

VENTILATION SYSTEM MULTI AIR SUPPLY

EXCELLENT AIR IN EVERY HOME WITH CENTRAL HRV WITHOUT SUPPLY CHANNELS

An energy transition in the residential market is in full swing. Existing homes need an energy upgrade and the building regulations for new homes have been tightened. We want to contribute to making the housing stock more sustainable. At the same time it is our mission to offer everybody the most excellent air possible. That applies for new projects as well as for existing homes. Reason for us to develop a new and unique ventilation concept: Multi Air Supply. That makes it possible to install HRV in any property. The innovative ventilation system Multi Air Supply includes the smart Indoor Mixfan with active CO₂ control that ensures optimum air quality in every room.

Innovative ventilation concept

The innovative ventilation concept Multi Air Supply is based on a central balanced heat recovery system (HRV). A special feature is that the fresh air is freely blown into the central hall, landing or stairwell. So no need for supply ducts.

A compact, CO₂-controlled Indoor Mixfan in each habitable room removes the 'stale' air from the room to the stairwell.

Fresh air from the stairwell enters the room through the gap underneath the door.

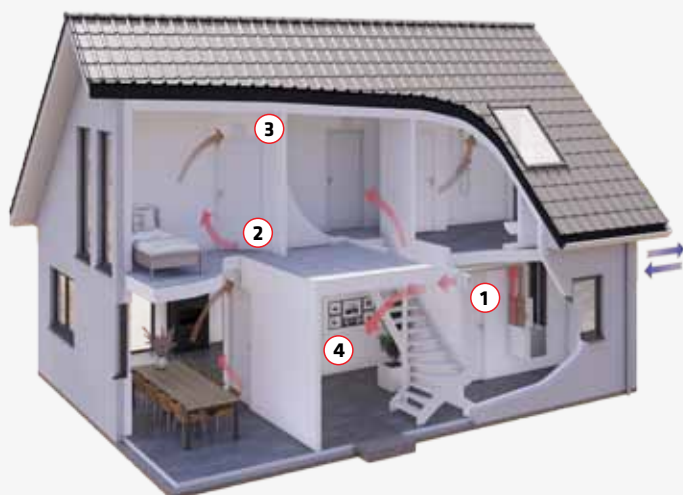
The quantity of fresh outdoor air that the HRV unit needs to supply to keep the air in the hall fresh, is also CO₂ controlled. That way the air quality in all habitable rooms remains optimal. Exhaust provisions in the kitchen, bathroom and toilets are made with conventional ducts. The HRV unit extracts the heat from the exhaust air before it is directly discharged to the outside.

Existing buildings and new projects

The Multi Air Supply system can easily be installed in an existing home in no time. The HRV unit replaces the mechanical extraction box, if any. The exhaust ducts of this extraction system can be reused. That way, an existing dwelling is easily upgraded with a low energy HRV system.

The system is also excellently suitable for new projects with

certificate of equivalence. Dependent on the property layout, it may be installed with or without supply ducts. If it is possible to do without the supply ducts, constructional savings are possible. Major benefits for the occupants with minor modifications in the dwelling.



THE MULTI AIR SUPPLY SYSTEM

STEP BY STEP

- 1 The HRV unit brings fresh air to the stairwell through an open supply.
- 2 From the landing and hall, the fresh air spreads through the dwelling and through the gap underneath the internal door (2 cm) to the habitable rooms.
- 3 The Indoor Mixfan, featuring standard CO₂ control, is installed above the door of the habitable room to be ventilated.
- 4 The Indoor Mixfan above the door exhausts stale air from the habitable room. When the CO₂ concentration increases, the ventilation rate increases with it.

→ Fresh air
← Stale air

Smart Indoor Mixfan

The Indoor Mixfan mixing fan is placed above the internal door or in the separating wall of the landing/hall and the bedroom or living room. The mixing fan features small, silent, low-energy fan CO₂ meter. The Indoor Mixfan removes the stale air from the room dependent on the CO₂ percentage. Then the same quantity of air is automatically supplied from the hall and the landing.

Standard active CO₂ control

The Indoor Mixfan comes as standard with a CO₂ sensor. In addition, a CO₂ sensor in the hall connects to the HRV unit. This CO₂ control ensures active demand ventilation in every individual room. The ventilation rate is adjusted to the current indoor air quality. The sensor will detect when the quality deteriorates due to the presence of many people in the living room and then the ventilation rate in that room will automatically increase. That will guarantee a constantly optimum air quality throughout the home. Moreover, excess ventilation is avoided, which makes this way of ventilating a low-energy and sustainable system.

The advantages at a glance

- Easily applicable in existing homes and new projects
- Central HRV without supply ducts
- Savings on construction costs
- Active CO₂ control for optimum air quality
- Air supply through stairwell and by smart Indoor Mixfan for every habitable room
- TNO air quality certificate available



Technical specifications Indoor Mixfan

Ventilation capacity	Adjustable to a maximum of 35, 50 or 70 m ³ /h
Control system type	Continuous through integrated CO ₂ sensor in the exhaust air from the habitable room
Setting value CO ₂	Min. 600 or 800 Max. 1000 or 1200 ppm
Sound pressure level (L _{1,a,k})	< 30 dB(A) at 50 m ³ /h
Maximum rated power	< 2.5 W
Dimensions H x W x D	211 x 211 x 53 mm
Wall thickness	Not less than 68 mm
Borehole diameter through the wall	Diameter 170 mm