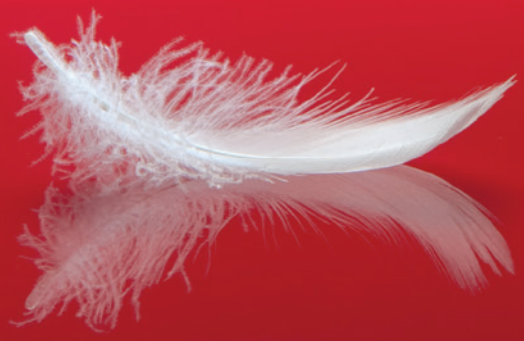
REFERENCES PKOM^4



PICHLER

Systematic ventilation.

REFERENCE OVERVIEW

OBJECT OF THE MONTH

BIOBASED HOUSE, NETHERLANDS

Residential living will always be changing and developing with the times. Apart from architectural considerations, the total energy balance is of increasing importance. Legislators, ongoing development of building materials and the quality of construction are consistently raising the standard of residential construction, thereby reducing energy consumption.

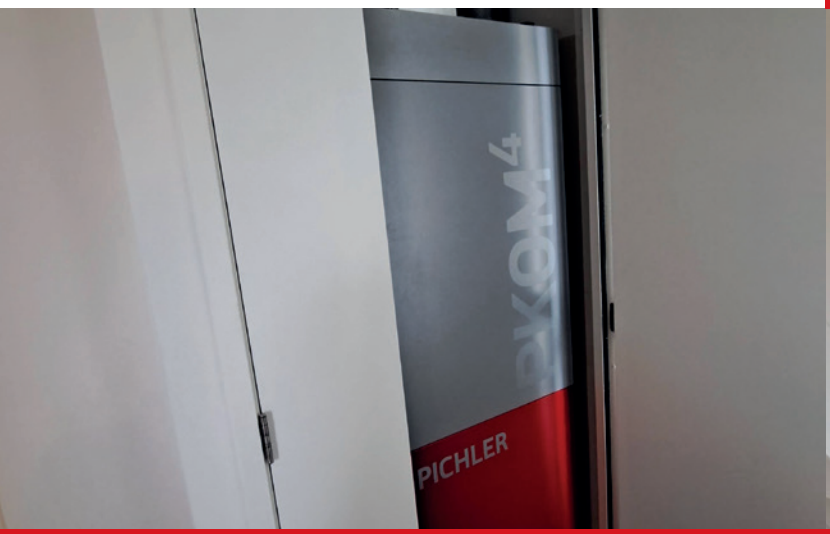
As an example of this, a modular bio-based house was built in the Netherlands. The house stores more CO_2 than it emits!
A central element in such a sustainable object is of course the ventilation system. That's why the heat pump combi unit PKOM⁴ was used. The building technology is compactly packaged in a combi unit that is also responsible for ventilating, heating, cooling and hot water preparation. The PKOM⁴ heat pump combi unit with patented two-circuit heat pump system unites these four functions on a footprint of less than 0.75 m². It achieves the best efficiency values thanks to its innovative and patented heat pump technology (air heat pump) and its sophisticated heat recovery. The system is easily set and controlled at the push of a button.

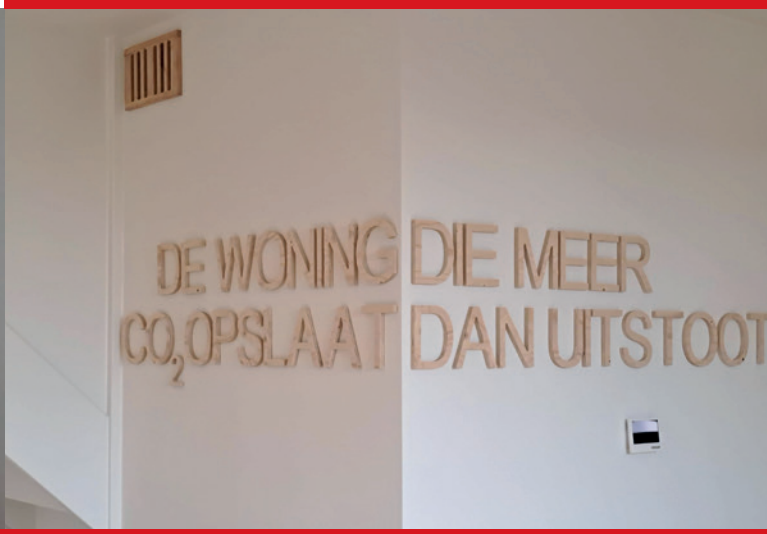
DATA & FACTS

Location:	Netherlands
Completion:	2023
Type of building:	Modular biobased house
Building technology:	Climavent bvba
Products:	Heat pump combi unit PKOM⁴, Air distribution system

Product groups:

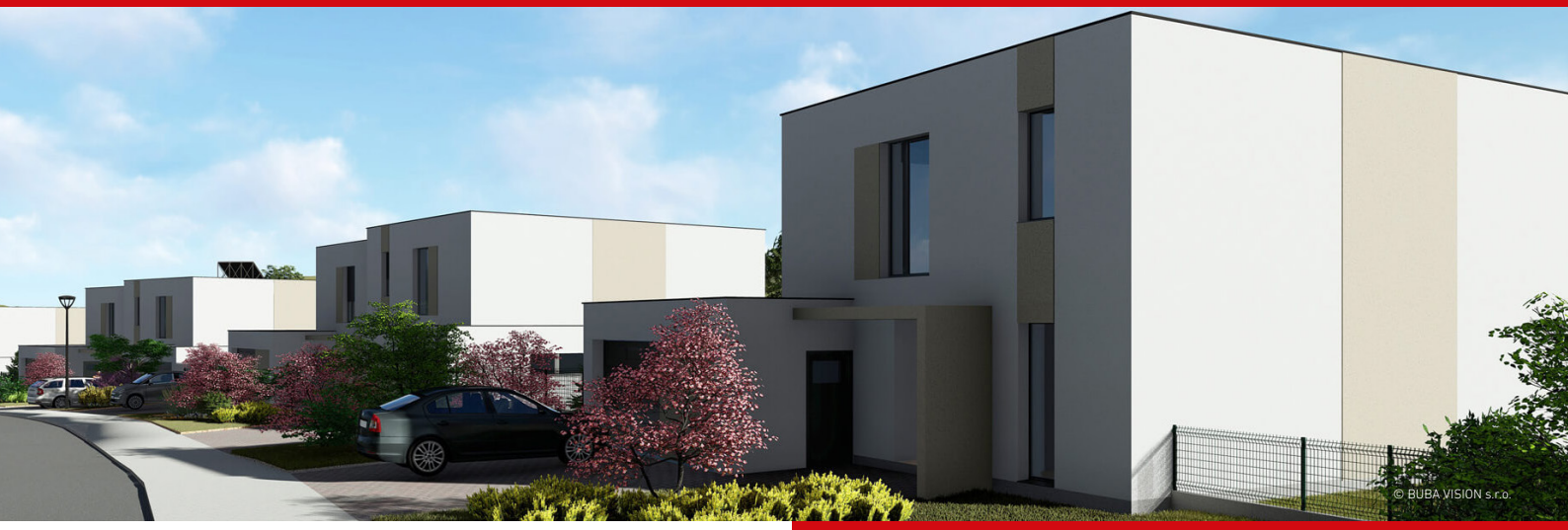
AIR CONDUCTION | AIR DISTRIBUTION | COMFORT VENTILATION





PICHLER
Systematic ventilation.

OBJECT OF THE MONTH



SUNNY ALLEY, CZECH REPUBLIC

The aim of the „Sunny Alley" project from BUBA VISION was to build family houses that are energy efficient in terms of operating costs and also user friendly in terms of the environment, control and management of technologies in the house. PICHLER PKOM⁴ units were involved in the houses by Evora CZ.

Each unit provides the houses with heat recovery ventilation, space heating and cooling together with domestic hot water. A central air humidifier allows for regulation of humidity in the houses to achieve the optimum level based on users needs. This option is particularly appreciated by allergy sufferers and all fresh air lovers.

The family houses are located on the very edge of the village of Chýně, with a convenient location both to the center of the capital city of Prague and to Václav Havel Airport. The drive to the Prague ring road, as well as to the Pilsen exit, is less than ten minutes by car from the houses, which allows a comfortable drive to both the center of Prague on the motorway network.

DATA & FACTS

Location:	Czech Republic
Completion:	2020
Type of building:	family houses
Architect:	Ing. Petr Mareček
Building technology:	Evora CZ, s.r.o.
Products:	Heat pump combi units PKOM⁴

Product groups:

COMFORT VENTILATION

PICHLER
Systematic ventilation.

OBJECT OF THE MONTH

LOW-ENERGY HOUSE, CARINTHIA

In 2018 the first phase of the innovative construction project was completed, the centrepiece of the low-energy house being the compact heat pump combi unit PKOM⁴ from Austrian research and production. It unites all four functions (heating-cooling-ventilation-hot water) on a footprint of less than 0.75 m². The controlled ventilation permanently supplies the rooms of the single-family house with fresh and filtered air from the outside and ensures the hygienic exchange of air. With its smart functions the PKOM⁴ can furthermore be easily combined with renewable energy like that of a photovoltaic system and a storage battery.

The next expansion level of the construction project towards an even more energy-efficient overall system is therefore already being planned. It's about retrofitting the energy management system designed by Pichler with the objective of making the low-energy house independent and secure. Therefore the housing technology system with the PKOM⁴ constitutes an innovative system solution that makes a substantial contribution to climate and environmental protection.

DATA & FACTS

Location:	Carinthia
Completion:	2020
Type of building:	Low-energy house
Heating demand (for heating, cooling, hot water, ventilation):	11,9 kWh/(m²a)
Energy reference area:	122 m²
Overall power consumption:	6.221 kWh/year
Energy demand (for heating, cooling, hot water, ventilation):	11,9 kWh/m²
Power generation:	7.495 kWh/year
Products:	Heat pump combi unit PKOM⁴

Product groups:

COMFORT VENTILATION

PICHLER
Systematic ventilation.

09/2020

OBJECT OF THE MONTH

PASSIVE HOUSE, CZECH REPUBLIC

Although it doesn't look like it, this single-family house is a new building. It is a typical example showing that a passive house can take many forms. The passive house of aerated concrete seems to have been standing in this region for a hundred years, and yet this newly constructed classical building is the core element of modern spirit, and, due to its compactness, it does not need any greater technological achievements really. The heat pump combination unit PKOM^4, however, is essential for the passive house and is used as the main source of ventilation, heating, cooling and hot water preparation – it provides for a perfect room climate in a sustainable and highly efficient fashion.

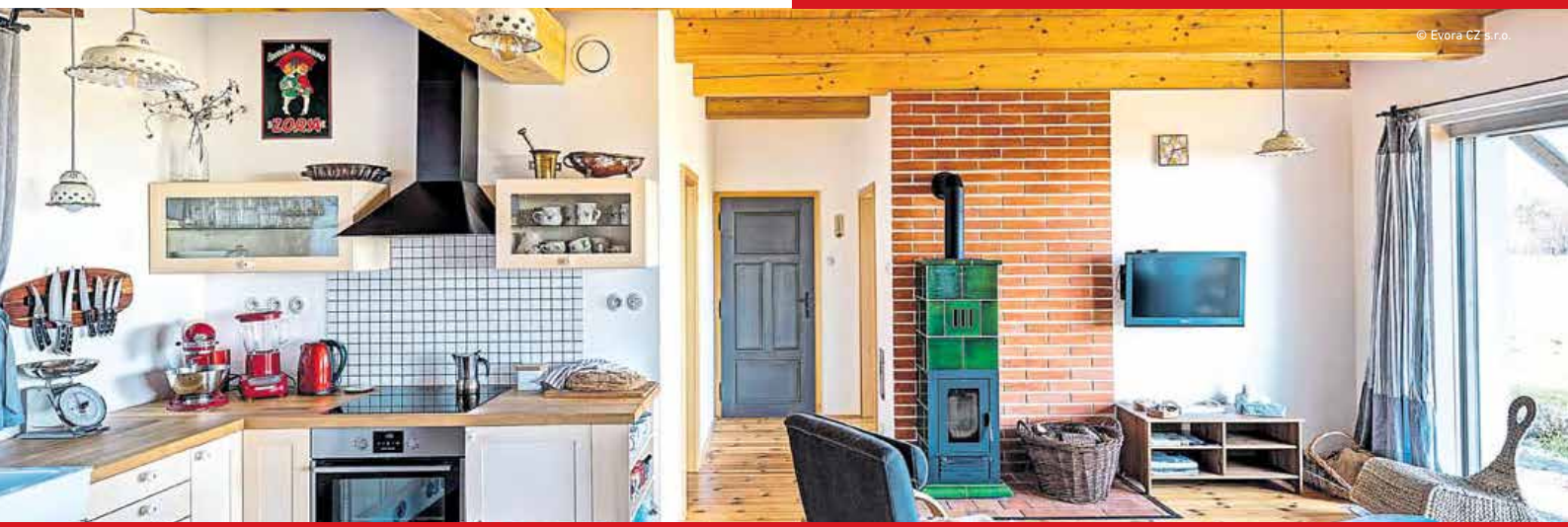
This model example won the „Passive House 2018" price, which shows that a traditional country house including its traditional facade construction can also be implemented in the passive house standard.

DATA & FACTS

Location:	Czech Republic
Completion:	2018
Type of building:	Single family house
Architect:	ATELIÉR ELAM – Ing. arch. Mojmír Hudec
Building technology:	Evora CZ s.r.o.
Products:	Heat pump combi unit PKOM^4

Product groups**:**

COMFORT VENTILATION



OBJECT OF THE MONTH

SINGLE FAMILY HOUSE, SLOVAKIA

Residential living will always be changing and developing with the times. Apart from architectural considerations, the total energy balance is of increasing importance. Legislators, ongoing development of building materials and the quality of construction are consistently raising the standard, thereby reducing energy consumption.

Whether Passive House, EnerPHit or Near Zero Energy Building – ventilation of the living quarters is deemed essential and at the core of single family house design. Extension of the functionalities of a ventilation unit to include heating, cooling and hot water supply is a natural consequence!

Ventilating – heating – cooling – hot water
The PKOM⁴ heat pump combi unit unites these four functions on a footprint of less than 0.75 m² in the modern single family home.

DATA & FACTS

Location:	Slovakia
Completion:	2019
Type of building:	Single family home
Architect:	Createrra s.r.o.
Products:	Heat pump combi unit PKOM⁴

Product groups:

AIR CONDUCTION | AIR DISTRIBUTION | COMFORT VENTILATION

PICHLER
Systematic ventilation.

OBJECT OF THE MONTH

SIEGER 2018
KATEGORIE WOHNEN/NEUBAU
FIABCI PRIX
D'EXCELLENCE AUSTRIA

© F2 Architekten ZT GmbH

POPUP DORMS ASPERN, VIENNA

Mobile hall of residence for students: The "PopUp – GreenFlexStudios" hall of residence for 40 students in the Aspern "lakeside town" was built within a construction period of only one week - so short that it was likely to break world records. Its high degree of pre-fabrication is a mark of how quickly and economically construction can be done, at the same time maintaining a high passive house energy standard. Furthermore this flexible pioneer project serves to save a considerable part of the expensive property costs.

The highly energy-efficient passive house guarantees that the residents benefit from the low operating costs from the first day onwards - while at the same time providing high living comfort and excellent air quality thanks to the comfort ventilation from PICHLER. Ventilating – heating – cooling – hot water. The PKOM⁴ heat pump combi unit combines all four functions on a floor space of less than 0.75 m². Compact and efficient. 10 PKOM⁴ heat pump combi units permanently supply the rooms with fresh and filtered air from the outside and ensure the hygienic exchange of air.

DATA & FACTS

Location:	Vienna
Completion:	2015
Type of building:	passive house
Architecture:	F2 Architekten ZT GmbH
Building technology:	Obermayr Holzkonstruktionen GmbH
Products:	heat pump combi units PKOM⁴, sound absorbers, spiral ducts, fittings, valves, fire protection

Product groups:

AIR CONDUCTION · AIR DISTRIBUTION · COMFORT VENTILATION · FIRE PROTECTION SMOKE AND HEAT CONTROL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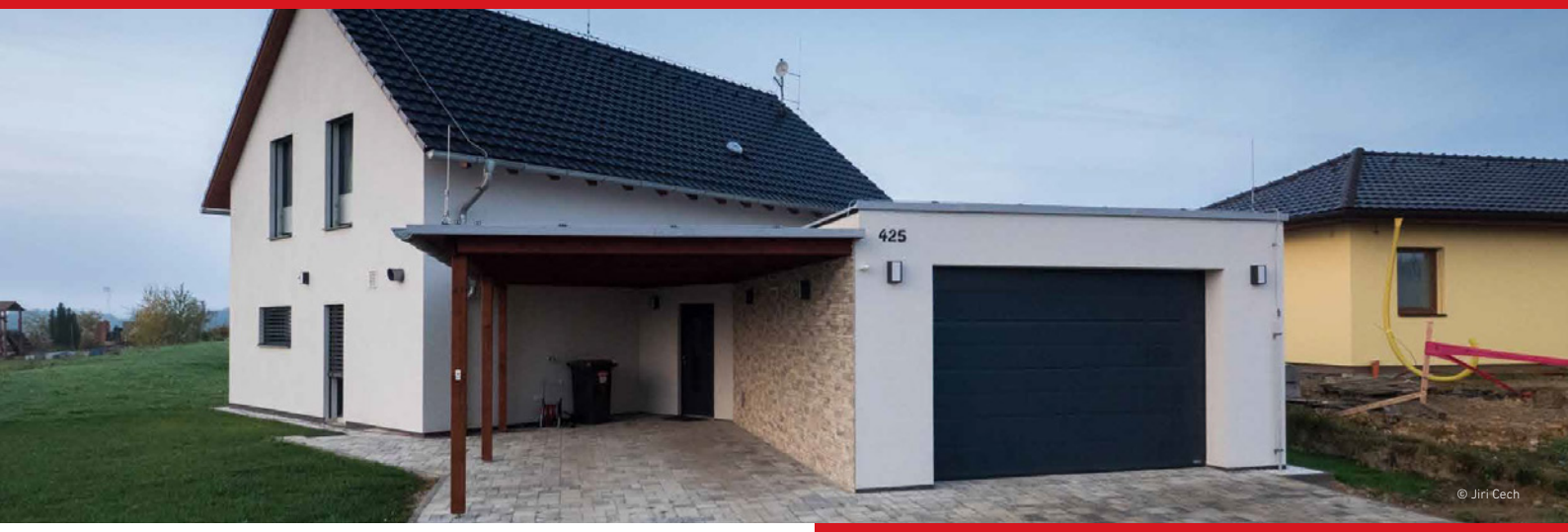
PICHLER
Systematic ventilation.

OBJECT OF THE MONTH



© Jiri Cech

Single family house Czechia

Classical single family house built in pleasant cooperation of investor, designer (Jiri Cech) and craftspersons (Pro-mart and Evora CZ, s.r.o.).

It combines a classical saddle roof with a modern look and integrates a building automation system to improve the comfort of living and decrease energy requirements.

Ventilating, heating, cooling and hot water in such a well insulated and PHI-certified building were a central point of concern. The PKOM⁴ heat pump combi unit unites these four functions on a footprint of less than 0.75 m². Controlled ventilation of living rooms constantly ensures fresh and filtered outside air in the rooms of the single family house and ensures hygienic exchange of air.

Certified Passive House
Passive House Institute

DATA & FACTS

Location:	Czechia
Completion:	2017
Type of building:	Detached single family house
Architecture:	Jiri Cech
Building technology:	Pro-mart and Evora CZ, s.r.o.
Products:	PKOM⁴ classic heat pump combi unit with highly efficient heat recovery

Product groups:

COMFORT VENTILATION


© Jiri Cech

PICHLER
Systematic ventilation.

04/2018

OBJECT OF THE MONTH

Austria‘s first certified passive house

The demands on Austria’s first certified passive house were: no more costs than a standard house, due consideration of ecological criteria, minimum technical apparatus and maximum economy.

The single storey passive house without basement was built on a level piece of ground. The 140 m² single family house has an outside diameter of 15 m. The highly compact building deliberately dispenses with unnecessary structures and weight. Minimum common areas allow full utilisation of the basic area for living space.

LOW TECH CONZEPT:

Excellent thermal insulation of building shell and windows, no thermal bridges, airtight.All building services including comfort ventilation, heating, cooling and hot water generation in a single heat pump combi unit in a 0.75 m² area in the toilet.

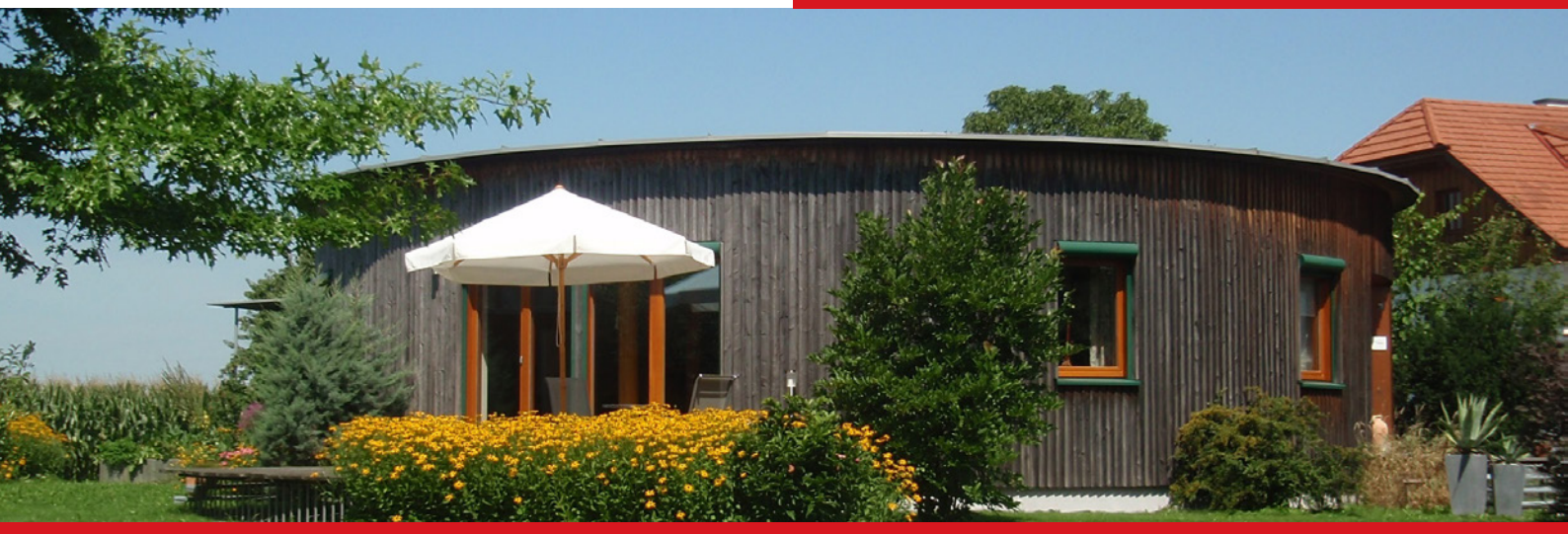
The passive house received the **„House of the Future“** award in 2000, later followed by several other awards.

DATA & FACTS

Location	4661 Roitham, Upper Austria
Completion:	2000
Type of building:	Detached single family house
Architecture:	Arch. Dipl. Ing. Hermann Kaufmann + LANG Consulting
Builder:	Christine und Ing. Günter Lang
Products:	Controlled comfort ventilation system: PKOM⁴ classic heat pump combi unit with highly efficient heat recovery

Product groups**:**

COMFORT VENTILATION



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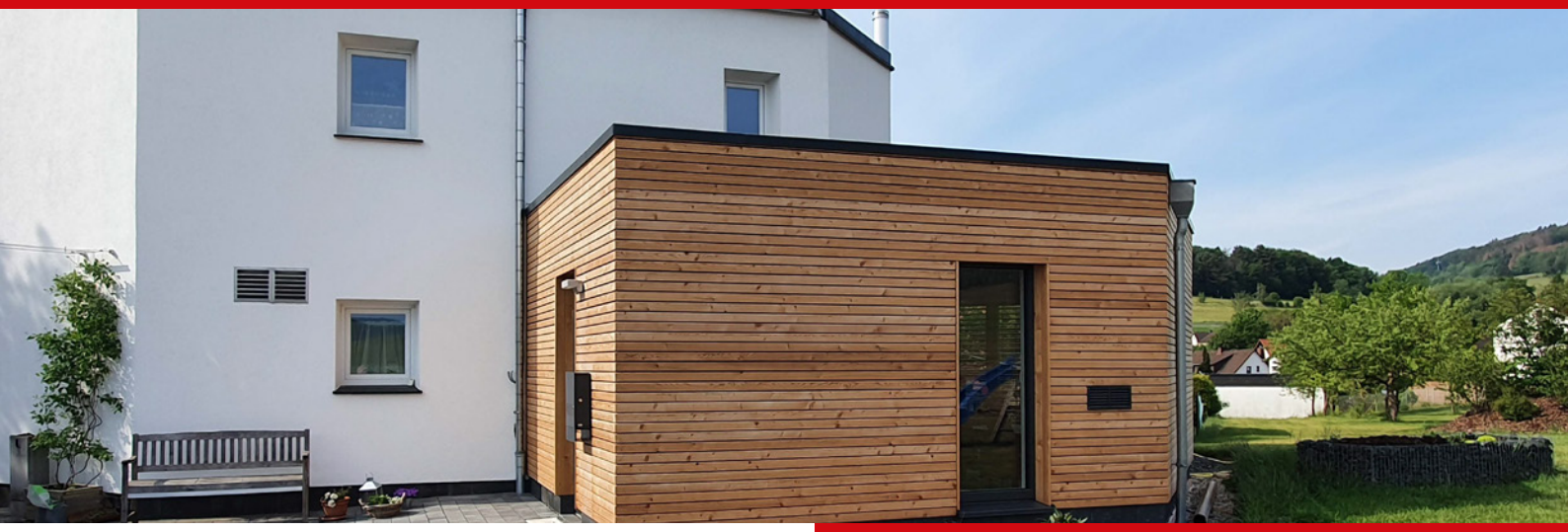
OBJECT OF THE MONTH



PASSIVE HOUSE, GERMANY

The older part of the passive house in solid construction was built in 1997 and certified as the first passive house. First, two window elements and glasses in the existing building were replaced. The necessary extension in lightweight timber construction in 2019/20 raised the issue of further energy supply. Heating energy is hardly required in a passive house. The hot water supply and the residual current as well as the electric car should be supplied by PV as far as possible.

The compact heat pump combi unit PKOM⁴ provides for ventilation, heating and cooling as well as warm water treatment. By its innovative heat pump technology (air-heating pump) and its intelligent heat recovery system it achieves optimum efficiency values. In combination with an intelligent energy management system and photovoltaics the operating costs are reduced. The passive house certified super combination presents itself in a compact, efficient, cost-effective, low-maintenance, and environmentally friendly fashion. Completely in step with the times.

In summary, the idea from initial planning of the existing building from 1996 has been clearly visualized and expanded here. Saving energy when it comes to housing construction is easy and simple – it merely requires consistent implementation by the persons involved in the construction process. This refurbishment including the expansion makes it possible to control the energy costs of the coming decades.

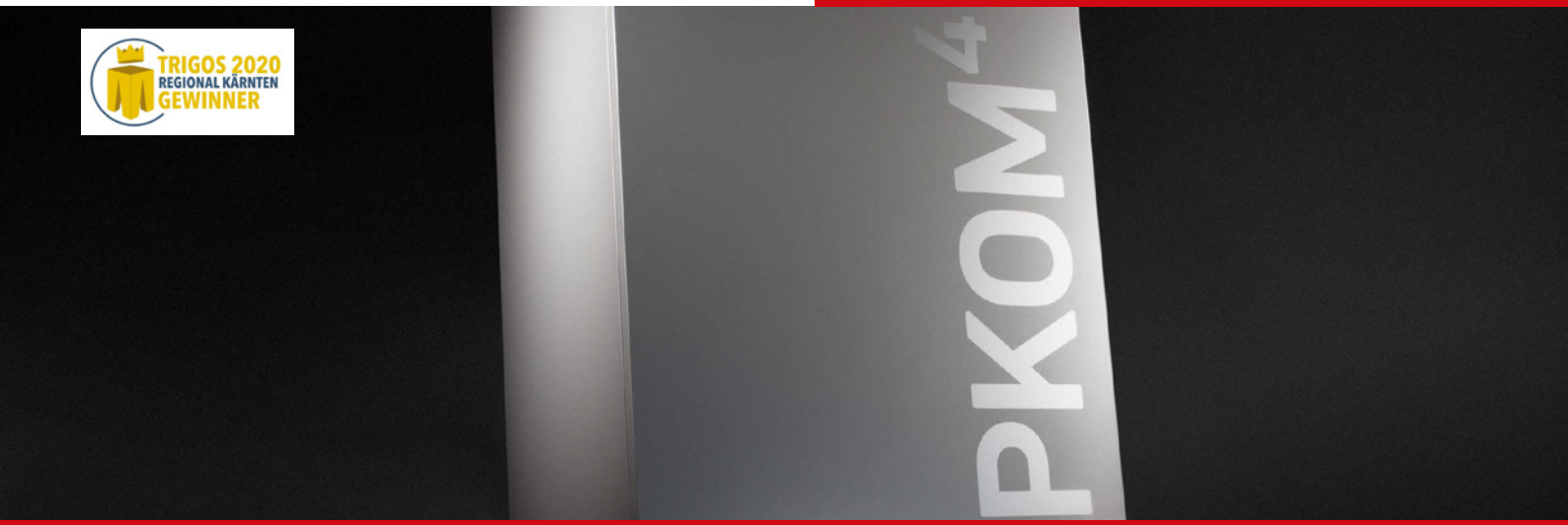
DATA & FACTS

Location:	Germany
Completion:	2020
Type of building:	Single family house
Heating demand:	12.1 kWh/(m²a)
Heat transition coefficients:	0.09 0.1 W/(m²K)
PV system:	8.4 kWp
Storage battery:	9 kWh
Products:	PKOM⁴ System solution

Product groups:

COMFORT VENTILATION

TRIGOS 2020 REGIONAL KÄRNTEN GEWINNER



PICHLER
Systematic ventilation.

OBJECT OF THE MONTH

RESIDENTIAL BUILDING, UK

The residential complex includes four one-bedroom flats, eight two-bedroom semi-detached homes and two four-bed homes, all built to be energy positive, where more energy is put back into the National Grid than is used. The aim was to ensure low running costs for their residents and to provide a comfortable, healthy environment.

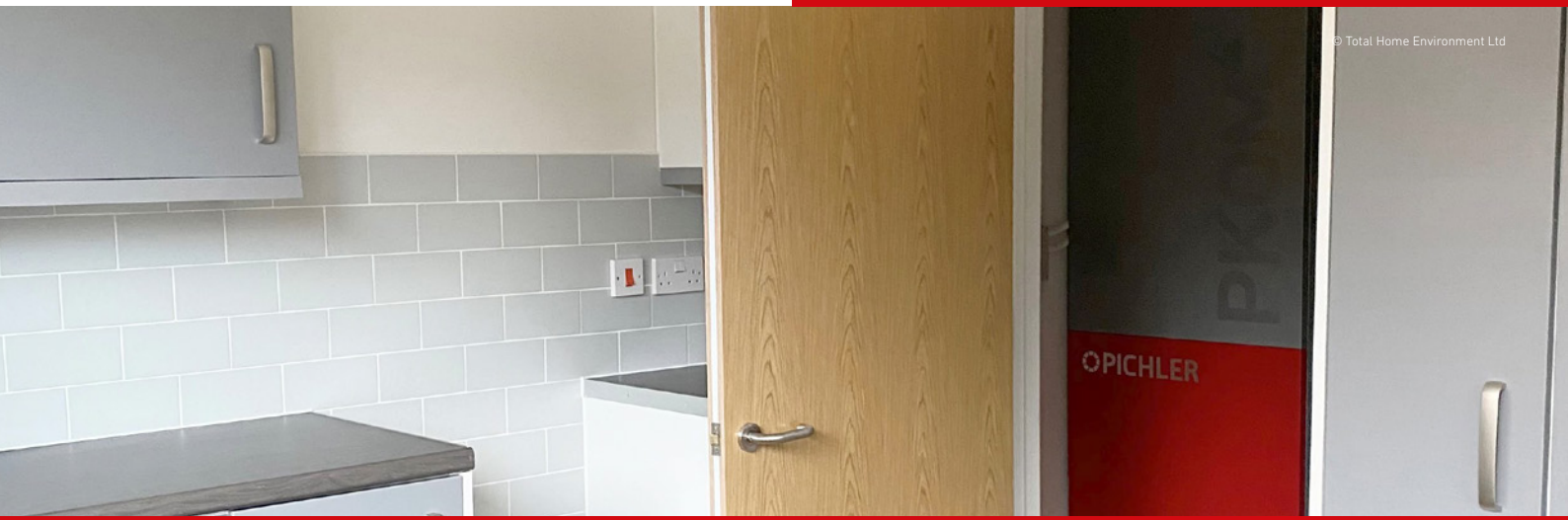
The heating and ventilation system included in the whole house approach had to be at a reasonable cost whilst not taking up too much space. Ventilating, heating, cooling and hot water in such well insulated buildings were a central point of concern. The PKOM⁴ heat pump combi unit unites these four functions on a footprint of less than 0.75 m². The PKOM⁴ that has separate heat pumps for heating and hot water means residents do not have to compromise on the warmth of their home, whilst water is being heated.

DATA & FACTS

Location:	Bridgend, Wales, United Kingdom
Completion:	2020
Type of building: Energy-positive social housing development	
Building technology:	Total Home Environment Ltd
Products:	Heat pump combi unit PKOM⁴

Produkt groups**:**

COMFORT VENTILATION



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07/2021

PICHLER

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