

outstanding ventilation



The company bluMartin

bluMartin GmbH develops, produces and sells ventilation systems with heat recovery. Their clear objective: more sustainability in the building sector by developing an innovative ventilation system with the highest energy efficiency whilst maintaining optimum living comfort.

Since its foundation in 2010, bluMartin has consistently continued its annual growth. A second factory was built in the Allgäu region in 2021, thereby considerably increasing the production capacity. Since 2016 bluMartin has been part of the worldwide operating Swegon Group. Swegon is the Scandinavian market leader in the fields of energy-efficient ventilation, building climate control and air conditioning units for commercial and industrial use.



The managing directors of bluMartin GmbH:
Thomas Schally (l) and Dr. Reiner Borsdorf (r)

We are here for you!



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More information and videos on our
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BIM data configurator

Use our BIM data configuration tool for
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www.blumartin.de/bim-konfigurator



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Video about the
freeAir system



Persuasive benefits

The freeAir ventilation system located centrally in the home combines the benefits of centralised and decentralised ventilation systems. It does without incoming air ducts and as a rule needs only one external wall opening per living unit – ideal for new builds and renovation projects.

More efficient ventilation

The freeAir ventilation system automatically ensures a pleasant air quality. Sensors record all the relevant air parameters and control the continuous supply of fresh air as required. Thanks to a heat recovery rate of up to 94 %, ventilation heat losses are kept to a minimum, meaning that much less heat energy is needed.

More economical construction

The installation of the freeAir system can be efficiently integrated in the construction workflow thanks to well-thought-out bare brickwork components. Expensive fire protection measures, such as ceiling partitions or fire

dampers are not necessary. The system also gets by with minimum of ventilation ducts, which simplifies both the planning and the installation.

Healthier living

The freeAir ventilation system automatically ensures a cosy indoor climate and protects people's health in three ways: by means of a sensor-controlled exchange of air, an intelligent humidity management system and efficient fine particle filters. Fine particles, pollen and insects are reliably kept outside due to the high-quality filters. That is a relief particular for allergy sufferers. And all as quiet as a whisper.

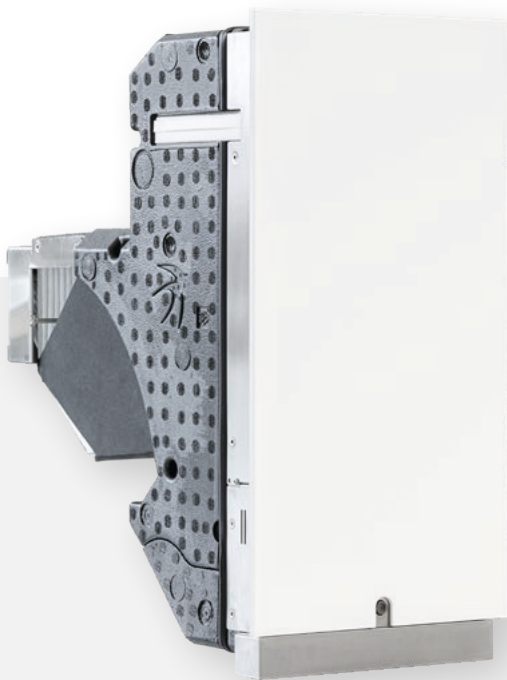
The freeAir ventilation system

The freeAir 100^e external wall unit and the freeAir plus active transfer units complement each other in a unique way. The intelligent freeAir plus transfer unit means there is no need for any ducts and other rooms are easily connected to the domestic ventilation system.

Ventilation in teamwork

The ventilation system consists of the freeAir 100^e with corresponding bare brickwork set and the freeAir plus transfer unit. The freeAir 100^e is installed in the bare brickwork set and supplies the living spaces with fresh, pre-heated air from outside. Rooms from which air is extracted, such as the bathroom, are directly connected

to the external wall unit via exhaust air ducts. The relevant air parameters are measured by the sensors. The air is thereby exchanged as required. The freeAir plus transfer unit connects other rooms to the domestic ventilation system without any ducts. The sensors in the intermediate wall fan compare the air quality in adjacent rooms and activate the redirection of fresh air on demand.



freeAir 100^e

Demand-controlled ventilation unit with cross-counterflow heat exchanger and connection option for further rooms (exhaust/supply air)

Volumetric flow rate 8-100 m³/h
Heat recovery rate up to 94 %
Certified in accordance with PHI and EN 13141-8 and EN 13141-7

Controlled by 8 sensors:
- 1 CO₂ sensor
- 2 humidity sensors
- 4 temperature sensors
- 1 air pressure sensor



freeAir plus

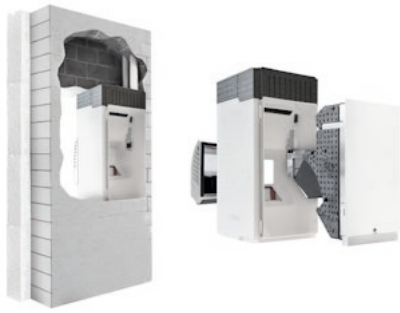
Intelligent, active transfer unit to connect rooms to the domestic ventilation system without ventilation ducts

Volumetric flow rate 30-70 m³/h

Controlled by 3 sensors:
- VOC sensor
- humidity sensor
- temperature sensor

One appliance for all applications

Whether installed in solid, timber, prefabricated and modular constructions or when renovating a building, the freeAir ventilation system can be used flexibly and individually. At its heart is the freeAir 100^e ventilation unit. For all construction methods, corresponding bare brickwork sets are available.



Solid and timber construction

- Easy installation of the bare brickwork set with EPS box
- Brickwork set without box (ideal for timber construction)
- Used with a wall thickness from 32 cm
- Can be extended for wall thicknesses over 53 cm



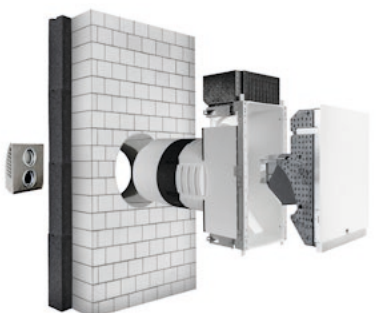
Prefabricated and modular construction

- Integration in the wall at the factory
- Suitable for all prefabricated walls from 20 cm thickness
- Adapter for space-saving, safe transportation
- Precise preliminary work saves time on site



Window reveal

- Ideal for design-oriented and uniform facades
- Individual wall thicknesses from 38.5 cm
- Ventilation ducts of the raw brickwork set can be shortened between 42 and 95 cm
- Narrow front grille for unobtrusive, discreet installation



Renovation

- No laborious opening up of the external wall
- A 35 cm drilled core hole is adequate
- Used for wall thicknesses between 28 and 46 cm
- Optionally extendable up to a wall thickness of 64 cm

Clear design

The freeAir ventilation system fits discreetly into the structural design. Whether for interior or exterior design, there are a wide range of versions and options depending on design specifications or personal taste.



Outside hood for freeAir 100° – stainless steel



Outside hood for freeAir 100° – white



Pair of Outside hoods for window reveal II for freeAir 100° – stainless steel or white



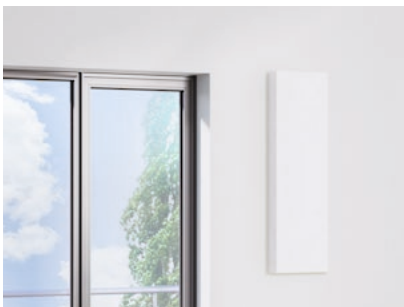
Inside front panel for freeAir 100° – white
Plastic or primed



Inside Front Cover II for freeAir 100° – white
Plastic or paintable, -5 dB (incoming air only)



Inside Front Cover III for freeAir 100° – white
Plastic or paintable, -5 dB



Inside premium cover for freeAir 100° – white
Plastic or paintable, -12 dB



Bare brick cover for wall box inside for front or premium cover, customer dimensions 1-20 cm, paintable



freeAir plus transfer unit – white
Plastic front or primed

Outside design

Whether for a modern new build or an old listed building – the freeAir system offers the right solution for perfect integration in the facade. Due to being arranged centrally in the home, as a rule only one external wall opening per residential unit is necessary. The Outside hoods are available in white or with a stainless steel surface and can be made in the customer's choice of colour. Installation in the window reveal make the ventilation almost invisible.

Internal design

The front panel of the domestic ventilation unit is hardly bigger than a sheet of A3. All fronts are available as a white plastic version or can be individually designed. This means they can be integrated unobtrusively in the living area. The front cover and the premium cover are soundproofing covers and reduce noise by -5 dB or -12 dB. For renovation projects, various claddings are available so that the ventilation unit can be discreetly integrated in the existing building.

More efficiency, fewer ducts

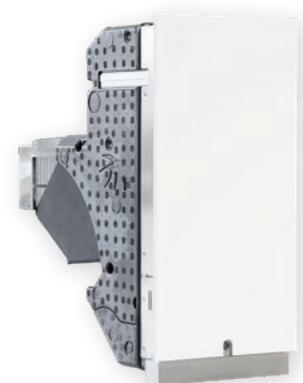
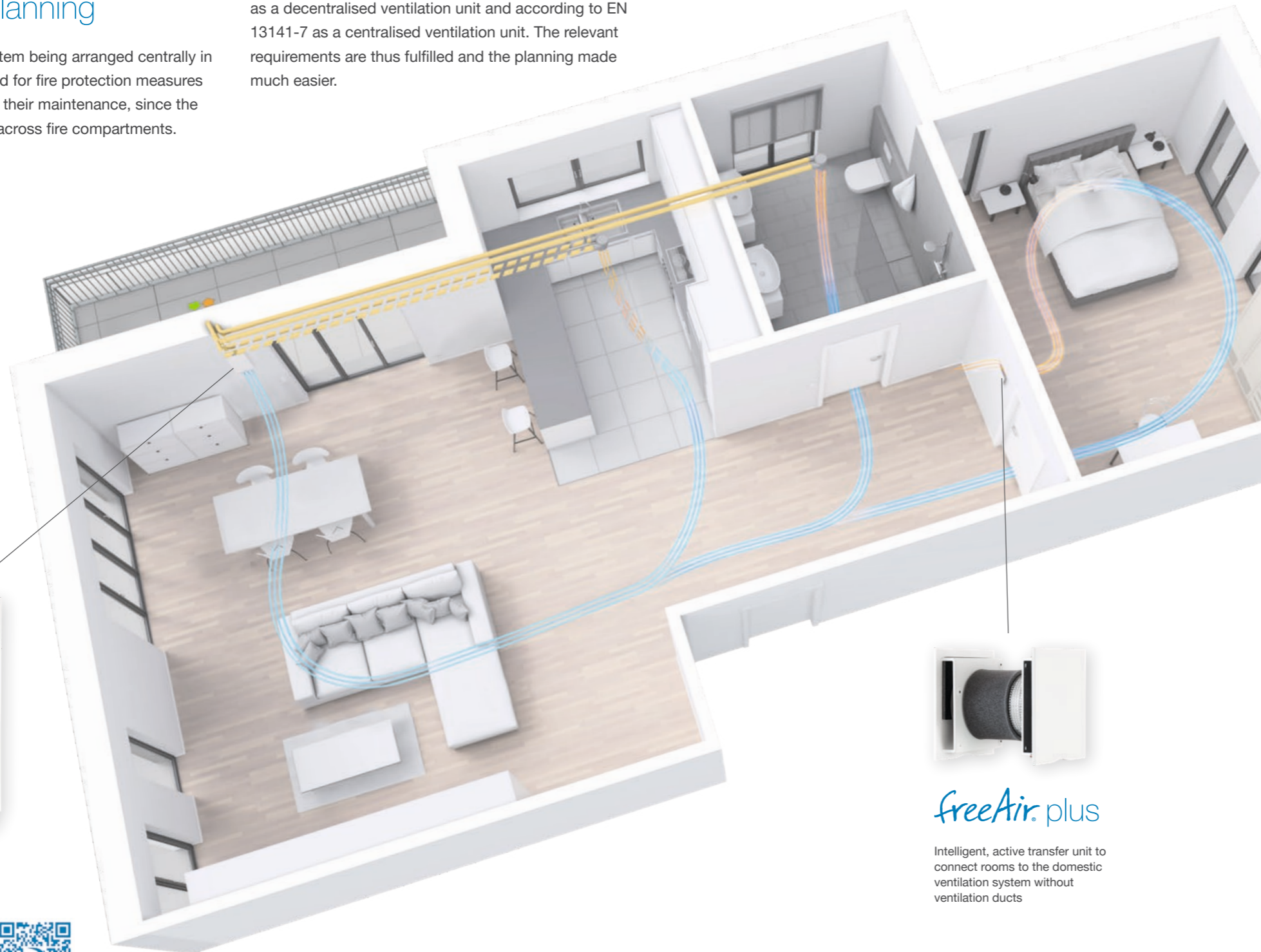
The tried and tested concept minimises the number of ventilation ducts and hence the amount of planning and construction work. The cascaded airflow enables the air to be used multiple times and contributes to the system's excellent efficiency.

Minimal construction work and simple planning

Due to the ventilation system being arranged centrally in the home, there is no need for fire protection measures such as fire dampers and their maintenance, since the ventilation is not laid out across fire compartments.

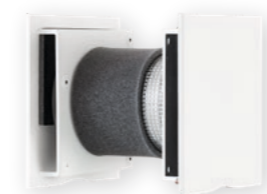
Another benefit when it comes to planning is that the freeAir 100^e is approved both according to EN 13141-8 as a decentralised ventilation unit and according to EN 13141-7 as a centralised ventilation unit. The relevant requirements are thus fulfilled and the planning made much easier.

Planning example of a 2-room apartment with a freeAir 100^e and a freeAir plus



freeAir 100^e

Demand-controlled ventilation unit with cross-counterflow heat exchanger and ability to connect to other rooms (exhaust/supply air)



freeAir plus

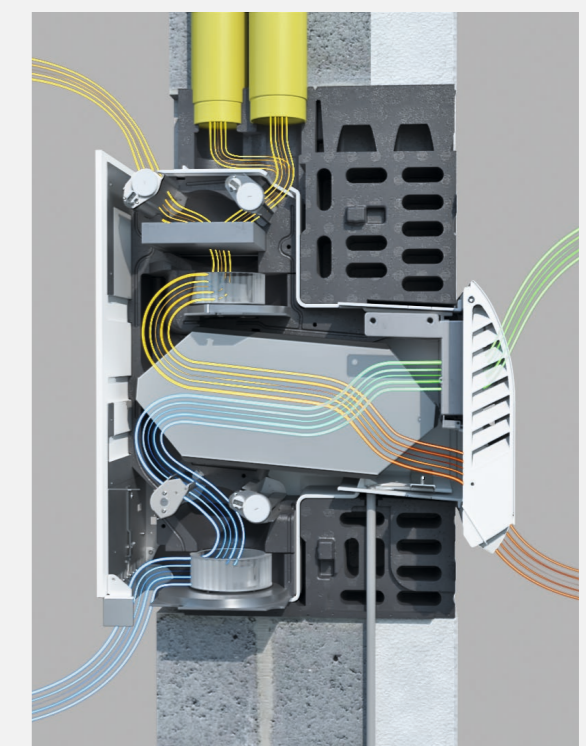
Intelligent, active transfer unit to connect rooms to the domestic ventilation system without ventilation ducts

Optimal demand-based airflow with 8 sensors

The freeAir 100^e external wall ventilation unit and the freeAir plus intermediate wall fan are controlled by sensors and continuously adjust the ventilation to the actual demand. On the one hand this ensures a constantly high air quality. Secondly, energy consumption, noise emissions and ventilation heat losses are minimised. This optimal result is ensured in case of the freeAir 100^e by a total of eight (including for humidity, CO₂ and temperature) and in case of the freeAir plus by three sensors (VOC, humidity and temperature).

Highest heat recovery

The efficient cross-counterflow heat exchanger used in the freeAir 100^e recovers up to 94 % of the heat held in the exhaust air. This saves a considerable portion of the heating energy. Furthermore, the criteria set by the PHI are exceeded. This results in decisive benefits for funding programmes for climate-friendly new builds (Efficiency House 40) and Sustainable Building (QNG).



Cross-section of freeAir 100^e with cross-counterflow heat exchanger

Convenient ventilation

An intelligent sensor control system, the humidity management and the summer night-time cooling are standard features of the freeAir domestic ventilation system. Over and above this, smart control software is available.

Intelligent humidity management

Humidity and temperature are measured inside and outside. As a result, the freeAir 100^e can actively dehumidify or optimise moisture entry. Harmful mould growth and air that is too dry are thereby prevented and the building material is protected.

freeAir Connect app

The browser-based freeAir Connect app provides a perfect overview of air quality, energy savings and the filter status of the ventilation unit. Even the preferred comfort level can be directly selected and controlled using a smartphone. Automatic service messages by email give landlords, hotel operators and facility managers in particular the assurance that all units are working soundly.

Wonderfully quiet

Quietness is one of the most important feel-good factors. The sound-absorbing ventilator simply leaves noise outside and thanks to the ventilator motors specially developed for the appliance, the freeAir 100^e is extremely quiet, thus providing the highest living comfort. The freeAir 100^e has a sound insulation value of up to 62 dB and simply leaves noise outside. The optional premium cover also makes it ideally suitable for bedrooms.

Pleasant summer night-time cooling

This function allows the cooler outside air in summer to flow directly into living areas and bedrooms at night. If the appliance detects via the temperature sensors that the room temperature in summer is rising above a preset value, the appliance activates the bypass and directs the cooler outside air past the heat exchanger, directly into the rooms. This also automatically increases the amount of air.

freeAir Connect

Transparency

Safety

freeAir Report
Service messages automatically by email

Von: freeAir 15014-Küche
An: Max Mustermann

freeAir Report

Sehr geehrter Kunde,

Ihr freeAir 100^e Lüftungsgerät **15014-Küche** hat diese Meldung gesendet:

Filterbetriebszeit überschritten
Seit dem letzten Filterwechsel sind mehr als 8.700 Betriebsstunden (> 1 Jahr) vergangen

Ihr bluMartin Service Team

One controller for everything

Modern buildings are becoming increasingly smart and technical appliances can be networked with each other. The optional bluHome Connect controller integrates the freeAir ventilation units with the building management system. This ensures greater safety and optimum operation.

bluHome Connect

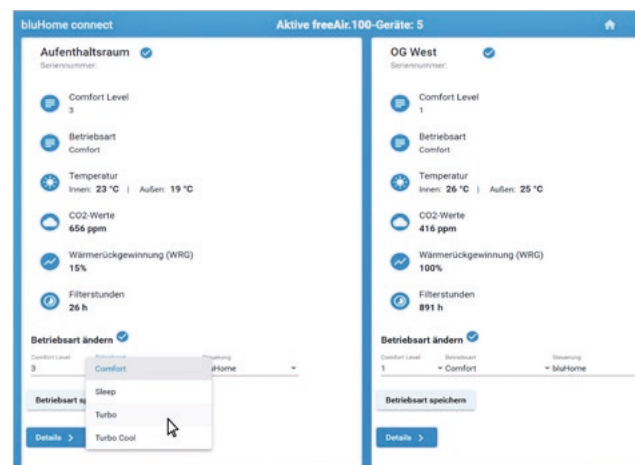
The bluHome Connect controller allows up to 100 ventilation units to be integrated in the building automation system. The standard BUS languages KNX, BACnet and Modbus are supported. The quick and easy installation, without additional software, allows the values and the operating status of the freeAir 100^e ventilation units to be clearly presented straight away. The operating modes can be controlled directly and an overview of all properties is displayed visually – even when on the move. An ideal solution for hotels, residential homes, offices or multi-storey buildings



Integration of up to 100 units in the building automation system

Installation and functions

- Controller is simply snapped onto the DIN rail
- Connection to the network via the LAN cable
- Power supply via the network connection (PoE)
- Clear individual representation of the ventilation units with values
- Calendar function with defined times
- Remote diagnostics for safe operation



Can be completely controlled via a browser app



Alternatively directly controlled via radio buttons

Highest room air quality

The specially developed freeAir ionic module is the optimal extension of the freeAir 100^e for applications in healthcare buildings. Besides old people's homes and hospitals, hotel rooms as well as residential and business premises also benefit from the high quality of air.

freeAir ionic

The air quality, besides the comfort factors (temperature and humidity), also depends on the natural relationship between the positive and negative ions, as well the density of the small ions. The room air usually no longer contains the sufficient number of small ions that occur in nature, even if enough outside air is supplied to the room. One of the main reasons for sick building syndrome is the lack of negative small ions. The freeAir ionic module counteracts this by regulating the formation of negative small ions.



freeAir ionic module

Benefits of the add-on module

- Leitfähige Luft® (conductive air) by s-Leit swissengineering AG
- No formation of nitrogen oxide, ozone or electrosmog
- Noise and odour-free
- Minimal power consumption
- Optimal comfort and improvement in room air quality
- Better ability to concentrate due to improved oxygen intake



Used in meeting rooms for high air quality



Used in the health sector with the highest air purity standards

Detached house

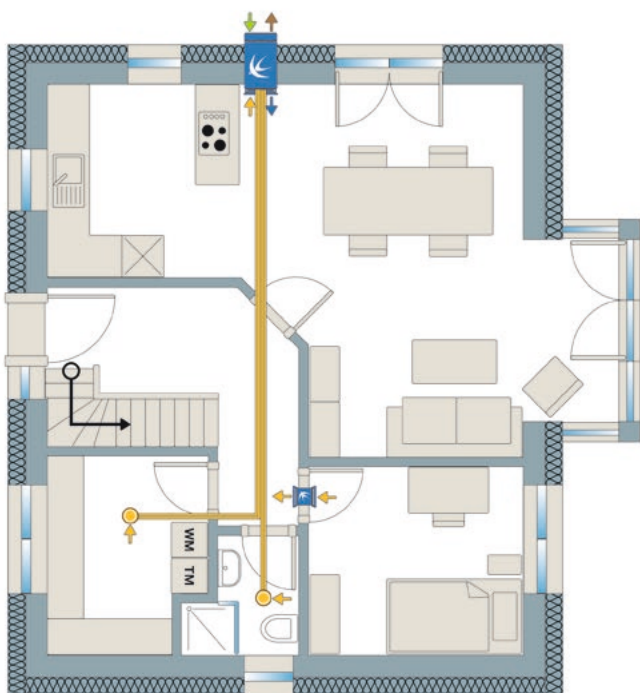
In private households, the majority of energy is needed for heating. Thanks to the efficient heat recovery, a considerable portion of heating energy is saved.

The planning example shows its use in a detached house.

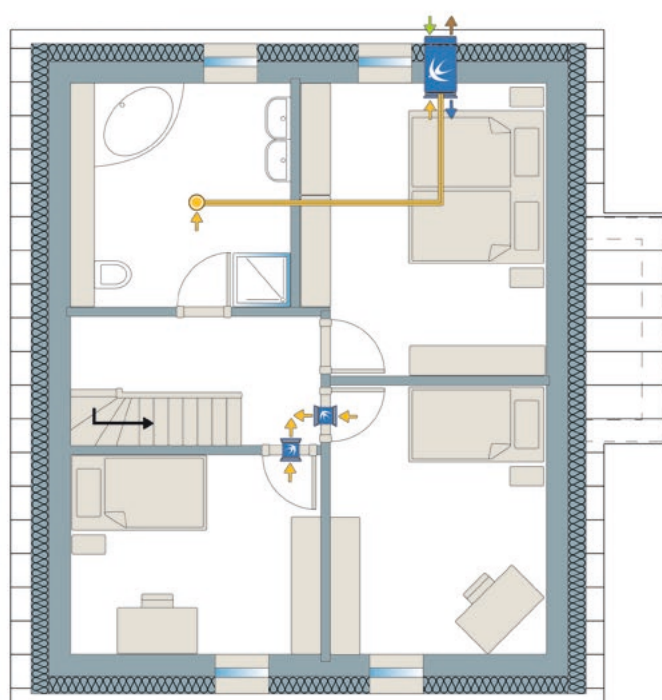


About the property

- 145 m² of living space
- 2 freeAir 100° ventilation units
- 3 freeAir plus transfer units
- Premium cover used in the bedroom



EG



OG

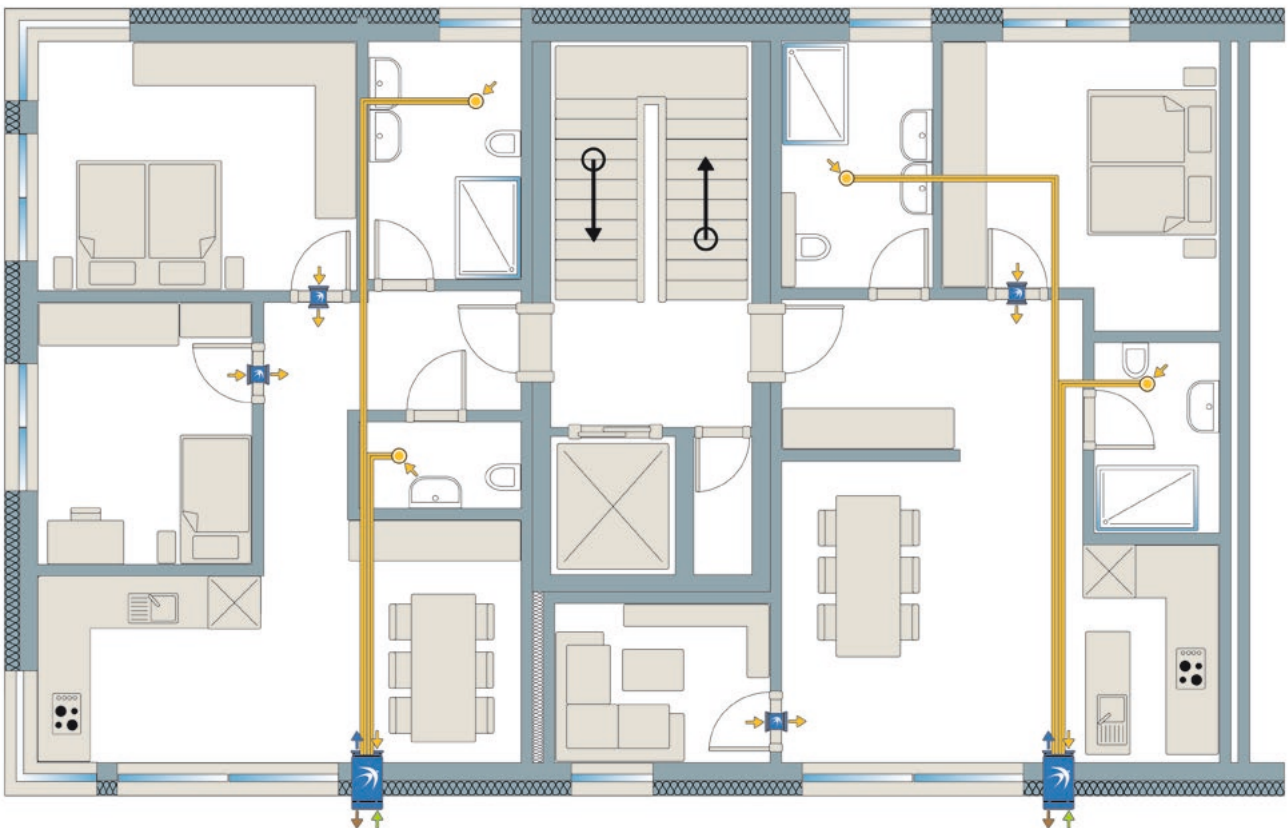
Apartment buildings

The freeAir ventilation system ensures the highest living comfort as well as a pleasant and healthy indoor climate independent of users. The following planning example demonstrates its installation in an apartment block.



About the property

- 56 units between 55 m² and 95 m²
- 70 freeAir 100^e ventilation units
- 93 freeAir plus transfer units
- The bare brickwork sets are installed directly at the factory



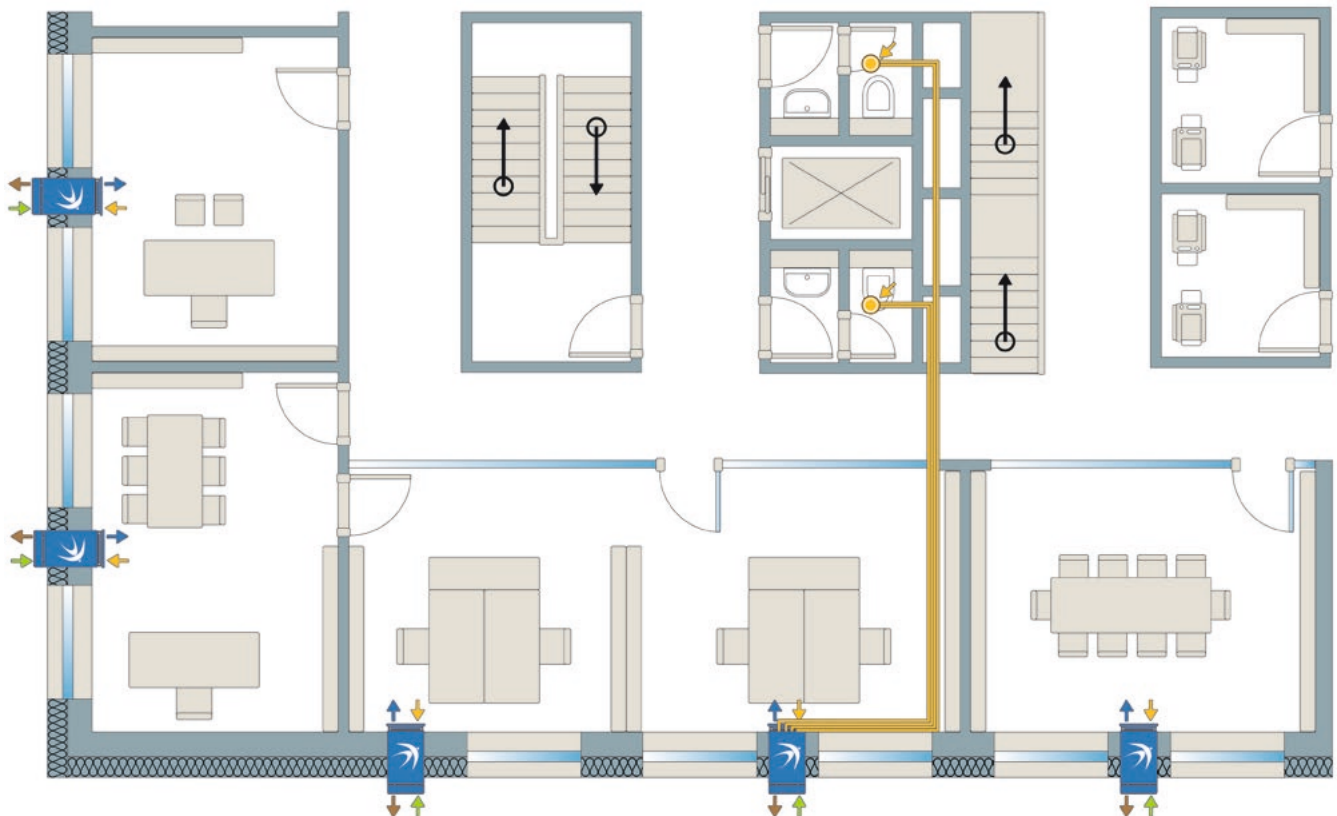
Office and commercial buildings

The freeAir ventilation system manages without almost any ventilation ducts. That makes fire protection easier and considerably simplifies the planning process. The planning example shows the integration of the ventilation units in an office building.



About the property

- 2,000 m² of office space
- 26 freeAir 100^e ventilation units
- Use of the bluHome Connect controller
- Installation in the window reveal



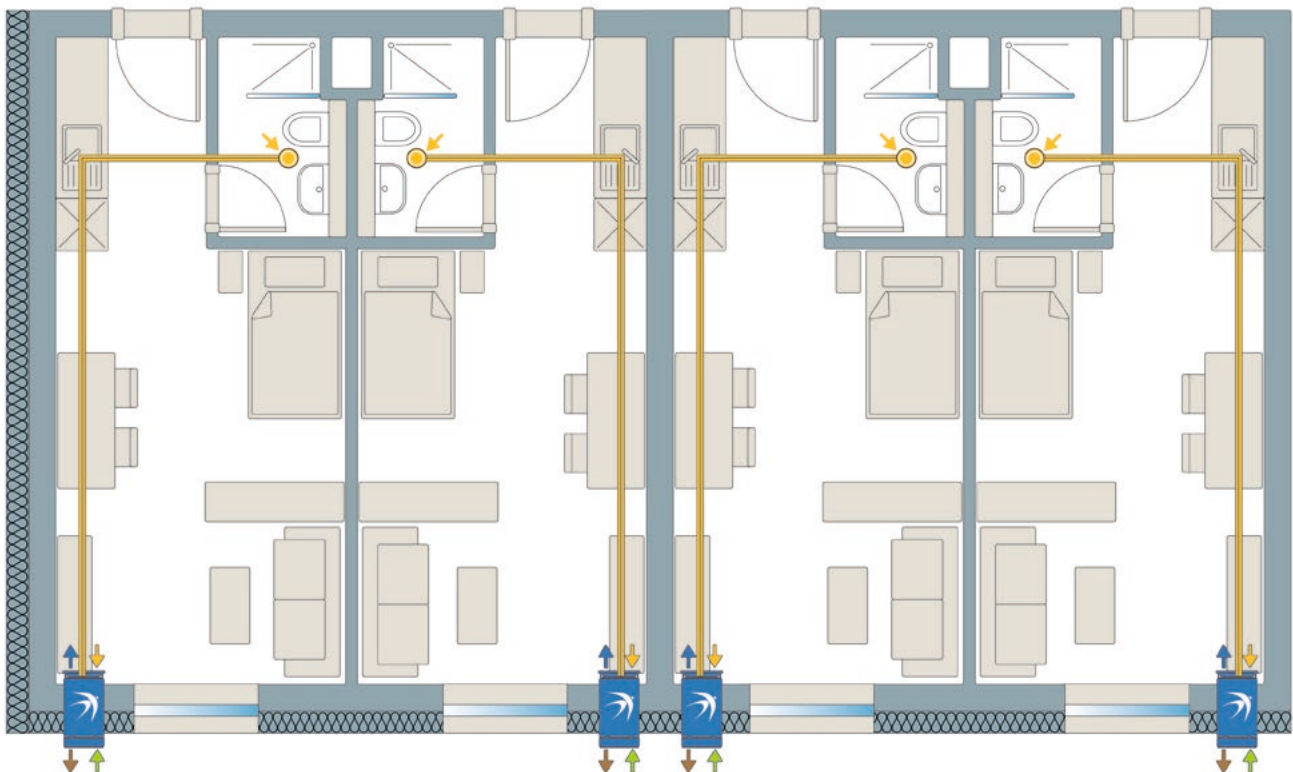
Residential homes and hotels

The ventilation system enables air to be supplied and extracted for a complete residential unit – depending on size – with just one external wall unit. A ducted air extraction system is not necessary. The floor plan illustrates the simple planning by way of a residential unit for staff.



About the property

- 111 units between 24 m² and 90 m² of living space
- 117 freeAir 100^e ventilation units
- 21 freeAir plus transfer units
- The bare brickwork sets are installed directly at the concrete factory



Individual solutions

Whether installed in solid, timber, prefabricated and modular constructions or when renovating a building, the freeAir ventilation system can be used flexibly and individually. A wide range of successfully implemented building projects demonstrates how diversely the freeAir system can be used.



Detached house with smart home technology



Munich Giesing Support Centre



Modular construction of social housing in Schöppingen



Renovated detached house



Apartment block in South Tyrol – architect W. Meraner



Apartment block in Bozen



Systemhaus Hummel in Frickenhausen



Hall of residence on Riedberg campus



Interior view of freeAir 100®



Semi-detached house in timber construction



Hotel Pakasa in Leiden



Interior view of Hotel Pakasa in Leiden

Technical data

freeAir 100^e

Inside front dimensions	28 x 58 cm (front panel); 30 x 63 cm (Front Cover II)
Wall thickness	32 to 53 cm incl. plaster (other dimensions possible with accessories)
Airflow	8 to 100 m ³ /h
Temperature change rate	86 % (at 100 m ³ /h and 2 °C) according to EN 13141-8 and EN 13141-7
Heat recovery	up to 94 % (at 50 % relative humidity)
Heat exchanger type	Cross-counterflow; aluminium
Supply voltage	100 to 265 V AC; 45 to 65 Hz; internal fuse 3 A
Power consumption	20 m ³ /h → 5 W; 70 m ³ /h → 16 W; 100 m ³ /h → 34 W
Specific power consumption	0.21 W/m ³ h (single room); 0.25 W/m ³ h (multiple rooms)
Weight	10 kg
Sound pressure level in the room (10 m ² sound absorption area)	20 m ³ /h → 17 dB (A); 30 m ³ /h → 21 dB (A); 80 m ³ /h → with Premium Cover 30 dB (A); 91 m ³ /h → with Premium Cover 35 dB (A);
Sound reduction index	Standby → 52 dB (DIN EN 10140-2; D _{n'} , e', w) Operation → 46 dB (with Premium Cover max. 62 dB)
Regulation	Intelligent Comfort control with 5 levels
Airflow regulation	Automatic; constant volume; balanced
CO ₂ regulation	Automatic
Humidity management	Automatic (typically 40 to 60 % relative humidity)
Summer night-time cooling	Automatic and with Turbo-Cool
Frost protection	Automatic bypass regulation from approx. -5 °C outside
Temperature range	-40 to +50 °C outside and 0 to +40 °C inside
Filter - incoming air	Protect ePM10 (pollen) or Protect plus ePM1 (allergy sufferers)
Filter - exhaust air	Protect ePM10 (ISO 16890)
Smart home	Connect WiFi; Connect USB; bluHome Connect (accessories for ModBus, KNX, BACnet, RS232)
Colour	Front panel white or primed (paintable and customisable)
Approval	DIBt, passive house

freeAir plus

Inside front dimensions	25 x 25 cm
Wall thickness	10 to 22 cm incl. plaster (less than 12 cm with attached spacers)
Airflow	30 to 70 m ³ /h
Supply voltage	85 to 265 V AC;
Power consumption	Standby → 0.5 W; 30 m ³ /h → 0.9 W; 50 m ³ /h → 1.4 W; 70 m ³ /h → 2.5 W
Sound pressure level in the room (at a distance of 1 m)	30 m ³ /h → 13 dB (A); 50 m ³ /h → 25 dB (A); 70 m ³ /h → 37 dB (A)
Sound reduction index	33 dB (EN ISO 10140-2; D _{n'} , e', w)
Regulation	Intelligent Comfort control with 5 levels
Airflow regulation	Automatic; practically infinitely variable
CO ₂ regulation (VOC)	Automatic
Humidity management	Automatic
Summer cooling	Automatic
Temperature range	0 to +40 °C
Colour	Front panel white or primed (paintable and customisable)

The most important features at a glance



5-year parts guarantee



Top A+ rating for energy efficiency



ICONIC AWARD 2019: Innovative architecture awarded by the Rat für Formgebung (German Design Council)



TOP HOTEL STAR AWARD 2021



Certified as passive house component



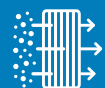
No incoming air ducts



Demand-based airflow and humidity management with 8 sensors



Optimal sound reduction up to 62 dB and extremely quiet operation



Protection against fine particles and pollen by means of effective filters (ePM 10 or ePM 1)



Automatic service emails, smartphone control and BUS system connection

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