

**One high-
light after
another.**

**Since
2004.**

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air-lux technol- ogy

Successful architecture combines form and function. air-lux creates visionary glass solutions using unique technology, craftsmanship and Swiss precision. From individual projects to multi-storey façades. For uncompromising transparency. Worldwide.

Limitless architecture

Creativity, technology and craftsmanship

air-lux is the floor-to-ceiling glass façade system with large sliding windows and a patented sealing concept that sets the standard – aesthetically, technologically and functionally.

Whether it's a high-rise, private villa or special solution, air-lux offers clients and architects maximum design freedom and enables their visions to be realised without compromise. We guarantee comprehensive expertise, excellent problem-solving skills and professional service throughout all project phases.

More than 10,000 air-lux systems have already been installed – in Switzerland and around the world. But the best thing to do is to visit our production facility in Engelburg and see for yourself. Until then, this brochure can give you a first glimpse.

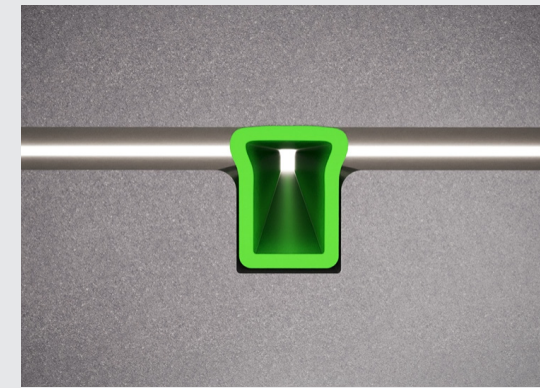


Invisible. And 100% impermeable.

Patented, air-assisted sealing system

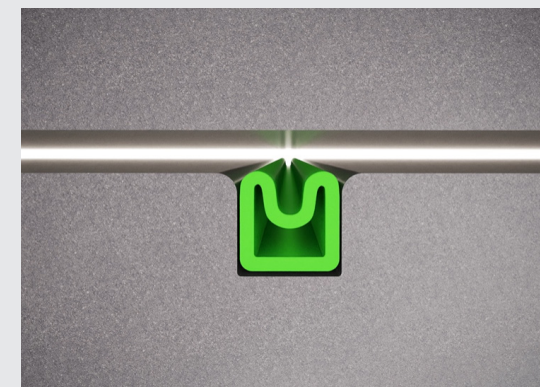
With the patented, air-assisted sealing system, air-lux products guarantee outstanding building physics performance. When closed, the continuous ring seal ensures 100% impermeability against driving rain, wind and noise.

Unlike systems with sealing lips or brushes, the air seal guarantees consistent performance with no signs of wear. From the first day to the last.



Inflated gasket

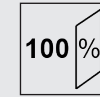
- When the button is pressed, air is pumped into the seal.
- The gap between the sliding element and the fixed frame is completely sealed.



Deflated gasket

- When the button is pressed, the air escapes.
- The seal retracts to its original concave profile.

Advantages of an air seal over conventional systems



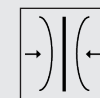
Impermeability

With its patented, air-assisted sealing system and a contact pressure of 1 bar, air-lux windows guarantee 100% impermeability against heavy rain, wind and noise over the entire life cycle of the product.



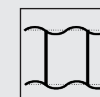
Durability

For more than 20 years, our patented air seal has demonstrated uncompromising impermeability: with no wear and 100% performance. That's why we offer a 10-year warranty on the frame, seal and function.



Structural deflection

Minor movements and settlements occur in every structure, particularly in large openings, tall buildings or overhanging components. The patented air-lux sealing system remains permanently flexible even with lintel deflection of up to 40 mm and base deflection of up to 20 mm, and guarantees 100% impermeability regardless of movement, height or dimension.



Membrane function

Due to its membrane-like design, the air-lux air seal adapts flexibly to wind loads and keeps the sliding window element 100% sealed.



Operating characteristics

With the gasket deflated, it retracts to its original profile and the sliding sash can be moved with minimal effort and without friction.

Sliding window

air-lux is more than just a sliding window. It's a concept.
The design, operation and patented air seal work together seamlessly
to enable large-scale glazing with uncompromising impermeability.
The result: a system that adds a new dimension to architecture and
sets new technical standards.

Space without limits

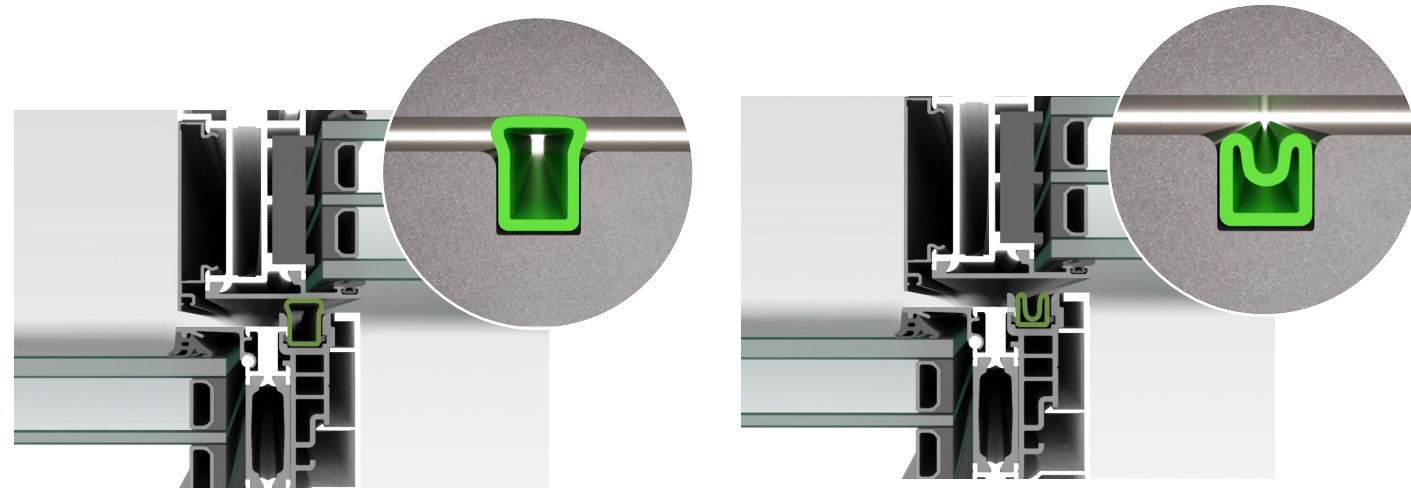


air-lux combines architecture, design and technology without compromise. The patented air seal enables impressive glass surfaces, maximum precision and 100% impermeability. The system delivers consistent performance over its entire life cycle. Unlike conventional brush seals, it shows no signs of wear. A solution that allows architectural design freedom and creates spaces where indoors and outdoors merge seamlessly.

Impressive technology

With sash weights of up to 1,800 kg and glass surfaces of up to 25 m², air-lux sliding windows operate at a scale that places the highest demands on the system and structural engineering. Reinforced profiles, robust rollers and high-quality fittings ensure that every element runs smoothly, reliably and durably.

The unique air-lux sealing concept with a continuous inflatable gasket guarantees 100% impermeability against driving rain, wind and noise.



Inflated gasket

- When the button is pressed, air is pumped into the seal.
- The gap between the sliding element and the fixed frame is completely sealed.

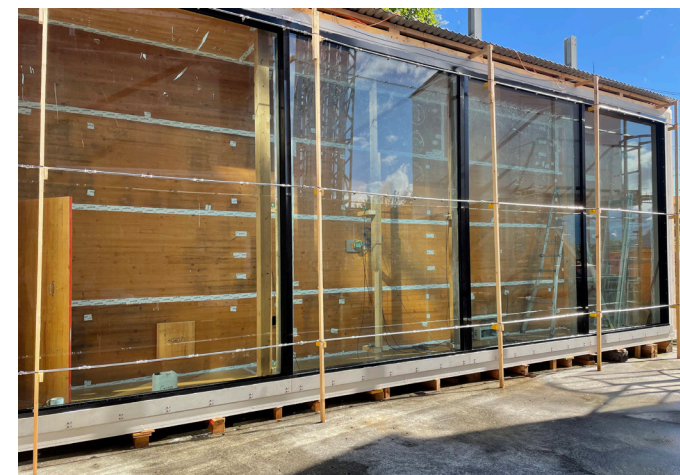
Deflated gasket

- When the button is pressed, the air escapes.
- The seal retracts to its original concave profile.

Impressive functions



Successful test of a curved bi-parting sliding window system for a project in a typhoon region in Hong Kong. The element is tested with a wind load of 25 t (suction and pressure) and must continue to function flawlessly afterwards.



Test setup of a large-format air-lux bi-parting sliding window system for a project in Hong Kong. In the typhoon region, the building envelope has to withstand wind loads of more than 4 kN/m². The requirements are therefore higher than the loads used in hurricane tests in the USA. Stability, impermeability and functionality are tested under extreme climatic conditions.

Our sliding windows are CE-compliant and meet the following safety regulations and EU directives/standards:



Air permeability

Classification in accordance with EN 12207:2016-12 | up to class 4



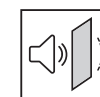
Driving rain impermeability

Classification in accordance with EN 12208:1999-11 | up to class E1500



Wind load

Classification in accordance with EN 12210:2016-03 | up to class C4/B4



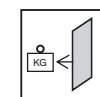
Noise insulation

Measurement in accordance with DIN EN ISO 10140-2 up to 44 dB



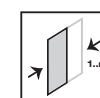
Burglar resistance

Classification in accordance with EN 1627-1630 up to RC 3



Operating forces

Classification in accordance with EN 13115:2020-11 | up to class 2



Resistance to repeated opening and closing

Classification in accordance with EN 12400:2002-10 | up to class 4



Rollover capability

in accordance with ift guideline BA-01/1 | up to class 6

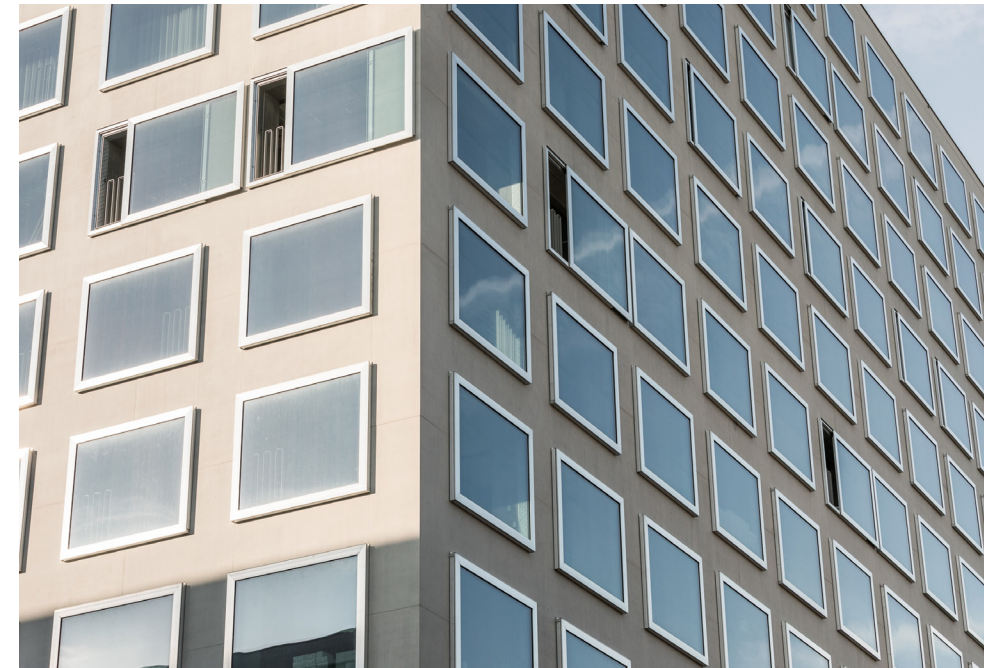
Architectural freedom

air-lux offers creative freedom where other systems reach their limits. Thanks to the patented air seal, custom designs, special geometries and large-format sliding elements can be sealed reliably. Whether configured as a corner solution, curved, inclined or individually tailored, the air seal reliably compensates for structural tolerances and ensures a consistently high level of impermeability. This results in

transparent building envelopes that can be planned with architectural freedom and implemented with technical precision.



Sliding window



↑ **Architects: E2A/Piet Eckert und Wim Eckert Architekten, Zurich**

This special solution shows how air-lux combines architectural freedom and technical requirements. Together with the architects, a system was developed in which no tracks or guide rails are visible from the outside. This creates maximum transparency without any obtrusive mullions – while also allowing the element to be opened to let in fresh air.

The floor-to-ceiling sliding windows run outside the building, enhancing the clean, uncluttered façade appearance. As the system was installed in hotel rooms in an urban setting, reliable noise insulation was crucial – and was implemented without compromising on transparency, comfort or functionality.



↑ **Architect: Lucia Christen, Horgen**

Inclined sliding elements place particular demands on impermeability. The inclination and the net weight of the glass can cause deflections and different gap sizes.

This is exactly where the air-lux air seal comes into its own: it adapts to the respective geometry like a membrane and reliably compensates for larger tolerances. This ensures that the element remains completely impermeable even with varying gap sizes.

← **Architect: Walder GmbH, Rorschach**

Sliding window



↑ Architect: Werner Sobek, Stuttgart



↑ Architect: Corneille Uedingslohmann Architekten, Cologne
→ Architect: Weber + Hummel, Stuttgart



Sliding window

Sliding window



↑ Architect: Ernest Jenner, Sausheim



↑ Architect: Arndt Geiger Herrmann, Zurich
 → Architect: wild bär heule architekten ag, Zurich



Sliding window

Sliding window

High-rise highlights

Optimal value and maximum comfort on every floor

Advancing urbanisation is causing cities to grow and residential buildings to shoot up ever more frequently. High-rise buildings are increasingly becoming the key to new living space in densely built-up urban areas. As the height increases, so do the demands placed on the façade. Wind loads, building movements and background noise make opening elements a technical challenge – often achievable with conventional systems only by compromising on functionality. Thanks to the patented air-lux air seal, this is

now a thing of the past. It enables openable façades with sliding windows that remain 100% impermeable and fully functional without compromising the architecture – even in high-rise buildings.



↑ Architect: Philipp Brühwiler, Zug



More stringent requirements

Tall buildings are subject to natural movement. With increasing height, stronger wind loads, suction forces and static deformations affect the façade construction. air-lux sliding windows are designed to meet these higher requirements

and reliably accommodate building movements – regardless of whether they are static (permanent) or dynamic (variable).



Consistent performance

High-rise buildings are subject to constantly changing pressure and suction forces. These loads significantly reduce the service life of conventional brush seals; in practice, it is virtually impossible to replace them.

The air-lux air seal works according to a different principle. Thanks to its membrane-like characteristics, it adapts flexibly to changing influences. This prevents any signs of wear and tear. The result: consistent performance that promises 100% impermeability even after years.





↑ Architect: Dibelius Architekten, Hamburg
 → Architect: Max Dudler GmbH, Berlin



Sliding window



↑ Architect: Elkus Manfredi Architects, Boston
→ Architect: Hadi Teherani Architects, Hamburg



Sliding window

Descen- ding window

A descending window is more than just a window – it's an architectural highlight. At the touch of a button, the entire glass front lowers silently into the floor and opens up the entire width of the room. The transition between indoors and outdoors disappears completely. What remains is a moment that brings architecture to life.

The vertical highlight

A descending window is the only solution that allows the entire glazing to be fully lowered. The window front retracts into the floor, creating a continuous opening across the entire width of the façade. This results in a seamless spatial concept without boundaries that is not possible with any other system.



Descending window

Descending window

From indoors to outdoors

The air-lux descending window opens up rooms in an impressive way. When closed, it appears as a large-scale glass façade with maximum transparency and a striking architectural effect (1). When the system is activated, the entire glazing lowers almost silently (2).

The technical room, housing the drive, guiding bracket and counterweight, is located below floor level. There, the descending window disappears completely into the floor. When open, a continuous, barrier free opening remains, seamlessly connecting the indoors with the outdoors (3).



Postless U-shaped descending window

The air-lux descending window is available in different geometric designs. In addition to the classic straight design, L-shaped corner solutions and generous U-shaped façade openings can also be implemented. This allows for flexible solutions to different architectural scenarios and enables several façade sides to be opened at the same time. Depending on the project, sliding windows can also be integrated into the descending window system. This creates additional opening options and allows for even more versatile use of the façade area.



16.5 m long descending window with two integrated sliding windows



Postless corner descending window

Lowered and concealed
When open, no threshold is visible. Whether it's parquet, porcelain stoneware or natural stone, the same floor material can be continued across the opening.



Descending window



↑ Architect: Mähr Wolfgang i.Architecture & Baudesign
 ← Architect: A69 architekti s.r.o. Prague



The largest descending window in the world with triple insulating glazing measuring 16 m wide and 2.8 m high. The weight of the glass is 7,500 kg.

Pivot door

The entrance is more than just a door – it is a building's calling card. It defines the first impression, sets the tone for the architecture and creates the moment of arrival. This gives rise to new proportions in the entrance area – with a presence that lends character to the façade and turns the entrance into an architectural experience.

A design statement



Unique design. Unique technology.

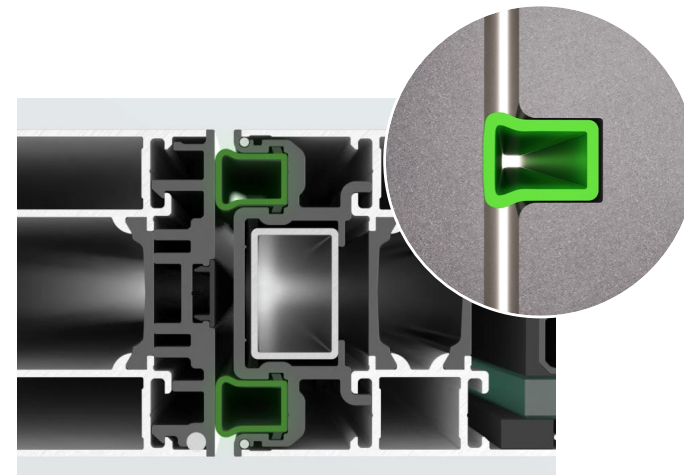
Thanks to our patented air seal, the air-lux pivot door is completely impermeable – to wind, rain and noise. The innovative sealing concept with two continuous inflatable gaskets guarantees 100% impermeability, enabling direct integration into the façade without the need for a canopy or similar structure. air-lux combines innovative technology with striking design and opens up a whole new range of possibilities for pivot doors.



↑ Architect: David Chipperfield, David Chipperfield Architects

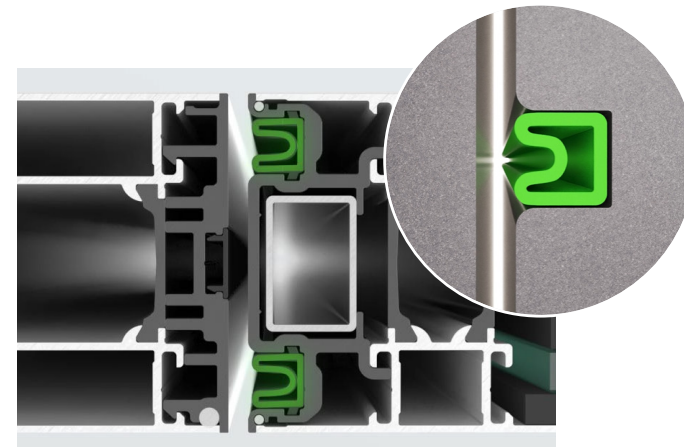
The larger the air-lux pivot door, the more impressive the effect when open.

The maximum size is 15 m² (3 metres wide, 5 metres high) and the maximum weight is 700 kg.



Inflated gasket

- When the button is pressed, air is pumped into the seal.
- The gap between the door leaf and the fixed frame is completely sealed.



Deflated gasket

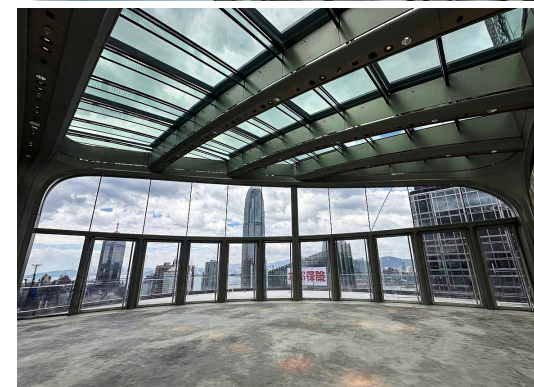
- When the button is pressed, the air escapes.
- The seal retracts to its original concave profile.

Maximum security



The air-lux pivot doors are equipped with four electromechanical locking points and two maintenance-free pivot bearings. Electronic sensors monitor the closing position and locking mechanism – controlled via the BMS, alarm system or conveniently by means of your smartphone or tablet. They can be operated from the outside via a key, code, fingerprint scanner or badge.

Free forms



↑ Architect: Zaha Hadid Architects

air-lux pivot windows and pivot doors guarantee complete architectural freedom and a unique variety of forms thanks to their unique air sealing technology. What's more, they become fascinating and defining design elements. For example, curved pivot doors can also be realized.

Looks you can feel



Material selection

Whether a special wood, bronze finish (burnished brass) or stone, we tailor door leaves and handles to your requirements with individually selected materials and surfaces. The core is always our high-quality, thermally insulated aluminum profiles, clad with the desired material.



Door handles

The handle is more than just a detail – it has a decisive impact on the overall impression and feel.

With your air-lux pivot door, you are free to choose: full height or smaller, in the colour and material of your choice.



↑ Architect: Roger Bechtiger, St. Gallen



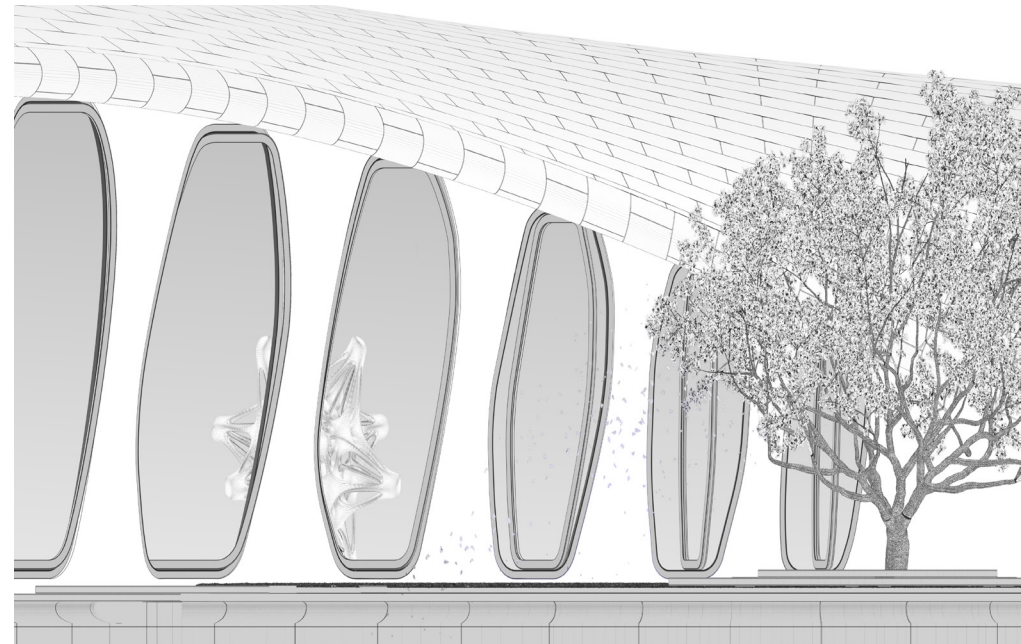
↑ Architect: Arndt Geiger Hermann, Zurich



Special solu- tions

Every special solution is unique. Together, we combine vision and technology by creating openings that transform the way rooms feel.

Implementing architectural visions – without compromises



↑ 1. From vision to sketch

Every special solution starts with an architectural vision. Whether it's a bold shape, an unusual format or a unique function: we take an idea or a sketch by the architect as our starting point and use it to develop specific solutions. With over 20 years of experience in air-lux and 60 years in façade construction, we are the ideal partner for turning extraordinary ideas into feasible concepts without compromising on design or performance.

↓ 2. Precise planning with state-of-the-art technology

In the planning phase, we combine cutting-edge technology with craftsmanship. With the help of state-of-the-art 3D planning, simulations and models, we make complex ideas tangible and verifiable. At this stage, we are already making sure that design, technology and safety work together perfectly. Thanks to interdisciplinary expertise from development, design and production, we create solutions that not only impress architecturally, but can also be implemented efficiently and reliably.

Successful architecture doesn't follow convention. With around 60 years of expertise in façade construction, we turn big ideas into built reality – even when things get complex. Our special solutions for sliding windows, pivot doors and descending windows open up new shapes, radii and inclinations. The aim: maximum architectural freedom. Without compromise.

Craftsmanship meets high-tech – from planning through to installation. Whether it's individual project or a multi-storey glass façade, 20-metre-long descending windows or individually shaped pivot doors, we deliver expertise, creative solutions and professional service. In Switzerland and around the world.





↑ 3. Test setup at the factory

Before a special solution is used on the construction site for the first time, we bring it to life here in Engen- burg. In the workshop, we build each element true to the original design, put it through rigorous testing and optimise it down to the last detail. In this way, we ensure that function, impermeability and comfort meet the highest requirements. The patented air-lux air sealing mechanism guarantees uncompromising performance even with unusual formats, weights or geometries.



↑ 5. Installation by our special- ists

Installation is crucial for the flawless functionality of every special solution. Our experienced installers are involved right from the test setup stage in the workshop and know every detail of the element. This knowledge guarantees precision right through to final commission- ing. Whether in Switzerland or around the world, our installation teams ensure that every air-lux element functions flawlessly and that the architectural vision is realised to perfection.

→ 4. Production with maximum precision

When planning becomes reality: our specialists produce the components using state-of-the-art machines and precise craftsmanship. Whether it's a bespoke product or a complex custom design, every detail is carefully implemented, checked and prepared for installation. We combine Swiss precision with decades of experience to produce components that meet the highest demands in terms of both function and aesthetics.



Service and warranty

An air-lux system is designed to last decades. Developed and manufactured in Engelburg, installed with precision and backed by long-term support.

Our aim is to ensure top performance across the entire service life – technically, functionally and aesthetically.

We do not regard service, spare parts supply or maintenance as optional extras. They are integral components of the system. air-lux stands for uncompromising quality, and this commitment remains binding for us for years after handover.

air-lux: a good decision. Guaranteed.

10-year warranty.

A promise of quality that stands the test of time.

air-lux stands for 100% Swiss quality from a single source – well thought out, manufactured with precision and consistently designed for durability. High-quality aluminum profiles, the finest materials and the patented pneumatic air seal combine to create a glass façade system that provides a lasting connection between architecture, comfort and value retention.

This commitment remains evident even after handover. air-lux components with pneumatic air seals have an extended warranty: 10 years on frames, seals and mechanical fittings. This

promise is complemented by a reliable supply of spare parts, professional maintenance and a service team available around the clock in the event of malfunctions.

This is how technical precision becomes long-term reliability, with a system designed to meet the highest standards – and one that remains fully functional over the long term thanks to our warranty, service and maintenance.

A systematic approach to value retention.

The air-lux service contract. A reliable path to long-term security.

Even state-of-the-art systems require regular inspection, care and maintenance. The air-lux service contract ensures consistent performance over the entire service life: with annual maintenance, a professional system check and



Check

Operating characteristics, function and safety components are checked. Electrical parameters such as error messages, opening cycles, pump running times, operating mode and drive data are read out and evaluated.



Adjust

Mechanical components are cleaned, settings checked and malfunctions resolved. Error messages are acknowledged and software is updated as required.

complete documentation. The maintenance-free air seal reduces servicing requirements. A service contract extends the warranty on electrical components from five to ten years.



Replace

Damaged, defective or heavily worn components are professionally replaced – with suitable air-lux components and new warranty periods.



Document

The measured parameters, work performed and replaced components are recorded in writing. This ensures that the service history remains transparent, complete and traceable.



24/7. Personal service. Reliable.

100% quality.
10-year warranty.
1 partner.

24-hour on-call service. Global coverage.
Long-term supply of spare parts. A single point
of contact.



Page 12

Private home in the Zurich Unterland
Architect: Arndt Geiger Herrmann, Zurich
Photo: Beat Bühler Fotografie, Zurich

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Villa in Ticino
Architect: Delta Zero, Lugano
Photo: Fotografie Manufaktur, St. Gallen

Page 16, bottom

Private home in eastern Switzerland
Architect: Walder GmbH, Rorschach
Photo: kienerfoto.ch

Page 17, top

Diakonie Bethanien, Zurich
Architect: E2A Architects, Piet Eckert, Zurich
Photo: Daniel Ammann, Herisau

Page 17, bottom

Private home on Lake Zurich
Architect: Lucia Christen, Horgen

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Private home in Germany
Architect: Werner Sobek, Stuttgart
Photo: Zooey Braun, Stuttgart

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Villa in Cologne
Architect: Corneille Uedingslohmann Architekten, Cologne
Photo: Michael Neuhaus, Duisburg

Page 19, bottom right

Panoramic villa in Ulm
Architect: Weber + Hummel, Stuttgart
Photo: Gerd Schaller, Augsburg

Page 20, top

Villa in north-western Switzerland
Architect: Ernest Jenner, Sausheim
Photo: Daniel Ammann, Herisau

Page 20, bottom

Private home in the Zurich Unterland
Architect: Arndt Geiger Herrmann, Zurich
Photo: Beat Bühler Fotografie, Zurich

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Private home in central Switzerland
Architect: wild bär heule architekten ag, Zurich
Photo: Roger Frei, Zurich

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Hochhaus B125, Zug
Architect: Philipp Brühwiler, Zug
Photo: Valentin Jeck, Stäfa

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'Schwarzwald' high-rises, Shanghai, China
Architect: Dibelius Architekten, Hamburg
Photo: CEG, China Eagle Group

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Kureck, Wiesbaden
Architect: Max Dudler GmbH, Berlin

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One-One, Cham
Architect: Elkus Manfredi Architects, Boston

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Strandkai 'Fifty-nine', Hamburg
Architect: Hadi Teherani Architects, Hamburg

Page 36, top

Pool house, Austria
Architect: I. Architektur & Baudesign, Trübbach
Photo: Hanno Mackowitz, Innsbruck

Page 36, bottom

Villa in Czechia
Architect: A69 architekti s.r.o. Prague
Photo: Lukáš Hausenblas

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Luxury villa in Dubai
Architect: Godwin Austen Johnson Architects, Dubai
Photo: Flick.global, Dubai

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The Henderson, Hongkong
Architect: Zaha Hadid, Architects

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Pivot door, eastern Switzerland
Architect: Roger Bechtiger, St. Gallen
Photo: Daniel Ammann, Herisau

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Private home in the Zurich Unterland
Architect: Arndt Geiger Herrmann, Zurich
Photo: Beat Bühler Fotografie, Zurich

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Twin-Pivot in northern Germany
Architect: Dipl. Ing. Stefan Bruns, Lübeck/Fritz Höger + Partner
Photo: M.A. Alexander El-Jarad, Lübeck

air-lux – no compromise.



100 % impermeable thanks to a patented inflatable sealing system



Surfaces made of aluminum, wood and burnished brass



Optimal running characteristics/ smoothness



Frameless sliding sashes up to 25 m² and 1,500 kg



Floor-to-ceiling installation



High security thanks to optimal burglary protection
