

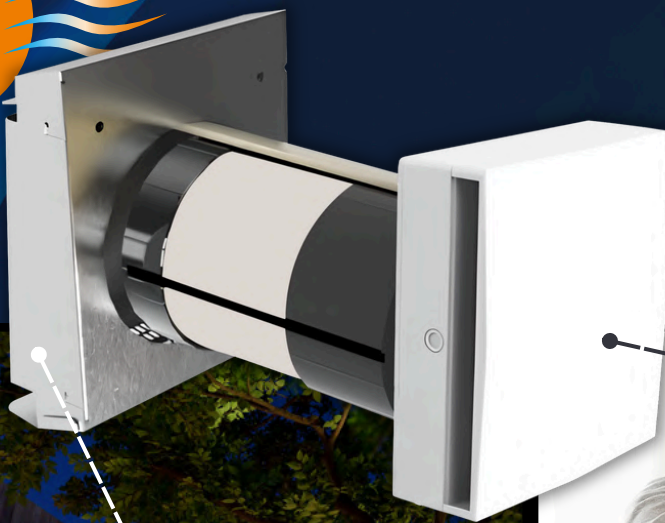


PASSIV ENERGIE

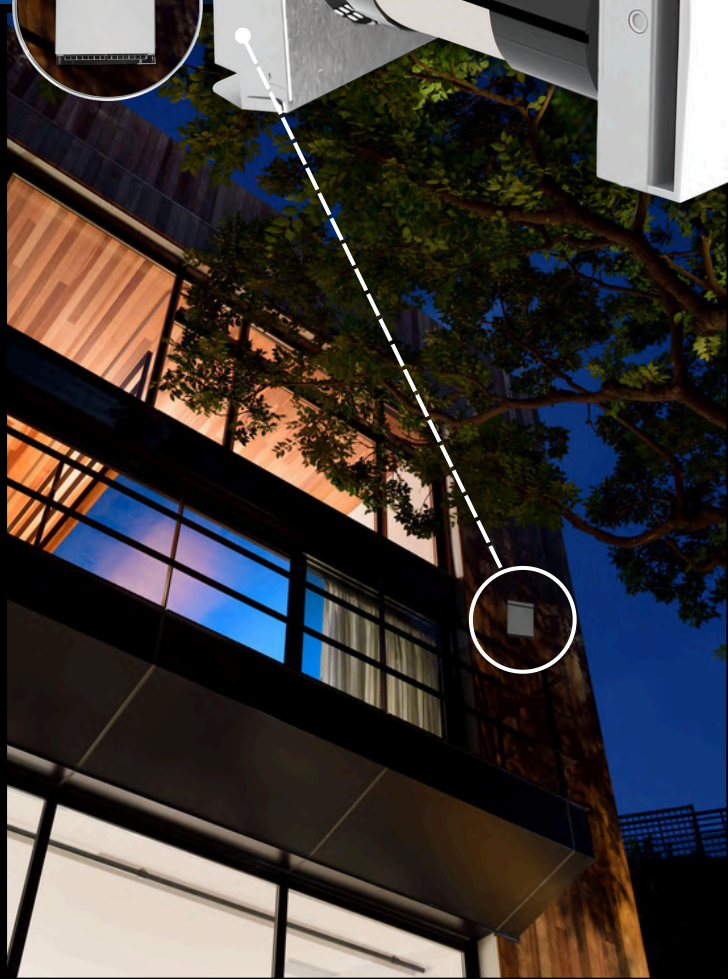
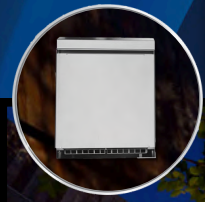
efficient home ventilation

COMPANY PROFILE

Heat Recovery
Efficiency up to
95%
Energy Saving



PREMIUM DUCTLESS HEAT RECOVERY VENTILATION SYSTEMS



*ISO Standard 9001:2015 QMS certificate

Over 15 years of experience in Heat Recovery Ventilation



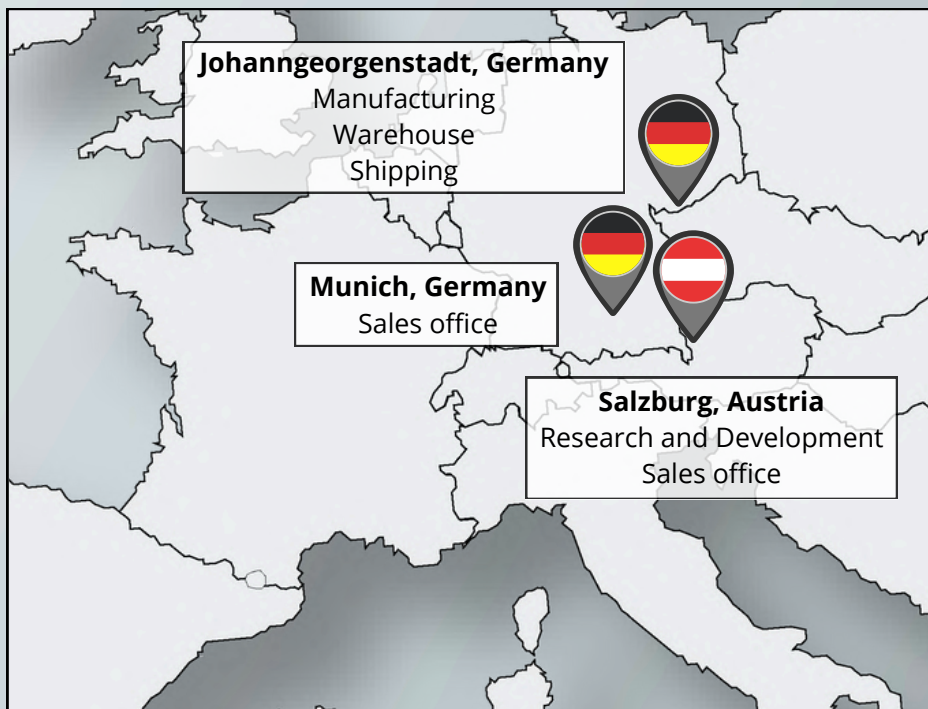
Established in 2009, **Passiv Energie** specializes in producing highly efficient ductless HRV Heat Recovery Ventilation systems with an impressive heat recovery rate of **95%**. Our headquarter is based in **Japan**, with sales offices in **Germany, Austria, and Spain**, allowing us to serve customers globally.

Our missions and values

At Passiv Energie, we are passionate about designing and manufacturing highly efficient HRV systems that not only **enhance comfort in living spaces but also contribute to reducing CO₂ emissions and heating costs**. By playing a crucial role in **mitigating environmental impact, our energy-efficient solutions benefit both homes and businesses**. With over 15 years of experience in the industry, we continue to innovate and set the standard in HRV technology. Additionally, we have been a **member of the KNX association since 2023**, leveraging its unified control features with our HRV systems for efficient building automation. Our commitment is to **contribute to a healthier environment, ensuring a sustainable and comfortable future** for both current and future generations.

Christian Deutinger: Founder of Passiv Energie

Christian Deutinger, a precision mechanical engineering graduate from the Technical University of Munich and later a graduate of the MOT Engineering Management Department at Shibaura Institute of Technology, brings extensive experience from major companies like Philips, Siemens, and Tokyo Electron. **He pioneered 'Passiv House' concepts in Germany and Japan, introducing the 'inVENTer' system for CO₂ reduction and comfort in 2009**. His company is now committed to making a global environmental impact through the development of cutting-edge HRV solutions.



Passiv Energie is one of the world's leading manufacturer of Heat Recovery Ventilation Systems

Our goal is to offer the best integration for each customer's house.

The best health & home environment control for every region and climate zone.

The most silent & energy-efficient solutions for everybody's home.

Ensuring a safe and sustainable life for our planet.



PASSIV ENERGIE'S CERTIFICATES

European patent of fan unit invention

European Patent Office
8000 MÜNCHEN
GERMANY

Deutscher, Christian
2-6-13, Kita Shinagawa, Shinagawa-ku
Tokyo, 140-0001
JAPAN

Title: FAN UNIT

Publication No. 18180040 0 - 1508

Designation as inventor - communication under Rule 19(2) EPC

DATE OF FILING : 27.06.18
PRIORITY : JP03.07.17/ JPA 2017130183
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TITLE : FAN UNIT

DESIGNATED STATES : AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LU LV MC MK MT NL NO PL PT RO RS SE SI SK TR

INVENTOR (PUBLISHED = 0), NOT PUBLISHED = 0:
Deutscher, Christian/2-6-13, Kita Shinagawa, Shinagawa-ku/Tokyo, 140-0001/JP

DECLARATION UNDER ARTICLE 81 EPC:
The applicant(s) has (have) acquired the right to the European patent

Receiving Section
MÜNCHEN

EPO form 1508 1/2018 page 1 of 1

Japanese patent of fan unit invention

特許証
CERTIFICATE OF PATENT
特許第5937811号
PATENT NUMBER

発明の名称 (TITLE OF THE INVENTION) 蓄熱エレメント及びそれを用いた換気ユニット

特許権者 (PATENTEE) 東京都品川区北品川三丁目6番13
パッシブエネルギージャパン株式会社

発明者 (INVENTOR) ドイティンガー クリスティアン

出願番号 (APPLICATION NUMBER) 特願2011-258415
出願日 (FILING DATE) 平成23年11月28日(November 28, 2011)
公開日 (PUBLICATION DATE) 平成29年03月30日(March 30, 2017)

この発明は、訂正すべき旨の決定又は審決が確定し、特許原簿に登録されたことを証する。
THIS IS TO CERTIFY THAT FOR THIS INVENTION, THE DECISION OF THE FINAL DECISION FOR CORRECTION IS FINAL AND PROSECUTION AND THE PROVISION IS NOWY REGISTERED AS A PATENT OF THE JAPANESE PATENT OFFICE.

平成29年03月30日(March 30, 2017)

特許庁長官 (COMMISSIONER, JAPAN PATENT OFFICE)
小宮義則 (Yoshinori Komiyama)

Passiv Energie Japan ISO9001 Certificate

AUDIX REGISTRARS Inc.

Certificate

Passiv Energie Japan Inc.
3-6-13, Kitashinagawa, Shinagawa-ku, Tokyo, Japan

This is to certify that the Quality Management System of the above organization has been assessed by AUDIX Registrars Inc., and found to be in conformity with requirements of:
ISO 9001:2015/JIS Q 9001:2015

Registered scope:
- Design and manufacture of ductless heat recovery ventilation system, and the technical support including residential ventilation planning
- Sales of energy-saving building materials

Registration No. Q8332
Date of Original Registration: 13 Jun. 2019 Date of Issue: 21 Mar. 2022
Date of Current Registration: 21 Mar. 2022 Issued No. 1
Registration Expiry Date: 12 Jun. 2025

Note: Re-certification / Scope change
*Due to the state of the emergency (COVID-19), the previous registration date was temporarily extended from January 12, 2022 to March 31, 2022.

AUDIX Registrars Inc.
1-6-2, Araki, Nakano-ku, Tokyo Japan
Yoshihiko Seto
Toshiko Seto President and CEO

Japan Builders Network Certificate

全国工務店協会
JBN
Japan Builders Network

会員証
一般社団法人 JBN・全国工務店協会の
会員であることを証明します

商号又は名称 パッシブエネルギージャパン株式会社
会員種別 関連事業者会員
登録番号 9203-3578
登録有効期限 2019年4月1日～2020年3月31日

一般社団法人 JBN・全国工務店協会
会長 大野 年司

Passiv Energie Ductless Heat Recovery Ventilation (HRV) Systems Principle

1. Air Exhaust

In winter, used indoor air is exhausted outside while the heat is stored in the ceramic heat storage element.

In summer, cooled indoor air is stored in the ceramic storage element while the used air is exhausted outside.



2. Air Supply

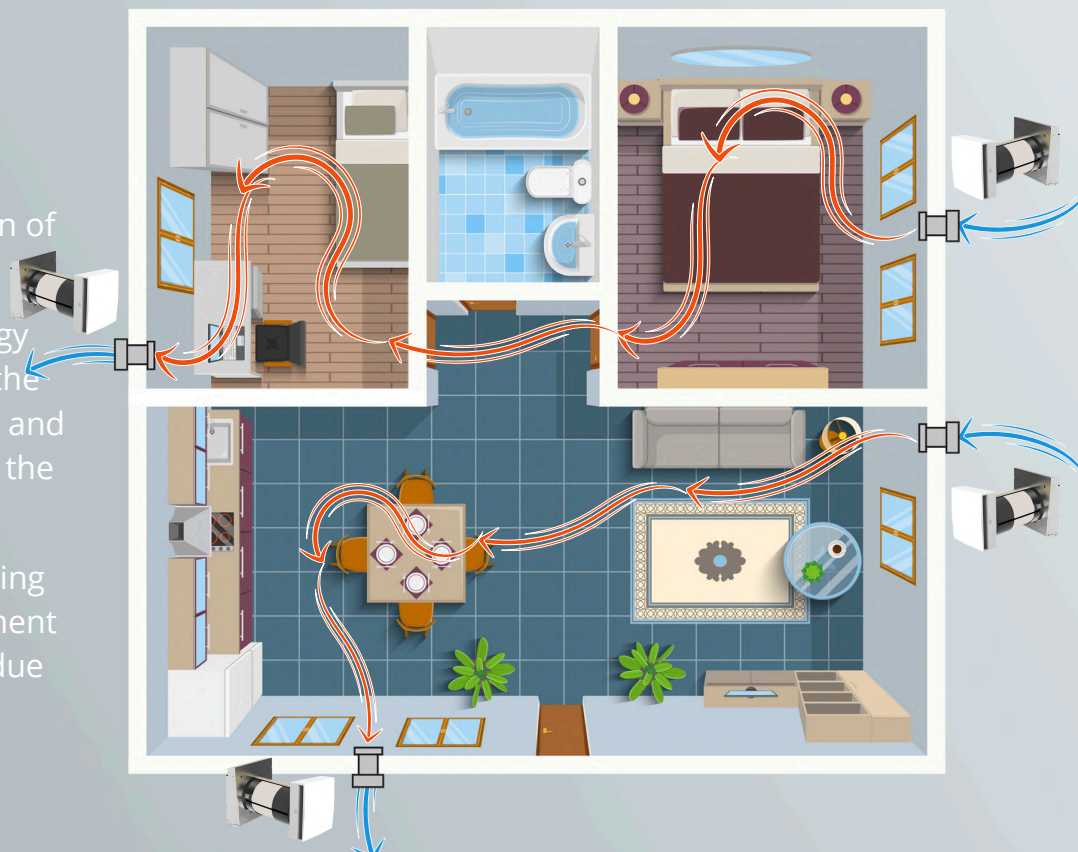
In winter, as cold air passes through our HRV systems, heat is transferred from the ceramic heat storage element, resulting in a comfortably warm air inflow.

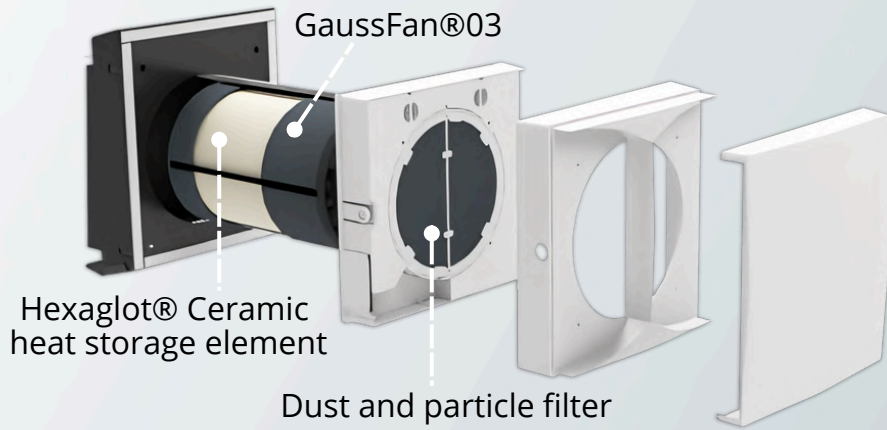
In summer, the heat storage element cools down the incoming hot and moist summer air, maintaining both room temperature and humidity at comfortable levels.

Our ductless heat recovery ventilation system alternates between air exhaust and air supply every 60 seconds by changing the rotation direction of the fan.

During exhaust, thermal energy and moisture are retained in the ceramic heat storage element and then, released indoors during the air supply operation.

Additionally, the ease of cleaning the ceramic heat storage element prevents efficiency decrease due to clogging, ensuring a stable inflow of fresh air.





- "HEXAGLOT®" Ceramic heat storage
- IP68 Waterproof "GaussFan®03"
- Dust and harmful particle **Filter**

These three elements represent **the core** of our ductless HRV systems ensuring a comfortable indoor living environment



Easy maintenance



Our HRV systems are designed for easy maintenance. The ventilation unit can be easily removed from its sleeve. Both the **ceramic element** and the **fan** are **waterproof** and dishwasher-safe.

HEXAGLOT® CERAMIC HEAT STORAGE ELEMENT

Hexagonal Ceramic Honeycomb shape

Our "HEXAGLOT®" heat storage element is made from **high-quality oxidized ceramics (Al₂O₃-SiO₂)** and achieves a **heat recovery efficiency of up to 95%*** (*certified according to DIN EN 13141-8, 2023-06)



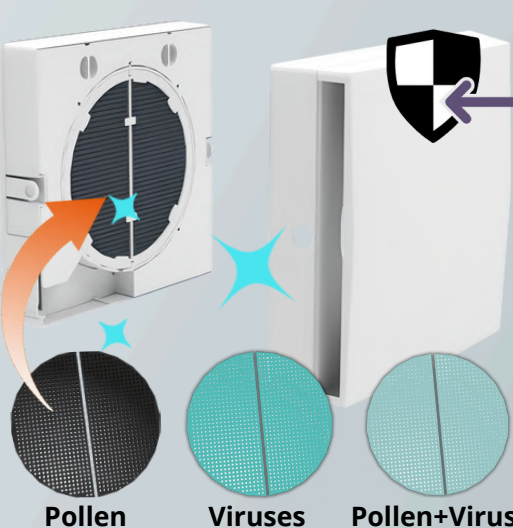
- Increased Heat Recovery Rate
- Increased Surface Area
- Decreased Air Resistance

passiv Gauß Fan^{GF-}03

- 1 Power consumption — → **max 1.6W/h!**
 - 2 Annual cost — → (0.42€/kWh) **5.89€/unit!**
 - 3 Air volume — → **80m³/h!**
 - 4 Low noise — → (Fan speed 1) **9.2dB(A)!**
- Fan speed 1: 9.2db/A | 2: 18.7db/A | 3: 34.9db/A | 4: 42.4db/A

GAUSSFAN®03 BLDC MOTOR FAN

Our "Gaussfan®03" operates with an **independently developed DC motor** providing high-performance with **minimal energy consumption**, combined with **IP68 waterproofing** and **low noise operation**



DUST AND PARTICLE FILTER

Removes over 99% of harmful particles

Examples of catchable particles

- Dust
- Pollen
- PM2.5
- Mite
- Pet hair
- Mold spores

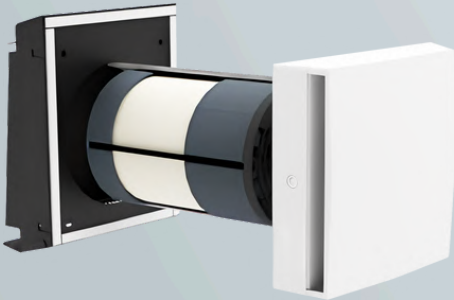


Our filters have a two-layer structure designed to **catch outdoor dust, pollen and other harmful particles** with an over **99% efficiency** providing a **two-step air purification process**

Premium Ductless HRV Hokkaido and Sesaragi Series

Passiv Energie is proud to introduce our **Premium Quality Ductless Heat Recovery Ventilation Systems**. At the forefront of energy-efficient air exchange, our range of ventilation solutions ensures a harmonious balance between comfort and sustainability. Our **Hokkaido® series** and our **Sesaragi® series** are meticulously designed to cater to diverse needs, guaranteeing that **you will find the perfect model tailored to your unique requirements**.

HRV Hokkaido® & Sesaragi® Series



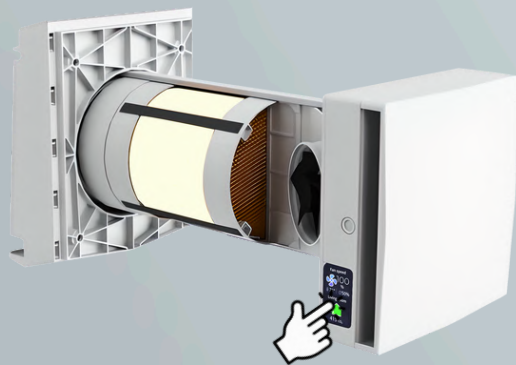
HOKKAIDO 400 Our standard reliable HRV choice

- **Energy class A+:** Heat Recovery Efficiency up to **93%*** (*certified according to DIN EN 13141-8, 2023-06)
- **Low power consumption:** **1.6W/h** (5.89€/unit/year)
- **Cost-effective installation** for new and existing structures
- **Large airflow** up to **80m³/h**
- **Improved indoor air quality:** CO₂, humidity, & odor reduction
- **Quiet operation:** **9 dB(A)** at fan speed level 1
- **KNX IoT compatibility** easy control & building automation

HOKKAIDO 300 Touch Panel and Smart-app control

All the benefits of the HK400, enhanced with an integrated **touch panel** and dedicated **"Venti-App"** for **remote control with your smartphone** (IOS/Android).

(Heat recovery efficiency up to 93%)



HOKKAIDO 500 Dual-fan system

A dual-fan, single-room ventilation system **meticulously crafted for smaller spaces**. (Heat Recovery efficiency 93%)

- **Dual fan system:** Air exhaust and supply all in one unit. Perfect for retrofitting in small rooms (15 m²)
- Integrated Touch Panel & "Venti-App" remote control

SESERAGI S400 For Japanese houses

This model includes all the benefits of the HK400 and is specially tailored for Japanese buildings and houses.

(Heat recovery efficiency up to 93%)



SESERAGI REFORM KR100 100φ pipe size

For both renovation and new houses. It can be installed on existing Type 3 ventilation supply vents (100φ size).

- **Heat Recovery Efficiency up to 95%**
- Very low power consumption: **1.2W/h**
- Integrated Touch Panel & "Venti-App" remote control

Outdoor cover — NWC & KK2 models



Our outdoor covers are crafted from **stainless steel** and ensure year-round **protection** for your HRV system **against all weather conditions**



White Plastic



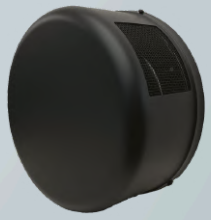
Silver Stainless



Matte black Stainless

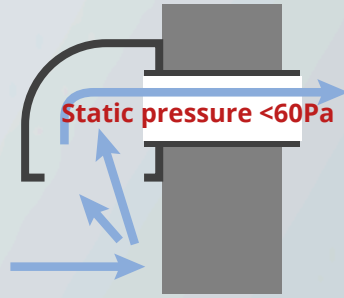


Silver Stainless



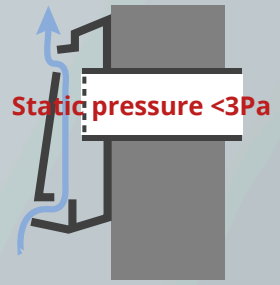
Matte black Stainless

Most common outside covers are closed at the top, which prevents air from escaping. Therefore, when strong winds blow in, the static pressure inside the pipe increases, causing not only cold air, but also loud wind noise and dust particles to enter the room.



Common outside cover

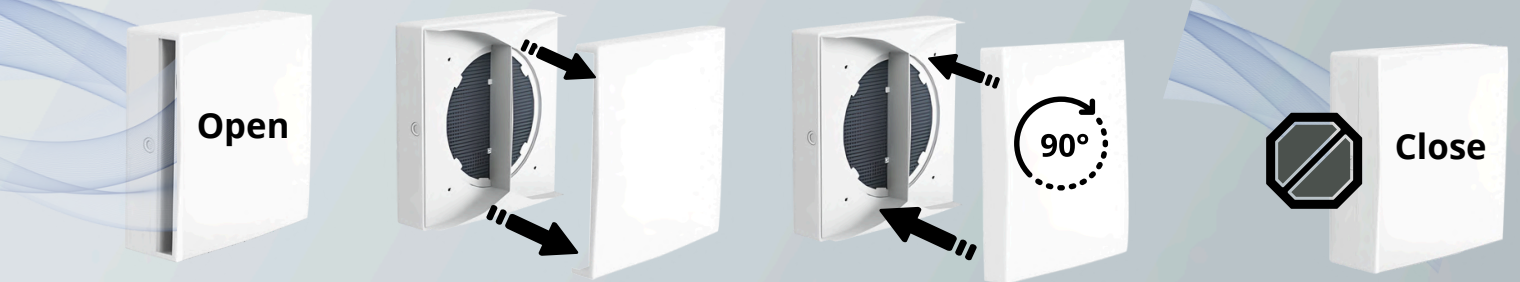
Our outside covers have a unique structure with an opening at the top to allow air to escape through it even in gusty winds. It also prevents air and dust from entering the room.



Passiv Energie cover

Indoor cover — Intelligent design

Our indoor cover is designed to prevent wind from entering the house during severe weather conditions such as typhoons by easily rotating it by 90 degrees.



Discover our Innovative HRV System Controls

SmartApp-enabled Remote Control



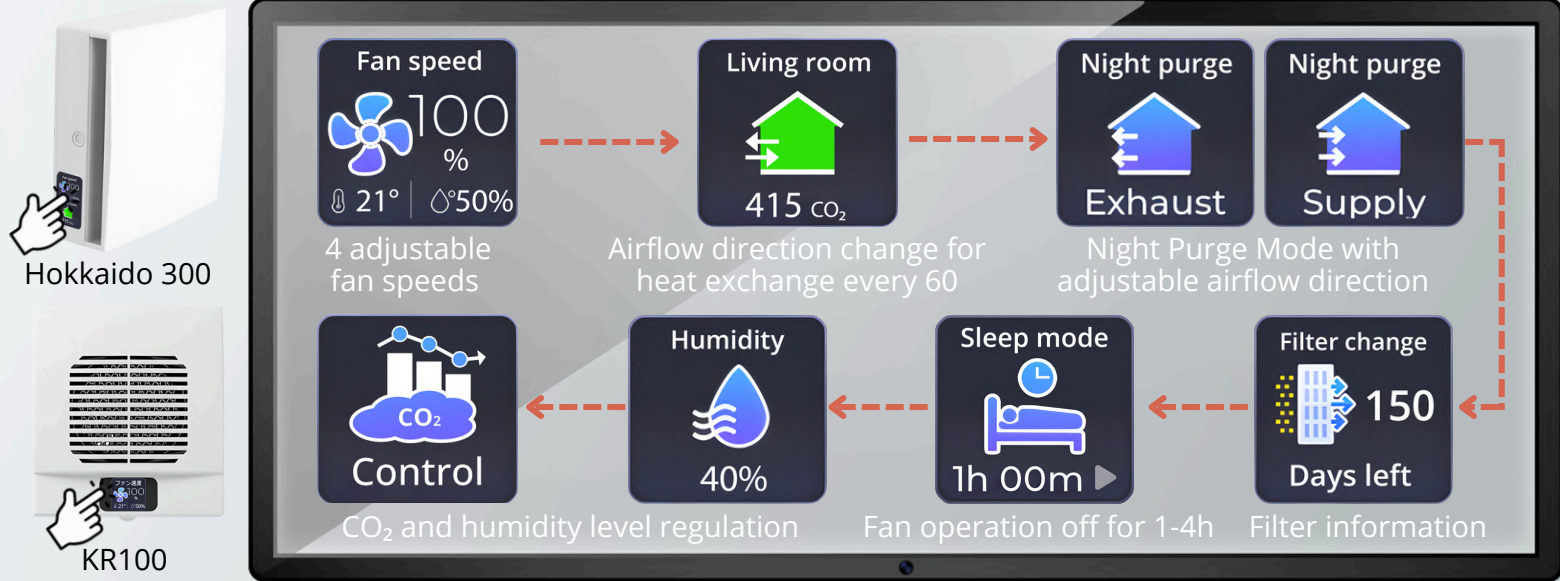
- Individual or group control of all fan units
- Customizable fan operation schedule
- Various operation modes and adjustable fan speed
- Temperature, CO₂ and humidity live indicator
- Data records for temperature, CO₂ and humidity
- Filter replacement day indicator

Have full control over your HRV System from wherever you are with our Venti-App!



Direct Control with integrated Touch Panel*

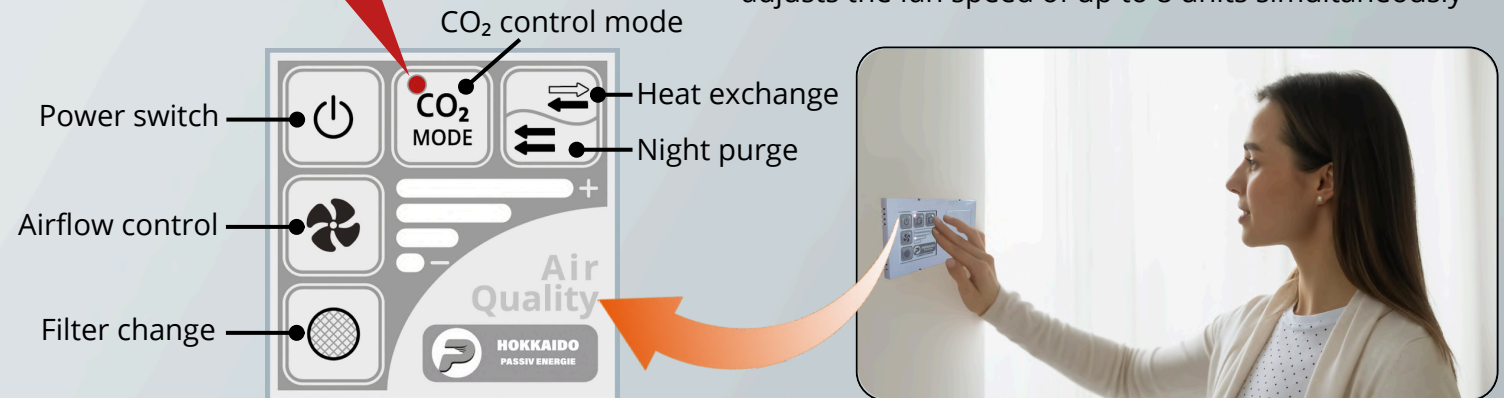
(*depends on the model)



VMPX Wall Mount Control Panel: Control up to 8 HRV units

LED color indicates the CO₂ level

Our VMPX Controller with integrated sensors constantly monitors indoor CO₂ and humidity levels and automatically adjusts the fan speed of up to 8 units simultaneously

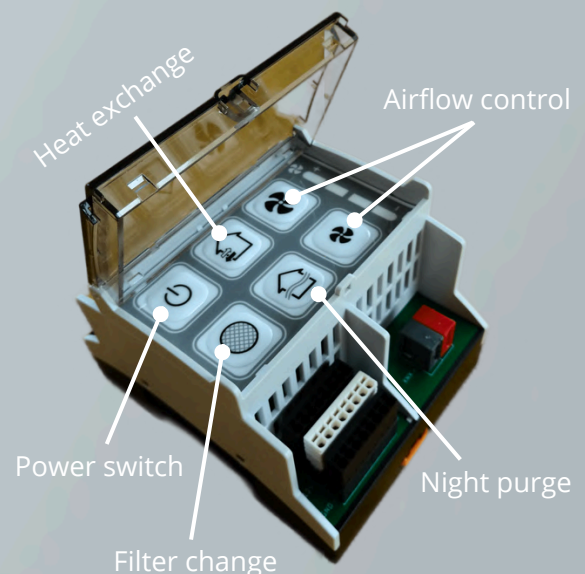


KNX Connectivity — VMPX-UV8 Controller

Advanced HRV Controller for Smart Ventilation Management using KNX connectivity

The VMPX-UV8/KNX version serves as a controller for managing up to 8 HRV units and establishing communication with other devices in the KNX bus system. It receives commands from KNX controllers or other devices via the KNX bus, translating them into physical actions such as switching the Hokkaido fan on and off or adjusting the fan speed.

Room sensors, including humidity, temperature, or CO₂ sensors, are connected to the controller through the KNX bus. Tailored to individual preferences, specific values can be programmed for a particular room. These sensors then transmit signals to the controller upon reaching set threshold values, which in turn regulates or controls the fan accordingly.



Control up to 8 HRV units



Passiv Energie customers' voices



"In December, the temperature remained constant in the range of 21~22°C with 50~60% humidity, and even bare feet felt comfortable. All rooms, not only the living room, maintained the same temperature. Previously, each room had to be closed, but now we can leave all doors open, and the whole house feels more spacious. Before, I couldn't go without a heated rug this time of year, but now I don't feel cold." (Family "K" in Saitama, Japan)

**Extreme cold or hot weather environments do not matter for our HRV systems!
Enjoy quality and comfortable indoor living everywhere!**

Fresh air even in hot subtropical environment

"The Okinawa prefecture, where our house is located, has a very hot and humid subtropical climate. Due to these conditions, we conducted research to determine which ventilation system would be suitable for housing in Okinawa. Thanks to its high heat recovery rate, we found that the Seseragi ventilation system would be a good match for these climate conditions. Therefore, we decided to install it, and we are very satisfied with the results." (Family "M" in Okinawa, Japan)



Save heating costs even in bitter cold!

"We were introduced to Seseragi® by a contractor, and the high heat recovery rate was a deciding factor for us. After the installation, we were impressed by the quiet operation and the fact that the temperature inside the room does not change significantly. It's clearly different from our previous home. The entire house maintains its warmth even in harsh winter conditions." (Family "T" in Hokkaido, Japan)

Further customer reviews



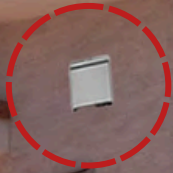
"Last winter I turned on the heating for barely an hour. Still, the room temperature remained comfortable"

"I always had to rely on a heated rug during winter. Now I'm happy without it"

"Room temperatures are kept at a constant level and I can feel no difference between the rooms"

"There are no complicated ducts or cabling, so maintenance is as easy as it gets"

"I definitely recommend trying it out. Easy to install and absolutely silent during operation"



Miyazaki, Japan, Family "H"



Hyōgo, Japan, Family "Y"

10 Reasons to Choose Passiv Energie Ductless HRV Systems

- **Energy class A+ & high heat recovery efficiency up to 95%**

The integrated ceramic heat storage element has the industry's highest heat recovery rate of 95%, which allows to preserve heating energy and significantly reduce heating costs.

- **Excellent cost-performance ratio**

Thanks to its extremely low power consumption of 1.6W/h per unit (1.2W/h for the KR100), our HRV systems can be operated with minimal impact on the annual electricity bill.

- **Whisper-quiet performance**

The HRV Hokkaido is designed with a double ball bearing for the fan, ensuring that during operation depending on the baseline noise level, it is barely audible to not audible at all. This way, it remains unnoticeable in everyday living. (9.2 db(A) at speed fan level 1)

- **Ductless design**

Unlike conventional ventilation systems, our system does not require the installation of ducts or indoor units. Unit placement can be decided freely, and the design allows the unit to seamlessly integrate into its surroundings.

- **Hastle-free maintenance**

Our ceramic heat storage element and fan unit are easily removable, allowing for manual cleaning or dishwasher use during the recommended annual maintenance. There's no need to hire maintenance contractors for this task.

- **Automatic air flow adjustment with CO₂ sensor**

The optional VMPX-AQ controller comes with a CO₂ sensor. It monitors the CO₂ concentration in the indoor air. When necessary, the HRV Hokkaido increases the fan speed, achieving a higher circulating air exchange rate.

- **Humidity control with humidity sensor**

With the optional use of the VMPX-NH controller, indoor air humidity is maintained at a stable level of 40 to 60% rH, which is particularly beneficial for sensitive individuals such as asthmatics during the heating season and helps prevent harmful mold formation.

- **Our Filters remove over 99% of harmful particles**

Optional filters offering antivirus, pollen, and dust protection help ensure optimal living conditions. Our filters have an efficiency rate of over 99% for removing harmful particles.

- **3 different ways to control your HRV units**

Have full control of all your HRV units with the 'Venti-App' remote for smartphones, the VMPX wall mount control panel, and the integrated touch panel (available on select models).

- **Free extended warranty**

The standard warranty is valid for 1 year (special regulations for EU countries). Passiv Energie offers an additional year of warranty free of charge to every user. The warranty period can be extended to 3 years for the main unit and 10 years for the ceramic heat storage element.

Passiv Energie GmbH

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