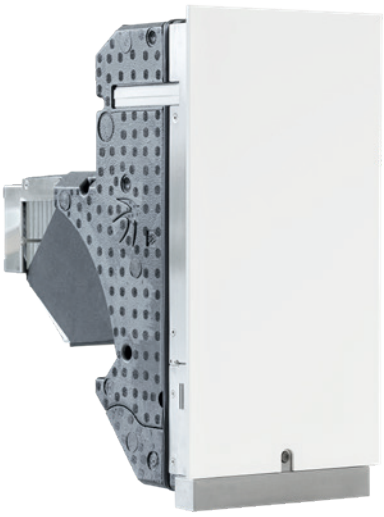
bluMartin

A **Swegon Group** company



outstanding ventilation

A+

all climate zones

CERTIFIED COMPONENT

Passive House Institute

QNG READY

5 YEAR PARTS WARRANTY

MADE IN GERMANY

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 director of bluMartin GmbH:
Dr. Reiner Borsdorf

We are here for you!

Sales

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Videos

More information and videos on our YouTube channel:
www.youtube.com/@blumartin_gmbh

Planning

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BIM data configurator

Use our BIM data confi guration tool for quick and easy planning:
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Video about the freeAir system

NEW NOW!
The freeAir 100e with enthalpy heat exchanger.
Find out more now!

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

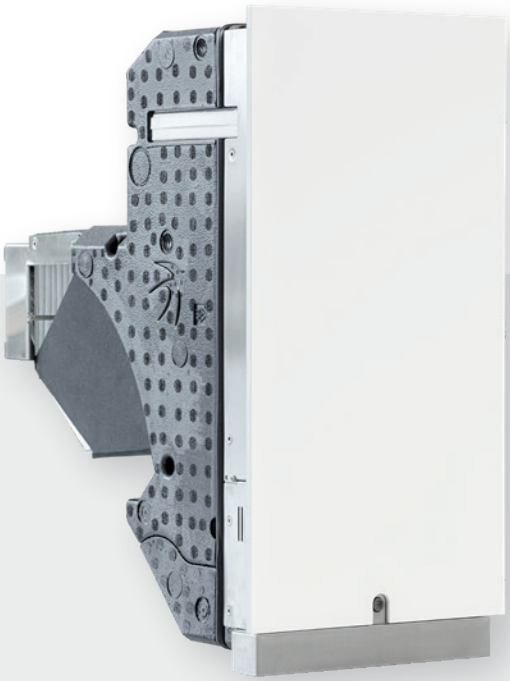
The freeAir ventilation system automatically ensures a cosy indoor climate and protects people's health in three ways: by means of a sensor-controlled exchange of air, an intelligent humidity management system and efficient fine particle filters. Fine particles, pollen and insects are reliably kept outside 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.

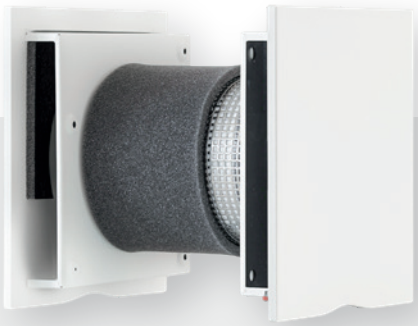


freeAir 100^{e}

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

Volumetric flow rate 8-100 m^3/h
Heat recovery rate up to 91 %
Certified in accordance with PHI and EN 13141-8 and EN 13141-7

Controlled by 8 sensors:
- 1 CO_2 sensor
- 2 humidity sensors
- 4 temperature sensors
- 1 air pressure sensor



NEW!
Also available as a "Slim" version for wall thicknesses from 88 mm.
Find out more now!

freeAir plus

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

Volumetric flow rate 30-70 m^3/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

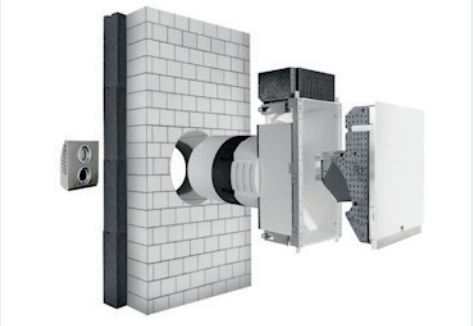
- Easy installation of the bare brickwork set with EPS box
- Brickwork set without box (ideal for timber construction)
- Used with a wall thickness from 32 cm
- Can be extended for wall thicknesses over 53 cm

Prefabricated and modular construction

- Factory-integrated into the wall
- Suitable for walls with a thickness of 32 cm or more
- Adapter for space-saving, secure transport; with a factory wall thickness of at least 20 cm
- Time savings on site due to precise pre-work

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

More efficiency, fewer ducts

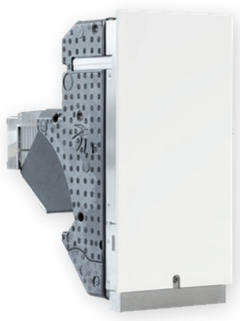
The tried and tested concept minimises the number of ventilation ducts and hence the amount of planning and construction work. The cascaded airflow enables the air to be used multiple times and contributes to the system's excellent efficiency.

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

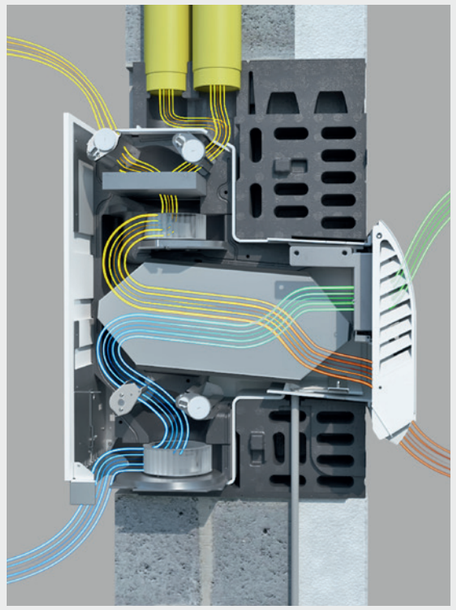
Intelligent, active transfer unit to connect rooms to the domestic ventilation system without ventilation ducts

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, CO_2 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 91 % 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

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^{e} – stainless steel

Outside hood for freeAir 100^{e} – white

Pair of Outside hoods for window reveal II for freeAir 100^{e} – stainless steel or white

Inside front panel for freeAir 100^{e} – white
Plastic or primed

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

Inside Front Cover III for freeAir 100^{e} – white
Plastic or paintable, -5 dB

Inside premium cover for freeAir 100^{e} – 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.

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.

bluHome connect

The bluHome Connect controller enables the integration of freeAir ventilation units into building management systems via KNX, Modbus or BACnet, providing increased control and system security.

Fast and easy installation and commissioning without the need for additional software make the controller an ideal solution, particularly for larger construction projects such as hotels, residential buildings, offices or multi-storey buildings, as well as for facility management applications.

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.

Summer-night cooling

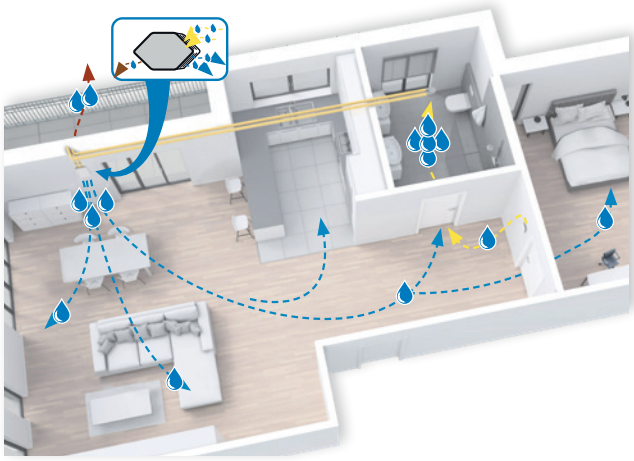
This function allows the cooler outside air in summer to flow directly into living areas and bedrooms at night. If the appliance detects via the temperature sensors that the room temperature in summer is rising above a preset value, the appliance activates the bypass and directs the cooler outside air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

Optimal indoor climate

The freeAir ventilation system offers options to fine-tune the indoor climate down to the smallest detail through optional components such as the new enthalpy heat exchanger or the Ionic module. This allows air quality and humidity to be regulated even more precisely.

Enthalpy heat exchanger

Thanks to its properties and the materials used, the enthalpy heat exchanger can recover not only heat but also moisture. This is achieved by a special membrane that is selectively permeable to water molecules. As a result, indoor humidity is increased in winter and the supply air can be dehumidified in summer—contributing to a comfortable indoor climate all year round. Since up to 75% of moisture is transferred between the air streams, there is hardly any condensate formation. Nevertheless, the freeAir 100e regulates humidity sufficiently, e.g. to prevent mould growth.



The diagram shows how the enthalpy heat exchanger can return moisture to living spaces, especially in winter.

- By recovering moisture, humidity is maintained at an optimal level.
- Particularly suitable for refurbishment projects, as no condensate drain line is required.
- Improves air quality and creates a more comfortable indoor climate.
- Maintains optimal humidity in living areas even in winter.
- Can reduce the humidity of incoming outdoor air in summer.
- Improved heat recovery in winter thanks to optimised frost protection.

freeAir ionic

In addition to the comfort factors temperature and humidity, air quality also depends on the natural balance of positive and negative ions and on the density of small ions. Indoor air contains fewer small ions than outdoor air in nature—even when fresh air is supplied. To counteract this lack of ions, we offer a solution: the freeAir ionic module. This optional module can be installed in the freeAir 100e and releases primarily negatively charged small ions into the supply air stream in a controlled manner. These ions have a positive effect on physical well-being. The freeAir ionic module supports optimisation of indoor air quality by increasing saturation with negatively charged small ions.

The freeAir ionic module supports optimisation of indoor air quality by increasing saturation with negatively charged small ions.

- Innovative “Conductive Air®” technology by s-Leit swissengineering AG
- No formation of nitrogen oxides, ozone or electrosmog
- VDI 6022-classified indoor air quality; bacterially and hygienically completely safe
- No additional air circulation, therefore hardly any additional power consumption
- Indoor air regains its natural conductivity
- A healthy balance of positively charged large ions and negatively charged small ions is established and maintained (Bricard’s law)
- Fine dust, allergens and germs are effectively bound; odours and existing electrosmog are reduced

When less is more

Our decentralised ventilation unit freeAir 100e is now also available as a basic version for large-scale projects such as hotels, residential buildings and the healthcare sector.

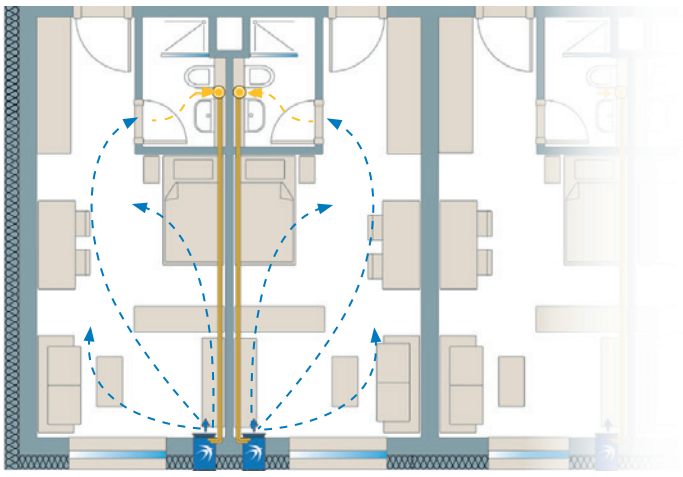
freeAir 100^{e} basic

The freeAir 100e basic is a new variant of our proven ventilation unit, specifically focused on use in hotel rooms and residential buildings. Especially in smaller living spaces, less is often more—and the basic version is the more sensible ventilation solution. For this reason, the freeAir 100e has been optimised for the application and now extracts exhaust air exclusively via the second-room connection. This ensures effective airflow through the living space with fresh air and offers high potential energy savings, as the heat from the exhaust air is utilised in the living area.

The new cost- and energy-efficient package solution for your hotel, residential building or apartment building—together with the adapted bare brickwork set for the basic unit.

Advantages and Features

- Whisper-quiet – no loud extract fans, as guests often know from hotels
- Demand-controlled humidity regulation for a comfortable indoor climate
- Fast installation – usually possible in just one day per unit
- Simple installation thanks to the enthalpy heat exchanger and no supply air ducting
- Cost-efficient – low planning and installation costs
- High energy efficiency – heat recovery up to 91% reduces heating energy demand
- No effort for hotel staff – the system operates fully automatically and reliably
- Efective particulate filter sets – for optimal indoor air quality and healthy living
- Discreet design – visually appealing covers and external hoods in various colours



Perfect for smaller living spaces with a separate bathroom.

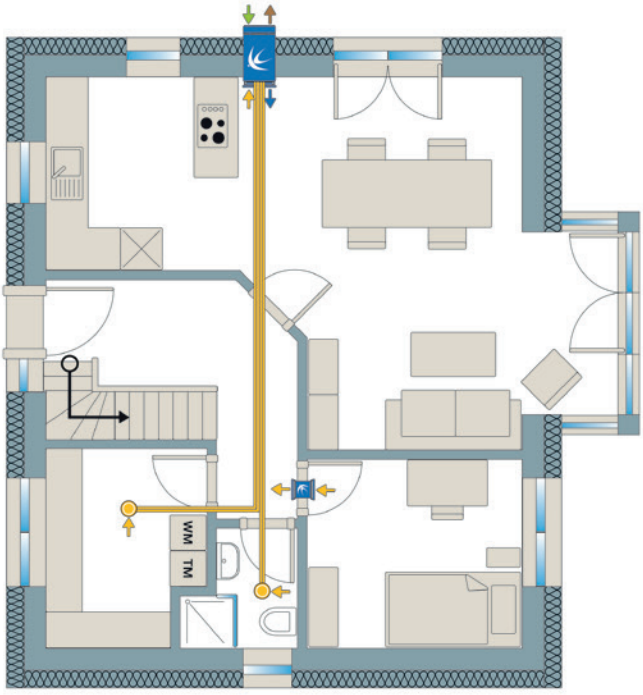
NEW!
The freeAir basic for large-scale projects.
Secure your price advantage now!

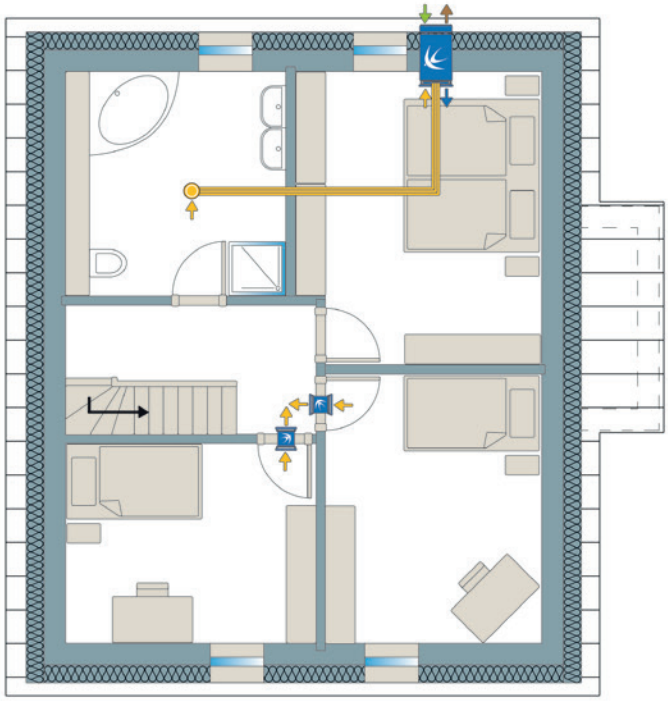
Detached house

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^{e} ventilation units
- 3 freeAir plus transfer units
- Premium cover used in the bedroom



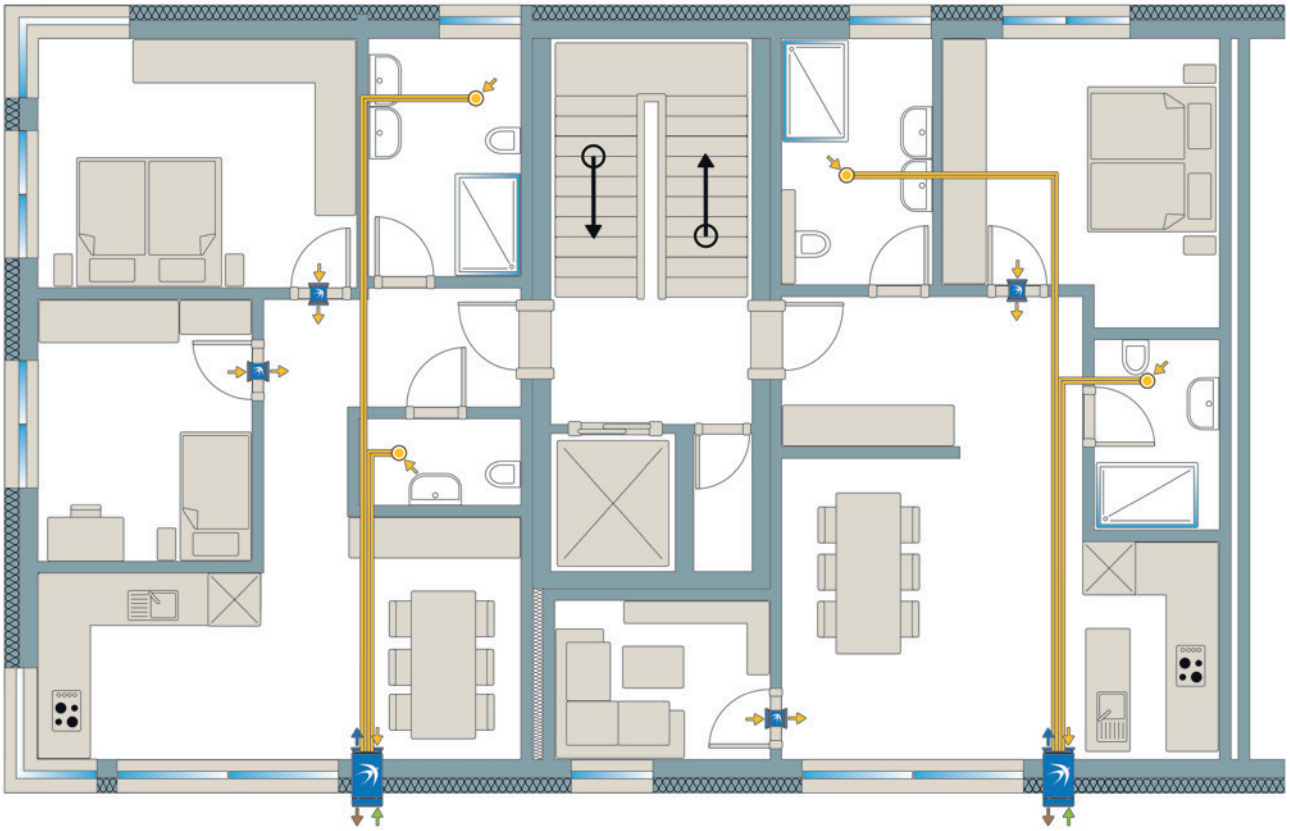


Apartment buildings

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 m^2 and 95 m^2
- 70 freeAir 100^e ventilation units
- 93 freeAir plus transfer units
- The bare brickwork sets are installed directly at the factory

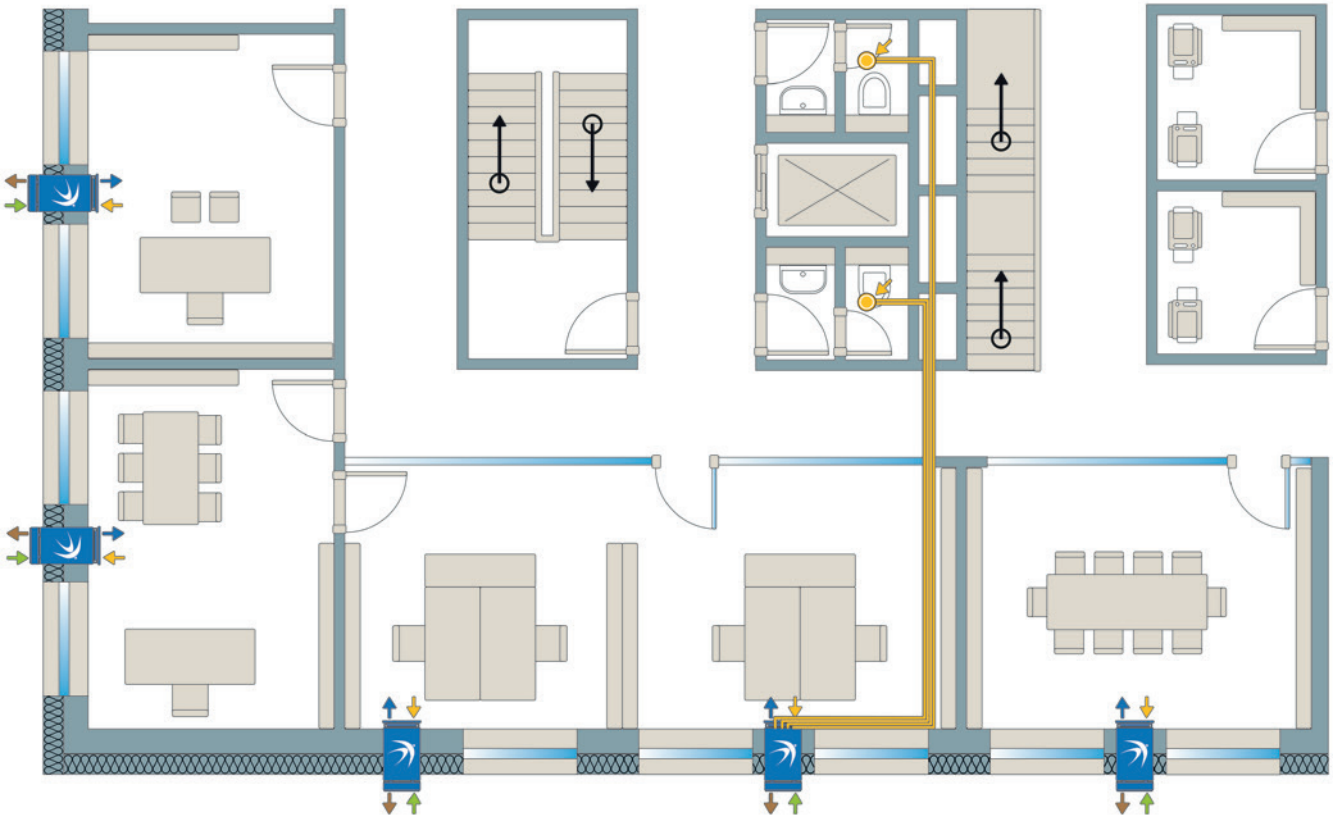


Office and commercial buildings

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

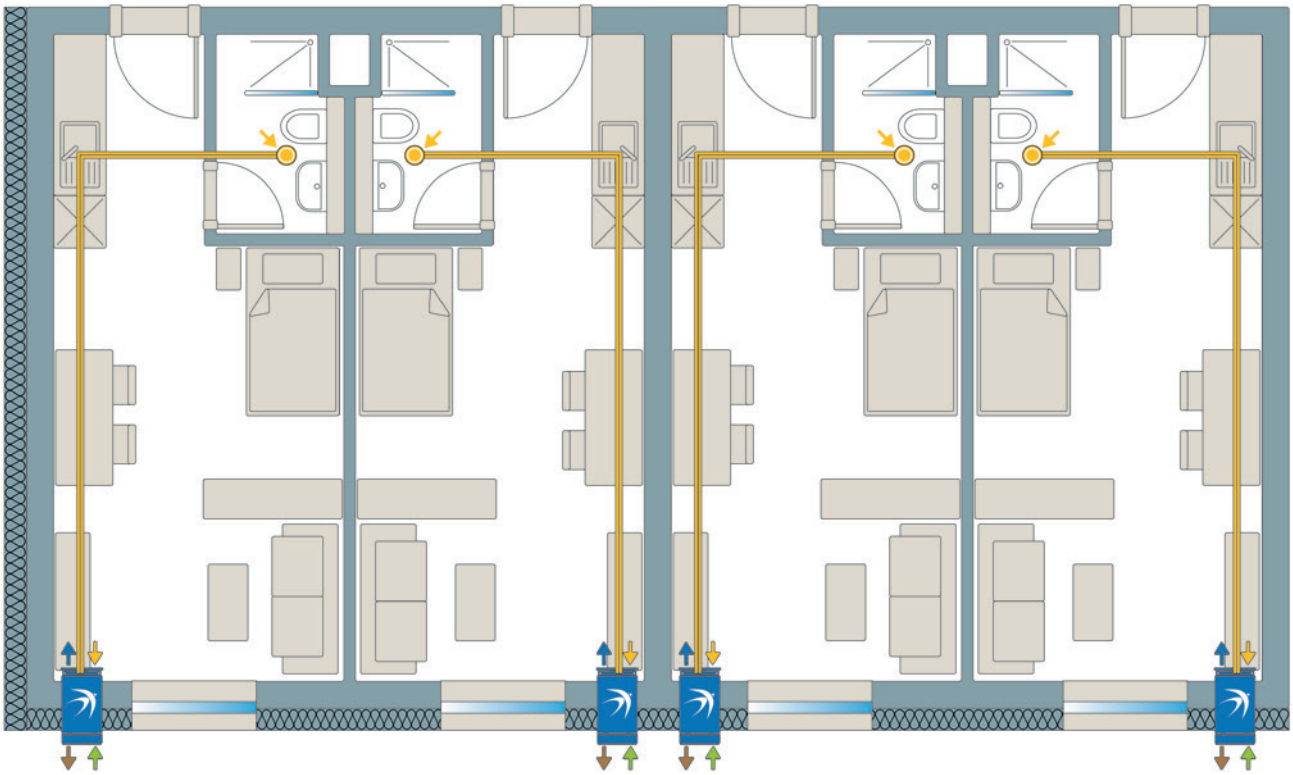


Residential homes and hotels

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 m^2 and 90 m^2 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.

Inara Suites: SHI project – building biology and sustainability

Inara Suites: interior view; freeAir 100+ transfer air element

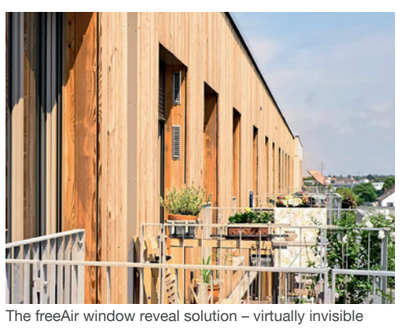
Modular construction: social housing in Schöppingen

Stay KoooK, hotel in Munich

Energy-efficient refurbishment with window reveal solution

Only a short exhaust air duct to the bathroom – done

OIKOS Mannheim, hybrid building – residential construction



The freeAir window reveal solution – virtually invisible

Single-family home with high-end requirements

Semi-detached house in timber construction

Hotel Pakasa in Leiden, refurbishment of a listed building

Interior view, Hotel Pakasa in Leiden

Technical data

freeAir 100^{e} (Aluminium HE – HHV / Enthalpy HE – ERV)

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	23 to 100 m^3/h
Temperature change rate	86 %, 84,6% (at 100 m^3/h and 2 °C) according to EN 13141-8 and EN 13141-7
Heat recovery	up to 91 % (at 50 % relative humidity)
Heat exchanger type	Cross-counterflow; aluminium, enthalpy
Supply voltage	125 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^3h, 0,25 W/m^3h (single room); 0.25 W/m^3h, 0,32 W/m^3h (multiple rooms)
Weight	10 kg
Sound pressure level in the room	20 m^3/h → 17 dB (A); 30 m^3/h → 22,5 dB (A);
(10 m^2 sound absorption area)	74 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, -9 °C outside
Temperature range	-40 to +50 °C outside and 0 to +40 °C inside
Filter - incoming air	Protect ePM10 (Pollen), Protect plus ePM1 (Allergy sufferers),
	or Protect carbon ePM10 (Activated carbon)
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 (applied for)
Optional connections	5 x 75 mm exhaust air; 2 x 75 mm + 51 mm x 138 mm flat duct for supply air

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	30 m^3/h → 13 dB (A); 50 m^3/h → 25 dB (A); 70 m^3/h → 37 dB (A)
(at a distance of 1 m)	
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 key features at a glance

- No supply air ducting
- Highly efficient counterflow heat exchanger with heat recovery of up to 91%
- Demand-controlled operation and humidity management with 8 sensors
- Approved for use as both a decentralised and a central ventilation system
- Flexible and individually adaptable for all construction types
- Optimal sound attenuation of up to 62 dB and extremely quiet operation
- Protection against fine dust, pollen and odours through effective filters (ePM10, ePM1)
- Automatic service emails, smartphone control and BUS system integration
- 5-year parts warranty
- Top energy efficiency rating A+ (with aluminium heat exchanger)
- Passive House certified component (with enthalpy heat exchanger)
- Made in Germany – all units are assembled in Wessling, Bavaria
- Proven low-emission materials, tested by the Sentinel Holding Institute
- QNG-READY, tested by the Sentinel Holding Institute

outstanding ventilation

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