SOLARLUX®

cero sliding door

Visualization page 1-4,9: xolo GmbH

Contents

cero

“Form follows function – that has been misunderstood. Form and function should be one, joined in a spiritual union.” Frank Lloyd Wright

Design and application areas

Minimal

The cero sliding door operates within the parameters of aesthetics, functionality and quality. Its slender frames and profiles help to make the elements transparent. Its narrow profiles and slim, all-round panel frames, which are only 34 mm wide, underline the minimalistic design without compromising on aspects such as security, convenience and performance.

Pleasing to the eye

Light-flooded rooms with maximum transparency are not exclusive to certain projects or building types. The desire for light, air and aesthetically pleasing design is universal. From large projects, cultural buildings and restaurants to apartments and houses; with its 98% glass design and a large glass panel size of up to 15 m^2, the cero has an attractive aesthetic, wherever it is used.

ICONIC AWARDS 2015
product
best of best

GERMAN DESIGN AWARD WINNER 2016

Atmosphere

"In the real world, however, architecture is three-dimensional, and is not just there to look at, but to smell, hear and feel. A sensual experience. The most important ingredients are well-known: space, light, materials (and materiality), sound, proportions, relationship to the location, and even temperature. And last but not least: people."

Susanne Kippenberger, "Inner Values"

cero III

Summer house

Denmark

Architect: Jan Wenzel

Photos: Malik Pahlmann

Ref. 1731*

*Note: Further information about all the reference numbers provided can be found at spaces.solarlux.com

cero III

Schwielowsee residential and office building

Potsdam, Germany

Architect: Scheidt Kasprusch Architekten

Photos: Rainer Gollmer

Ref. 1720*

cero III

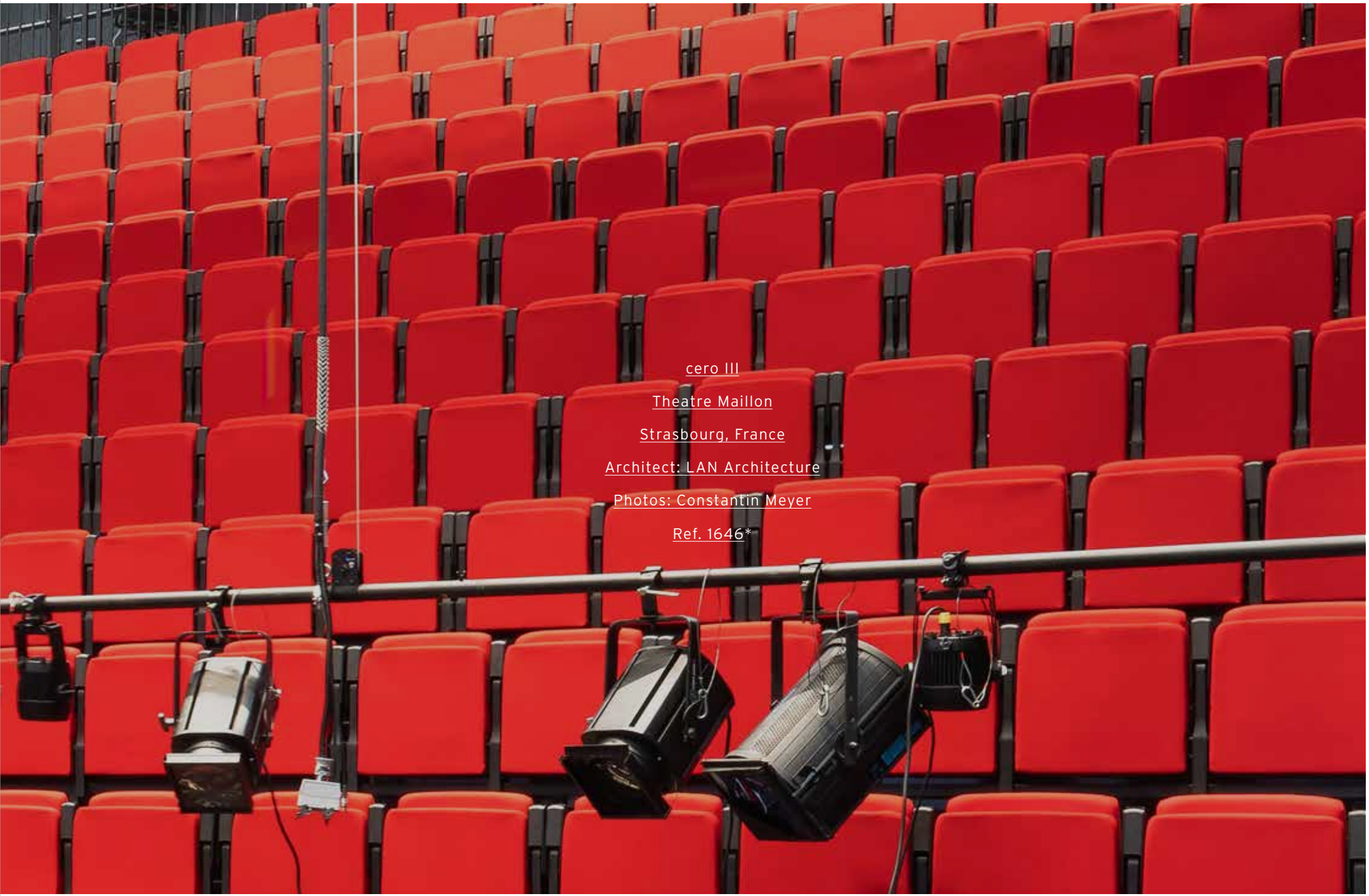
"Kösching" office building

Ingolstadt, Germany

Architect: abhd architekten denzinger und partner mbb

Reference photographs: Maximilian Gottwald

Ref. 1666*



cero III

Theatre Maillon

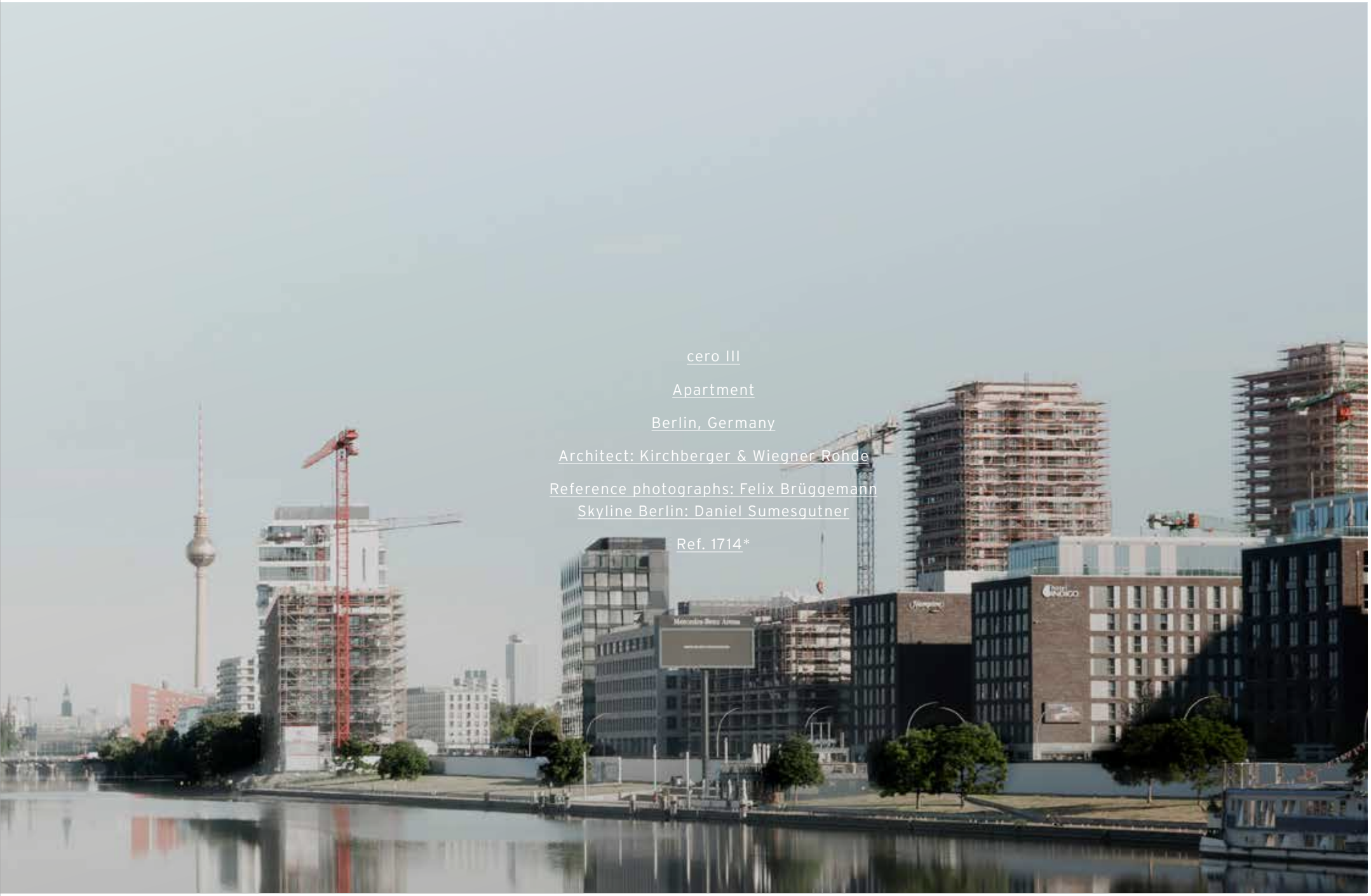
Strasbourg, France

Architect: LAN Architecture

Photos: Constantin Meyer

Ref. 1646*


L THEATRE PEUT E RE
LE QUEU OU IL SEMBLE
QUE QUELQUE CHOSE
SSE



cero III

Apartment

Berlin, Germany

Architect: Kirchberger & Wiegner Rohde

Reference photographs: Felix Brüggemann
Skyline Berlin: Daniel Sumesgutner

Ref. 1714*

cero III

Detached house

Zwolle, Netherlands

Architect: Boxxis Architecten

Reference photographs: Danielle Malestein

Ref. 1288*

cero III

Spa pavilion

Vienna, Austria

Architect: Smartvoll Architekten

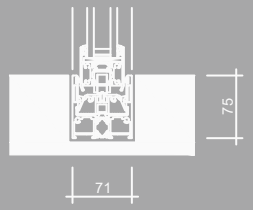
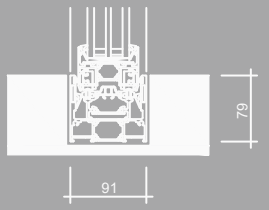
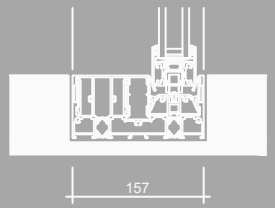
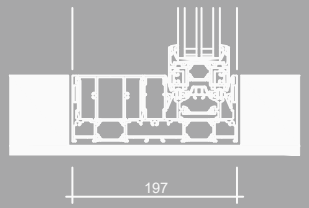
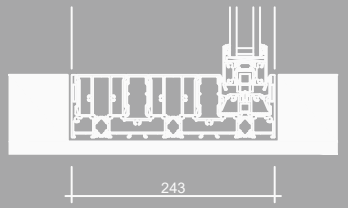
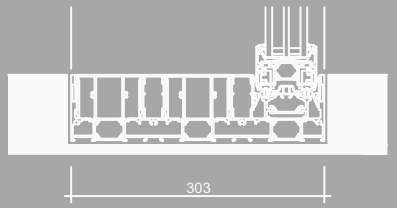
Photos: Dimitar Gamizov

Ref. 1719*

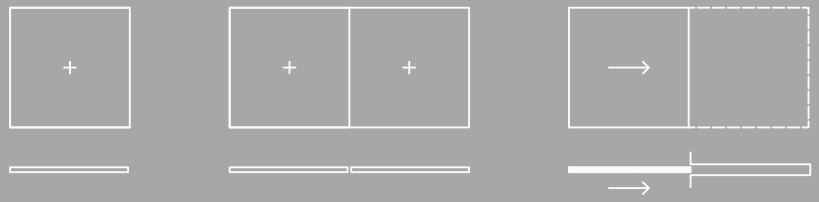
Sample configurations

Room design

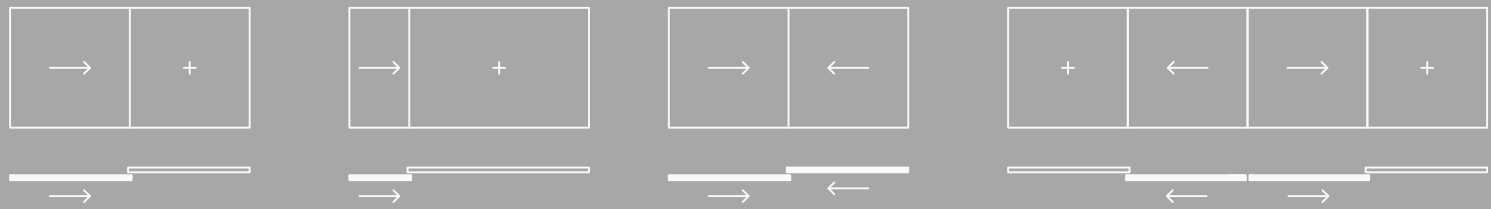
When it comes to the question of where and how cero can be used, almost anything is possible. The system components, in the form of sliding, fixed and corner elements, can be combined in almost any configuration and offer the complete freedom of design that sophisticated projects and clients require. Corners without posts, elements that can be moved into niches in the wall, and complex combinations of different elements can be achieved using two to four tracks to create custom solutions. Panel sizes of up to 6 m tall or 4 m wide and a maximum panel weight of up to 1,000 kg create new, open dimensions in the room.

	cero II	cero III
Track for one panel		
Track for two panels		
Track for three panels		

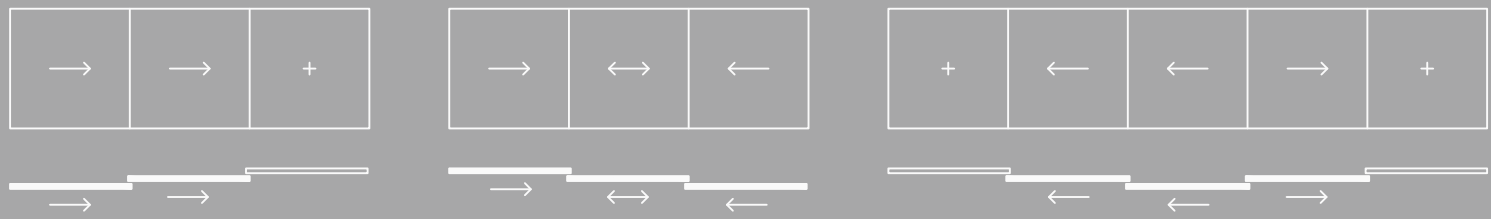
Track for one panel



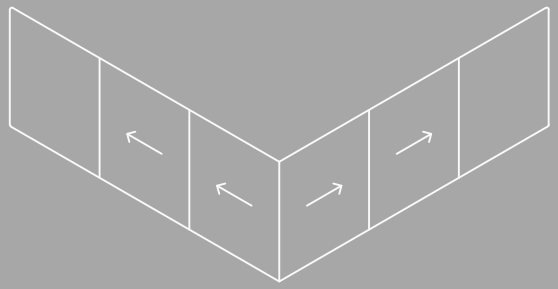
Track for two panels

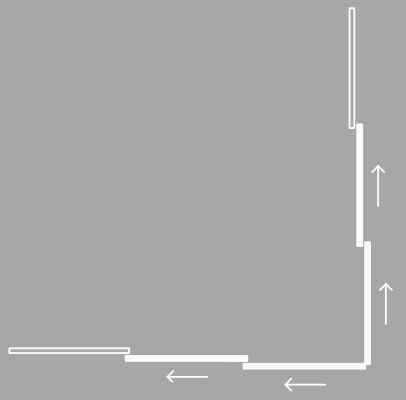


Track for three panels

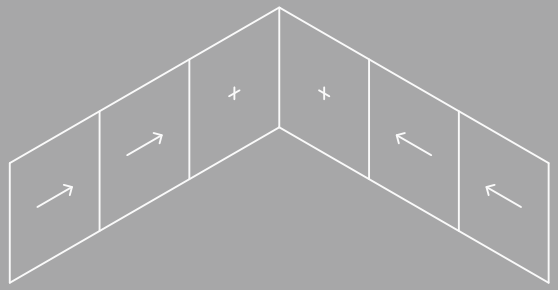


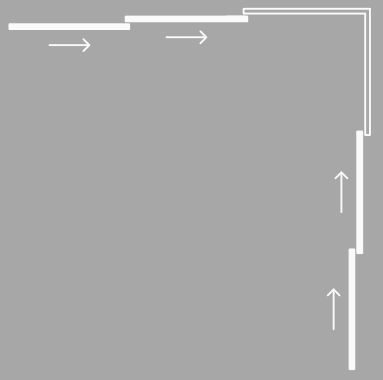
Sliding
corner post



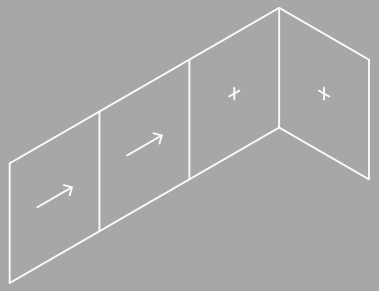


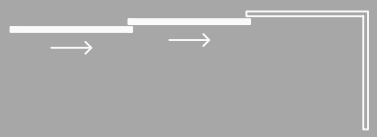
All-glass
inner corner

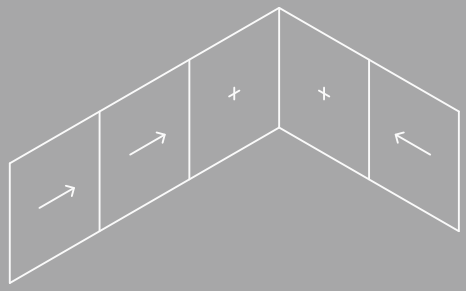


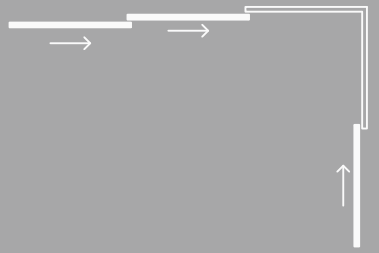


Corners with different number of tracks

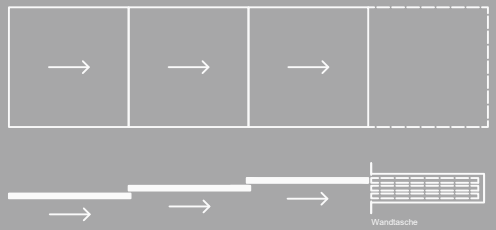


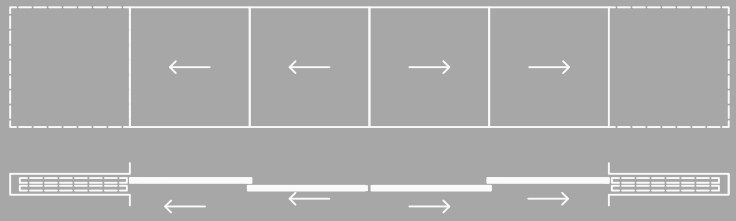






Wall pockets





Features

1 Sight lines

cero offers an all-round panel frame, only 34 mm thick. The equally slim profiles enable a glass content of up to 98 %.

2 Glazing rebate ventilation

Glazing rebate ventilation prevents condensation from forming in the pane space, and is defined in the DIN 18545 double glazing standard. Systematic drainage of condensation is concealed and controlled on the lowest level of the frame profile.

3 Thermal insulation

With its triple glazing, cero III achieves U_w values of up to 0.8 W/m²K, making it suitable for passive house standards. The use of toughened safety glass (TSG) as standard prevents breakage of the glass from breaking.

4 Stainless steel sliding mechanism

Stainless steel carriages and rails guarantee light and low-wear sliding, even for elements with a panel weight of up to 1,000 kg. The integrated track rollers ensure even load distribution. The running track is kept clean at all times, thanks to protruding moulded pieces in the panel.

5 Accessibility

The bottom frame profile is flush-mounted on the floor to create an obstacle-free transition between the indoors and outdoors. In addition to this, cero II offers a flat floor track for application areas with lower thermal insulation requirements, or for use as a partition.

6 Protection from wind and weather

cero is tested and certified for air permeability, wind load and impermeability to driving rain, fulfilling even elevated requirements for protection from wind and weather. When it comes to sound insulation, the cero III achieves a value of R_w = 44 dB, depending on the configuration and glazing.


6
3
1
2
4
5

Floor track
with infill profile

Floor tracks

The running tracks and guide rails are flush-mounted and when installed provides accessibly in accordance with DIN 18040. For cero II, an insert in the floor track that matches the material of your interior design (e. g. tiles, parquet, marble) ensures a harmonious, aesthetically pleasing appearance both inside and out.
The flush-mounted floor track can be either installed level with the indoor floor, or given a slight ramp on the inside and/or outside. The overall frame depth varies depending on how many tracks you require; for cero II, for example, it would be between 71 mm (single-track), 157 mm (two-track) and 243 mm (three-track).

Flat floor track
(cero II)

Flat floor track
with ramp (cero II)

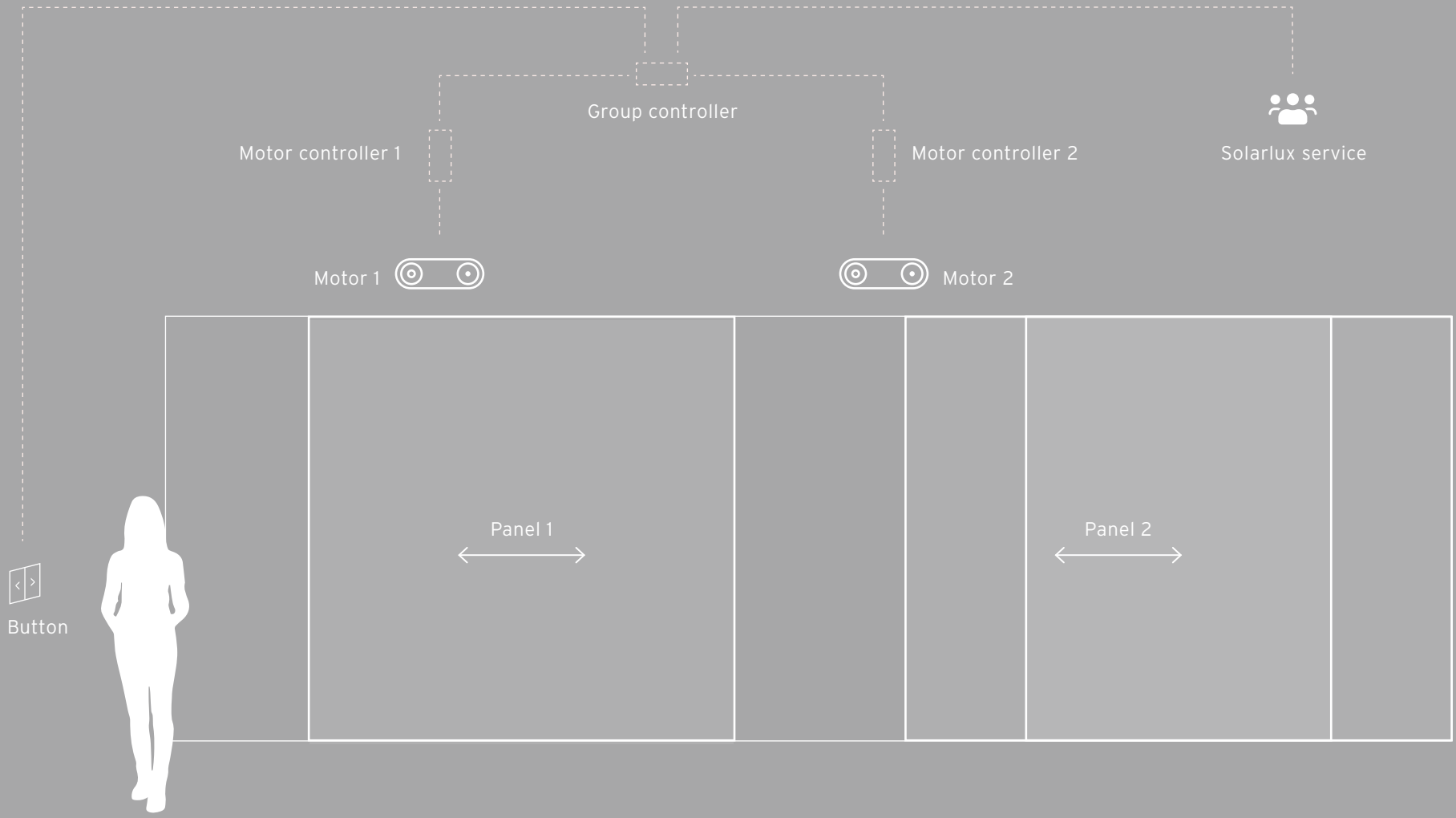
Drive

Drive and control intelligence

Vision in every direction – that's the cero concept. Accordingly, the panels with a weight of up to 1,000 kg can be effortlessly and automatically operated by the user, even on complex ground plans. As a result, it is not only possible to open and close the panels in any order, but every sequence is pre-programmed by default. This saves time and means that the control system is ready for operation immediately after installation, without any additional steps.

Plug and play

When it comes to motorised cero projects, convenience is a top priority – not only on the part of the user, when opening and closing the panels in the desired order, but during installation too. The system comes with all the necessary control intelligence built in. The necessary programming of the desired configuration is programmed into the group controller before delivery, so it is ready for use immediately on installation, according to the plug-and-play principle. All you need to do is connect it using the clearly marked plug, and the system is ready to open and close via the selected buttons. By the way, thanks to the optional inspection opening, the motor and the motor/group controller can easily be accessed later – depending on their placement.



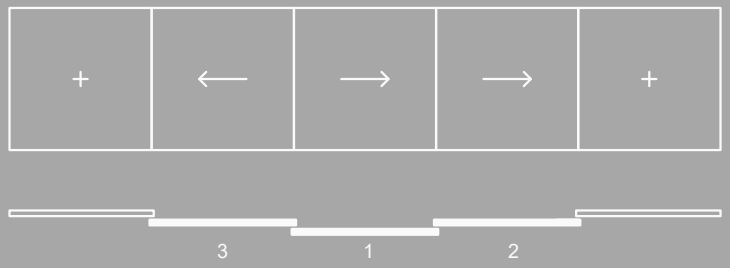
The controllers can be placed next to the motor, or in an accessible control cabinet.

Group controller

Numerous pre-configured sequences are available for automatic operation. It is also possible to create new custom sequences on request. On the following pages, several options for the opening and closing sequence, as well as the direction of operation and use of buttons, are presented.

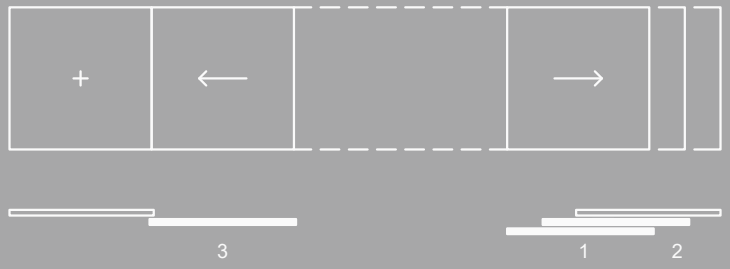
1	Panel number
→	Direction for motion sliding panel
+	Fixed panel
< >	Double manual button

All control systems can be integrated in smart home technology.



The system is closed

Panels 1, 2 and 3
open simultaneously



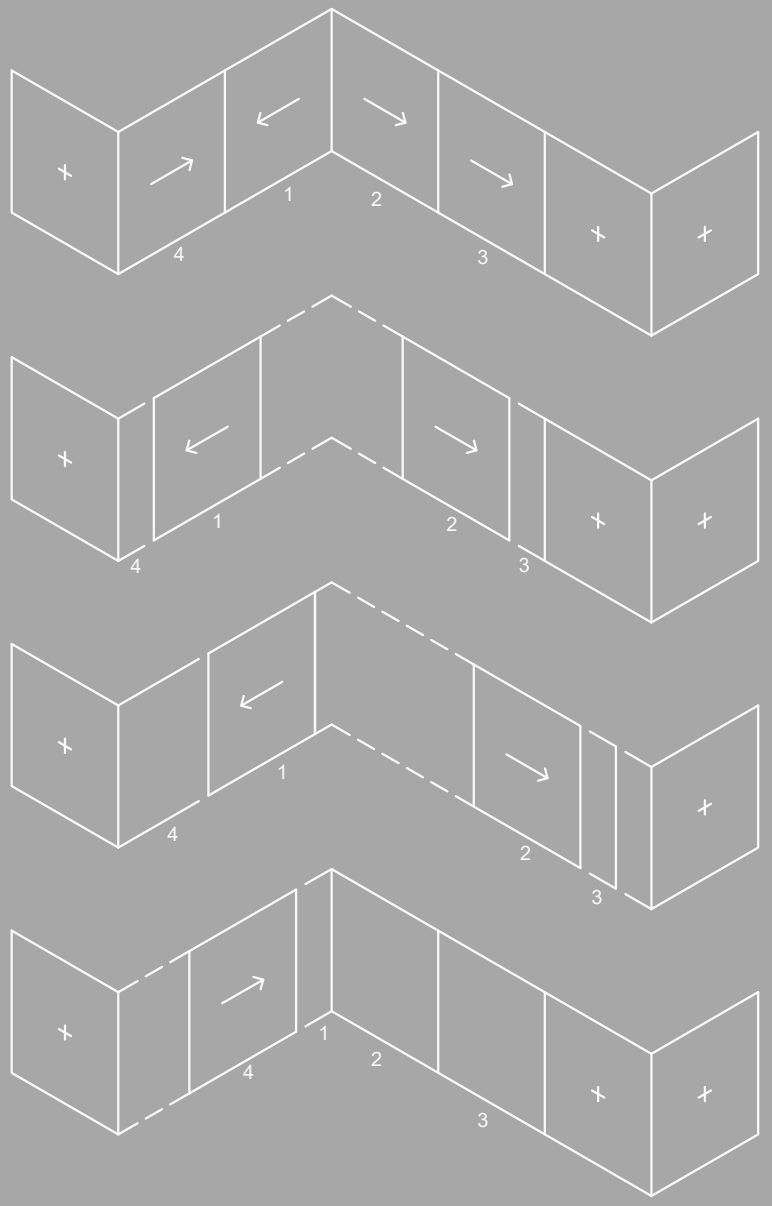
Only panels 1 and 2
open simultaneously

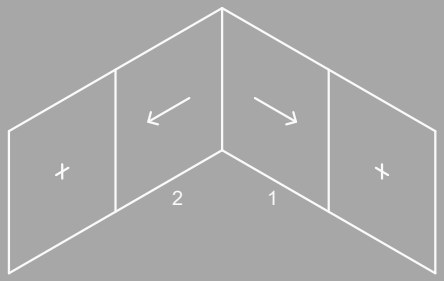
The system is closed

Corner panels open simultaneously

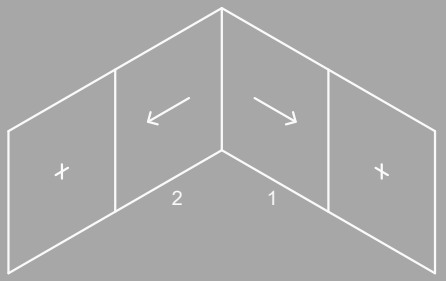
Only panels 2 and 3 open

Only panel 4 opens

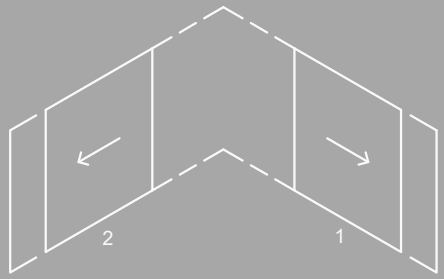




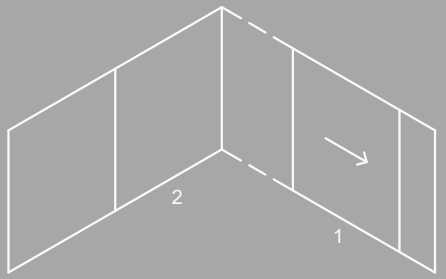
The system
is closed



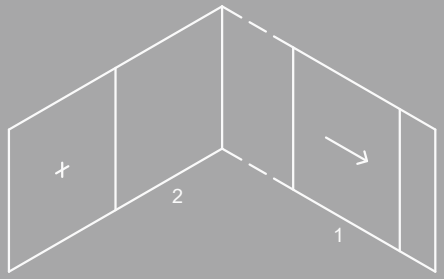
The system
is closed



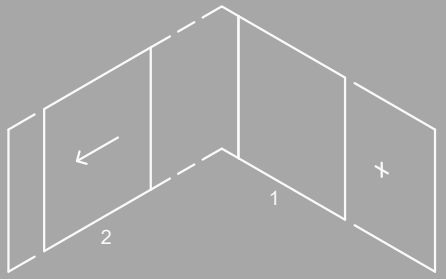
Panels 1 and 2 open
simultaneously



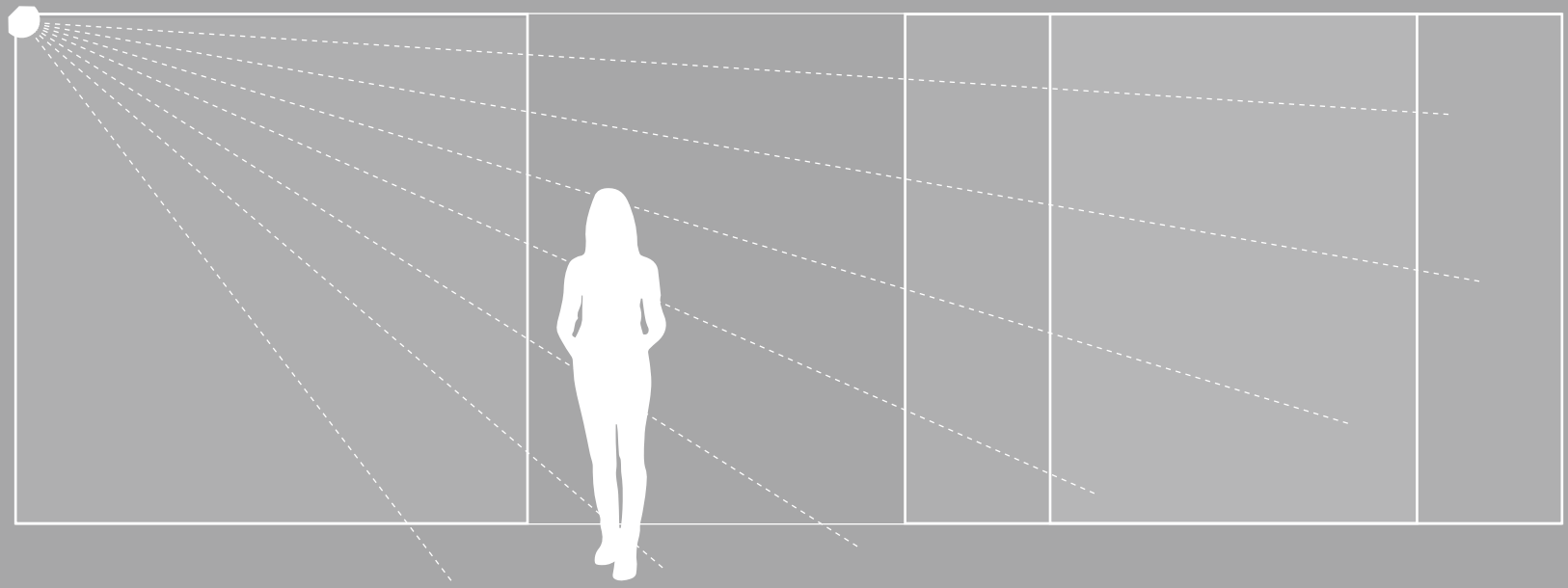
Only panel 1
opens



Only panel 1
opens



Only panel 2
opens



(Image shows an example solution from GIRA; other systems also available)

Automatic operation

All opening and closing sequences can also be selected on a control panel. The control command then proceeds in a single process, without the need to keep pressing the button. Fully automated operation uses laser scanners on the inside and outside. The scanners ensure that the system automatically comes to an immediate stop if a person or object enters the danger zone. Opening or closing then continues as soon as the danger zone has been vacated again, without needing to reinitiate the process on the control panel.

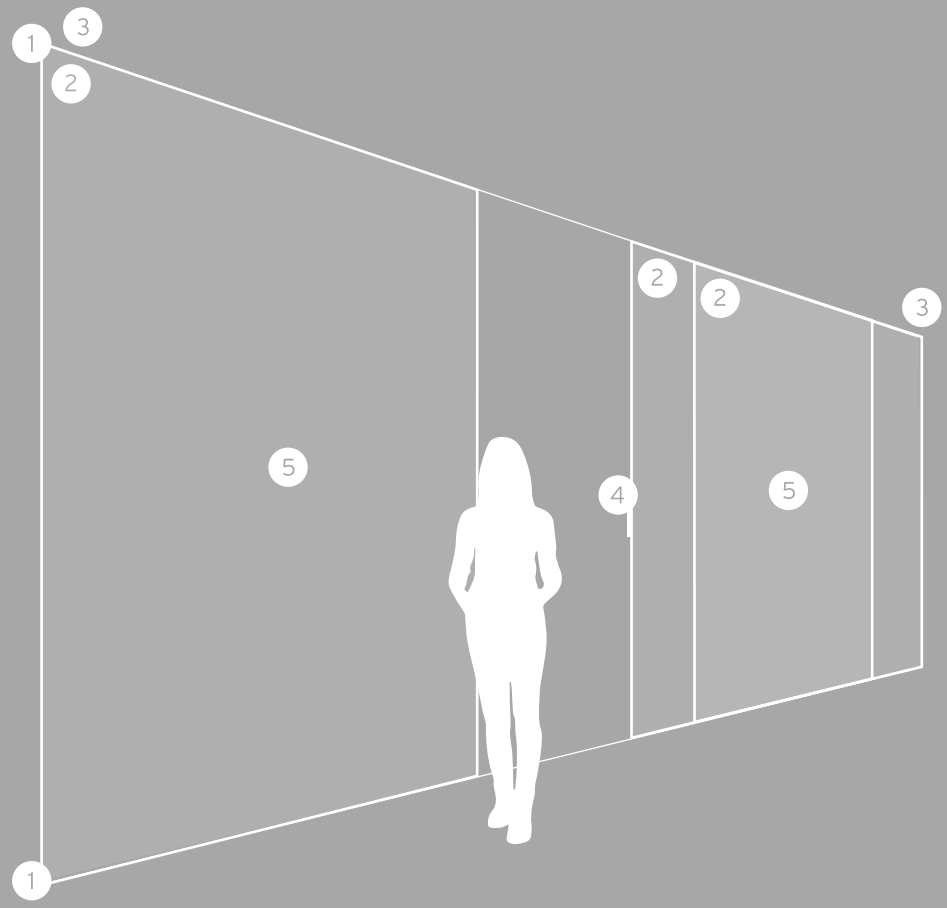
Smart home

The cero's control system can also be integrated in a building's on-site automation system. This connects the cero's automatic operation to an existing, open smart home system, allowing the resident to open and close their cero easily via an app.

Security

Anti-burglary protection

Glass areas of up to 15 m^2 emphasise the focus on quality and security aspects in the design. cero is tested and certified in accordance with the highest security standards, and the cero III system can optionally be equipped in accordance with anti-burglary protection class RC2 or RC3. A 2-point locking rod with adjustable locking points and a 24 mm latch bolt in top running track and guide rail are equipped as standard. cero can also be integrated in an existing higher-level monitoring system. Electro-mechanical locking elements can be integrated on request, and prevent unauthorised access to armed areas. An additional locking monitor using reed switches provides information about the locking status at all times. The system can be connected to almost any intruder alarm system or access control system. Variants with a special safety glass (such as alarmed glass or bulletproof glass of Class P5A or higher) are also available.



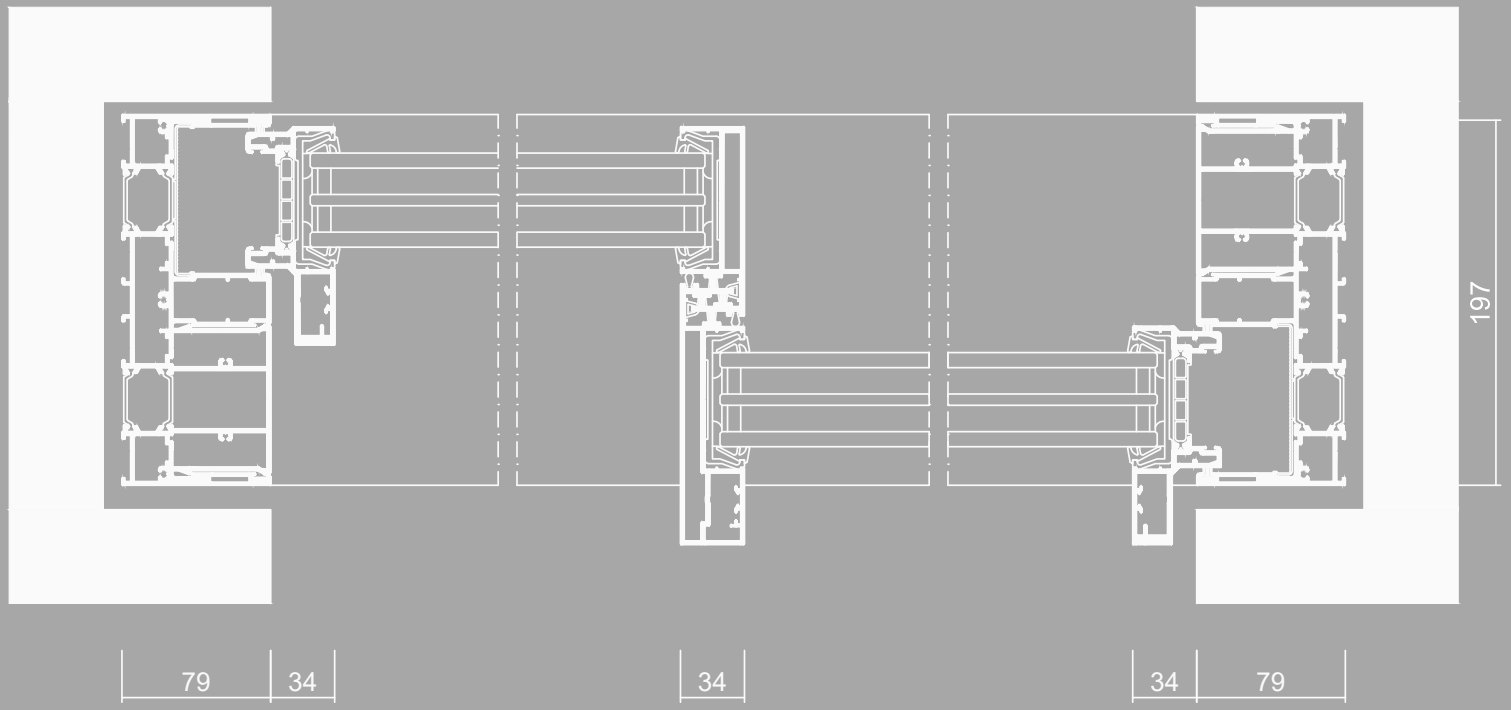
1. 2-point locking rod with 24 mm latch bolt
2. Glass breakage detector
3. Locking monitor
4. Anti-burglary protection RC2/RC3, thanks to handle guard
5. P4A/P5A glass

cero III system details

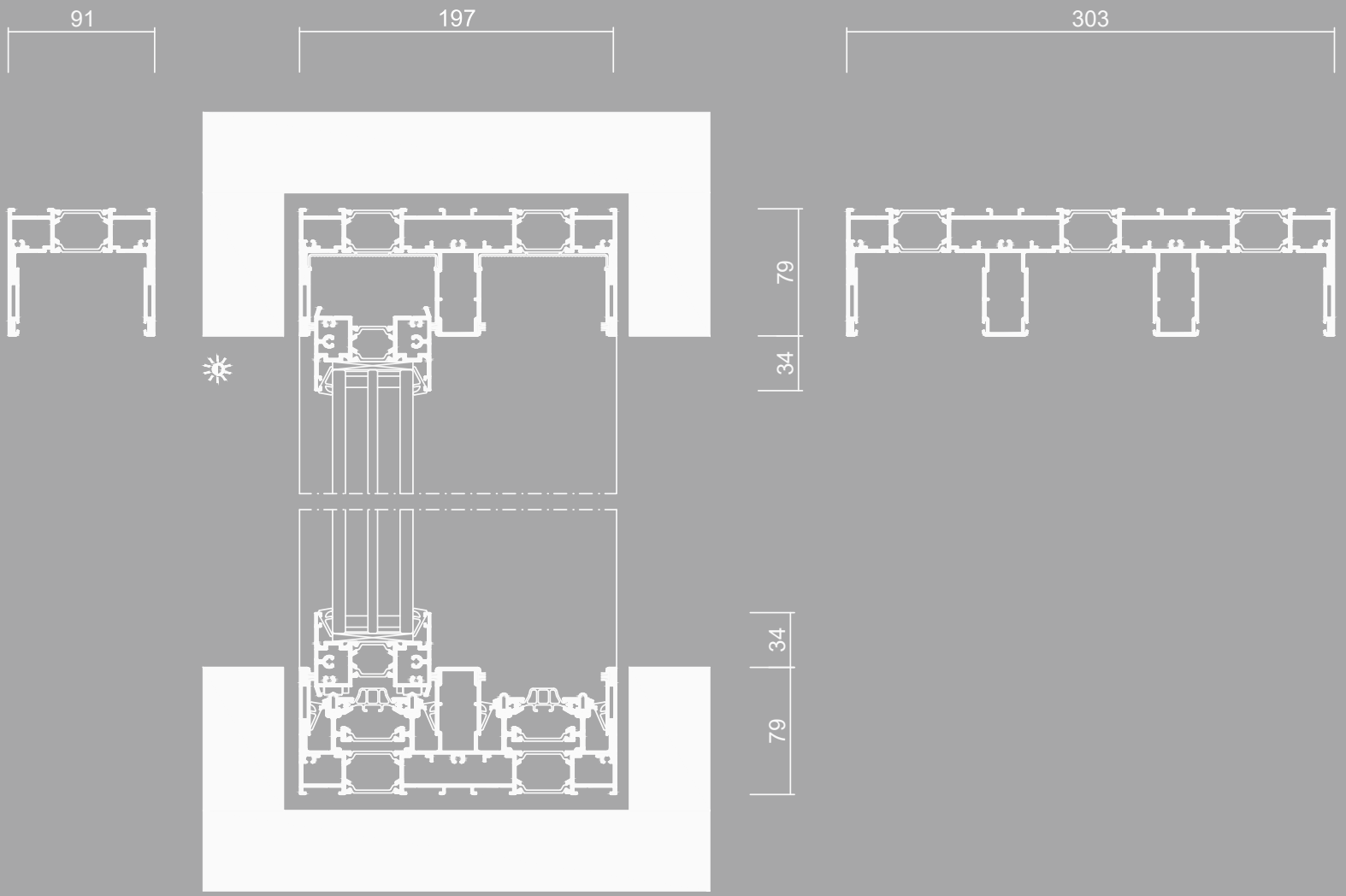
For thermal insulation
that meets passive house standards

The systems' concealed sub-frames can be incorporated seamlessly into the floor, wall and ceiling. Thanks to their intelligent engineering, they allow glass elements up to 15 m^2 in area and 1,000 kg in weight to be moved effortlessly and silently. The cero III system comes with great thermal insulation, triple glazing and a panel depth of 72 mm, but it is the extremely high level of energy efficiency that makes it truly impressive: cero III can achieve U_w values of up to 0.76 W/m^2K, thus fulfilling passive house standards.

- Sliding element 4 x 6 m, max. panel size: 15 m^2
- Isolation glass 48 – 54 mm (TSG), 50 mm standard
- Accessible running track in accordance with DIN 18040
- Panel weight max. 1,000 kg
- Thermal insulation value (glass U_g = 0.5 W/m^2K) U_w up to 0.76 W/m^2K
- Impermeability to driving rain up to Class 9A
- Air permeability up to Class 4
- Wind resistance up to Class C5



Horizontal section | without scale



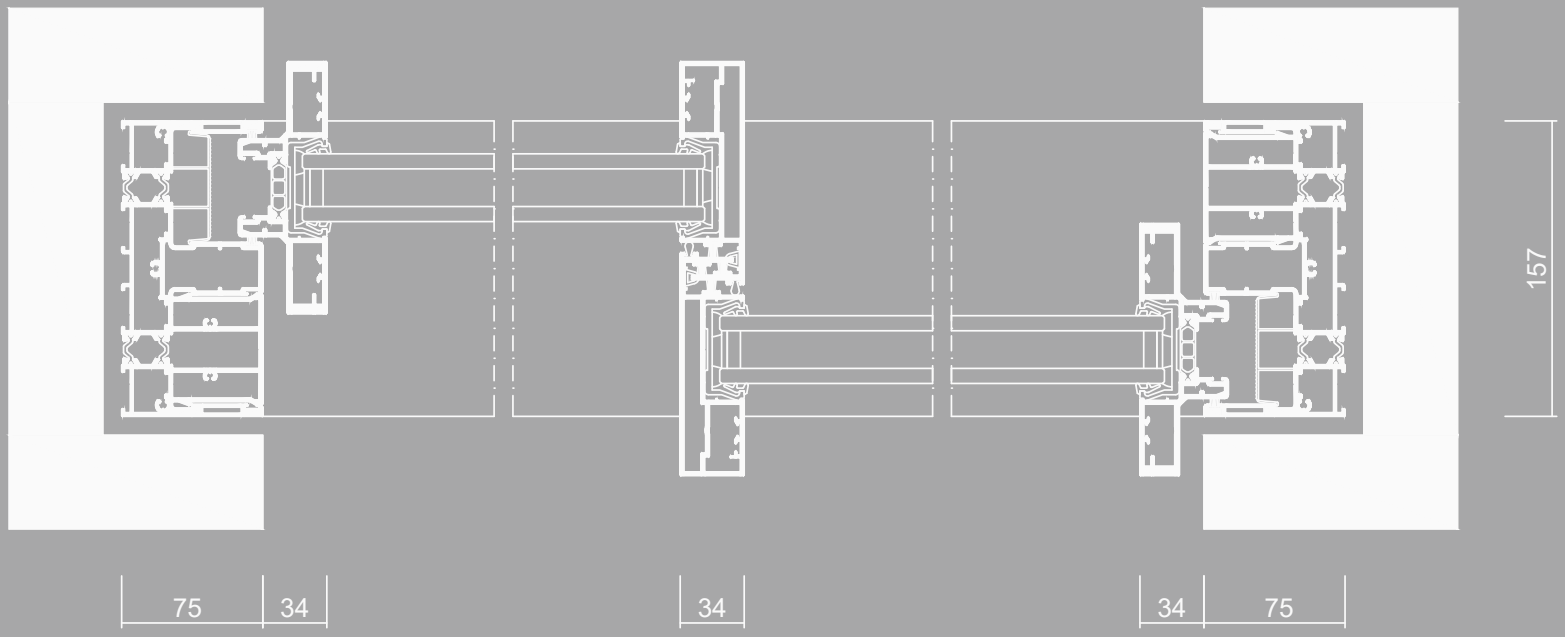
Vertical section | without scale

cero II system details

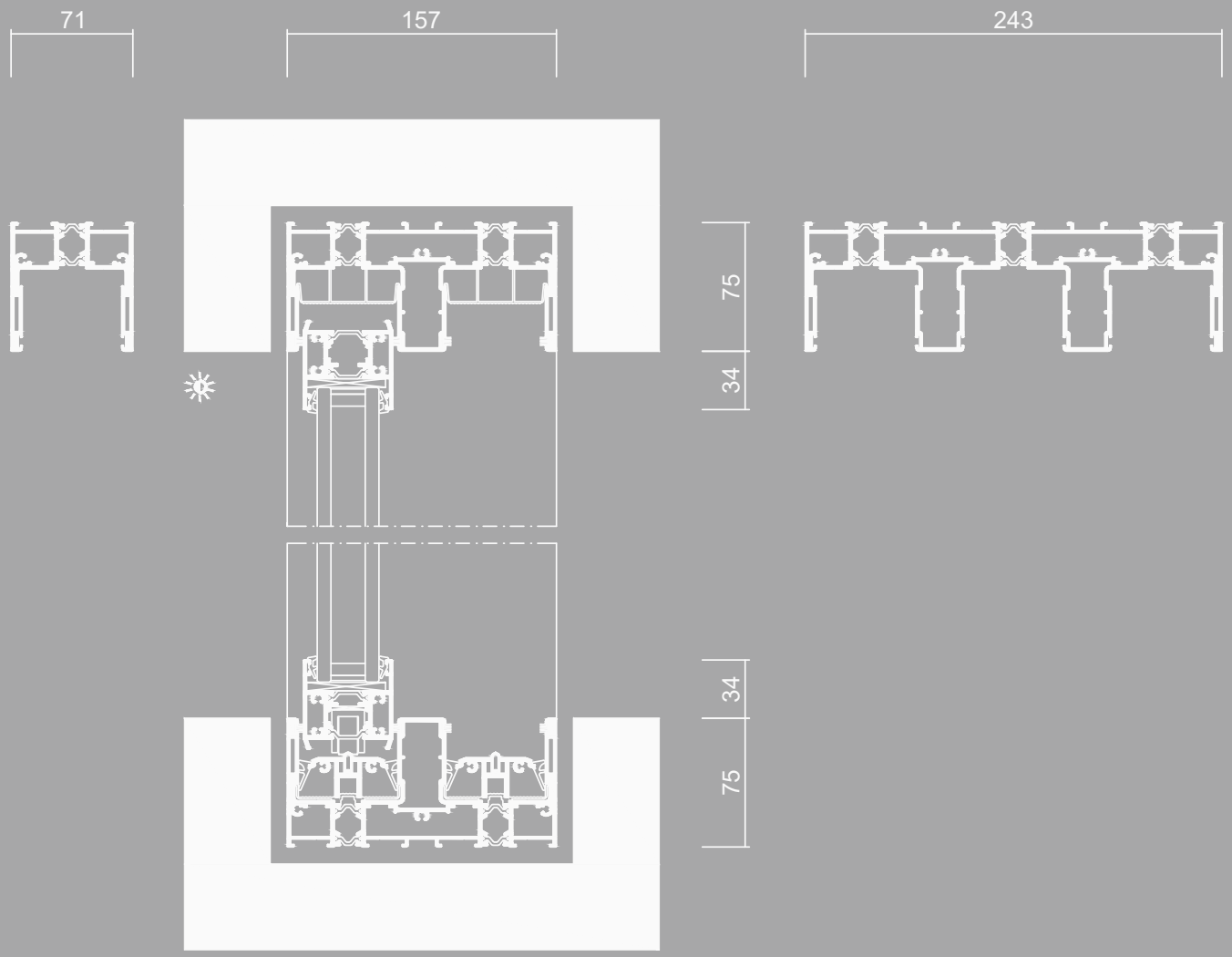
For slim profile depths and accessibility

The thermally insulated cero II system with double glazing and a panel depth of 52 mm is a great choice for buildings with low thermal insulation requirements in combination with a flush-mounted floor track, for use in commercial premises or as a partition. It is also possible to brace the profiles with steel inserts – making cero II ideal for use with increased structural requirements.

- Sliding element 3 x 4 m
- Max. panel size 12 m^2
- Isolation glass 30 – 36 mm (TSG)
- Accessible running track in accordance with DIN 18040
- Max. panel weight: 600 kg
- Thermal insulation value (glass U_g = 1.1 W/m^2K) U_w up to 1.35 W/m^2K
- Impermeability to driving rain up to Class 9A
- Air permeability up to Class 4
- Wind resistance up to Class B4



Horizontal section | without scale



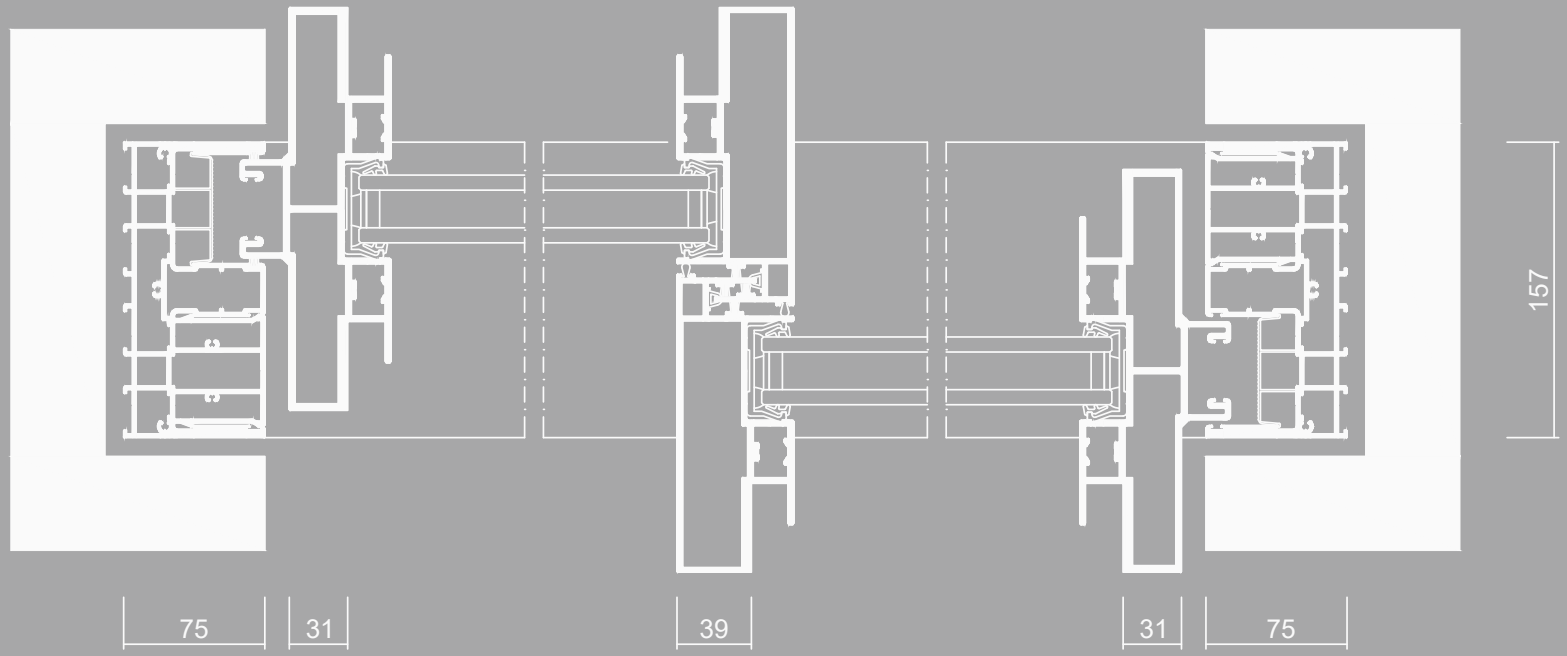
Vertical section | without scale

cero I-s system details

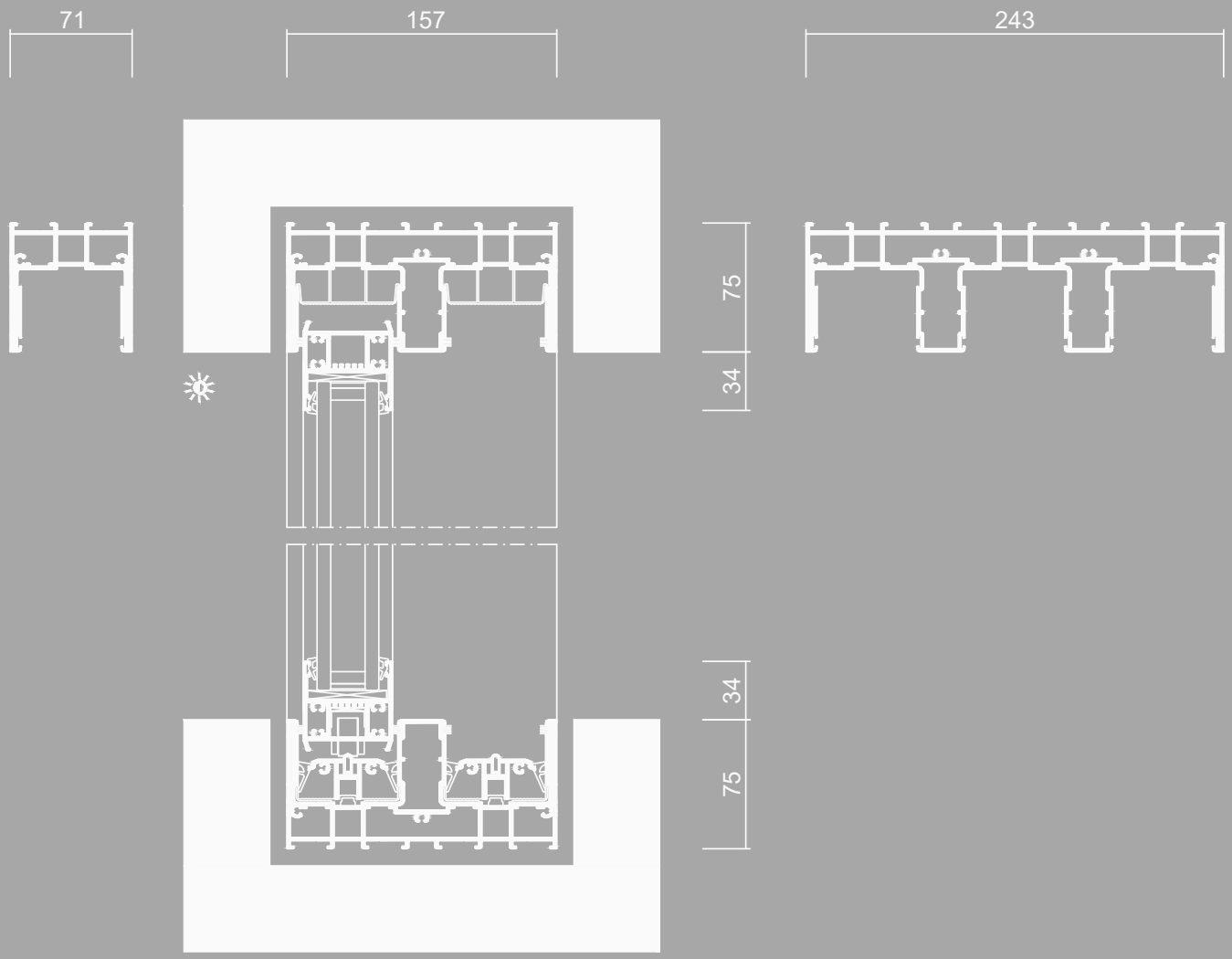
For special
climate conditions

cero I-s is used for exceptionally high structural requirements and wind loads – for example, in areas prone to hurricanes and typhoons. This non-thermally-insulated variant withstands the most extreme conditions and was developed specially for the Asian market. Successfully tested in accordance with the standards of the Hong Kong Building Department, the cero I-s exhibits the following values (based on a two-panel installation with a height of 4 m x width of 3.5 m).

- Class ASTM E331-00: 770 Pa impermeability to driving rain
- Class ASTM E283-04: 300 Pa air permeability
- Class ASTM E330: 6.405 Pa resistance to wind load



Horizontal section | without scale



Vertical section | without scale

System overview

At a glance

This table will help you compare the different features of all cero systems at a glance. The specified values are guide values. Of course, we would also be happy to advise you to optimally fulfil your individual project requirements.

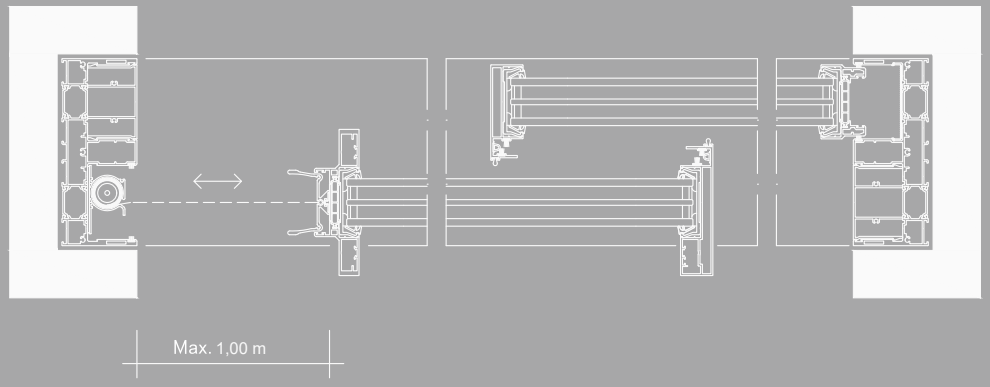
Sliding elements (max. width x max. height)
Fixed glazing (max. width x max. height)
Insulated glazing (double/triple)
Daylight/glass content
Running mechanism
Running track/floor profile
Panel weight
Panel butt joint sight line
Frame depth
Thermal isolation
Thermal insulation value (glass Ug = 1.1 W/m²K)
Thermal insulation value (glass Ug = 0.5 W/m²K)
Impermeability to driving rain (maximum class)
Air permeability (maximum class)
Wind resistance (maximum)
Motorisation
Insect screen

cero I-s	cero II	cero III
3 x 4 m / max. panel size: 12 m^2	3 x 4 m / max. panel size: 12 m^2	4 x 6 m / max. panel size: 15 m^2
3 x 4 m / max. panel size: 12 m^2	3 x 4 m / max. panel size: 12 m^2	4 x 6 m / max. panel size: 15 m^2
30 – 36 mm (TSG)	30 – 36 mm (TSG)	48 – 54 mm (TSG) / 50 mm standard
98 %	98 %	98 %
Stainless steel carriages and running tracks	Stainless steel carriages and running tracks	Stainless steel carriages and running tracks
Accessible in accordance with DIN 18040	Accessible in accordance with DIN 18040	Accessible in accordance with DIN 18040
Max. 600 kg	Max. 600 kg	Max. 1,000 kg
All-round: 34 mm	All-round: 34 mm	All-round: 34 mm
0 – 75 mm	0 – 75 mm	0 – 79 mm
–	In frame and panel profile	In frame and panel profile
–	U_w up to 1.35 W/m^2K	–
–	–	U_w up to 0.76 W/m^2K
770 Pa (ASTM E331-00)	9A (EN 1027)	9A (EN 1027)
300 Pa (ASTM E283-04)	4 (EN 1026)	4 (EN 1026)
6,405 Pa (ASTM E330)	B4 (EN 12 211)	C5 (EN 12 211)
Electro-mechanical drive, optional automatic function	Electro-mechanical drive, optional automatic function	Electro-mechanical drive, optional automatic function
–	Max. 1 m	Max. 1 m

Additional components

Insect screen

The system is optionally available with an insect screen, made of extra fine gauze, which is up to 1 m wide and integrated in the vertical frame, to prevent unwanted guests from flying into your living space. When retracted, the insect screen is concealed by the vertical cero frame profile, and can be magnetically secured to the adjacent sliding panel when extended. The maximum height of the screen is 3 m for cero II and 3.5 m for cero III.



Shading

Maximum transparency offers maximum daylight. To prevent glare in your living space or ensure privacy when required, cero can be fitted with motorised vertical shading in the form of screens or lamellas. The guide rails can be coupled with the cero element frame without any issue. Optimal convenience: Some constellations can be configured via smart home, so that shading is provided automatically at certain times of day.

Screen

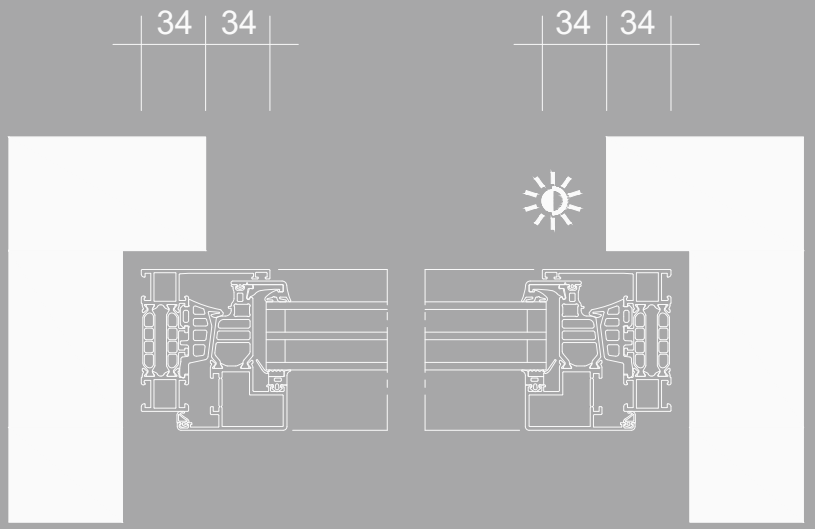
A screen of thin gauze offers privacy and sun protection and can be individually adjusted to the level of sunlight.

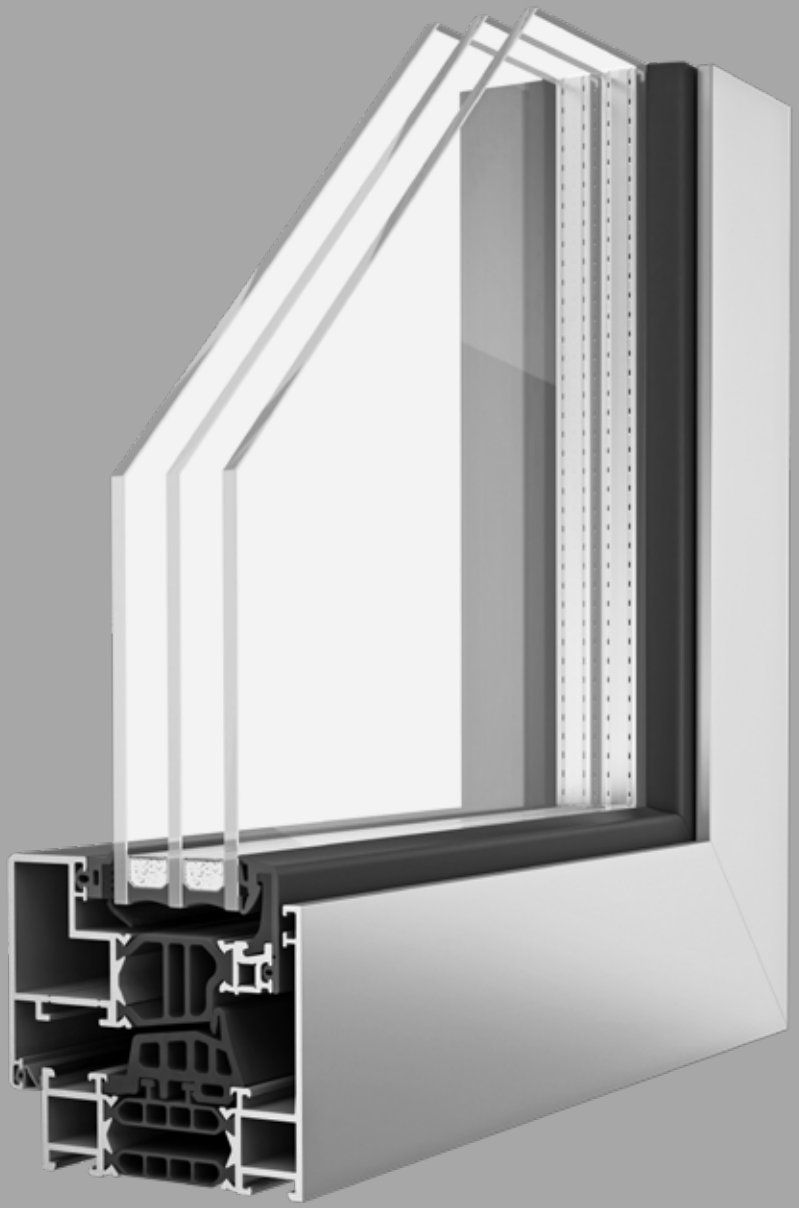
Venetian blinds

Venetian blinds offer a modern shading solution for cero elements. Thanks to different control options for the lamellas, the angle can be adjusted to control the level of sunlight in the room.

Integral windows

The requirements for projects in which cero functions as a major design feature often apply to the entire facade – including all the window elements. The Solarlux "Highline Integral" window is a highly heat-insulated aluminium window system. It is characterised by its linear profile design, without visible glass moulding joints. When viewed from the outside, the all-round window frame almost completely conceals the panel profiles.





cero III Detached house Henstedt-Ulzburg, DE Architect: Gnosa Architekten Photos: Malik Pahlmann Ref. 1679*

cero III Detached house Krakow, PL Architect: Dr. Peter Kuczia Ref. 1544*

cero III Seminar room Hamburg, DE Architect: Dr. Peter Kuczia Ref. 1705*


GRISSINI

cero III Restaurant Grissini Cologne, DE Architect: Gatermann + Schossig Photos: Constantin Meyer Ref. 1585*

cero III Das Brahms Innsbruck, AT Architect: Erich Strolz, Dietrich Untertrifaller Photos: Dr. Günther Egger Ref. 1647*


DAS BRAHMS

cero III Villa Hamburg, DE Architect: Meyer Terhorst Architekten Photos: Christiane Koch Ref. 789*

Further references

Hotel Sand
Scharbeutz, DE
Ref. 1586*


Office building
Glatten, DE
Ref. 1277*
Photo: Roland Halbe


Detached house
Starnberger See, DE
Ref. 780*


Detached house
Black Forest, DE
Ref. 1626*


Prora
Rügen, DE
Ref. 1335*

West Side Chicago Residence
Chicago, USA
Ref. 1631*


Detached house
Freiburg, DE
Ref. 1447*


Villa
Budapest, HU
Ref. 1644*

Detached house
Nottinghamshire,
GB, Ref. 1628*


Spa area
Leipzig, DE
Ref. 1559*


Detached house
The Hague, NL
Ref. 1222*


Detached house
Oldenburg, DE
Ref. 1673*


“Ocean”
cruise terminal
Hong Kong, CN
Ref. 1457*

Car dealership
Stockach, DE
Ref. 1445*

cero by Solarlux

System solutions

"We don't think in terms of individual profiles, but in terms of systems." This principle has guided Solarlux since it was first founded in 1983, and is still pursued by Stefan Holtgreife, the second-generation company owner and managing director. Precise fits, flawless details, intelligent combination options and motorisation are characteristic of cero. Every cero element is exclusively produced and further developed at the Solarlux's headquarters in Melle, Germany. Almost 40 years of experience in glass fronts and extensions not only guarantee a smooth planning process, but equally smooth installation and project management on the construction site as well.

- 900 employees
- 57,000 m^2 production facility in Melle, Germany
- Cutting-edge coating plants and painting lines
- Internationally certified manufacturing standards
- International projects in over 60 different countries

Aluminium
AUF
Wertstoffkreislauf

Sustainability

As a company with the highest standards, Solarlux is certified for quality and environmental management in accordance with ISO 9001 and ISO 14001. Sustainability and the responsible consumption of resources are a consistent standard throughout the entire company. From a photovoltaic system with an area of almost 4,000 m^2 to a geothermal field, the reuse of process heat and the recycling of aluminium – "green" at Solarlux encompasses more than just the Solarlux Campus.

Certificates

National and international certificates attest to the durability, quality and expertise inherent in Solarlux systems – of course, all featuring the CE mark. However, Solarlux not only stands out as a company; its processes do too. For example, cero sliding windows and all other facade solutions and glazed extensions are tested by independent test institutes. These independently certify features such as thermal insulation, impermeability to driving rain, structural properties or anti-burglary protection on a regular basis.

Services

When you opt for cero, you get more than just a premium system. When it comes to calculation, planning, service and logics, you get the full support of a reputable, professional company to back up the product with Solarlux. During the planning phase, an experienced advisor will advise you on design variants, combination options and your individual design, and offer technical support at every stage of the project. Our construction management team has lots of experience in handling large, even international building projects. This ensures the quick and efficient completion of your entire project.

Logistics

Smooth-running logistics with its own fleet and special cranes as well as an assembly team that specialises in the complex installation of large glass surfaces, with a weight of up to 1,000 kg per glass pane, guarantee a smooth process from start to finish. Complex installation situations or hard-to-access construction sites are taken into account right from the start. A high degree of pre-fabrication allows rapid on-site assembly without the need for elaborate customisation.

Materials

In a system like cero, the quality is not only visible, but fully "tangible" from day to day, in the truest sense of the word. Made of high-quality aluminium, cero is not only durable but practically maintenance-free. This is made possible in part by the high-quality coating of the profiles, which is exclusively applied in a shielded, dust-free cleanroom in Solarlux's 5,300 m^2 coating facility. This is one of the most cutting-edge coating plants in Europe Solarlux's GSB certification as a "premium coater" and "sea proof" add-on certification confirm these high quality standards. Thanks to its high surface quality, cero is also suitable for use in extreme weather conditions or near the sea.

Distinctive accents in one-off projects can also be realised using special colours and surface finishes. As well as around 30 RAL colours with a matt and silk gloss finish, which are available from Solarlux at no extra cost, it is also possible to realise special colours in RAL, DB or Eloxal in accordance with EURAS, as well as special surface finishes using gloss effects (e.g. from the manufacturer Tiger).

QUALICOAT

GSB INTERNATIONAL
PREMIUM
Approved Coated Aluminium
★★★
Sea Proof

Digital and direct

We offer various forms of assistance for every stage of the planning phase – both digitally and directly in our showrooms, as well as through experienced specialist partners.

mySolarlux

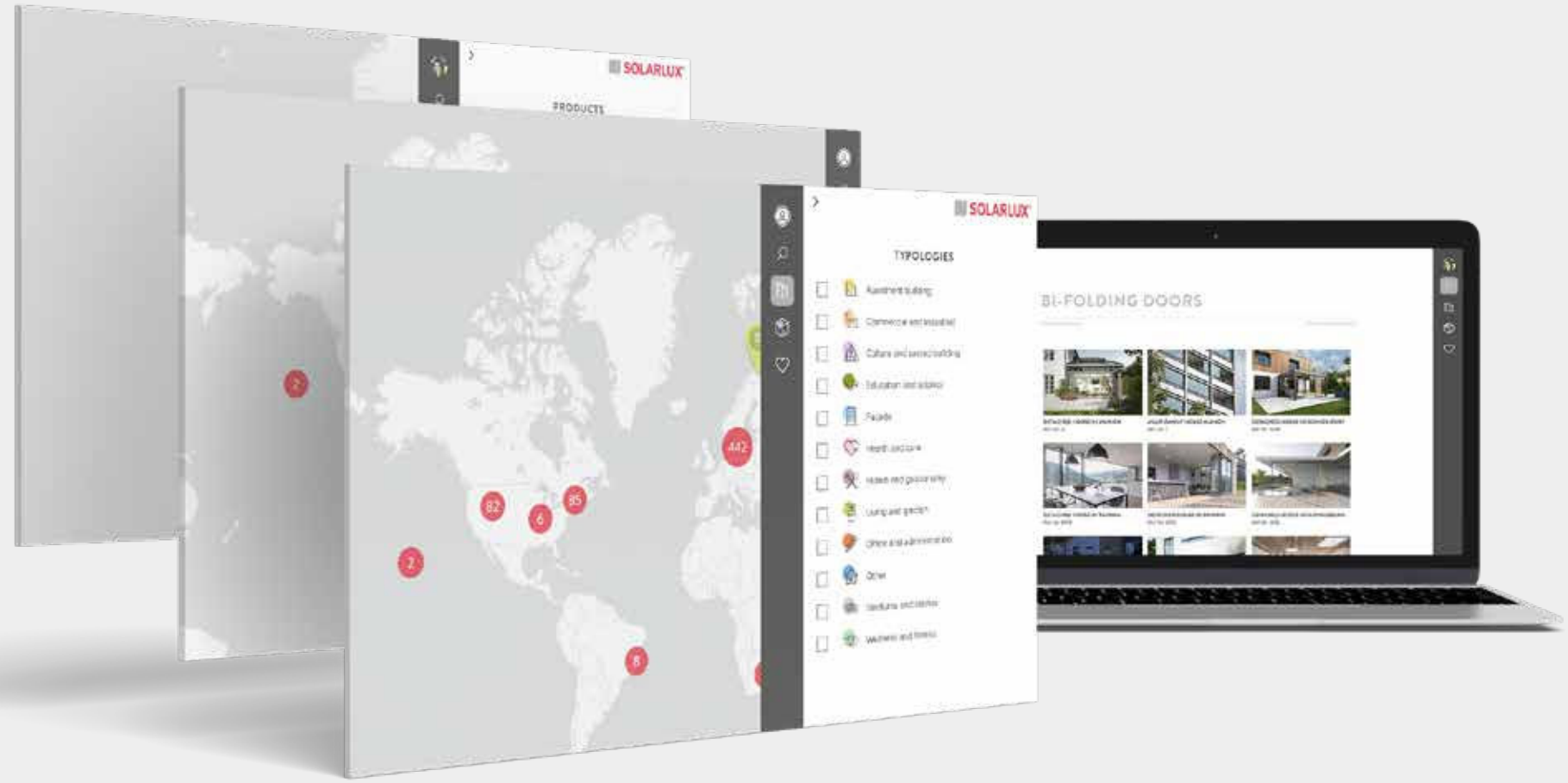
On our protected portal, mySolarlux, you will find CAD details, structural joints, sample configurations and other technical planning documents for all Solarlux systems. Registering for the portal is quick and easy: **https://my.solarlux.com**

Spaces Online

Over 600 project documents are available online on the web-based, browser-independent reference database "Spaces". All references are assigned a number, allowing them to be quickly located in the database. The systematic search functionality provides inspiration by allowing users to search for specific building typologies, Solarlux systems or locations. By clicking on the links provided, users can view more detailed project reports and information on the product range and products used, as well as technical information: **https://spaces.solarlux.com**

BIM data

In partnership with BIM Systems, we are pleased to introduce a new interface for generating BIM data. In addition, we offer individual BIM data as IFC on demand.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