

REFERENCES SCHOOLS & TRAINING CENTERS



PICHLER

Systematic ventilation.

REFERENCES

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OBJECT OF THE MONTH



PRIMARY SCHOOL THAL, NEAR GRAZ

The completed primary school project is a true milestone for the market community in the Graz region. The objective of combining the restoration of the building with the construction of a new, modern building has been debated for years already. This project now defines an inclusive total complex and thus a single organisational unit on this site.

The new building will offer more than 1 700 m² of floor space, accommodating a gym hall and the associated wet areas and change room facilities, spacious storage areas and generously dimensioned classrooms and break areas. Planning focussed on hygiene, barrier-free access and state-of-the-art building services, in particular.

A GOOD CLIMATE IS PARAMOUNT

PICHLER ventilation units with heat recovery were installed to ensure comfortable and energy-efficient indoor climates in the sanitary, wet and change room areas.

DATA & FACTS

| | |
|----------------------|--|
| Location: | Thal near Graz |
| Completion: | 2019 |
| Type of building: | Primary school |
| Builder: | Market community Thal near Graz |
| Building technology: | Hübl GmbH |
| Products: | Ventilation units, weather protection grid, deflector hoods, swirl diffusers |
| Product groups: | |

AIR
DELIVERY

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CONDUCTION

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COMFORT
VENTILATION



OBJECT OF THE MONTH



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Lakeside Science & Technology Park

The so-called "**Building 11**" with a total usable space of 8 000 m² was completed in October 2015.

Expectations are that around 2 500 people will by 2030 be researching, developing, working, teaching, learning and living in Lakeside Park.

This long-term project basically focuses on **three main topics**:

Focus on ICT. Lakeside Park, together with the Alpen Adria University, the Lakeside Labs and the companies, will develop into a highly specialised facility for ICT research and development.

Focus on Education. Lakeside Park will develop into a preferred and attractive education centre; a campus where teachers and learners will meet, a place where knowledge gained will be put into practice.

Focus on Founding. A dynamic, creative and successful start-up scene will develop in Lakeside Park

The new building was erected to complement the existing Park, thus providing a trend-setting impetus strengthening the **Technology and College centre Lakeside Park**.

DATA & FACTS

Location: Klagenfurt am Wörthersee, Carinthia

Completion: October 2015

Type of building: Research building, educational establishment

Architecture: Baumschlager Eberle Wien ZT AG, ILF Beratende Ingenieure

Building technology: Markus Stolz GmbH & Co KG

Products: Ventilation units, Weather protection grille, Fresh air shaft, Jet nozzles, Ground convectors

Product groups:

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Primary school Arnoldstein

The primary school Arnoldstein was fully renovated from June to September 2016 at a cost of € 1.3 million. The school rebuilding project covered a gross area of 4 464m² and was, thanks to its exemplary thermo-electrical renovation concept, supported by the **Climate and Energy Fund** in the amount of almost € 662 000.

Since the successful project demonstrated the lowest thermal energy requirement of all model Carinthian renovations, it was also awarded the **"klimaaktiv Gold"** quality seal (978 out of a maximum of 1000 climate active points).

A **main air conditioning unit (heat recovery 85%)** was installed in the central section loft for **controlled ventilation** and optimal ambient air quality in the classrooms, also for significant reduction of ventilation heat loss.

A further unit was installed in the basement of the old building. The exhaust air feeds to the outside on the northern side (gable wall – central section), where the fresh air is also drawn in.

DATA & FACTS

Location: 9601 Arnoldstein, Carinthia

Completion: September 2016

Type of building: Primary school

Architecture: Gerhard Kopeinig, ARCH+MORE ZT GmbH

Builder: Marktgemeinde Arnoldstein

Building technology: Zoppoth GmbH

Products: Ventilation units, Silencers, Air pipes, Fittings, Valves, Fire dampers

Product groups:



OBJECT OF THE MONTH



Primary school Mariagrün, Graz

The new primary school Mariagrün building was inaugurated in September 2014. The primary school is the **first passive house standard school** in Graz, boasting an **A++ energy efficiency class**.

Tenders for the ultramodern and innovative building were invited from across Europe, finally to be awarded to well-known **Architects Philip Berkthold and Christoph Kalb** from Dornbirn.

Three indigenous types of timber were used for the wooden structure: Spruce was used for the structure and fir and larch for the façades.

Air conditioning in such a well insulated building will naturally be a central point of concern. The controlled air conditioning system with heat recovery circulating up to **3000 m³ of air per hour** clearly offers passive houses a central and refreshing "fringe benefit": No muggy areas will be found in this school, not even in winter.

The flagship project was nominated for the 2015 **Austrian State Award for Architecture and Sustainability** and was rated Gold by "klima:aktiv".

DATA & FACTS

Location: 8010 Graz, Styria

Completion: August 2014

Type of building: School/college (mixed)

Architecture: Architekturwerk Berkthold Kalb

Builder: City of Graz, GBG Graz

Building technology: Hübl GmbH

Products: LG 180, LG 250, LG 3200, LG 4000

Product groups:

COMFORT
VENTILATION





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KINDERGARTEN, VELDEN

Good quality ambient air conditions are a prerequisite for creating a comfortable environment in which young children can learn in a playful way. A showcase project involving the comprehensive renovation of a kindergarten has recently been completed in Velden. Given the existing building structure, planning by architecture office ARCH+MORE ZT, headed by architect Gerhard Kopeinig, required a sensitive approach in which solutions to many details had to be found. The approach was based on an indoor climate monitoring concept, the aim being to optimise user comfort, costs and environmental performance.

Passive House quality: The high-quality thermal renovation and the installation of a central comfort ventilation system with heat recovery made it possible to achieve Passive House quality. Most of the power is supplied by a photovoltaic system. The planners also focused on the lighting conditions. Controlled ventilation provides for optimal indoor air quality in all kindergarten rooms and a significant reduction in ventilation heat losses.

The Pichler all-in-one solution: Used for the project was an all-in-one system with ventilation components and a ventilation device with CO₂-controlled indoor climate adjustment; the environment in each group room can be individually regulated via a sensor. The primary focus of the project was to provide for the well-being of the children and their teachers.

DATA & FACTS

Location: Velden at Lake Wörth

Completion: 2014

Type of building: Kindergarten

Architecture: ARCH+MORE ZT

Products: Ventilation unit + Components

Produkt groups:



© ARCH+MORE ZT



SECONDARY SCHOOL, ST.VEIT

The school building has been upgraded to conform to Passive Energy House Standards. For the classrooms, the group rooms, the conference rooms, the office rooms, and the gyms as well as the sanitary modules, centralised aeration systems were designed. Constructed were centralised supply and exhaust ventilation systems that were installed in roof spaces and on the flat roofs of the extension and surrounding structure. Weatherproof systems were employed on the roofs.

Integrated in the round and rectangular steel-sheet duct systems were volume regulators for supply- and exhaust air in accordance with requirements in each room together with the necessary silencers. Hence, the environment in each room can be adjusted to provide an individualised climate zone.

INSTALLED IN THE ROUND/RECTANGULAR DUCT SYSTEMS ARE:

- Circular/rectangular fire protection flaps
- Airflow regulators with silencers
- Silencers in the core ventilation system
- Supply air and exhaust air grilles

DATA & FACTS

Location: Carinthia, St. Veit

Products:

CORRIDORS AND INTERMEDIATE SECTIONS:
V = 6700 m³/h Pichler LG 6700

CLASSROOM AND CONFERENCE SECTION:
V = 8300 m³/h Pichler LG 8000

SANITARY AREA:
V = 700 m³/h Pichler LG 1400

GYMNASIUM:
V = 1350 m³/h Pichler LG 2000

CLOAKROOM AREA:
V = 2200 m³/h Pichler LG 3200

SANITARY AREA:
V = 1200 m³/h Pichler LG 1400

DECENTRALIZED CLASSROOM DEVICES:
For installation in the classrooms V = 750 m³/h

Product groups:





NEW ARZL PRIMARY SCHOOL, INNSBRUCK

Students and teachers spend a lot of time in school. Good indoor air conditions are a basic requirement for successful learning. About half of the school classrooms in Austria exceed hygienic limit values. The learning performance and concentration of the students suffer considerably as a result.

In the Arzl primary school, the energy-saving ventilation system from PICHLER ensures consistent air quality and a healthy indoor climate, without drafts, as well as perfect indoor air hygiene.

The heart of the ventilation system is the integrated rooftop ventilation unit with heat recovery from 24 individual components, flow sheets and an insulated frame. The device base, a steel structure with insulated panels (U-value: $0.3 \text{ W/m}^2\text{K}$), rounds off the clean solution.

DATA & FACTS

| | |
|----------------------|-------------------------------------|
| Location: | Innsbruck |
| Completion: | 2018 |
| Type of building: | Primary school |
| Builder: | Innsbrucker Immobilien GmbH & CoKG |
| Building technology: | Ing. Gerhard Trenkwalder GmbH |
| Products: | Integrated rooftop ventilation unit |
| Product groups: | |

AIR
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OBJECT OF THE MONTH



KINDERGARTEN, FELDKIRCHEN BEI GRAZ

The new Kindergarten in Feldkirchen bei Graz that is run by WIKI opened its gates in September 2020. It accommodates two kindergarten groups and one crèche. However, with its final completion, the design of the new building will provide space for a total of up to seven groups.

Although the building is accessed from the road, in the entire complex of buildings children and kindergarten teachers are not bothered by the noise of passing cars. Since the slope was optimally utilised, there is a wonderful view into the countryside. The energy-efficient ventilation unit with an integrated heat pump not only provides for fresh and clear air but also heats and cools the interior spaces.

The building was designed in concrete construction with vertical timber formwork and extends across three floors. By the way, the construction of the new building was preceded by an architectural competition. The concept, designed by the architect couple from Hausmannstätten, Mr Christoph Schmölzer and his wife Ms Berit Schmölzer, who have created a successful total work of art in a somewhat complex construction situation, also convinces after its completion.

DATA & FACTS

Location: Feldkirchen bei Graz

Completion: 2020

Type of building: Kindergarten

Architect: Architectural office Schmölzer

Building technology: Karl Reisenhofer GmbH

Products: ventilation unit with integrated heat pump, swirl diffusers, ventilation grilles, ducts & fittings, weather protection grilles

Product groups:



OBJECT OF THE MONTH



ELEMENTARY SCHOOL, SCHWABMÜNCHEN

The children and teachers from the Elementary school Schwabmünchen now also enjoy a healthy indoor climate with constant top air quality. The sustainable new-build was equipped with an energy-efficient PICHLER school ventilation system and put into operation in 2023. The centrepiece of the ventilation system is the ceiling unit LG 1000 SKDE for classrooms.

It consists of a compact, thermal bridge-free, thermally insulated housing made of galvanised sheet steel, powder-coated in RAL 9003. It has a highly efficient heat recovery system with an enthalpy exchanger for heat and moisture recovery, an automatic 100% bypass and energy-saving radial fans with the latest EC motor technology. The integrated air flow rate measurement guarantees balanced operation with constant flow on the supply and extract air sides. Butterfly valves integrated into both the outdoor air and exhaust air ducts serve to prevent unintentional air circulation in the event of a unit standstill. To ensure reliable functioning, even at low outdoor temperatures, a continuously adjustable pre-heating coil is provided.

DATA & FACTS

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|----------------------|--|
| Location: | Schwabmünchen |
| Completion: | 2023 |
| Type of building: | Educational institution |
| Builder: | City/Community Schwabmünchen |
| Building technology: | R. Einsiedler Services GmbH |
| Planner: | Airoptima, Kaufbeuren |
| Products: | 23 pcs. School ventilation units LG 1000 SKDE |

Product groups:





ELEMENTARY SCHOOL, ÖTZTAL

The air quality in classrooms is of particular importance: if the air is fresh and clean, it has a positive effect on people’s health, ability to concentrate, performance and well-being.

From the summer of 2022, the elementary school was extensively renovated. The renovation lasted until spring 2023. Rooms in the basement were adapted for school day care. A second floor with two classrooms and a library was added. Under the planning of the Klimatherm engineering office and with the support of us as Pichler, an RHP 30 device with full air conditioning (via integrated heat pump) including dehumidification and humidification was installed.

The RHP 30 with a nominal air volume of 6000 m³/h (exhaust air & supply air), an external pressure of 300 Pa, an inflow velocity at a design volume flow of 2.33 m/s and a thermal efficiency of the heat recovery of 73% proved to be special suitable for this school ventilation project. In total, the municipality of Ötztal invested more than 3 million euros in the expansion.

DATA & FACTS

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|----------------------|--|
| Location: | Tirol |
| Completion: | 2023 |
| Planning: | Klimatherm GmbH |
| Building technology: | GECS Energie- & Gebäudetechnik GmbH |
| Products: | Ventilation unit RHP 30 with heat pump |

Product groups:





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