

A new dimension
of design.





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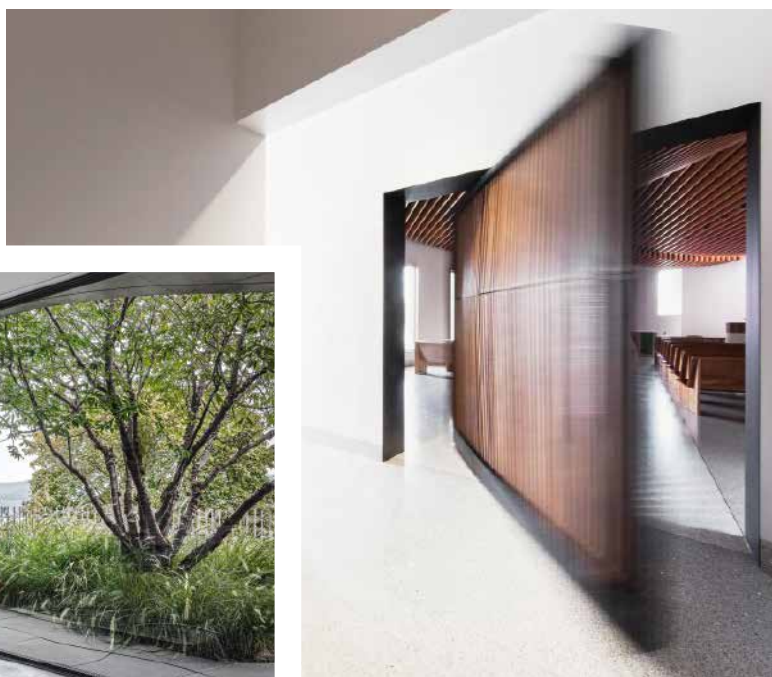
New technologies open up new possibilities.

The partnership between Schüco and air-lux demonstrates this in a unique way. The patented active sealing technology from Air-lux Technik AG is the perfect solution for extraordinary door and window concepts and has been used successfully in a number of projects and building applications for 15 years. Schüco brings its extensive experience in the development and design of sophisticated façade solutions. By combining our expertise, we can create unique products and solutions that meet the most exacting demands for perfection in terms of function and appearance.

We are looking forward to working together with you on some challenging projects.

Contents

04	Stronger together: Schüco and air-lux
06	Sliding systems with air-lux technology
08	Outstanding properties
12	All the benefits at a glance
14	High-rise highlights
18	Residential highlights
22	Pivot doors with air-lux technology
24	Impressive features
26	All the benefits at a glance
28	Residential highlights
34	Your project with air-lux sealing technology





Developing; testing; shaping the future.
The Schüco Technology Center





Teamwork. Stronger together.

Collaboration that
knows no bounds.

Through their collaboration, Schüco and air-lux are enabling stunning buildings to be created with aluminium systems at the highest technical level.

In the future, we will offer jointly developed products with active gasket technology to harness further technological potential in the building envelope.

5

Sliding systems with air-lux technology.

Schüco Panorama Design sliding doors with patented air-lux gasket concept meet the most exacting demands in terms of function and appearance. They have been well thought-out down to the finest detail with a whole host of impressive features. We are happy to put together an individual plan with you and advise you on the different sizes, installation options and designs.



reddot winner 2022

6





100% weathertight thanks to a patented gasket system.

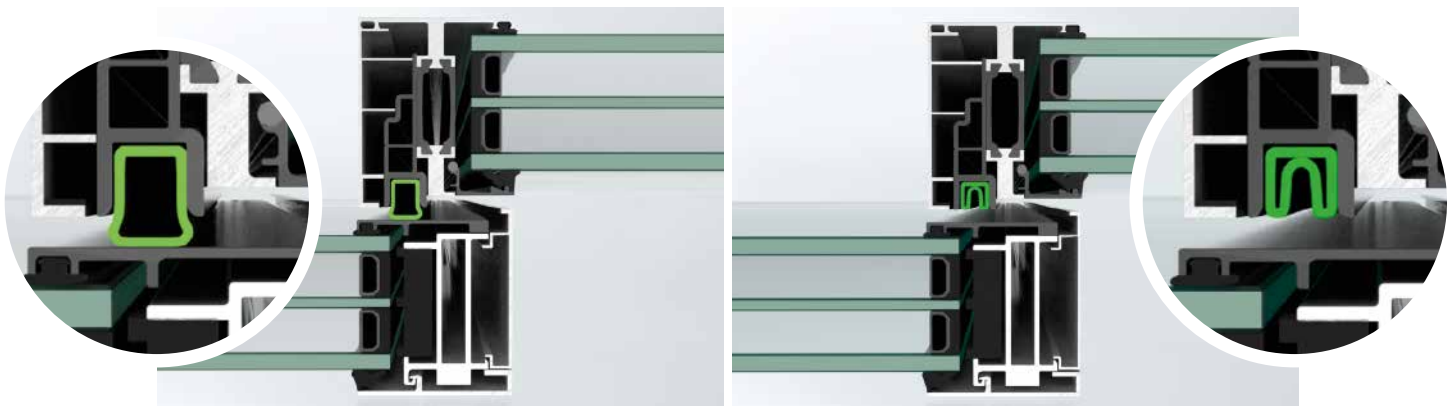
For high-rise buildings, sliding vents were previously used only very rarely because the sealing of the sliding windows was problematic due to the lack of contact pressure on the gasket. Even the lift-and-slide or parallel-sliding systems used today are often unsatisfactory in terms of weathertightness, ease of operation and appearance.

air-lux takes a new approach with its gasket concept and, instead of moving the heaving sliding unit to achieve the required contact pressure, it simply moves the gasket. This patented gasket concept brings with it a plethora of advantages.

Schüco Panorama Design AS AL 75 sliding system with air-lux gasket concept

100% weathertight and very easy to operate – features that were only previously possible with side-hung windows. When open (gasket inactive), the gasket is rolled in and the sliding vent can be moved with minimum effort. In contrast to systems with brush gaskets, there is no compromise on weathertightness or ease of operation.

8

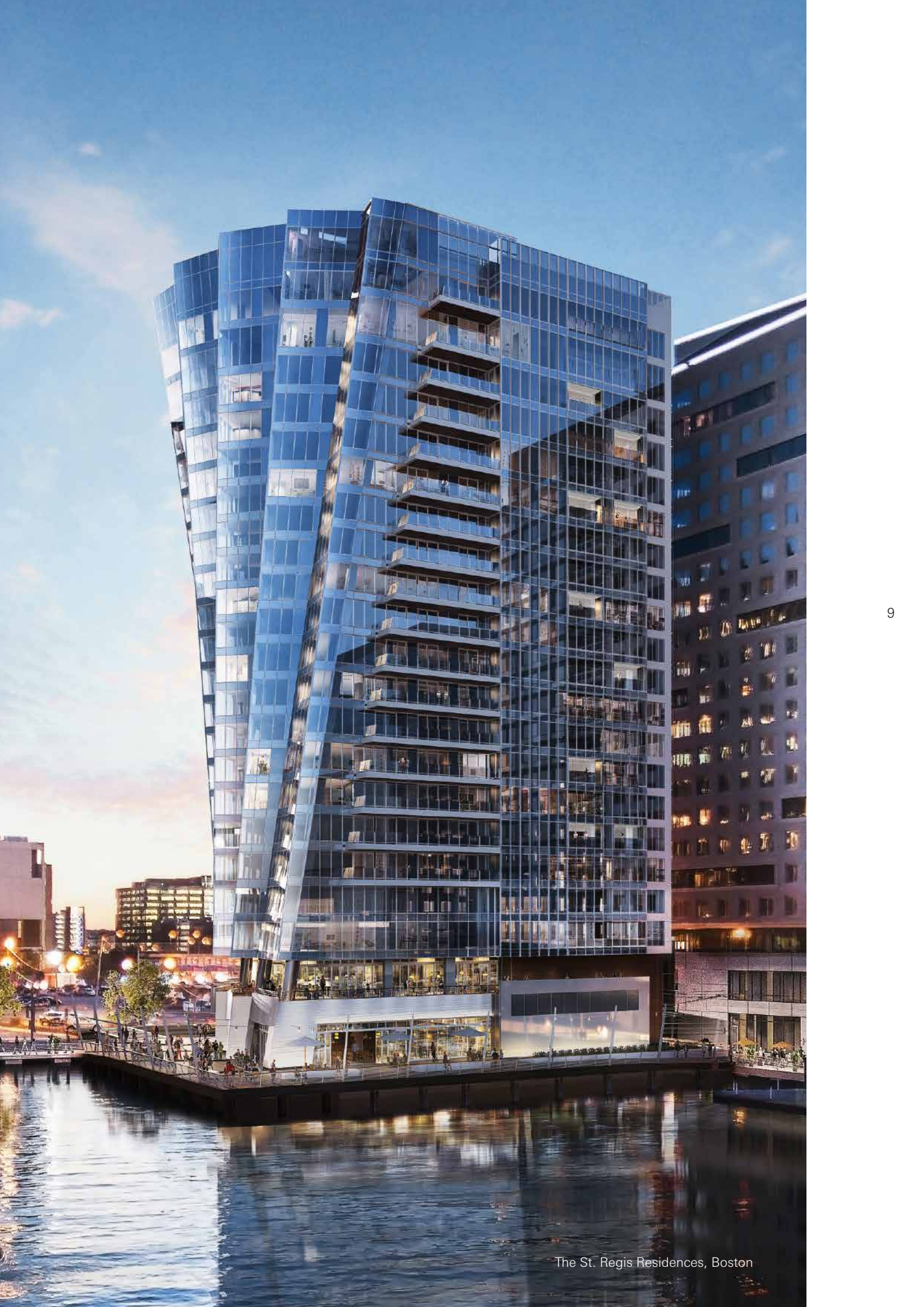


Active gasket

By pressing the button, air is generated in the frame and pumped into the gasket. This presses the gasket against the sliding profile and closes the gap between the sliding unit and the fixed frame so that it is completely weathertight.

Inactive gasket

To open, press the button again. The air is removed and the gasket returns to its original, rolled-in position.



The St. Regis Residences, Boston

air-lux gasket with membrane function.

The sliding vents and the fixed units deflect as a result of the changing wind loads that act on the façade (positive/negative wind loads). For a 3 m tall sliding unit and a maximum permitted deflection of $L/150$, this produces deformation of up to 20 mm.

The membrane-like character of the gasket means that it adapts to these movements and the sliding window always remains 100% weathertight, irrespective of whether the wind load is positive (Fig. 1) or negative (Fig. 2).

In addition, impact noises on the profiles in strong winds are a thing of the past. The constant contact pressure of the pneumatic gasket means that any play in the sliding unit is eliminated.

Gasket with membrane function for constant contact pressure

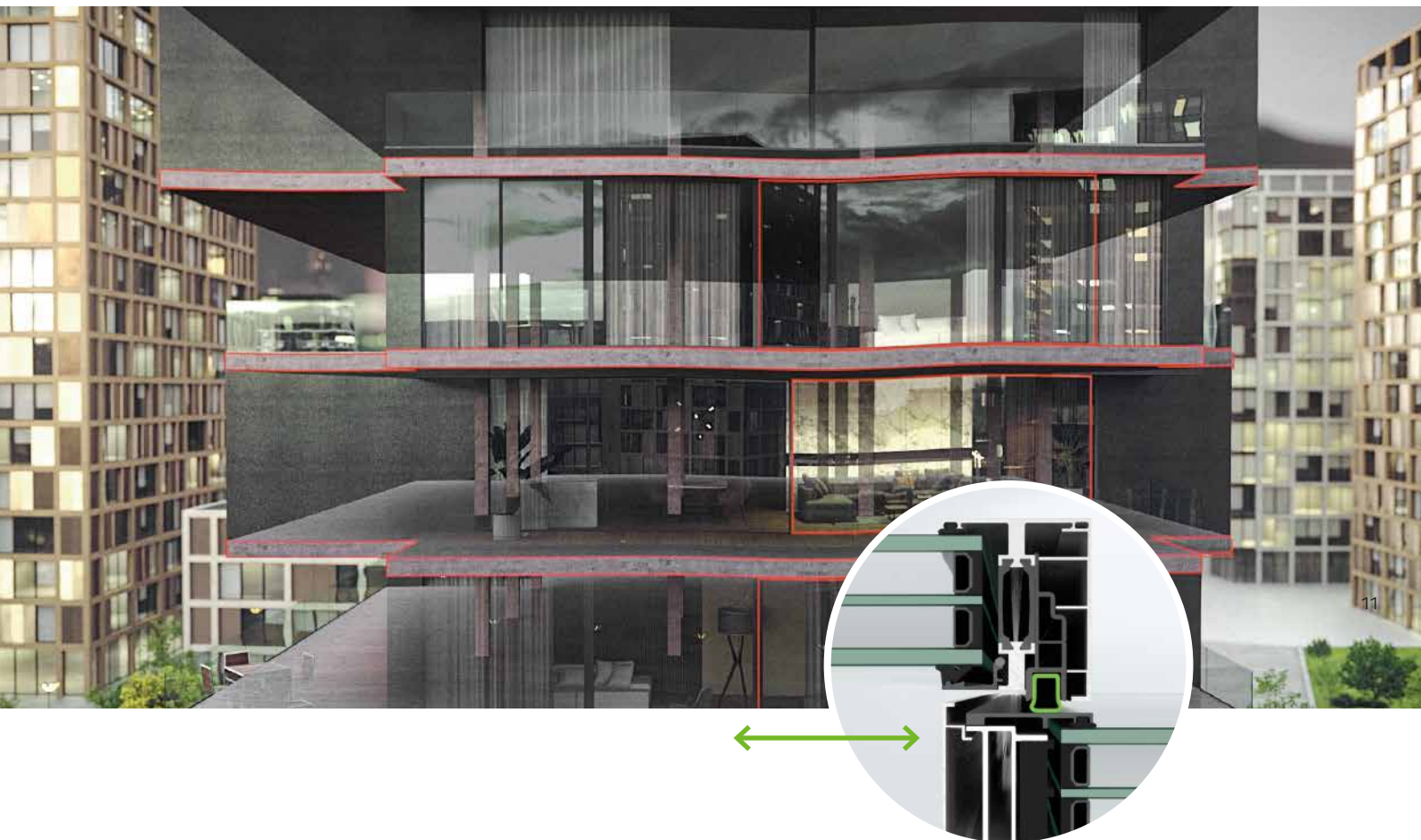
Fig. 1
Positive pressure loading



Fig. 2
Negative pressure loading



Outstanding performance even with building settlement.



A certain amount of movement or settlement occurs in every building. In high-rise buildings, local supports combined with a load-bearing core at the centre perform a stabilising function. Suspended floors and ceilings between the supports often result in a greater degree of movement. This has a negative impact on the function of the façade and, specifically, on the opening units.

There are therefore two important questions to ask when choosing the right window: How much is the building likely to move and how much movement can the windows accommodate without losing weathertightness? The patented air-lux gasket system remains 100% weathertight with a lintel settlement of up to 40 mm and a sill settlement of up to 20 mm.



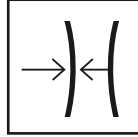
Find out more:



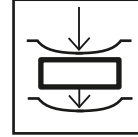
All the benefits at a glance.



100% weathertight –
thanks to a patented,
inflatable gasket system



Gasket with membrane
function

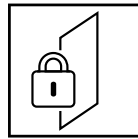


Accommodation of
building settlement

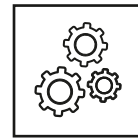
Available add-ons



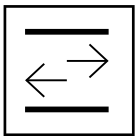
Frameless sliding
vent up to 25 m² and
1800 kg



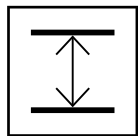
High level of security
thanks to excellent
burglar resistance up
to RC 3



Automation through
integrated drive



Extremely smooth to run/
operate



Floor-to-ceiling
installation



Level threshold

We keep
our promises.



EU standards

US standards



Air permeability

Classification in accordance with standard
EN 12207:1999-11 Class 4

Air permeability

Classification in accordance with standard
ASTM E 283-04 0.00 cfm/ft @ 300 Pa (6.24 psf)



Watertightness

Classification in accordance with standard
EN 12208:1999-11 Class E1500

Watertightness

Classification in accordance with standard
ASTM E 330-02(10) Load Deflection +/- 2394 Pa (+/- 50 psf)
ASTM E 330-02(10) Structural Load +/- 3591 Pa (+/- 75 psf)
ASTM E 331-09 Uniform Pressure No ingress @ 958 Pa (20 psf)
ASTM E 547-09 Cyclic Pressure No ingress @ 958 Pa (20 psf)

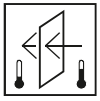


Wind load

Classification in accordance with standard
EN 12210: 1999-11 Class C4 / B4
AC: 2002-80 1600 Pa
2400 Pa max.

Wind load

Classification in accordance with standard
ASTM E 330-02(10) Load Deflection +/- 2394 Pa (+/- 50 psf)
ASTM E 330-02(10) Structural Load +/- 3591 Pa (+/- 75 psf)
ASTM E 330-02 (10)
Deglazing No damage
ASTM E 987-88 (09)

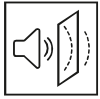


Thermal insulation

Classification in accordance with EN 10077-1
0.92 W/(m²K), U_g 0.6 W/(m²K) U_w value, project-related
0.83 W/(m²K), U_g 0.5 W/(m²K)

Thermal insulation

Classification in accordance with standard
Glazed wall system, NFRC certified 0.18 Btu/hr.sqft. °F (1.02 W/(m²K))
Sliding door, NFRC-certified 0.24 Btu/hr.sqft. °F (1.36 W/(m²K))



Sound reduction

Project-related up to 44 dB,
depending on the unit size/glazing

HIGH-RISE HIGHLIGHTS with sliding doors

A building without compromise. **Timeless excellence.**

High-rise building with luxury privately owned apartments. Two residential towers with positive and negative wind loads of 316 kg/m^2 . Maximum requirements in terms of sound reduction due to the central location.

Electric sliding units measuring up to $4.3 \times 2.85 \text{ m}$, some of which have integrated all-glass safety barriers. air-lux developed the entire glass façade for the 94 m tall high-rise building (24 storeys with roof terrace).





Shanghai, China

Sales partners Shanghai Orville Architecture,
Energy Saving & Technology Co., Ltd.

Architect Dibelius Architekten, Hamburg

Client CEG, China Eagle Group, Shanghai

Photos CEG, China Eagle Group, Shanghai

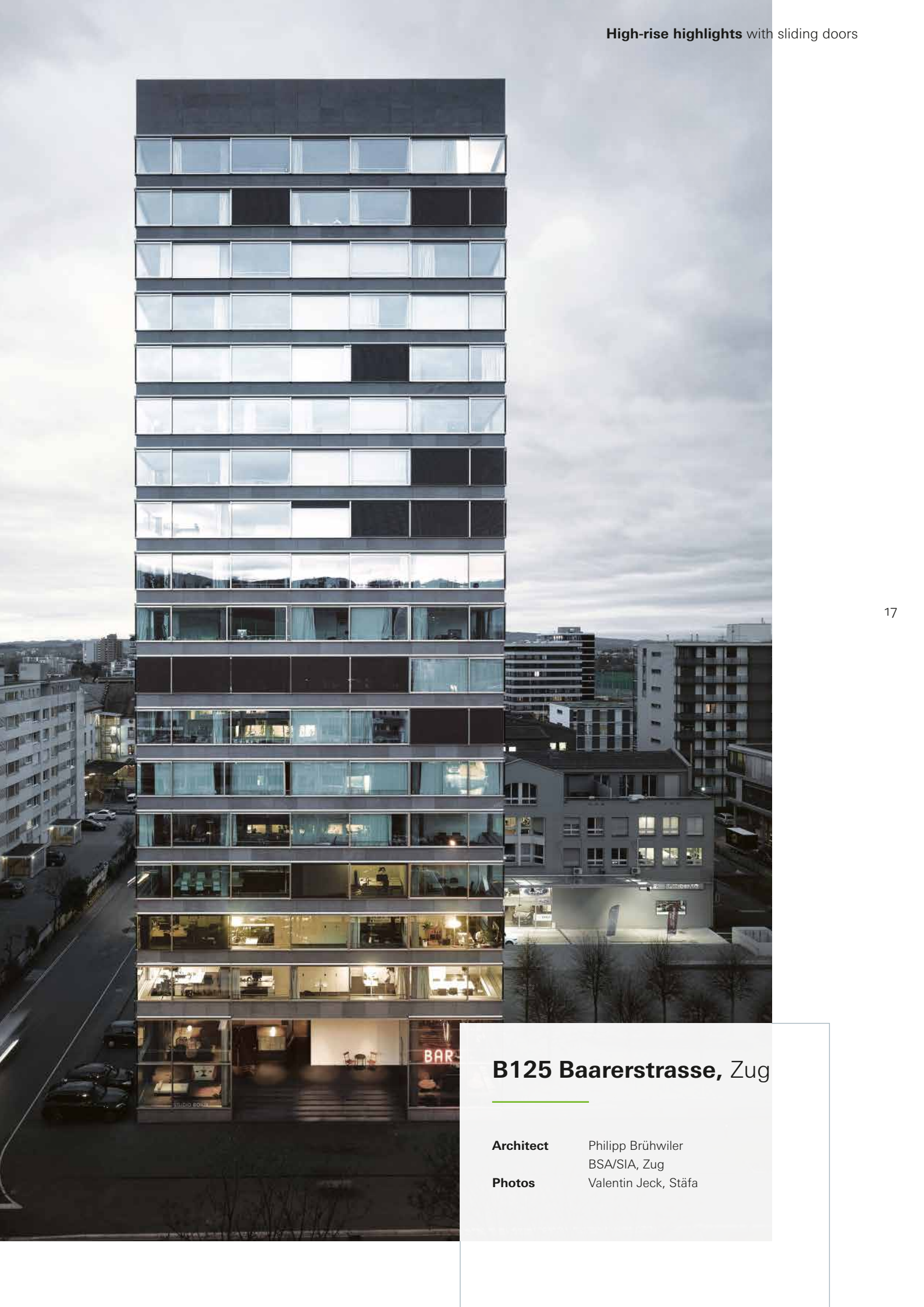


16

“People spend
one third of their
day in offices.”

The first high-rise residential building in Switzerland with a sliding vent façade. The solution was constructed by Krapf AG using a combined glass/natural stone façade as well as external sun shading, measuring 56 m high. 18 storeys were fitted with 136 pneumatically sealed air-lux sliding windows. air-lux can be combined with system profiles and, thanks to its 100% weathertightness, is perfect for high-rise constructions.





B125 Baarerstrasse, Zug

Architect Philipp Brühwiler
BSA/SIA, Zug

Photos Valentin Jeck, Stäfa

RESIDENTIAL HIGHLIGHTS with sliding doors

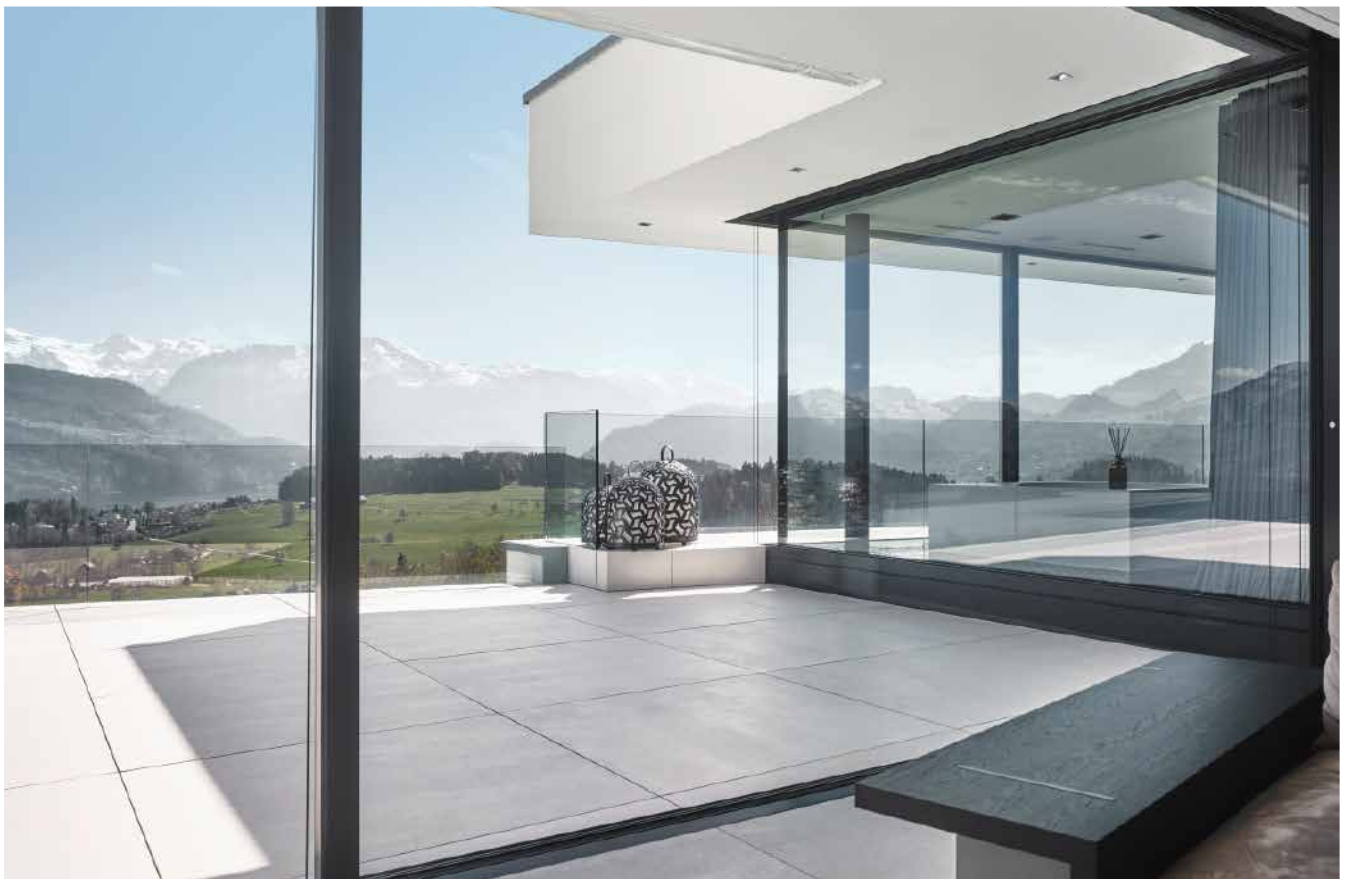


18

An interplay between
modern architecture and
our natural surroundings.

Extremely **comfortable living.**

Fully fitted by air-lux and Krapf AG. 13 manually operated and electric sliding vents, which can be opened at the corners without mullions, 6 x 3 m, with floor-to-ceiling installation; air-lux safe security feature, flyscreen and turn/tilt windows. Rear-ventilated façade cladding, burnished brass garage door and side entrance doors. Screen-printed glass entrance area. External doors made from anodised sheet aluminium with laser-cut decoration. External shading, glass railings.



Private home, Switzerland

Architect Frieri Architekten, Lucerne
Photos Valentin Jeck, Stäfa

The interior and exterior flow into one another thanks to generous sliding ribbon windows, offering breathtaking views. Ten automatic air-lux sliding windows, measuring 3 m high by 3.8 m wide, create a living space that represents the height of comfort. Two circular skylights and one rectangular skylight fill the rooms with even more natural light. The air-lux façade is also fitted with textile shading and entrance doors made of aluminium.



Flowing transitions between
inside and outside
extend the living space.



Zürich 7

Architect
Photos

Wild Bär Heule, Zürich
Roger Frei, Zürich

Pivot door systems with air-lux technology.

Pivot doors from Schüco set new standards in luxury residential and commercial construction. They provide smooth transitions between indoors and outdoors. The wide range of available colours and materials ensure maximum design freedom. High-quality components and the innovative air-lux gasket technology mean that the doors are extremely easy to use, for outstanding perfection.

22



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Impressive design.

Remarkable functionality – with effortless ease.

24

Pivot doors are swung on a rotational axis. This makes it possible to have impressively sized door leaves that are still easy to use. Pivot doors reveal their unique appearance from both the inside and outside. They are best suited to entrance areas with wide openings, as an impressive alternative to conventional side-hung doors.



**Magnificent sizes**

The larger a pivot door, the more impressive its effect. We offer door leaves with an area of up to 10 m² and weight of up to 500 kg as standard. We are happy to design larger and heavier pivot doors on request, including with special security features. Contact us.

Range of materials available

You can order the leaves of our pivot doors in a range of different materials and surface finishes, including glass, timber, structural bronze and stone effect. The frame will always be made from high-quality, thermally insulated aluminium profiles. It is matched to the appearance of the door leaf or covered in the desired material.

Highest level of security

The mechanical and electromagnetic base components of our pivot doors already provide a high level of security. We can also integrate electronic security devices which can be linked to modern building management and alarm systems – for reliable monitoring,

including with mobile devices such as smartphones or tablets. Our engineers coordinate with the relevant specifiers and security staff prior to installation.

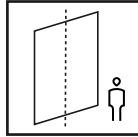
Easy to operate

The pivot door is operated from the inside using a push button in the frame profile or in the wall. The door is opened and closed from the outside by means of standard smart home systems or an entry code. Conventional access control systems can also be connected. As soon as the door is closed again, a magnetic contact activates the auto-lock function. It locks the door automatically after a set amount of time. In the process, the air-lux gaskets are also filled with air, providing a perfect seal for the door.

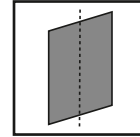
All the benefits at a glance.



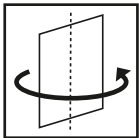
100% weathertight – thanks to a patented, inflatable gasket system



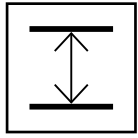
Fascinating dimensions



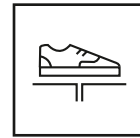
Opaque or transparent infills available



Smooth, controlled door movements



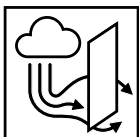
Floor-to-ceiling installation



Level threshold

26

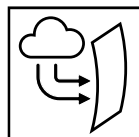
EU standards



Air permeability

Classification in accordance with standard EN 12207:2016-12

Class 4



Wind load

Classification in accordance with DIN EN 12210

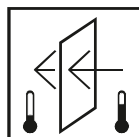
Class C2/B2



Watertightness

Classification in accordance with standard EN 12208:1999-11

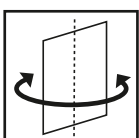
Class 9A



Thermal insulation

Classification in accordance with EN 10077-1 **$U_d = 1.0$ to $1.5 \text{ W}/(\text{m}^2\text{K})$**

Depending on the size and glass thickness

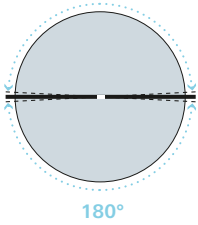


Resistance to repeated opening and closing

Classification in accordance with DIN EN 12400

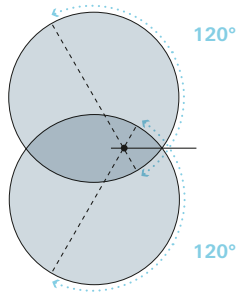
Up to class 3

Centralised hinge position



180°

Decentralised hinge position



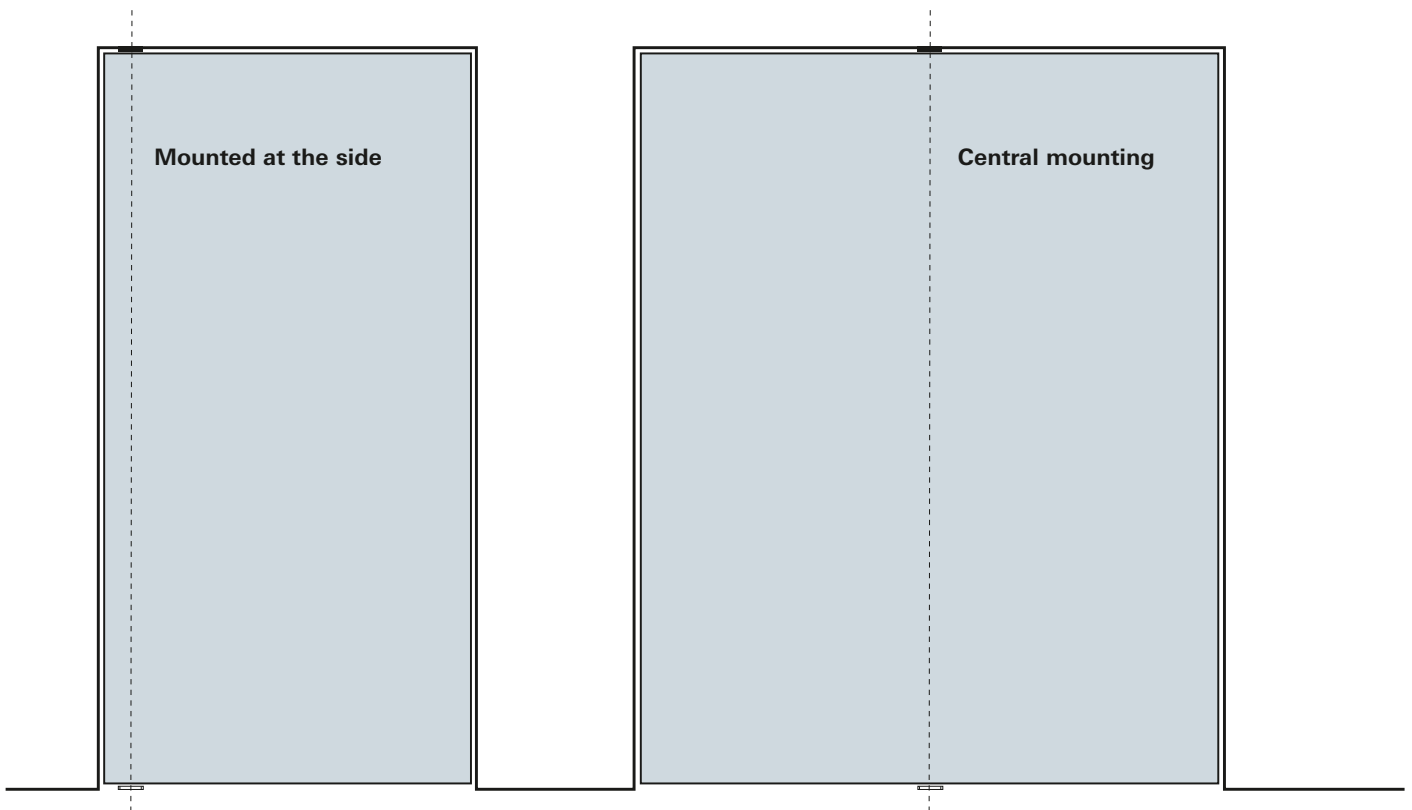
120°

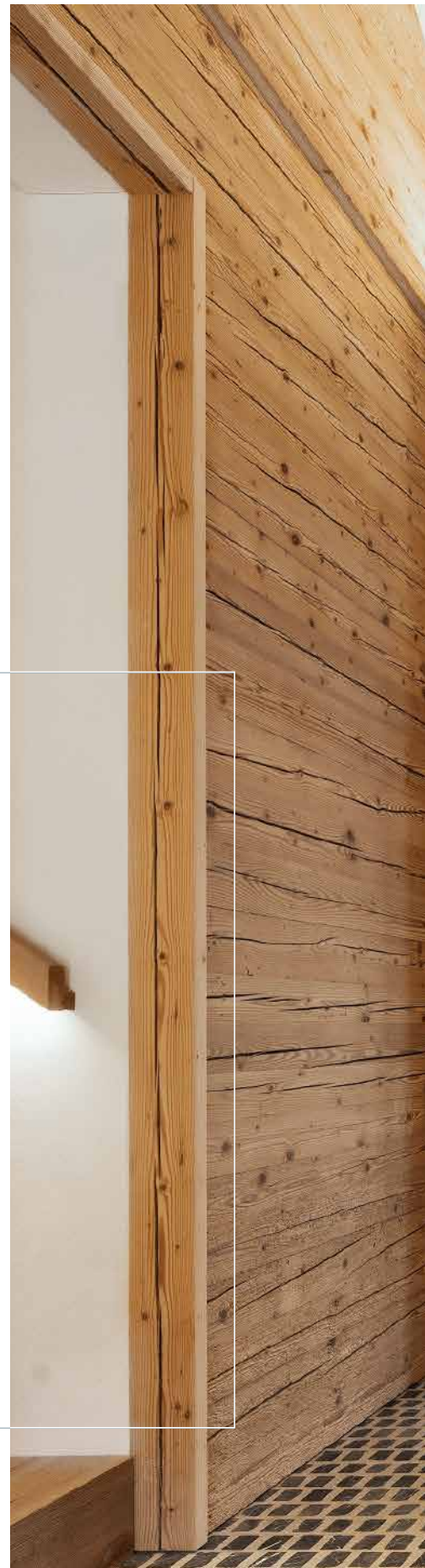
120°

Extremely flexible and easy to use

Schüco pivot doors have specially developed hinge systems that can be mounted centrally or decentrally. Depending on how they are mounted, they support rotational angles of 90° to 360°, enabling maximum flexibility in use. These innovative hinges mean that all of our pivot doors can be moved with minimal effort, despite their impressive size and weight.

Individual position of the hinges





When a door becomes a **design feature**.

This balcony pivot door creates an elegant connection between the interior and exterior. It also meets the most exacting requirements for wind resistance and watertightness. Patented air-lux gaskets take care of this, as they do when used in our panorama sliding doors too. Because the pivot point is in the middle of the profile, a pneumatic seal is used on both the inside and outside. With its impressive size measuring 2.60 metres wide and 3 metres high, plus an immense weight of around 600 kg, opening and closing this door is truly magical.



Pivot door, Eastern Switzerland

Architect Roger Bechtiger

Photos Daniel Ammann

- With integrated door closer
- Recessed handle in place of push handle

This modern villa in the Czech capital Prague provides customers and partners with inspiration for creative designs and pioneering plans. The entrance area itself invites you to step right in. The impressive pivot door is opened by means of facial recognition, providing threshold-free access to the interior, which features high-quality design and furniture.



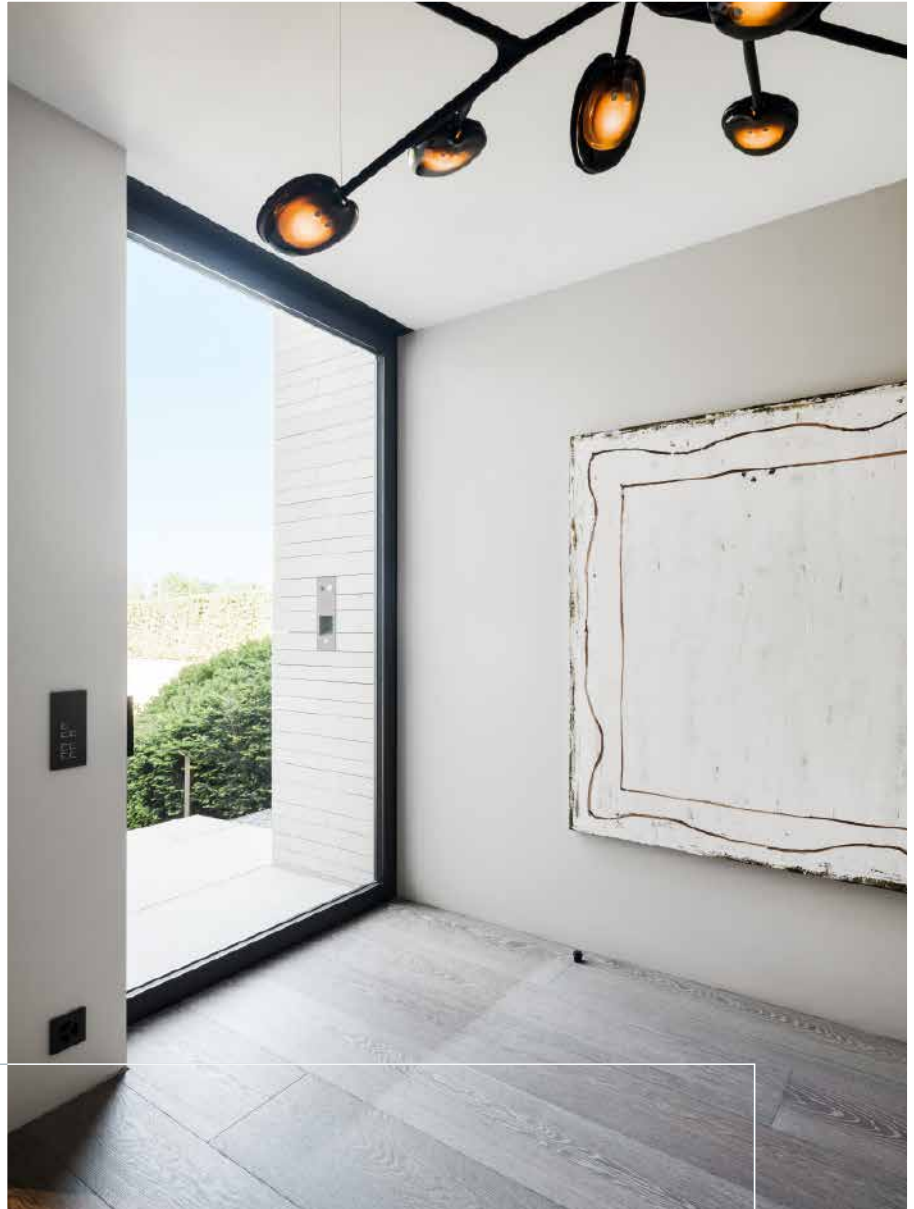


Architectural highlight
with an impressive entrance.

Pivot entrance door in the air-lux show home

Architect Atelier Air Concept
Photos Lukas Hausenblas

- Door opened by means of cutting-edge operating panel with facial recognition
- Pivot door with triple ISO glazing and threshold-free transition
- Glazed, embedded sidelight that is flush with the façade



Light-flooded interior **with access to nature.**

Built on a park-like plot, this private home features large glazed areas and a unique living space. The flexible air-lux façade system gives the house a visual lightness that gives the impression of living in the middle of nature. This is an effect that is amplified by the sophisticated pivot door in the entrance area. It can be opened in both directions, providing a further visual highlight, and thereby plays cleverly with the boundaries between indoors and outdoors.



Private home Zürcher Unterland

Architectural practice Arndt Geiger Herrmann, Zürich
Photos Beat Bühler Fotografie, Zürich

Plan your project with air-lux sealing technology.

Are you already planning a specific project and would you like a personal consultation?

We will be happy to help. Please liaise with your Schüco contact person.





Schüco – System solutions for windows, doors and façades

Based in Bielefeld, the Schüco Group develops and sells system solutions made of aluminium, steel and PVC-U for the building envelope. The product portfolio includes window, door, façade, ventilation, security and sun shading systems, as well as intelligent networked solutions for residential and commercial projects. Schüco also provides consultancy and digital solutions for all phases of a building project – from the initial idea through to design, fabrication and installation, as well as after sales with maintenance and servicing. Fabrication machinery and customer-oriented service complement the product portfolio. As one of the leading companies in the construction industry, Schüco is committed through its products and services to being a pioneer for comprehensive sustainability and actively contributing to climate neutrality and the circular economy within the construction sector. Founded in 1951, Schüco is now active in more than 80 countries and achieved a turnover of 2.28 billion euros in 2022 with 6750 employees. For more information, visit www.schueco.com

Krapf AG is a leading Swiss metal and façade engineering company with over 80 employees

As a one-stop provider of quality solutions, Krapf AG specialises in the consultancy, planning, production and installation of façades, as well as glass and metal fabrication. In 2004, Krapf AG developed the air-lux sliding window system. With this gasket system, air-lux offers products with the best weathertightness in the industry. The fabrication of the robust, slimline aluminium frames meets the highest quality standards.

