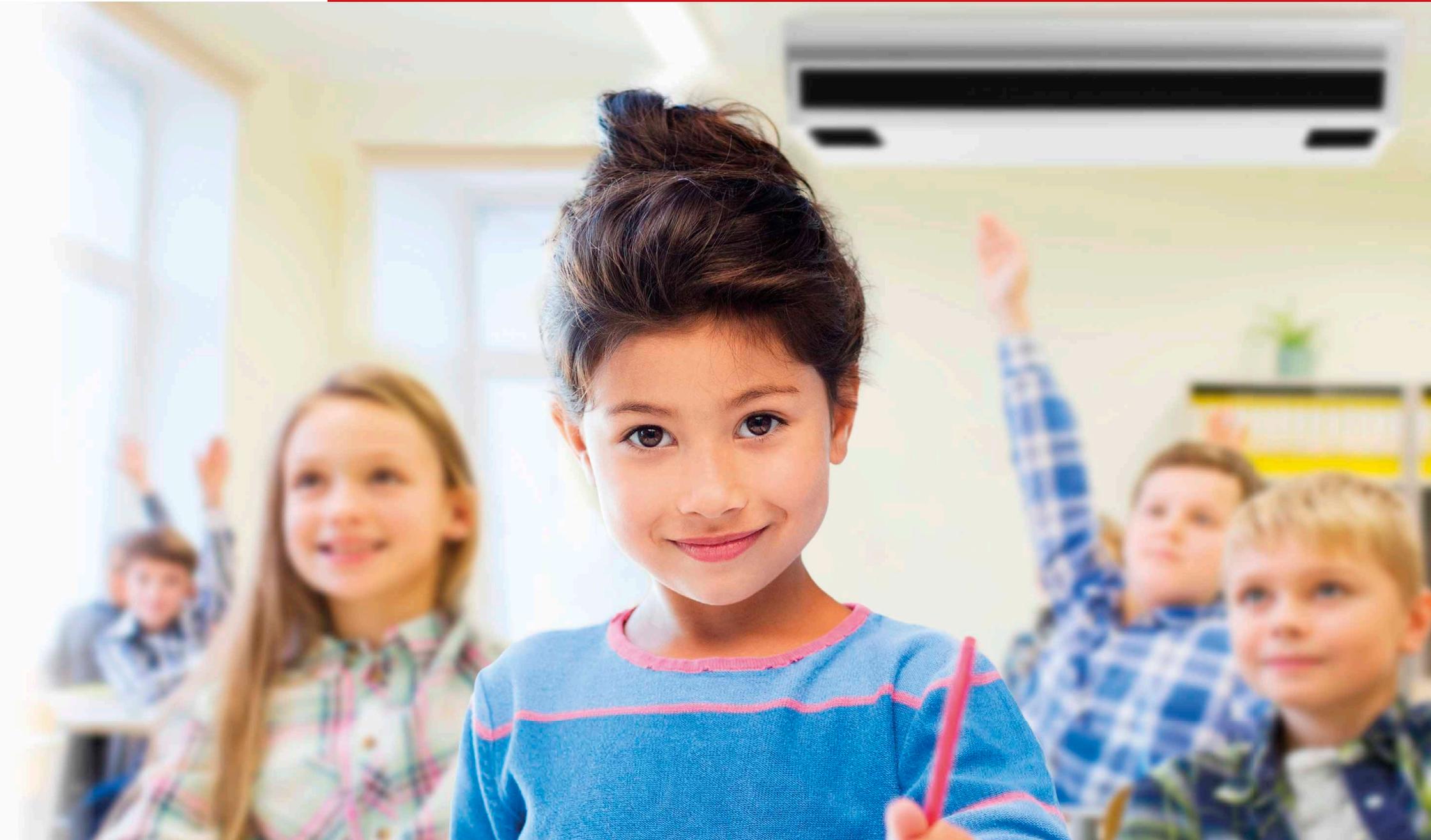
- 3 sizes with airflow rates of **400, 700 and 1 000 m³/h**
- High heat recovery efficiency up to **90 %**
- Ultra-quiet operation – **35 dBA**
- Integrated **CO₂ sensor**
- Energy-efficient **EC motors**

10+1 arguments for **WHISPER AIR**:

- ✓ Continuous supply of fresh air
- ✓ Optimum CO₂ levels
- ✓ Minimum noise level
- ✓ High heat recovery efficiency up to **90%**
- ✓ Energy saving
- ✓ Helps people with allergies and breathing difficulties
- ✓ Prevention of mold
- ✓ Prevention of fatigue and headache that are caused by CO₂
- ✓ Elimination of outside noise due to open windows
- ✓ Suitable even for older buildings
- ✓ Easy to install



WHISPER AIR – ENJOY THE SILENCE



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- A leading European manufacturer of Air Curtains, Ventilation Units and wide range of HVAC products
- Innovative, specialized, focused
- Worldwide presence
- European quality
- In-house R&D
- More than 20 years experience

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