polybloc
SWITZERLAND

THE FUTURE OF ENERGY RECOVERY. SINCE 1982.

www.polybloc.com

MILESTONES TO A BETTER WORLD

1982

THOSE WHO WANT TO MAKE THE WORLD A LITTLE BIT BETTER START WITH SMALL THINGS:

as a classic start-up in a garage.
This was so successful that we had to move to a new production hall after only a few months. The stable construction with corrugated layers is a successful model and quickly makes Polybloc known as the quality manufacturer.

1991

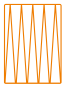
WE ALSO DEMONSTRATE OUR PIONEERING SPIRIT IN THE USE OF EXHAUST FUME GASES.

We developed a gas-tight welded heat exchanger right at the beginning of the 90s. This innovation is heat-resistant up to 800 °C and enables the Polybloc to be used in catalytic converters.
In times of climate change and stricter environmental regulations for industry, this product is experiencing a real boom today.

1993

THINKING BIG NEEDS SPACE.

But also the production of the heat exchangers was so successful that a larger building was needed. The new premises enable more efficient production and further growth.



1994

WITH THE SOFTCOOL, WE ARE LAUNCHING A HEAT EXCHANGER WITH INDIRECT EVAPORATIVE COOLING.

After 25 years, it is still functioning reliably in many clinics, offices and universities and has contributed to a better CO_2 balance with countless MWh saved cooling capacity.

2003

THANKS TO THE CONSISTENT FURTHER DEVELOPMENT OF TECHNOLOGY THAT HAS BEEN TRIED AND TESTED FOR DECADES, WE CONSTRUCT THE FIRST ACCUBLOC.

Its solid technology with highest efficiencies is used wherever highest efficiencies and savings are required. In particular, large buildings such as public institutions achieve significant savings in operating costs with the Accubloc.

2012

THE VAPOBLOC X IS LAUNCHED.

The first enthalpy exchanger for central ventilation units. As the only manufacturer at that time in Europe, we have recognised the potential of this technology. Today, the Vapobloc X has convinced many consultant and user and is the solution for a wide range of applications.

2015

THE COUNTERCURRENT ENTHALPY EXCHANGER VAPOBLOC CV IS AVAILABLE.

With the new enthalpy exchanger Vapobloc CV, we present a further development and once again a piece of pioneering work that belongs to the future. Because this solution also has several advantages: less effort for airhandling unit manufacturers and massive added value for end customers.

2019

THE VAPOBLOC IS A REAL SUCCESS MODEL.

It gives us a leading position in the market. Also thanks to our highly specialised employees. Together we continuously improve the processes in order to be able to respond flexibly to the increased demand and the various requirements of our customers.

2022

ENLARGEMENT OF PRODUCTION CAPACITY

Thanks to an increasing demand, Polybloc expands the production area in Winterthur by 42%. Simultaneously the productivity is raised due to continuous improvement. Thus, record turnover is anticipated at the 40th anniversary of Polybloc.

WE ARE POLYBLOC

THE FUTURE OF ENERGY RECOVERY. SINCE 1982.

More than four decades ago, we began shaping the future. By launching energy recovery systems that achieve more. More efficiency. More quality. More profitability.

We have continuously developed this approach. Today, Polybloc heat exchangers are used all over the world. Individually manufactured for all requirements. At the highest technical level.

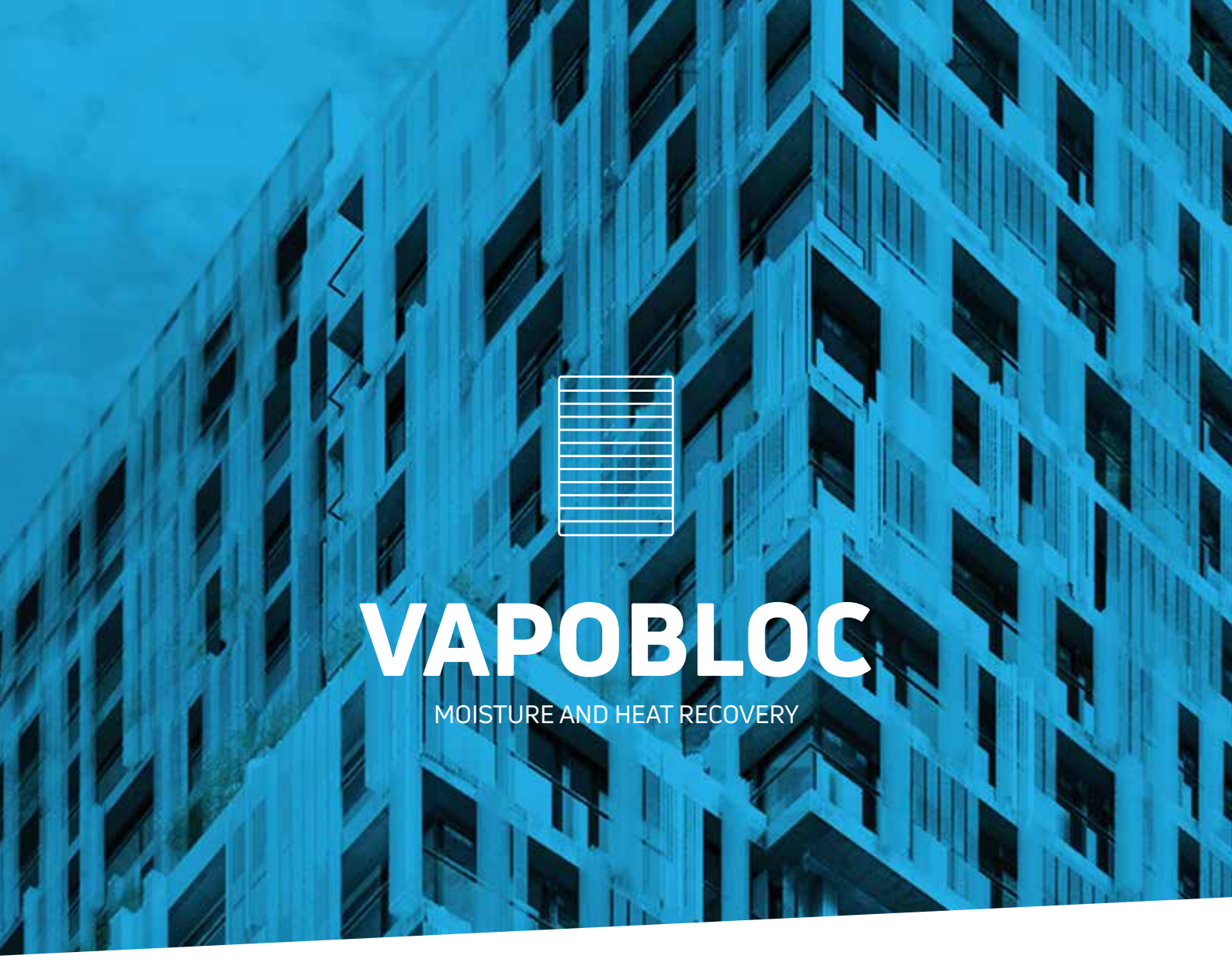
In this way we bring ecology and economy together. A wise investment for the future.

» The focus is on intelligent building concepts with a comfort factor for investors and users. Over the entire life cycle.

***Arthur P. Moser**, Head of Building Services Gruner*
Meret Oppenheim high-rise Basel – CH, 3 Vapobloc, totalling 90'000 m³/h
© Architects Herzog&DeMeuron, Basel

PERFECT CLIMATE WHERE HUMIDITY AND PURITY COUNT:

Hospitals, schools, Kindergartens, office buildings, retirement homes, apartment buildings



VAPOBLOC

MOISTURE AND HEAT RECOVERY

TRANSMITS MOISTURE. AND NO GERMS OR SMELLS.

Clean air is a precious commodity. And contributes significantly to people's health and well-being. However, we spend most of our lives in buildings.

In the heating period this means: in rooms with dry heated air. For this reason, many people suffer from a sore throat, from burning eyes or dry skin.

When rooms are cooled by air-conditioning, the supply air must again be dehumidified. This significantly increases the energy consumption.

The solution: an enthalpy plate exchanger – or in short: the Vapobloc! Its innovative membrane enriches the incoming warm air with moisture from the exhaust air or extracts moisture from the air under hot or tropical conditions. Without transmitting odors, germs, spores and bacteria!

The Vapobloc has thus proven itself in all areas of application such as hospitals, schools, retirement homes or apartment buildings.

THE VAPOBLOC ADVANTAGES AT A GLANCE

MOISTURE TRANSFER IN WINTER
Moisture is transferred through the special polymer membrane. The supply air is less dry and therefore provides for increased comfort.

DEHUMIDIFICATION DURING AIR CONDITIONING
Enables energy savings, the refrigeration systems can be dimensioned much smaller.

HIGH HEAT TRANSFER
Various sizes also allow optimum dimensioning for all ventilation units.

WATER VAPOR PERMEABLE
Allows only the transfer of water vapor molecules. Other media such as air, odors, germs and bacteria cannot penetrate.

OFFICIALLY CERTIFIED
Performance and hygiene are regularly certified by neutral institutions.

DOES NOT FREEZE
Since a large part of the humidity is transferred to the supply air, there is normally hardly any condensate that can freeze.

SAVINGS IN HUMIDIFIER POWER
The humidifiers can be smaller in size. The running costs for operation are considerably lower.

MINIMUM MAINTENANCE EFFORT
Vapobloc is easy to clean and has no wearing parts.

CERTIFIED PLANNING TOOL
Winpoly calculates the performance of all Polybloc products under real conditions. Easy integration into any software, download at **www.polybloc.com**

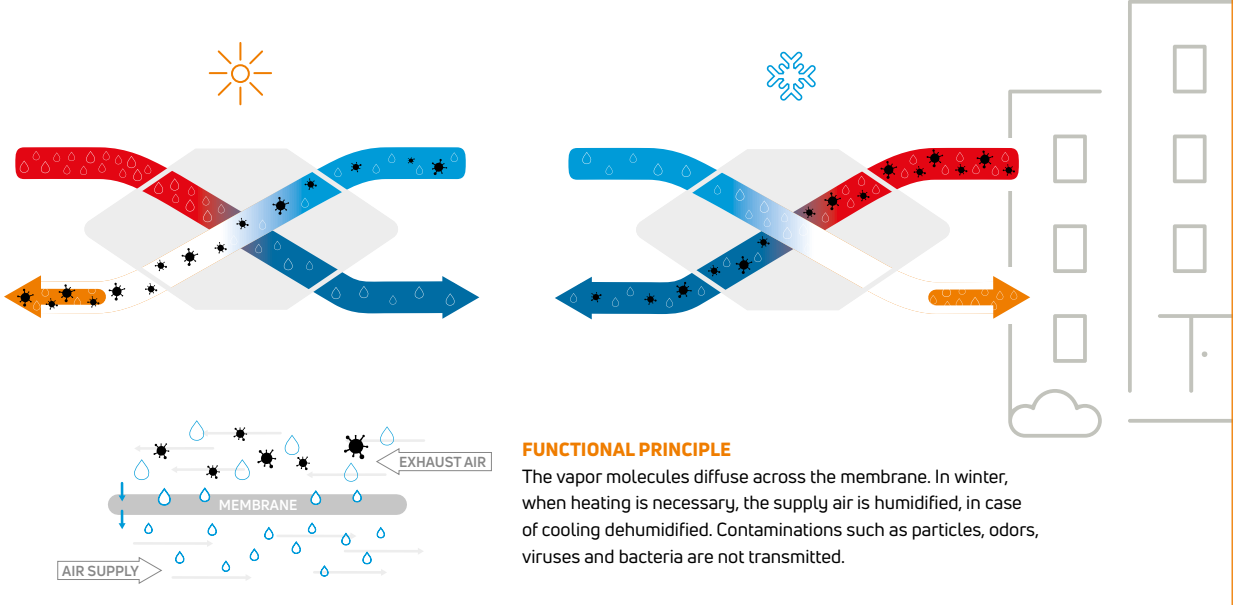
Vapobloc is available in all standard dimensions and can be easily integrated into any ventilation unit.

High-quality polymer membrane with a long service life

Fehlmannmatte, Windisch – CH

Einsiedel Hospital, Einsiedeln – CH

Superblock, Winterthur – CH



FUNCTIONAL PRINCIPLE

The vapor molecules diffuse across the membrane. In winter, when heating is necessary, the supply air is humidified, in case of cooling dehumidified. Contaminations such as particles, odors, viruses and bacteria are not transmitted.

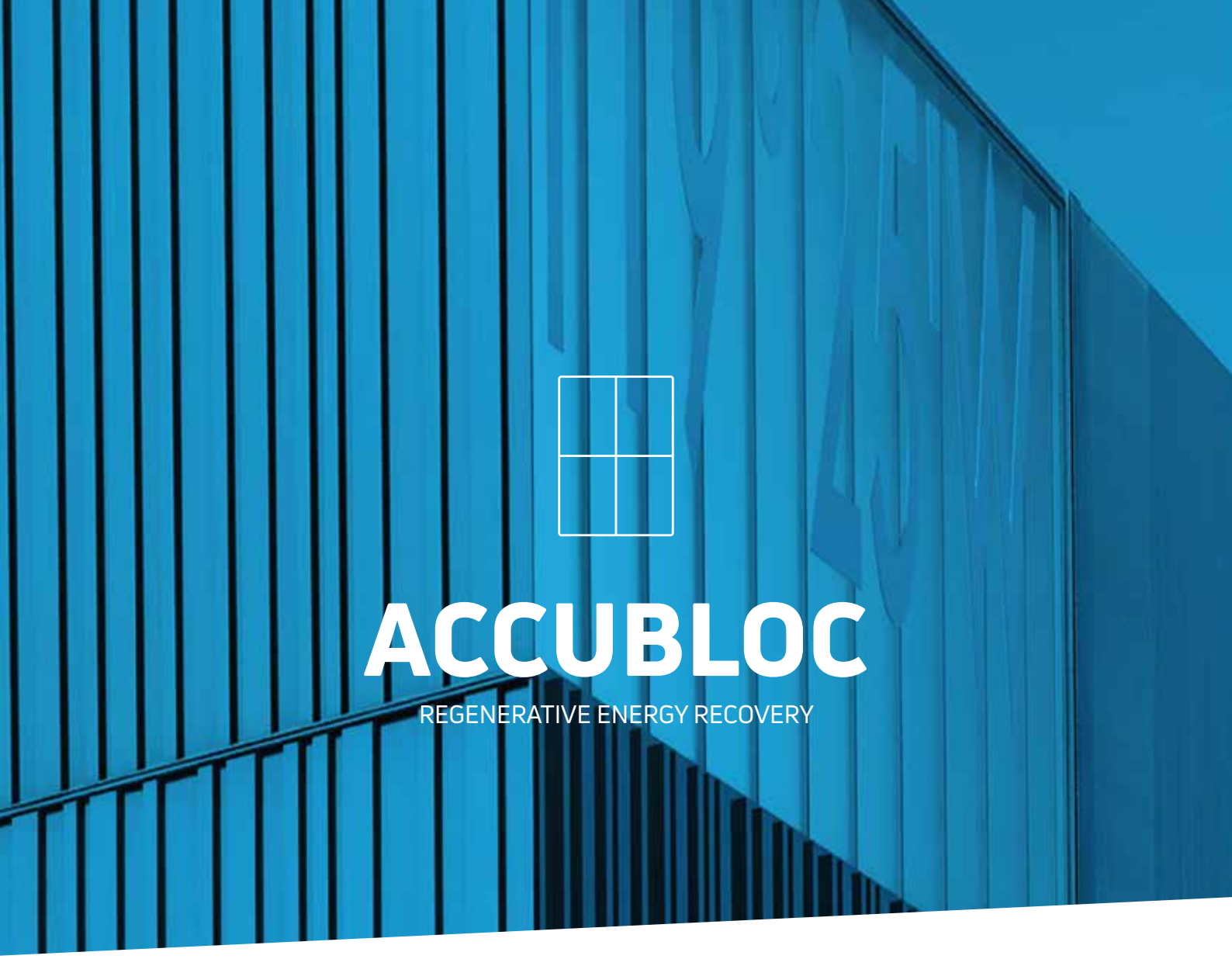
CERTIFIED BY

» Next big challenge as an industry is the focus on low-carbon objectives, building sustainability, and changing climate change.

Pat Hanson, *partner at gh3*, Toronto*
North Eastern Garage, Edmonton – CAN, 72 Accubloc, 1.250.000 m³/h

EFFICIENCY FOR LARGE AIR VOLUMES IN:

Offices, universities, malls, airports, industrial halls



ACCUBLOC

REGENERATIVE ENERGY RECOVERY

GOOD FOR THE (ECO) BALANCE

Our actions today are the foundation of tomorrow's world. In times of climate change, this means realigning our ways of thinking and living. Especially for the air-conditioning of buildings.

Polybloc has been building a better world since the 1980s. With regenerative heat exchangers that conserve resources. Since 2001, a completely new generation has been used here: the Accubloc.

Its ingenious design now achieves efficiencies of up to 90 %!
This is made possible by an innovative damper system. Instead of allowing the heat accumulators to rotate, the air currents are redirected. Periodically, one heat bank is charged while the other is discharged. And vice versa. This saves energy, ensures maximum efficiency and protects the environment!

THE ACCUBLOC ADVANTAGES AT A GLANCE

HIGHEST EFFICIENCY
Maximum energy savings and environmental relief with efficiencies of up to 90 %. No reheater is necessary.

INTEGRATED CONTROL
Activation via 0 – 10-V-signal.

LITTLE EXHAUST AIR TRANSFER
Very fast changeover for low exhaust air transmission.

FROST RESISTANCE
Due to the transfer of moisture to the supply air, freezing is hardly possible even at very low temperatures.

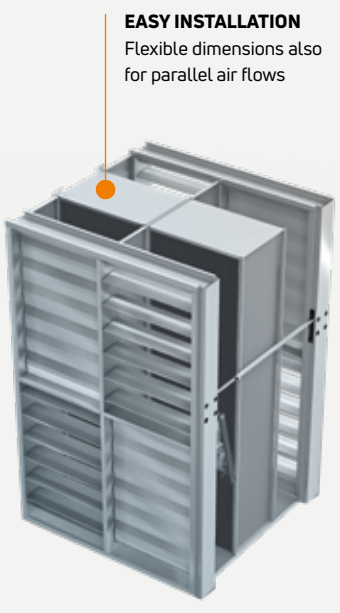
OFFICIALLY CERTIFIED
Neutral performance measurement according to EN 308 by HSLU Lucerne and certified by TÜV Süd.

AIR HUMIDIFICATION
The optional sorption coating transfers moisture into the supply air and thus ensures a comfortable climate in all rooms.

EASY INSTALLATION
Dimensions exactly to the size of the ventilation unit, no excess width. Removable storage according to VDI 6022.

ORIGINAL SERVICE
Service for startup and optional for maintenance.

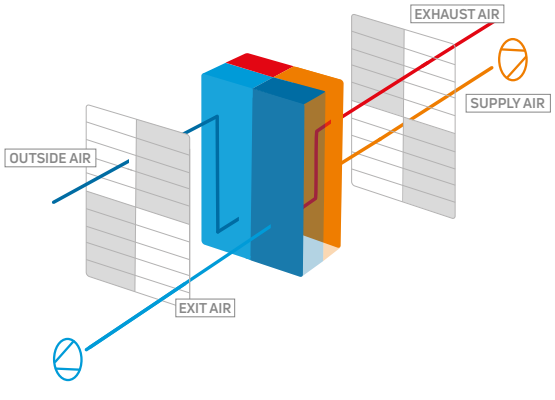
CERTIFIED PLANNING TOOL
Winpoly calculates the performance of all Polybloc products under real conditions. Easy integration into any software, download at **www.polybloc.com**

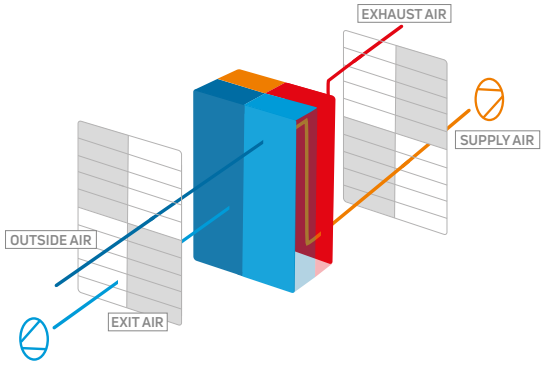


KELAG Klagenfurt – AT, 31.000 m³/h

Humboldt University Research Hall , Berlin – DE

Munich Airport – DE, 20 Accubloc, 460,000 m³/h





FUNCTIONAL PRINCIPLE

The front storage bank is heated by the exhaust air, the rear bank conveys heat inside and cools down by the outside air.

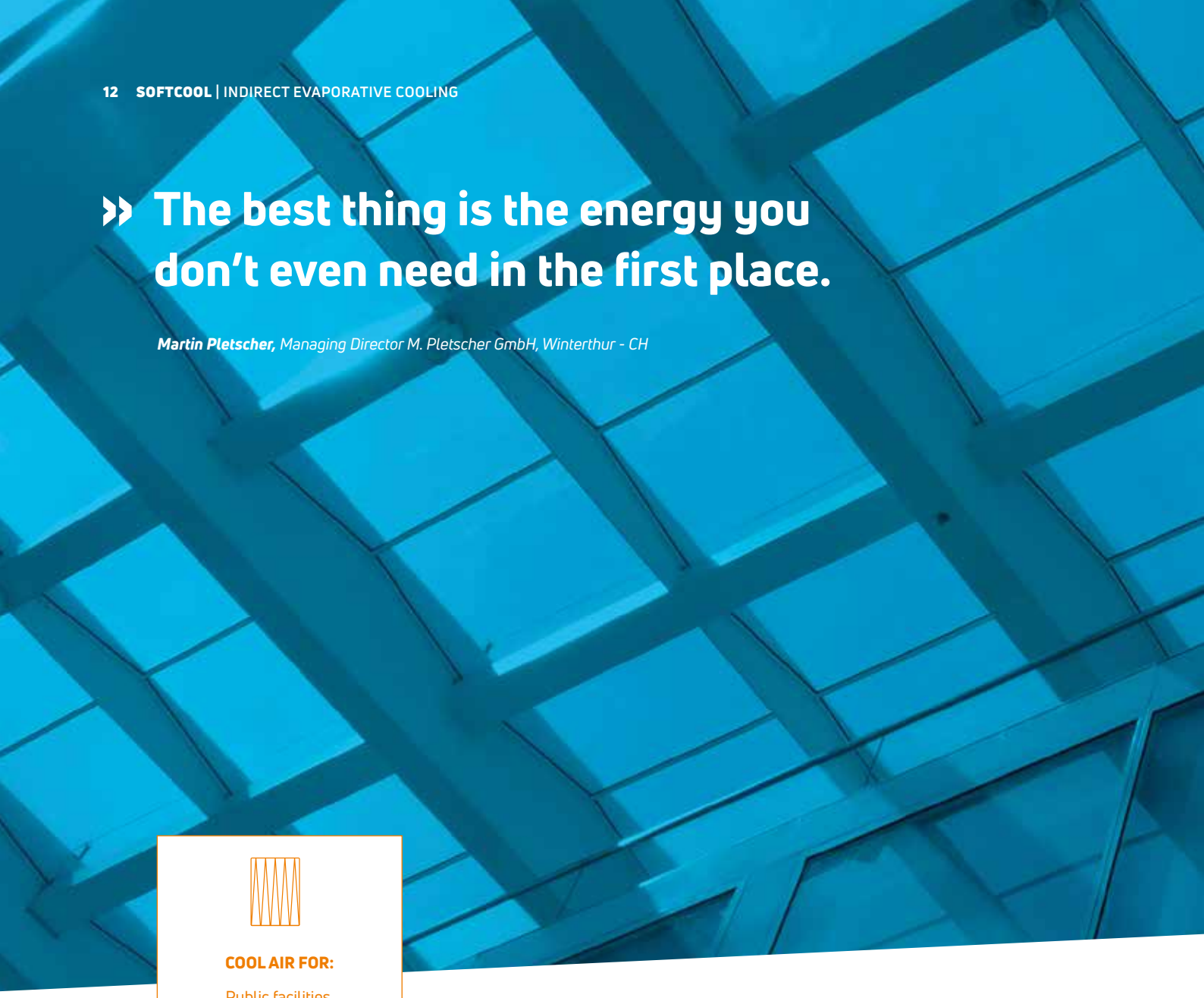
20 SEC

After 20 seconds, the air flow is deflected. The previously heated storage banks are now cooled down.

CERTIFIED BY

TÜV SÜD

Lucerne University of Applied Sciences and Arts
HOCHSCHULE LUZERN



» The best thing is the energy you don't even need in the first place.

Martin Pletscher, *Managing Director M. Pletscher GmbH, Winterthur - CH*

COOL AIR FOR:

Public facilities,
airports, swimming pools,
office buildings

SOFTCOOL

INDIRECT EVAPORATIVE COOLING

THE ENVIRONMENTALLY FRIENDLY ALTERNATIVE TO COMPRESSOR COOLING

The temperatures are rising, our summers are getting hotter and hotter. With every rising degree, performance during the day and sleeping comfort at night decreases. As a result, more and more air conditioning systems are being used both in commercial construction and in the private sector.

However, building cooling with refrigeration systems continues to heat up the earth's atmosphere. Modern ventilation systems must therefore not only provide reliable cooling performance, but also operate in an energy-efficient and environmentally friendly manner.

With Softcool, the supply air is cooled very effectively by optimum humidification of the plate exchanger in the exhaust air. Ideally, two litres of water produce 1 kW cooling capacity without moisture entering the supply air.

Adiabatic cooling is achieved by spraying a fine water film onto the hydrophilic coated exchanger surface on the exhaust air side.
A technology that has proven itself in a wide range of applications – efficient and maintenance-free.

THE SOFTCOOL ADVANTAGES AT A GLANCE

HIGHEST EFFICIENCY
Maximum energy saving and environmental relief with minimum water and power consumption.

ENVIRONMENTALLY FRIENDLY COOLING
Supply air cooling by 12 K without environmentally harmful refrigerant.

MINIMUM MAINTENANCE EFFORT
No cleaning necessary, the heat exchanger remains clean and always provides maximum performance. Maintenance costs are eliminated.

LOW INVESTMENT COSTS
Through double use in summer and winter.

SIMPLE INSTALLATION
Dimensions exactly to the size of each ventilation unit.

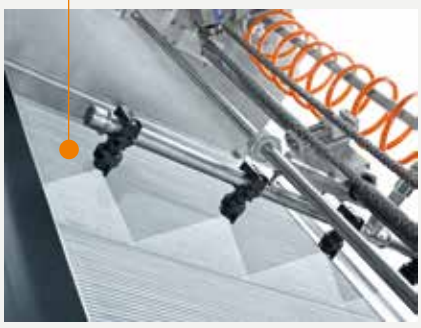
ORIGINAL SERVICE
Service for startup and optional for maintenance.

NO HYGIENE PROBLEMS
No basin, no pumping, no elutriation necessary.

CERTIFIED PLANNING TOOL
Winpoly calculates the performance of all Polybloc products under real conditions. Easy integration into any software, download at **www.polybloc.com**

ENVIRONMENTALLY FRIENDLY ALTERNATIVE FOR COMPRESSOR COOLING:
Refrigerant-free supply air cooling up to 12 K

Minimum amount of water required



Auditorium College Rychenberg, Winterthur – CH

Datacenter Hana Bank, Seoul – KR, 104 Softcool each 27'210 m³/h

» Maximum longevity and maximum efficiency – the demandes on a heat exchanger are nowhere higher than in the industry.

Stephan Wälti, *CEO New Wälti AG, Eschlikon - CH*

DESIGNED FOR:

Laboratories, electroplating plants, paint shops, industrial catalysts, process heat plants, brine baths

POLYBLOC

INDUSTRIAL HEAT EXCHANGER

EFFICIENT HEAT RECOVERY FOR INDUSTRIAL OR CORROSIVE APPLICATIONS

A heat exchanger in industry is literally exposed to a bad atmosphere: paints, heat, acids, exhaust gases, brine or humidity put material and processing to the test around the clock.

Polybloc plate heat exchangers meet these requirements with the best quality – for all industrial applications. Worked with the highest precision and quality. For maximum durability, efficiency and energy savings.

Heat exchangers made of coated aluminium, plastic or stainless steel are used for particularly corrosive pollutants. Stainless steel is the perfect material in areas where high temperatures exist on top of that. In this way, savings can be achieved in energy recovery from process heat, which very quickly amortise the investment.

For applications with special requirements to the tightness as well as temperatures over 600 C° the stainless steel versions are micro-plasma welded.

THE POLYBLOC ADVANTAGES AT A GLANCE

OPTIMAL EFFICIENCY
The wide range of different materials, dimensions and plate spacings enables optimised solutions in terms of efficiency and pressure drop.

SIMPLE INSTALLATION
Optionally suitable for installation in the ventilation unit or with frame construction for direct connection to the ducts.

DIFFERENT MATERIALS
Plastics are used for acids, stainless steel at high temperatures and epoxy-coated aluminium for slightly corrosive applications.

HIGH DIFFERENTIAL PRESSURE RESISTANCE
The corrugated layers guarantee a differential pressure resistance of over 10,000 Pa for aluminium and up to 30,000 Pa for gas-tight welded stainless steel exchangers.

MAXIMUM HEAT RESISTANCE
Various materials permit temperatures of 600 °C. The gas-tight welded stainless steel heat exchanger is used above 800 °C.

OFFICIALLY CERTIFIED
Performance and hygiene are regularly certified by neutral institutions.

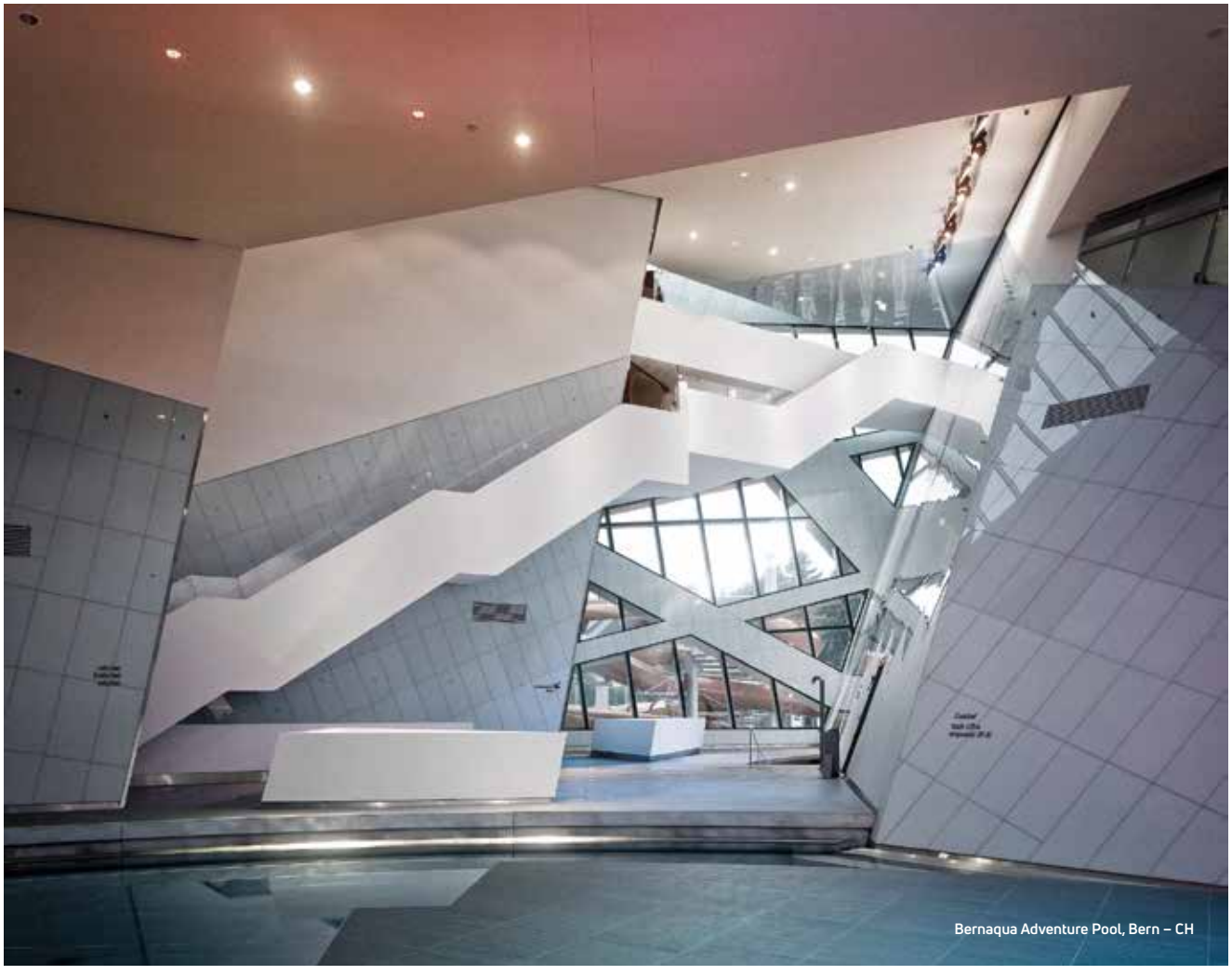
MINIMUM MAINTENANCE EFFORT
Easy to clean, no wearing parts.

CERTIFIED PLANNING TOOL
Winpoly calculates the performance of all Polybloc products under real conditions. Easy integration into any software, download at **www.polybloc.com**

ALUMINIUM
Differential pressure resistant up to 10,000 Pa

PLASTIC MATERIAL
For highly corrosive applications

STAINLESS STEEL
For temperatures up to 600 °C or gas-tight welded over 800 °C



Bernaqua Adventure Pool, Bern – CH

Paint Shop Stadler Rail IBS CenteR, Erlen – CH

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