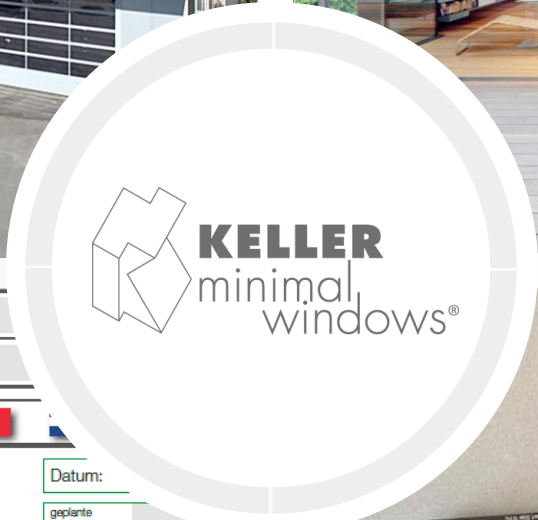


Keller Minimal Windows S.A.

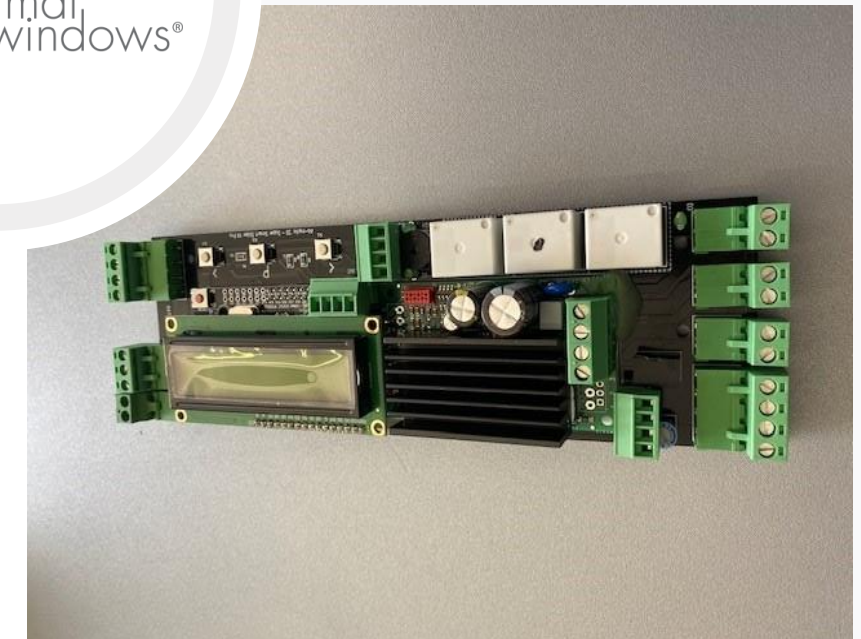
minimal windows®...MAXIMUM VIEW!



- The company
- What is minimalistic?
- minimal windows® basics
- minimal windows®4+ basics
- How we developed our systems?
- Optional features
- New product
- Order process

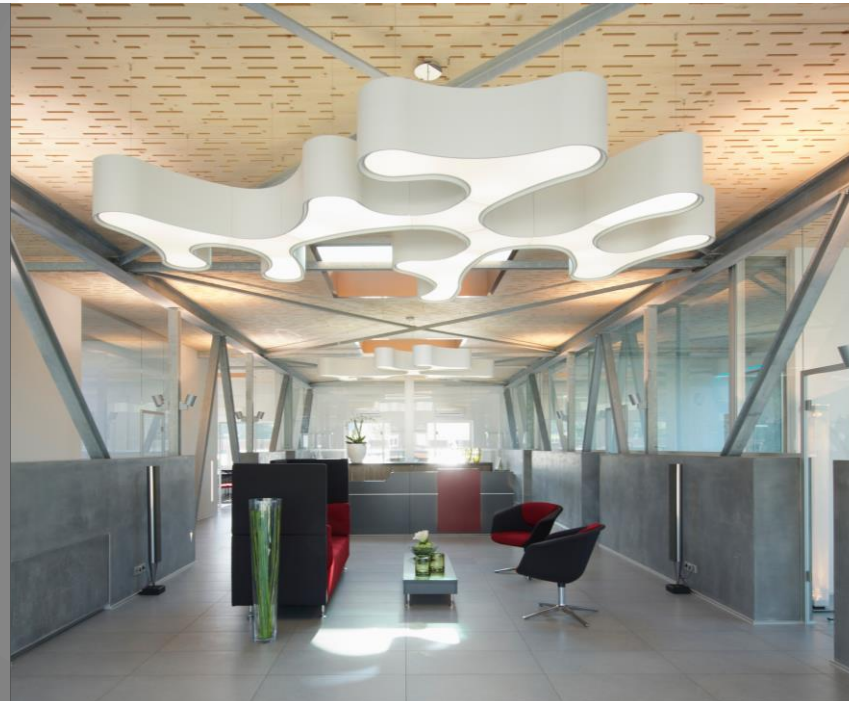


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02 / 2021		<input type="checkbox"/> AUFTRAG	Referenz: <input type="text"/>
DOKUMENTSPRACHE		<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
LIEFERUNG (L x H x B)		Datum: <input type="text"/>	
<input type="checkbox"/> Lieferung in Standard Transportholzkisten	<input type="checkbox"/> Bemerkungen	geplante Montagetermin: <input type="text"/>	
	<input type="checkbox"/> Seefracht Verpackung		
WELCHE SEITEN SIND ENTHALTEN ?		Anzahl Seiten = <input type="text"/>	
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<input type="checkbox"/> E	<input type="checkbox"/> F	<input type="checkbox"/> G	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Allgemein	minimal windows®	minimal windows®4+	Plattbaubezogen Angaben
			Verriegelung
			Elektronik
			Stoßdämmung



About Keller minimal windows

Presentation and history



Leading system manufacturers for
Design-sliding systems

8.400 m² production area in Troisvierges,
Luxembourg

With over 40 employees

More than 2.000 m² of exhibition space



Keller

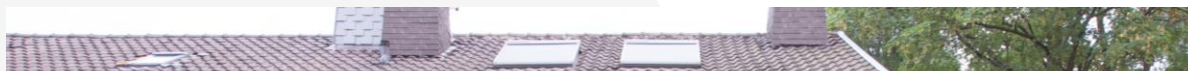
History



1980
Foundation by Norbert
Keller



1992
First own profiles



Keller

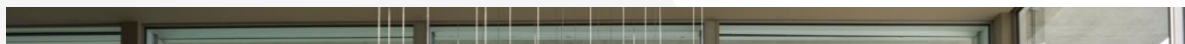
History



2002
KELLER ORANGERIE
Elegance®



2007
minimal windows®

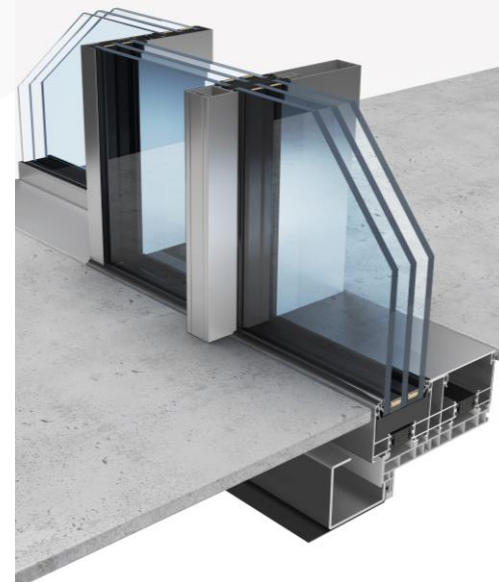


Keller

History



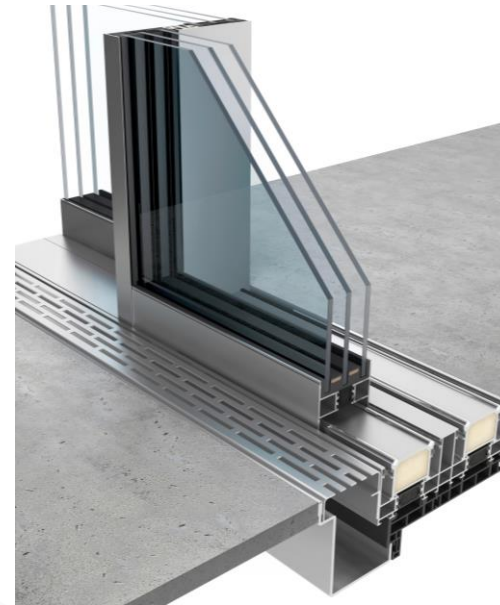
2011
minimal windows® 4+



2013
minimal windows® highline

Keller

History



2016
minimal windows® freeway



2017
New showroom



Keller

History



2018
minimal windows® pivot



2018
minimal windows® guardline

Keller

History



2020
Keller minimal windows®
joins AluK Group



- family-owned business
founded more than 70 years ago
- Global leader in the design, engineering, and
distribution of aluminium windows, doors, and
façade solutions



Frameless

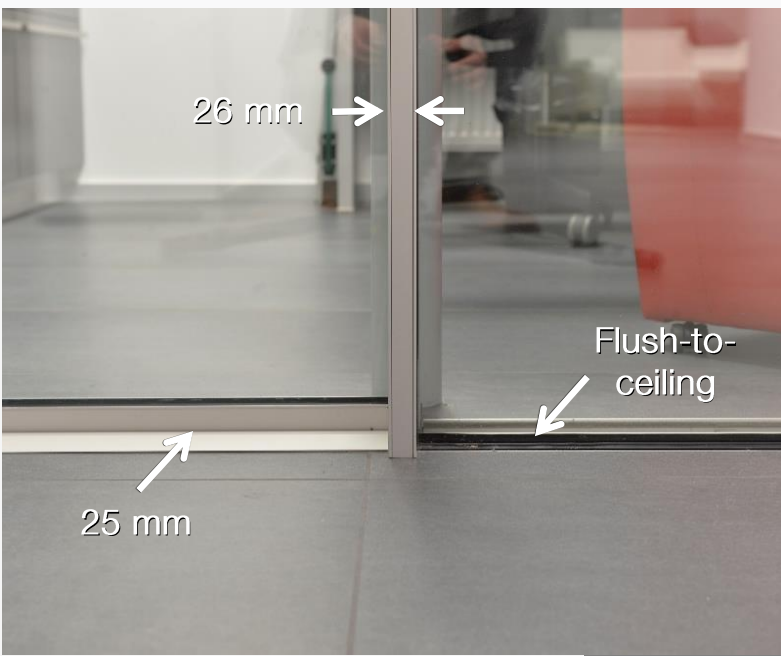
The frame profile is pared down to a minimum dimension of 38 mm to allow seamless integration into the floor, ceiling and walls. All you see are the slender 21 or 26 mm leaf profiles. A glass proportion of up to 98 % guarantees unhindered incidence of light.

Within the technical possibilities



the minimal profile views

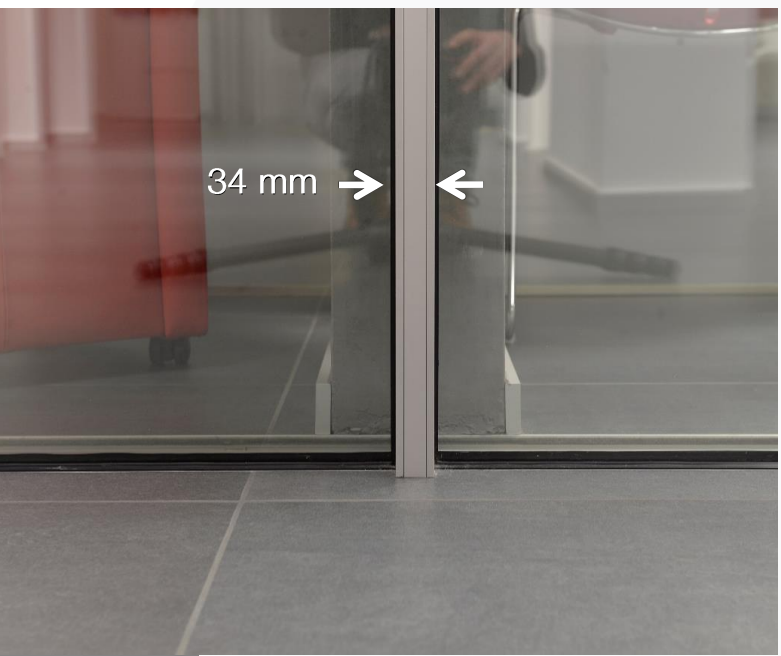




Ground connection



Ceiling connection



Highline type 3

Everything reduced to a minimum !

Large-scale

On request

Sliding doors up to 12 m² and fixed windows of up to 18 m² can be achieved. The maximum overall height for sliding doors is 4.5 m (up to 6 m custom-made products on request).



5,80m high construction

Wind load 0,38 kN/m²

Only on request

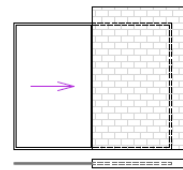
Consideration of resistance to wind load



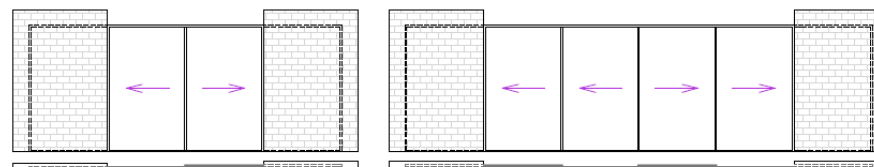
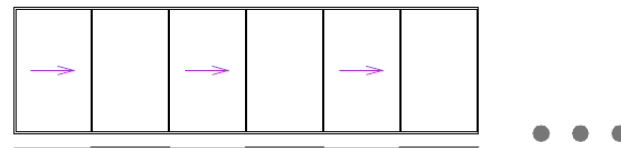
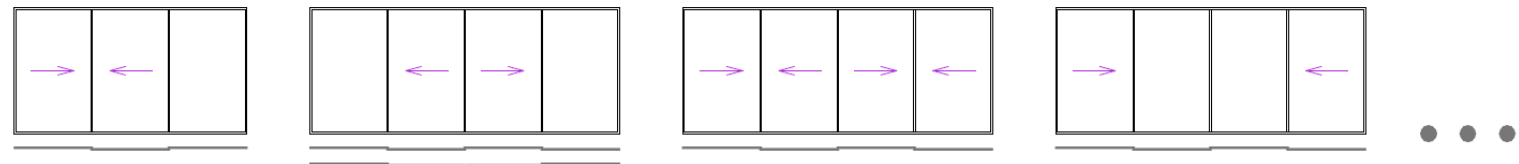
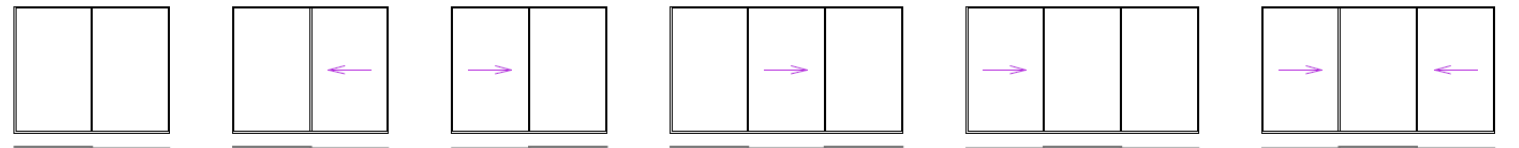
Modular Arrangement variants

The huge variety of practical configuration variants covers all requirements. You can have up to four-track sliding systems in combination with fixed lights or interior / exterior corners with no distracting posts.

Examples of 1- and 2-track opening methods



with wall pocket

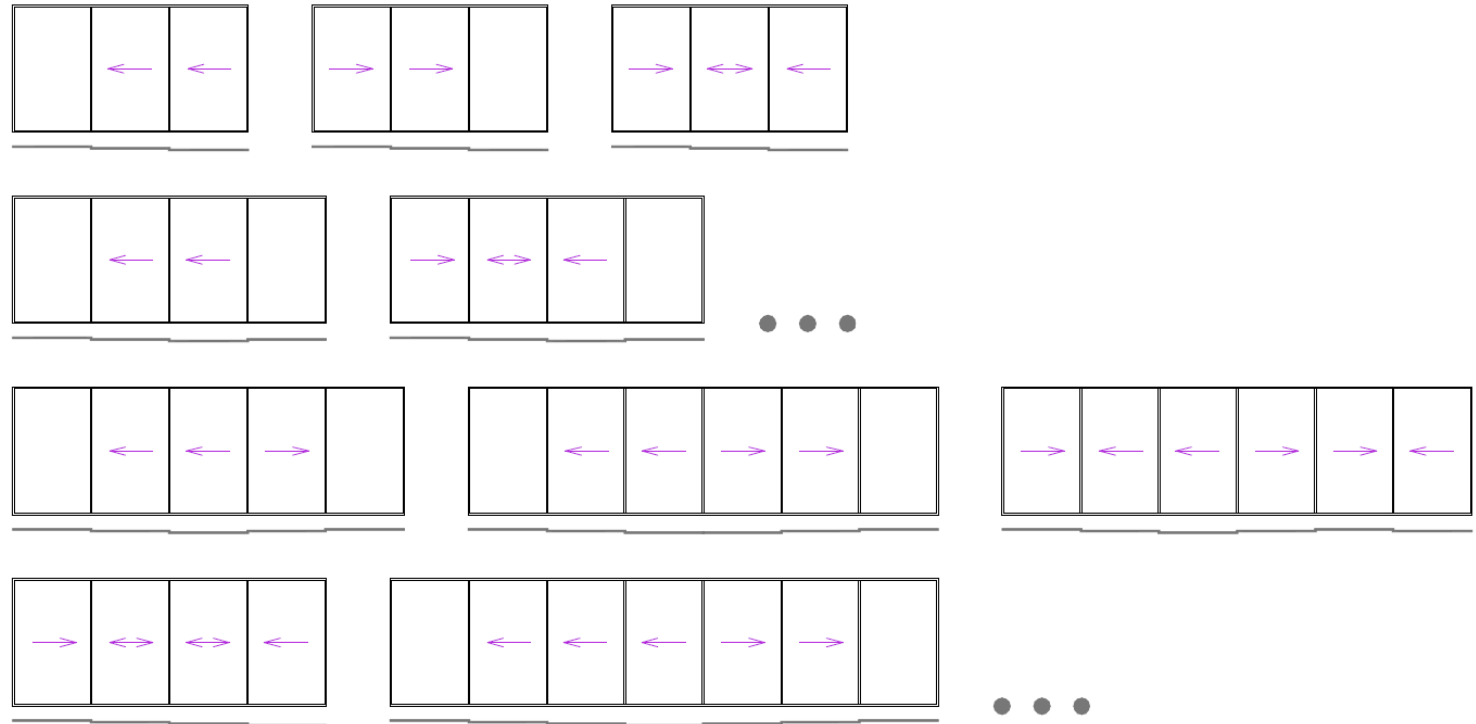


with wall pocket

Modular Arrangement variants

The huge variety of practical configuration variants covers all requirements. You can have up to four-track sliding systems in combination with fixed lights or interior / exterior corners with no distracting posts.

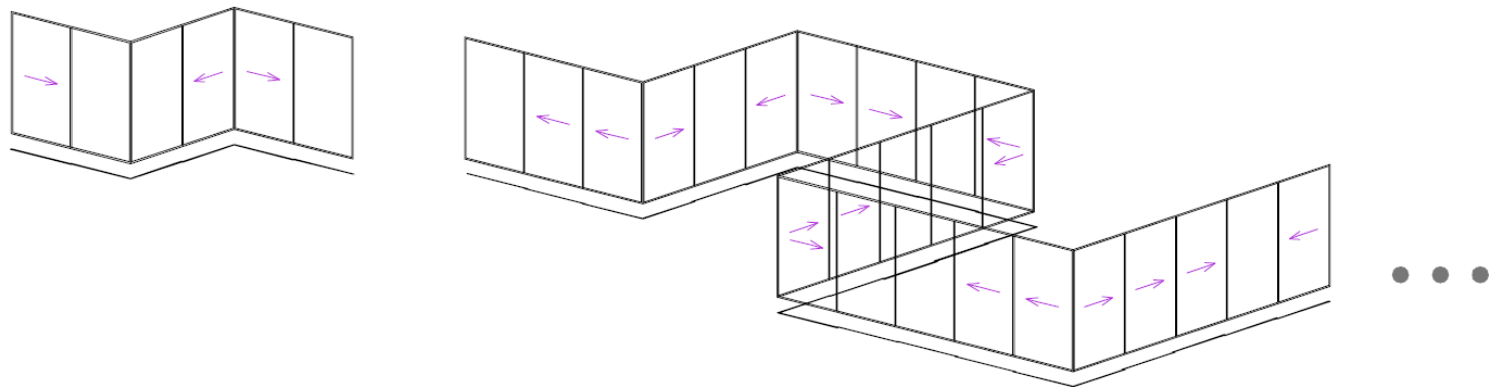
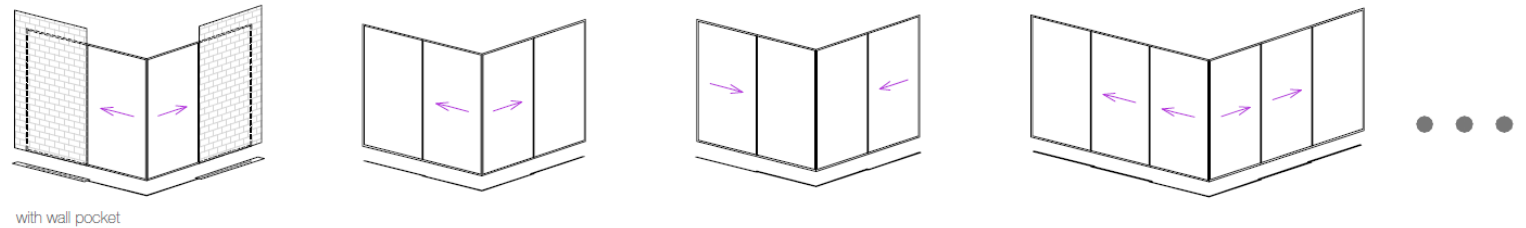
Examples of 3- and 4-track opening methods



Modular Arrangement variants

The huge variety of practical configuration variants covers all requirements. You can have up to four-track sliding systems in combination with fixed lights or interior / exterior corners with no distracting posts.

Inside and outside corners without corner posts

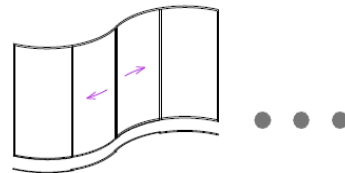
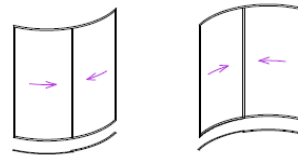


Individual Arrangement variants

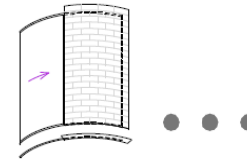
Choose from an extensive selection of RAL or anodized colours and stainless steel finish. The minimalistic aluminium profiles can thus be optimally and individually matched to the property. Glass facades can be created to suit any environment.

Examples opening methods

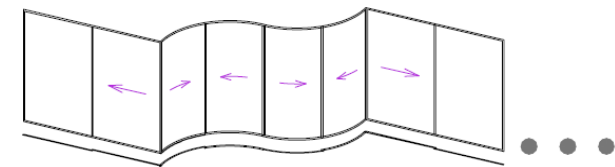
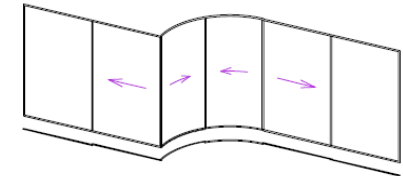
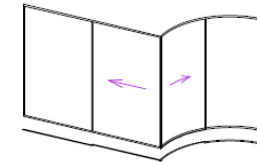
1 and 2-track opening methods



With wall pocket



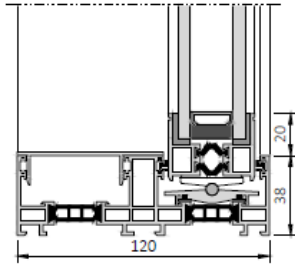
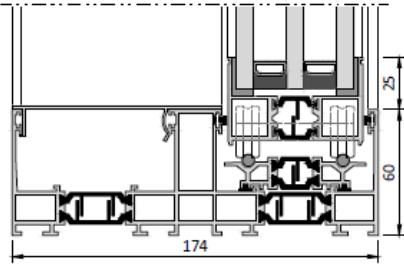
Internal and external corner-post-free corners



Combine any number of sliding and fixed elements. Alternating and / or symmetrical.

Product

minimal windows®
minimal windows® 4+

Performance	Keller minimal windows®	Keller minimal windows®4+
		
Maximum glass thickness	34 mm	56 mm
Maximum leaf weight	500 kg	1,000 kg
Maximum leaf height	4.000 mm	4.500 (6.000) mm
Thermal transmission coefficient (*)	$U_w \geq 1,1 \text{ W/m}^2\text{K}$	$U_w \geq 0,70 \text{ W/m}^2\text{K}$
Applicable glass types	insulated glass double-glazed Heat Mirror® special glass types	insulated glass triple-glazed Heat Mirror® special glass types
Maximum leaf size sliding	8.5 m ²	12 m ²
Maximum leaf size fixed	18 m ²	18 m ²
Facing width from centre point	21 mm	26 / 34 mm
Installation flush to the floor	yes	yes
Installation flush to the ceiling	yes	yes
Integration into wall (pocket)	yes	yes
Barrier-free accessibility	yes acc. DIN 18040-1, DIN 18040-2	yes acc. DIN 18040-1, DIN 18040-2

(*) according to glass value, psi-value, installation situation, dimension

Product

minimal windows®
minimal windows® 4+

Performance	Keller minimal windows®	Keller minimal windows®4+
System configuration	1-2-3-4 track(s)	1-2-3 track(s)
Open corner (inside / outside)	yes	yes
Burglary-resistant glass	yes	yes
Bullet-resistant glass	yes	yes
Locking system	2 point	2 point
Locked gap positions	20 / 40 mm / motorized	20 / 40 mm / motorized
Resistance to burglary	up to RC 2 according to EN 1627	up to RC 2 according to EN 1627
Electric drive	yes	yes
Telescopic e-drive (1 drive / several leaves)	up to 2,000 kg	up to 2,000 kg
Integrated opening / locking monitoring	yes	yes
Rollers / running rails	stainless steel / stainless steel	stainless steel / stainless steel
Hollow-chamber drainage system	yes	yes
Minergie®-Standard	-	yes
Air permeability	up to class 4 according to EN 12207	up to class 4 according to EN 12207
Driving rain tightness	up to class 7A according to EN 12208	up to class E1050 according to EN 12208
Resistance to wind load	up to class C4/B5 according to EN 12210	up to class C5 according to EN 12210
Sound protection	up to 39 dB	up to 43 dB

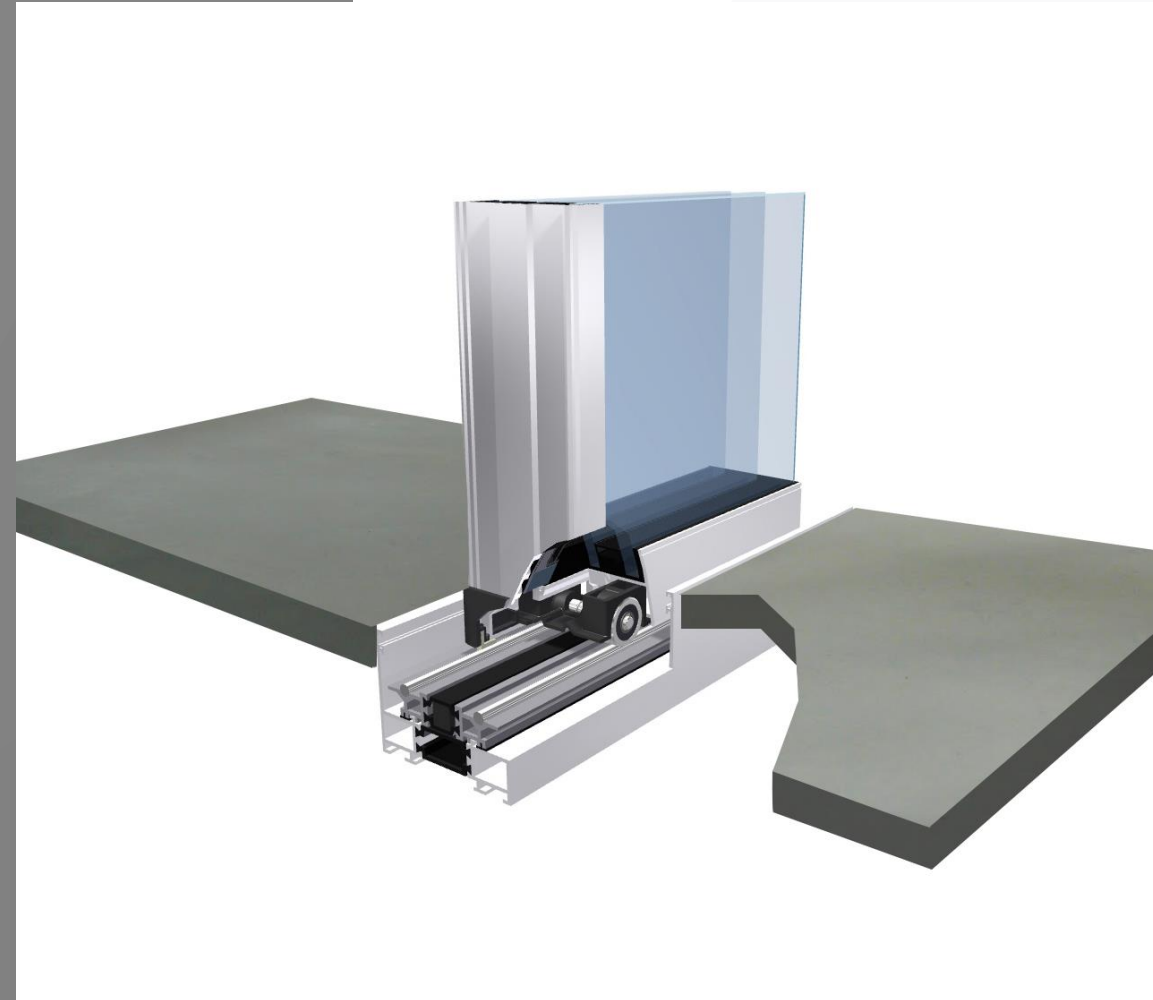
How we developed our system?

Stainless steel sliding rail

- high sliding comfort
- easy-action
- silent opening
- closing of the transparent elements

Roller carriage

The self-centring, integrated roller carriage is concealed in the lower profile of the sliding leaf. High-quality stainless steel rollers ensure high load-stability and easy action in daily use for leaf weights of anything up to 1000 kg.



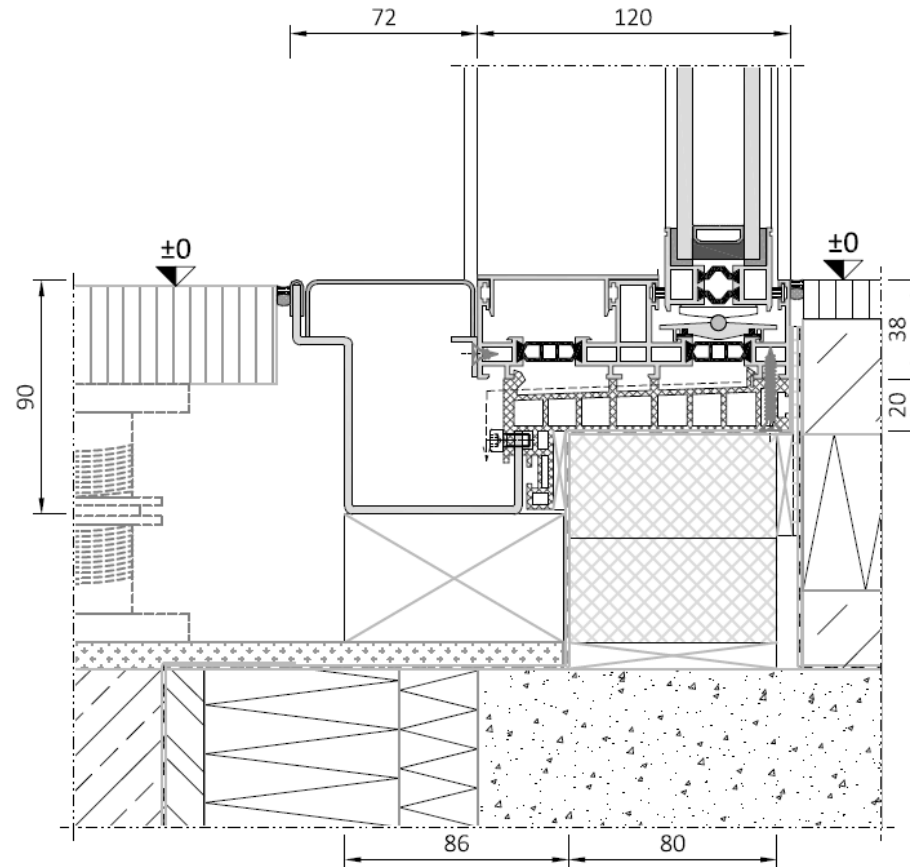
How we developed our system?

Fitted flush to floor

The outer frame can be recessed around the whole perimeter into the walls, the ceiling and the floor. It creates a threshold-free transition from indoors to out. The floor profile with the integrated stainless steel sliding rail is on a level with the floor, easy to care for and maintenance-free.

Drainage

Controlled drainage is achieved via a specially-designed system-integrated PVC hollow chamber drainage profile below the aluminium frame or optionally via a concealed system drainage gutter with stainless steel cover. The drainage profile has locating grooves for the EPDM film connection.



How we developed our system?

Corner-post-free

Architecture needs space and flexibility. Keller minimal windows® offer both in terms of configuration options and connection flexibility. The design sliding window system allows 1-, 2-, 3- and 4-track sliding and fixed window installations, uninterrupted inside and outside corner solutions with no posts and concealed pocket wall solutions.

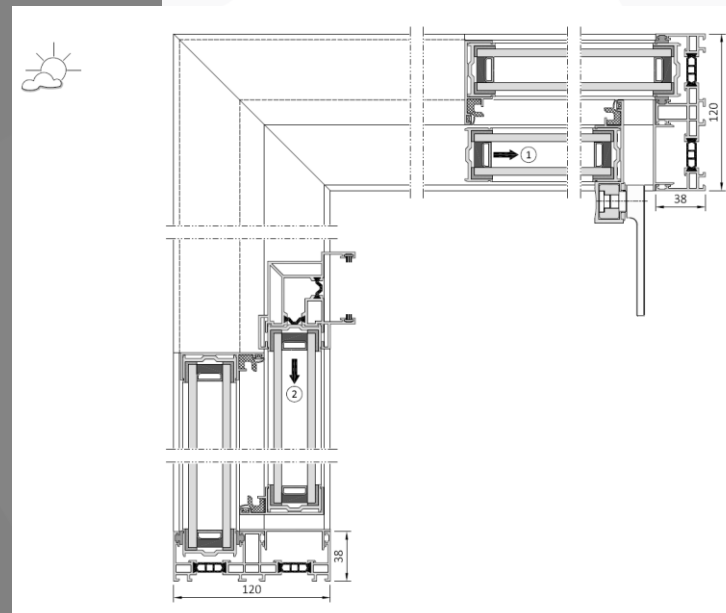
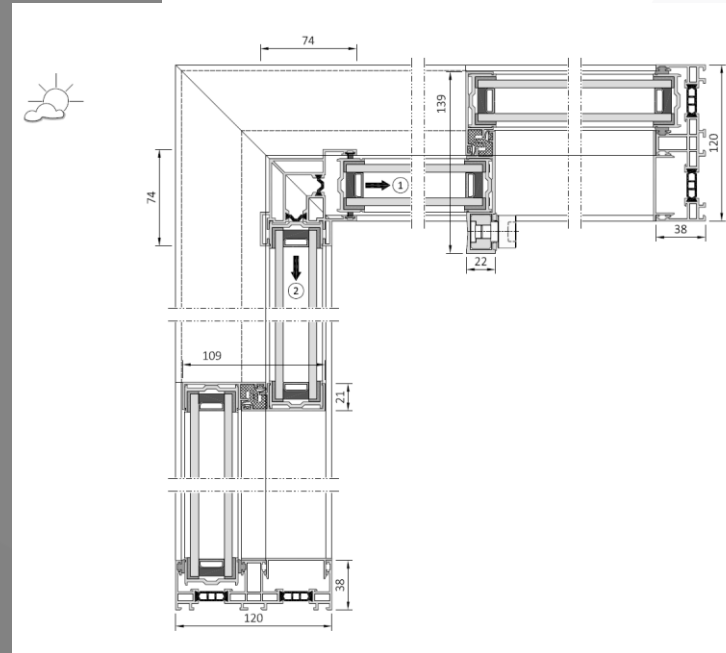


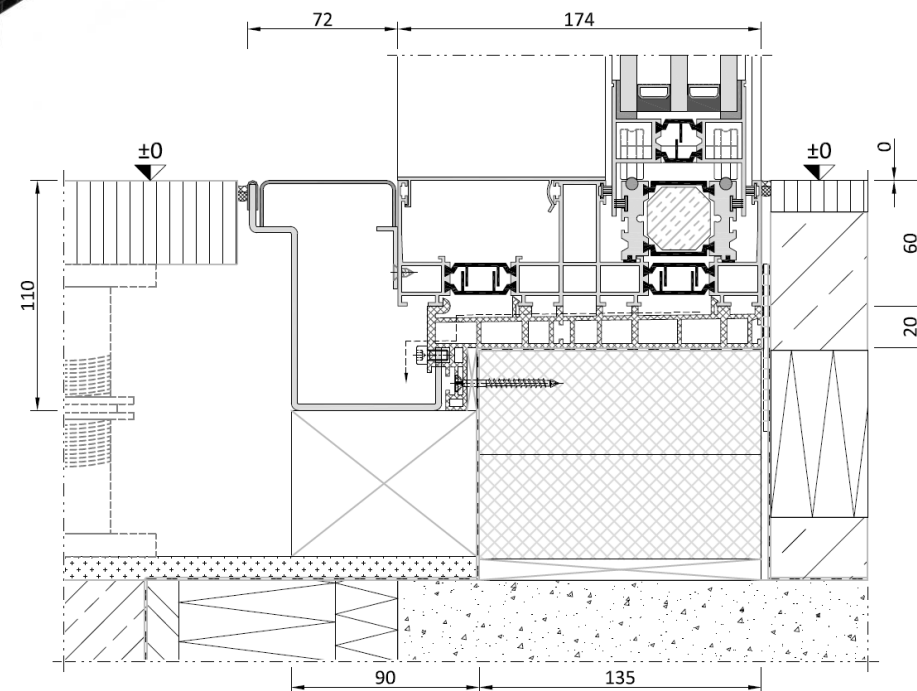
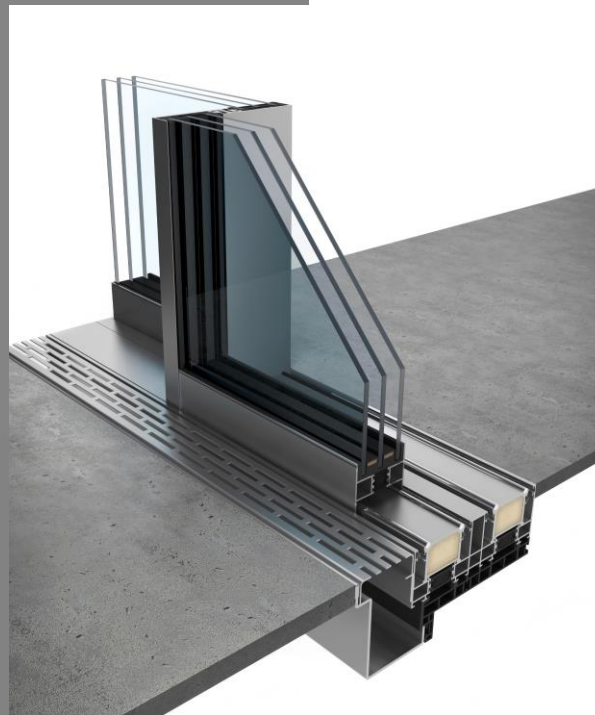
Illustration shows a possible design variant

How we developed our system?

Barrier-free

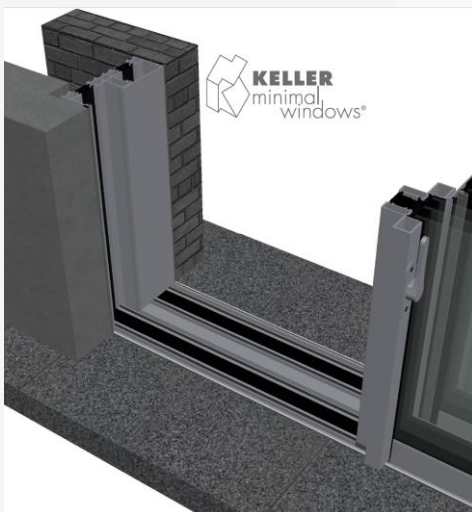
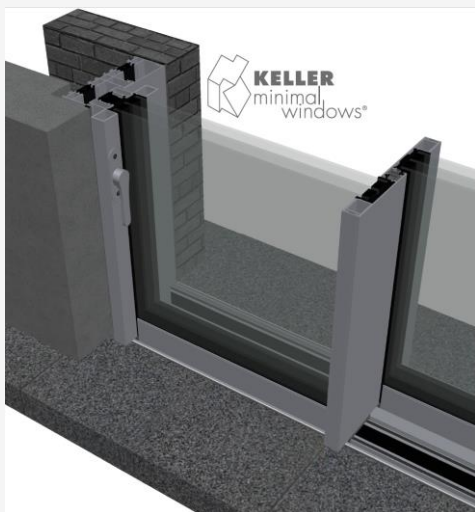
The use of the flush leveled minimal windows® freeway sliding rail guarantees accessibility entirely without thresholds. Thanks to the outer frame perfectly integrated in the floor and the sliding rail elevated precisely to floor level, there is no annoying floor depression.

The barrier-free design offers an obstacle-free, virtually even transition that differs markedly from conventional systems with surface mounted door frames or deep thresholds. The flush-with-the-floor system variants have been developed for both minimal windows® product lines.



Keller minimal windows® freeway

Keller products

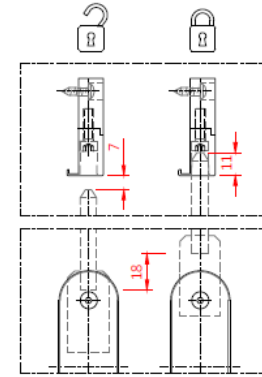
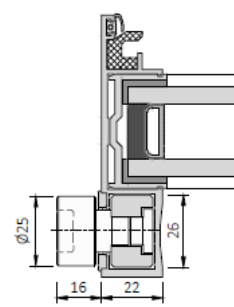
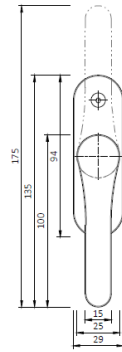
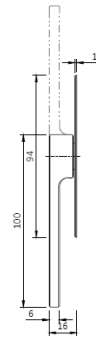


Optional features

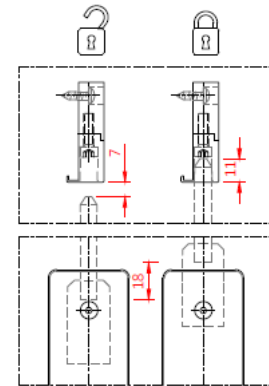
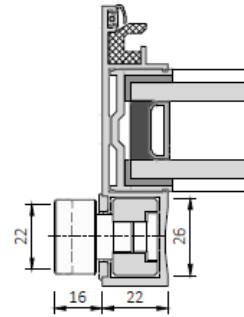
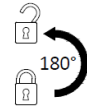
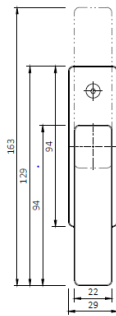
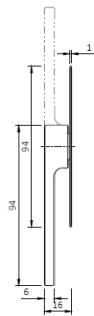
Manual locking

The multipoint locking is concealed inside the handle, double vent or junction profile of the sliding leaf. Actuation takes place via an elegant design lever with or without cylinder lock.

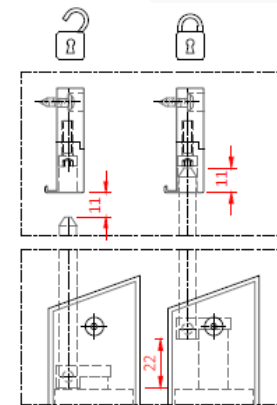
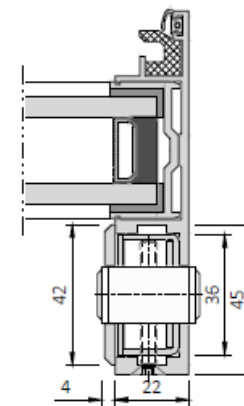
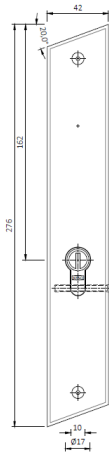
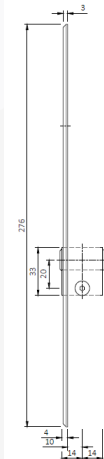
Type 1



Type 1a



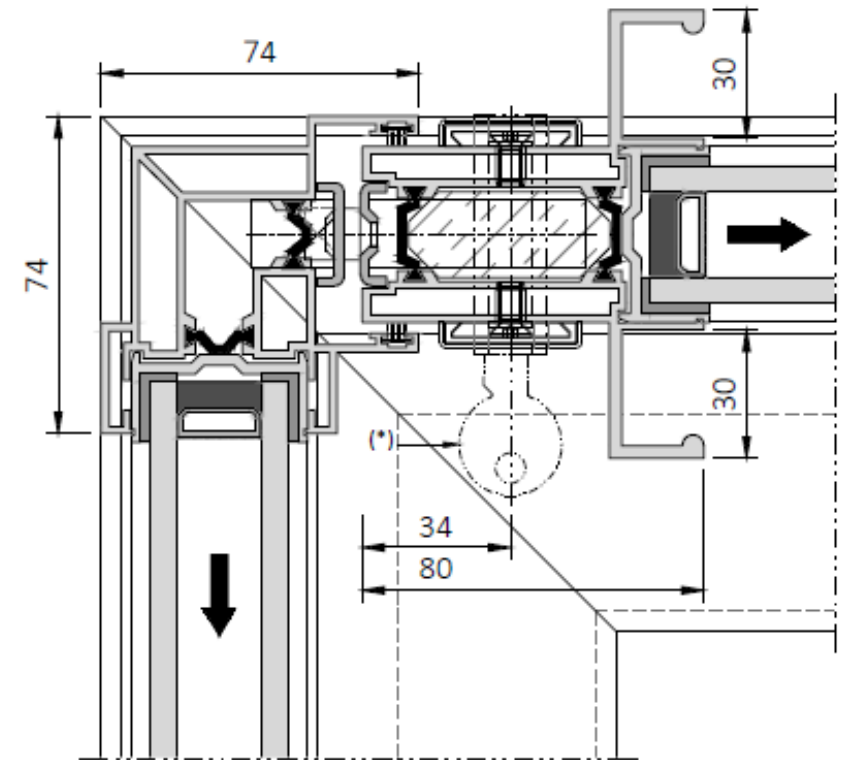
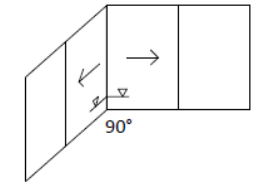
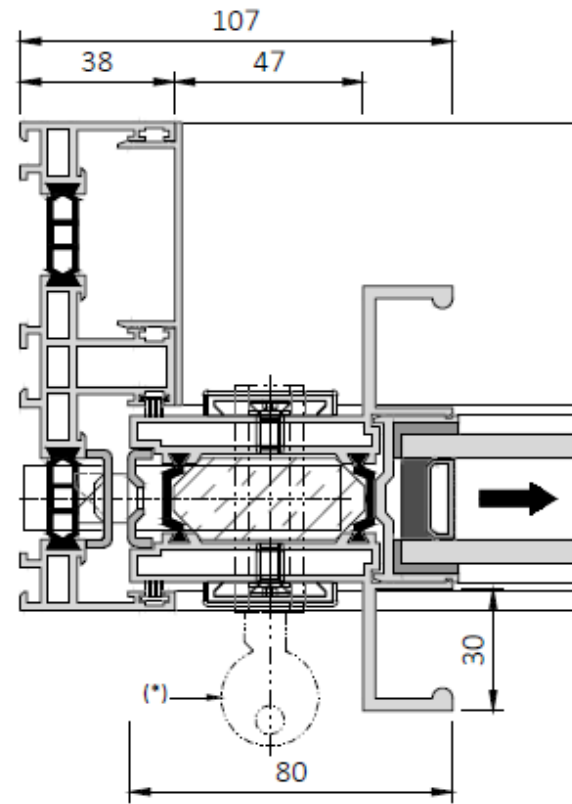
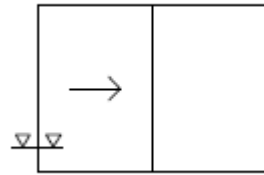
Type 4



Optional features

Manual locking

Claw bolt lock inside and outside
lockable with cylinder



Certificates

Keller products

Watertightness

Wind load

Burglary resistance

Safety barrier glazing

Product

minimal windows® highline
minimal windows® 4+ highline

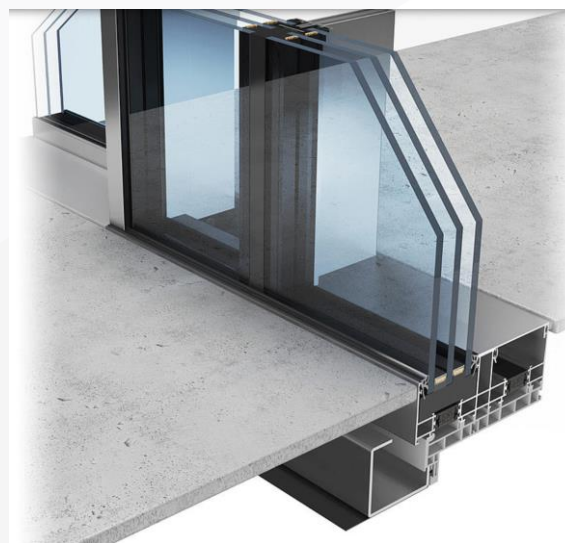
TYP 1

Glass-To-Glass



TYP 2

Semi-SG



TYP 3

Cover-Cap-Look



minimal windows® pivot

Design and functional

alternating - stand alone - combined

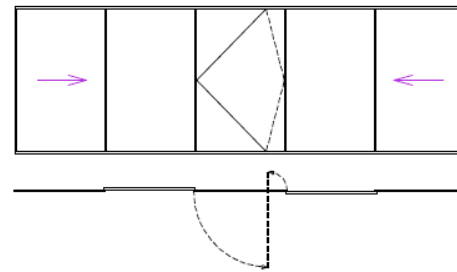


Individual Arrangement variants

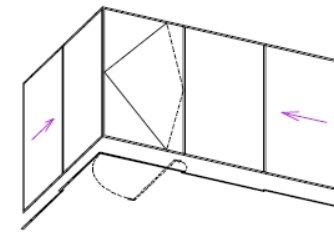
Choose from an extensive selection of RAL or anodized colours and stainless steel finish. The minimalistic aluminium profiles can thus be optimally and individually matched to the property. Glass facades can be created to suit any environment.

Examples opening methods: inside or outside opening

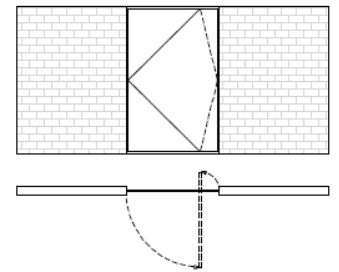
Alternating in up to 3 tracks



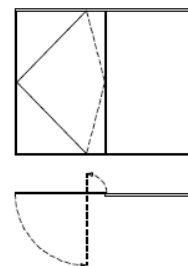
Open corner, 2 tracks (or more)



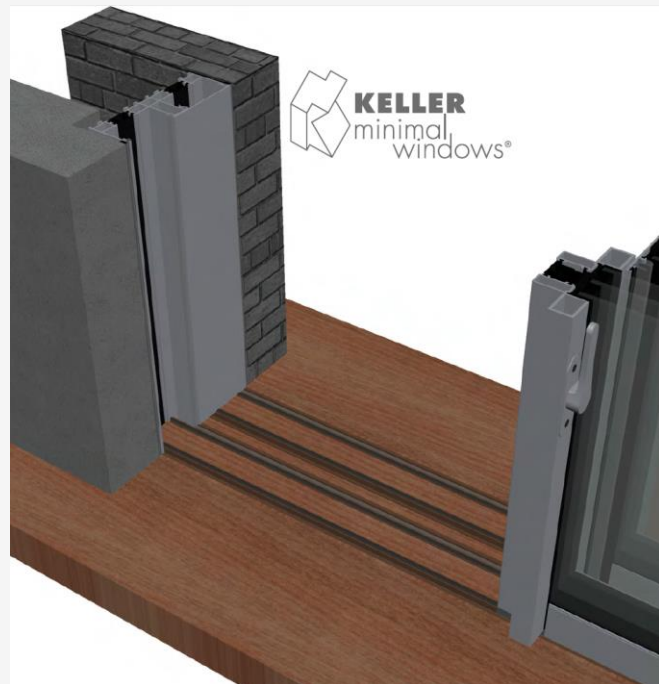
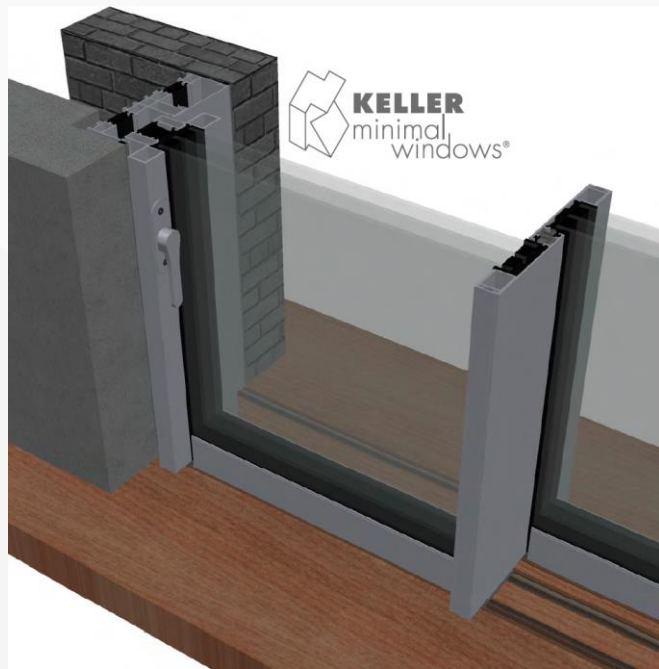
Stand alone (separate door)



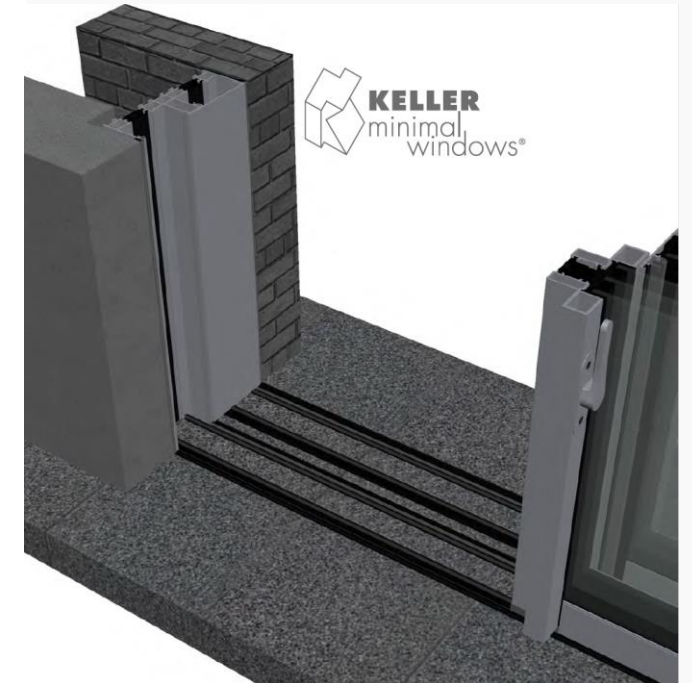
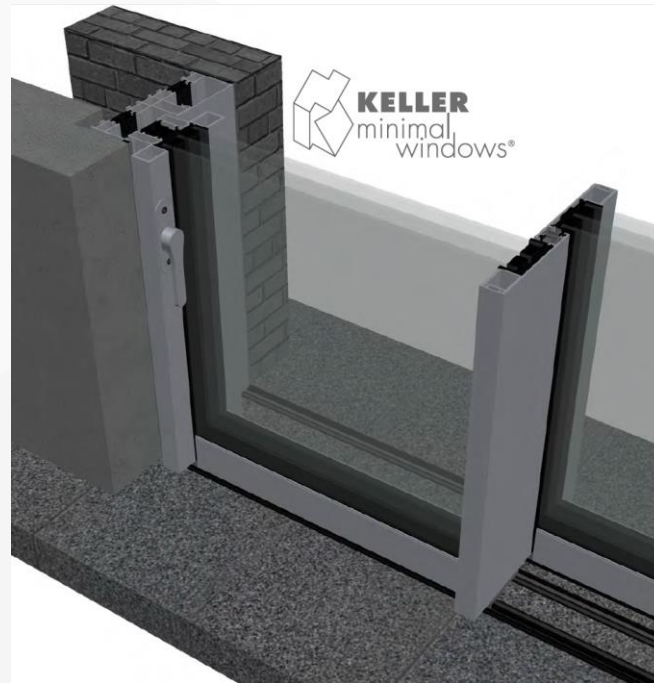
2-part front door, 2 rails



	minimal windows® pivot	minimal windows®4+ pivot
Maximum leaf dimensions	W = 1,800 mm x H = 3,000 mm	W = 1,800 mm x H = 3,000 mm
Maximum leaf weight	Wt = 250 kg	Wt = 350 kg
Minimum distance rotary leaf axis <->stop	150 mm	150 mm
Maximum distance rotary leaf axis <->stop	½ leaf width	½ leaf width
Horizontal adjustability of lower rotary bearing	+/- 3 mm	+/- 3 mm
Vertical adjustability of lower rotary bearing	+/- 3 mm	+/- 3 mm
Horizontal adjustability of upper rotary bearing	+/- 3 mm	+/- 3 mm
Vertical decoupling of upper rotary bearing<->leaf hinge part	Yes	Yes
Rotary leaf lock in 90° open position	Yes	Yes
Optional door closer and/or door opener, top	Yes	Yes
Barrier-free accessibility	DIN 18040-1, DIN 18040-2	DIN 18040-1, DIN 18040-2
Air permeability	up to class 4 according to EN 12207	up to class 4 according to EN 12207
Driving rain tightness	up to class 6A according to EN 12208	up to class 7A according to EN 12208
Resistance to wind load	up to class C2/B3 according to EN 12210	up to class C3/B4 according to EN 12210
Resistance to burglary	up to RC 2 according to EN 1627	up to RC 2 according to EN 1627

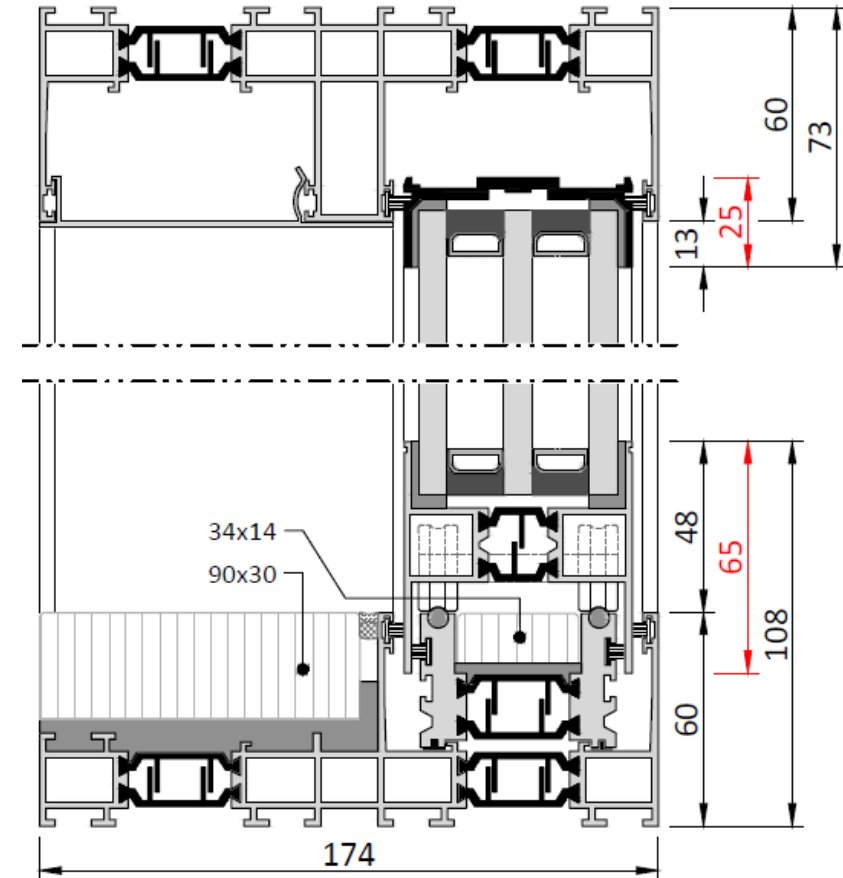
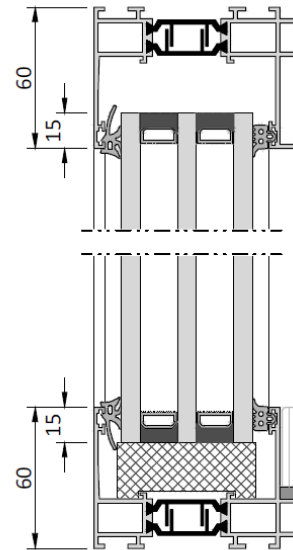
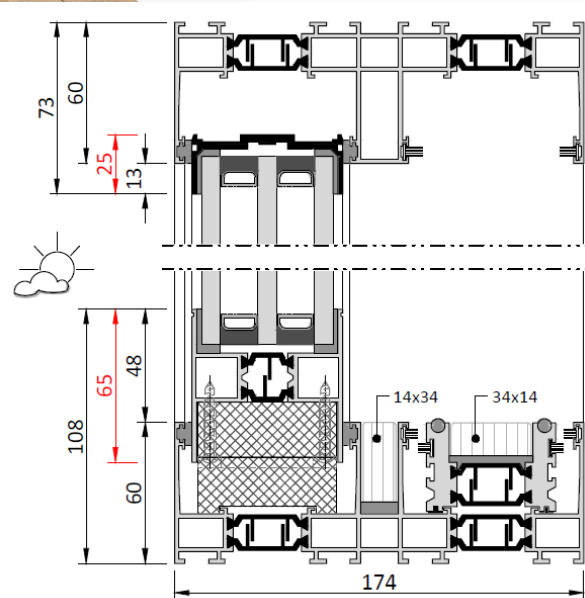


Whats next?
Keller minimal windows®4+ floor
New product



Keller minimal windows®4+ floor

New product



Motorisation

Linear drive LLD24, LLD36 & LLD36x2

Design and technical data

Technical data

Drive system	electromechanical linear sliding door drive (mounted laterally)
Dimensions	100 x 80 mm (w x h)
Number of leaves	max. 3 (more only on special request)
Mounting possibilities	inside and outside
Opening/closing speed (1)	8 - 30 cm/s
Main power supply	1x 100 - 240 V AC, 50 - 60 Hz , 10 A (fused)

	LLD24	LLD36	LLD36x2
Power consumption	max. 350 W	max. 350 W	max. 2x 350 W
Standby power consumption (2)	1,68 W	1,68 W	3,36 W
Current In	max. 4 A	max. 4 A	max. 4 A
Leaf-overall weight (3)	max. 800 kg	max. 1.500 kg	max. 2.400 kg
Movement path	max. 8.000 mm	max. 10.000 mm	max. 12.000 mm
Force on timing belt (4)	max. 200 N	max. 350 N	max. 800 N

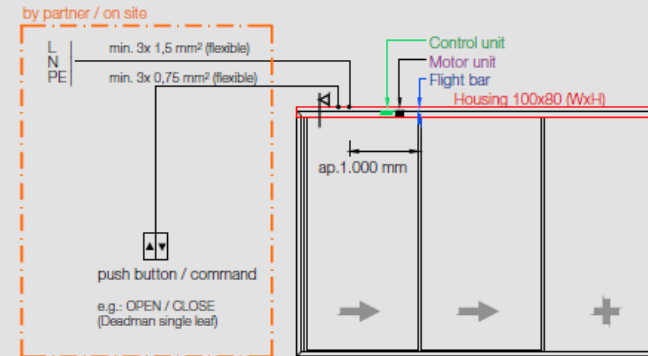
(1) dependant on the door weight and opening width

(2) excl. add. components (safety sensors, ...)

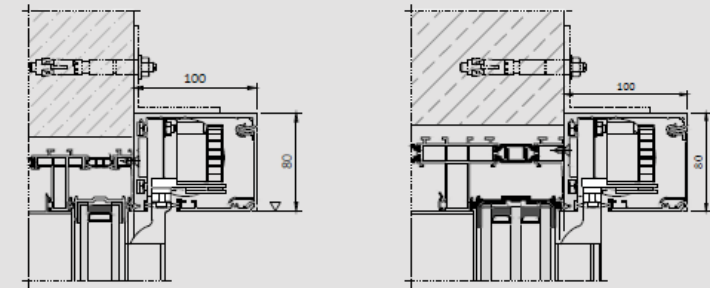
(3) also depending on the sash width, and respecting the max force on timing belt.

(4) Peak-force

Wiring

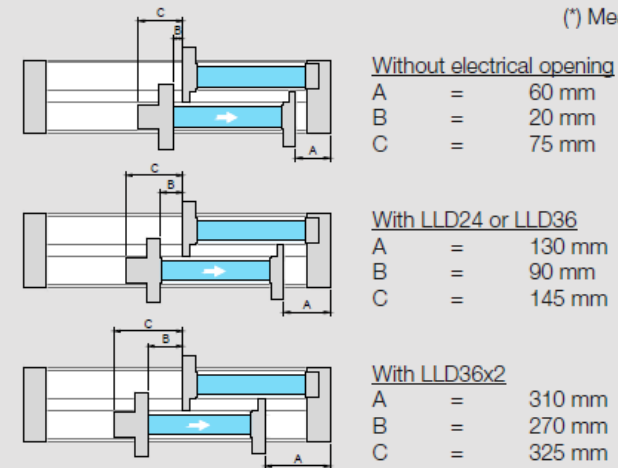


Mounting



Opening width of the drive way (*)

(*) Measures with equal glass dimensions



Insect screens

from NEHER

German quality:

pleated blinds

motorised roller blinds



Download Documentation

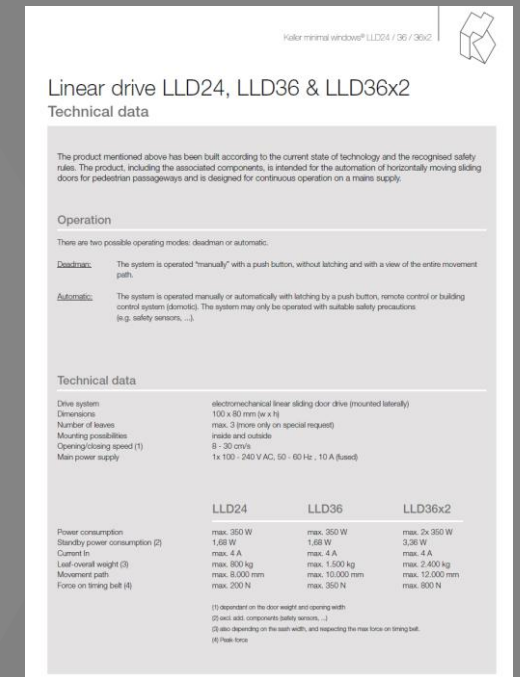


Image brochure &
Technical brochure

Architect's manual
minimal windows®

Architect's manual
minimal windows®4+

minimal windows® linear drive



*Klick on documents to download



Presentation to architects/customers

Material



Sample case > Solutions directly
presentable

Get quick understanding, insight
and overview

Keller Download area

Topicality

Free disposal and downloads

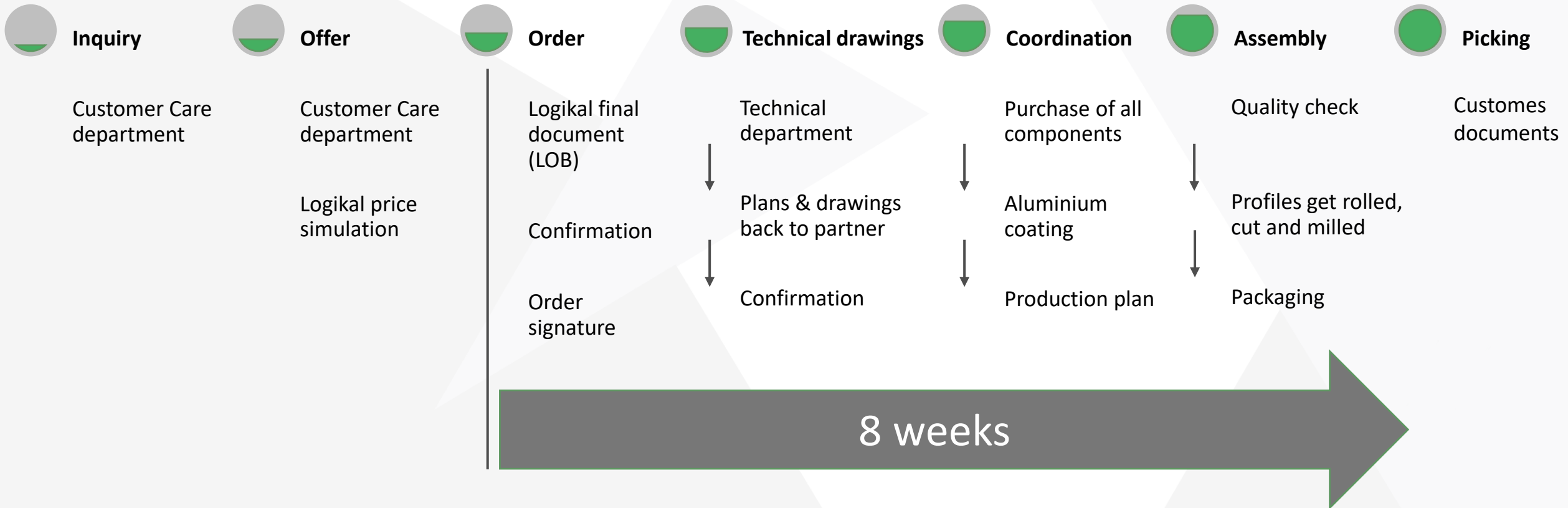
Details, documents, AutoCAD sections

Order catalogues, assembly instructions,
calculators (wind load, U_w) and certificates

<https://downloads.kellerag.com/downloads/>

Keller

Project cycle | 8 weeks in general - depending on project size



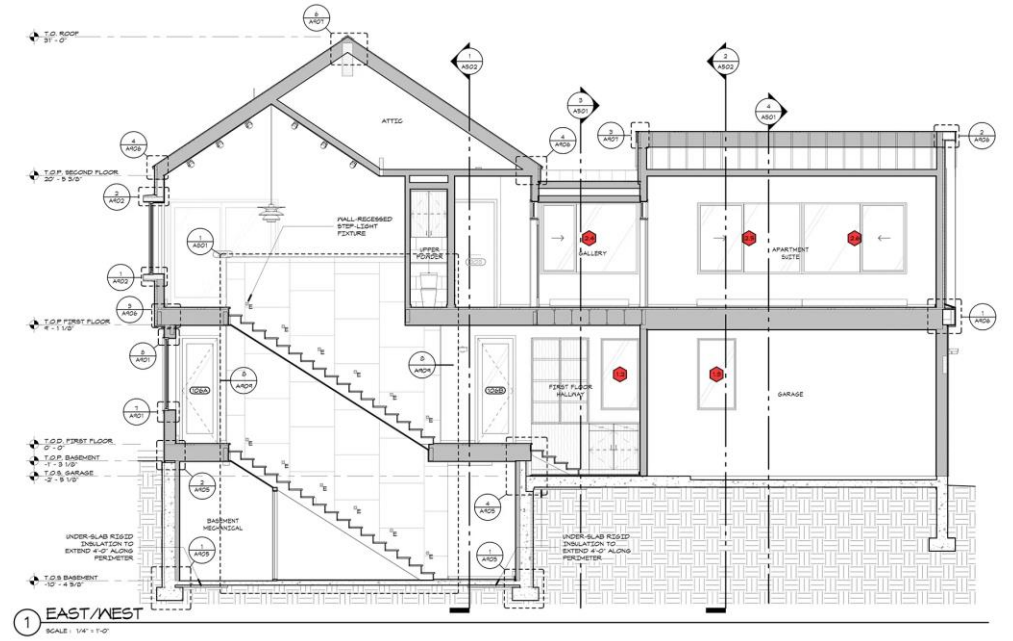


Basics

Inquiry/Offer

Practical example

Windows schedule of the project



Order document

Wind load calculator
U-value calculator



Latest sales documents
All possible options at a glance

Support our calculators
Information on delivery options and packaging



KELLER minimal windows® Ver.08 24.01.19

A ANFRAGE AUFTRAG

Partner: _____
Referenz: _____

DOKUMENTSPRACHE: DE EN FR IT

Speichern drucken E-Mail Anfrage E-Mail Bestellung

Datum: _____
geplante Montagezeit: _____

LIEFERUNG (L x H x B)

Lieferung in Standard Transportholzboxen Bemerkungen Seefracht Verpackung

WELCHE SEITEN SIND ENTHALTEN? Anzahl Seiten = _____

A	B	C	D	E	F	G
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SEITENSYSTEM

Keller minimal windows® Keller minimal windows®4+

FARBEN

Monocolor Bicolor Voranodisierung

Innen-Farbe Pulver Farbcode RAL DB NCS matt Feinstruktur

Außenfarbe Pulver Farbcode RAL DB NCS matt Feinstruktur

Anodisierung: **EE**

C0	C31	C32	C35
C34	C36	C71	C73

Anodisierung Aluox 77/77

KELLER minimal windows® Ver.08 24.01.19

Widerstandsfähigkeit gegen Windlast

Deutsch Allgemeine Angaben

Kommissionsname: _____
Auftragsnummer: _____ Position: _____

Angaben:

Breite B _____ mm Öffnungsart: _____ mm
Höhe H _____ mm Flügelvariante: _____ CE-Klassifizierung: _____

Windgeschwindigkeit / Wind speed / Vitesse du vent _____ km/h
 Staudruck / Dynamic pressure / Pression dynamique _____ kN/m² 0 kN/m²

Flügelprofil: _____

Berechnung nach Eurocode:
EN 1990, EN 1991-1-1, EN 1993-1-1, EN 1999-1-1

Grenzzustand der Gebrauchstauglichkeit (GZG):

Max. zulässige Durchbiegung _____ mm (H200 nach DN 18008)

Durchbiegung f _____ mm
Ausnutzung η _____ %

Grenzzustand der Tragfähigkeit (GZT):

Max. zulässiges Biegemoment _____ kNm
Biegemoment Md _____ kNm
Ausnutzung η _____ %

CE-Klassifizierung: _____

KELLER minimal windows®4+ Ver.06

Ermittlung des Wärmedurchgangskoeffizienten Uw

Deutsch Allgemeine Angaben

Kommissionsname: _____
Auftragsnummer: _____ Position: _____

Abmessungen:

Breite B _____ mm	Verhakung _____	Anzahl _____
Höhe H _____ mm	Gegenlauf-Verhakung _____	Anzahl _____
Anzahl Felder N _____	highline Pfosten _____	Anzahl _____
Blendrahmen links _____	Stulp & Griff _____	Anzahl _____
Blendrahmen rechts _____	Ecke & Griff _____	Anzahl _____
	Ecke & U-Einlassprofil _____	Anzahl _____
	Ganzglasecke _____	Anzahl _____

Achtung! Anzahl Felder überprüfen.

Glasangaben:

2-fach 3-fach

Glasaufbau _____

U-Wert-Glas 1,1

Randverbund _____ ψ-Wert #NV W/(mK)

Wärmedurchgangskoeffizient Uw _____ W/(m²K)

Deutsch
English
Français
Italiano

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