

# *REFERENCES SCHOOLS & TRAINING CENTERS*



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# OBJECT OF THE MONTH



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## 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 m<sup>2</sup> 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:	



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# 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 m<sup>2</sup> 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 464m<sup>2</sup> 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



© Markus Kaiser, Graz

## 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 Berkold 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 m<sup>3</sup> 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 Berkold Kalb
Builder:	City of Graz, GBG Graz
Building technology:	Hübl GmbH
Products:	LG 180, LG 250, LG 3200, LG 4000
Product groups:	

COMFORT  
VENTILATION



© Markus Kaiser, Graz



© ARCH+MORE ZT

## 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 CO<sub>2</sub>-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 m<sup>3</sup>/h Pichler LG 6700  
CLASSROOM AND CONFERENCE SECTION:  
V = 8300 m<sup>3</sup>/h Pichler LG 8000  
SANITARY AREA:  
V = 700 m<sup>3</sup>/h Pichler LG 1400  
GYMNASIUM:  
V = 1350 m<sup>3</sup>/h Pichler LG 2000  
CLOAKROOM AREA:  
V = 2200 m<sup>3</sup>/h Pichler LG 3200  
SANITARY AREA:  
V = 1200 m<sup>3</sup>/h Pichler LG 1400  
DECENTRALIZED CLASSROOM DEVICES:  
Zur Aufstellung in den Unterrichtsräumen V = 750 m<sup>3</sup>/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 Trenkwaldner GmbH
Products:	Integrated rooftop ventilation unit
Product groups:	

AIR  
DELIVERY





## KINDERGARTEN, FELDKIRCHEN BEI GRAZ

Der neue Kindergarten in Feldkirchen bei Graz, der von WIKI betrieben wird, öffnete im September 2020 seine Pforten. Darin finden zwei Kindergartengruppen und eine Kinderkrippe Platz. Gebaut wurde jedoch so, dass im Endausbau bis zu insgesamt sieben Gruppen im neu errichteten Bau Platz finden werden.

Der Zugang erfolgt straßenseitig, aber von vorbeifahrenden Autos bekommen Kinder und Pädagoginnen im gesamten Komplex nur mehr wenig mit. Weil der Hang optimal genutzt wurde, gibt es einen wundervollen Ausblick ins Grüne. Die energieeffiziente Lüftungsanlage mit integrierter Wärmepumpe sorgt dementsprechend nicht nur für frische und saubere Luft, sondern heizt und kühlt die Innenräume.

Der Bau entstand in Betonbauweise mit vertikaler Holzschalung und erfolgt über drei Ebenen. Dem Neubau ging übrigens ein Architektenwettbewerb voraus. Das Konzept des Hausmannstatter Architekten-Ehepaars Christoph und Berit Schmölzer, die ein gelungenes Gesamtkunstwerk in nicht einfacher Baulage konzipierten, überzeugt auch nach Fertigstellung.

### DATEN & FAKTEN

Standort:	Feldkirchen bei Graz
Fertigstellung:	2020
Gebäudeart:	Kindergarten
Architekt:	Architekturbüro Schmölzer
Gebäudetechnik:	Karl Reisenhofer GmbH
Produkte:	Lüftungsgerät mit integrierter Wärmepumpe, Luftauslässe, Lüftungsgitter, Spirorrohre, Formstücke, Wetterschutzgitter

### Produktgruppen:







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